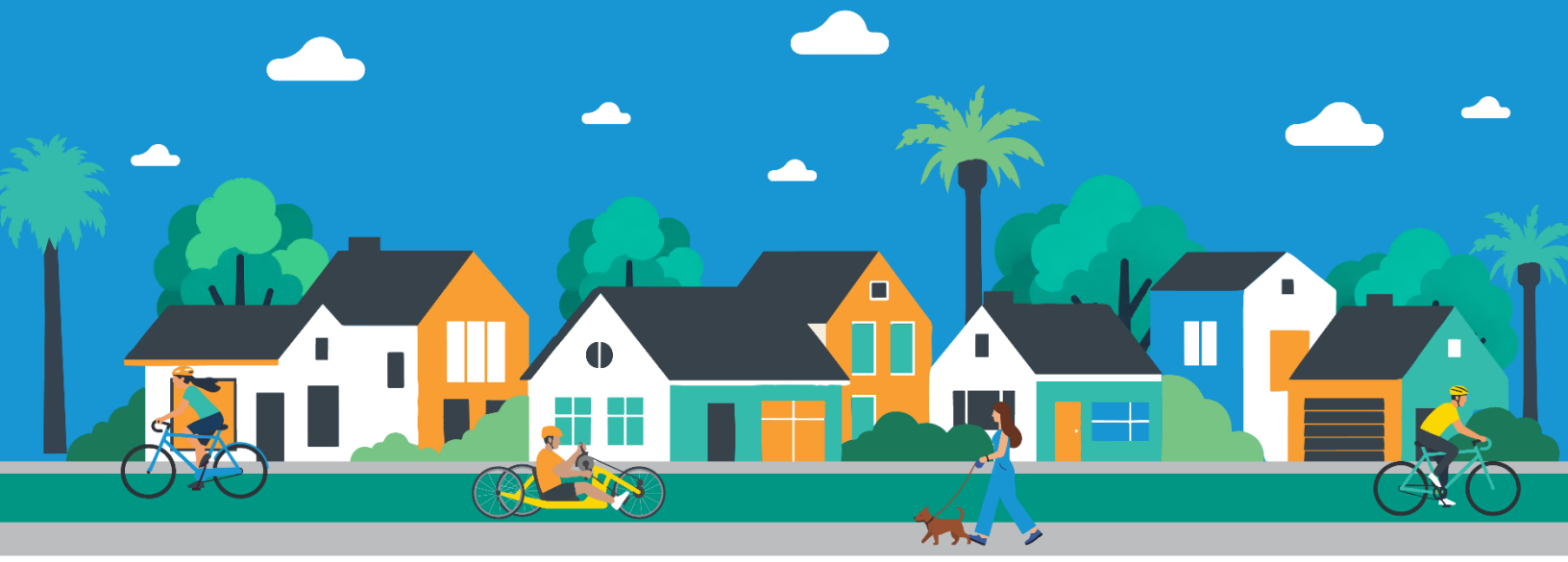
CITY OF SAN DIEGO

BICYCLE MASTER PLAN



Draft as of October 2026

Acknowledgements

MAYOR

Todd Gloria

CITY ATTORNEY

Heather Ferbert

CITY COUNCIL

Joe LaCava, Council President, District 1
Jennifer Campbell, Councilmember, District 2
Stephen Whitburn, Councilmember, District 3
Henry L. Foster III, Councilmember, District 4
Marni von Wilpert, Councilmember, District 5
Kent Lee, Council President Pro Tem, District 6
Raul Campillo, Councilmember, District 7
Vivian Moreno, Councilmember, District 8
Sean Elo-Rivera, Councilmember, District 9

CITY PLANNING DEPARTMENT

Heidi Vonblum, Director
Tait Galloway, Deputy Director
Phil Trom, Program Manager
Marlon Pangilinan, Program Manager
Jonathan Avila, Principal Planner
Christine Mercado, Senior Traffic Engineer
Kelly Mathiesen, Park Designer
Sarah Pierce, Senior Planner
Kevin Borja, Senior Planner
Vanessa Tang, Associate Planner
Emanuel Alforja, Associate Engineer – Traffic
Dana Long, Associate Engineer – Traffic
Magdalena Taylor, Assistant Engineer – Traffic
Natalie Koski-Karell, Assistant Planner

TRANSPORTATION DEPARTMENT

Naomi Chavez, Interim Director
Brian Genovese, Senior Traffic Engineer

COMMUNICATIONS DEPARTMENT

Peter Kelley, Public Information Officer

COMMUNITY LEADER GROUP

San Diego County Bike Coalition

DRAFT

Bike SD
The Urban Collaborative Project
Groundwork San Diego
Mid-City Community Advocacy Network
Casa Familiar
Bayside Community Center
Families for Safe Streets
Downtown San Diego Partnership
San Diego State University Transportation Services
County of San Diego Health and Human Services Agency
American Association of Retired Persons (AARP)

CONSULTANT TEAM

Fehr & Peers
CR Associates
Evari Consulting
Bryne Communications Consulting
CityWorks
STC

Funding was provided by the California Department of Transportation's (Caltrans) Sustainable Transportation Planning Grant Program.

DRAFT

Table of Contents

Executive Summary **0**

Chapter 1 - Introduction **1**

Purpose 2

Need 2

Outreach and Engagement 3

Relationship with Other Plans and Policies 3

Organization 5

Chapter 2 - Vision and Goals **6**

Plan Overview 7

Vision 7

Guiding Principles 7

Goals 9

Chapter 3 – Existing Conditions **10**

Bikeway Types 12

Bike Path (Class I) 13

Bike Lane (Class II) 13

Bike Route (Class III) 13

Bicycle Boulevard (Class III Enhanced) 14

Separated Bikeway (Class IV) 14

Shared Bus-Bike Lanes 15

Existing Bikeway Network 16

Chapter 4 - Needs Analysis **18**

Comfort and Connectivity 19

Understanding Bicycle Comfort: Level of Traffic Stress 19

Understanding Connectivity: Existing Access to Everyday Destinations 23

Where Comfort and Connectivity Meet 25

Area of Increased Biking Opportunity: Short Trips (Car Trips of 3 Miles or Less) 27

Providing New Opportunity in Areas of Greatest Needs 29

Barriers to Bicycling 31

Bicyclist Crash Trends 31

Network Gaps 31

DRAFT

Chapter 5 - Network Recommendations 32
Future Bikeway Network 33
Mileage by Bikeway Type 35
Development of the Future Bikeway Network 35
Regional Coordination 36
Prioritization Approach 38
Prioritization Criteria 38
Priority and Implementation 39
Select Bikeway Concepts 41
Supporting Programs and Policies 57
Bike Parking 57
Wayfinding 58
Safe Operations 58
Education and Encouragement 59
Emerging Mobility 59
Chapter 6 - Implementation 61
Implementation Pathways 62
Street Resurfacing 62
Underground Maintenance 62
Developer-Initiated Improvements 62
Implementation Methods 63
Quick-Build 63
Capital Improvements Program Projects 63
Operations and Maintenance 64
Funding Strategies 64
Capital Improvements Program 64
Competitive Grants 64
Outreach for Bikeway Implementation 65
Monitoring and Evaluation 66
Looking Ahead 66
Glossary of Terms 67

DRAFT

Appendices

Appendix A. Plan Alignment with 2025 California Streets and Highways Code
Appendix B. Phases I and II Engagement Summary
Appendix C. Engagement Process
Appendix D. Relationship with Other Plans and Policies
Appendix E. State of the Network
Appendix F. Connectivity Analysis
Appendix G. Collision Analysis
Appendix H. Potential Corridors for Additional Study
Appendix I. Development Process for the Future Bikeway Network
Appendix J. Prioritization Criteria and Methodology

List of Figures

Figure 1-1. Relationship with Other Plans and Policies 4
Figure 2-1. All Ages and Abilities Users 8
Figure 3-1. Bikeway Types 12
Figure 3-2. Existing Bikeway Mileage 16
Figure 3-3. Existing Bikeway Network 17
Figure 4-1. Bicycle Level of Traffic Stress Categories 20
Figure 4-2. Proportion of Street Types for Citywide Roads Vs. High Stress/Low Comfort City Roads 21
Figure 4-3. Level of Traffic Stress 22
Figure 4-4. Bicycle Connectivity Score 24
Figure 4-5. Level of Traffic Stress and Connectivity Score 26
Figure 4-6. Top 20 Percent of Short Trips 28
Figure 4-7. Opportunities in Areas of Greatest Needs 30
Figure 5-1: Future Bikeway Network 34
Figure 5-2. Regionally Significant Bikeways 37
Figure 5-3. Rationale for Prioritizing Bikeway Network 38
Figure 5-4. High Complexity and Low Complexity Projects 40

DRAFT

List of Tables

Table 4-1. Comfort and Connectivity Categories 25
Table 4-2. Bicyclist-Involved Crash History 31
Table 5-1. Mileage per Bikeway Type for Existing and Planned Networks 35
Table 5-2. Prioritization Metrics 39
Table 6-1. Current Monitoring Programs 66

Adoption and Amendments

Action	City Council Adoption Date	City Council Resolution
Bicycle Master Plan		

DRAFT

Executive Summary

Over the past decade, the City of San Diego has expanded its bicycling network to include more than 1,150 miles of bikeways, including new separated facilities that provide greater comfort and separation from car traffic. At the same time, the transportation system has continued to evolve, and electric-bike (e-bike) use has grown. New regional Complete Streets and bikeway projects, along with an increased emphasis on safety, equity, and sustainability, are creating new opportunities for bicycling to play a larger role in how people get around the city.

The Bicycle Master Plan builds on this progress with a long-term vision for a safe, connected, and convenient network for people of all ages and abilities. The Bicycle Master Plan looks beyond just adding bikeway miles to understand where improvements could make the greatest impact and make the most sense for all San Diegans. It considers where people need to travel, where comfortable connections already exist, where gaps make trips difficult, and where the right improvements could make short, everyday trips more practical and desirable by bicycle. The Bicycle Master Plan also identifies opportunities to address gaps in access to safe and reliable bikeways in historically underserved communities.

The Bicycle Master Plan incorporates community input gathered through public outreach in shaping the vision for how riding bikes can help meet the City's climate, mobility, and equity goals articulated in the General Plan and Climate Action Plan. Through surveys, interactive maps, community events, and partnerships with community-based organizations, people shared where they want to bike, what keeps them from riding, and which connections matter most. A consistent message emerged: people want a bikeway network that feels safer and more comfortable and connects neighborhoods to the places they use every day, including schools, parks, jobs, shopping, beaches, and transit.

This Plan presents a future bikeway network, an interconnected system that includes 2,025 miles of bikeways. The planned bikeway network closes missing connections, expands access to separated facilities, strengthens neighborhood routes, and includes existing bikeways, projects already underway, community plan recommendations, and regional bikeway projects.

This Plan also provides a framework to help build the future bikeway network. This includes prioritizing future projects based on safety, equity, connectivity, and community input to help focus resources where investments can provide the greatest benefit and minimize any impacts to other users, residents and businesses.

Future bikeway projects can occur over time as part of maintenance activities, development projects, quick-build improvements, and larger permanent projects as funding and opportunities become available. Individual projects may evolve through engineering, funding, environmental review, and community engagement processes, allowing the City to steadily advance toward a safer, more connected, and accessible bikeway network in a way that improves quality of life for all San Diegans.

DRAFT



CITY OF SAN DIEGO
BICYCLE MASTER PLAN

CHAPTER 1

Introduction

DRAFT

Purpose

The Bicycle Master Plan establishes a vision and strategy to guide the development of the citywide bikeway network consistent with the General Plan and Climate Action Plan. It provides guidance for creating a safe, convenient, and accessible bikeway network that connects people of all ages and abilities to key destinations. It also identifies opportunities to improve bikeway connections and guides future decisions about the types and locations of planned bikeways. Designing a bikeway network for children, older adults, people with disabilities, and people using a variety of mobility devices[1] helps make it welcoming, comfortable, and accessible to all.

Need

San Diegans have access to a growing variety of bikeways that provide greater comfort and separation from car and truck traffic. Strategic improvements, along with coordination across City departments and agencies, can help to close network gaps, improve connections, and create a city where people of all ages and abilities can ride safely and comfortably. The Bicycle Master Plan supports the following:

- Implementation of mobility and climate plans and policies.
- Increased road safety and convenience for both bicyclists and drivers.
- Healthy ways to get to work, school, shopping or other daily activities and destinations.
- An affordable alternative to driving that is also good for the environment.

The Bicycle Master Plan complies with the California Streets and Highways Code Section 891.2, which mandates distinct elements that a bicycle master plan must include to establish eligibility for state funding programs. This helps to ensure the City remains competitive for grant funding to build the bikeways identified in the planned network, which are intended to benefit all San Diegans. A detailed matrix mapping the Bicycle Master Plan's compliance with each statutory requirement is provided in **Appendix A**.

DRAFT

[1] Mobility devices defined in the California Vehicle Code 312.5, 313.5, and 407.5 may operate on City roads and bikeways, unless restricted through other local ordinance.

Outreach and Engagement

San Diegans bring an important understanding of how the transportation system functions in everyday life. San Diegans know where they encounter barriers and where additional bicycle connections could make the greatest difference in their daily travel. Community input on challenges to bicycling in San Diego was gathered from public outreach events and the project website. The Bicycle Master Plan's multi-year engagement process captured lived experiences, validated and refined draft recommendations, and shaped project priorities. This feedback helped ensure the Bicycle Master Plan reflects both existing conditions and future needs. For more detailed summaries on the major phases of public engagement, see **Appendix B** and **Appendix C**.



Outreach at the Urban Collaborative Project Transportation Justice Expo.

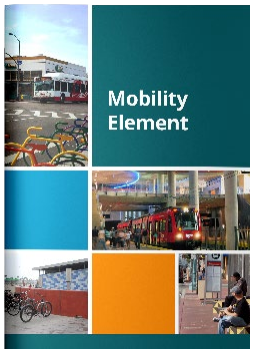
Relationship with Other Plans and Policies

The Bicycle Master Plan is aligned with other existing plans and policies that help shape a safe, high-quality bicycle environment for San Diego. Together, these plans and policies establish priorities, policy direction, design standards, and strategies for building the citywide planned bikeway network. **Figure 1-1** summarizes the Plan's relationship with the City's plans and policies related to bikeways. Additional information on each document and its relationship to the Plan is provided in **Appendix D**.

The Bicycle Master Plan framework is flexible and can change to respond to future growth, mobility needs, and emerging innovations in bikeway planning and design. Priorities may also be adjusted based on changing needs and community feedback. To ensure seamless integration and responsiveness to more detailed community planning efforts, changes to the future bikeway network in a future community plan update would replace the planned bikeway network for that community shown in the Bicycle Master Plan. The Bicycle Master Plan may be updated periodically to included changes to the bikeway network.

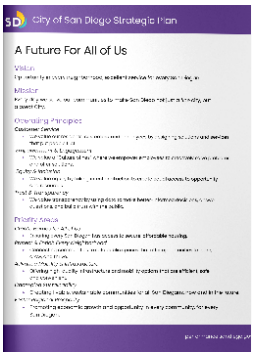
DRAFT

Figure 1-1. Relationship with Other Plans and Policies



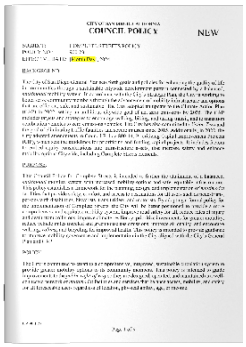
Mobility Element of 2024 General Plan

The Mobility Element establishes policies for a safe, equitable multimodal network, providing a framework for Complete Streets, shared mobility, parking, freight movement, intelligent transportation systems, and emerging transportation technologies.



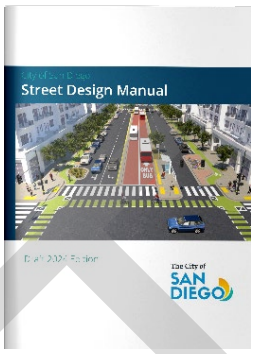
Strategic Plan

The Strategic Plan establishes a citywide vision around five priorities, including advancing mobility and infrastructure, with an emphasis on high-quality multimodal infrastructure, safer streets, and efficient, sustainable, and equitable transportation options.



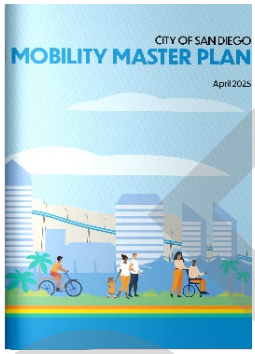
Complete Streets Policy

The City's Complete Streets Policy promotes streets for all users by integrating multimodal improvements into public and private projects, supporting Vision Zero, and coordinating bicycle, pedestrian, transit, and other multimodal facilities citywide.



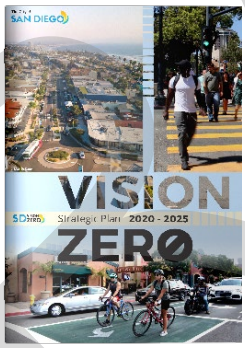
Draft Street Design Manual

The 2024 Draft Street Design Manual updates existing guidance to align with City initiatives, Complete Streets policy, and best practices, emphasizing safer street design, mobility priorities, street zones, innovative solutions, and expanded bicycle infrastructure.



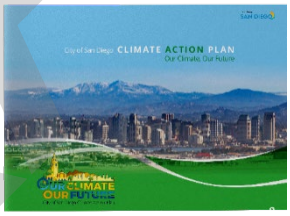
Mobility Master Plan

The Mobility Master Plan is a data-driven framework for prioritizing mobility projects, programs, and investments citywide. It focuses resources on projects that provide the greatest mobility, sustainability, and equity benefits.



Vision Zero Strategic Plan

The 2020 Vision Zero Strategic Plan evaluates progress since the City adopted Vision Zero in 2015. It identifies strategies and actions to advance the goal of eliminating traffic fatalities and serious injuries.



Climate Action Plan

The 2022 Climate Action Plan outlines the City's commitment to achieving net-zero greenhouse gas emissions by 2035. It identifies strategies and actions to create a more sustainable, healthy, and thriving San Diego



Community Plans

San Diego's 52 community planning areas are guided by Community Plans that translate citywide General Plan policies into community-specific recommendations addressing land use, mobility, urban design, public facilities, natural resources, and economic development.

DRAFT

Organization

The remainder of the Bicycle Master Plan is organized into the following chapters:

Chapter 2 Visions and Goals – Provides the policy framework for San Diego's Bicycle Program, aligning with citywide mobility goals and policies by emphasizing safe, convenient, and equitable travel through sustainable modes such as bicycling.

Chapter 3 Existing Conditions – Provides an inventory of present-day bikeways in San Diego.

Chapter 4 Needs Analysis – Assesses the current bicycling experience in San Diego and details the needs assessment conducted related to bicycle comfort, connectivity, and areas of opportunity.

Chapter 5 Network Recommendations – Presents bikeway network recommendations and proposed projects that improve connections, expand access to destinations, and make bicycling a safe, convenient, and viable transportation option for people of all ages and abilities.

Chapter 6 Implementation – Provides guidance on implementing the bikeway network recommendations and proposed projects identified in the Plan.

Appendices – Provide additional resources and information to help with the implementation of the proposed projects and recommendations.

DRAFT



CITY OF SAN DIEGO
BICYCLE MASTER PLAN

CHAPTER 2

Vision and Goals

DRAFT

Plan Overview

Using citywide policies as a basis, a Vision Statement, Guiding Principles, and Goals have been developed to serve as the foundation for the Bicycle Master Plan. They reflect the City's commitment to enhancing safety, advancing equity, promoting sustainability, and making it easier to travel by bicycle and scooter, and ensuring an efficient mobility network for all San Diegans.

Vision

The vision of the Bicycle Master Plan is to improve and grow a safe, connected, and convenient network for people of all ages and abilities who ride bicycles and scooters, and ensure an efficient and safe mobility network for all San Diegans.

Guiding Principles

The Guiding Principles help define the most important aspects of the bicycle network. They establish shared values and provide context for future decision-making and include the following:

- **Safety:** Safety for all street users is a central consideration in street design and in prioritizing street improvements.
- **Complete Streets:** Emphasize Complete Streets, which serve people walking, rolling, bicycling, taking transit, using mobility devices, and driving.
- **Separated and Low-Stress Network:** Implement and coordinate local and regional projects to further expand the bikeway network with more separated bikeways on paths, improved crossings, and on-street facilities designed to provide a comfortable and safe experience for riders of all ages and experience, including children, seniors, and casual bicyclists of all abilities.
- **Maintenance:** Leverage routine maintenance, such as street resurfacing and stormwater projects to implement bicycle projects.
- **Sustainability:** Increasing safe biking options can decrease the amount of driving, which can decrease greenhouse gas emissions, consistent with the Climate Action Plan.
- **Community Planning:** Identifying land use, mobility, and bikeway priorities when updating Community Plans help inform the planned bikeway network and identify community-supported opportunities for implementation.
- **Equity:** City and regional planning efforts place greater emphasis on improving access to safe, affordable, and reliable transportation options, particularly in historically underserved communities and for people of different ages, incomes, and abilities.
- **Transit Integration:** Regional transit investments, including the Blue Line Trolley extension from Old Town to University Transit Center and expansion of the *Rapid* bus network, have increased transit ridership and reinforce the importance of providing bicycle connections to transit stations and major transit corridors.

The City aspires to develop an All Ages and Abilities network that provides safe, comfortable, and inclusive transportation options for people of all ages and abilities. As illustrated in **Figure 2-1**, when our transportation system is designed and built to accommodate children, older adults, people with disabilities, and users of various mobility devices, it becomes accessible and welcoming to all.

DRAFT

Figure 2-1. All Ages and Abilities Users



Youth and Families



Seniors



Women



Bike Share Users



People of Color



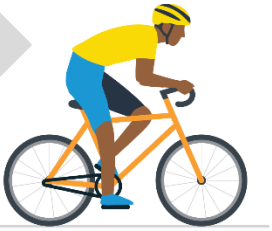
Low-Income Riders



People with Disabilities



People Moving Cargo



Confident Cyclists

Source: Adapted from NACTO Urban Bikeway Design Guide 2025

DRAFT

Goals

The Bicycle Master Plan establishes four goals that frame all the recommendations in the Plan:

Safety

A bikeway network with separated bikeways, protected intersections, and other safety improvements that reduce and eliminate severe injuries and fatalities.

Easy Access

A bikeway network that improves access and provides convenient connections without gaps within the city and to destinations beyond its boundaries.

Equity

A bikeway network that invests in underserved communities and serves the needs of people of all ages and abilities who ride bicycles.

Environmentally Friendly

A bikeway network that provides more ways for people to get around by bike, allowing them to drive less, which reduces greenhouse gas emissions for a better climate.



DRAFT



CITY OF SAN DIEGO
BICYCLE MASTER PLAN

CHAPTER 3

Existing Conditions

DRAFT

The City's bikeway network supports a wide range of riding experiences and trip purposes. The network continues to change as new projects are constructed and updated Community Plans identify new opportunities for safer, more connected bicycle travel.

Over the past decade, the City has made significant investments in bikeway infrastructure, including expanding the network and introducing new or upgraded bikeways. This chapter explores the different bikeway types and examines the current bikeway network. Understanding this helps identify opportunities to strengthen the bikeway network and informs the recommendations presented in **Chapter 5**. For more detailed findings on the City's needs and opportunities, see **Appendix E**.

DRAFT

Bikeway Types

The Bicycle Master Plan's bikeway network has six types of bikeways, or classifications, as described below and shown in **Figure 3-1**.

Figure 3-1. Bikeway Types

BIKE PATH

Class I: Off-street paths completely separated from motor vehicle traffic. These provide safer connections, within roadway right-of-way or an exclusive right-of-way.



BIKE LANE

Class II: On-street striped lanes for one-way bike travel, adjacent to vehicle lanes. Often enhanced with markings or signage, they are suitable for lower-speed roadways.



BIKE ROUTE

Class III: Shared roadways with motor vehicles, marked with sharrows and signage. Best for low-speed, low-traffic streets, connecting to parks, schools, or other bikeways.



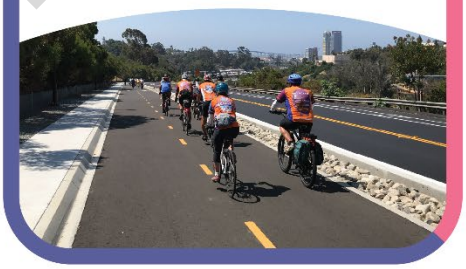
BIKE BOULEVARD

Class III Enhanced: Shared streets with additional traffic-calming features like road humps or diverters. Designed for safe and low-stress cycling on residential or low-speed roads.



SEPARATED BIKEWAY

Class IV: Bike lanes separated from traffic by vertical elements like curbs or flex posts, providing a safer, more comfortable option for riders of all ages and abilities. The City has one-way and two-way Class IV bikeways.



SHARED BUS-BIKE LANE

An option where separate bus and high-comfort bike lanes are not feasible. Best suited to low speeds and moderate bus headways, with bus passing discouraged and bicycle passing limited to stops.



DRAFT

Bike Path (Class I)

A Class I bike path functions as a completely paved, off-street bikeway for people riding bikes, walking, running, and using mobility devices. The defining characteristic of this bikeway type is its complete physical separation from car traffic, which distinguishes it from on-street bikeways and enhances comfort for users of all ages and abilities. Typical alignments include:

- Integrating paths within parks and open space areas to support both recreational leisure and scenic non-motorized routing.
- Placing paths adjacent to major roadways, freeways, or active rail corridors to create parallel high-capacity paths for walkers and bikers.
- Placing alongside rivers and waterways to establish continuous regional linkages while preserving environmental setbacks.

Incorporating bike paths into the broader network can help establish a cohesive, safe, and stress-free framework for biking for both commuting and recreation.

Bike Lane (Class II)

A Class II bike lane is an on-street bikeway explicitly designated for people to ride bikes through a combination of striping, pavement markings, and signage. These lanes are located directly within the street, adjacent to the curb or parked cars and generally in the same direction as car traffic, providing a predictable alignment for both people riding bikes and drivers. Since these lanes rely primarily on pavement markings rather than physical barriers, cars can cross them to park, turn, or access driveways. Class II bike lanes serve as a cost-effective and efficient way to retrofit existing streets, bridging gaps in the bikeway network and connecting residential areas to destinations, transit, and Class I multi-use paths, especially when there is not enough space in the existing street for a more fully separated bikeway. Balancing the implementation of Class II bike lanes with appropriate traffic calming and speed management strategies is important to help limit potential conflicts in areas with cars traveling at higher speeds or making a higher number of turns.

Bike Route (Class III)

A Class III bike route functions as a shared-lane bikeway where people riding bikes and drivers share the same lane. Unlike Class II bike lanes, these routes do not feature physical separation or exclusive striping for people riding bikes; instead, they rely on comprehensive network signage and pavement markings, such as shared lane markings or "sharrows" (where allowed), to guide people riding bikes and alert drivers to shared lane use. Because Class III bike routes involve mixed traffic flows, their strategic placement is important to ensure a comfortable user experience. They are best suited for implementation on neighborhood streets with fewer cars and lower speeds, minimizing potential conflicts between people riding bikes and drivers. Class III bike routes frequently serve as vital neighborhood connectors, linking residential neighborhoods to higher-capacity bikeways (such as Class I bike paths or Class II bike lanes) or destinations.

DRAFT

Bicycle Boulevard (Class III Enhanced)

Class III enhanced bike routes, alternatively known as Bicycle Boulevards, are low-speed, low-volume neighborhood streets that prioritize people riding bikes while maintaining local access for cars. Unlike traditional Class III bike routes, which primarily rely on pavement markings and signage, bicycle boulevards include traffic calming and intersection improvements to create a more comfortable riding environment.

The effectiveness of a Bicycle Boulevard depends less on the presence of individual design features than on creating a street environment with low car speeds and volumes where people bicycling and driving can comfortably share the roadway.

Depending on the roadway, improvements may include:

- Curb extensions
- Traffic Diverters
- Speed cushions
- Sharrow (shared lane) or bicycle boulevard pavement markings
- Wayfinding signage
- Traffic circles or roundabouts
- Raised crosswalks
- Bicycle signal detection

Additionally, based on site conditions and during implementation, asymmetric bikeways should be considered where suitable. For example, a bike lane could be installed on the uphill portion of a street, while being a bike route downhill.

Separated Bikeway (Class IV)

A Class IV separated bikeway is an on-street bikeway that combines the alignment of a traditional street lane with a distinct physical barrier separating people riding bikes from adjacent car traffic. By introducing physical division within the street, these bikeways significantly reduce stress and reduce the risk of collisions between cars and bikes. Class IV separated bikeways utilize a variety of vertical or horizontal design treatments to establish clear separation from car traffic:

- **Horizontal Separation:** Features such as raised bike lanes above the street level that discourage cars from entering the bike lane.
- **Vertical Separation:** Protection can be achieved through various physical elements, including flexible delineator posts, concrete curbs, integrated planter boxes, or a protected parking configuration where parked cars act as a physical buffer between the bike lane and moving car traffic.

Class IV separated bikeways are ideally suited for streets with higher car traffic and higher speeds where traditional Class II bike lanes may not provide adequate comfort for people riding bikes. Incorporating these types of bikeways into the urban core and key arterial corridors is important when building a highly protective bikeway network that provides greater opportunities for people to ride bikes for commuting.

DRAFT

Shared Bus-Bike Lanes

Shared bus-bike lanes are curbside travel lanes designated for use by both transit buses and bikes. They are typically used on busy urban corridors where street width is constrained, and transit service is frequent, making both a dedicated bus lane and a separate bicycle lane difficult to accommodate. In situations with very limited street space available, cars may be allowed to enter the shared bus-bike lane to turn right or access businesses or residences. This may cause transit to slow down and increase friction between cars, pedestrians and bicyclists.

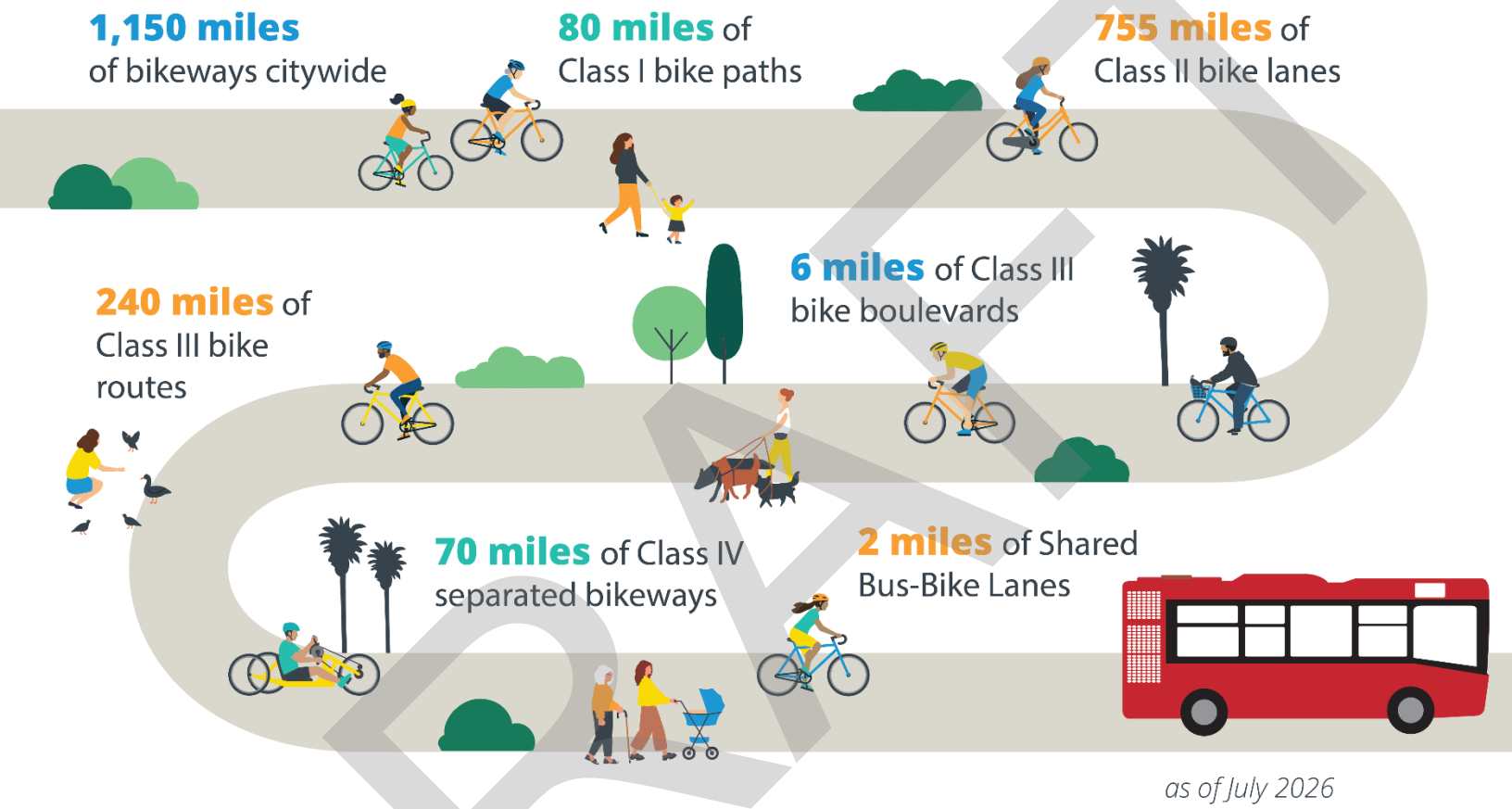
When thoughtfully designed, shared bus-bike lanes can improve transit reliability while providing a more comfortable space for people biking. They are designed to allow people riding bikes and buses to operate together, including at bus stops where buses pick up or drop off passengers. However, at intersections, shared bus-bike lanes often have to accommodate right-turning cars as well. These conflicts can delay transit and decrease safety for bicyclists and pedestrians. Therefore, shared bus-bike lanes should be applied selectively and designed with context-specific safety treatments to reduce conflicts with turning cars and protect vulnerable road users.

DRAFT

Existing Bikeway Network

The mileage by bikeway type for the existing network is displayed in **Figure 3-2**. On the following page, **Figure 3-3** illustrates a snapshot of the existing bikeway network in San Diego, which includes more than **1,150 miles of existing bikeways** throughout the city.

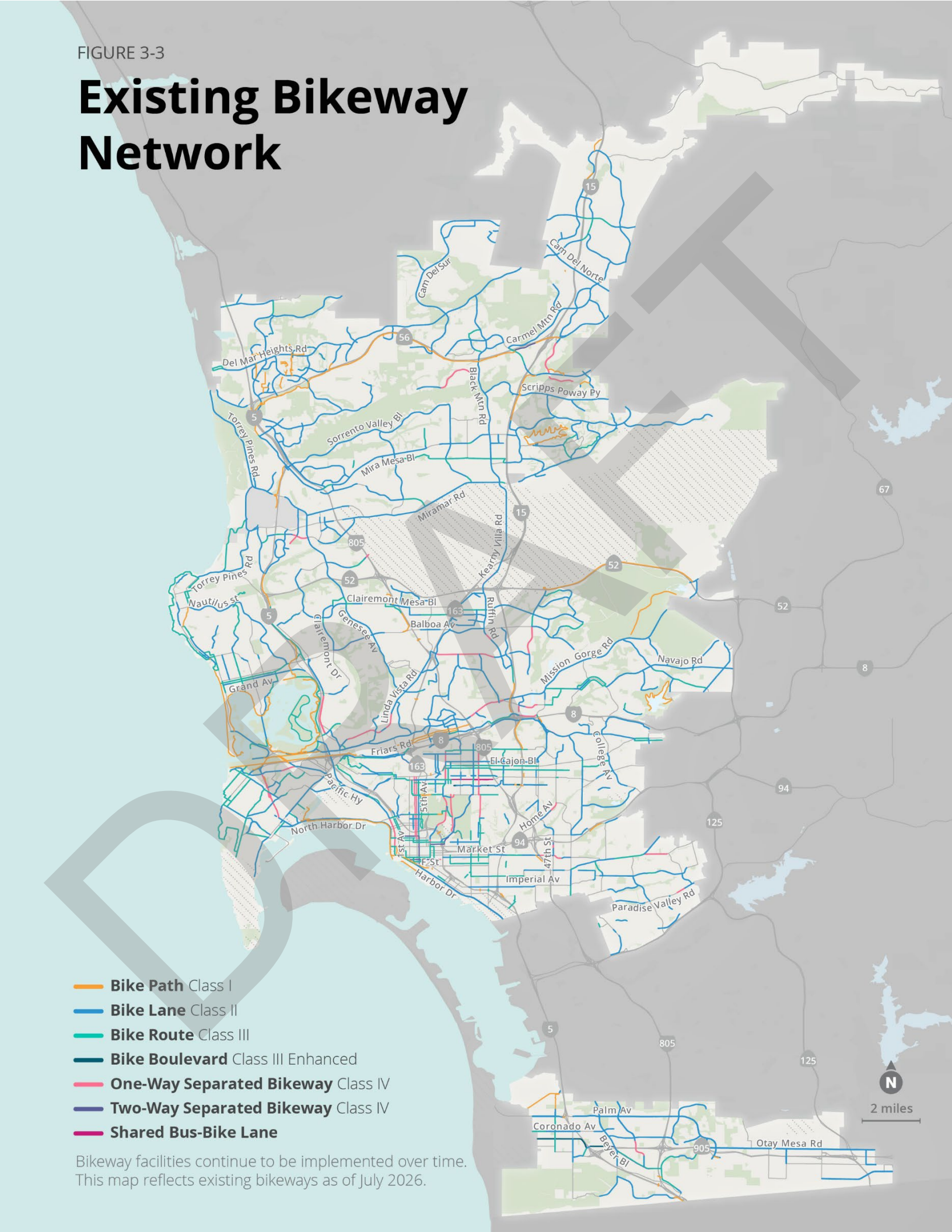
Figure 3-2. Existing Bikeway Mileage



DRAFT

FIGURE 3-3

Existing Bikeway Network



- **Bike Path** Class I
- **Bike Lane** Class II
- **Bike Route** Class III
- **Bike Boulevard** Class III Enhanced
- **One-Way Separated Bikeway** Class IV
- **Two-Way Separated Bikeway** Class IV
- **Shared Bus-Bike Lane**

Bikeway facilities continue to be implemented over time. This map reflects existing bikeways as of July 2026.



CITY OF SAN DIEGO
BICYCLE MASTER PLAN

CHAPTER 4

Needs Analysis

DRAFT

The needs of people riding bikes are diverse and dependent on a person's level of experience, comfort, and confidence, among other factors. To better understand these needs, this chapter examines several data sources and analyses, including:

- **Level of Traffic Stress Analysis** to identify locations within the existing street network that may attract or deter people from riding bikes based on comfort.
- **Connectivity Analysis** to identify streets that provide access to common destinations for people riding bikes.
- **Network Gap Analysis** to identify potential missing connections in the existing citywide bikeway network.
- **Bicycle-Related Crashes** to identify locations for bicycle-related safety improvements to improve the existing bike environment.

Comfort and Connectivity

A successful bikeway network connects people to the places they need and want to go. Whether commuting to school or work, visiting family, or running errands, people are more likely to ride a bike when bikeways are safe, comfortable, and direct. At the same time, many people already depend on riding a bike to get to everyday places.

The City envisions a transportation system that enables everyone to travel safely, regardless of how they get around, while advancing the goal of zero traffic fatalities and serious injuries. To identify opportunities for bicycle improvements, the Bicycle Master Plan uses level of traffic stress and connectivity analyses to understand where people travel every day, how comfortable existing routes are for bicycling, and where short trips could potentially be made by bike instead of by car.

Understanding Bicycle Comfort: Level of Traffic Stress

Level of traffic stress is a framework for evaluating how comfortable a street or crossing feels for people to walk or bike. This framework recognizes that many people are unlikely to walk or bike along routes that feel stressful or unsafe due to factors such as the speed and number of cars, the number of travel lanes, and the absence of marked crosswalks. Understanding these conditions helps identify which streets and bikeways need improvements to provide a more comfortable experience for a wider range of users, including children, older adults, and people who are less confident walking or bicycling in car traffic.

Level of traffic stress scores are classified into four categories, ranging from level of traffic stress-1, which is the lowest level of stress (highest level of comfort), to level of traffic stress-4, which is the highest level of stress (lowest level of comfort), as shown in **Figure 4-1**.

DRAFT

Figure 4-1. Bicycle Level of Traffic Stress Categories



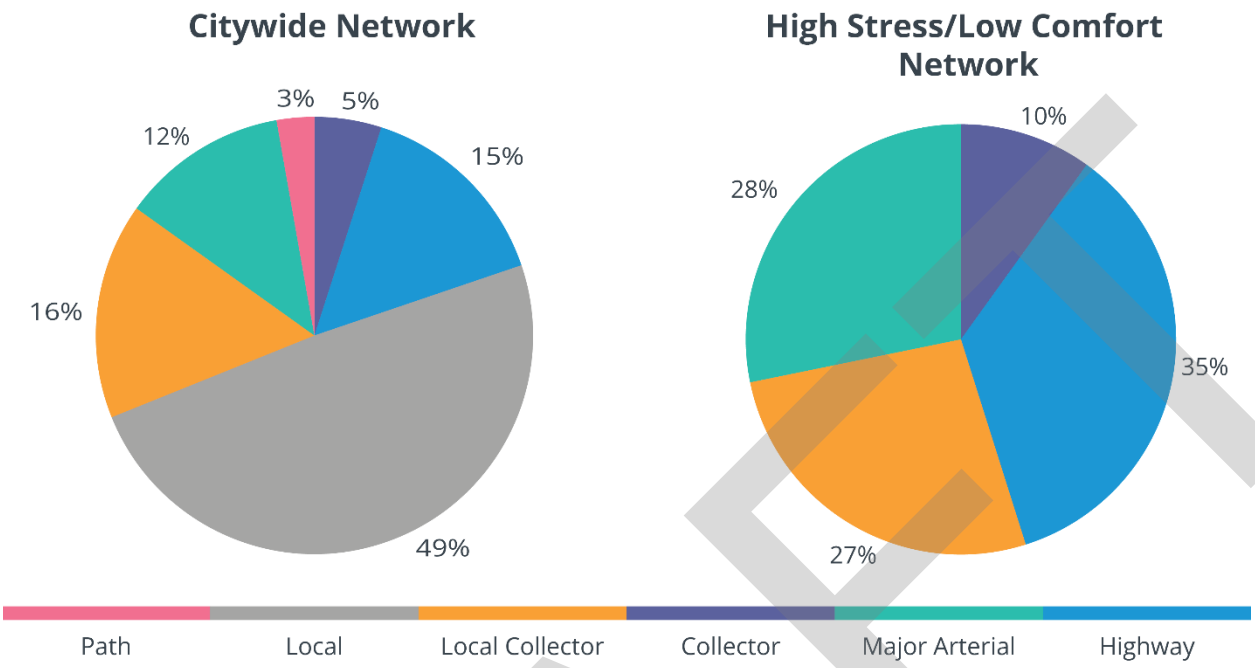
Figure 4-2 displays the proportions of types of roadways for the entire city network (left) and the high-stress network (right) by mileage. The majority of the high-stress streets are major arterials and highways. Some examples of major arterials are El Cajon Boulevard, Balboa Avenue, and Carmel Valley Road. Some examples of highways are Pacific Highway, Friars Road, and Nimitz Boulevard.

Approximately 58 percent of the street network is considered low-stress (level of traffic stress 2 or less). Much of this low-stress network consists of residential streets, which may not always provide direct connections to everyday places or between neighborhoods, as shown in **Figure 4-3**.

Major streets, including arterials and collectors, often provide these critical connections. However, these roads tend to carry higher traffic volumes and support higher car speeds, resulting in higher levels of traffic stress (less comfort) for people bicycling (level of traffic stress 3 or greater).

DRAFT

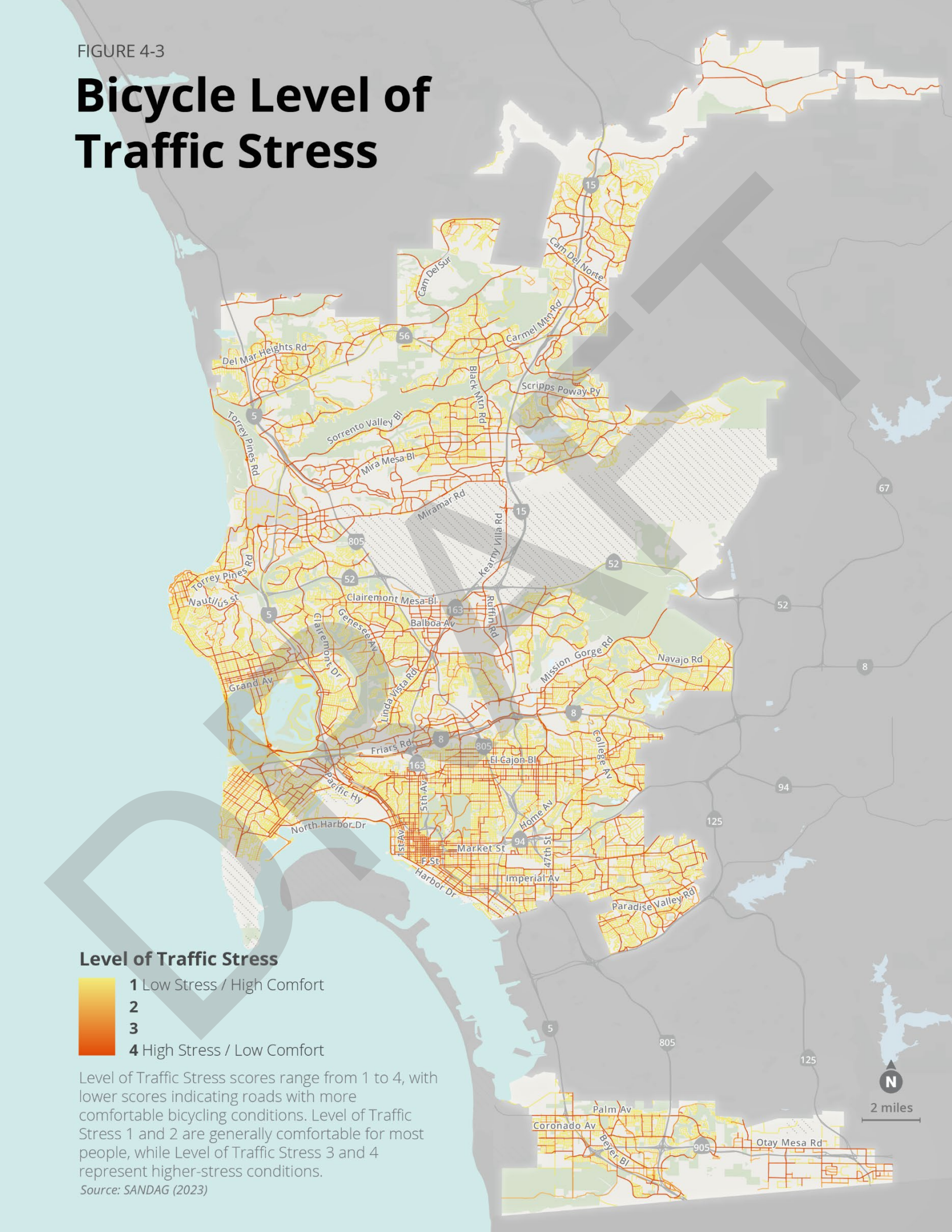
Figure 4-2. Proportion of Street Types for Citywide Roads Vs. High Stress/Low Comfort City Roads



DRAFT

FIGURE 4-3

Bicycle Level of Traffic Stress



Level of Traffic Stress

1 Low Stress / High Comfort
2
3
4 High Stress / Low Comfort

Level of Traffic Stress scores range from 1 to 4, with lower scores indicating roads with more comfortable bicycling conditions. Level of Traffic Stress 1 and 2 are generally comfortable for most people, while Level of Traffic Stress 3 and 4 represent higher-stress conditions.

Source: SANDAG (2023)

Understanding Connectivity: Existing Access to Everyday Destinations

While the level of traffic stress measures how comfortable and accessible a bikeway feels for riding a bike, a low-stress bikeway provides more value when it connects people to the places they need to reach. Connectivity measures how well the bikeway network provides connections to places throughout the City. Scores range from one, representing the lowest connectivity, to four, representing the highest connectivity.

The following types of destinations help support daily travel needs and activities:

- **Schools**: Public and private K-12 grade schools as well as colleges and universities
- **Parks**: Access points to neighborhood and regional parks, beaches, and amusement parks
- **Transit Stops**: Bus, light rail, commuter rail, and regional rail stops and stations
- **Libraries**: Public libraries
- **Shopping Areas**: Group of stores, including grocery stores, convenience stores, drug stores, and other services, as well as Business Improvement Districts
- **Jobs**: Number of jobs per census block

Streets with multiple destinations have higher connectivity scores and play an important role in helping San Diegans bicycle between neighborhoods and reach everyday places.

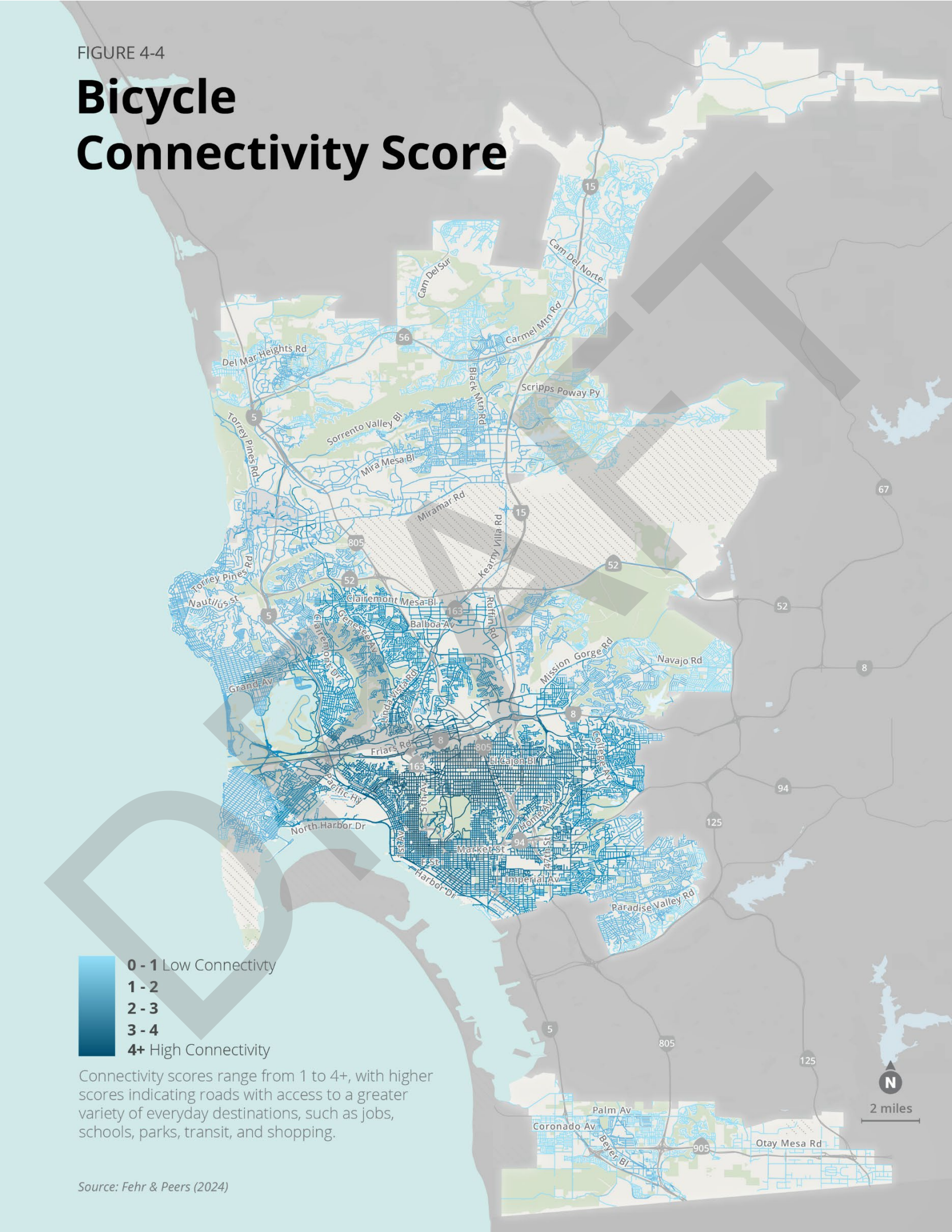
Figure 4-4 displays the results of the bike connectivity scoring in the City.

Streets with the highest connectivity scores are concentrated in the more urbanized portions of the City, including Downtown, Barrio Logan, Southeastern, Golden Hill, Uptown, North Park, Normal Heights, Mid-City, and College Area. These communities contain a high concentration of jobs, schools, shopping destinations, community centers, and transit services, creating opportunities for bikeways to serve a wide range of everyday trips. The connectivity analysis is detailed in **Appendix F**.

DRAFT

FIGURE 4-4

Bicycle Connectivity Score



Source: Fehr & Peers (2024)

Where Comfort and Connectivity Meet

Mapping comfort using the level of traffic stress alongside network connectivity reveals opportunities to make the bikeway network more responsive to existing roadway conditions while improving access to everyday places.

As shown in **Table 4-1**, four categories emerge from this assessment. Each category reflects a different set of roadway conditions. The citywide comfort and connectivity scores are shown on **Figure 4-5.** Streets with the highest comfort and connectivity levels are generally concentrated in the more urbanized portions of the City, including Downtown, Barrio Logan, Southeastern, Golden Hill, Uptown, North Park, Normal Heights, Mid-City, and College Area. The urban core is prominently shown in the figure given the close proximity to desirable destinations. As community plans are updated, low connectivity/ high stress roadways will be re-evaluated with additional local context.

Corridors with both high connectivity and currently high level of traffic stress represent opportunities for bikeway improvements. These streets connect people to destinations but can be uncomfortable for people riding bikes. Separated bikeways or parallel low-stress bikeways can provide more comfortable and convenient connections. Adding traffic calming and better street crossings to streets with high connectivity and low level of traffic stress can help people cross busy intersections safely.

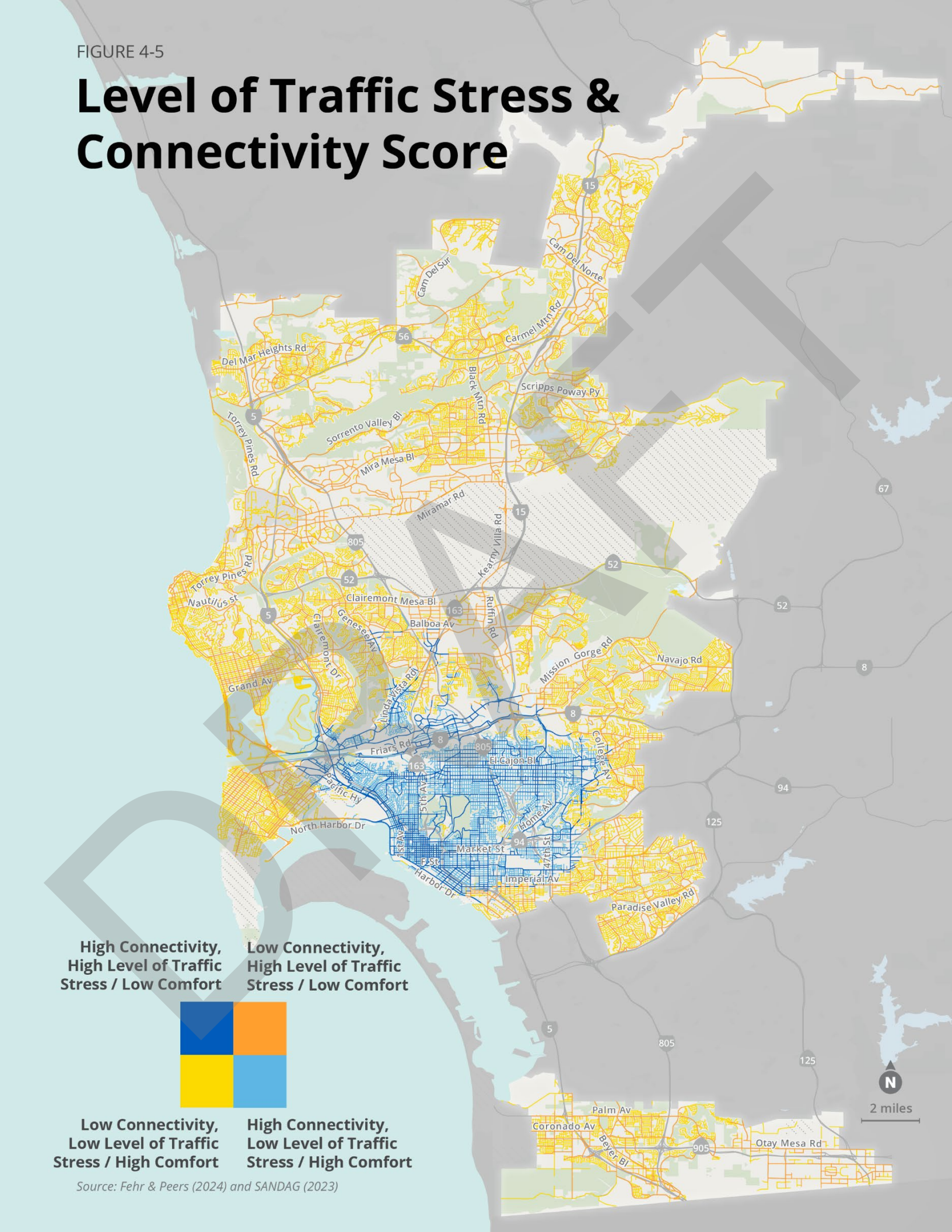
Table 4-1. Comfort and Connectivity Categories

	High Connectivity	Low Connectivity
High Stress	**High Stress, Many Destinations** **Opportunity**: Improvements to level of comfort could result in **more people riding bikes** to nearby destinations.	**High Stress, Fewer Destinations** **Opportunity**: Improvements to comfort could **help existing bike riders** but **may not increase the number of people riding bikes** due to few nearby destinations. Updates to community plans should re-evaluate these streets to identify opportunities for bicycling improvements to **support future growth and development**.
Low Stress	**Comfortable, Many Destinations** **Opportunity:** Existing bikeways and streets offer opportunities for further enhancements to **continue supporting people riding bikes** to nearby destinations.	**Comfortable, Few Destinations** **Opportunity:** Improvements would have **limited ability to result in more people riding bikes** since these locations already feel comfortable and do not connect to many destinations. However, these bikeways still function as **vital connections** between communities and regional destinations, and they may become **opportunities for future destinations** as community plans are updated.

DRAFT

FIGURE 4-5

Level of Traffic Stress & Connectivity Score



High Connectivity, High Level of Traffic Stress / Low Comfort

Low Connectivity, High Level of Traffic Stress / Low Comfort

Low Connectivity, Low Level of Traffic Stress / High Comfort

High Connectivity, Low Level of Traffic Stress / High Comfort

Source: Fehr & Peers (2024) and SANDAG (2023)

Area of Increased Biking Opportunity: Short Trips (Car Trips of 3 Miles or Less)

Nearly half of all car trips made in the United States are three miles or less.[2] This is about a 15-minute bike ride for most people. Also, according to the Oregon Transportation Research and Education Consortium[3], , half of short trips (3 miles or less) include a travel time difference between the bicycle and auto of less than five minutes. Converting these short car trips into bike trips represents a potential opportunity for the bikeway network to offer safe, comfortable trips for all ages and abilities.

To understand where that opportunity is greatest, **Figure 4-6**[4] highlights street segments in the top 20 percent in terms of number of weekday short car trips (three miles or less). The street segments in orange represent streets with potential to shift some trips from driving a car to riding a bike. Most of these streets offer direct access to key destinations used as part of the comfort and connectivity analysis previously shown in **Figure 4-5**.

DRAFT

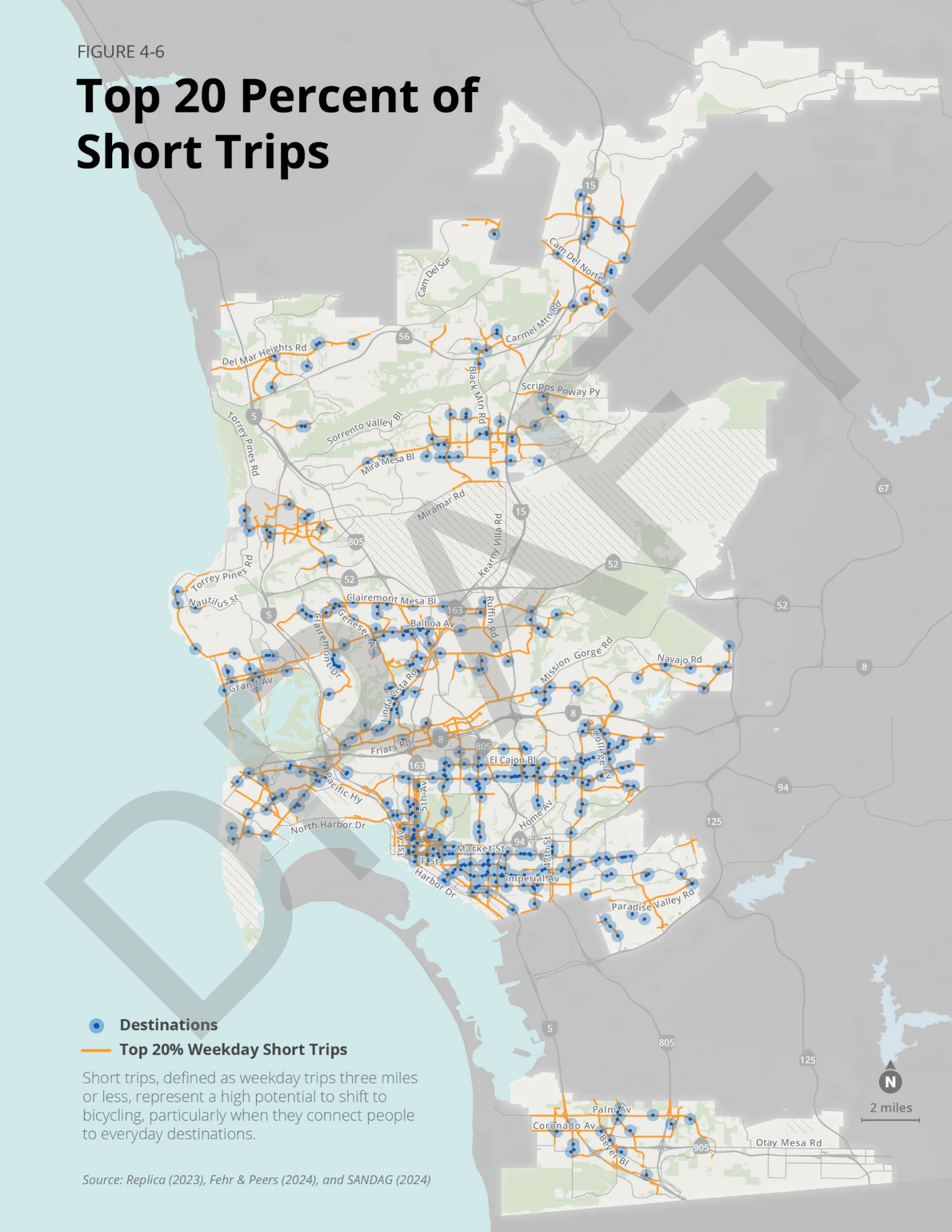
[2] Bureau of Transportation Statistics, 2021

[3] Oregon Transportation Research and Education Consortium – Understanding and Measuring Bicycling Behavior (Page 3)

[4] The data was developed using a nationwide travel model based on publicly available land use and census data and calibrated using both traditional and big data sources.

FIGURE 4-6

Top 20 Percent of Short Trips



Destinations

Top 20% Weekday Short Trips

Short trips, defined as weekday trips three miles or less, represent a high potential to shift to bicycling, particularly when they connect people to everyday destinations.

Source: Replica (2023), Fehr & Peers (2024), and SANDAG (2024)

Providing New Opportunity in Areas of Greatest Needs

For the Bicycle Master Plan, areas of greatest needs are defined as the combined area of the City's Climate Equity Index Communities of Concern[5] (areas with very low, low, or moderate access to opportunity) and the Environmental Justice Communities identified in the General Plan Environmental Justice Element.[6] These are underserved areas that lack access to quality, affordable, and reliable mobility options, as well as other essential resources. Additionally, they have historically experienced underinvestment mobility infrastructure.

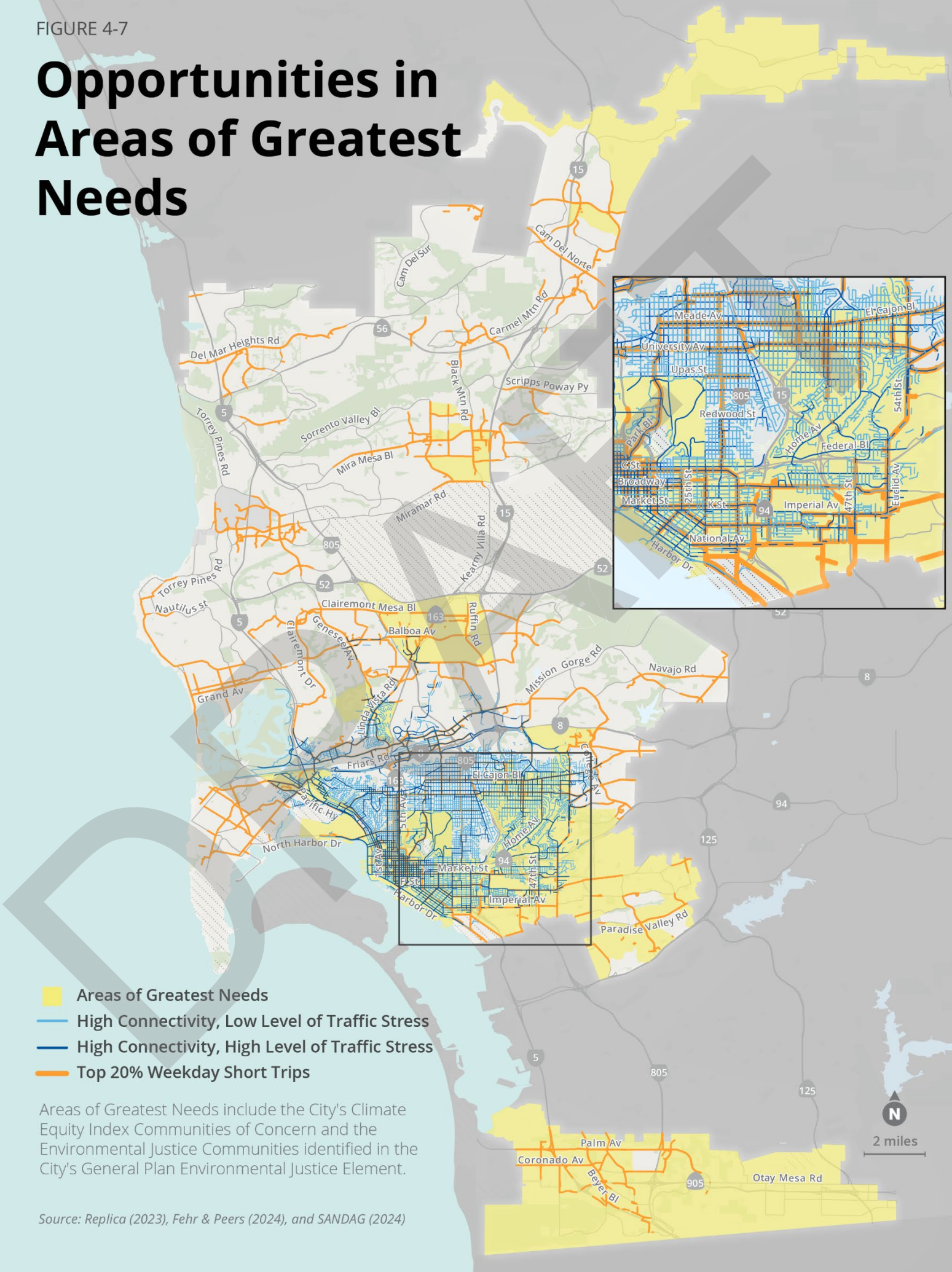
Safe and convenient mobility choices are not equally available to all communities in San Diego. To understand where bikeway projects could provide the greatest benefit, **Figure 4-7** identifies where short car trips (three miles or less) occur in areas of greatest needs. These short car trips are overlaid onto the high-connectivity street network. The areas where the blue lines (high-connectivity streets) and orange lines (short trips) overlap on the figure are areas where bikeways could best connect people to everyday places and resources. By providing and connecting these areas with a continuous bikeway network, the comfort and safety of bike riders may be enhanced, and people may feel more comfortable riding their bikes. Additionally, a continuous bikeway network would make it easier for community members to get around the neighborhood by biking instead of driving which would reduce transportation costs for short trips and lessen the need to plan trips around transit schedules.

DRAFT

[5] City of San Diego - Climate Equity Index Scores
[6] Environmental Justice Element of the City of San Diego General Plan

FIGURE 4-7

Opportunities in Areas of Greatest Needs



Barriers to Bicycling

Every day, people consider their options for getting around the City. Feedback received during public engagement identified traffic safety and gaps in the existing bikeway network as the greatest barrier to riding a bike, as summarized in **Appendix B**.

Bicyclist Crash Trends

Enhancing bicycle safety means a future in which every person riding a bike completes their journey safely, free from fatal or severe injury. Between 2019 and 2023, there were 92 police-reported crashes involving bicyclists that resulted in a severe injury or fatality in the City, as shown in **Table 4-2**. During this period, the City experienced an average of almost 15 severe-injury crashes per year and three fatal crashes involving people riding bikes each year. It is notable that every fatality involved a collision with a car. Additionally, the City reviews every fatality and severe injury crash for safety upgrades and looks at systemic characteristics associated with those crashes. This highlights the importance of creating a transportation network that separates bicycles from cars. A more detailed analysis of crash patterns, contributing factors, and locations is provided in **Appendix G**.

*A **fatal injury** results in fatality within 30 days of the crash*

*A **severe injury** results in broken bones, lacerations, or other serious injury*

Table 4-2. Bicyclist-Involved Crash History

Year	Fatal Crashes[1]	Severe Injury Crashes[1]	Total Bicyclist Crashes[2]
2023	3	19	365
2022	2	16	323
2021	6	12	325
2020	3	9	324
2019	4	18	356
Total	18 (1.1%)	74 (4.4%)	1,693
Mean per Year	3.6	14.8	338.6

Source: [1]City of San Diego (2024), [2]Statewide Integrated Traffic Records System (2024)

Network Gaps

Gaps in the bikeway network can disrupt otherwise safe and connected routes, creating challenges for people of all ages and abilities. Closing these gaps is essential to creating a continuous, connected network where people can bicycle safely and comfortably from their starting point to their destination. **Appendix E** identifies gaps in the existing bikeway network, highlighting key areas where new or enhanced bikeways can have the greatest benefit to the citywide network and improve bicycle connectivity.

DRAFT



CITY OF SAN DIEGO
BICYCLE MASTER PLAN

CHAPTER 5

Network Recommendations

DRAFT

A comprehensive bikeway network improves safety, convenience, and the quality of the bicycling experience while providing better access to key destinations. Bicycling offers a more affordable way to travel and also is a healthier way to travel as bicyclists are exercising while traveling. This chapter identifies the future bikeway network, which includes existing bikeways, updating recommendations from the previous bicycle master plan and community plans, incorporating community input gathered through public engagement, applying the latest industry best practices in bikeway design, and identifying opportunities to enhance safety and strengthen connections.

The future bikeway network includes both near-term and long-term improvements designed to create a more comfortable and better-connected bicycling experience for people throughout the City.

Future Bikeway Network

The future bikeway network represents a long-term vision for bicycling in San Diego. It combines existing bikeways, projects already underway, and new recommendations into one connected network that makes bicycling a more practical, comfortable, and convenient transportation option for everyday trips. The planned network fills critical gaps, includes more separated bikeways, improves neighborhood routes, and provides connections to everyday places.

The future bikeway network shown in **Figure 5-1** provides recommended bikeway classifications at the citywide planning level. However, classifications may be refined during project planning and engineering based on site characteristics and constraints, engineering judgment, project feasibility, and public feedback. Final bikeway designs should seek to maximize benefits for people riding bikes while attempting to minimize impacts on businesses, homes and other users of the street, including minimizing any impact to available on-street parking.

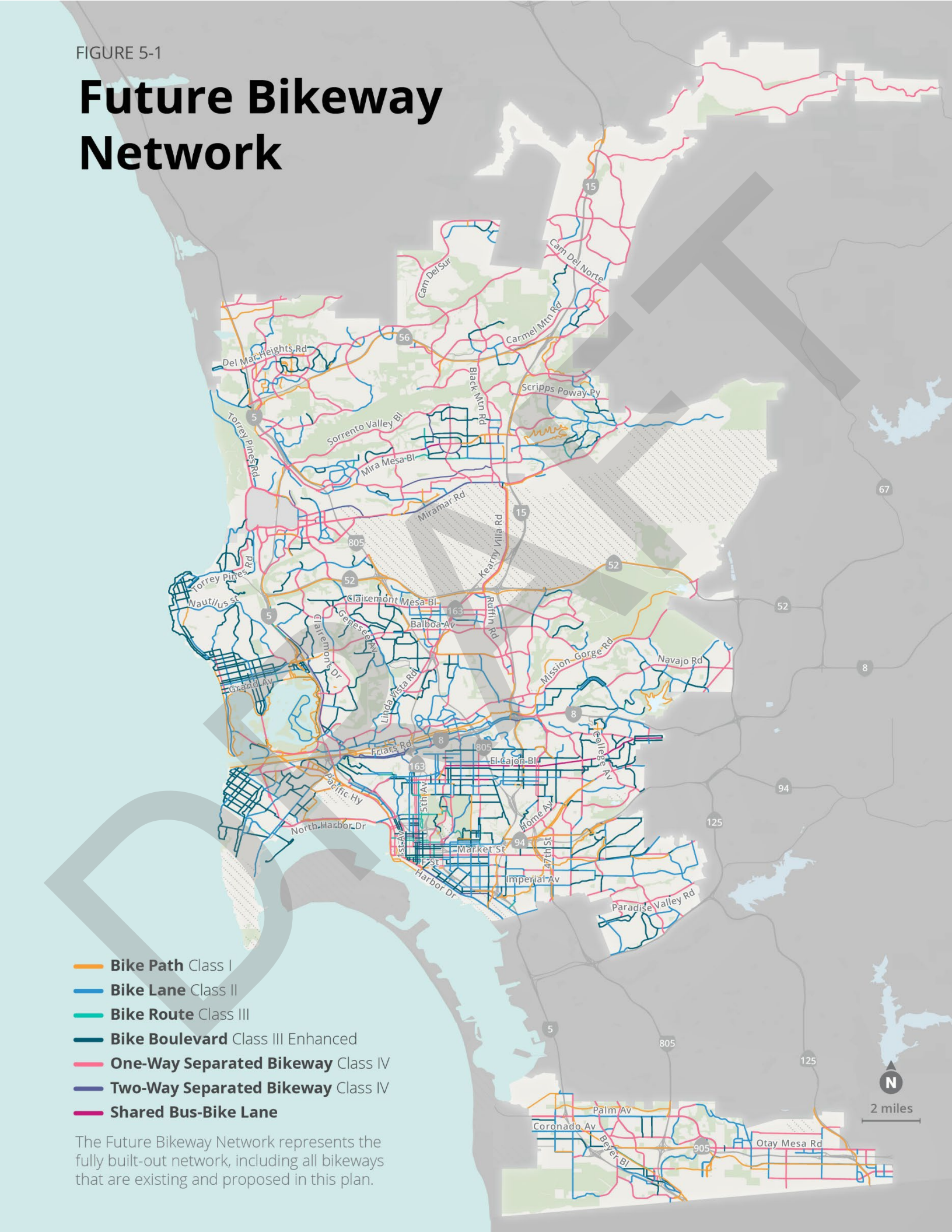
Additionally, there are several corridors throughout the City where continuous and separated bikeways are highly desired, but existing site conditions and constraints are complex and cannot be addressed through signing and striping alone. These types of corridors should be studied in greater detail to assess their feasibility for development into complete streets with continuous and separated bikeways. Examples of corridors with these types of constraints are described in **Appendix H**.

Any changes to the future bikeway network with the adoption of a community plan update is addressed in **Chapter 1**.

DRAFT

FIGURE 5-1

Future Bikeway Network



Bike Path Class I
Bike Lane Class II
Bike Route Class III
Bike Boulevard Class III Enhanced
One-Way Separated Bikeway Class IV
Two-Way Separated Bikeway Class IV
Shared Bus-Bike Lane

The Future Bikeway Network represents the fully built-out network, including all bikeways that are existing and proposed in this plan.

Mileage by Bikeway Type

The Bicycle Master Plan includes 2,025 miles of planned bikeways, with over 900 miles of planned bike paths, bike lanes and separated bikeways which is summarized in **Table 5-1**. The six bikeway types are referenced in **Figure 3-1**.

Table 5-1. Mileage per Bikeway Type for Existing and Planned Networks

Bikeway Type	Existing Miles	Planned Miles	Total Future Network Miles[1]
Bike Path (Class I)[2]	80	120	200
Bike Lane (Class II)	755	270	570
Bike Route (Class III)[3]	240	0	30
Bike Boulevard (Class III Enhanced)	6	500	505
Separated Bikeway (Class IV)	70	640	705
Shared Bus-Bike Lane	2	15	17

Notes:
[1]Total future network miles represents the bikeway network after all planned bikeway projects have been completed. Existing and planned mileage do not sum to the total planned network mileage because some existing bikeways are being upgraded to a more protected bikeway type, such as Class II to Class IV, or Class III to Class II).
[2]Planned bike paths in parks or open space may become trails if a paved path is infeasible due to environmental sensitivity. A future Trails Master Plan would provide more details on implementation.
[3]The planned network miles reflect a shift from Class III bike routes to Class III Enhanced bicycle boulevards. Rather than simply designating streets as bicycle routes with signs and a shared lane marking, bicycle boulevards include traffic calming and intersection improvements that create more comfortable neighborhood connections for people of all ages and abilities.

Development of the Future Bikeway Network

Developing the future bikeway network involved two primary steps: mapping and classification.

1. **Mapping:** The initial phase established a comprehensive citywide bikeway network by mapping existing bikeways, planned bikeways in community plans updated since the adoption of the prior Bicycle Master Plan, the prior Bicycle Master Plan and the Regional Plan, and new connections identified in **Chapter 4**.
2. **Classification:** Following network mapping, appropriate bikeway types and potential safety and comfort upgrades were assigned to each bikeway corridor. Baseline recommendations were drawn from state and national best practices, which included California Department of Transportation (Caltrans) and the National Association of City Transportation Officials (NACTO) guidelines. These recommendations were subsequently refined to match San Diego's distinct communities and neighborhoods, physical street constraints, and other limitations that could affect the ability to implement the planned bikeway type.

DRAFT

Additional technical details on the future bikeway network development are provided in **Appendix I**.

Regional Coordination

Bicycle trips can extend beyond City limits, connecting people to neighboring communities, regional trails, transit, employment centers, and other destinations. As a result, the future bikeway network was developed in coordination with SANDAG's 2025 Regional Active Transportation Network to help create a seamless regional bicycle system. All regional bikeways within the City are fully integrated into the citywide future bikeway network, as illustrated in **Figure 5-2**. The development of regional bikeways requires ongoing collaboration with SANDAG and community members. Since existing conditions can shift along a corridor, final bikeway types can vary.

DRAFT

FIGURE 5-2

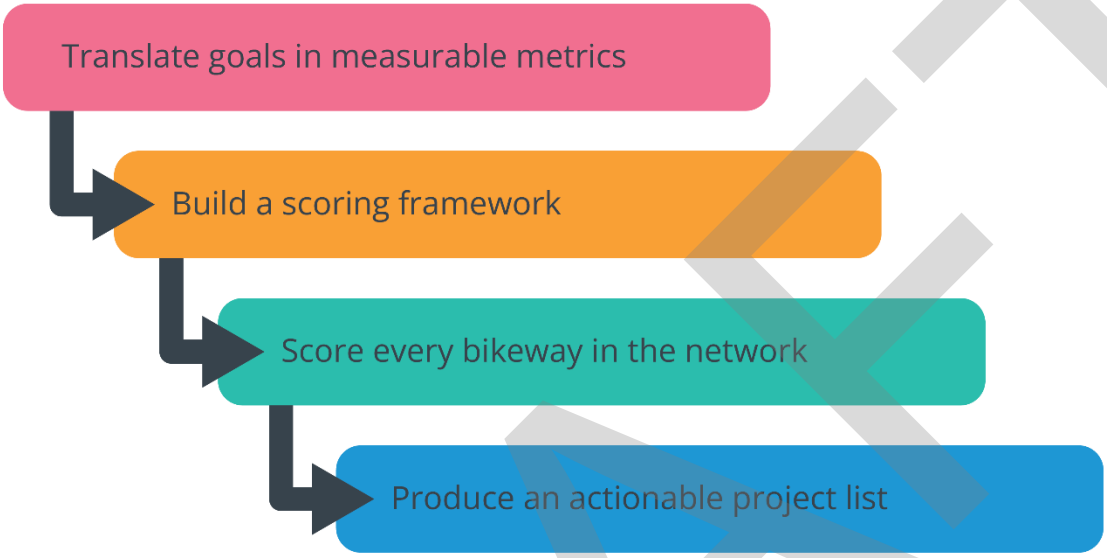
Regionally Significant Bikeways



Prioritization Approach

Prioritizing the bikeway network helps guide future investments and funding decisions by identifying where planned bikeways can deliver the greatest benefit. **Figure 5-3** shows how the Plan's goals translate into the criteria used to evaluate each proposed bikeway.

Figure 5-3. Rationale for Prioritizing Bikeway Network



Prioritization Criteria

Each proposed bikeway was evaluated using a consistent framework aligned with the Bicycle Master Plan goals outlined in **Chapter 1**.

Bikeways were prioritized based on their potential to:

- **Improve safety:** Reduce collisions and enhance physical protection for people riding bikes.
- **Advance transportation equity:** Prioritize investments in historically underserved or high-need communities to provide a safer, more affordable, and healthier way to travel.
- **Strengthen network connectivity:** Close critical gaps and link neighborhoods to key destinations and transit, where people are most likely to use the bicycle improvements which can facilitate more trips by bicycle.
- **Reflect community priorities and public input:** Incorporate feedback gathered through public engagement efforts.

Table 5-2 summarizes the specific metrics used to score each proposed bikeway.

DRAFT

Table 5-2. Prioritization Metrics

Goal	Criteria	Metric
Improve Safety	• Bicycle-Involved Collision History • Roadways with High Levels of Traffic Stress • Safety Priority Locations	• Total number of collisions on each segment, distinguishing between fatal and severe injury and non-severe crashes. • Segment is located on a roadway classified as high levels of traffic stress. • Segment is located within 50 feet of an intersection classified as a safety priority intersection.
Advance Transportation Equity	• Bicycle Master Plan: Areas of Greatest Needs • Caltrans Transportation Equity Index (EQI)[7]	• Segment is located within a Climate Equity Index designated Community of Concern or in an Environmental Justice Area from the General Plan. • Segment is located within Caltrans Transportation Equity Index Transportation-Based Priority Populations which are communities that are most burdened by the transportation system and receive the fewest benefits.
Strengthen Connectivity	• Connectivity Score • System Gaps	• Segment is located on a street classified as high connectivity. • Segment is a new bikeway (i.e., not an upgraded existing bikeway).
Reflect Community Priorities and Public Input	• Public Comments from Outreach • SANDAG Vision Zero Public Comments	• Sum of public comments associated with the bikeway segment. • Sum of public comments associated with the bikeway segment

Priority and Implementation

Following the scoring process, each planned bikeway was classified by implementation complexity

- Lower Complexity – Bikeways that can generally be implemented within the existing street width make them suitable for quick-build projects or coordination with routine maintenance and pavement improvements.
- Higher Complexity – Bikeways that require street reconstruction, on-street parking considerations, coordination with other agencies, or more substantial design and construction.

Considering both priority and implementation complexity helps balance near-term opportunities with longer-term capital investments as the bikeway network continues to expand.

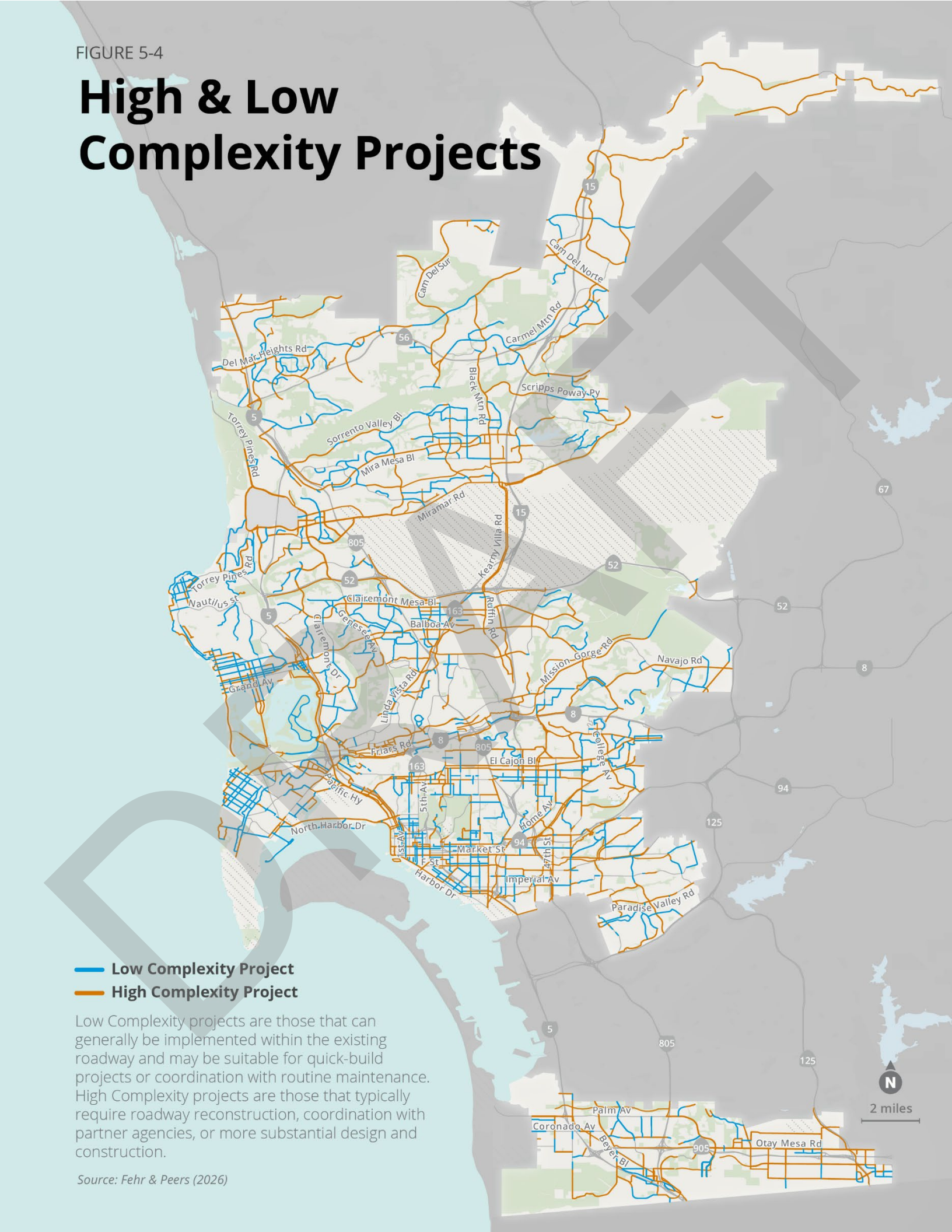
The complete prioritization methodology and scoring results are detailed in **Appendix J**.

[7] The Transportation Equity Index (EQI) is a spatial screening tool designed to identify transportation-based priority populations at the census block level. (Explanation of EQI on Caltrans website)

DRAFT

FIGURE 5-4

High & Low Complexity Projects



Select Bikeway Concepts

Following the planned network prioritization, six corridors were selected for conceptual designs to support future project development and implementation. These corridors were selected based on some combination of their priority scores, geographic distribution, connectivity to regional bikeways, and the availability of previous studies or designs. For instance, while segments of Pacific Highway consistently scored high in the priority score, it was not included because the corridor has already been extensively studied and has existing plans by SANDAG and the City.

Corridors selected for conceptual design in the Bicycle Master Plan are the following:

- Sampson Street (East Harbor Drive to South 28th Street)
- Euclid Avenue (State Route 94 to Imperial Avenue)
- Hollister Street (Main Street to Outer Road)
- Adams Avenue (Park Boulevard to Interstate 805)
- Mission Boulevard (Loring Street to Pacific Beach Drive)
- Ted Williams Parkway (Sabre Springs Parkway to City Boundary)

The concept designs presented in the following pages show how the Bicycle Master Plan's recommendations could be incorporated into existing streets. These concepts are intended to serve as a starting point for future project development rather than final, construction-ready designs.

Before reaching implementation, each concept would need:

- **Further Technical Analysis:** Detailed engineering, traffic operations assessments, parking studies, and cost estimating.
- **Environmental Review:** Compliance with environmental regulations.
- **Continued Public Engagement:** Ongoing outreach to refine designs based on community feedback.

Project advancement remains contingent upon funding availability, including competitive grant allocations, Capital Improvement Program (CIP) appropriations, and other available funding sources.

DRAFT

Sampson Street
East Harbor Drive to South 28th Street

Sampson Street is an existing two-lane collector in Barrio Logan that runs through residential, commercial, and industrial areas. Enhancing the existing Class III Bicycle Route with traffic calming measures and improved pedestrian facilities would create a more comfortable connection to Burbank Elementary School and the Bayshore Bikeway on Harbor Drive. Improving sight distance at the 28th Street intersection would enhance safety for all roadway users.

Benefits

- No impact to existing parking or vehicle lanes.
- Enhances connections to Bayshore Bikeway and Burbank Elementary School.
- Improves pedestrian visibility and accessibility through pedestrian crossing treatments.
- Aligns with traffic calming improvements identified in the Barrio Logan CPU Mobility Assessment.

Considerations

- Evaluate opportunity to close vehicle approach of 28th Street in addition to or instead of Clay Street.
- Bike Boulevard treatments should include shared-lane markings in the center of each lane, omit centerlines along mid block, and include wayfinding signs.
- Curb extensions are appropriate where posted speed is less than or equal to 30 mph and should be set back 2' from the travel lane.
- Minimum width for pedestrian refuge islands must meet accessibility standards with a minimum width of 5' and preferred width of 6'-8'.
- Recommended locations for marked crosswalks will need to be evaluated against current policy and guidelines.

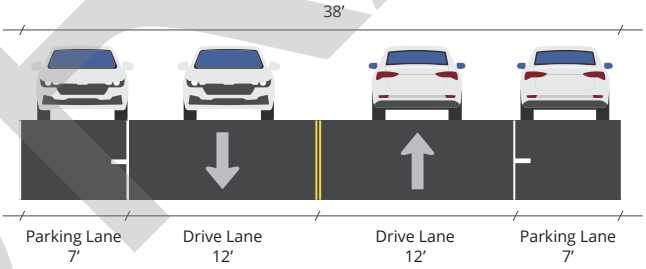
Recommended Corridor-Wide Improvements

- Speed cushions with cutouts for transit & emergency vehicles (apply every 260'-500')
- Apply daylighting on approach to all crossings
- Use bike boulevard pavement markings and wayfinding (apply within 50' of approach and every 100' - 250')

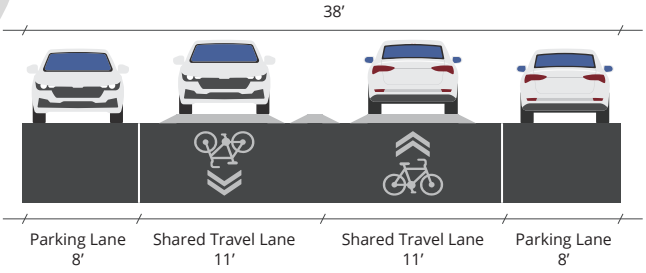
Cost Estimates

< $1 million	$1 - $3 million	>$3 million
$	**$$**	$$$

Existing Sampson Street (East Harbor Drive to South 28th Street)



Recommended Sampson Street (East Harbor Drive to South 28th Street)



DRAFT



Conceptual plan illustrations demonstrate general feasibility only.
Specific project features will be confirmed through additional planning, engagement, engineering studies, and design.

Euclid Avenue
State Route 94 to Imperial Avenue

This portion of Euclid Avenue is a four-lane major road connecting southeastern San Diego neighborhoods to State Route 94. Although it is a high-activity corridor for pedestrians and bicyclists, cyclists currently must share the lane with vehicular traffic in several segments. Closing existing gaps in the corridor's Class II Bike Lanes would provide a more comfortable and continuous bikeway connection.

Benefits

- Provides a continuous bikeway facility through a high-activity corridor.

Considerations

- Maintaining the required 20-foot minimum width for emergency access between Hilltop and Guymon Street would require either removing the median to retain on-street parking, or removing parking to preserve the median.
- Coordination with Caltrans may be required near the State Route 94 ramp.

Recommended Corridor-Wide Improvements

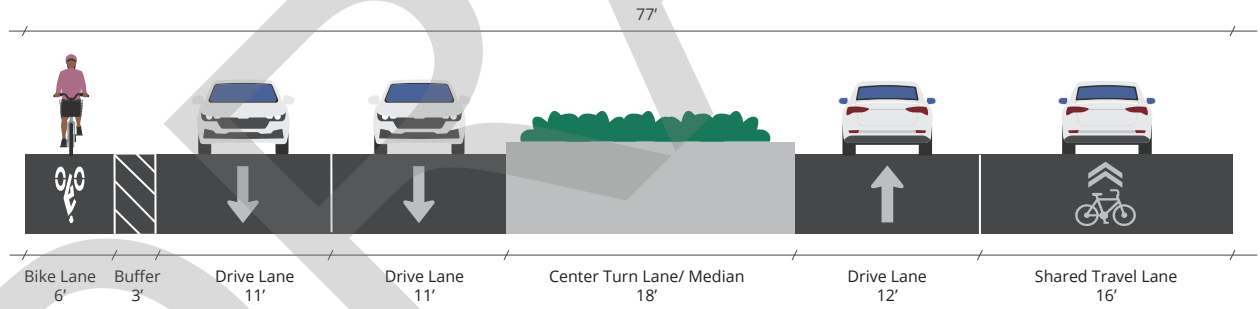


Continuous Class II Bike Lanes on each side of roadway

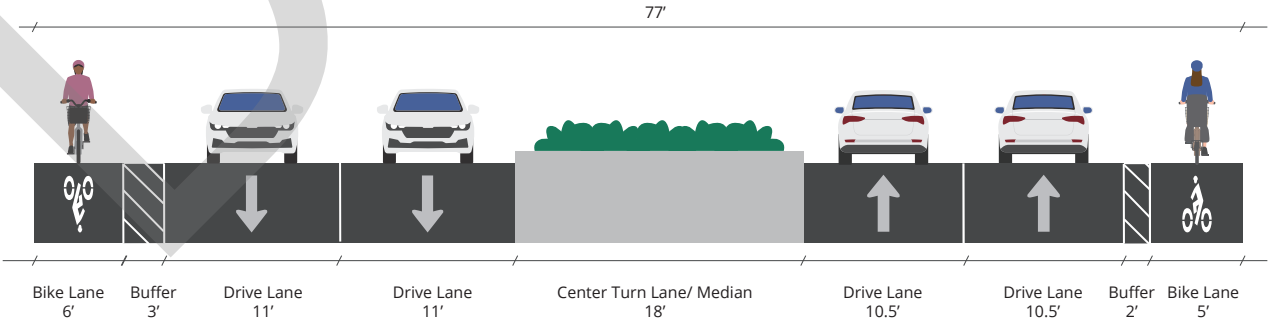
Cost Estimates

< $1 million	$1 - $3 million	>$3 million
$	$$	**$$$**

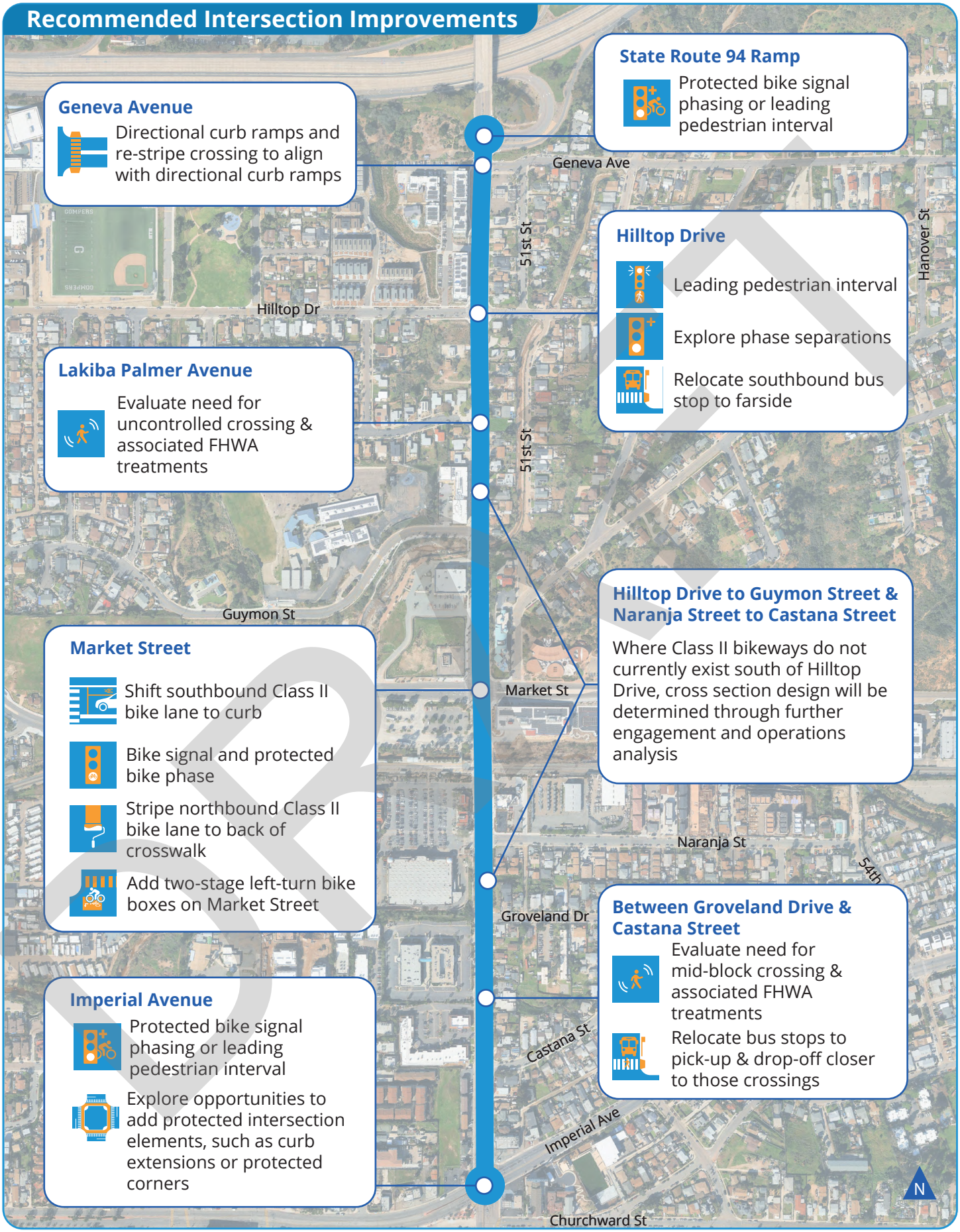
Existing Euclid Avenue (Geneva Avenue to Hilltop Drive)



Recommended Euclid Avenue (Geneva Avenue to Hilltop Drive)



DRAFT



Conceptual plan illustrations demonstrate general feasibility only.
Specific project features will be confirmed through additional planning, engagement, engineering studies, and design.

Hollister Street
Main Street to Outer Road

Hollister Street is a two-lane collector road with no existing bikeways and discontinuous sidewalks along the corridor. Portions of this corridor traverse sensitive habitat in the Otay River area, requiring careful coordination with environmental resources. Key gaps in the regional active transportation network would be closed, improving multimodal connectivity to Chula Vista, the Otay River Trail, and the Palm Avenue Trolley Station.

Recommended Corridor-Wide Improvements



Implement Class IV One-Way separated bikeways in each direction except over Otay River Bridge where right-of-way is constrained

Benefits

- Improves access to public transit at the Palm Avenue Trolley Station.
- Increases connectivity to the Otay River Trail and the City of Chula Vista.
- Investment in historically marginalized community.

Cost Estimates

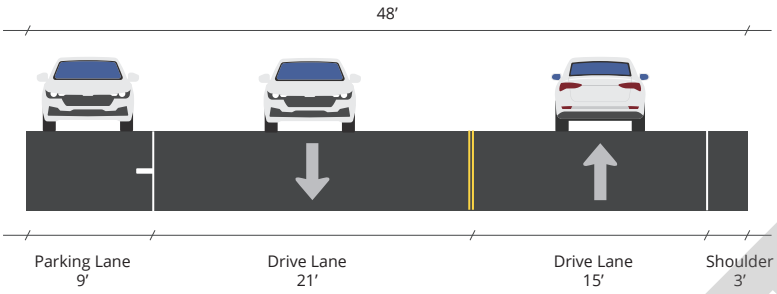
< $1 million	$1 - $3 million	>$3 million
$	$$	**$$$**

Considerations

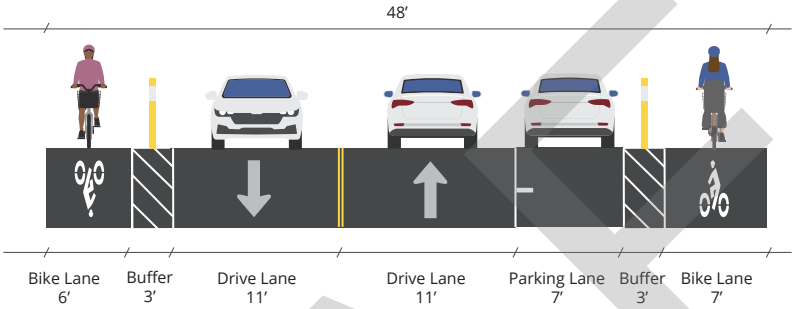
- Bikeway design for Class IV facilities should align with Caltrans Design Information Bulletin 94.
- Roadway width is constrained where the corridor crosses the Otay River. The City will evaluate traffic volumes to determine whether a shared roadway/lane treatment is feasible in this segment.
- Utility poles reduce useable space. This initial assessment assumes undergrounding utilities is feasible.
- The design retains left-turn access at intersections by utilizing space dedicated to parking at the cross section,removing parking.
- Additional rail clearance requirements may impact cross section.

DRAFT

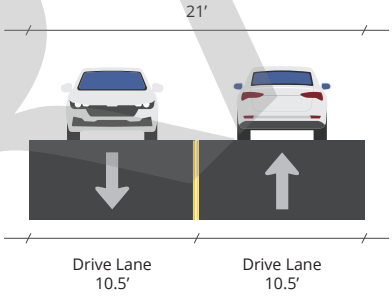
Existing Hollister Street (Main Street to Louret Avenue)



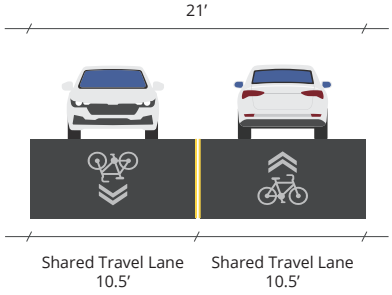
Recommended Hollister Street (Main Street to Louret Avenue)



Existing Hollister Street (Bridge)

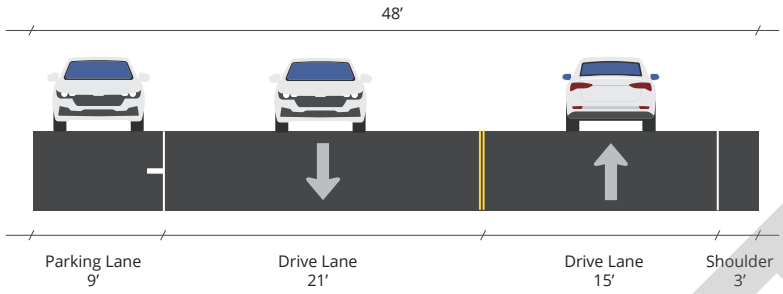


Recommended Hollister Street (Bridge)

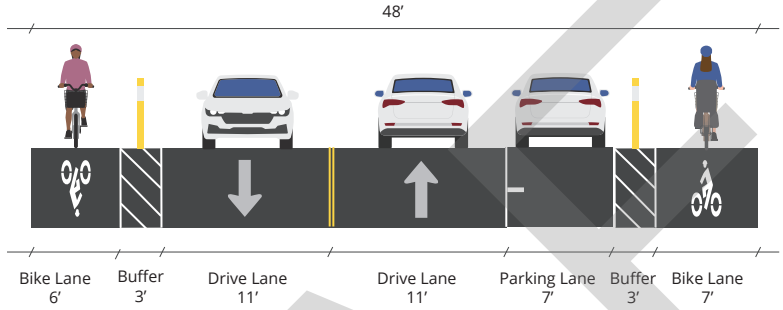


DRAFT

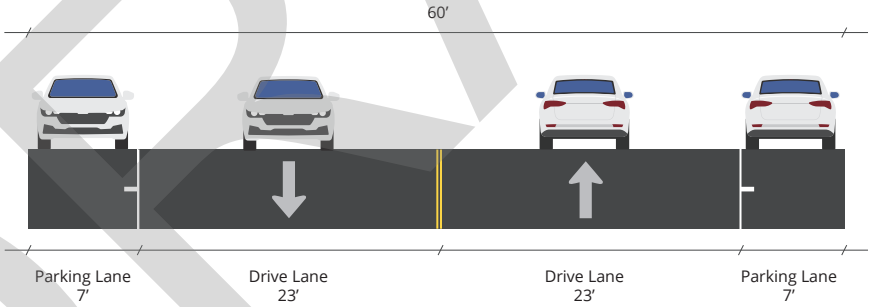
Existing Hollister Street (Bridge to Palm Avenue)



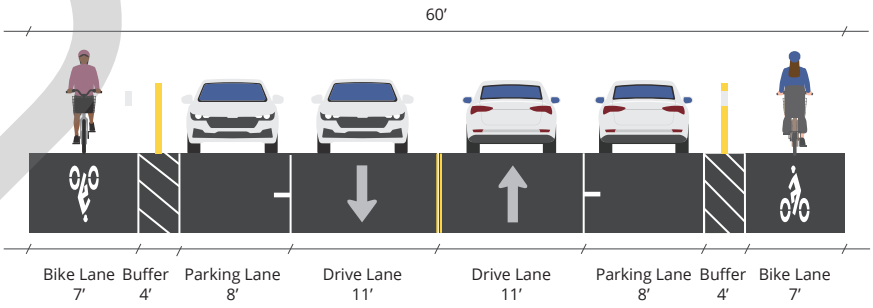
Recommended Hollister Street (Bridge to Palm Avenue)



Existing Hollister Street (Palm Avenue to Outer Road)



Recommended Hollister Street (Palm Avenue to Outer Road)



DRAFT



Conceptual plan illustrations demonstrate general feasibility only.
Specific project features will be confirmed through additional planning, engagement, engineering studies, and design.

Adams Avenue
Park Boulevard to Interstate 805

This portion of Adams Avenue is a two-lane collector road connecting the communities of University Heights and North Park. The corridor runs through residential and commercial areas and one community park. The bikeway will enhance multimodal connectivity in the area and serve as a key portion of the larger regional bikeway network to connect Uptown and North Park communities.

Benefits

- Serves as a critical link in the larger inter-regional bikeway network, connecting Uptown and North Park communities.
- Provides an enhanced bikeway for an already highly-used corridor for cyclists.

Considerations

- Where existing curb-to-curb is at least 55', 5-foot bike lanes can be provided within existing roadway width. However, this roadway width varies across the corridor and may result in a mixture of Class III Enhanced and Class II bikeways throughout the corridor.
- Ensure appropriate intersection controls to avoid queuing for left turn movements.
- Future planning and design phases may explore separated bikeways, balancing driveway access constraints, best practices for bike lane width adjacent to curb, gutter, and parking, and the desire to retain on-street parking.

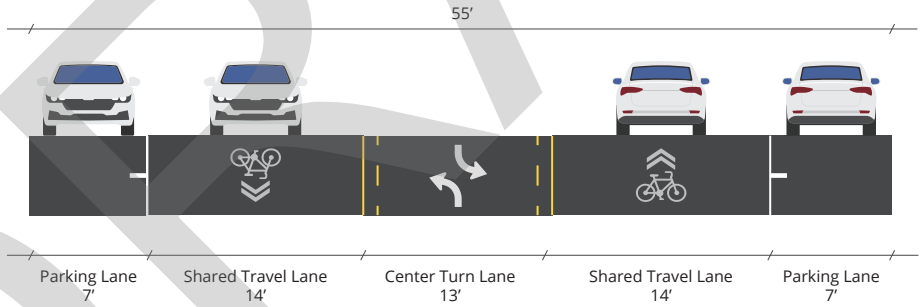
Recommended Corridor-Wide Improvements

Conflict markings through intersections and across commercial or multifamily housing driveways

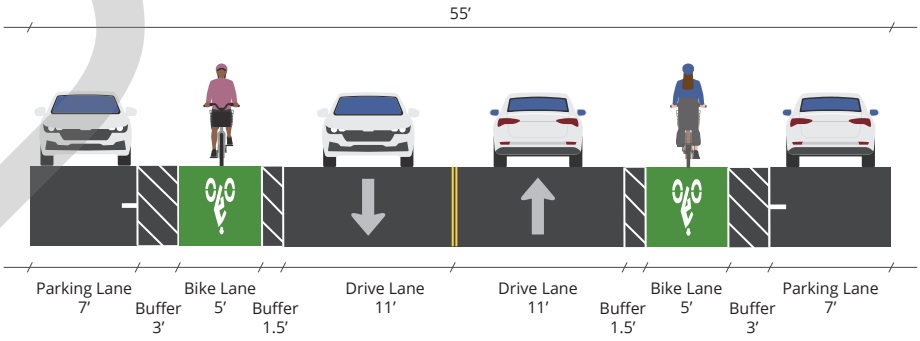
Cost Estimates

< $1 million	$1 - $3 million	>$3 million
$	$$	**$$$**

Existing Adams Avenue (Park Boulevard to Interstate 805)



Recommended Adams Avenue (Park Boulevard to Interstate 805)



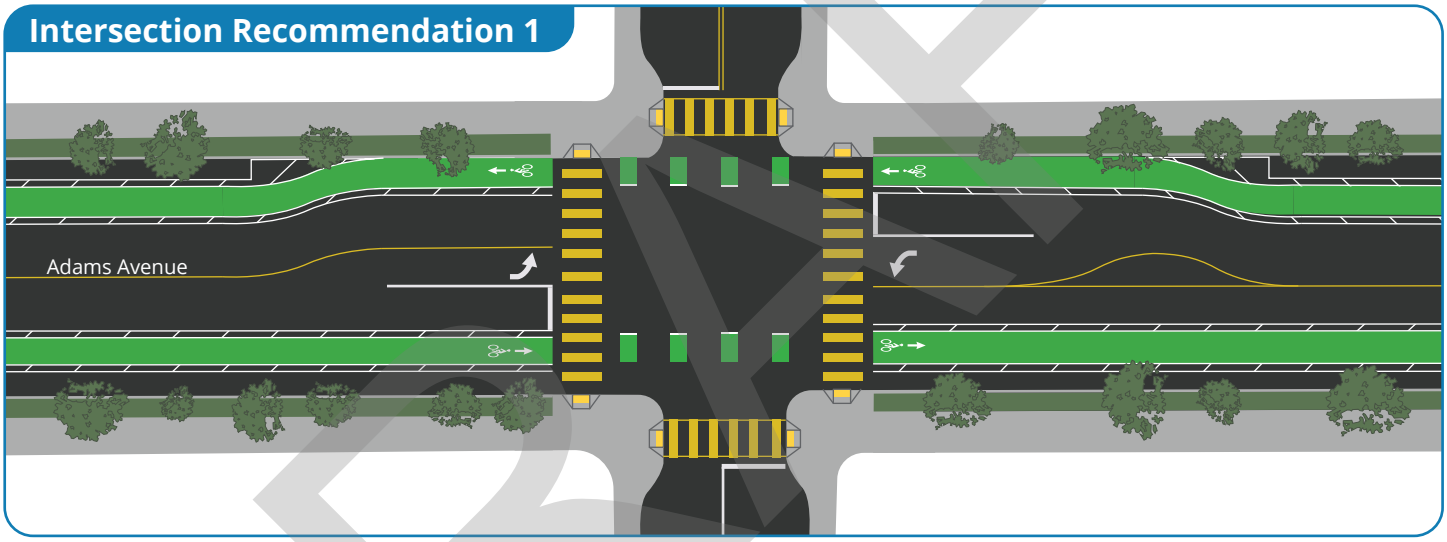
DRAFT

Adams Avenue
Park Boulevard to Interstate 805

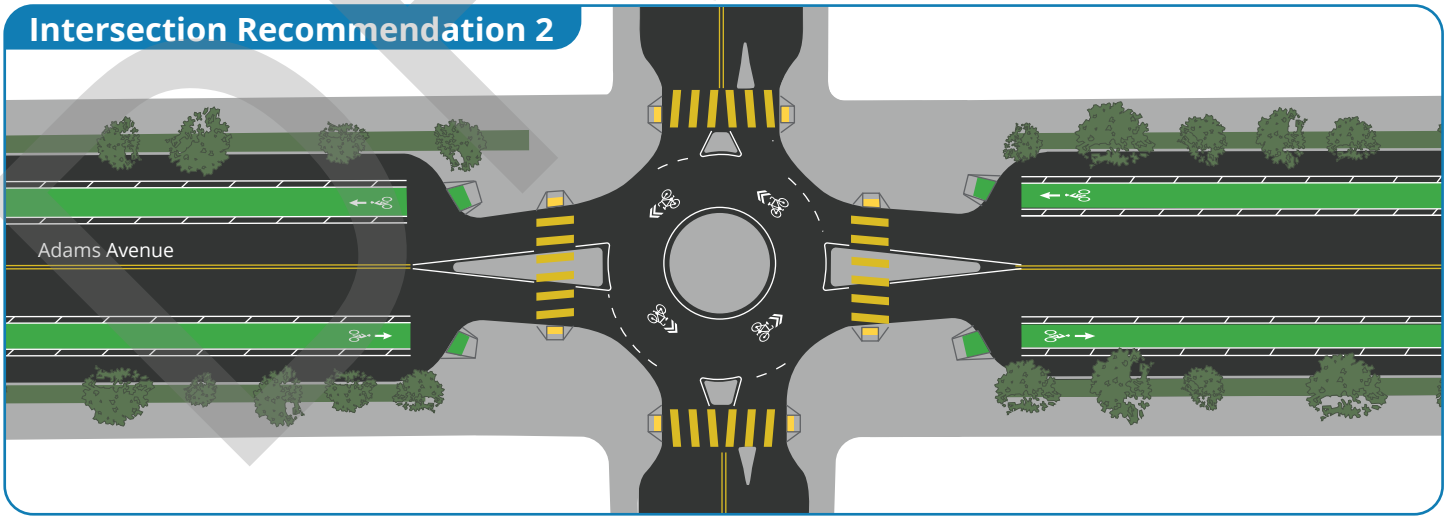
Concept Extent



Intersection Recommendation 1



Intersection Recommendation 2



Conceptual plan illustrations demonstrate general feasibility only.
Specific project features will be confirmed through additional planning, engagement, engineering studies, and design.

DRAFT

Mission Boulevard
Loring Street to Pacific Beach Drive

Mission Boulevard is a three- to four-lane roadway that is the primary north-south connection between La Jolla and Mission Beach, and functions as the north-south spine road within coastal Pacific Beach. The boardwalk, which runs parallel to the beach and generally parallel to Mission Boulevard, is a highly utilized pedestrian and bicycle corridor extending from north of Diamond Street to Mission Beach. Critical gaps in the bikeway network would be filled, improving comfort for people biking and walking along the corridor.

By reducing travel lanes from four or three lanes (depending on location) to one northbound lane, one southbound lane, and a two-way left-turn lane throughout the entire study area, the corridor would accommodate a physically separated bikeway. The bikeway would include a three-foot buffer adjacent to parking and a two-foot buffer adjacent to the travel lane in constrained areas.

Benefits

- Provides a bikeway connection in a high-demand coastal corridor.
- Closes existing gaps in the bikeway network, creating a more continuous route.
- Enhances multimodal connectivity and comfort for people biking and walking along Mission Boulevard.
- Project concepts supported by community input.
- Previous studies for the corridor found that all intersections operate at level of service (LOS) D or better.
- Aligns with community project support received through the Mission Boulevard Public Spaces & Active Transportation Plan.
- Research shows that converting a 4-lane roadway to a 3-lane roadway can reduce crashes up to 47%.
  CMF Clearinghouse, CMF ID: 2841
- Generally, a 4-lane to 3-lane conversion reduces 85th percentile speeds by 3 to 5 miles per hour.
  FHWA, Road Diet Feasibility Determination

Considerations

- Buffers adjacent to on-street parking should be 3 feet wide to accommodate full extension of car doors.
  AASHTO, Guide for the Development of Bicycle Facilities
- Lane reconfiguration is considered feasible where ADT falls below 25,000 ADT for a 4 to 3 lane reconfiguration. The highest ADT for the corridor is 16,300.
  FHWA, Road Diet Feasibility Determination
- Bikeway design for Class IV bikeways should align with Caltrans Design Information Bulletin 94.
- Project is within Coastal Zone.

Recommended Corridor-Wide Improvements


Class IV One-Way separated bikeways with horizontal and vertical separation


Bike signals and leading pedestrian intervals


Install green pavement striping on Mission Boulevard across all driveway and alley crossings, and bus-stop locations


Implement pedestrian scale lighting along the corridor



Need for additional scooter and bicycle parking and storage areas along the corridor


Install bus islands for northbound bus stops

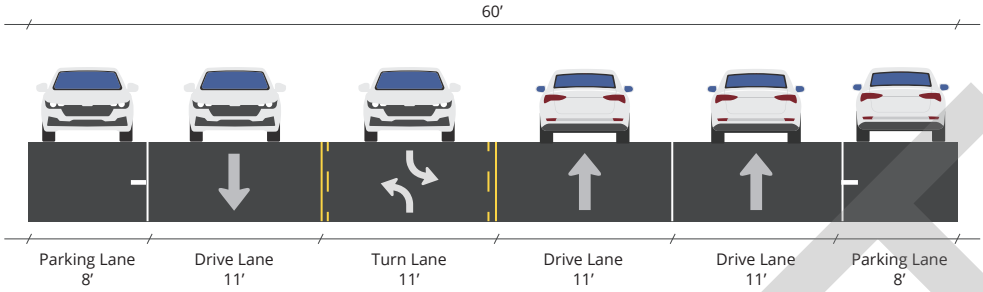
Cost Estimates

< $1 million	$1 - $3 million	>$3 million
$	$$	**$$$**

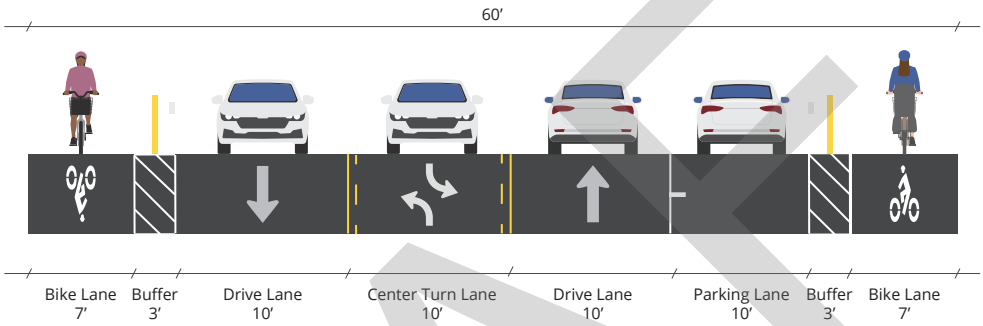
DRAFT

Cross sections are shown looking north along Mission Boulevard

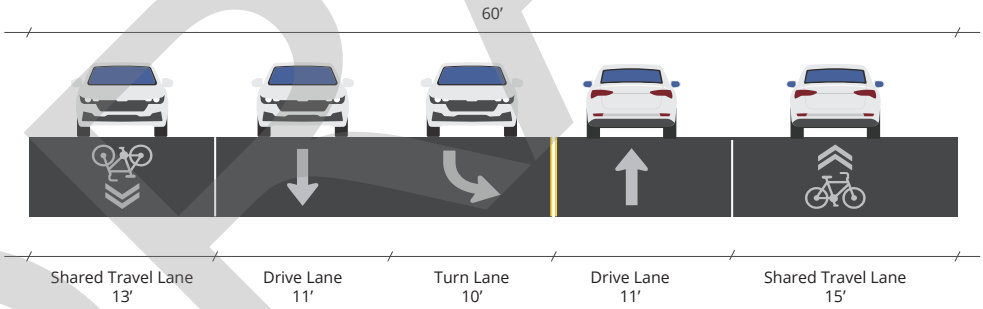
Existing Mission Boulevard (Loring Street to Felspar Street)



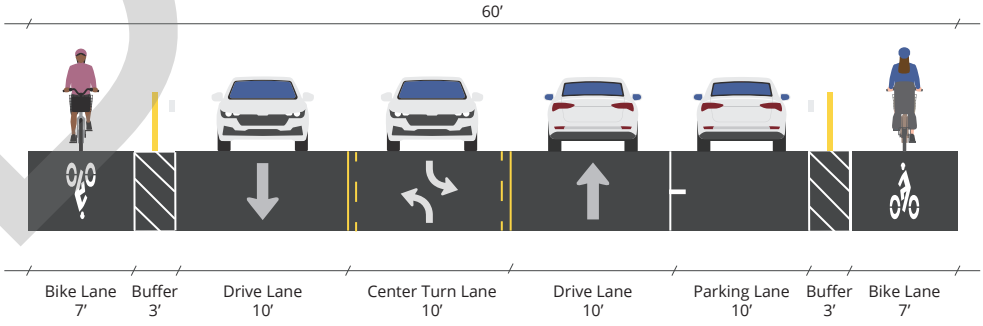
Recommended Mission Boulevard (Loring Street to Felspar Street)



Existing Mission Boulevard (Felspar Street to Pacific Beach Drive)



Recommended Mission Boulevard (Felspar Street to Pacific Beach Drive)



DRAFT

Recommended Intersection Improvements



Loring Street

Consider roundabout and other gateway treatments as mentioned in the Mission Boulevard Public Spaces and Active Transportation Plan

Emerald Street

- Install ADA curb ramps

Garnet Avenue

- Northbound bus island
- Protected left-turn phasing for east and westbound traffic
- No right-turn on red
- Bulbout and ADA curb ramps

Felspar Street

- Northbound bus island
- Protected left-turn phasing for north and southbound traffic
- No right-turn on red
- Install ADA curb ramps

Grand Avenue

- No right-turn on red
- Install ADA curb ramps
- Green pavement markings on north and east leg crossings
- Install protected northeast corner

Hornblend Street & Thomas Avenue

- Northbound bus island
- Bulbout and ADA curb ramps

Pacific Beach Drive

- Single-lane roundabout
- High visibility crosswalks
- Provide protected bicycle lanes around roundabout
- Green pavement markings on all crossings

Reed Avenue

- Protected left-turn phasing for east and westbound traffic
- No right-turn on red
- Bulbout (northeast corner) and ADA curb ramps

Conceptual plan illustrations demonstrate general feasibility only.
Specific project features will be confirmed through additional planning, engagement, engineering studies, and design.

Ted Williams Parkway
Sabre Springs Parkway to City Boundary

Ted Williams Parkway is a six-lane expressway that extends from State Route 56, connecting Interstate 15 to the City of Poway. The existing Class II Bike Lanes are high stress for people biking and rolling given that the posted speed limit for vehicles is 50 miles per hour with three vehicle lanes in each direction. Providing a separated bikeway through the corridor would support multimodal commute options along Ted Williams Parkway.

Benefits

- Existing right-of-way is sufficient to accommodate Class IV bikeways without removing travel lanes.
- Provides connections to and from the State Route 56 bikeway.

Considerations

- Bikeway design for Class IV facilities should align with Caltrans Design Information Bulletin 94.
- City will evaluate opportunities to reduce the posted speed limit by at least 5 miles per hour.
- Separated bikeway will require dedicated sweeping and maintenance.

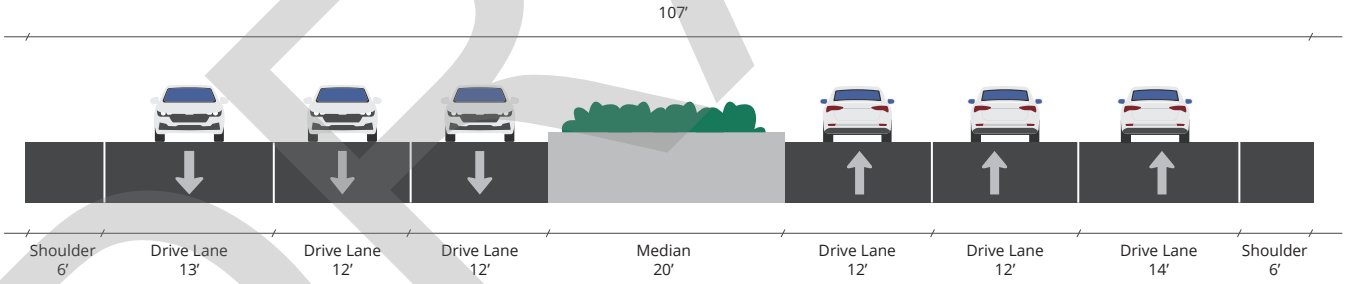
Recommended Corridor-Wide Improvements

Class IV One-Way Separated Bikeways in each direction with concrete or planted vertical buffer

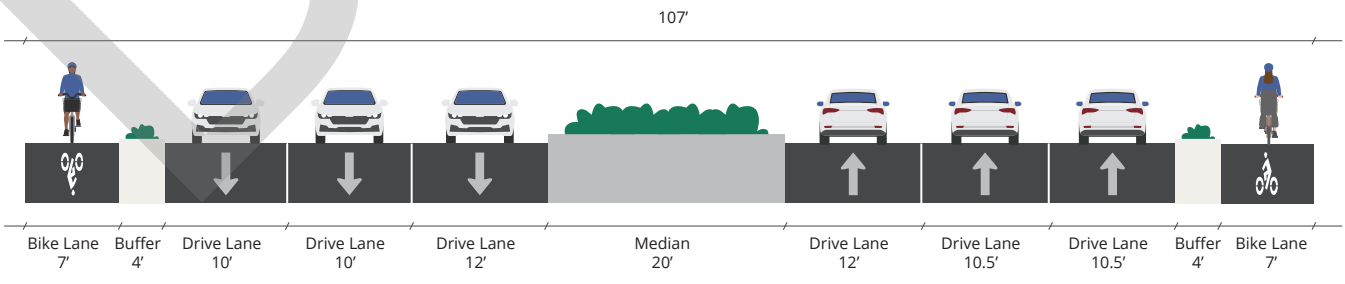
Cost Estimates

< $1 million	$1 - $3 million	>$3 million
$	**$$**	$$$

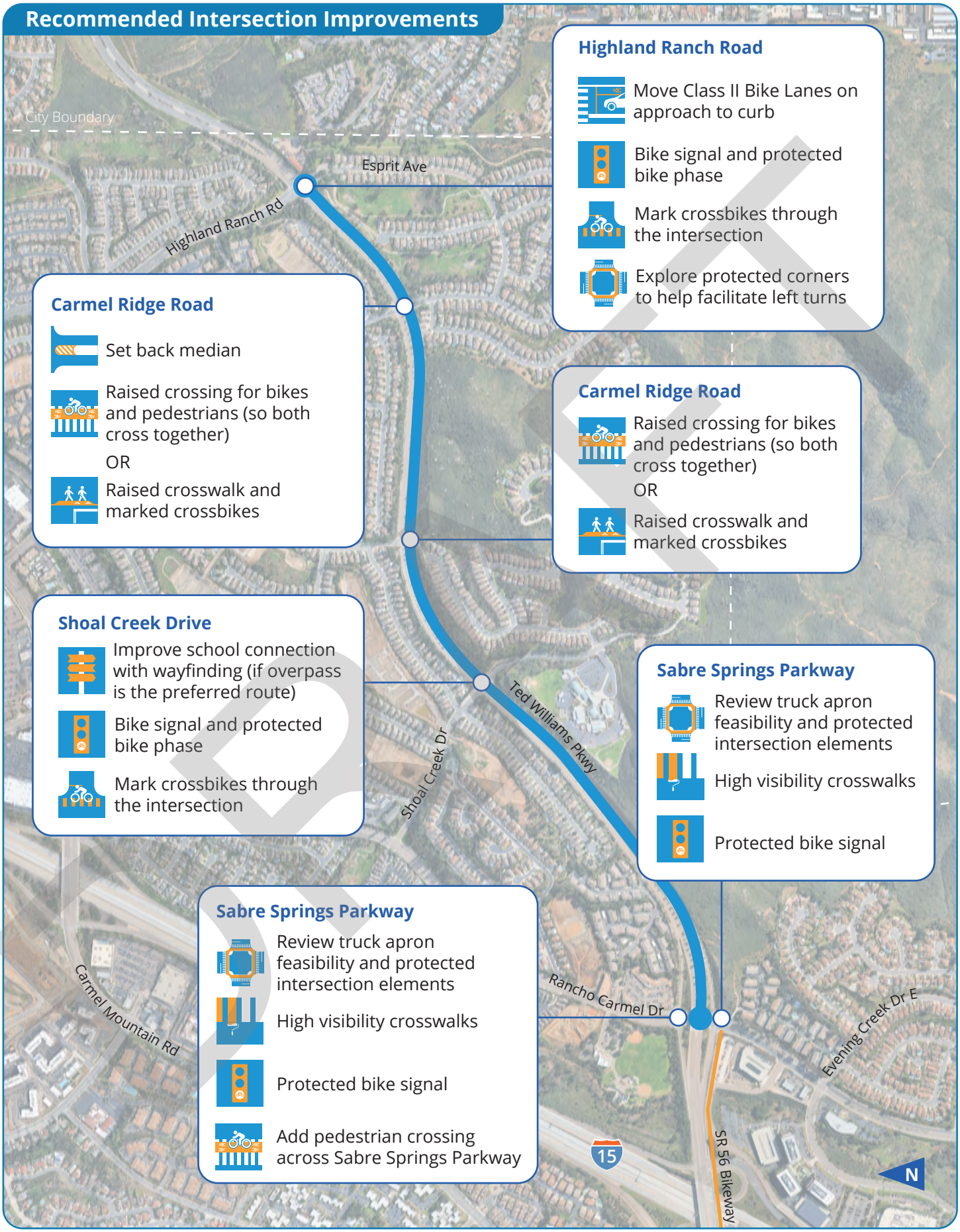
Existing Ted Williams Parkway



Recommended Ted Williams Parkway



DRAFT



Conceptual plan illustrations demonstrate general feasibility only.
Specific project features will be confirmed through additional planning, engagement, engineering studies, and design.

Supporting Programs and Policies

Building a safe and connected bikeway network requires more than new infrastructure. Policies, maintenance practices, education, monitoring, and operational programs help ensure bikeways remain safe, intuitive, and useful over time. This section addresses strengthening existing efforts, improving coordination, and identifying opportunities to pursue as funding becomes available.

Bike Parking

People are more likely to bike to a destination if they know there will be convenient, secure parking available for both short- and long-term periods.

Current Practice:

- The City's municipal code requires developments to provide short-term bicycle parking for visitors and long-term bicycle parking for employees, scaled relative to the amount of automobile parking provided on site. Short-term bicycle parking must use secure, permanently anchored racks located near a visitor entrance, while long-term bicycle parking must be lockable (via enclosures, dedicated rooms, or lockers) and, once a certain threshold is reached, must be paired with employee shower facilities.
- The City's Transportation Department installs bike parking next to the street curb or on sidewalks for businesses to encourage increased bike trips when funding is available.
- SANDAG administers a Bike Parking Program across 72 locations in the San Diego region. The locations feature individual bike lockers and secure bike parking facilities. This program is in high demand and is limited to users who frequently commute by bike.

Recommendations:

- Evaluate best practice guidance on rack type and optimal location from the Association of Pedestrian and Bicycle Professionals (APBP)[8] for potential inclusion in City policies, guidelines or regulations.
- Consider expanding bicycle parking by repurposing former scooter corrals or using newly painted red curb areas at intersection approaches, where appropriate. These areas may provide new opportunities for bicycle parking as the City implements California Assembly Bill 413, which restricts car parking near intersections to improve sightlines.[9]
- Encourage bike valet services at large events, building on the efforts of local organizations like BikeSD and the San Diego County Bike Coalition, which already provide these services.
- Install bike parking at high-use trailheads, park entrances, and recreational corridors where bike parking is currently absent or insufficient. Prioritizing these locations would support

[8] Association of Pedestrian and Bicycle Professionals *Bicycle Parking Guidelines*, 3rd Edition (2026) Publication page at APBP's website

[9] California Assembly Bill No. 413 (2023). Full text of AB 413 at legislature.ca.gov.

DRAFT

recreational cycling, encourage bike access to City park amenities, and reduce informal or improvised bike parking (e.g., locking to fences or railings) at popular sites.
- Coordinate with SANDAG on expanding the Bike Parking Program to other key destinations within the City, such as at trolley stations and commercial centers.

Wayfinding

Bikeway networks work best when supported by clear, consistent, and easy-to-follow wayfinding. Wayfinding helps people navigate unfamiliar places and routes, which can be especially valuable for those new to biking. A comprehensive bikeway wayfinding system uses signs and/or pavement markings to guide route-specific decisions and support overall orientation within a bikeway network.

Current Practice:

- The City incorporates wayfinding signs in select projects across the City.
- SANDAG, through its "Go by Bike" program, deploys wayfinding signs on regional projects.

Recommendations:

- Develop a consistent bikeway wayfinding strategy.
- Incorporate wayfinding into future bikeway projects.
- Consider using wayfinding on specific bikeway types or to direct riders to local and regional places of interests including but not limited to libraries, parks, trails, business districts, entertainment or recreational venues, or to the regional bikeway network.
- Make bikeway maps easily accessible through the City's website.

Safe Operations

Vehicle speeds, intersection design, and traffic operations all influence how safe and comfortable people feel when bicycling. In addition to infrastructure improvements, the City has adopted and continues to develop plans, policies, and programs that support safer streets for all users. Continued implementation of these efforts will complement the future bikeway network by improving safety, comfort, and the overall bicycling experience.

Current Practice:

- The City reviews every fatality and severe injury crash for safety upgrades and looks at systemic characteristics associated with those crashes.
- The Comprehensive Speed Management Plan[10] approved lowering speed limits on more than 600 miles of the City's streets (roughly 20 percent of the street network). These streets are in school zones, areas with high pedestrian and bicyclist activity, business activity districts, and where high concentrations of fatal and serious injury crashes have occurred.

[10] News Release - City of San Diego Releases Comprehensive Speed Management Plan

DRAFT

- The Draft Street Design Manual Update is anticipated to include guidelines for complete streets intersection design, based on safety best practices and innovative engineering.

Recommendations:

- Evaluate protected signal phasing at signalized intersections for all Class IV and Class I bikeways, leveraging guidance from the National Association of City Transportation Officials (NACTO) and the American Association of State Highway and Transportation Officials (AASHTO).
- Evaluate right-turn-on-red restrictions on a case-by-case basis during the design phase, with particular attention to intersections with high pedestrian and bicyclist volumes and locations near schools.
- Continue to pursue coordination with SDUSD and other school districts to identify school-area safety needs. Establishing a consistent point of contact and review process with school districts would allow the City to systematically identify safety gaps near schools, such as missing crosswalks, inadequate signage, or unsafe bike and pedestrian routes. This coordination would also strengthen the City's competitiveness for Safe Routes to School grant funding.

Education and Encouragement

Building bicycle skills and encouraging ridership are important complements to infrastructure investments. Education programs help people understand how to safely navigate the transportation system, while encouragement initiatives can raise awareness of bicycling as a practical transportation option that can save money and time, and improve health.

Current Practice:

- While the City does not have a formal Safe Routes to School program, schools within the San Diego Unified School District (SDUSD) may receive grant funding for roadway safety improvements. When proposed improvements affect city streets, the City coordinates with SDUSD to support planning and implementation.
- Grant funding, including funding from the California Office of Traffic Safety, supports ongoing bicycle safety education, community engagement, and targeted enforcement.

Recommendations:

- Continue partnering with school districts to incorporate bicycle and pedestrian safety education into physical education curricula and provide e-bike-specific education.
- Continue to seek grant funding opportunities for bicycle safety education, community engagement, and targeted enforcement.

Emerging Mobility

Bicycling continues to evolve with the growing popularity of electric bicycles (e-bikes) and other forms of micromobility. These technologies are expanding the range of trips that can be made by

DRAFT

bicycle, making cycling more accessible to a broader range of users, including older adults, families, and people traveling longer distances or over hilly terrain.

Current Practice:

- The City provides information on California's e-bike classifications and operating requirements through its website.
- The City adopted a new e-bike ordinance through a pilot program authorized by California Assembly Bill 2234, which allows jurisdictions in San Diego County to establish e-bike regulations that differ from statewide requirements. The ordinance, which took effect in the City on August 13, 2026, establishes a minimum age of 12 for Class I and Class II e-bike riders and maintains the State law requiring Class III e-bike riders to be at least 16 years old. The ordinance also reinforces helmet requirements and passenger restrictions, with implementation focused on public education, outreach, voluntary compliance, injury prevention, and responsible ridership.
- SANDAG is leading regional discussions on future micromobility initiatives, including opportunities for bikeshare.

Recommendations:

- Participate in regional planning efforts led by SANDAG to evaluate future bikeshare opportunities, particularly docked e-bike systems that can complement transit and expand access to bicycling.
- As mobility hubs and activity centers evolve, evaluate opportunities to incorporate charging infrastructure for personally owned electric bicycles and other electric micromobility devices in locations where demand and funding support implementation.
- Consider integrating bicycle parking, charging infrastructure, bikeshare, and wayfinding into future mobility hub projects to create convenient multimodal connections.
- Continue monitoring advancements in micromobility technology, battery safety practices, and emerging state and federal regulations to inform future city policies and investments.

Note: Electric motorcycles (e-motos), which are often not street legal, are distinct from e-bikes and should not be confused with them. Collisions involving e-motos have sometimes been misclassified as e-bike collisions, when they should instead be classified as motorcycle collisions. This distinction matters for accurately tracking safety trends and directing resources where they're most needed. Many riders of these e-bikes are youth, and increased education and enforcement should be prioritized to address unsafe or illegal use, particularly among younger riders.

DRAFT



CITY OF SAN DIEGO
BICYCLE MASTER PLAN

CHAPTER 6

Implementation

DRAFT

Implementation Pathways

Building the planned bicycle network will provide opportunities for people of all ages and abilities to ride bikes on safe and convenient bikeways throughout the City of San Diego. Completion of bikeways also will offer an affordable and easy transportation choice, and their construction can best be achieved through sustained investment, strategic improvements, and inter-agency coordination. While some bikeway facilities can be built as standalone projects, others are built as part of a larger capital improvement project within a street or as part of larger private development projects. Closing critical network gaps, upgrading key intersections, and constructing new low-stress corridors can help to build out the bikeway network.

Ongoing collaboration with the California Department of Transportation (Caltrans), San Diego Association of Governments (SANDAG), Metropolitan Transit System, North County Transit District, Port of San Diego, the County of San Diego, San Diego State University, University of California San Diego, local school districts, and neighboring cities helps to ensure bikeway continuity across the City's boundaries and connect to transit stops and stations and other regional destinations.

Street Resurfacing

Bikeways and other mobility improvements can be implemented in conjunction with roadway maintenance activities. The City's Pavement Management Plan provides a comprehensive overview of the existing citywide pavement conditions and outlines strategic investments needed to maintain the street network at desired levels. Guided by the street conditions in the plan, opportunities to bundle planned bikeway network improvements with upcoming roadway resurfacing projects can be considered. Coordinating these efforts can help deliver multiple benefits through a single project while improving implementation efficiency.

Underground Maintenance

Like street resurfacing projects, maintenance and replacement of underground infrastructure, such as sewer, water, and stormwater pipes, can provide opportunities to implement bikeway network improvements when streets are repaved after work is completed.

Developer-Initiated Improvements

Developers proposing large-scale improvements can also provide opportunities to construct bikeway network improvements. Often, these developments are required to implement infrastructure improvements needed to support the new development, such as new streets or the widening of existing ones, sewer and water pipes, drainage improvements, sidewalks, and bicycle infrastructure. Street improvements are determined in accordance with the Land Development Code.

DRAFT

Implementation Methods

Quick-Build



Pictured: Del Sol Roundabout in Otay Mesa Nestor

Quick-build is an approach to building infrastructure using low-cost, shorter-term materials to lessen construction impacts and implementation timelines. They are typically low- to medium-cost and use materials that can be quickly installed. By using temporary, cost-efficient, and readily available materials, quick-build projects can be implemented more quickly and without the long construction timelines of more traditional capital projects. They also allow the City to test the functionality of an improvement before making a larger investment in permanent infrastructure. For bikeway improvements, quick-build materials may include paint, planters, flex-posts, or low-profile traffic separators.

Capital Improvements Program Projects



Pictured: Pershing Bikeway

Capital Improvements Program (CIP) Projects are typically built with permanent materials and may include modifications to the curb line, utility work, and/or durable materials such as concrete. Project elements could include street trees, stormwater retention features, lighting, and sidewalk improvements. CIP projects are large-scale, long-lasting infrastructure projects that are constructed with permanent materials. These projects are intended to be permanent installations and typically incur higher costs and longer implementation timelines in comparison to quick-build projects. The City of San Diego's Capital Improvement Program Outlook provides a five-year, citywide assessment of infrastructure needs and outlines the proposed capital priorities. Bikeway projects are included in this Outlook and prioritized alongside other City needs, such as the repair and construction of city facilities like libraries and recreation centers, stormwater infrastructure, water and sewer pipe replacements, streetlights, and curb ramps.

DRAFT

Operations and Maintenance

The City maintains and operates the bikeway network. Each of the bikeway types included in the network (Class I through Class IV Bikeways and shared bus-bike lanes) has different maintenance and operations needs. Bikeways kept free of debris can reduce potential hazards to bicycle riders. While standard street sweepers may be suitable for many facilities, some locations may require a mini sweeper. Some examples of other maintenance needs include tree trimming, cleaning drainage systems, maintaining street and pavement surfaces, restriping worn or faded pavement markings, and replacing damaged wayfinding signage or flex posts.

As the bikeway network expands, the City will need to evaluate additional resources required to operate and maintain new facilities. These needs may include additional maintenance staff, specialized equipment such as compact bicycle lane sweepers, and fleet vehicles dedicated to bikeway maintenance. Planning for these resources will help make sure that new bikeways remain safe, functional, and well-maintained over time.

Funding Strategies

The Bicycle Master Plan establishes the City's long-term vision for a safe, connected, and convenient bikeway network. Achieving that vision will require continued investment in both bicycle infrastructure and supporting programs over time.

There are various funding opportunities through local, regional, state, and federal sources, as well as through partnerships and coordinated capital improvement projects. However, additional resources, particularly with regard to operations and maintenance, will need to be identified.

Capital Improvements Program

The City's Capital Improvement Program budget allocates existing funds and anticipated revenues to both new and continuing capital projects where funding is available. A number of funding sources appropriate for use on mobility infrastructure contribute to the Capital Improvement Program budget and/or fund repair or maintenance of City assets, including *TransNet*, the General Fund, Gas Tax, and Citywide Mobility Development Impact Fees.

Competitive Grants

Federal, state, and local grants provide an opportunistic funding source for mobility projects, including enhancements to the future bikeway network. These projects can supplement funds allocated in the City's CIP budget or may fully fund a project. This allows CIP funds to be redistributed to other projects.

Funding for these programs depends on regional, state, and federal budget decisions, which can shift from year to year. Applicants are often required to provide a local match, and even well-qualified projects are not guaranteed funding, since award amounts and program availability can vary based on competing priorities and available revenue. As funding becomes increasingly competitive, projects that deliver multiple community benefits are often better positioned for grants and other funding opportunities. By combining bicycle improvements with other City priorities, such as stormwater management, climate resilience, urban greening, accessibility, or street

DRAFT

reconstruction, the City can leverage a broader range of funding sources while delivering greater value to the community

Outreach for Bikeway Implementation

The City's Inclusive Public Engagement Guide provides City staff with best practices for implementing inclusive public outreach and engagement so that more perspectives can be included in the City's decisions.

Each bikeway included in the Bicycle Master Plan is unique. As such, there is no one-size-fits-all approach for public outreach and engagement. For example, some projects may include minor improvements to the street, and others may include more robust changes, such as the removal of a center left turn lane. Some projects may have regional significance if they connect to a bikeway in another jurisdiction or provide connectivity to a regional bikeway planned or implemented by SANDAG. As such, engagement efforts may vary on a project-by-project basis.

As individual projects move forward, the City will continue to evaluate existing conditions, engineering constraints, and public feedback to develop the most appropriate design for each corridor. **Appendix A** highlights several locations where additional analysis and collaboration will be especially important during project development.

DRAFT

Monitoring and Evaluation

Other complementary planning documents include actions to monitor the implementation of the Bicycle Master Plan. Progress on the Climate Action Plan is reported to the City Council and actions related to the implementation of the bikeway network and corresponding programs will be shared with the public and City Council as outlined below.

Table 6-1. Current Monitoring Programs

Bicycle Master Plan Goal	Performance Measure	Metric	Current Reporting Mechanism	Data Source
Safety	Collisions	Reduction in # of bicycle collisions	Vision Zero Action Plan	Transportation Injury Mapping System and City Vision Zero Dashboard
Equity	Access	New or improved bicycle facilities (Class I-IV) located in areas of greatest needs	Complete Streets Policy (Council Policy 900-23)	City of San Diego City Planning Department
Safety and Access	Bikeway Construction + Maintenance	Miles of new or improved bicycle facilities (Class I-IV)	Climate Action Plan Annual Monitoring	City of San Diego Transportation Department
Environmentally Friendly	Increase in bike trips	Increase the percentage of average weekday commuter trips taken by residents that are completed by bikes	Climate Action Plan Annual Monitoring	American Community Survey

Looking Ahead

Building the bikeway network envisioned in this Plan is a long-term process to be accomplished through individual projects, ongoing City programs, partnerships, and investments that collectively move San Diego toward a safer, more comfortable, and better-connected bikeway network. Each improvement, whether closing a critical gap, creating a safer crossing, or completing a new bikeway, represents progress toward that long-term vision.

DRAFT

Glossary of Terms

Accessibility: A general term used to describe the degree to which a system is usable by as many people as possible or the degree of ease with which it is possible to reach a certain location from other locations. In the Mobility Master Plan, one meaning of accessibility specifically focuses on people with disabilities and their ability to access entities. (As defined in the City of San Diego's General Plan.)

All Ages & Abilities: Design approach focused on safe, comfortable, and accessible networks for all ages, skill levels, and mobility needs.

Areas of Greatest Needs: The combined area of the City's Communities of Concern as identified in the City's Climate Equity Index and those priority areas identified in the Environmental Justice Element of the General Plan.

Best Practice: The most efficient (least amount of effort) and effective (best results) way of accomplishing a task based on repeatable procedures that have proven themselves over time. (As defined in the City of San Diego's General Plan.)

Bicycle Master Plan: A policy document that guides the development and maintenance of a bikeway network, including other roadways that bicyclists have the legal right to use, support facilities and other programs for San Diego over the next 20 years. These policies address important issues related to San Diego's bikeways such as planning, community involvement, utilization of existing resources, bikeway design, multimodal integration, safety and education, support facilities, as well as specific programs, implementation, maintenance, and funding. (As defined in the City of San Diego's General Plan.)

Big Data: Large and complex datasets.

Capital Improvements Program (CIP): A program established by a city or county government which schedules permanent improvements, usually for a minimum of five years in the future to fit the projected fiscal capability of the local jurisdiction. The program generally is reviewed annually, for conformance to and consistency with the General Plan. (As defined in the City of San Diego's General Plan.) The Mobility Master Plan refers to the development of these improvements as "capital projects" or "capital improvement projects."

Climate Action Plan (CAP): A climate action plan is a planning document that lays out a path for a community to meet sustainability and climate change mitigation goals through a variety of means. San Diego's 2022 CAP establishes a citywide goal of net zero greenhouse gas emissions by 2035. (As defined in the City of San Diego's Climate Action Plan.)

Climate Equity Index (CEI): Addressing historical inequities suffered by people of color, allowing everyone to fairly share the same benefits and burdens from climate solutions and attain full and equal access to opportunities regardless of one's background and identity. Also, a tool to measure the level of access to opportunity residents have within a census tract and assess the degree of potential impact from climate change to these areas. (As defined in the City of San Diego's Climate Action Plan and General Plan.)

Communities of Concern: A census tract that has been identified as having very low, low, or moderate access to opportunity as identified in the San Diego Climate Equity Index (CEI). Within the

DRAFT

scale of the CEI, Communities of Concern are determined by whether they fall within the 0-60 threshold of the CEI scale 0-100. (As defined in the City of San Diego's General Plan.)

Community Plan(s): The officially adopted land use plan of a local community that sets forth goals, policies, and recommendations intended to direct present and future physical development that occurs within the community. Community Plans within the City of San Diego are an integral part of the Land Use and Community Planning Element of the City's General Plan and therefore, must be consistent with the goals and policies of the General Plan. (As defined in the City of San Diego's General Plan.)

Complete Streets: Streets are designed and operated to enable mobility for all users. Users include people of all ages and abilities, regardless of whether they are traveling as pedestrians, bicyclists, transit users, or motorists. (As defined in the City of San Diego's Council Policy 900-23: Complete Streets Policy.)

Destinations: Defined as schools, parks, transit stops, libraries, shopping areas, and jobs.

Existing Bikeways: Bikeways on the ground or designed to be implemented as of November 2024.

Future Bikeway Network: In the Bicycle Master Plan, the Future Bikeway Network is the full citywide bikeway network including existing and planned bikeways.

General Plan: A long-range policy document to guide land use decisions about physical, economic, and environmental growth. California state law requires counties and cities to have a General Plan which contains multiple elements including, but not limited to, Land Use and Community Planning; Mobility; Urban Design; and Public Facilities, Services, and Safety. (As defined in the City of San Diego's Climate Action Plan.)

Level of Traffic Stress (LTS): Measures how comfortable and safe a roadway feels for cyclists, based on factors like traffic speed and volumes, and bikeway quality.

Mobility Master Plan (MMP): A comprehensive, data-driven resource that the City of San Diego uses when making decisions about mobility projects throughout the City. It guides the City in implementing programs and projects that will reduce greenhouse gas (GHG) emissions and shift mode share to meet the City's Climate Action Plan (CAP) targets. This comprehensive multimodal mobility plan links all mobility planning efforts together to create one hub for projects identified by the City. It creates a robust prioritization framework that can evaluate all mobility projects and help the City assess which projects can achieve the greatest benefits and address the greatest needs in a more sustainable and equitable way.

Planned Bikeways: In the Bicycle Master Plan, planned bikeways are bikeways that are proposed but have not been implemented or existing bikeways that are proposed to be changed or upgraded.

Planned Bikeway Network: Bikeway networks that are found in community plans, specific plans or other adopted City documents with planned bikeways.

Public Right-of-way: Public easements or public property that have been dedicated for use as streets, alleys, or other public purposes. (As defined in the City of San Diego's Municipal Code.)

Quick-Build: A construction approach in which public right-of-way space is redesigned using low intensity techniques, low-cost measures, and readily available and modifiable materials. (As defined in the City of San Diego's Council Policy 900-23: Complete Streets Policy.)

DRAFT

Regional Plan: A minimum 20-year plan that is required by state and federal law to guide the development of the region's transportation system. (As defined in the City of San Diego's General Plan.)

Rolling: A means of travel using wheelchairs or other assistive devices (e.g., hand cycles) or using other wheeled devices, including but not limited to, non-motorized scooters, skateboards, rollerblades, and roller skates.

Short Trips: Car trips three miles or less.

Street Design Manual: Provides information and guidance for the design of the public right-of-way that recognizes the many and varied purposes that a street serves. It includes technical information for the design of residential, commercial, collector, major streets, and rural roads; provides design options for traffic calming measures; and other street design standards. (As defined in the City of San Diego's General Plan.)

Traffic Calming: The combination of mainly physical measures that reduce the negative effects of car use, alter driver behavior, and improve conditions for nonmotorized street users. (As defined in the City of San Diego's General Plan.)

Wayfinding: Navigates readers through a city, hospital corridor or airport, calls attention to a storefront, or provides information about an exhibit; a succession of clues comprising visual, audible, and tactile elements. (As defined in the City of San Diego's General Plan.)

DRAFT

APPENDIX A

Plan Alignment with 2025 California Streets and Highways Code



Section 891.2 of the Streets and Highways Code (SHC) outlines the required elements that need to be included in a bicycle transportation plan to allow a county or city to apply for funding for bikeways and related facilities to implement the plan. This Plan's alignment with Section 891.2 of the Streets and Highways Code is outlined in the table below.

Table A-1: Bicycle Master Plan Alignment with SHC 891.2

SHC 891.2	Required Plan Element	Bicycle Master Plan
a	Estimate of existing bicycle commuters and estimate of increased bicycle commuters with implementation of plan.	The City of San Diego's Climate Action Plan annual monitoring reports reference data from the American Community Survey to report on commuter trips completed by bicycle. After the adoption of this Bicycle Master Plan, changes in commute behavior may be monitored.
b	Map and description of existing and proposed land uses: residential neighborhoods; schools; shopping center, public buildings, and major employment centers.	A map and general description of land uses in the City of San Diego are included in the City's General Plan, Blueprint SD. Blueprint SD establishes the long-term vision and framework that shape how and where the city grows. In addition, the City has 49 community plans, which cover 52 community planning areas. These community plans include detailed land use maps as well as community-specific policies on land use, mobility, urban design, public facilities and services, natural resources, historic and cultural resources and economic development that guide local growth and development.
c	Map and description of existing and proposed bikeways.	Refer to Figures 3-3 and 5-1 as well as associated text in this Plan.
d	Map and description of existing and proposed end-of-trip bicycle parking facilities.	Short-term and long-term bicycle parking for multi-family housing and non-residential uses are required per San Diego Municipal Code Chapter 14, Article 2, Division 5. This development regulation determines which land uses are required to install bicycle parking on private property. Additional information on existing bicycle parking facilities is included in the response to SHC 891.2 e, below.

SHC 891.2	Required Plan Element	Bicycle Master Plan
e	Map and description of existing and proposed bicycle transport and parking facilities for connections with and use of transportation modes. (e.g. mobility hubs, transit lockers, etc.)	The San Diego Association of Governments (SANDAG) manages bicycle parking at over 72 locations across the San Diego region. These locations have been established to align with critical transit hubs in the City of San Diego and surrounding jurisdictions. Additional information, including a map of bicycle facilities, can be found on SANDAG's Sustainable Transportation Services webpage. When budgeted, the City of San Diego Bike Program installs bike racks in the public right-of-way for businesses to encourage bicycling to daily activities such as shopping, riding to school and commuting. A number of these bicycle racks are located within close proximity to key transit stops. A map of existing bike racks located in the City of San Diego is available on the City of San Diego's Bicycling webpage.
f	Map and description of existing and proposed facilities for changing and storing clothes and equipment. (e.g. lockers, showers, etc.)	For non-residential uses, lockers and showers for biking commuters are required per City of San Diego Municipal Code (SDMC) 142.0530. Development projects subject the City's Mobility Choices regulations (SDMC Chapter 14, Article 3, Division 11) can provide lockers and showers above those required in SDMC 142.0530 (at least 10% more) to satisfy vehicle miles traveled (VMT) reduction measure points required by SDMC 143.1103(b)(3). Additionally, projects subject to Mobility Choices and/or Parking Standards Transit Priority Regulations (SDMC 142.0528(c)) can provide bike repair stations to satisfy requirements therein.

SHC 891.2	Required Plan Element	Bicycle Master Plan
g	Description of bicycle safety and education programs conducted in the plan area including efforts with local law enforcement and enforcement of provisions pertaining to bicycle operation and resulting effects on accidents involving bicyclists.	The City of San Diego's Police Department submits annual funding requests to the California Office of Traffic Safety grant program. A portion of these funds are allocated to bicycle safety and education programs in the City of San Diego. Example activities include walking audits, walk and bike to school days, safety presentations, and traffic safety fairs. Funding is also used for pedestrian and bicycle enforcement operations, which include highly publicized pedestrian and/or bicycle enforcement operations in areas or during events with a high number of pedestrian and/or bicycle crashes resulting from violations made by pedestrians, bicyclists, and drivers.
h	Description of the extent of citizen and community involvement in development of the plan with letters of support.	The City of San Diego received a Caltrans Sustainable Transportation Planning grant for the preparation of this Bicycle Master Plan. Letters of support for the grant application were received from: Circulate San Diego, Climate Action Campaign, San Diego County Bicycle Coalition, San Diego Regional Chamber of Commerce, San Diego Association of Governments, and Bike SD. In addition, the City hosted a number of Community Leader meetings throughout the preparation of the Bicycle Master Plan to ensure that community leaders were involved in the development of the Plan.

SHC 891.2	Required Plan Element	Bicycle Master Plan
i	Description of how the bicycle transportation plan has been coordinated and consistent with local/regional transportation, air quality, or energy conservation plans including incentives for bicycle commuting.	The City of San Diego has worked closely with staff from the San Diego Association of Governments (SANDAG) to integrate, build on, and connect to existing and planned regional bicycle network facilities. Chapter 6: Network Recommendations, provides additional details on regional coordination. SANDAG is responsible for regional air quality analysis and conformance with air quality standards through the preparation of the Regional Plan which is updated every four years. As such, the planned network's impact on active transportation use will be captured through a future update. The City of San Diego coordinates with SANDAG to offer free guaranteed rides home to City staff who commute to work by transit, bicycle, walking, carpooling, or vanpooling as part of the City's Transportation Demand Management (TDM) efforts.
j	Description of the projects proposed in the plan and their priority in implementation.	Refer to Chapter 6: Network Recommendations
k	Description of past expenditures for bicycle facilities and future financial needs for projects that improve safety and convenience for bicycle commuters in the plan area	Table 10-2 in the Mobility Master Plan (MMP) includes prior year expenditures for mobility improvements including bicycle facilities from Fiscal Year 2019-2024. Future iterations of the MMP may include expenditures from additional years. Future financial needs for the bicycle network are included in the City of San Diego's 5-Year Capital Infrastructure Planning Outlook.

APPENDIX B

Phases I and II Engagement Summary



3/28/2025



The City of SAN DIEGO

Bicycle Master Plan Update

Engagement Summary

FEHR & PEERS | CityWorks CR Associates

Caltrans

Funding for this study provided by Caltrans' STPG program

Public Survey Results

Section Includes

Feedback Map

Trip Map

Long Form Survey

Three Survey Types Open from August to September 2024

	Survey Type	Total Contributions	Total Unique Contributors
Feedback Map	Spatial Survey	3423	697
Trip Map	Spatial Survey	1955	325
Long Form Survey	Long Form; 13 Questions	2912	2912

The BMPU project received a total of 8,290 total contributions across three surveys. This was the highest engagement of any Social Pinpoint site to date.

Feedback Map

Section Includes

Summary of Common Themes

Citywide Heatmaps of Feedback Map Data

Feedback Map Responses

Common Themes Across the Data

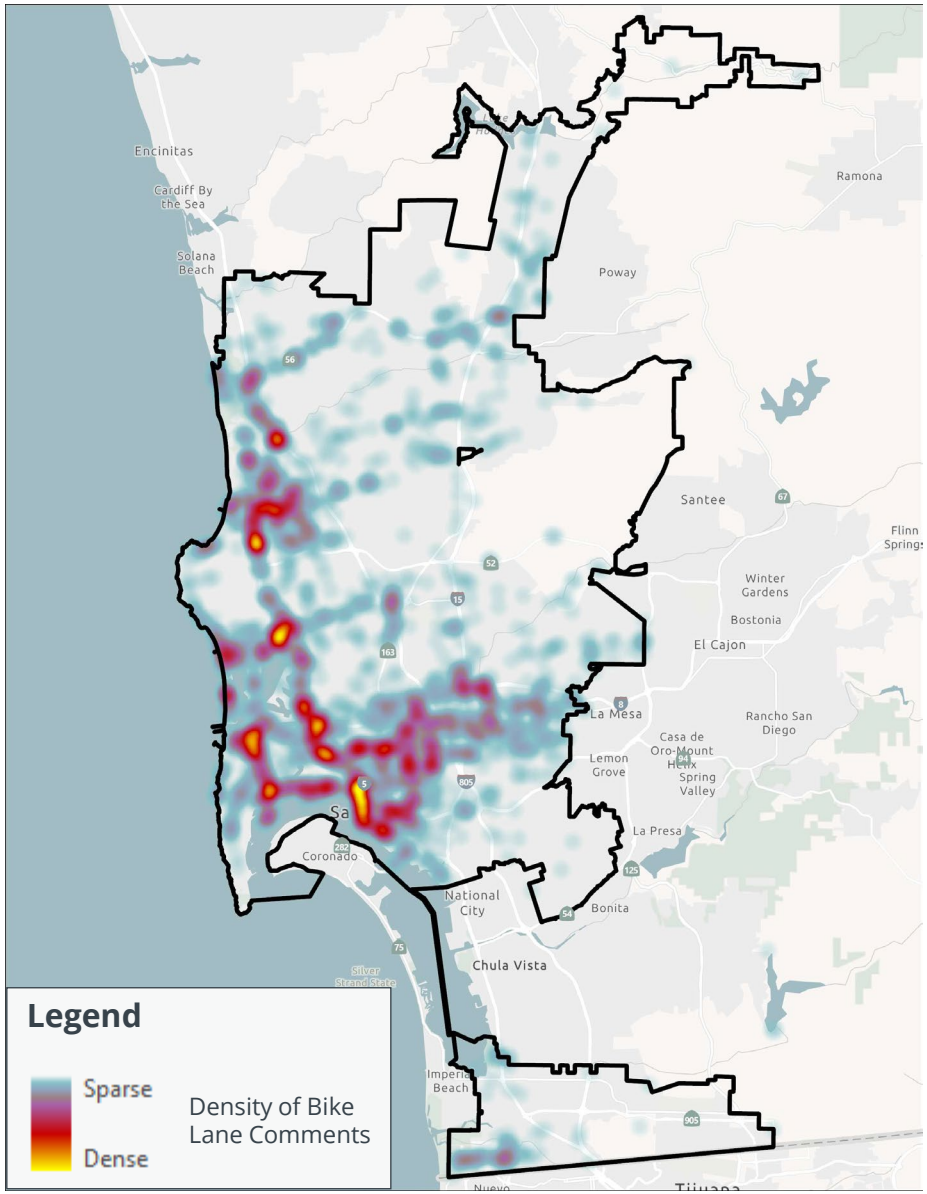
Note: Comments may be assigned to multiple tags

Tag	Key Words/Phrases from Responses	Count
Bike Lane	Protected, protection, protective, separated, separate, separation, bollards, barrier, barriers, pylons, dedicated, buffered, bike path, bike paths, path, bike lane, bike lanes, bikeway, bike way, bikeways, bike ways, bike route, bike routes, bicycle path, bike infrastructure, sharrow, greenway, bike use full lane, class I, bike street, bike boulevard, bike friendly, merge, merging, trail, bicycle infrastructure, bike track, modal filter, closing this road to motor, paint, place for bikes, bike lift, permanent infrastructure, bollard, bikelane, bicycle traffic, bicycle lanes	2,375
Unsafe Experience	Negative, horrible, unsafe, not safe, death trap, deathtrap, not welcoming, unpleasant, not good, dangerous, scary, frightening, hectic, no safe, fatalities, scariest, needs to be safer, needs to be safe, need a safe, miserable, safe way, insane, rough, terrifying, die, sketchy, make it safer, no go, no bueno, safe biking, safely, congested, feel safe, hard to	1,180
Protected Bike Lane	Protected, protection, protective, separated, separate, separation, bollards, barrier, barriers, class I, pylons, bollard, dedicated, buffered	998
Network Gap	Bike lane stops, bike lane ends, bikeway ends, need a bike lane, build a bike lane, no bike infrastructure, no bike lane, network gap, gap, connectivity, connect, disconnected, connected, bike lane disappears, randomly ends, path ends, track ends, just ends, ends abruptly, abruptly ends, it ends, lane ends, trail ends, closed, open the road, accessible, allow bikes, easily bike, bike line stops, bike bridge, state park, state parks, disappears, easier way, bike network, safe network, ferry, I want to go, I want to take my bike, I just want to get to the bike trail, detour, bridge, access the coast, by bike, public access, bike access, biking access	853
Freeway Crossing	Freeway, highway, freeway crossing, freeway crossings, cross freeway, freeway ramp, freeway ramps, interchange, onramp, on ramp, on-ramp, offramp, off ramp, off-ramp, off-ramps, I-5, the 5, 805, I-8, the 8, the 163, the 94, the 15, overpass, underpass	509
Vehicle Speeds	Cars speed, vehicles speed, speeding cars, high speed limit, posted speed, cars zooming, drivers speed, speed, drive very fast, too fast, fast traffic, speeding drivers, fast cars, hostile, dangerous driving, traffic calming, calm traffic, without caution, slow down traffic, slow cars down, road diet, heavy traffic, traffic will not stop, race track	508
Pedestrian	Pedestrian, crosswalk, walk, sidewalk, walkway, ped	507
Road Hazard	Potholes, pothole, pot holes, pot hole, glass, debris, gutter, garbage, litter, surface, pavement, bumpy, standing water, flooding, floods, flooded, re-pave, repave, re-paved, repaved, poor road, brush, erosion, rutted, branches, swept, door, doored, parked cars, hazard, road condition, diagonal parking, narrow road	411
Wayfinding	Wayfinding, way finding, signage, signs, sign, indication, flashing, vehicles aware	335
Transit	Transit, bus, train, trolley, Amtrak, Coaster	314
Near Miss	Near miss, near-miss, almost hit, was hit, nearly hit, been hit, sideswiped, merge, merging	160
Signal Detection	Signal, signals, timing, detection, detect, detector, detectors, sensor, sensors, recognize, button, trigger, traffic light, lights don't switch, activate, trip the light, responsive	140
Merging Conflicts	Merge, merging	131
Right on Red	Turn on red, right on red, turning right, turn right, right turn	124
Bike Parking	Bike parking, bicycle parking, bike rack, bike racks, bike locker, bike lockers, bike spots, bicycle storage, cycling storage, lock bikes, bicycle lockers, biking parking, park my bike	94
Youth	Youth, children, kid, schoolers	59
Inadequate Lighting	Lighting, dark, pedestrian light	45
Enforcement	Enforcement, enforce, enforced, ticket, violators, violate, police, rules, ticketing, officers	42
E-bike	E-bike, ebike, e-bikes, ebikes	41
Failure to Yield	Yield, right of way	33
Implementation Concerns	Bike lane not needed, taking away very needed parking spots, poorly thought out	4
No tag		135

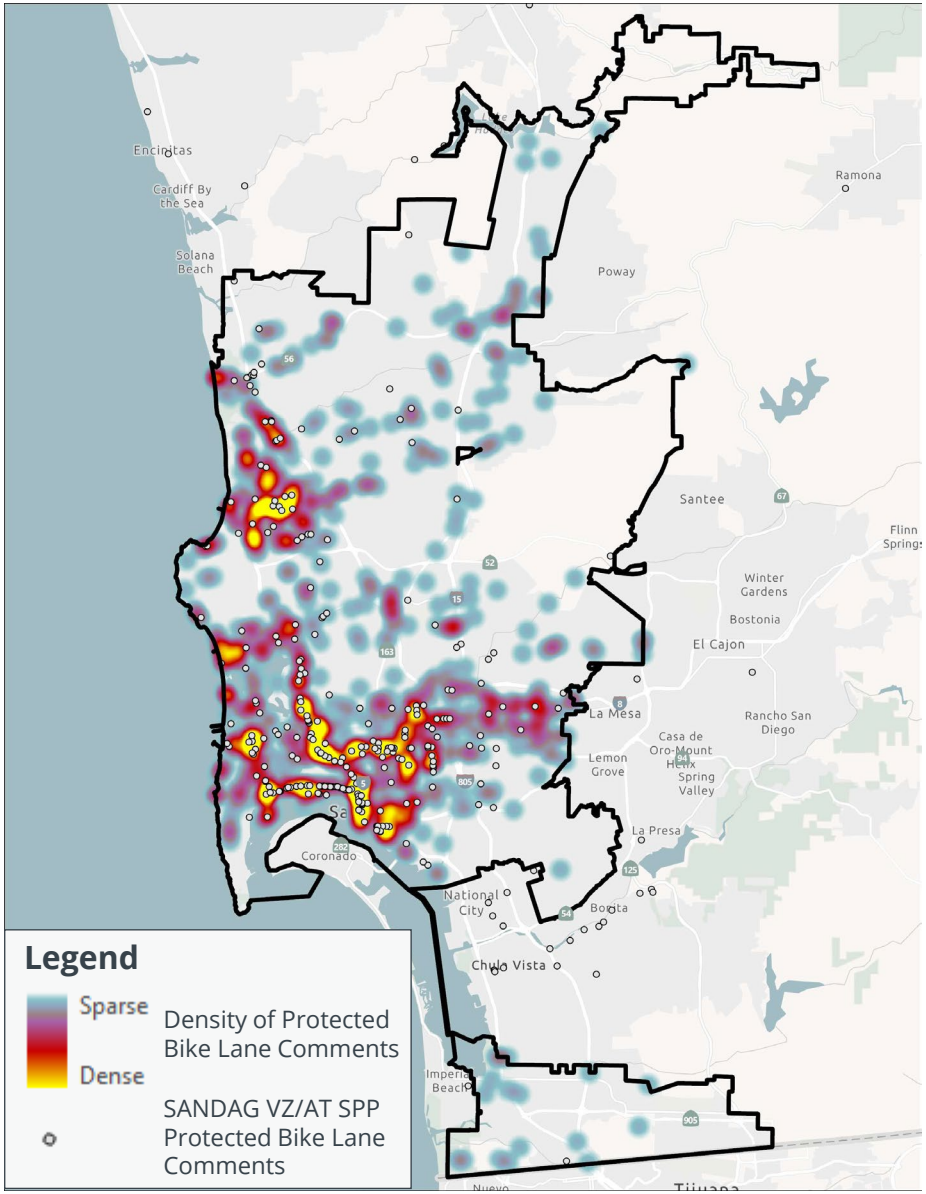
Feedback Map Responses

Heatmap of Bike Lanes Comments

Survey Tag: Bike Lanes



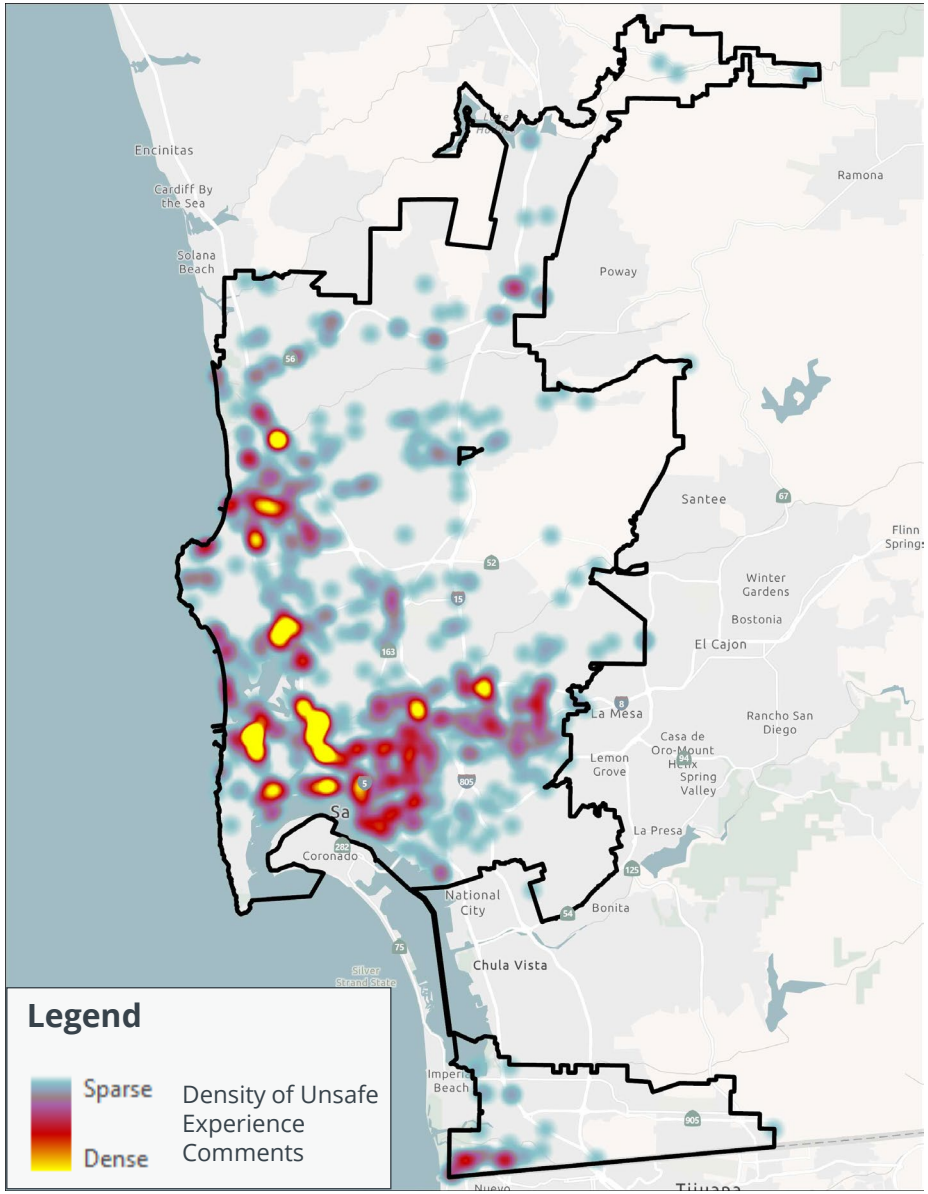
Survey Tag: Protected Bike Lanes



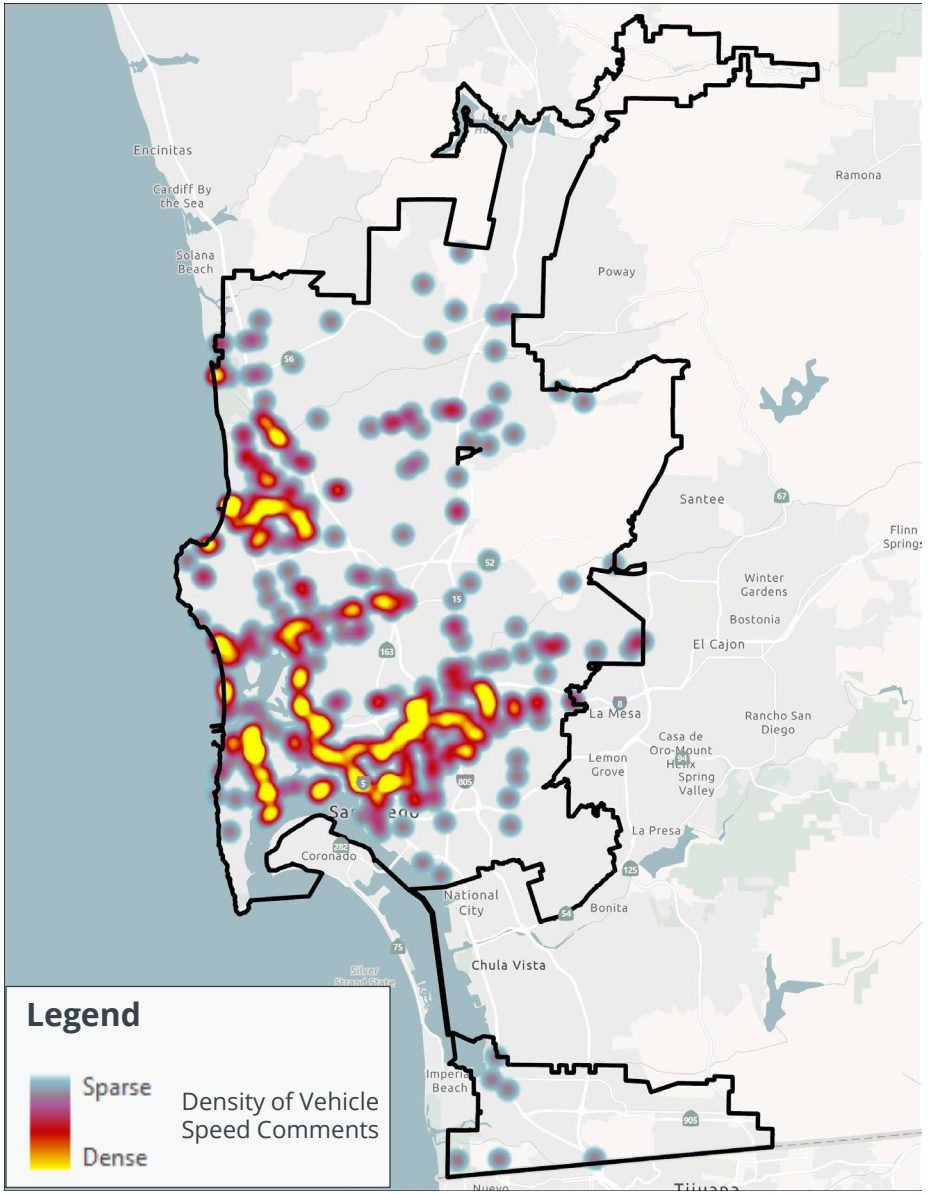
Feedback Map Responses

Heatmap of Unsafe Experiences and Vehicle Speeds Comments

Survey Tag: Unsafe Experiences



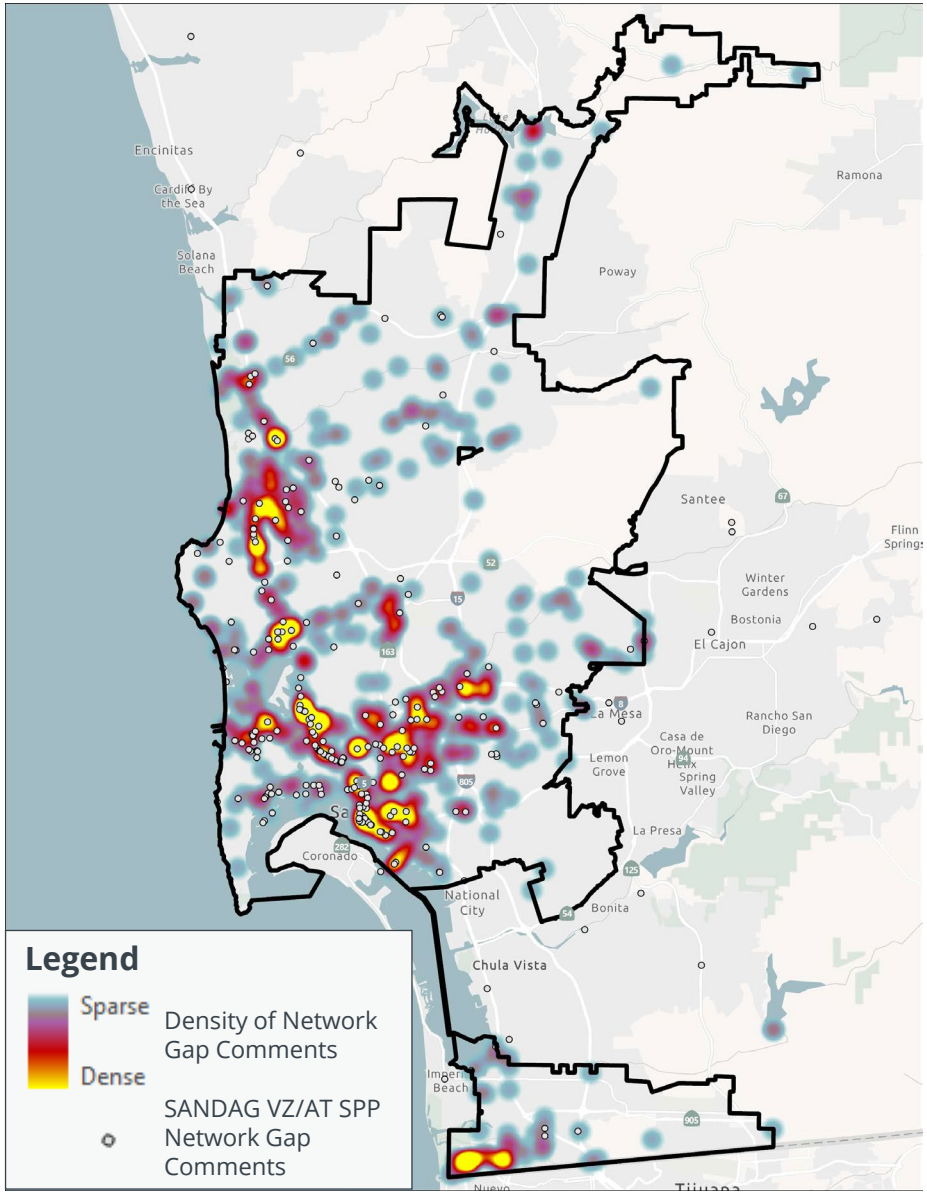
Survey Tag: Vehicle Speeds



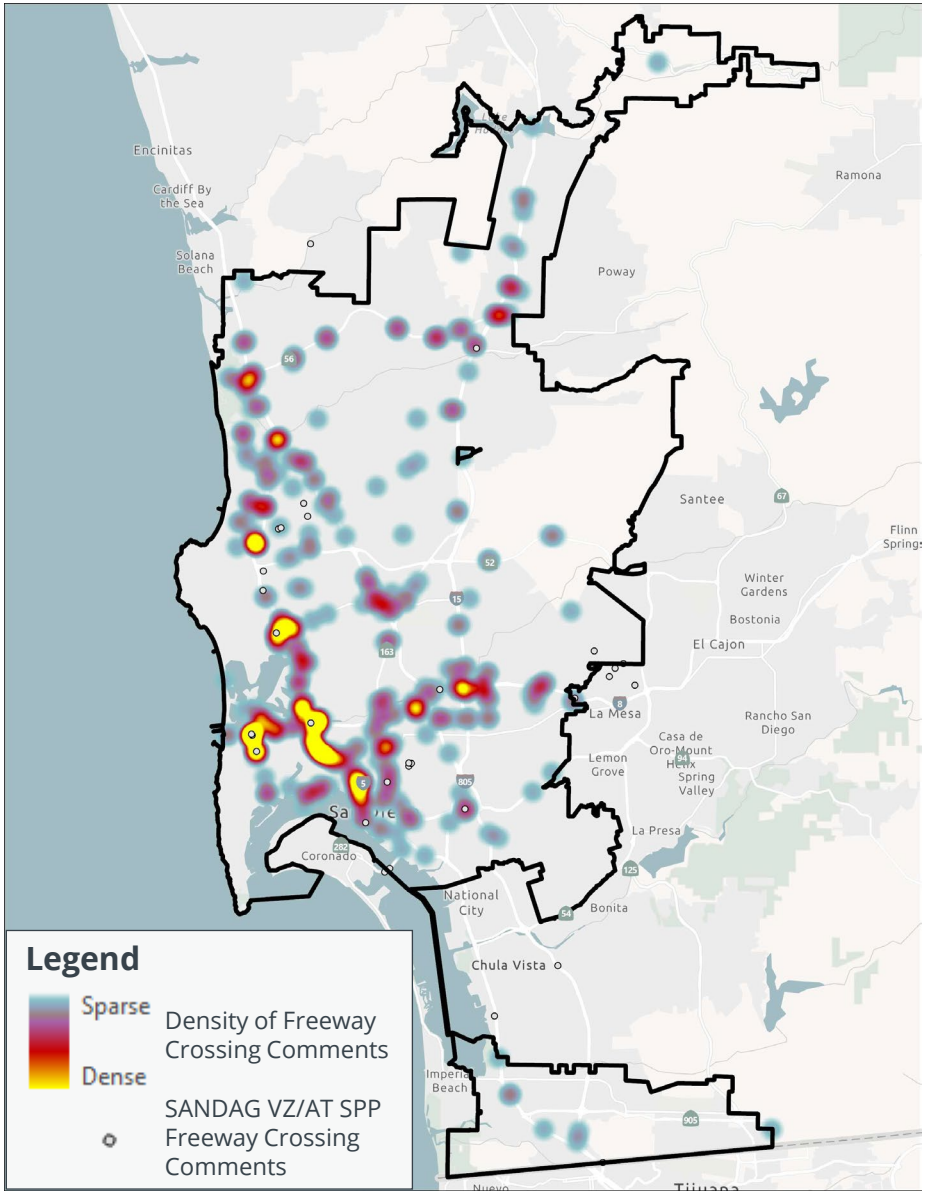
Feedback Map Responses

Heatmap of Network Gap Comments

Survey Tag: Network Gaps



Survey Tag: Freeway Crossings



Trip Map

Section Includes

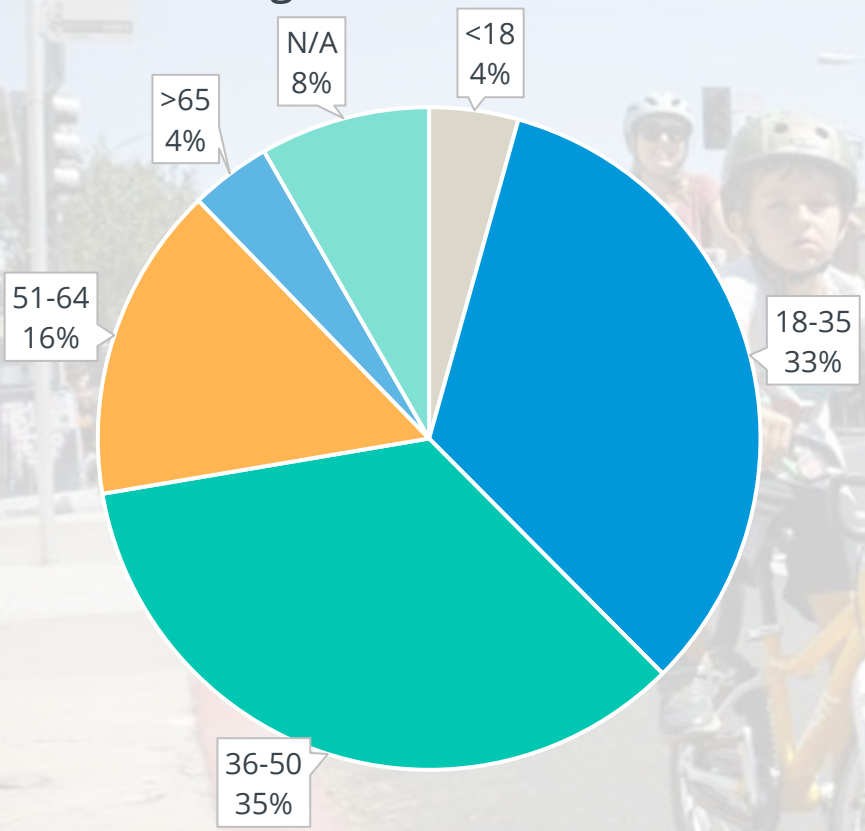
Survey Results Summary

Citywide Heat Maps of Trip Purpose

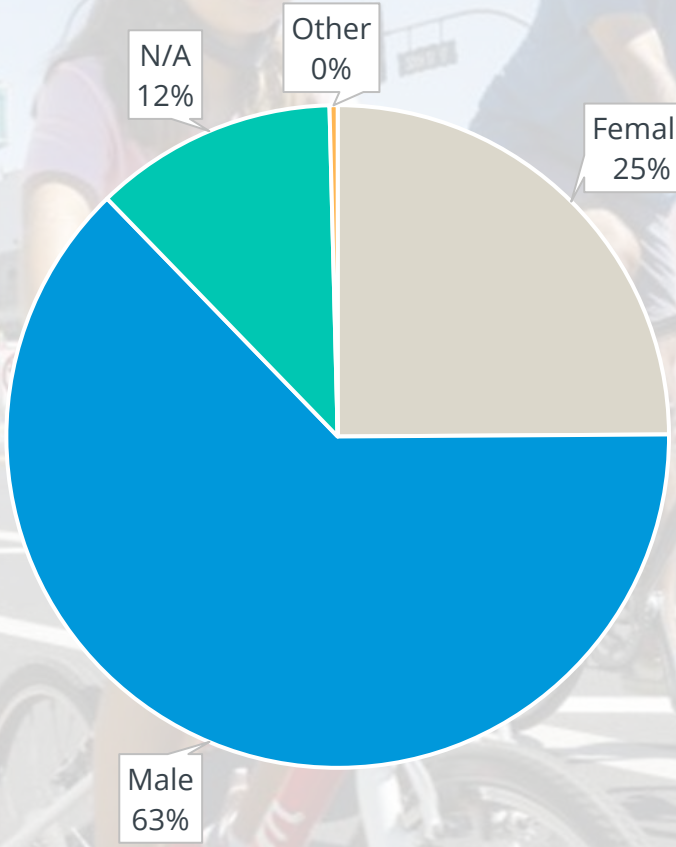
Trip Map Responses

Demographic Data by Response

Age of Contributors

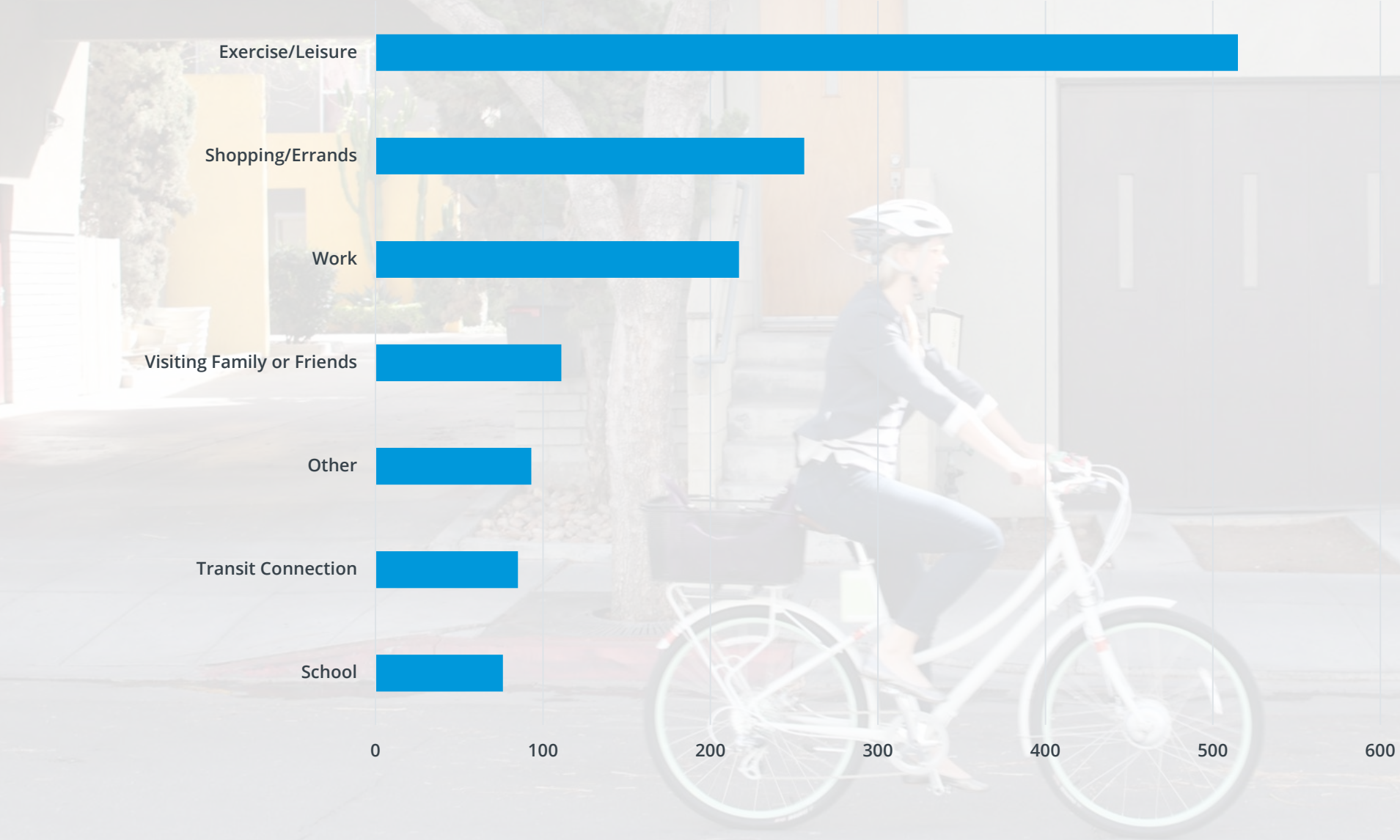


Gender of Contributors



Trip Map Responses

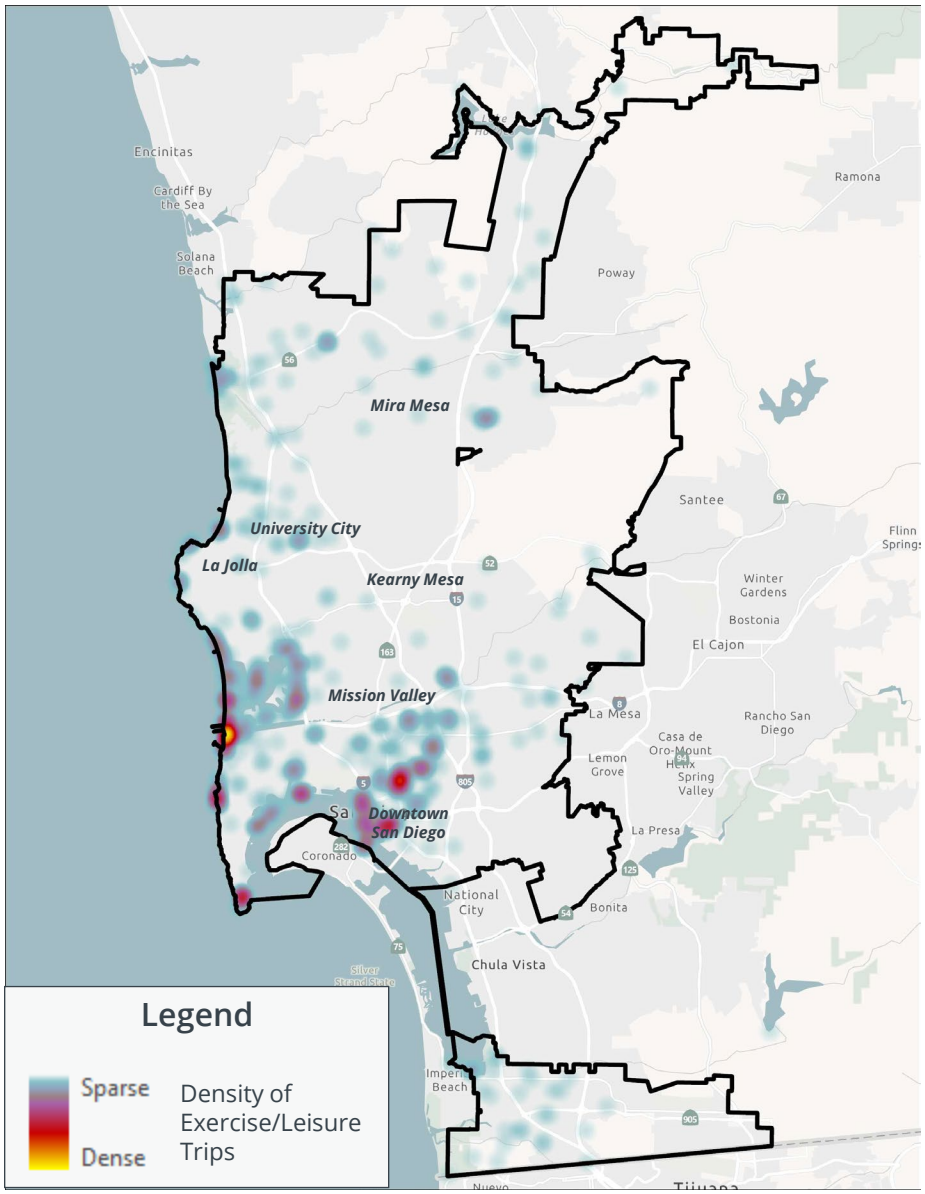
Primary Purpose of Bike Trips by Response



Trip Map Responses

Heatmap of Exercise/Leisure Trips

Trip Purpose: Exercise/Leisure



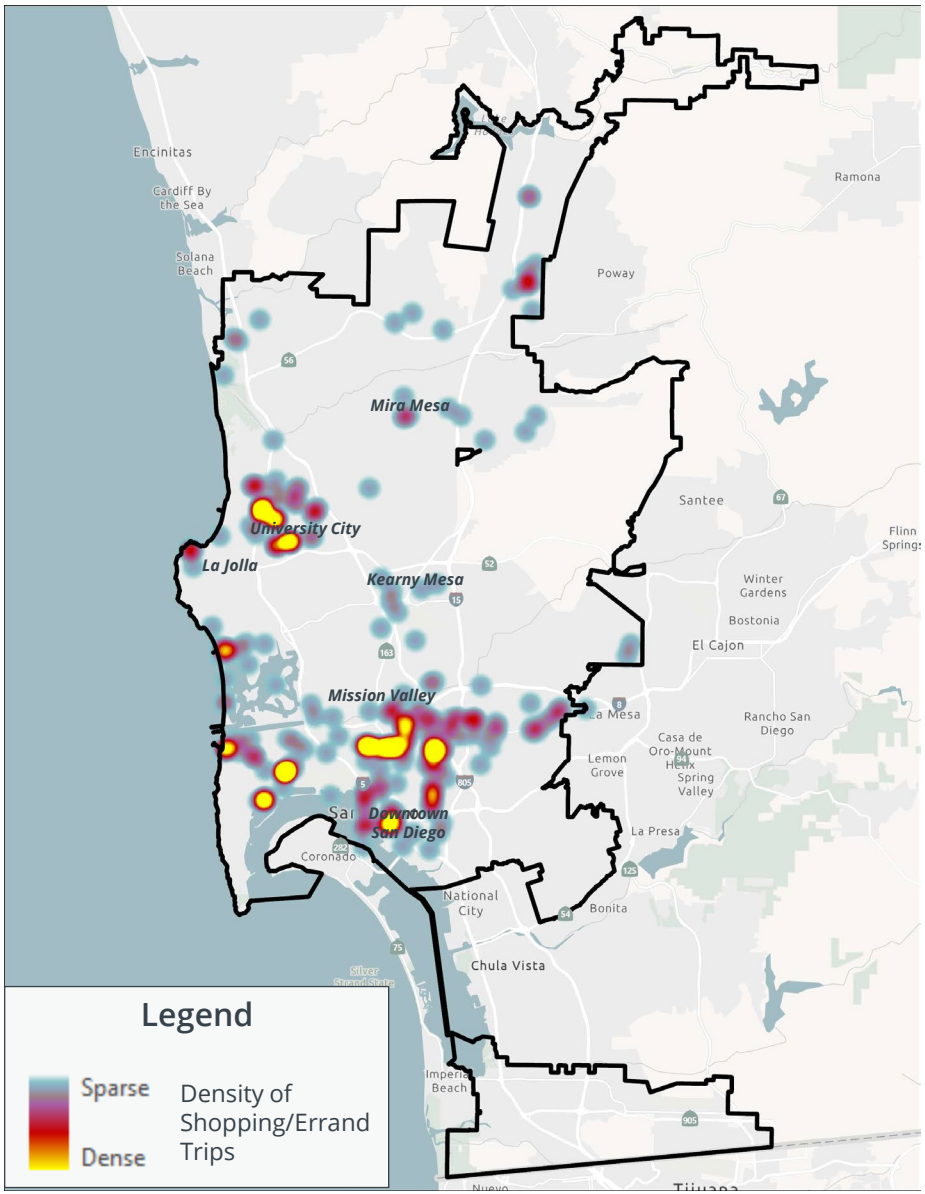
Key Takeaways:

- Exercise and leisure bicycle trips were dispersed across the City, with the greatest density occurring in the coastal areas of Mission Beach and Ocean Beach.
- There were significant clusters of exercise and leisure trips occurring around Balboa Park, Downtown, Point Loma, and Sunset Cliffs.

Trip Map Responses

Heatmap of Shopping/Errands Trips

Trip Purpose: Shopping/Errands



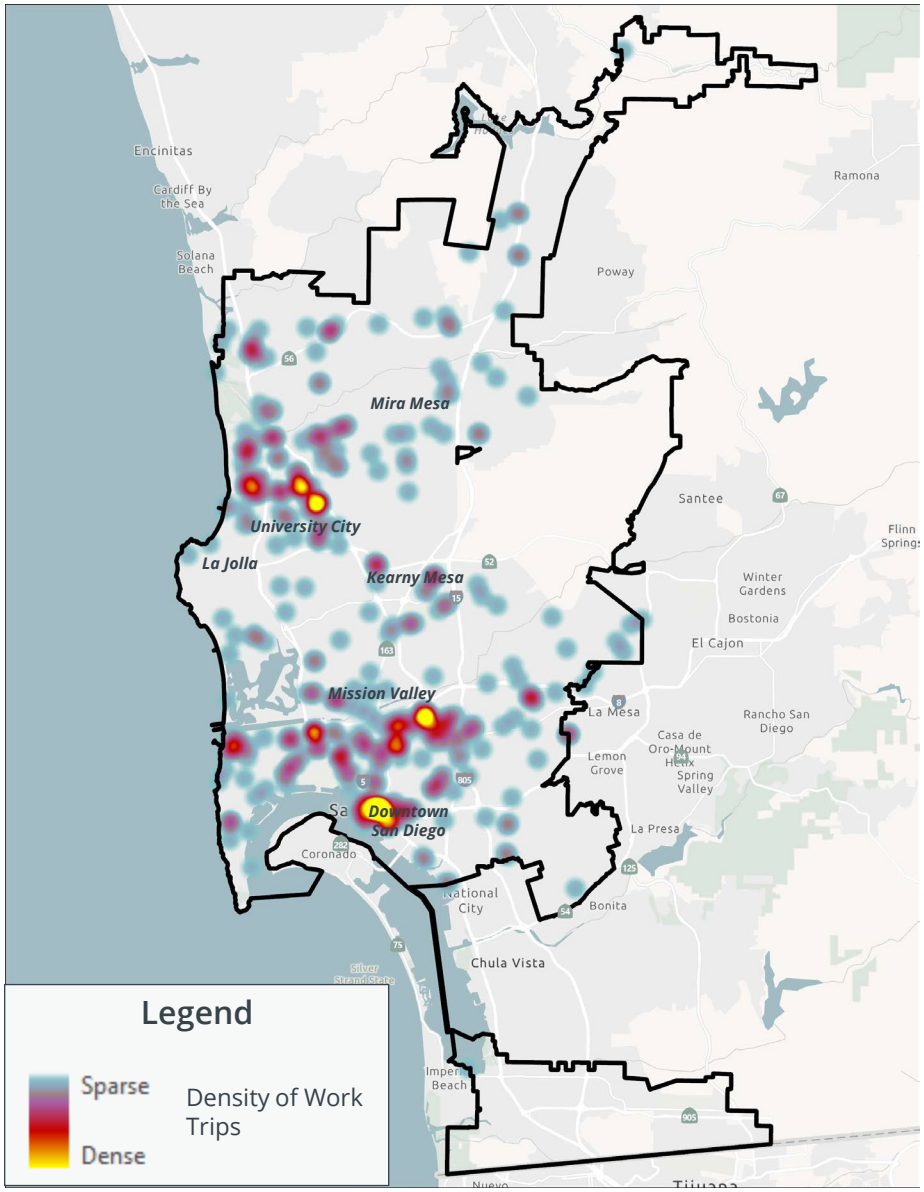
Key Takeaways:

- Shopping and errand trips were associated to areas with dense commercial land uses, such as Hillcrest's University Avenue, UTC and La Jolla Village, Liberty Station, and the central core of Ocean Beach
- These areas include a combination of power centers, lifestyle centers, and main street retail.

Trip Map Responses

Heatmap of Work Trips

Trip Purpose: Work



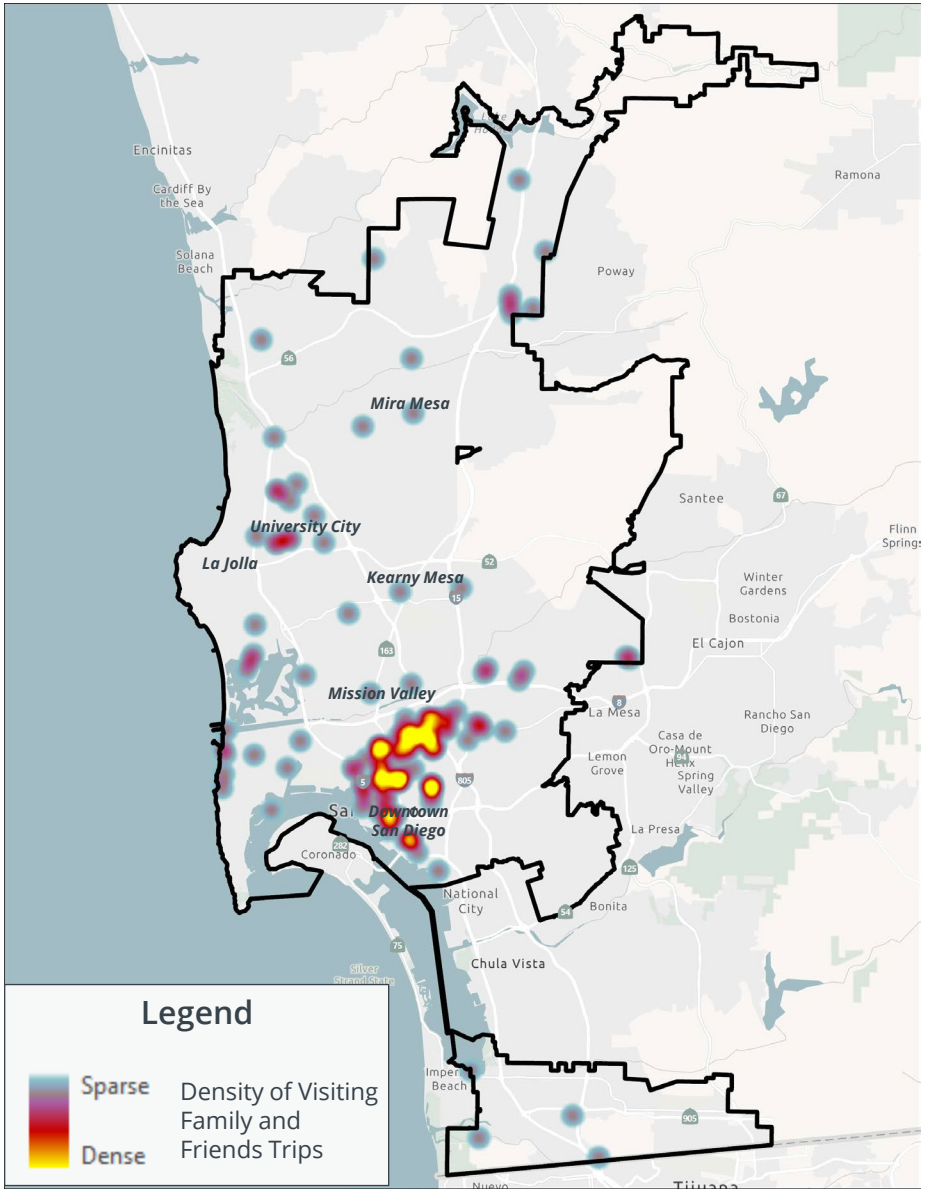
Key Takeaways:

- Work trips appear to be spread out among several neighborhoods in San Diego, with the highest density in Downtown, North Park, University City, and UCSD.
- The data includes both start and end points of a bicycle trip. A significant proportion of trips within Downtown and University City were identified as end points, while other high-density neighborhoods exhibited a more balanced distribution of start and end points. This suggests that Downtown and University City have a notable presence of bicycle commuters due to employment opportunities in these areas.

Trip Map Responses

Heatmap of Visiting Family and Friends Trips

Trip Purpose: Visiting Family and Friends



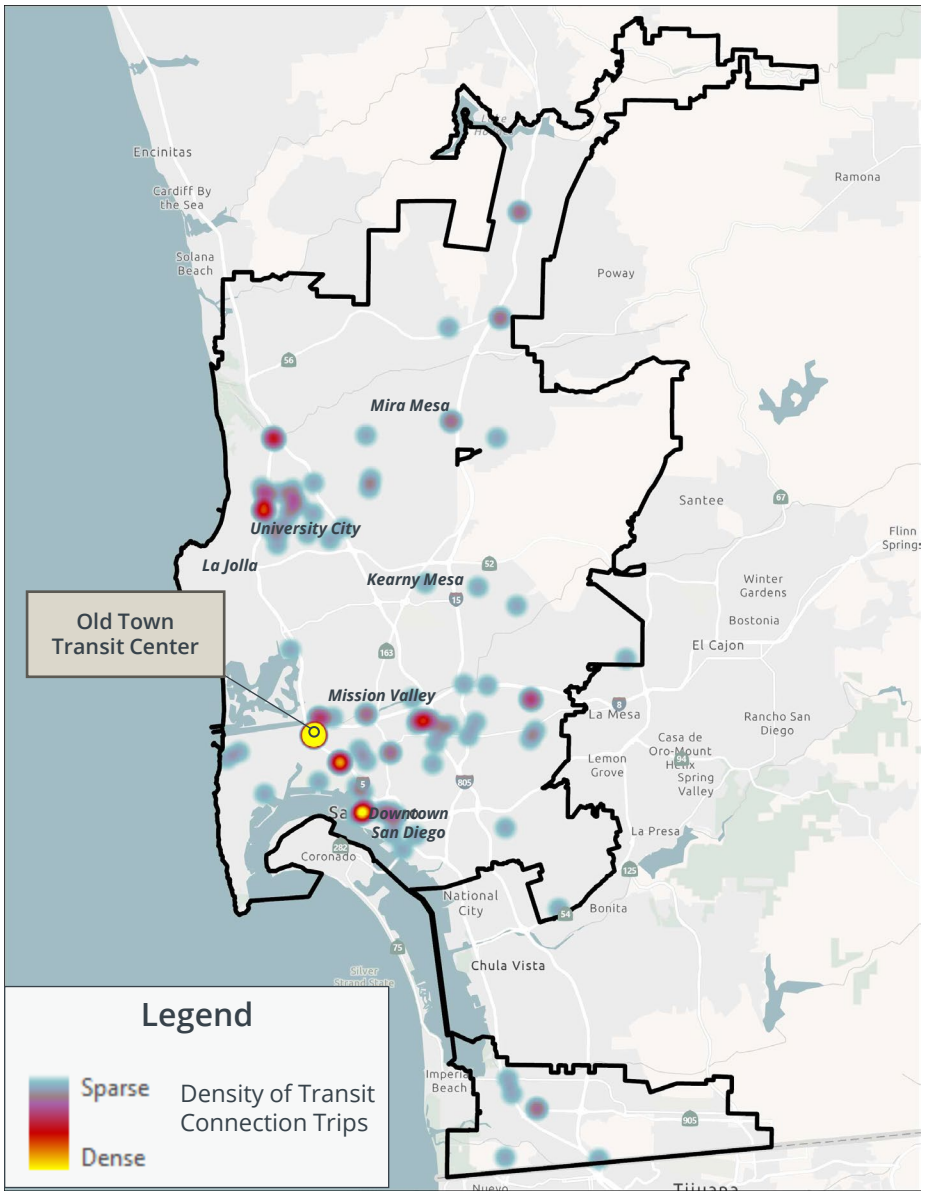
Key Takeaways:

- A large number of trips to visit family and friends were taken in the Uptown and North Park neighborhoods.
- Additionally, there was a cluster of trips within Downtown, specifically located in the Gaslamp and Little Italy neighborhoods.

Trip Map Responses

Heatmap of Transit Connection Trips

Trip Purpose: Transit Connection



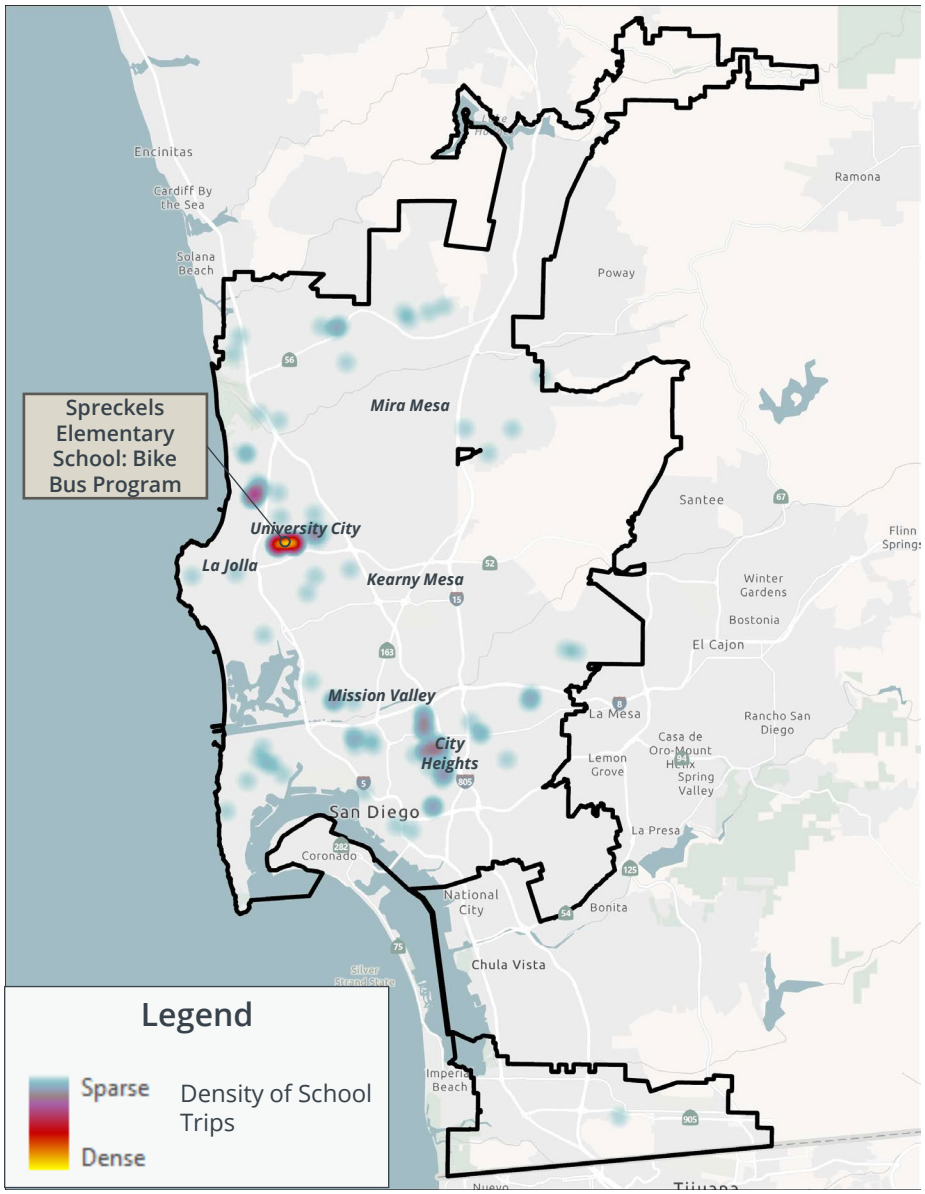
Key Takeaways:

- As the large yellow hotspot on the map indicates many bike trips starting and ending at the Old Town Transit Center.
- The second largest hotspot is located at the Santa Fe Depot in Downtown, and several other clusters around other key transit connections such as UTC Transit Center, Sorrento Mesa Transit Center, and in the North Park/Normal Heights neighborhood.

Trip Map Responses

Heatmap of School Trips

Trip Purpose: School



Key Takeaways:

- The largest density of school trips was in University City, where a Bike Bus program helps transport children to Spreckels Elementary School.
- School-related trips also occurred mostly near UCSD campus, as well as areas across the North Park neighborhood.

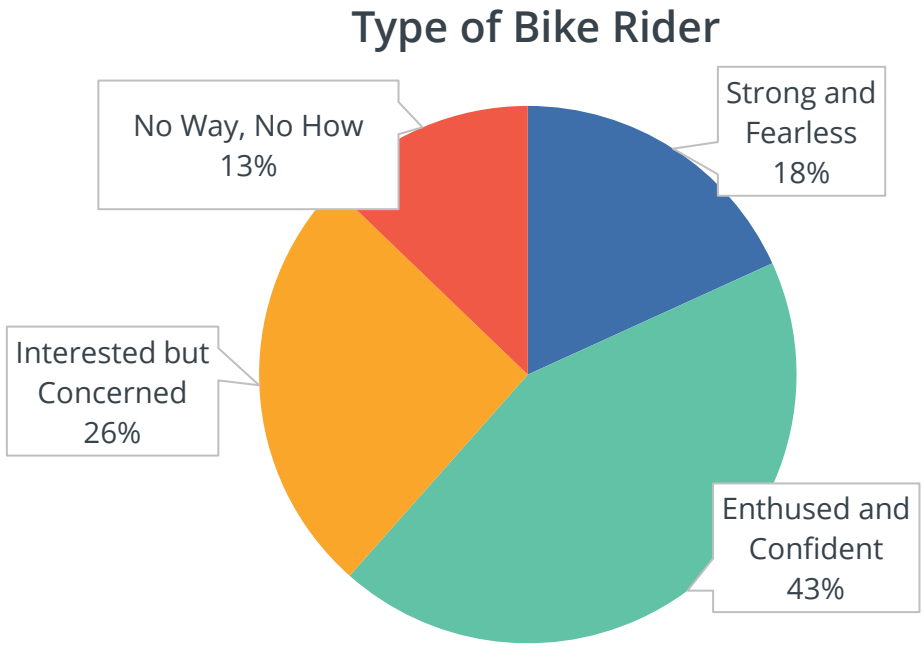
Long Form

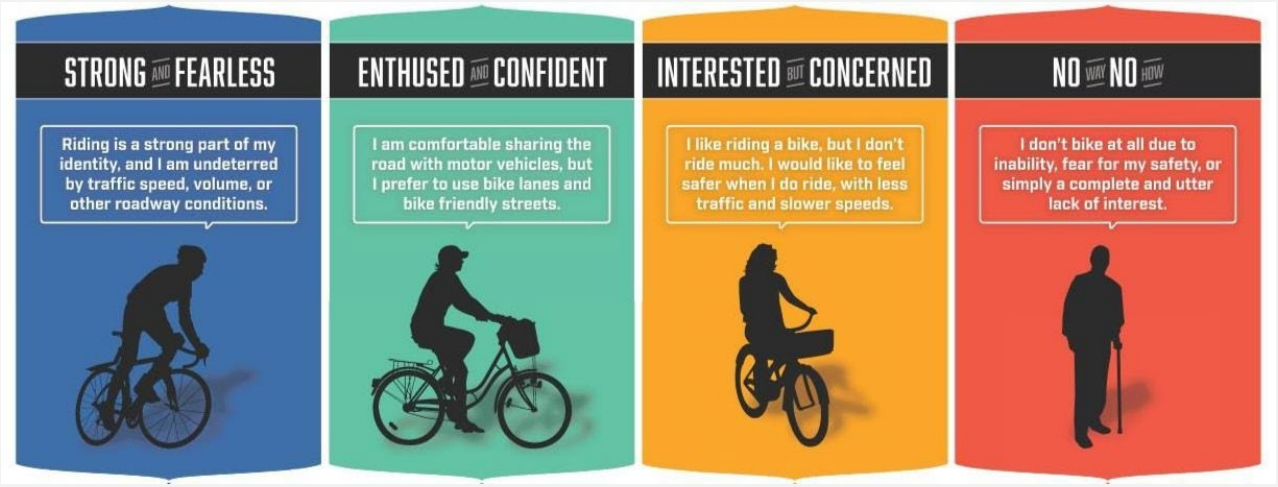
Section Includes

Survey Results & Key Takeaways

Long Form Survey Responses

Contributions by Self-Identified "Rider Type"



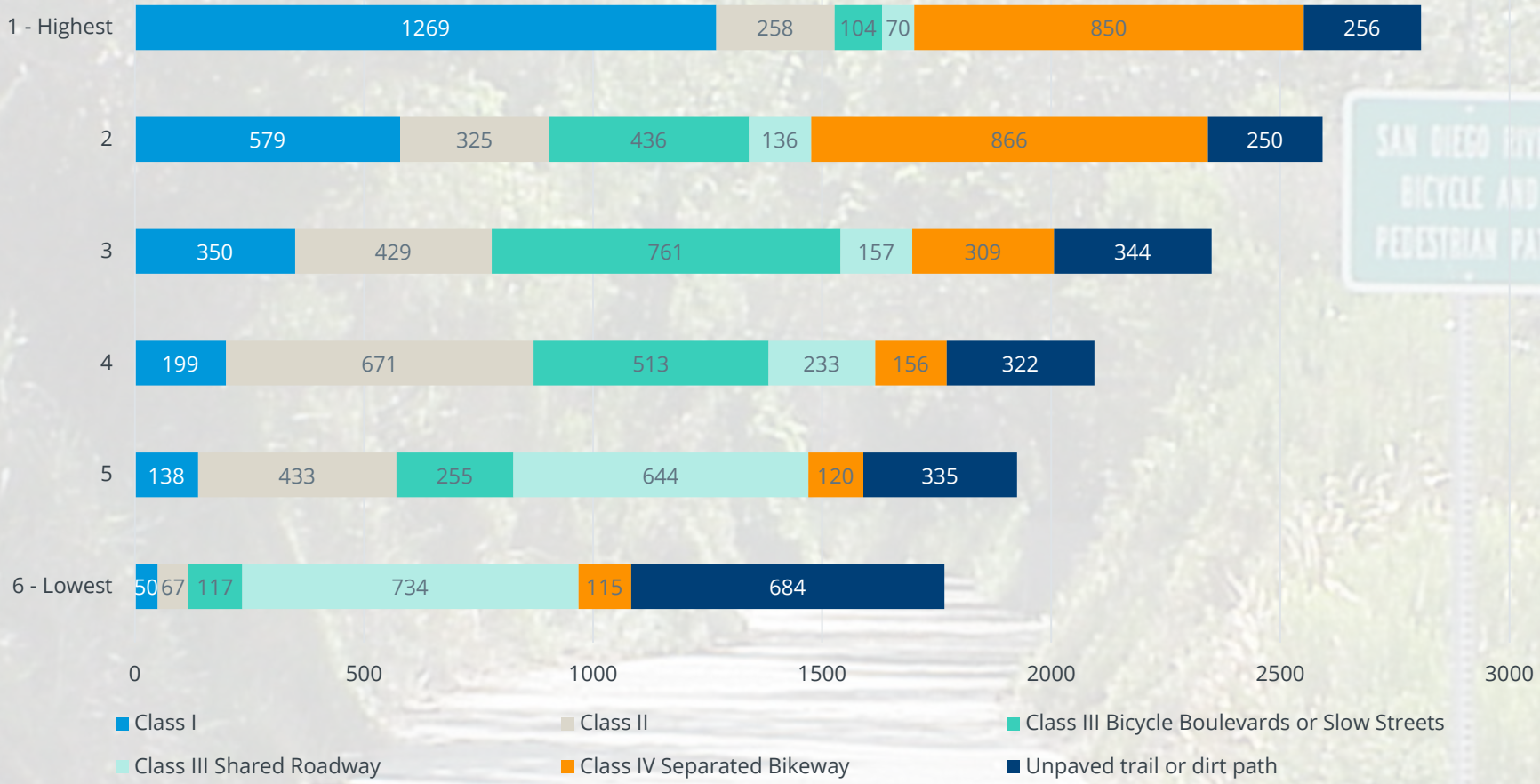


Key Takeaways:
All bike user groups participated in the survey, with the "Enthused and Confident" and "Interested but Concerned" groups being the most prominently represented.

The significant proportion of "Enthused and Confident" participants (43%) highlights both the popularity of cycling and a strong demand for safer bicycle infrastructure.

Long Form Survey Responses

Preferred Bicycle Facilities (Ranked Highest to Lowest Priority) by Response

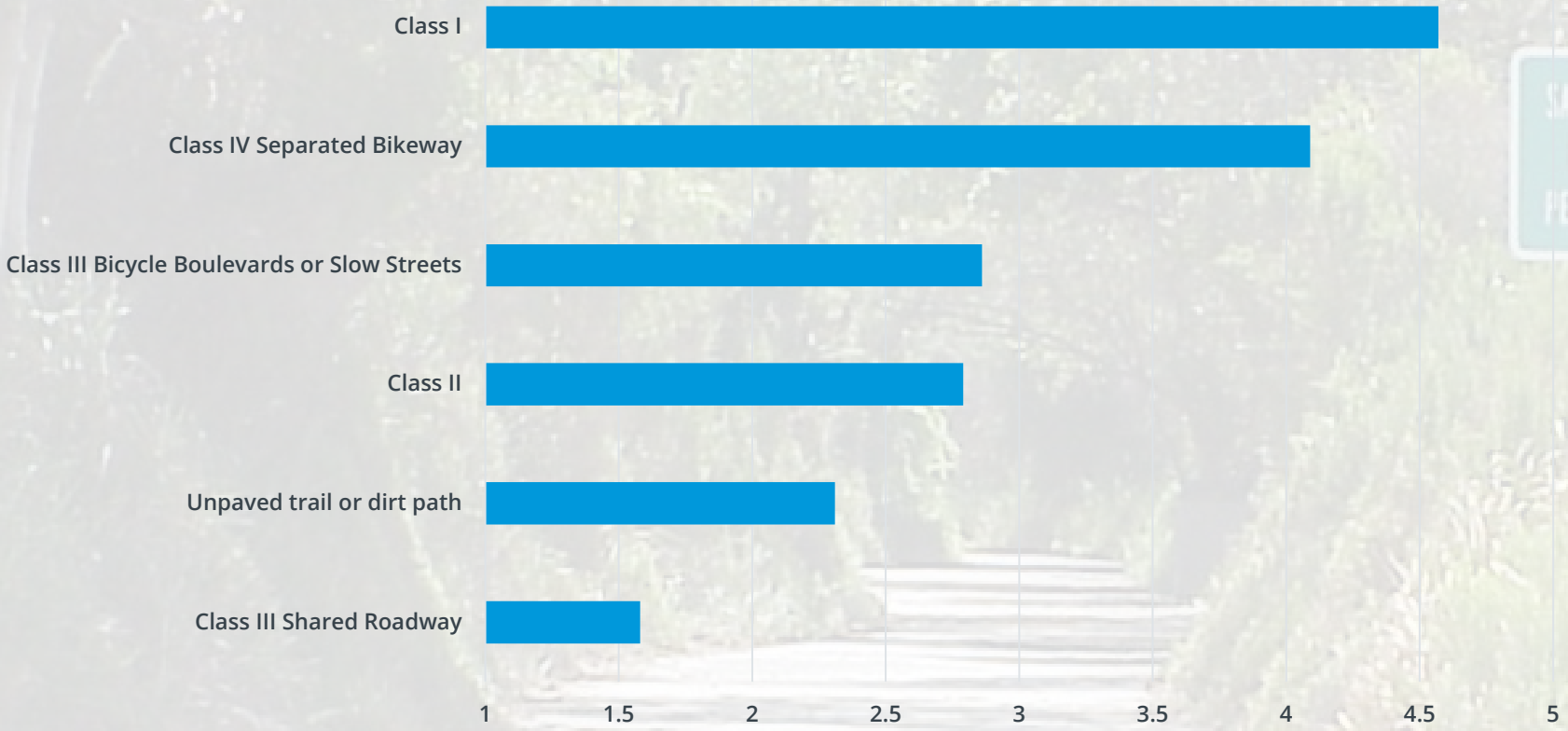


The above graph is a visualization of the responses received. It should be noted that respondents were not required to rank all six (6) facilities but at a minimum rank their highest preferred facility.

There were a total of 2807 responses for the highest preferred facility and of those responses 1269 (45%) preferred Class I Bike Paths followed by 850 (30%) who preferred Class IV Separated Bikeways.

Long Form Survey Responses

Preferred Bicycle Facilities (Ranked by Weighted Score*)



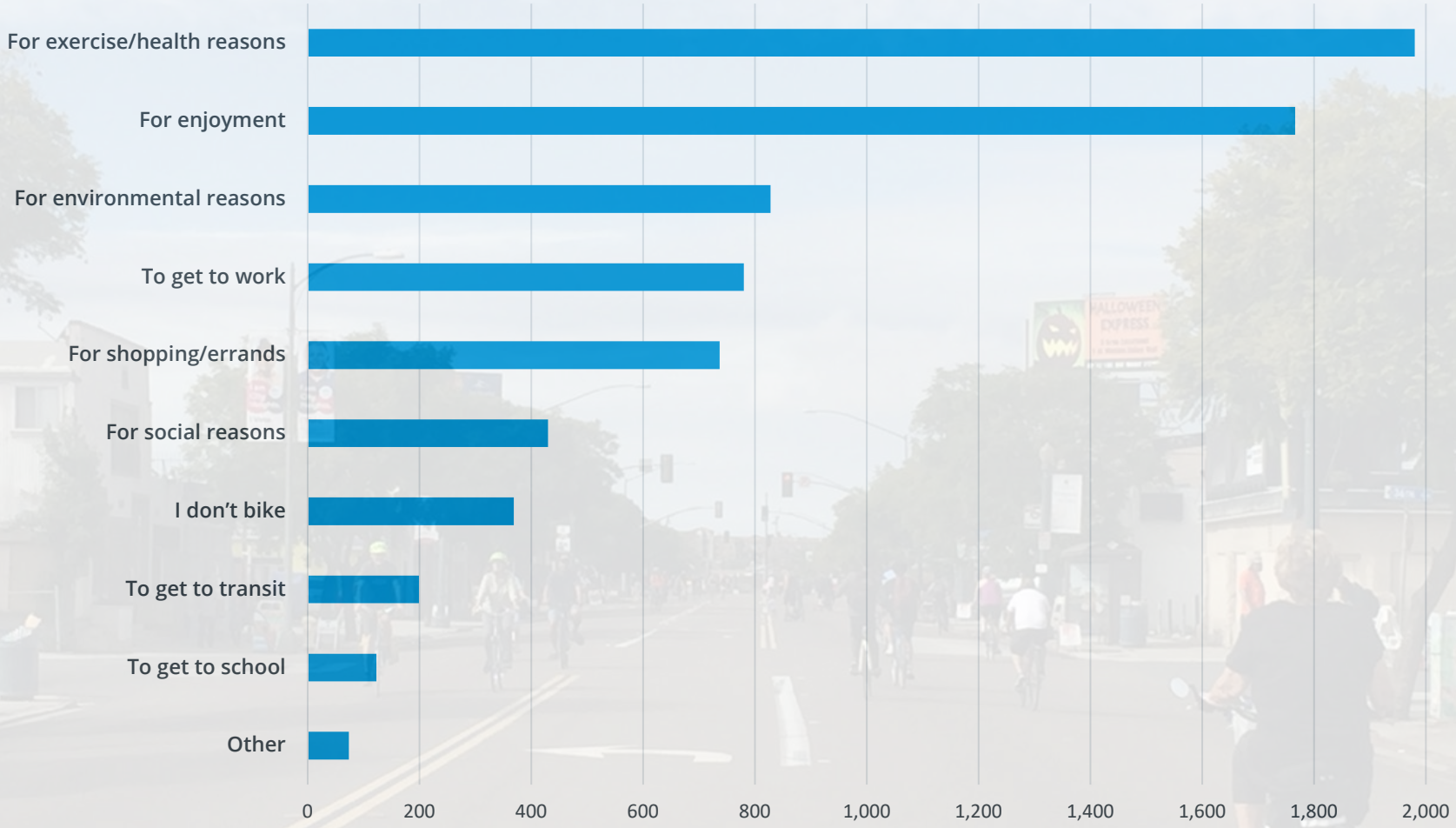
Key Takeaways:
Separated bike facilities (Classes I and IV) are the two highest priorities, indicating a strong interest in safer bicycle infrastructure.

Class III Bicycle Boulevards and Class II were the next set of priorities, which indicates an interest in more defined bicycling spaces (e.g., painted lines).

**Score is determined by the sum of the weight of each ranked position, multiplied by the response count for the position choice, divided by the total contributions*

Long Form Survey Responses

Main Reasons for Bicycling by Response

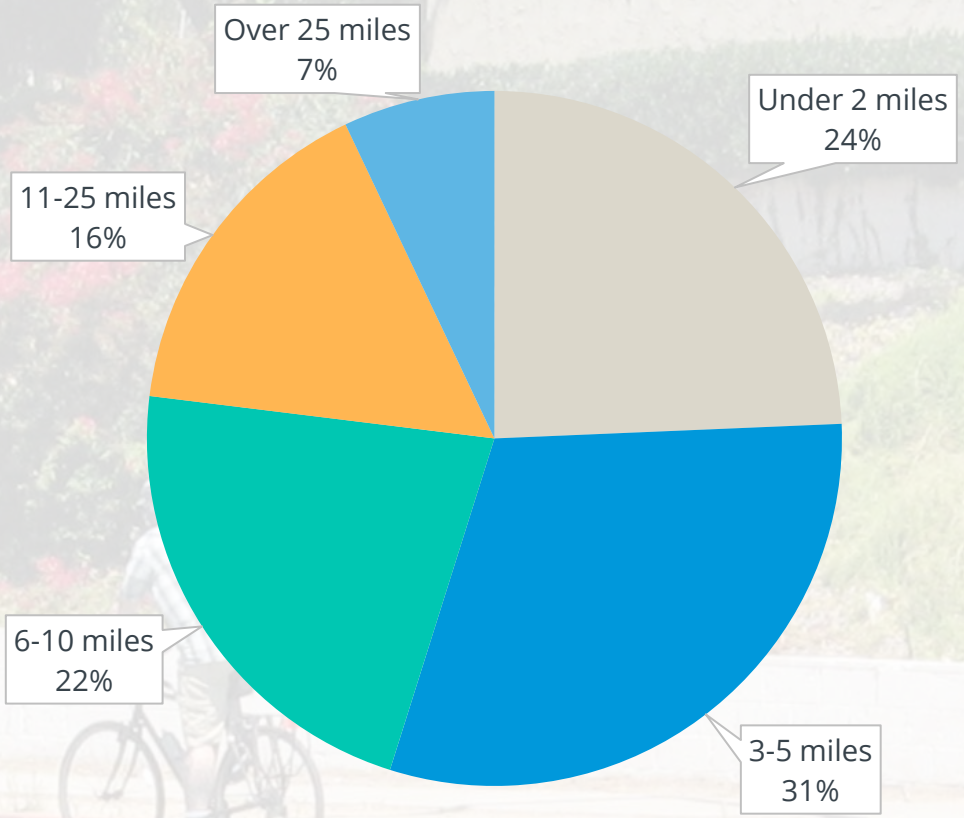


Key Takeaways:
Bicycling for exercise/health (1,980 people) and enjoyment (1,766 people) were the most popular reasons among respondents at 27% and 24% of responses, respectively. This indicates that biking is used for mental and physical health purposes.

Additionally, 780 (11%) respondents use a bike to get to work, 737 (10%) use a bike for shopping, and 123 (2%) use a bike to get to school.

Long Form Survey Responses

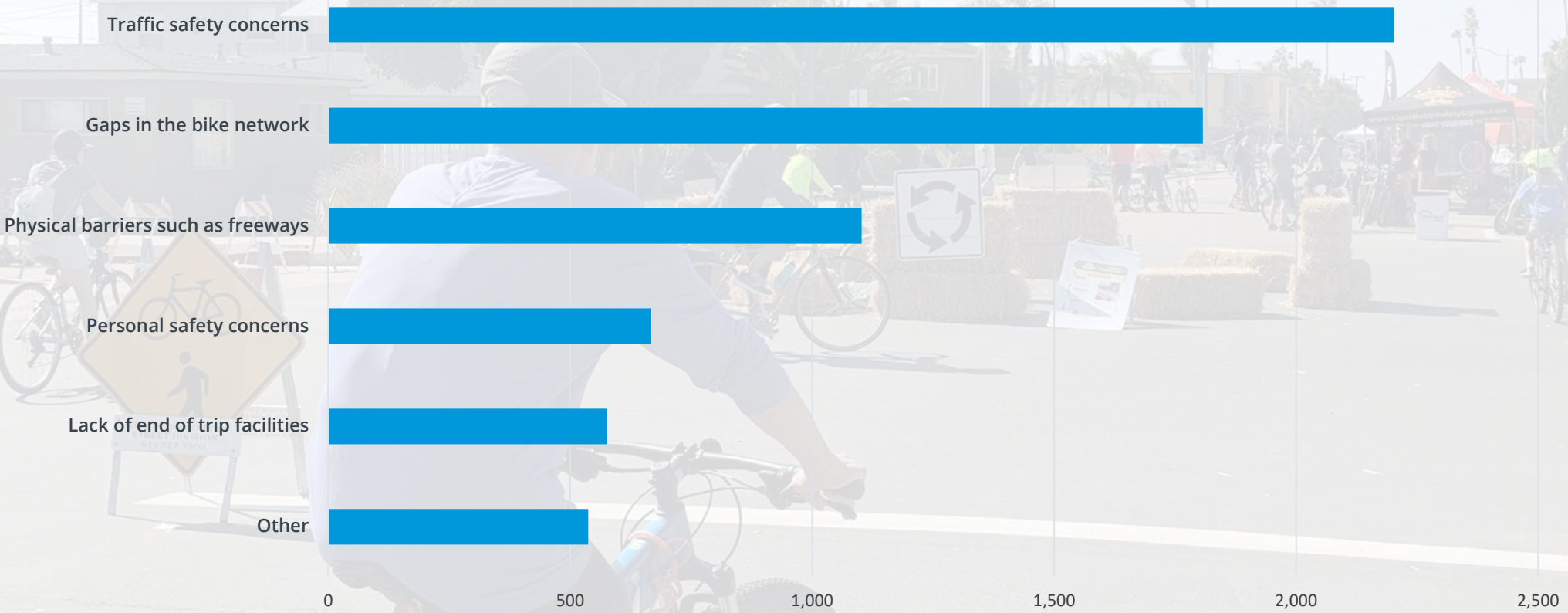
Typical Distance of Bike Trips by Response



Key Takeaways:
More than half (55%) of one-way trips are 5 miles or less, highlighting a significant preference for shorter trips. Additionally, 22% of respondents typically ride 6-10 miles for a one-way trip. The remaining 23% of respondents ride over 11 miles, which may capture many recreational cyclists, including one respondent who is training for the Paralympics.

Long Form Survey Responses

Current Barriers to Bicycling by Response

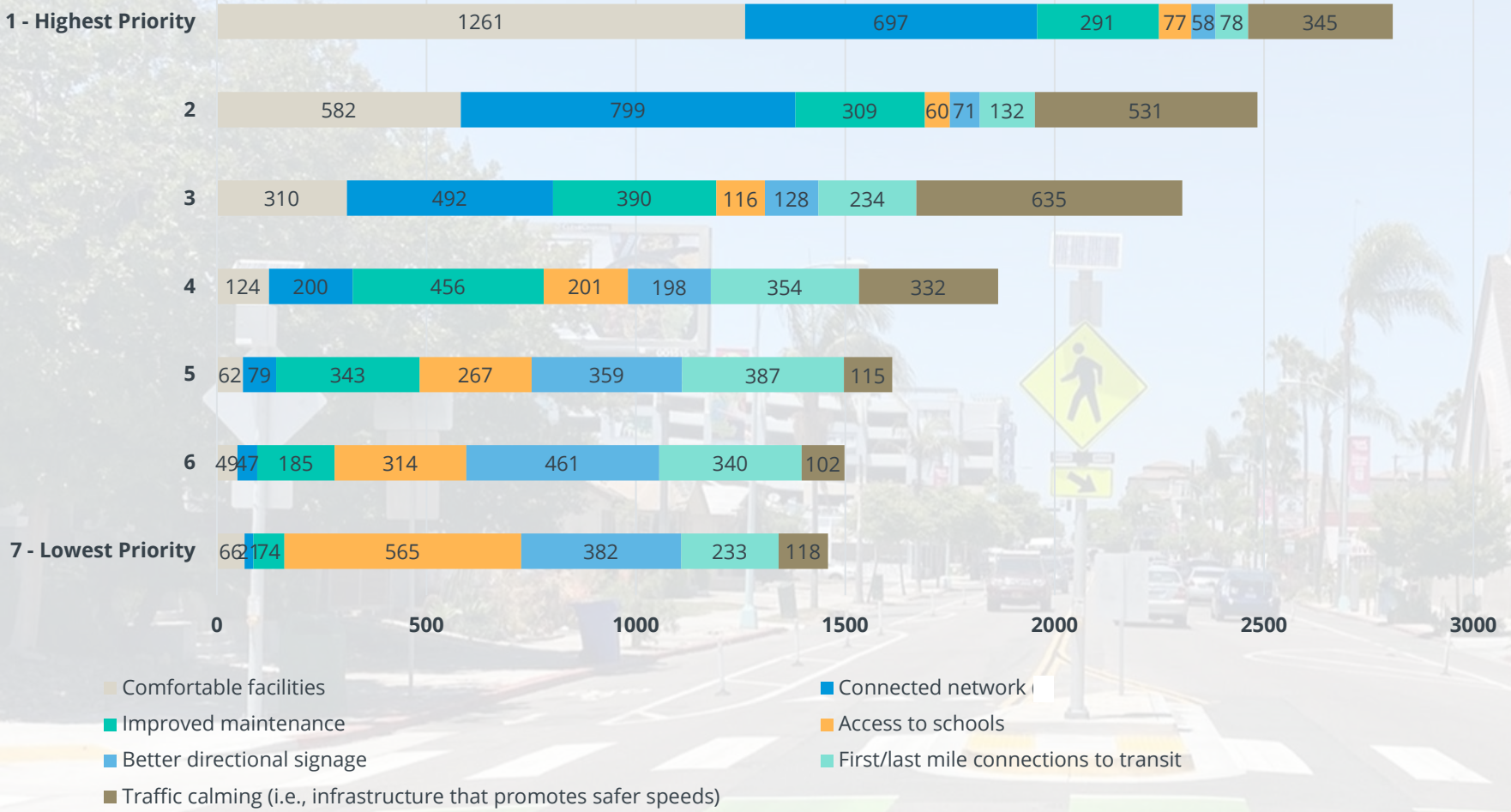


Key Takeaways:
Traffic safety concerns (e.g., proximity to moving vehicles and vehicle speed) were the most frequently cited barriers to bicycling among respondents. This suggests that respondents may favor measures aimed at enhancing cyclist safety, such as infrastructure that separates cyclists from motor vehicles or reduces bicycles kinetic energy.

The second largest barrier to bicycling was gaps in the bike network. A safer and more connected network would allow bicyclists to reach more destinations of interest, such as work, school, and shopping centers.

Long Form Survey Responses

Priorities for Improving Bike Facilities (Ranked Highest to Lowest Priority) by Response

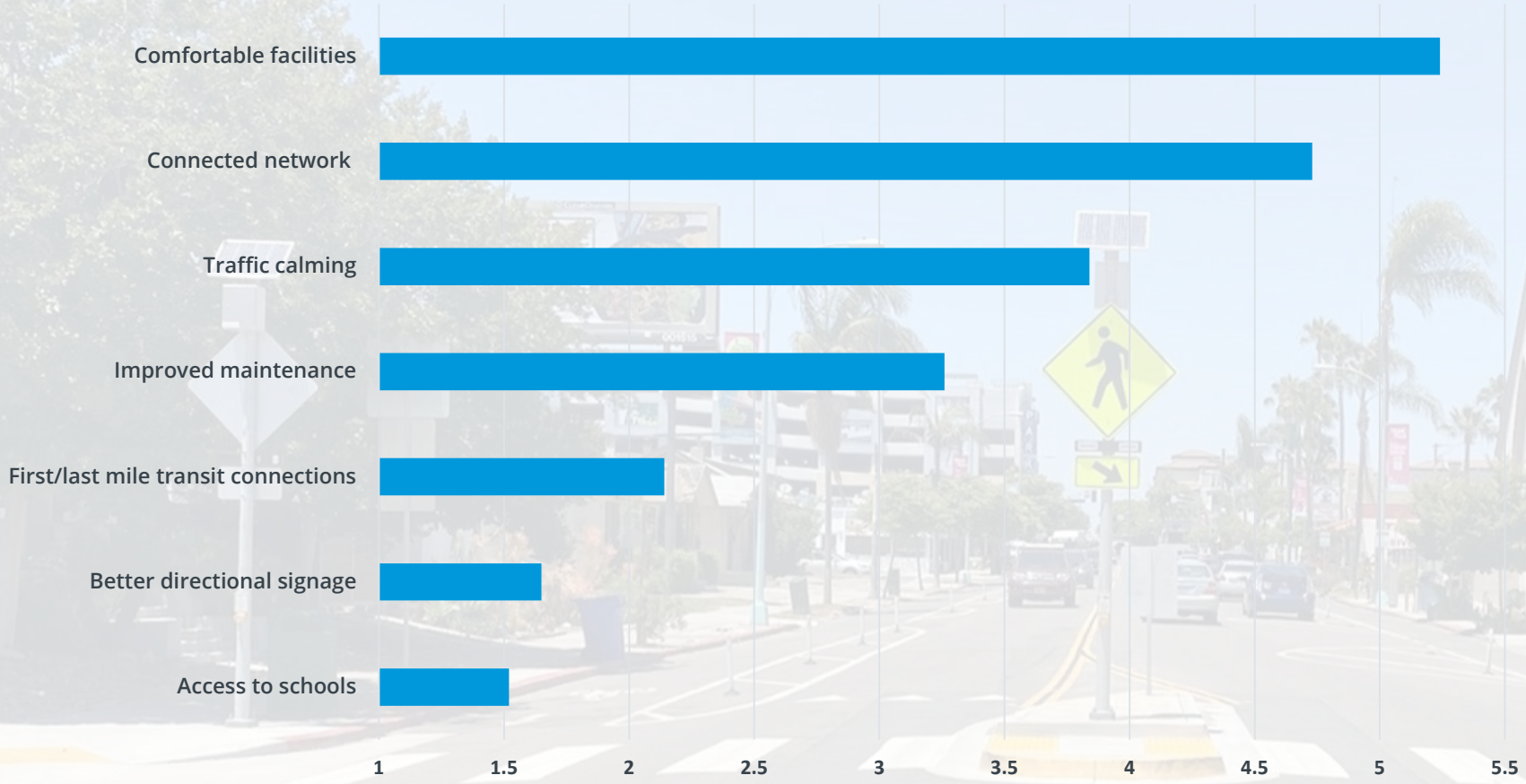


The above graph is a visualization of the responses received. It should be noted that respondents were not required to rank all seven (7) priorities for improvement but at a minimum rank their highest priority.

There were a total of 2807 responses for the highest priority for improvements and of those responses 1261 (45%) prioritized Comfortable Facilities followed by 697 (25%) who's highest priority is a more Connected Network (i.e. filling in perceived network gaps).

Long Form Survey Responses

Priorities for Improving Bike Facilities (Ranked by Weighted Score*)



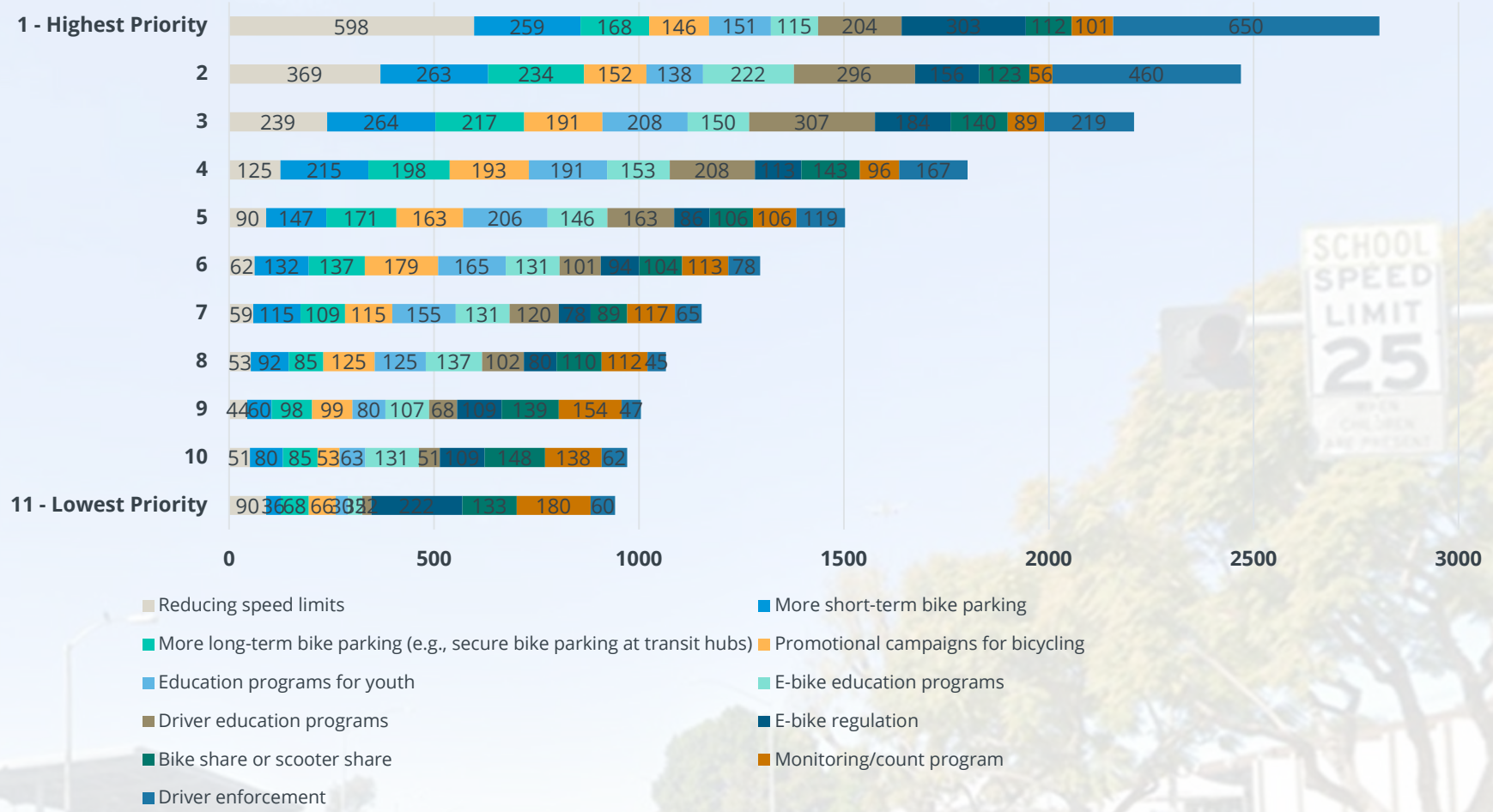
Key Takeaways:
Comfortable facilities (e.g., separated bike lanes) are the greatest priority, indicating respondents value infrastructure that is safe for all ages and abilities.

The second priority, a connected network, demonstrates the importance of a seamless, cohesive network. Followed by priorities around calming traffic and improved maintenance, which demonstrate key elements of a safe bike experience.

**Score is determined by the sum of the weight of each ranked position, multiplied by the response count for the position choice, divided by the total contributions*

Long Form Survey Responses

Priorities for Bike Policy Adoption (Ranked Highest to Lowest Priority) by Response

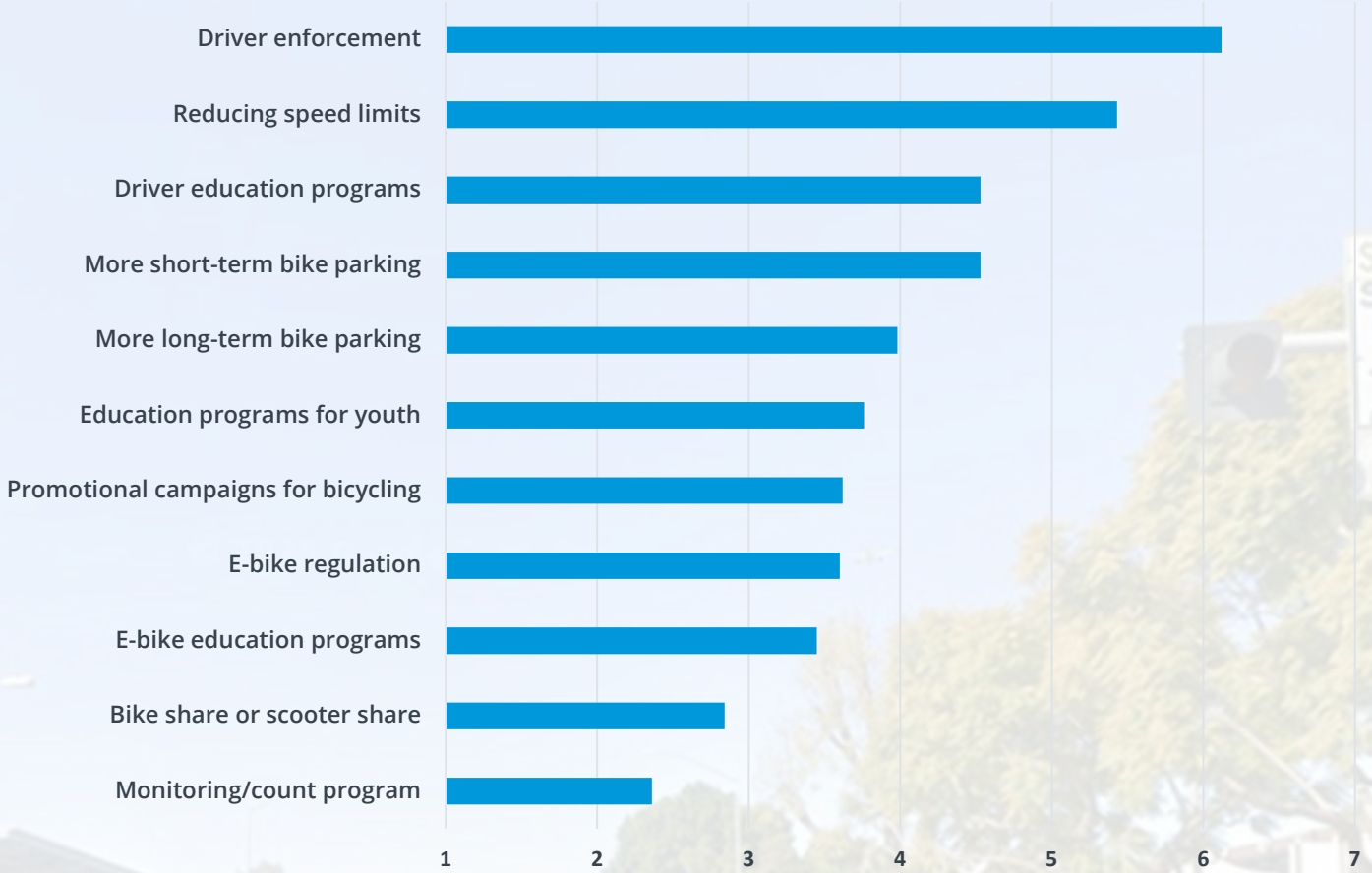


The above graph is a visualization of the responses received. It should be noted that respondents were not required to rank all eleven (11) bike policy priorities but at a minimum rank their highest priority.

There were a total of 2807 responses for the highest priority bike policies and of those responses 650 (16%) prioritized Driver Enforcement followed by 598 (13%) who's highest priority is Reducing Speed Limits and 204 (11%) that prioritize Driver Education Programs.

Long Form Survey Responses

Priorities for Bike Policy Adoption (Ranked by Weighted Score*)



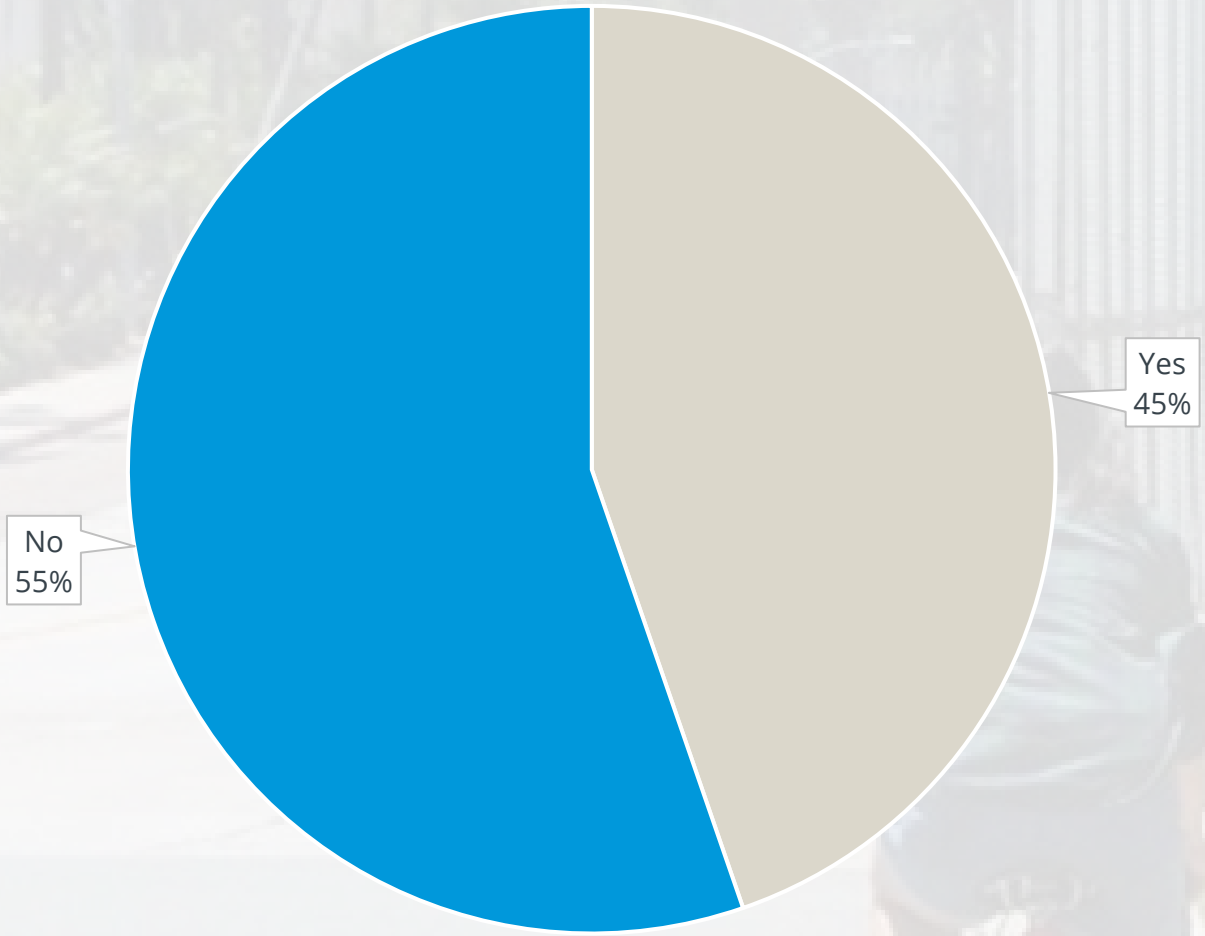
Key Takeaways:
Respondents identified driver enforcement as the highest priority, highlighting a perceived gap in the enforcement of traffic laws intended to protect cyclists from violations by motorists.

Closely following was the priority to lower speed limits, reflecting a desire for safer streets where vehicles travel at reduced speeds. This suggests that respondents recognize the direct correlation between vehicle speed and the severity of collisions involving cyclists.

**Score is determined by the sum of the weight of each ranked position, multiplied by the response count for the position choice, divided by the total contributions*

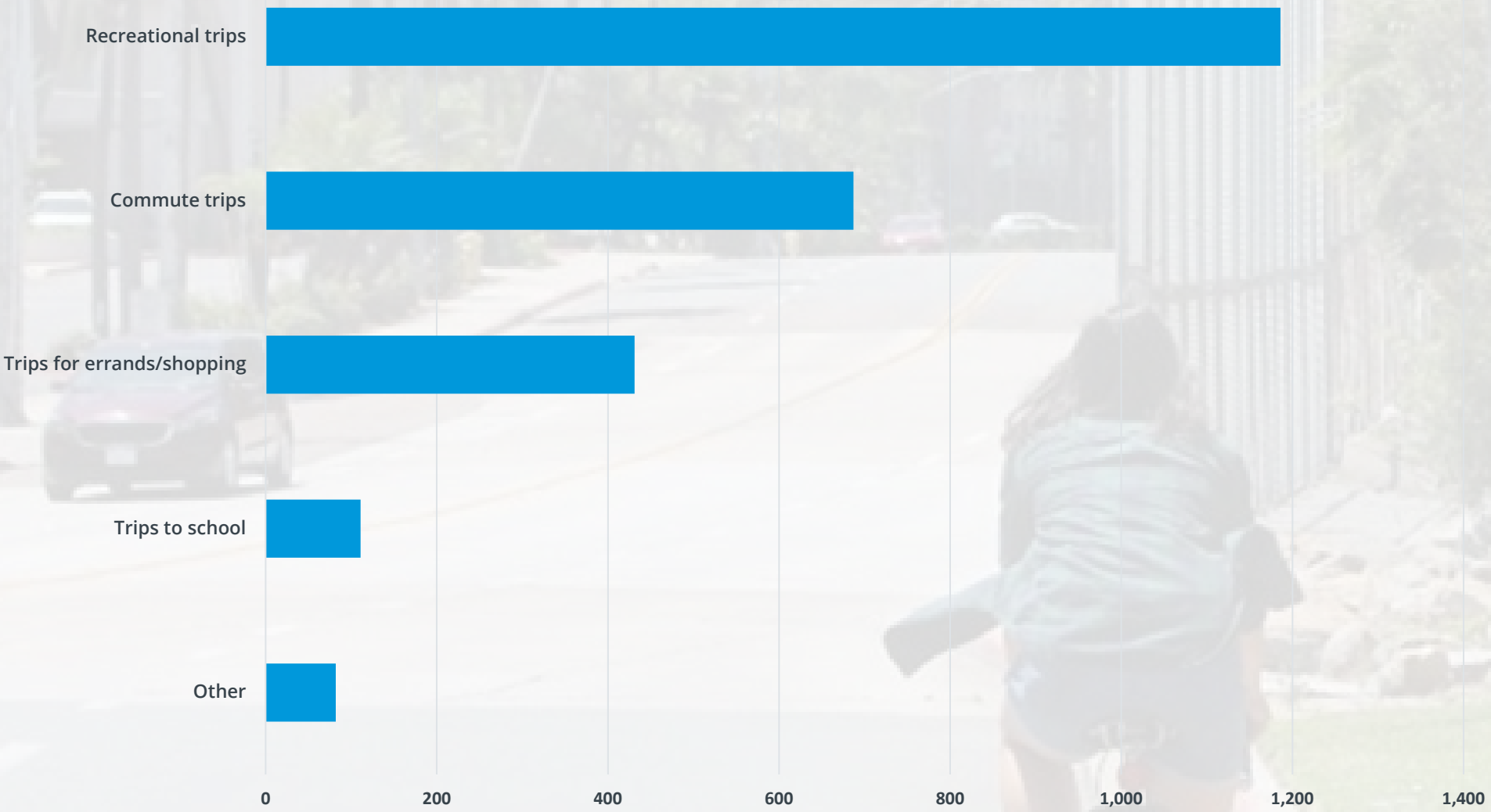
Long Form Survey Responses

Do you track your trips on an application such as Map My Ride, Ride with GPS or Strava?



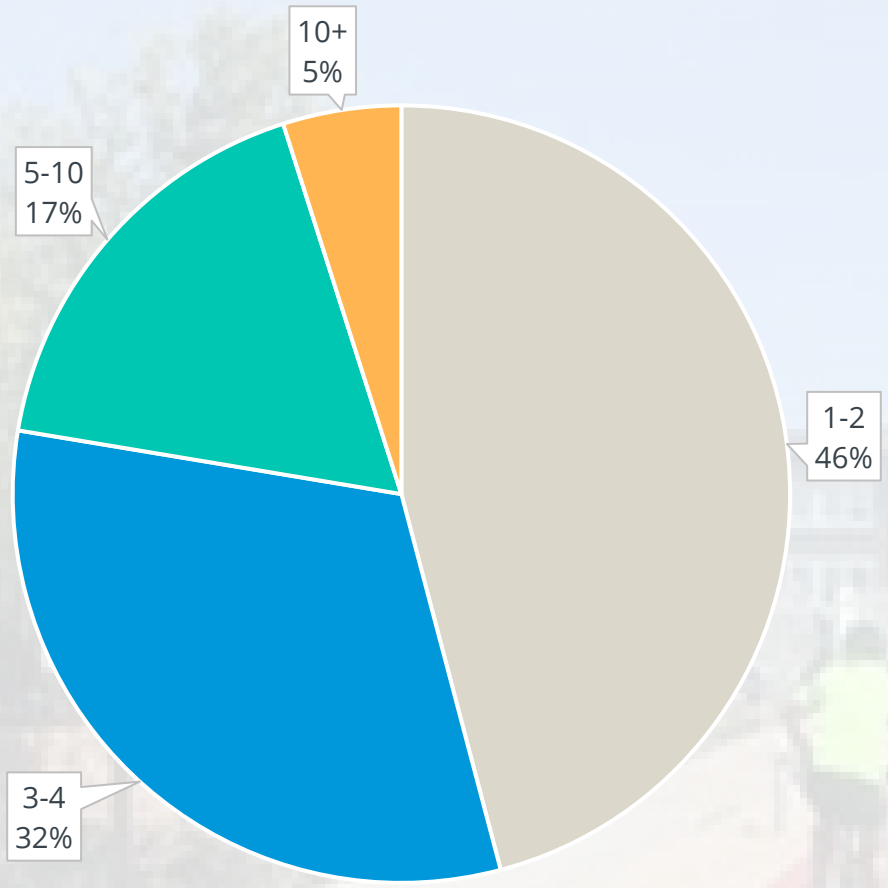
Long Form Survey Responses

What type of trips do you log using this application



Long Form Survey Responses

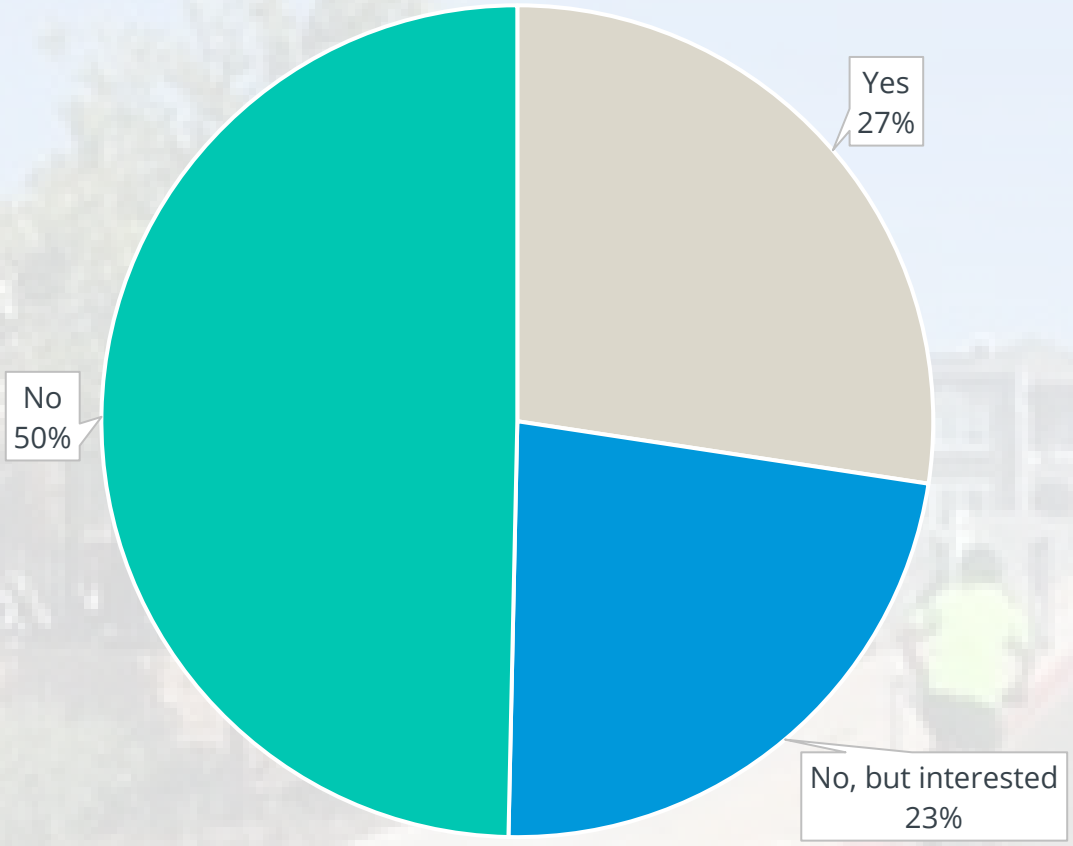
Weekly Frequency of Bike Rides



Key Takeaways:
46% of participants cycle 1-2 times per week, while an additional 32% ride 3-4 times per week. Furthermore, 17% of participants cycle 5-10 times a week, and 5% ride more than 10 times per week. These figures suggest that a significant portion of participants engage in frequent and consistent bicycling activities.

Long Form Survey Responses

E-Bike Ownership



Key Takeaways:
More than a quarter (27%) of participants own an e-bike, with a similar number (23%) interested in ownership. This demonstrates a potential increase in e-bike ridership in City of San Diego in the coming years and further demonstrates the need to plan for this ridership change as part of the BMPU.

Key Takeaways

Feedback Map

- Bike lane and protected bike lane desires generally follow along freeways and larger arterials across the City. Additionally, the results for these two categories are aligned with results from the recent SANDAG regional data collected.
- Responses for Unsafe experiences and vehicle speeds overlap each other in most locations across the City: Ocean Beach, Pacific Beach, Bay Ho, Mission Valley, University City, Torrey Pines, Kearny Mesa, College Area, City Heights, Uptown Neighborhoods, and Downtown.
- Participation was limited in some neighborhoods. Project team should consider engagement strategies for these areas in Phase II.

Trip Map

- Survey respondents overwhelming shared that their purpose for cycling was for exercise/leisure, with shopping/errands and work as the next most common purpose, respectively.
- While work trips are spread out across the City, trips to visit family and friends and shopping are mostly occurring in Uptown neighborhoods, commercial core of OB and PB, Downtown, and University City.
- Old Town Transit Center and several Blue Line stops appear to be key bike/transit connection points.

Long Form Survey

- Survey participants were mostly comprised of existing bicycle riders who identified with the “enthused and confident” or “interested but concerned” rider types. These riders likely are more recreational riders, as they mostly ride for exercise 1-2 times a week
- Separated and comfortable facilities was a top priority for these riders.
- Most trips are within the 3 to 5-mile range.


City of San Diego
Bicycle Master Plan Update



The City of SAN DIEGO

Bicycle Master Plan Update

Phase 2 Engagement Summary

Fehr & Peers

Contents

1. Pop-Up Event Summary
2. Digital Engagement Summary
3. Next Steps

Engagement by the Numbers



1,962 contributions from **363** individuals on the online map-based survey



Over **125** individuals engaged in 1:1 conversations through **4** community pop-up events



10 community-based organizations engaged through **4** community leadership meetings

Pop-Up Event Summary

Section Includes

UCP Transportation Justice Expo

Linda Vista Farmers' Market

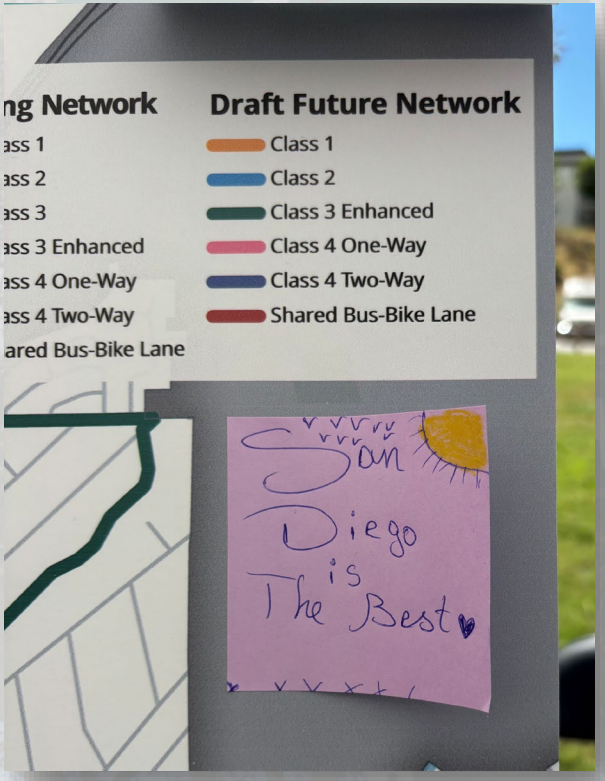
UCP Transportation Justice Expo

April 11, 2026
> 100 people engaged
> 24 markers placed



Key Takeaways

- Folks came from a wide mix of neighborhoods (not just Southeastern representation)
- Attendees reflected a broad range of racial backgrounds and ages
- Strong emphasis on **inter-neighborhood connectivity**
- General excitement for Chollas Creek bikeway



Linda Vista Farmers' Market

April 30, 2026
> 25 people engaged
> 50 markers placed

Key Takeaways

- Many folks live in Linda Vista and nearby neighborhoods, mostly families with children
- Several families mentioned being pleased with Clairemont Dr class 4, wanted more protected facilities on Balboa Ave/I-5 overpass and Seaworld Dr, and were in favor of the Mission Blvd bikeway in Pacific Beach
- Families mentioned **wanting to have more comfortable facilities** to take them from their neighborhoods near Linda Vista to the bay and beach



Digital Engagement Summary

Section Includes

Social Pinpoint

Community Leader Meetings

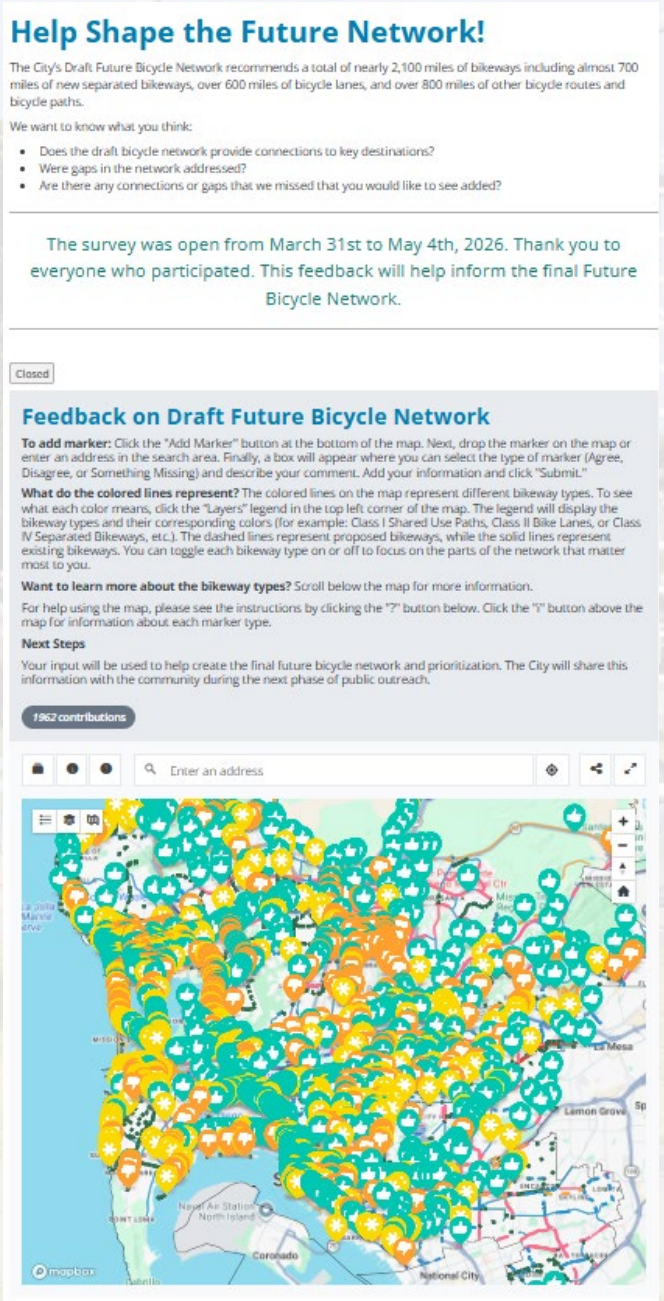
Social Pinpoint Spatial Survey

Survey Overview

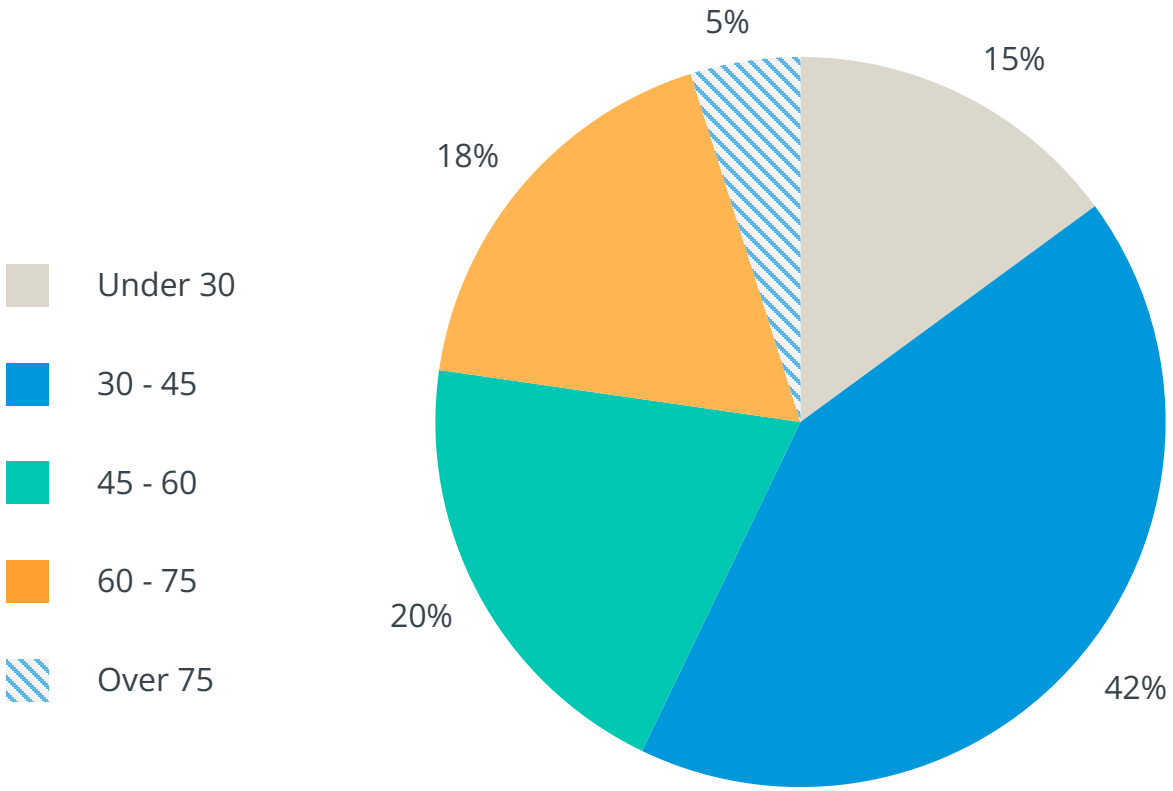
Purpose: Collect public input on the Draft Future Bicycle Network
Duration: March 31 – May 2, 2026
Reach: 1,962 contributions from 363 individuals

Terms Defined

Draft Future Bicycle Network: Citywide network which includes existing bikeways not slated for upgrade, upgraded existing bikeways, and new bikeways
Proposed: The upgraded existing bikeways and new bikeways
Existing to Remain: The existing bikeways not slated for upgrade
Outside of Draft Future Network: Roadways that are not on the Draft Future Bicycle Network



Contributor Demographics: Age

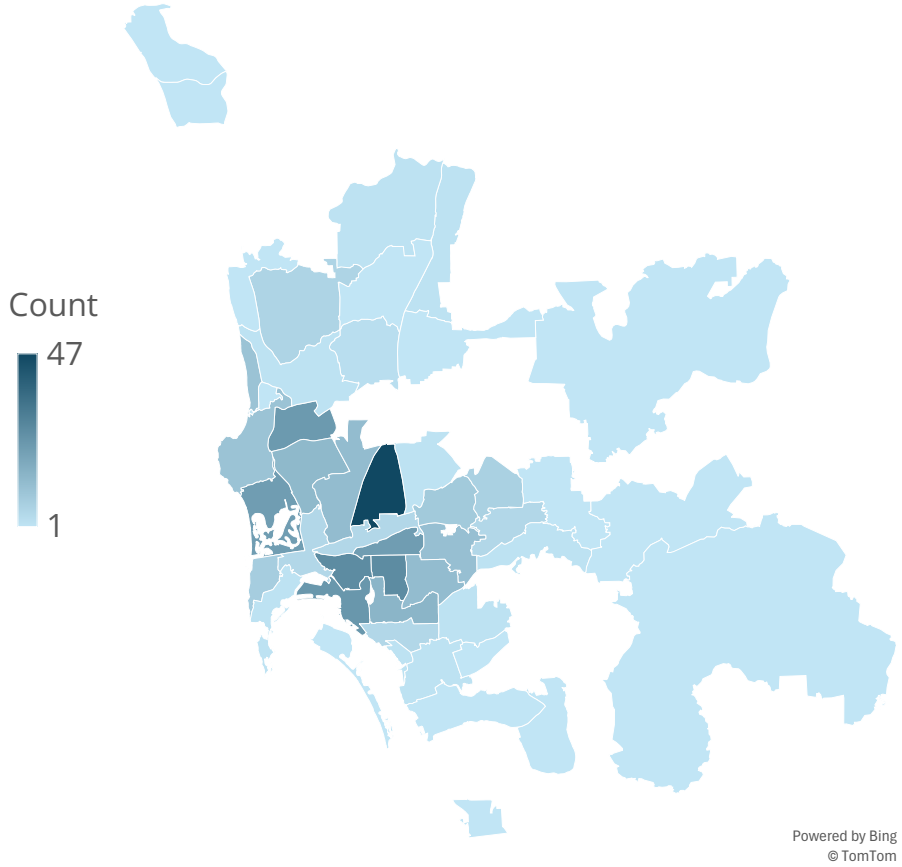


Key Takeaways

Nearly half (42 percent) of survey participants are between 30 and 45 years old. The next most represented group (at 20 percent) are those participants between ages 45 and 60.

Note: Based on the 363 survey participants.

Contributor Demographics: Zip Codes



Key Takeaways

The areas with the highest survey participation occurred in Serra Mesa, Kearny Mesa, Uptown, North Park, University Heights, South Park, and Downtown.

Note: Based on the 363 survey participants.

Top 10 Liked & Disliked Bikeways on the *Proposed* Network

Top Liked

Road Name	Class	Agree	Disagree
Pacific Hy	4 One-Way	36	0
North Harbor Dr	4 One-Way	35	0
Chollas Creek Bikeway	1	32	1
Gilman Dr	4 One-Way	18	0
Mission Bl	4 One-Way	17	0
Clairemont Dr	4 One-Way	16	12
Market St	4 One-Way	15	0
Genesee Ave	4 One-Way	14	1
N Torrey Pines Rd	4 One-Way	13	0
W Harbor Dr	4 One-Way	12	0

Top Disliked

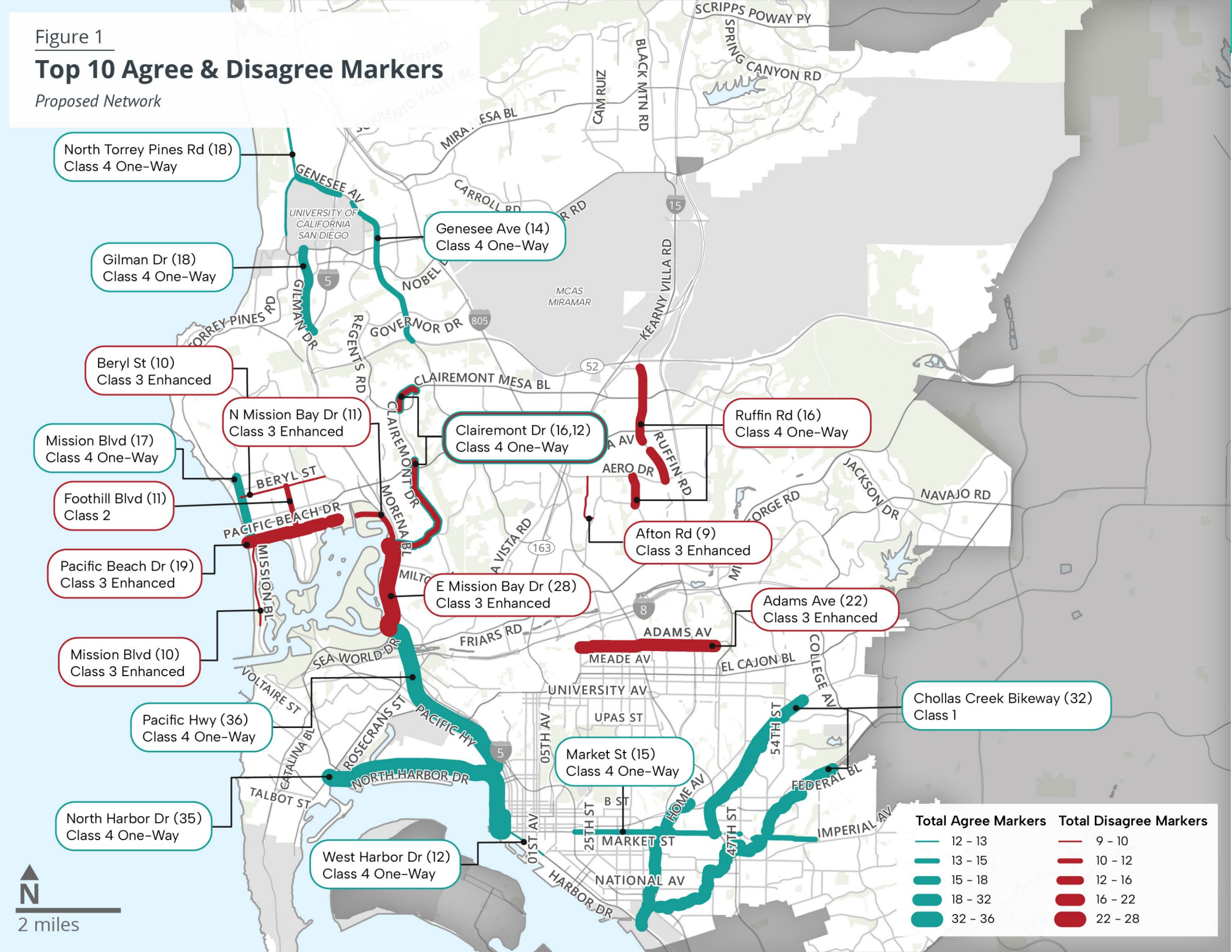
Road Name	Class	Agree	Disagree	Something Missing
East Mission Bay Dr	3 Enhanced	0	28	7
Adams Av	3 Enhanced	6	22	3
Pacific Beach Dr	3 Enhanced	7	19	2
Ruffin Rd	4 One-Way	8	16	1
Clairemont Dr	4 One-Way	16	12	2
Foothill Bl	2	0	11	1
North Mission Bay Dr	3 Enhanced	0	11	3
Beryl St	3 Enhanced	0	10	0
Mission Bl	3 Enhanced	2	10	8
Afton Rd*	3 Enhanced	3	9	0

*The prevailing reason for dislike was concerns of potential loss in parking. However, Class III Enhanced is a shared facility (not a dedicated bikeway) with minimal impact to roadway cross-sections and parking.

Figure 1

Top 10 Agree & Disagree Markers

Proposed Network



Top Liked & Disliked Bikeways on the *Existing to Remain* Network

Top Liked

Road Name	Class	Agree	Disagree
Pershing Dr	4 Two-Way	4	2
06th Av	2	2	0
30th St	4 One-Way	2	3
Governor Dr	4 One-Way	2	2
Friars Rd	4 One-Way	2	1
Park Bl	4 One-Way	2	0

Top Disliked

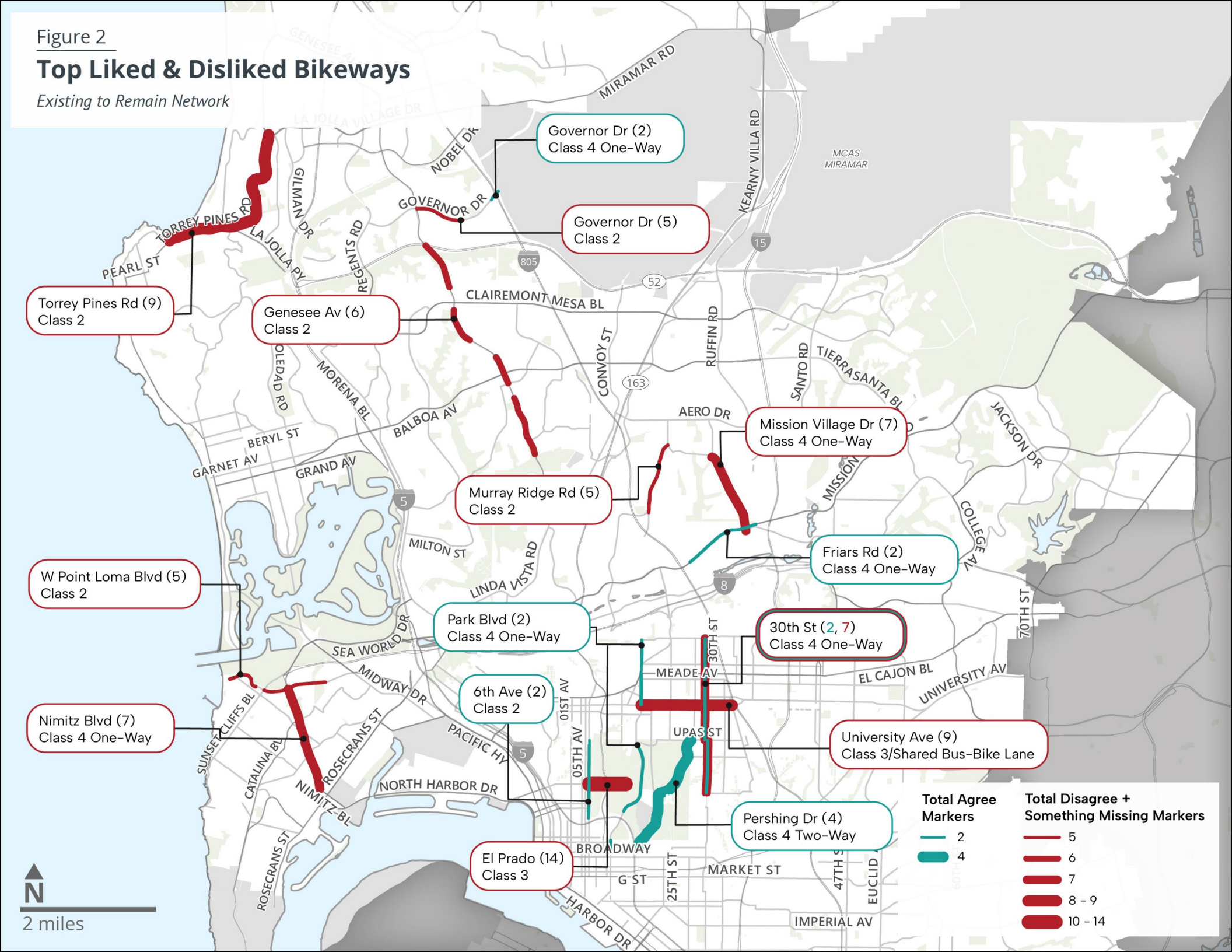
Road Name	Class	Agree	Disagree + Something Missing
El Prado	3	0	14
Torrey Pines Rd	2	0	9
University Ave*	Class 3 & Shared Bus Bike	0	9
30th St	4 One-Way	2	7
Mission Village Dr	2	0	7
Nimitz Bl	4 One-Way	0	7
Genessee Av	2	0	6
Governor Dr	2	0	5
Murray Ridge Rd	2	0	5
W Point Loma Blvd	2	0	5

*Note: University Ave has a blend of existing and proposed bikeway types. When looked at together, this corridor received one of the highest number of disagree/something missing markers.

Figure 2

Top Liked & Disliked Bikeways

Existing to Remain Network



Top Roadways *Outside of Draft Future Network*

Road Name	Something Missing	Up/Down Votes
Law St	6	3
Felspar St	3	1
Haines St	3	0
Gilman Dr*	3	14
Cass St	3	3
San Pasqual St	2	2
Tourmaline St	2	2
Van Nuys St	2	2
Redwood St	2	2

*Note: The indicated portion of Gilman Dr is located on UCSD's campus and is outside of the City's jurisdiction.

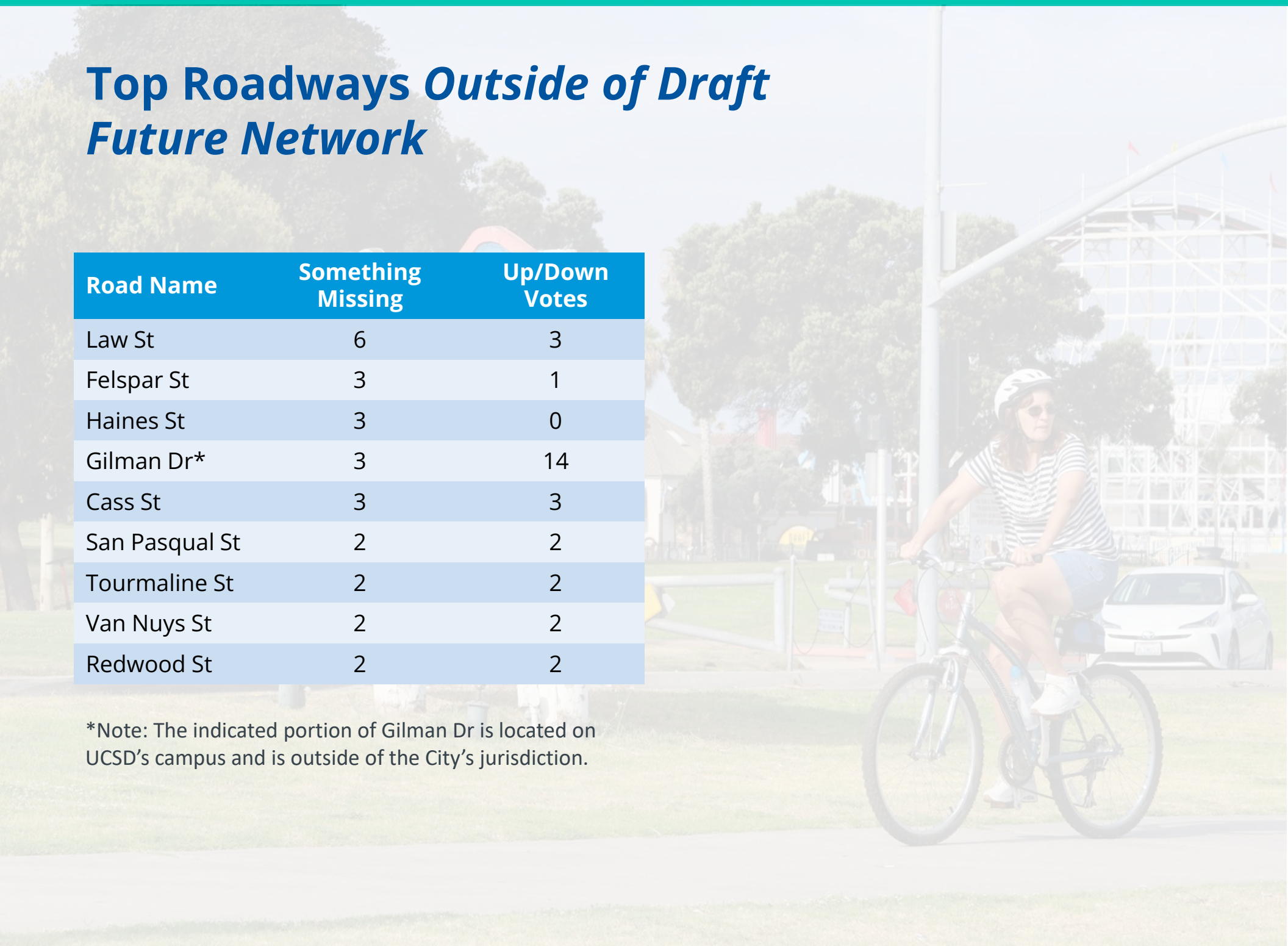
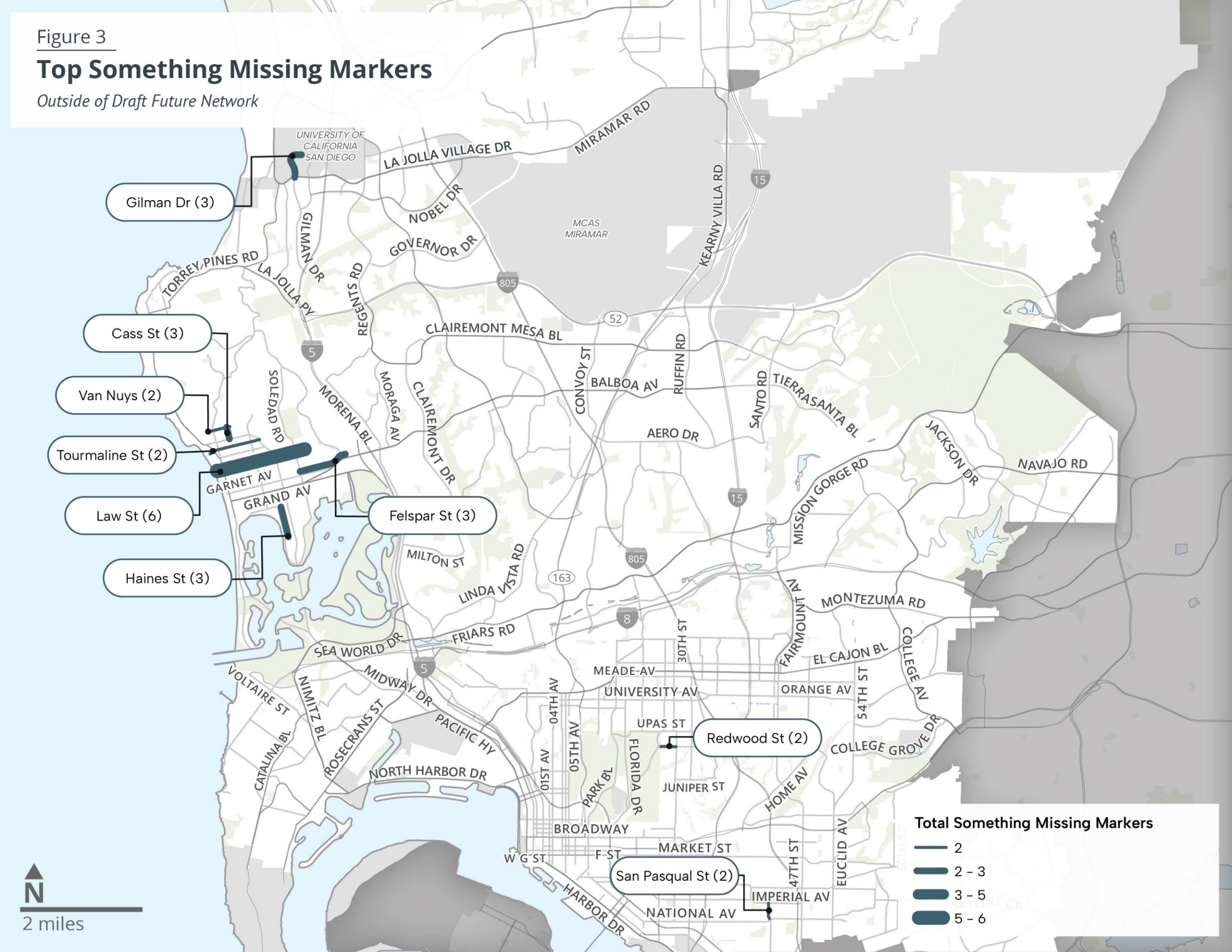


Figure 3

Top Something Missing Markers

Outside of Draft Future Network



Community Leader Meetings

Two community leader meetings were held for BMPU Phase 2 to review the **Draft Future Bicycle Network**.

The meetings covered how the network was developed, the six facility types proposed, and key corridors and connections across the city.

Community leaders provided input on equity gaps, facility design consistency, and specific corridor concerns in their neighborhoods. A significant portion of both meetings addressed the challenge of translating plans into built projects.

Organizations Engaged

CIRCULATE PLANNING & POLICY

Bike Coalition SAN DIEGO COUNTY

THE URBAN COLLABORATIVE PROJECT

SDSU

GROUNDWORK San Diego Chollas Creek

Casa Familiar

DOWNTOWN SAN DIEGO PARTNERSHIP

AARP®

BAYSIDE Community Center

Key Conversations

Connection to Broader Goals

Call for explicit, measurable linkages between the BMPU and the Climate Action Plan, Complete Streets Policy, and Vision Zero

Outreach

Outreach without visible results risks reducing trust and participation.

Early local outreach is essential for community buy-in.

Parking Blocking Implementation

Concerns over examples of funded, safety-critical projects getting cancelled

Facility Type Selection

Questions around qualitative judgements in the planning process; potential to introduce bias

Facility Protection

Pushback on prevalence of painted lanes and sharrows, particularly for segments transitioning from Class IV

Next Steps

Section Includes

Draft Plan Development

Upcoming Events

Draft Plan Development



6/1

Finalize Draft Network

6/24

Project Prioritization List

6/29

Outreach requirements for project implementation (City)

7/22

Project Sheets: Conceptual Drawings, Cost Estimate Review

Upcoming Events

- **Community Leader Meeting #4** – Draft Plan (Implementation Chapter)/Prioritized Projects
- **Public Review** of Draft Plan/Prioritized Projects
  - Pop-Up #3
  - Pop-Up #4
- **Mobility Board Meeting** – Draft Plan/Prioritized Projects
- **SANDAG Regional Meeting**




City of San Diego
Bicycle Master Plan Update

APPENDIX C

Engagement Process



Engagement Process

Public engagement (summarized in **Table C-1)** occurred throughout the planning process, with each phase building on the previous one. Early outreach focused on understanding the existing riding experience. Later phases shared draft recommendations, which were refined based on public feedback.

Engagement was carried out through a variety of methods to reach as many people as possible, including in-person events, online surveys, and interactive mapping tools. The engagement also relied on partnerships with community-based organizations to reach people that are often underrepresented in traditional outreach efforts.

Cataloguing the Lived Riding Experience (Summer 2024)

The first phase focused on understanding where and why people currently ride their bikes and identifying barriers that discourage people from riding. Three online surveys during this first phase collected over 8,200 responses and provided insight into where and why people ride, network gaps, and community priorities. The surveys were open from August through September 2024.

Ground Truthing (Fall 2024 – Spring 2025)

The takeaways from the initial outreach were combined with technical analysis to develop a vision for the future bikeway network. During this phase, feedback was reviewed to ensure the network reflected real-world conditions and community experiences.

Network Refinement (Winter – Spring 2026)

A draft bikeway network was presented to the public for review through online mapping tools and community pop-up events. Nearly 2,000 survey responses and more than 125 in-person conversations helped identify missing connections, validate priorities, and refine project recommendations. The online survey was open from late March to early May 2026.

Priority Project Development (Summer 2026)

The final phase focused on identifying which projects would provide the greatest benefit to the community and should be prioritized for implementation. [Number of people engaged to be inserted following October/November events].

Engagement Snapshot

Table C-1. Engagement Activities

Engagement Activity	Purpose	Participation	Key Takeaways
SANDAG Regional Vision Zero Action Plan Feedback Map Survey (2023)[1]	Identify safety barriers and opportunities for improvements	716 of the 2,970 regional contributions were made in the City	People identified traffic safety concerns, network gaps, and physical barriers as major challenges to bicycling.
Feedback Map Survey (2024)	Identify barriers, gaps, and opportunities in the existing bikeway network.	697 people contributed 3,445 map comments	People identified traffic safety concerns, network gaps, and physical barriers as major challenges to bicycling.
Trip Map Survey (2024)	Understand where and why people ride their bike	325 people contributed 1,955 mapped trip locations	Transportation[2] was the primary purpose of trips, with exercise and leisure trips as the second-most common trip purpose.
Long Form Survey (2024)	Understand where and why people ride their bikes, preferences, and barriers among cyclists and non-cyclists.	2,912 people	Separated bikeways and bike paths were the highest-priority bikeway types. Safety concerns and network gaps were the most frequently cited barriers to riding. Most trips are typically between 3 and 5 miles.
Draft Network Survey (2026)	Gather feedback on the draft future bikeway network and identify missing connections.	363 people contributed 1,962 map comments	People generally supported new bikeway proposals, particularly separated bikeways and off-street paths, while also identifying additional network gaps and desired connections.

[1] To supplement project-specific outreach, the City also leveraged data related to active transportation that was collected by SANDAG through its Regional Vision Zero Action Plan, which occurred during a similar timeframe, asked comparable questions, and collected feedback from many City residents. The data provided an additional source of information on bicycling behaviors, preferences, and barriers. Incorporating these findings helped build upon existing community input received, especially given that residents often view transportation agencies collectively rather than distinguishing their plans as separate efforts.

[2] Transportation trips include those taken for school, shopping/errands, transit connection, visiting family or friends, and work.

Engagement Activity	Purpose	Participation	Key Takeaways
Urban Collaborative Project Transportation Justice Expo (2026)	Present and solicit feedback on the draft future bikeway network.	Spoke with over 100 attendees	Attendees expressed strong support for the Chollas Creek Bikeway and emphasized the importance of connectivity between neighborhoods.
Linda Vista Farmers' Market (2026)	Share project information and gather community feedback.	Spoke with over 25 attendees	Attendees expressed a desire for comfortable bicycle connections to parks, beaches, and other everyday places.
Stakeholder Advisory Committee	Coordinate with regional agencies, advocacy organizations, and partner jurisdictions.	2 meetings	Helped align Bicycle Master Plan recommendations with regional bicycle planning efforts.
Community Leader Advisory Group Meetings	Gather input from community-based organizations and local leaders.	8 meetings	Helped refine engagement methods, performance measures, draft network recommendations, and project priorities.

Feedback

Feedback collected through surveys, community events, and advisory group meetings showed several consistent themes which helped to shape the Bicycle Master Plan.

Safety and Comfort Remain Primary Barriers to Bicycling

Across engagement activities, people consistently identified traffic safety concerns, gaps in the bikeway network, and physical barriers such as freeways as the most significant challenges to bicycling. Feedback received prioritized separated bikeways and off-street paths (Class I and Class IV bikeways), reflecting a desire for bikeways that provide greater comfort and separation from car traffic. People also identified the need to enforce the rules of the road for cars and lower cars speeds as top policy priorities, reinforcing the importance of creating a bikeway network that feels safe for people of all ages and abilities.

A More Connected Network

Feedback from participating people highlighted the importance of connectivity between neighborhoods and key destinations. Through the Feedback Map Survey (2024), 697 people identified barriers and opportunities throughout the City. Then, 363 people identified key network gaps that should be addressed in the Draft Network Survey (2026). During community pop-up events, feedback received emphasized the need for stronger connections between neighborhoods and more comfortable routes to everyday places, including schools, parks, beaches, and transit.

Bicycling Serves Both Everyday Travel and Recreation

Exercise and leisure were the most common individual trip purposes identified in the Trip Map Survey (2024) and Long Form Survey (2024). However, people that participated also reported riding bikes for commuting, shopping, school trips, and transit access. More than half (55 percent) of people reported typical trip lengths of five miles or less, suggesting significant potential for riding a bike to everyday places. The Trip Map Survey (2024) also revealed concentrations of bicycle activity around major employment centers such as Downtown and University communities, commercial districts including Hillcrest and University Towne Center, schools and universities, and regional transit centers like Old Town Transit Center and Santa Fe Depot.

Expanding the Bikeway Network

Nearly 2,000 map contributions were made by 363 people on the draft future bikeway network, demonstrating interest in bicycle infrastructure improvements. People that responded generally expressed support for projects that increased separation from car traffic, with separated bikeways and bicycle paths receiving the most favorable feedback. At the same time, feedback on some corridors was mixed, suggesting a need to balance bicycle improvements with other transportation needs and community priorities. These comments helped refine the planned network and identify locations where additional evaluation and community discussion may be needed.

APPENDIX D

Relationship with Other Plans and Policies



The Bicycle Master Plan plays a supporting role, alongside other planning documents and policies, guiding transportation, land use, safety, sustainability, and community development in San Diego. Together, these plans and policies establish the community priorities, policy direction, design standards, and implementation strategies that shape bicycle planning and investment. This Appendix outlines the main objectives of each of those documents and describes how they interact with this Plan.

Strategic Plan

- What it does: The Strategic Plan establishes a citywide vision and framework organized around five priority areas: creating homes, protecting and enriching neighborhoods, advancing mobility and infrastructure, championing sustainability, and fostering regional prosperity. Under the Advance Mobility & Infrastructure priority, the Strategic Plan calls for constructing and maintaining high-quality infrastructure for cyclists, pedestrians, transit, and cars across all communities, creating safer conditions for everyone traveling along a street, and expanding options for traveling that are efficient, sustainable, and equitable.

- Relevance to the Bicycle Master Plan: An update to the Bicycle Master Plan is explicitly referenced in the Strategic Plan as an implementing document under multiple outcome areas, including Infrastructure, Safety, Accessibility, and Performance & Mobility Options. In this way, the Plan is not only consistent with the Strategic Plan but serves as one of the primary vehicles through which these goals are achieved on the ground.

General Plan - Mobility Element

- What it does: The Mobility Element of the General Plan provides a citywide policy direction for a network of streets, routes, and trails that allow all San Diegans to safely, conveniently, and enjoyably walk, cycle, take transit, or drive between home, school, work, and places to play with an emphasis on equitable access in underserved communities.

- Relevance to the Bicycle Master Plan: The Bicycle Master Plan implements the bicycle-related goals and policies of the Mobility Element. In particular, the three goals outlined in the Mobility Element's Bicycling chapter provide the Bicycle Master Plan's foundation:
    - Establishing a city where bicycling is a safe, convenient, and enjoyable travel choice, particularly for trips under five miles
    - Developing a safe and comprehensive local and regional bikeway network
    - Advancing environmental quality, public health, recreation, and mobility benefits through increased bicycle ridership

  Relevant policies from the General Plan's Mobility Element and other elements of the Plan are included in the table below.

Table D-1: Relevant General Plan Policies

Policy ID	Policy
LU-H.6	Provide linkages among employment sites, housing, and villages via an integrated transit system and a well-defined pedestrian and bicycle network.
LU-H.10	Foster inclusive neighborhoods that support families with children and intergenerational households, encourage community interaction, and provide safe, convenient, enjoyable and accessible public amenities. e. Accessible Parks: Provide safe and enjoyable parks that can be reached safely by walking/rolling and biking. j. Safe School Routes: Provide safe routes to schools so children and parents can walk/roll and bike to school.
UD-B.8	Design project circulation systems for walkability. f. Design new connections, and remove any barriers to pedestrian and bicycle circulation in order to enable people to walk or bike, rather than drive, to neighboring destinations (see also Mobility Element).
UD-C.5	Design or retrofit streets to improve walkability, strengthen connectivity, and enhance community identity. d. Emphasize the provision of high quality pedestrian and bikeway connections to transit stops/stations, village centers, and local schools.
ME-A.3	Engage in public education campaigns to increase drivers' awareness of pedestrians and bicyclists, and to encourage more courteous driving.
ME-B.1	Implement the Bicycle Master Plan and community plan bicycle networks with a 'Class 4 First' approach where appropriate and feasible a. Implement the Bicycle Master Plan and community plan bicycle networks with a 'Class 4 First' approach where appropriate and feasible b. Coordinate with other local jurisdictions, SANDAG, schools, and community organizations to review and comment on bicycle issues. c. Reference and refine the plan, as needed, in conjunction with community plan updates and proposed regional connections. d. Improve connectivity of the multi-use trail network, for use by bicyclists and others, as appropriate.

Policy ID	Policy
ME-B.2	Identify and implement a network of bikeways that serve bicyclists' needs, especially for travel to employment centers, village areas, schools, commercial districts, transit stations, and institutions. a. Develop a bikeway network that is continuous, closes gaps in the existing system, improves safety, and serves important destinations. b. Develop and maintain a comprehensive, integrated system of reduced stress bikeways to help encourage community members to cycle for commuting and daily needs. c. Implement bicycle facilities based on a priority program that considers existing deficiencies, safety, commuting needs, connectivity of routes, and community input. d. Recognize that bicyclists use all City roadways. 1.Design future roadways to accommodate bicycle travel; and 2. Upgrade existing roadways to enhance bicycle travel, where feasible
ME-B.3	Maintain and improve the quality, operation, and integrity of the bikeway network and roadways regularly used by bicyclists. a. Provide buffered or separated bikeways along major roadways where vehicle speeds and volumes are higher. b. Provide treatments such as wayfinding and markings, colored pavement, bicycle signals, bike boxes, and protected intersections to enhance safety, comfort, and enjoyability for all levels of bicycle riders. c. Implement high-quality bicycle facilities, treatments, and amenities as roadways are resurfaced and/or rights-of-way become available.
ME-B.4	Provide safe, convenient, and adequate short- and long-term bicycle parking facilities and other bicycle amenities for employment, retail, multifamily housing, schools and colleges, and transit facility uses. a. Continue to require bicycle parking in commercial and multiple unit residential zones. b. Provide bicycle facilities and amenities to help reduce the number of vehicle trips.
ME-B.5	Increase the number of bicycle-transit trips by coordinating with transit agencies to provide safe routes to transit stops and stations, to provide secure bicycle parking facilities, and to accommodate bicycles on transit vehicles.
ME-B.6	Develop and implement public education programs promoting bicycling and bicycle safety. a. Increase public awareness of the benefits of bicycling and the availability of resources and facilities. b. Increase government and public recognition of bicyclists' right to use public roadways.
ME-C.1	Support opportunities to encourage shared mobility services and programs throughout the City, including carshare, bikeshare, micromobility, and information technology resources such as "Mobility as a Service."

Policy ID	Policy
ME-E.1	Plan, design, operate, and maintain streets using the Complete Streets principles for all types of transportation projects within the City including new construction, retrofit/reconstruction, and maintenance projects. a. Repurpose roadway spaces (i.e., travel lane, underutilized right-of way, unneeded pavement) to implement active transportation or other multimodal improvements. Allow for flexible use of the public right-of-way to accommodate all transportation system users while maintaining safety standards. c. Coordinate with SANDAG, Caltrans, and adjacent cities on projects along shared facilities to ensure the application of the Complete Streets approach and implementation of multimodal facilities.
ME-E.2	Provide integrated transportation planning and land use decisions that enhance the City of Villages strategy and transit-oriented development with Complete Streets, which facilitate multimodal transportation opportunities.
ME-E.9	Improve operations and maintenance on City streets and sidewalks. d. When new streets and sidewalks are built and as existing streets and sidewalks are modified - design, construct, operate, and maintain them to accommodate and balance service to all users/modes (including walking/rolling, bicycling, use of shared mobility devices, transit, high occupancy vehicles, autos, trucks, automated waste and recycling collection vehicles, and emergency vehicles).
ME-H.6	Manage curb space in activity areas, coastal areas, transit-oriented developments, business districts, and corridors to balance the demands of all users or activities that occur within this public space, such as vehicle parking, bicycle and shared mobility device parking, delivery loading/unloading, rideshare pick-up/drop-off, transit service, streetaries/sidewalk cafes, parklets, emergency vehicles, etc.
ME-H.8	Acknowledge that curb spaces that are used by people to gather and enjoy public spaces contribute to increased use of the surrounding areas, including access to parks and recreation and enjoyment of shopping of restaurants, and increases the likelihood that people will want to walk/roll and bike to their desired destination in future plans and projects.
RE-F.8	Create or enhance open space multi-use trails to accommodate, where appropriate, pedestrians/hikers, bicyclists, and equestrians.

Climate Action Plan

- What it does: The Climate Action Plan focuses on meeting net zero greenhouse gas emissions by 2035. It details the strategies and actions the City will take to make San Diego a more sustainable, healthy, and thriving city.
- Relevance to the Bike Master Plan: Bicycling is identified in the Climate Action Plan's Mobility and Land Use strategy as a key step for reducing the number of miles people travel by car and shifting travel away from gasoline-powered vehicles to cycling. The Bike Master Plan

expands and improves the bikeway network, making cycling a more viable choice for everyday trips, and helping the City meet its climate goals.

Community Plans

- What it does: The City has 49 community plans that translate the General Plan's citywide policies into community-specific policies which covering land use, mobility, urban design, public facilities, natural resources, and economic development.
- Relevance to the Bicycle Master Plan: The Bicycle Master Plan includes the Bikeway recommendations from community plans. When a community plan is updated, it can include more recent, community-specific bikeway recommendations and is the primary reference determining the type and location of bikeways. In areas without more recent site-specific Community Plan recommendations, the Bicycle Master Plan serves as the primary reference for determining the type and locations of bikeways.

Mobility Master Plan

- What it does: The Mobility Master Plan helps guide decisions about projects, programs, and investments citywide for pedestrians, cyclists, and cars. It has a framework that evaluates and prioritizes all mobility improvement projects. It identifies projects that can help provide the greatest benefits and address the greatest needs more sustainably and equitably.
- Relevance to the Bicycle Master Plan: The Mobility Master Plan provides a framework identifying and prioritizing the construction of bikeway improvement projects.

Vision Zero Strategic Plan

- What it does: The Vision Zero Strategic Plan outlines the strategies and actions needed by the City to maintain meaningful progress toward meeting the goal of zero traffic fatalities and serious injuries.
- Relevance to the Bicycle Master Plan: The Bicycle Master Plan supports the Vision Zero goal by identifying bicycle improvements focused on meeting the goal of zero traffic fatalities and serious injuries. The two plans both focus on design principles that support safety and equitable distribution of improvements.

Complete Streets Council Policy 900-23

- What it does: The Complete Streets Council Policy 900-23 calls for designing streets for all users by including improvements for cyclists, pedestrians, transit, and cars into both public and private improvement projects. This includes adding street design features that help achieve the City’s goal of eliminating severe injuries and fatalities, as well as a Citywide organizational structure to coordinate the implementation of bicycle, pedestrian, transit, and other street improvements.

- Relevance to the Bicycle Master Plan: The Complete Streets Policy reflects the City's approach to planning and including bicycle improvements as part of the overall transportation planning process.

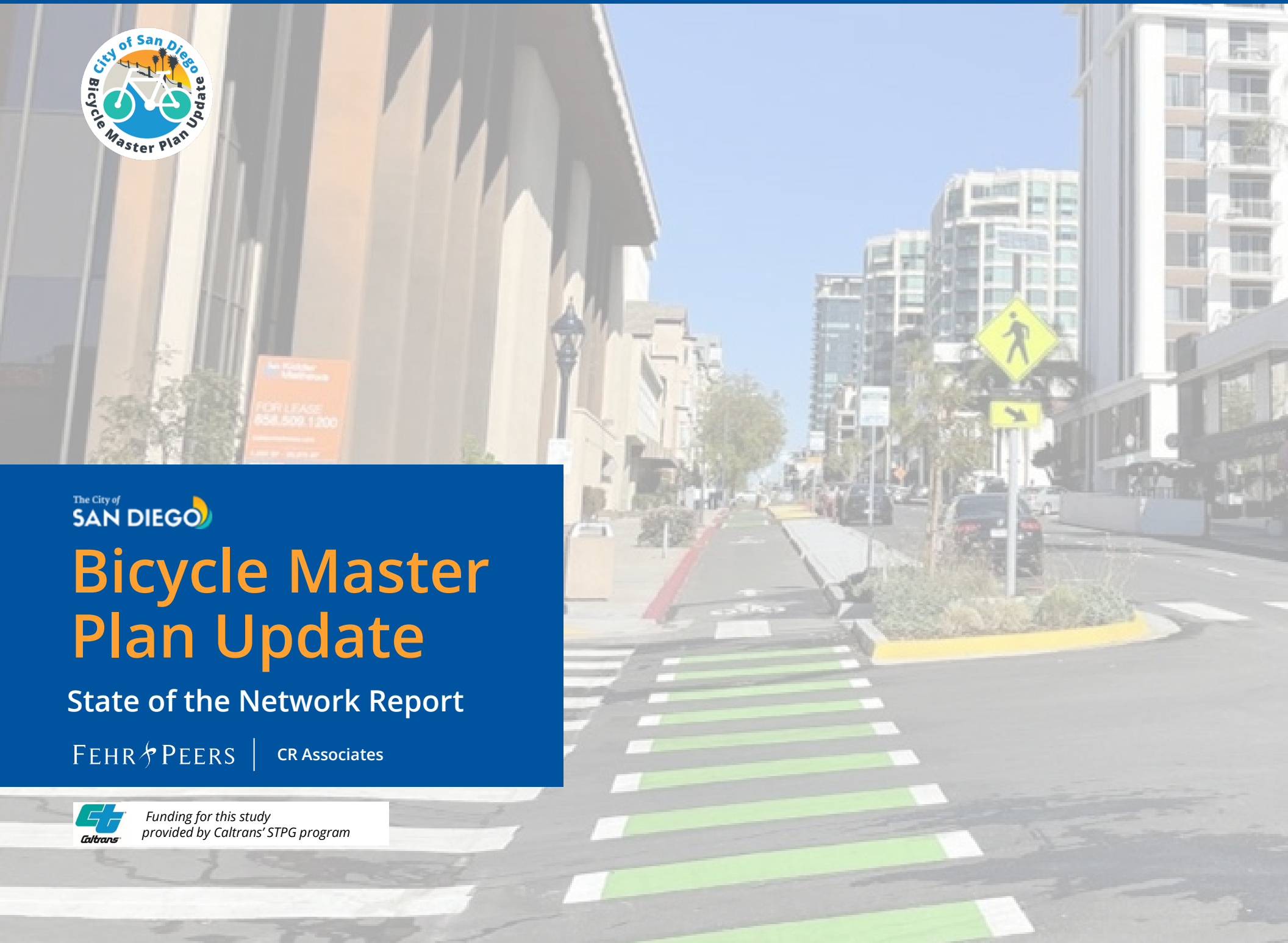
Street Design Manual

- What it does: The Street Design Manual provides standards and guidelines for laying out and improving streets for all users, focusing on the General Plan and the Climate Action Plan. It provides for safer and innovative design options to help streamline the implementation of street improvements.
- Relevance to the Bicycle Master Plan: The Street Design Manual guides how bikeway recommendations in the Bicycle Master Plan are included in the design of street improvements.

APPENDIX E

State of the Network





The City of SAN DIEGO

Bicycle Master Plan Update

State of the Network Report

FEHR & PEERS | CR Associates

Funding for this study provided by Caltrans' STPG program

State of the Network Report

Biking in San Diego Today
Destinations & Connectivity
Bicycle Collisions
Gaps and Opportunities

Attachment A: Connectivity Analysis Memorandum
Attachment B: Collision Analysis Memorandum

The City of San Diego Bicycle Master Plan (BMPU) is a citywide effort to refresh the City's bicycle facility network recommendations and prioritize active transportation projects.

This State of the Network serves as an existing conditions report that lays the groundwork for understanding the City's greatest needs and opportunities to enhance bicycle facilities.

This report is broken into four key sections:

- **Biking in San Diego Today** presents an overview of existing and designed bike facilities within the City.
- **Destinations & Connectivity** provides an overview of key points of interest in the City and their accessibility via low-stress, comfortable bike facilities.
- **Bicycle Collisions** analyzes bicycle collision history in the City.
- **Gaps & Opportunities** highlights network gaps by geography and other opportunities for the BMPU.

Glossary of Terms

Structurally Excluded Communities: The City of San Diego's Communities of Concern and those priority areas identified in the EJ Element.

Existing Bike Facilities: Facilities in the ground as of November 2024.

Designed Bike Facilities: Facilities with 100% or near 100% designs with secured funding or pending allocation.

Level of Traffic Stress (LTS): Measures how comfortable and safe a roadway feels for cyclists, based on factors like traffic speed and volumes, and bike facility quality.

All Ages & Abilities: Design approach focused on safe, comfortable, and accessible networks for all ages, skill levels, and mobility needs.

Destinations: Defined as schools, parks, transit stops, libraries, shopping areas, and jobs.

Short Trips: Vehicle trips 3 miles or less.

The Bicycle Master Plan Update is guided by five project goals, which will improve and expand a safe, connected, and convenient network:

Safety: Prioritize separated bikeways, protected intersections, and other safety improvements to reduce fatalities and severe injuries.

Equity: Identify project opportunities in structurally excluded communities and to accommodate users of all ages and abilities.

Connectivity: Close existing gaps, improve access, and provide convenient connections within the City and beyond.

Best Practices: Maximize alignment with complete streets best practices and bicycle facility design guidelines.

Innovation: Encourage innovation in design, policy, and programs to optimize opportunities for implementation and increase cycling.

Mode Shift: Increase the number of biking and multimodal trips.

The Bicycle Master Plan Update is guided by the NACTO framework of prioritizing All Ages and Abilities. All Ages and Abilities bicycle facilities are safe, comfortable, and built to attract under-represented cyclist.[1]

Who is the "All Ages & Abilities" User?

- Children
- Seniors
- Women
- People of Color
- Low-Income Riders
- People with Disabilities
- Anyone with the need and desire to ride a bicycle

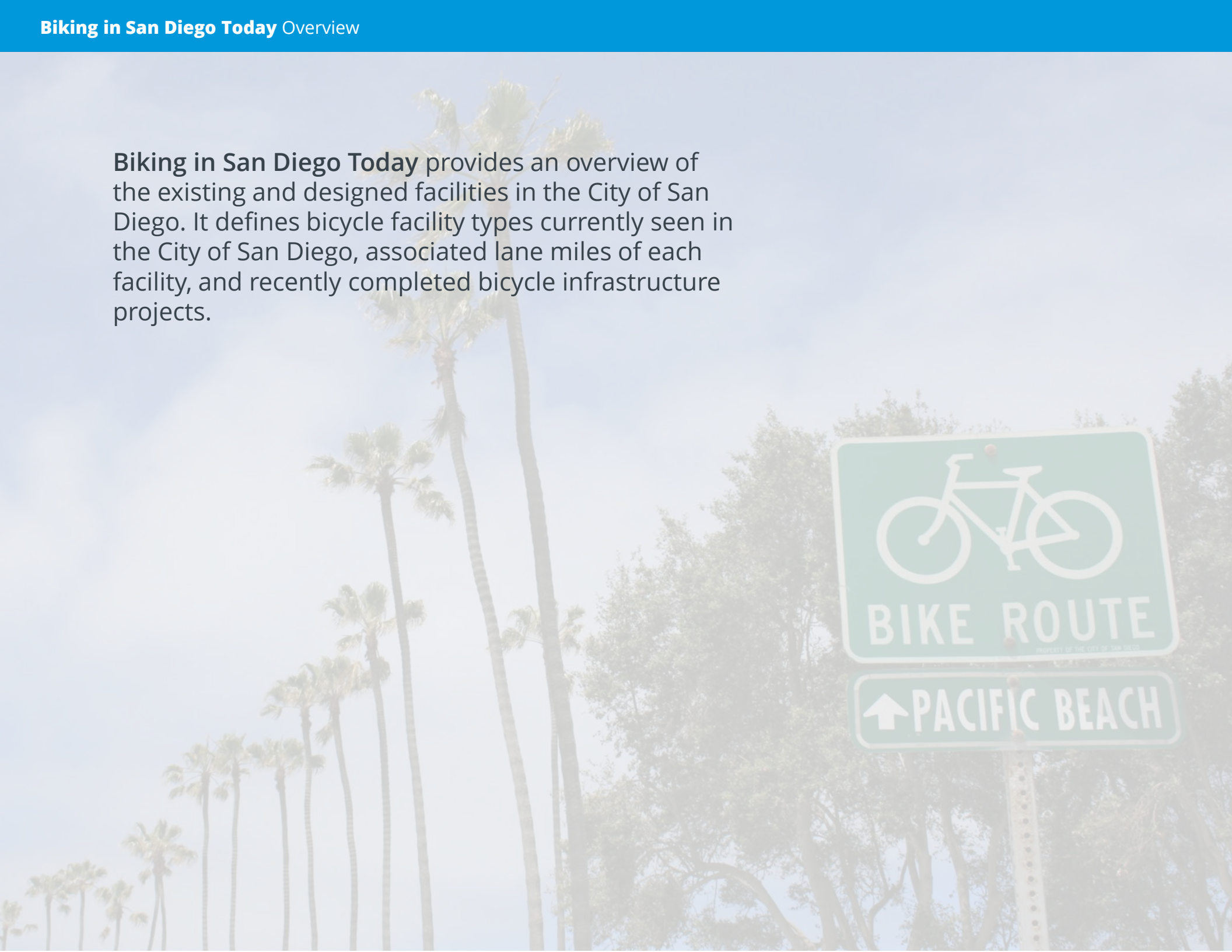


[1] Urban Bikeway Design Guide (NACTO, 2024)

Biking in San Diego Today

Bicycle Facility Types
Existing and Designed Facilities

Biking in San Diego Today provides an overview of the existing and designed facilities in the City of San Diego. It defines bicycle facility types currently seen in the City of San Diego, associated lane miles of each facility, and recently completed bicycle infrastructure projects.



There are five bicycle facility classifications in the City of San Diego.

BIKE PATH



Class I: Off-street paths exclusively for non-motorized users, separated from vehicle traffic. These provide safe connections, within roadway right-of-way or an exclusive right-of-way.
Facility Location: San Diego River Trail

BIKE LANE



Class II: On-street striped lanes for one-way bike travel, adjacent to vehicle lanes. Often enhanced with markings or signage, they are suitable for lower-speed roadways.
Facility Location: Fenton Parkway

BIKE ROUTE



Class III: Shared roadways with motor vehicles, marked with sharrows and signage. Best for low-speed, low-traffic streets, connecting to parks, schools, or other bike facilities.
Facility Location: Fashion Valley Road

BIKE BOULEVARD



Class III - Enhanced: Shared streets with additional traffic-calming features like speed humps or diverters. Designed for safe and low-stress cycling on residential or low-speed roads.
Facility Location: Landis Street

SEPARATED BIKEWAY

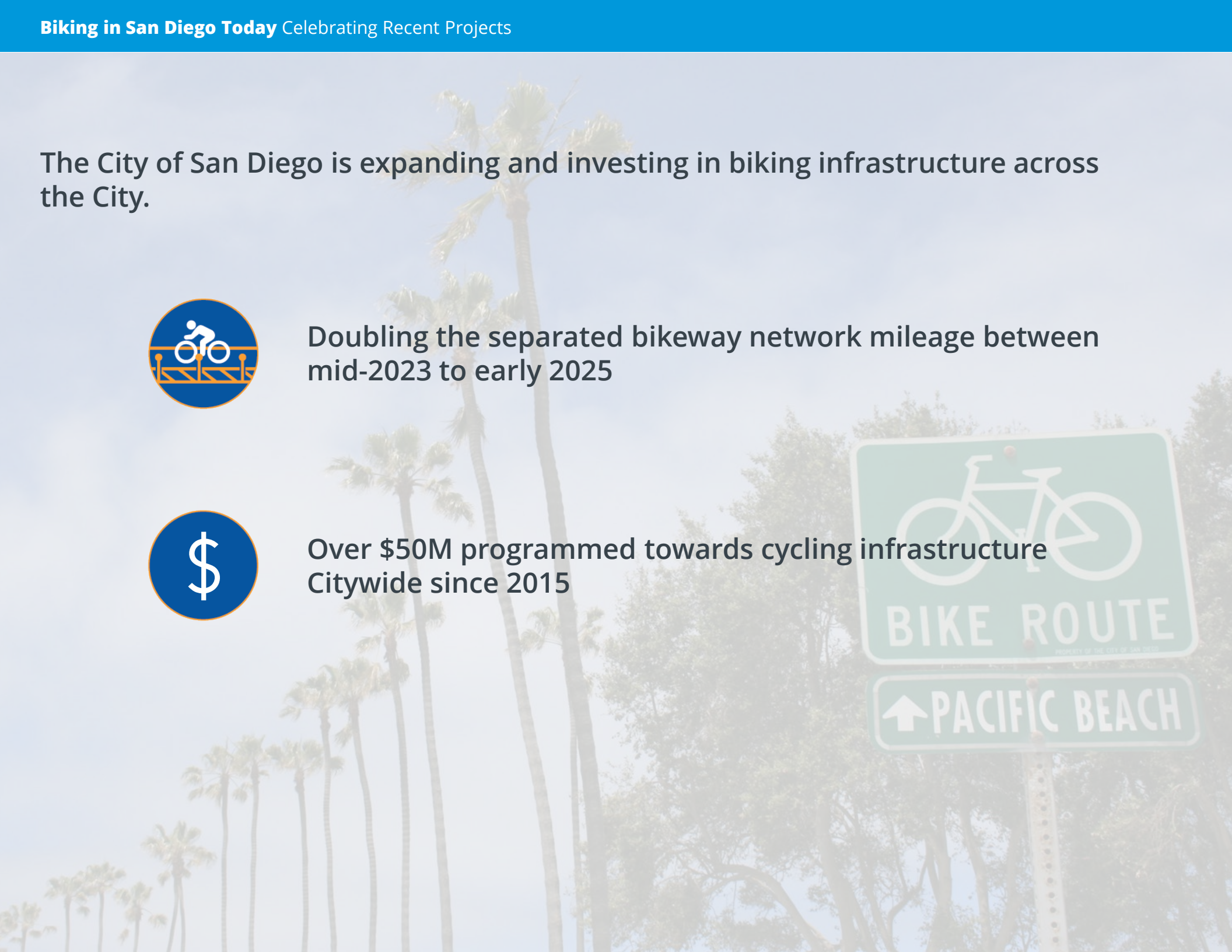


Class IV: Protected bike lanes separated from traffic by physical barriers like curbs or bollards. They provide a safe, comfortable option for riders of all ages and abilities.
Facility Location: Fifth Avenue

The City of San Diego is expanding and investing in biking infrastructure across the City.

Doubling the separated bikeway network mileage between mid-2023 to early 2025

Over $50M programmed towards cycling infrastructure Citywide since 2015



KEY TAKEAWAYS

1,287 miles of bike facilities

79 miles of Class I bike paths

759 miles of Class II bike lanes

137 miles of Class II bike lanes with buffer

251 miles of Class III bike routes

1 mile of Class III bike boulevards

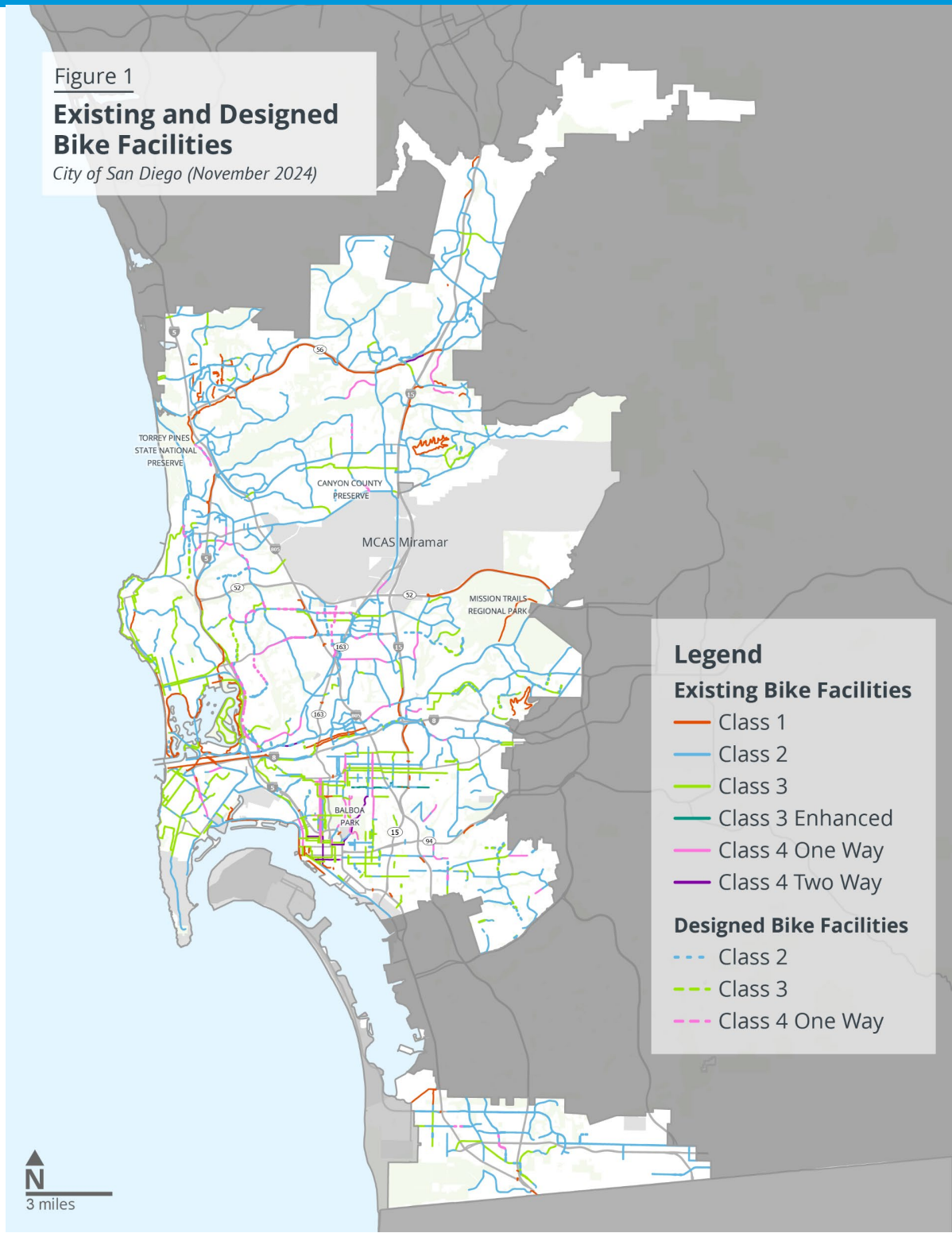
59 miles of Class IV bikeways

180 miles of designed bike facilities preparing for implementation

Figure 1

Existing and Designed Bike Facilities

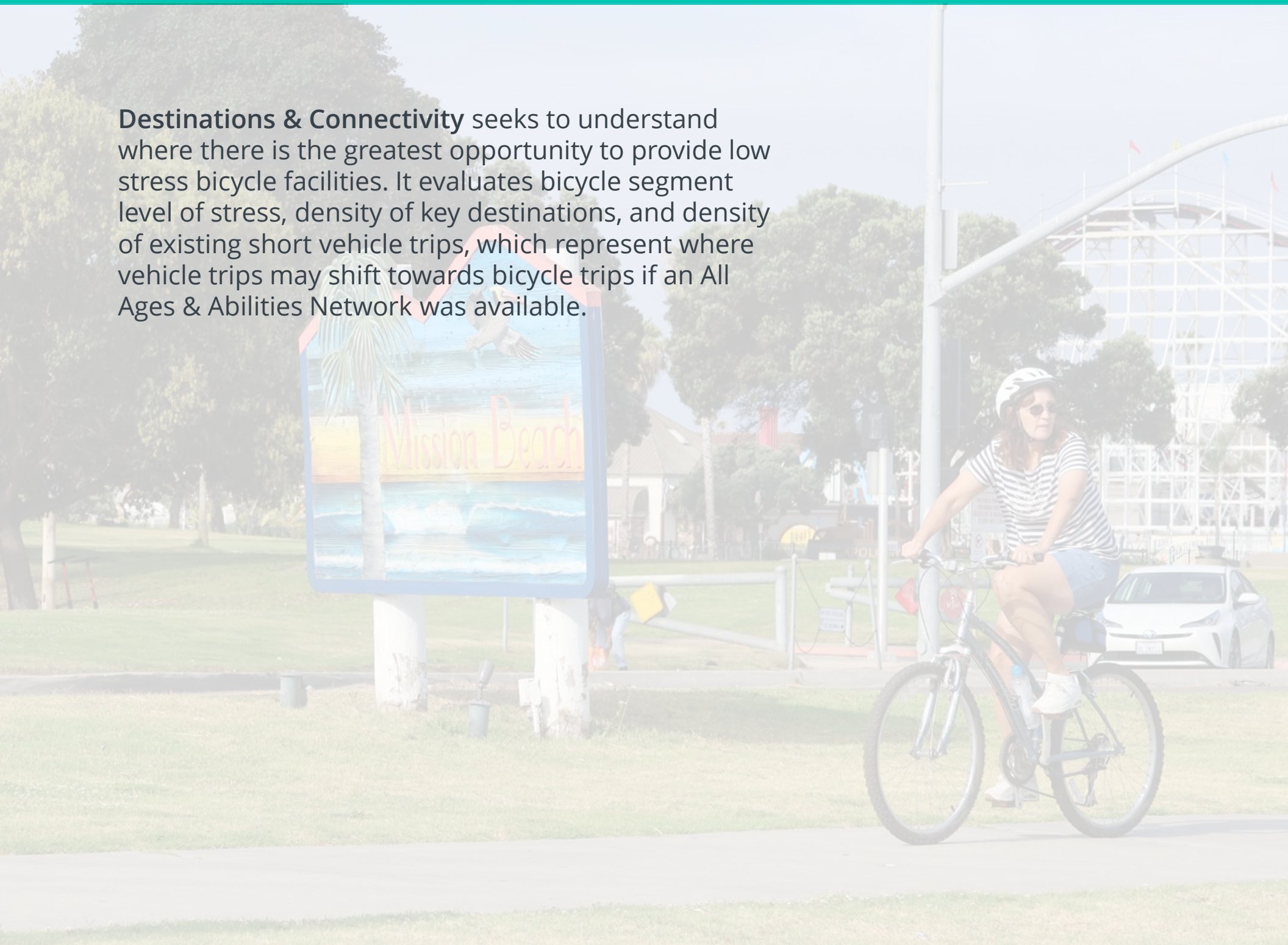
City of San Diego (November 2024)



Destinations & Connectivity

Bicycle Level of Traffic Stress
Stress & Connectivity
Short Trips & Destinations
Connectivity in Structurally Excluded Communities

Destinations & Connectivity seeks to understand where there is the greatest opportunity to provide low stress bicycle facilities. It evaluates bicycle segment level of stress, density of key destinations, and density of existing short vehicle trips, which represent where vehicle trips may shift towards bicycle trips if an All Ages & Abilities Network was available.



KEY TAKEAWAYS

68% of City's roadway network is considered low stress, with a low (≤2) Level of Traffic Streets score. This is mostly comprised of local streets with slow speeds and low volumes.

The following roadway classifications make up the largest share of high stress facilities, with a high (≥3) Level of Traffic Stress score:

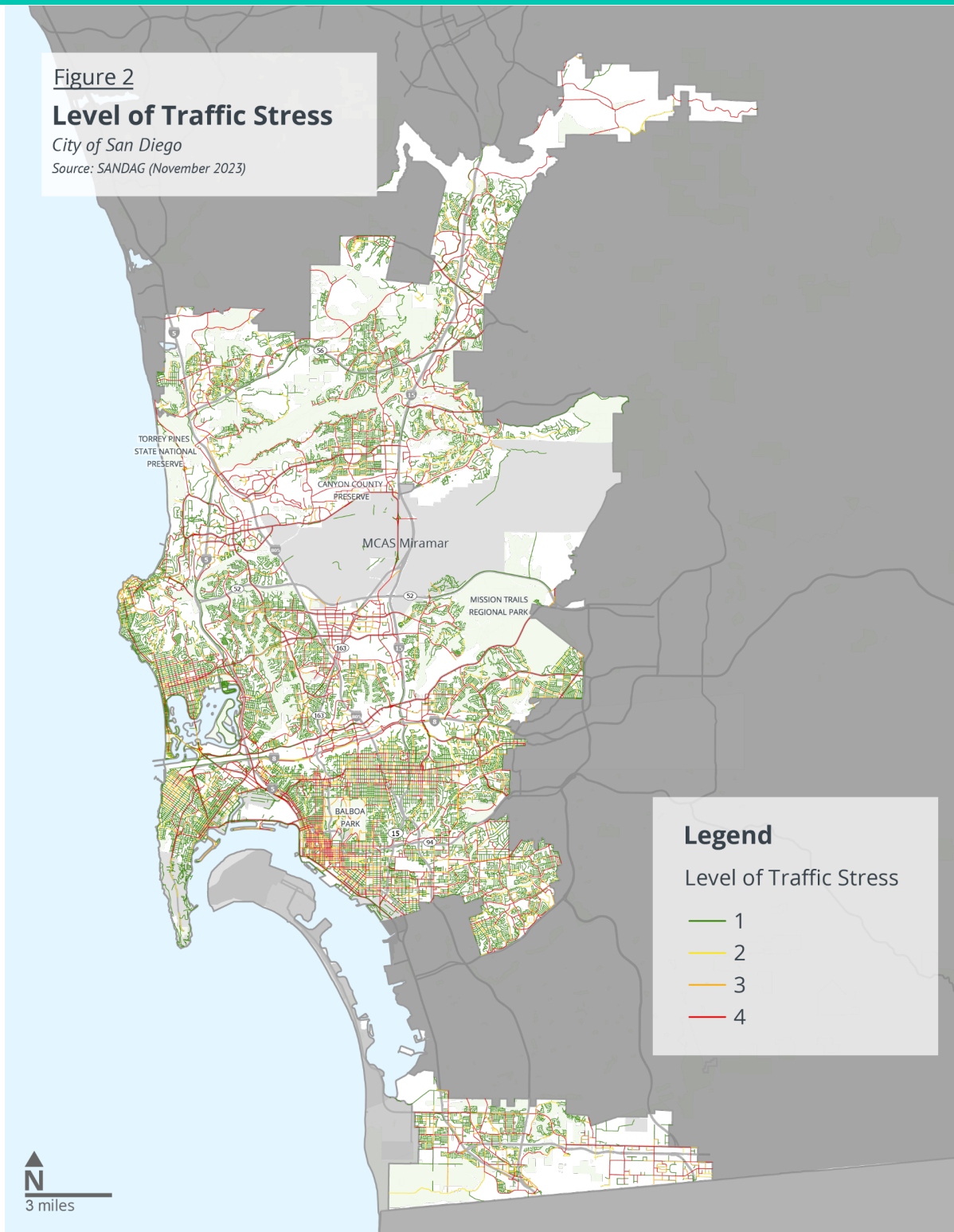
12% Local collectors
5% Collectors
11% Major Arterials

Figure 2

Level of Traffic Stress

City of San Diego

Source: SANDAG (November 2023)



KEY TAKEAWAYS

The Connectivity Analysis considered how accessible key destinations are from the surrounding areas on a low stress network.

Roadways were categorized accordingly:

High Connectivity and High LTS:
Roadway segments where there are many destinations near the segment, but the route is considered high stress.

High Connectivity and Low LTS:
Roadway segments where there are many destinations near the segment, and the route is considered low stress.

Low Connectivity and High LTS:
Roadways where there are few destinations near the segment, and the route is considered high stress.

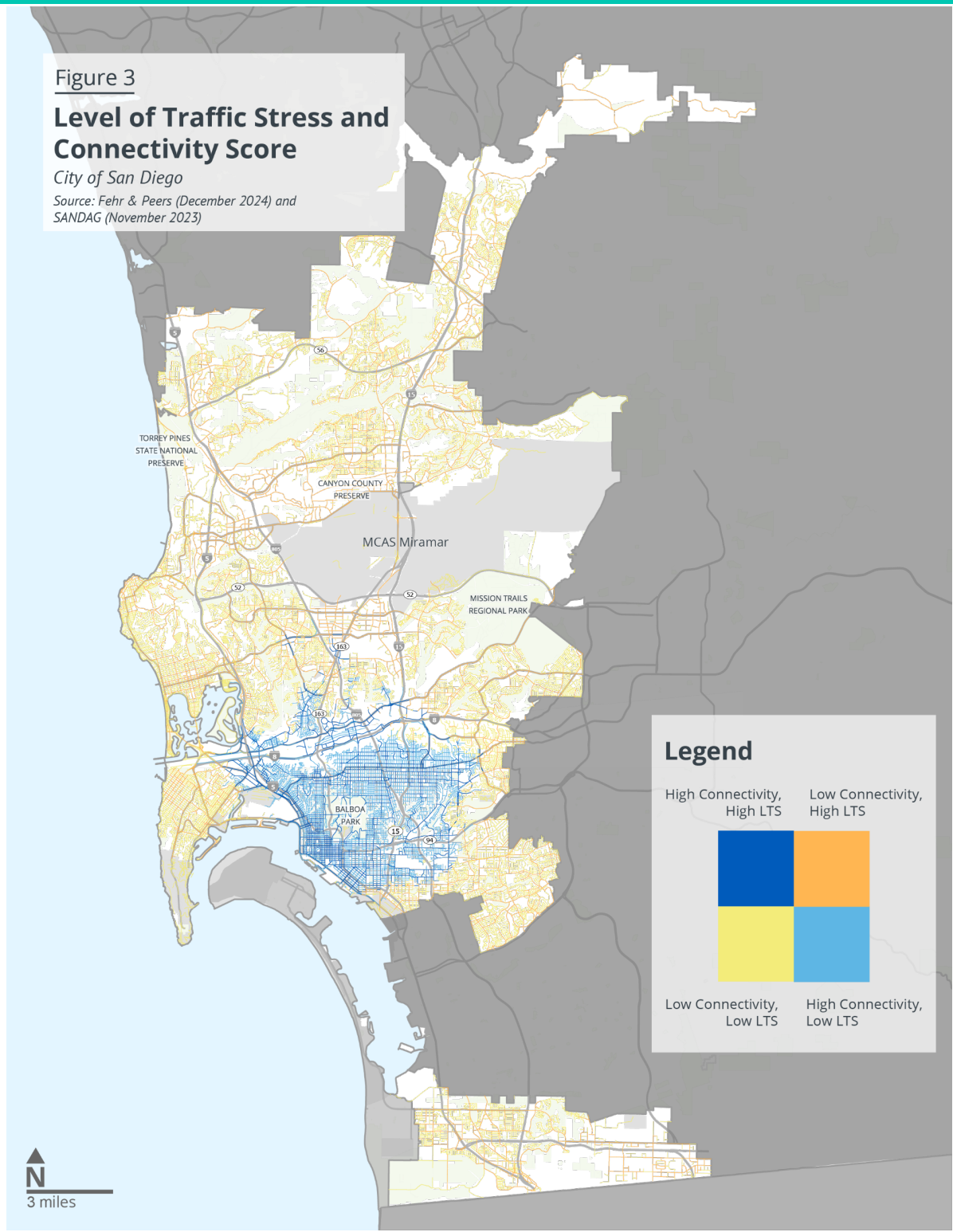
Low Connectivity and Low LTS:
Roadways where there are few destinations near the segment, but the route is considered low stress.

Figure 3

Level of Traffic Stress and Connectivity Score

City of San Diego

Source: Fehr & Peers (December 2024) and SANDAG (November 2023)

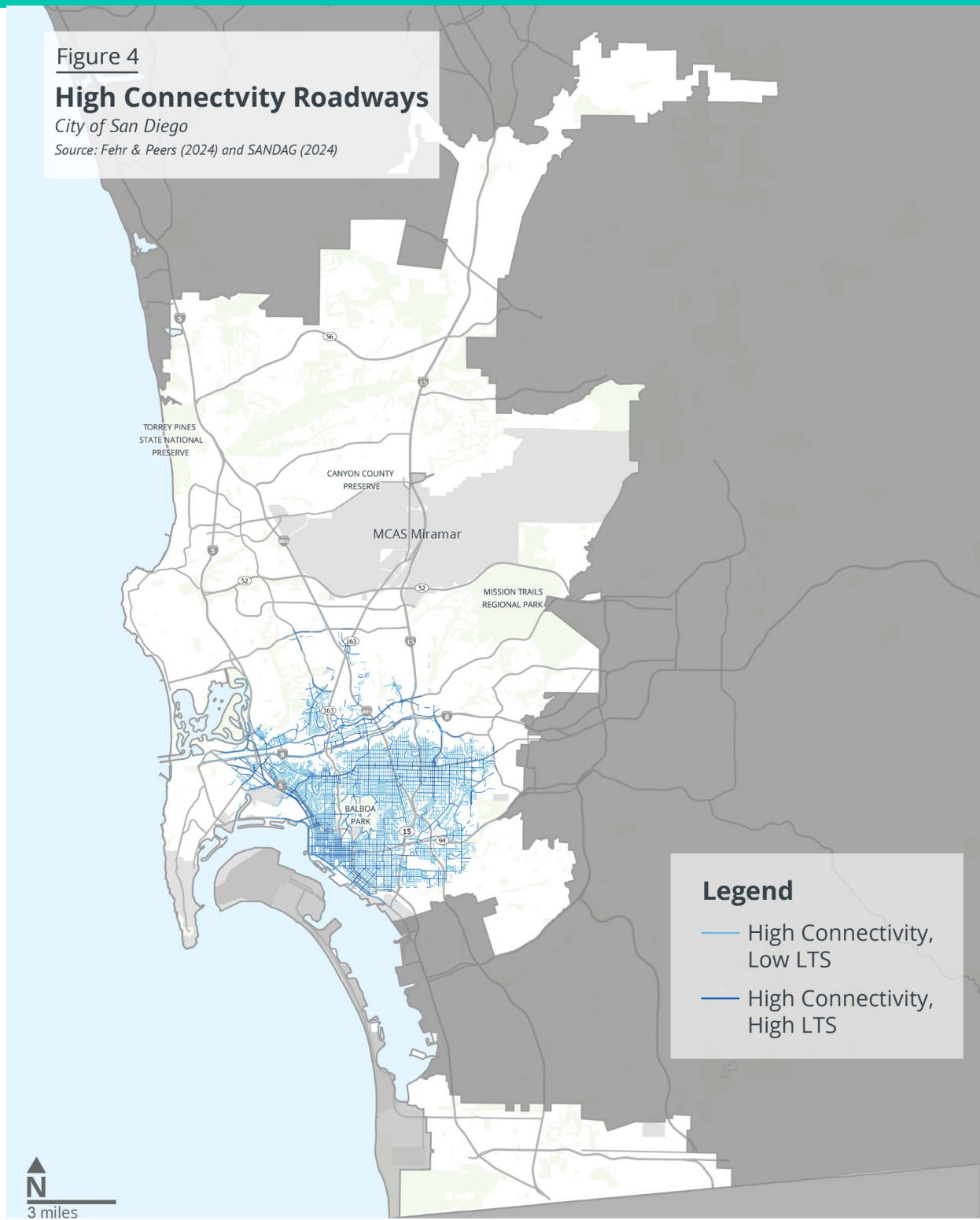


KEY TAKEAWAYS

High Connectivity, High LTS and High Connectivity, Low LTS roadways demonstrate the greatest opportunities to connect people to everyday destinations.

This highlights opportunities to enhance facilities on High Connectivity, High LTS segments or providing parallel facilities on low stress segments.

It also highlights where crossings of high stress streets may need additional traffic calming measures to ensure safety and comfort of a High Connectivity, Low LTS segment.



KEY TAKEAWAYS

Short Trips are defined as vehicle trips 3 miles or less.

Top 20% Weekday Short Trips illustrated on the right represents segments with the highest density of short vehicle trips.

These short vehicle trips **represent routes or areas with potential to become bike trips** with an all ages and abilities network.

Additionally, short vehicle trips represent key infrastructural needs within each community and in many cases represent short, intra-community trips.

Figure 5

Top 20% of Short Trips

City of San Diego

Source: Replica (Fall 2023), Fehr & Peers (December 2024), and SANDAG (Novemeber2024)

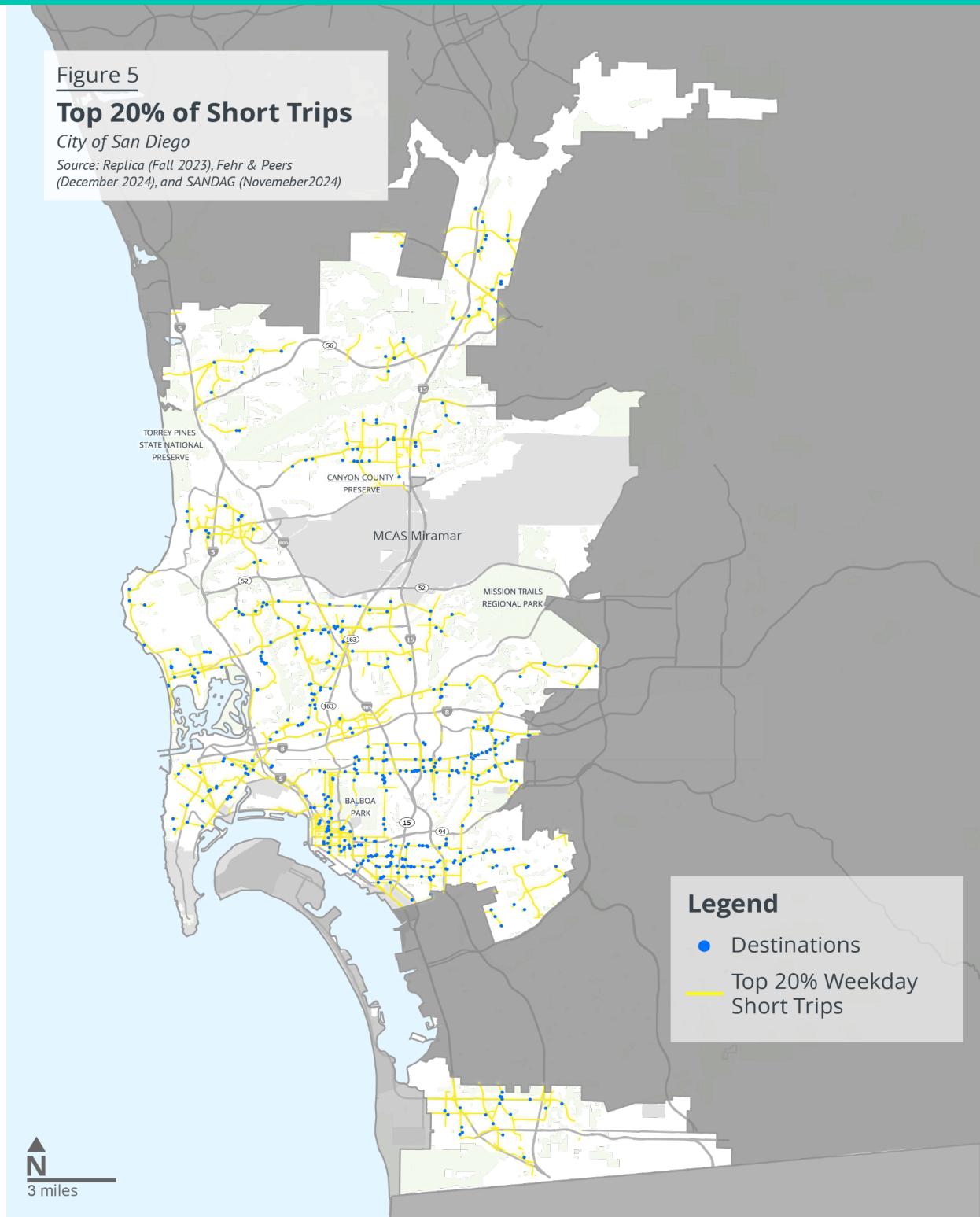
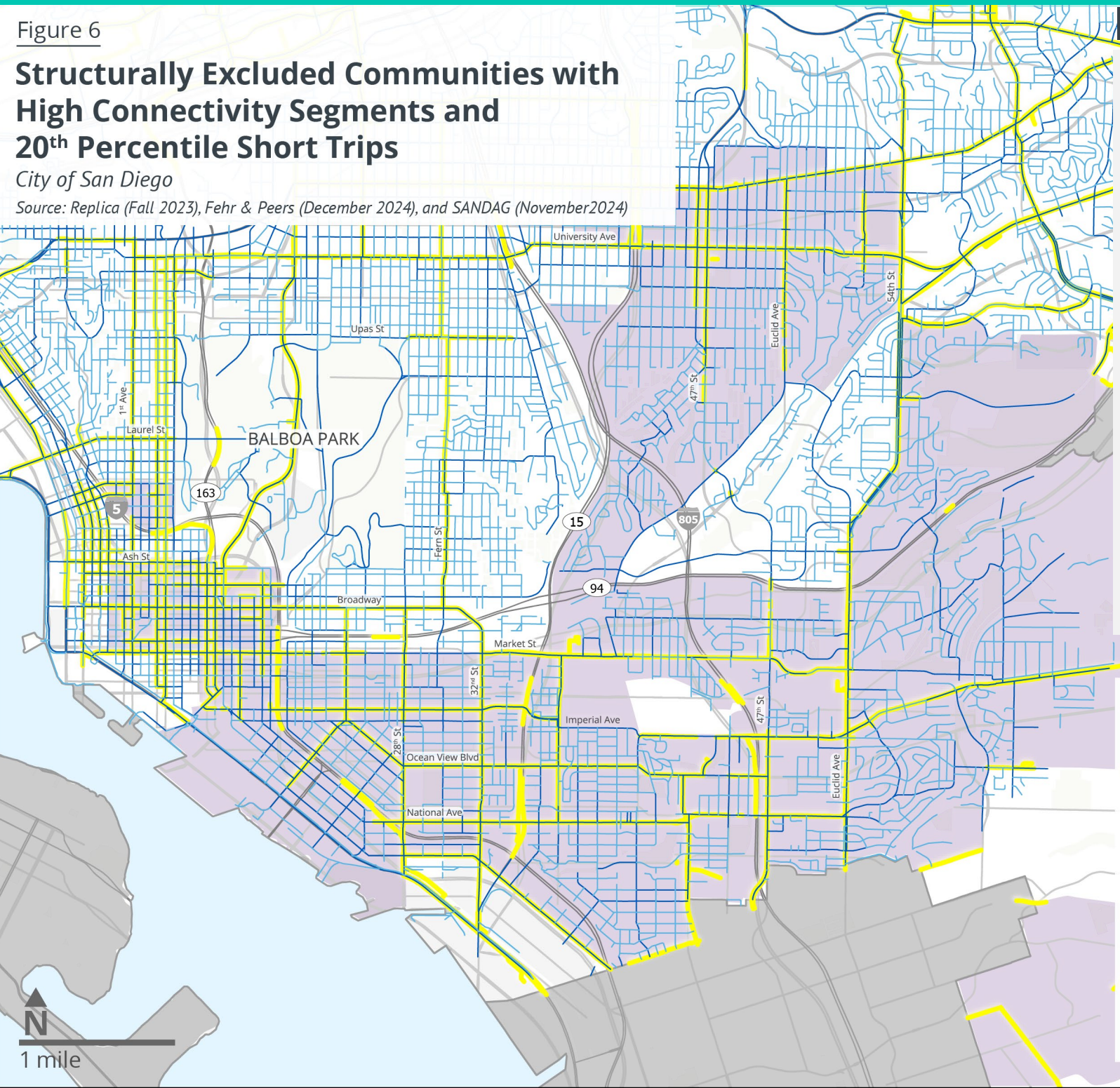


Figure 6

Structurally Excluded Communities with High Connectivity Segments and 20th Percentile Short Trips

City of San Diego

Source: Replica (Fall 2023), Fehr & Peers (December 2024), and SANDAG (November2024)



KEY TAKEAWAYS

"Structurally Excluded Communities" are defined as City of San Diego's Communities of Concern and those priority areas identified in the EJ Element.

The map illustrates the greatest opportunity for bicycle facilities to connect Structurally Excluded Communities to everyday destinations on a low stress network and roadways residents are most frequently using in their communities.

Legend

- Top 20% Weekday Short Trips
- High LTS, High Connectivity
- Low LTS, High Connectivity
- Structurally Excluded Communities

Bicycle Collisions

Bicycle Collisions summarizes information from 92 bicyclist-involved collisions in City of San Diego which resulted in either a severe or fatal injury between 2019 and 2023.

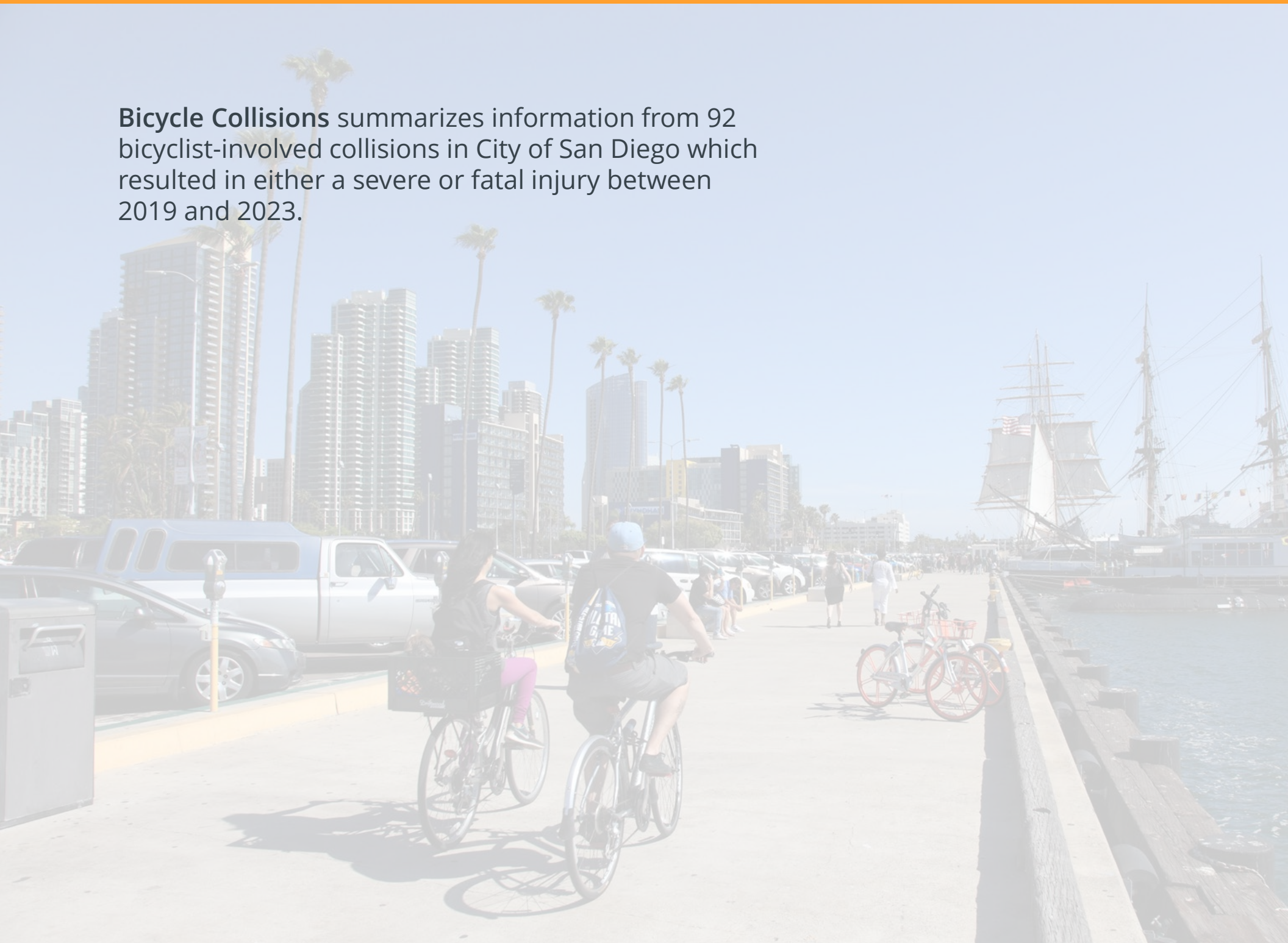


Table 1: Bicyclist-Involved Collisions per Year, 2019 to 2023

Year	Fatal Collisions[1]	Severe Injury Collisions[1]	Total Bicyclist Collisions[2]
2023	3	19	365
2022	2	16	323
2021	6	12	325
2020	3	9	324
2019	4	18	356
Total	18 (1.1%)	74 (4.4%)	1,693 (94.5%)
Mean per Year	**3.6**	**14.8**	**338.6**

Source: City of San Diego (2024) [1], SWITRS (2024) [2]

Collision Injury Definitions:

Fatal Injury: Resulted in fatality within 30 days of collision.

Severe Injury: Resulted in broken bones, laceration, or other serious impairments.

KEY TAKEAWAYS

Broadside crashes occurred in most collisions with motorists when a cyclist was at fault (57.5%).

Rear end collisions were the most common type of collision when the motorist was at fault (13 out of 31 instances) and the second most common type of collision when a cyclist was at fault (8 of 40 instances).

Rear end collisions were by far the leading cause of a fatal bicyclist-involved collision when a motorist was at fault.

Table 4: Collisions by Type of Impact and Party at Fault (Non-Solo Bicyclist Collisions)

Type of Impact	Bicyclist at-Fault	Bicyclist at-Fault, *Fatal Only*	Motorist at-Fault	Motorist at-Fault, *Fatal Only*	No Fault	No Fault, *Fatal Only*
Broadside	**57.5% (23)**	**33.3% (2)**	25.8% (8)	9.1% (1)	-	-
Rear End	20.0% (8)	**33.3% (2)**	**42.0% (13)**	**63.6% (7)**	-	-
Other	2.5% (1)	-	16.1% (5)	9.1% (1)	**100% (1)**	**100% (1)**
Sideswipe	12.5% (5)	**33.3% (2)**	6.5% (2)	9.1% (1)	-	-
Head-on	2.5% (1)	-	6.5% (2)	9.1% (1)	-	-
Overturned	2.5% (1)	-	3.2% (1)	-	-	-
Not Specified	2.5% (1)	-	-	-	-	-
Total	40	6	31	11	1	1

Bold values = modal category
Source: SWITRS (2024)

KEY TAKEAWAYS

Unsafe Left or Right Turns, Failure to Yield to Party with Right of Way, Unsafe Speeds, and Traveling on Wrong Side of Road are the most common violation types.

Unsafe Left or Right Turn is the most common violation category in fatal bicyclist involved collisions (33% of all fatal collisions).

Failure to Yield to Party with Right of Way is second most common violation category, though this type of violation was not present in any fatal collisions.

Traveling on Wrong Side of Road a common violation when a bicyclist is at-fault.

Table 5: Collisions by Type of Impact and Party at Fault (Non-Solo Bicyclist Collisions)

Violation Category	Combined Severe & Fatal	Bicyclist at-Fault	Non-Bicyclist at-Fault	No Fault	Fatal Collisions Only	Bicyclist at-Fault	Non-Bicyclist at-Fault	No Fault
Unsafe Left or Right Turn	**19.4% (14)**	17.5% (7)	**22.6% (7)**	-	**33.3% (6)**	**33.3% (2)**	**36.4% (4)**	-
Failure to Yield to Party w/ Right of Way	18.1% (13)	15.0% (6)	**22.6% (7)**	-	-	-	-	-
Unsafe Speeds	16.7% (12)	12.5% (5)	**22.6% (7)**	-	27.8% (5)	16.7% (1)	**36.4% (4)**	-
Traveling on Wrong Side of Road	16.7% (12)	**25.0% (10)**	6.5% (2)	-	5.5% (1)	16.7% (1)	-	-
Other Hazardous/Misc.	12.5% (9)	5.0% (2)	19.4% (6)	**100% (1)**	16.7% (3)	-	18.2% (2)	**100% (1)**
Disobeying Signals and Signs	11.1% (8)	17.5% (7)	3.2% (1)	-	-	-	-	-
Unsafe Lane Change	5.6% (4)	7.5% (3)	3.2% (1)	-	16.7% (3)	**33.3% (2)**	9.1% (1)	-
Total	72	40	31	1	18	6	11	1

Bold values = modal category
Source: SWITRS (2024)

KEY TAKEAWAYS

Midway-Pacific Highway and Kearny Mesa have the highest severe and fatal bicycling collisions per capita.

Balboa Avenue & Viewridge Avenue are the only locations with multiple severe injury collisions in the City.

Table 7: CPAs with the Most Fatal and Severe Bicyclist-Involved Collisions

Community Planning Area	Severe and Fatal Collisions	Severe Collisions	Fatal Collisions
Peninsula	9	9	0
Uptown	8	8	0
Downtown	6	4	2
University	5	4	1
Mid-City: Eastern Area	4	1	1
Skyline-Paradise Hills	4	2	2
Mission Bay Park	4	3	1
Linda Vista	4	3	1
La Jolla	4	3	1

Source: City of San Diego (2024) [1], SANDAG 2023 Estimates (2024) [2]

Gaps & Opportunities



Gaps & Opportunities identifies gaps between the existing and designed bicycle facility networks, highlighting key areas for new or enhanced facilities to make the most impact on the citywide network

Figure 7

Gaps in Existing & Designed Bicycle Facilities Network

North City of San Diego (as of November 2024)

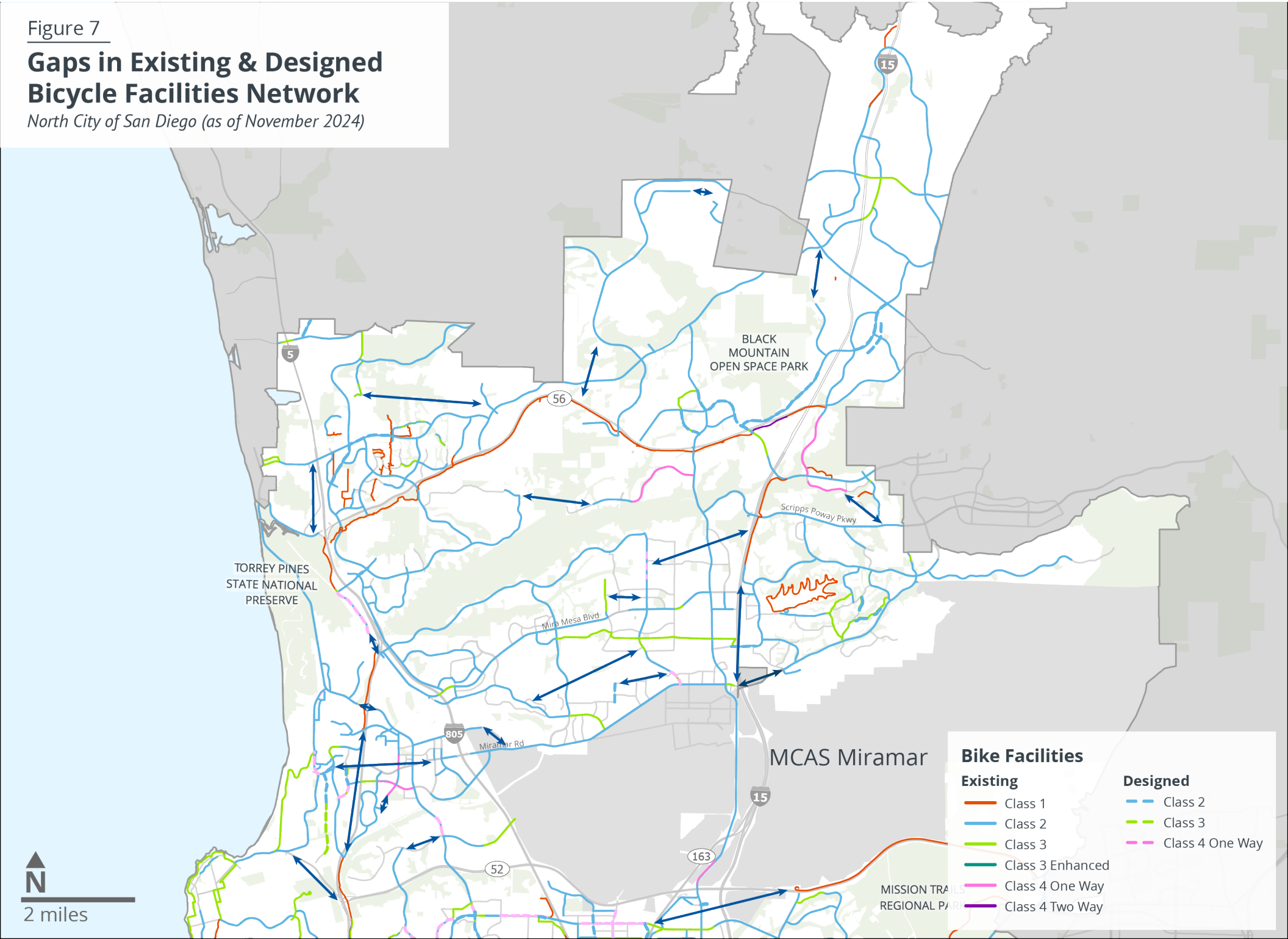


Figure 8

Gaps in Existing & Designed Bicycle Facility Network

Central North City of San Diego (as of November 2024)

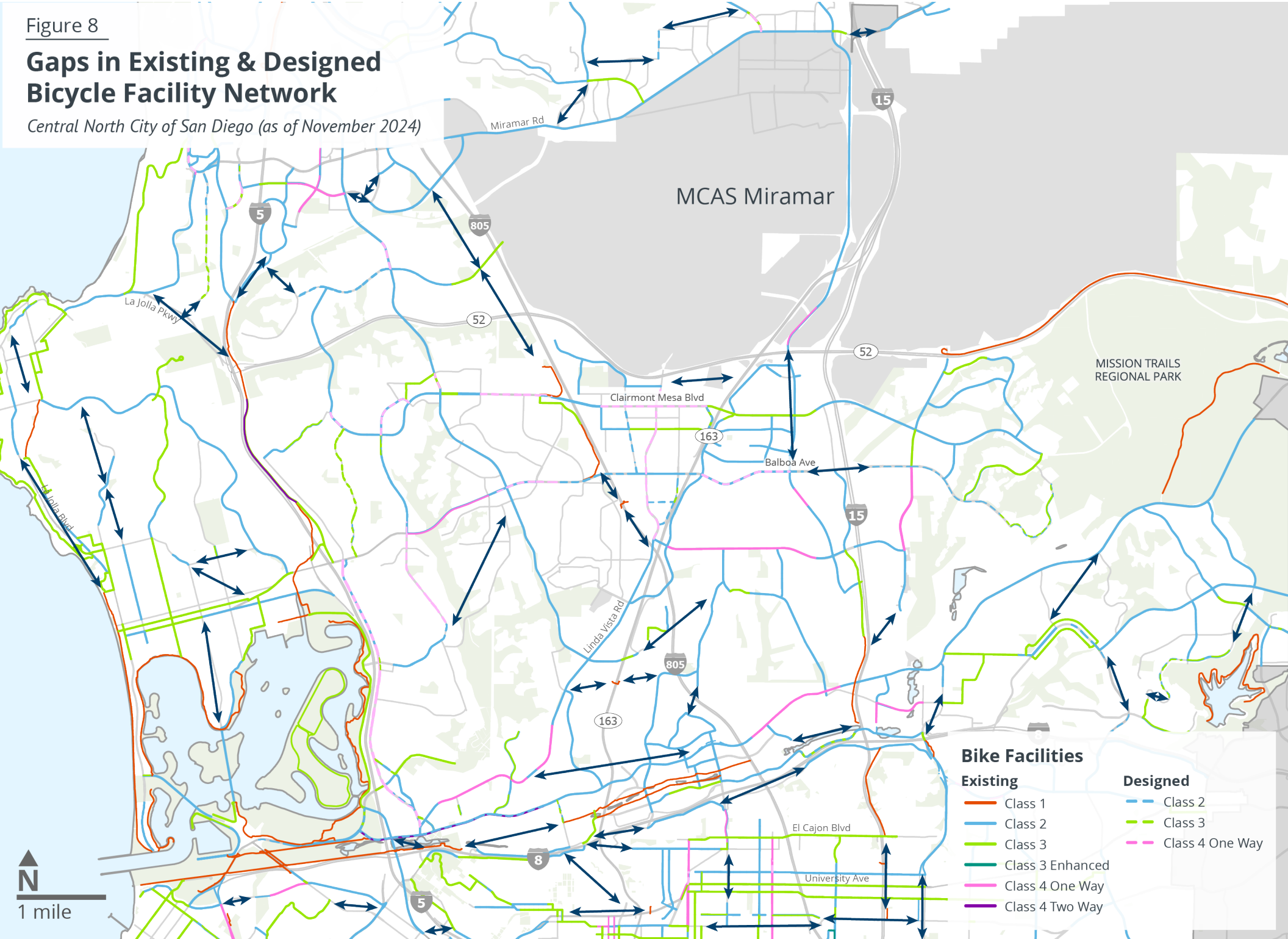


Figure 9

Gaps in Existing & Designed Bicycle Facilities Network

Central South City of San Diego

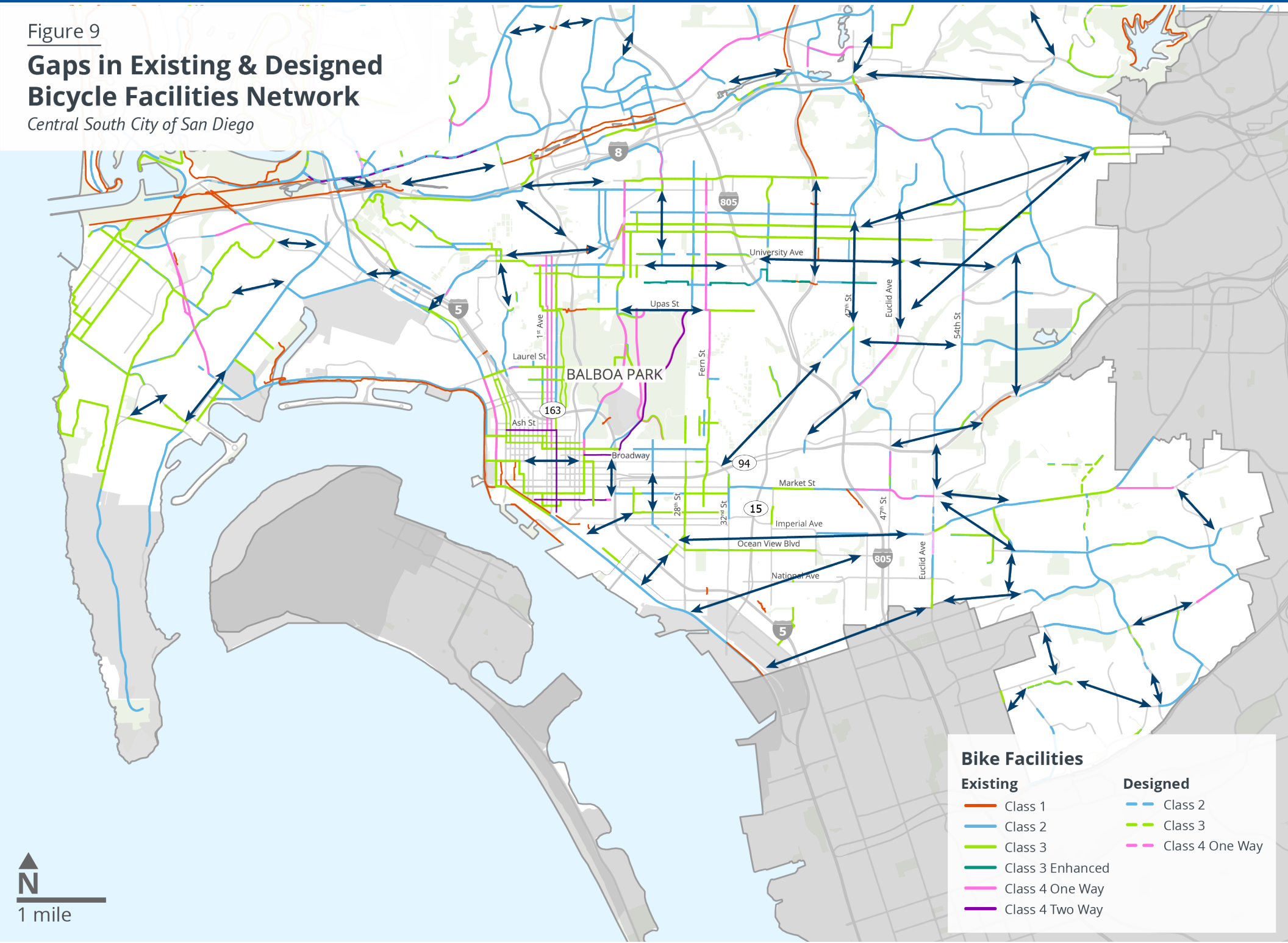
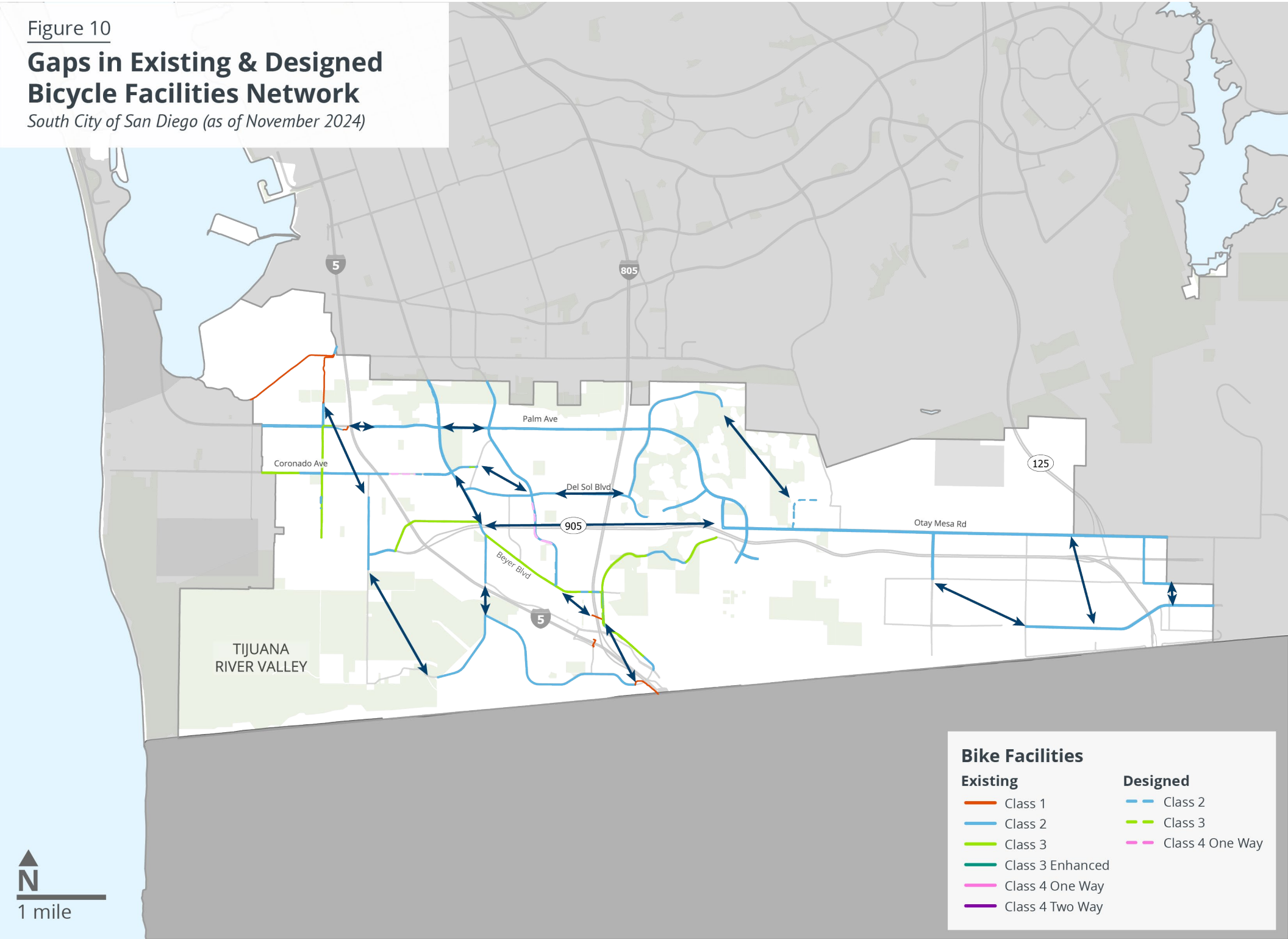


Figure 10

Gaps in Existing & Designed Bicycle Facilities Network

South City of San Diego (as of November 2024)



Next Steps and Opportunities for the BMPU Bicycle Network

- **Milestone in BMPU Progression:** This State of the Network document builds on the Best Practices Report and serves as a foundation for network development and implementation, which will be guided by strong community input.

- **Data-Driven Project Identification:** By layering multiple data sources—trip activity, connectivity, and community needs—we can pinpoint high-impact projects that maximize return on investment. Identifying gaps in existing facilities strengthens the case for safety improvements where demand is highest.

- **Implementation-Focused Approach:** The City has many roadways and previously planned facilities. The BMPU approach will focus on streamlining the process from design to construction, by leveraging maintenance projects and other action-oriented implementation efforts.

- **Targeting Key Areas:** High-need areas, including Structurally Excluded Communities (SECs), can benefit from external funding sources such as the Caltrans Active Transportation Program. Using destination and demand data, we can clearly demonstrate the need for bicycle facility investments and bridge connectivity gaps.


City of San Diego
Bicycle Master Plan Update

APPENDIX F

Connectivity Analysis



FEHR PEERS

Memorandum

Date: November 8, 2024 *(revised 2/4/2025)*

To: City of San Diego

From: Fehr & Peers, Angelica Rocha, Amir Sadeghi, Katy Cole, and Kendra Rowley

Subject: City of San Diego Bike Master Plan Update (BMPU) - Connectivity Analysis Methodology

SD24-0523

Introduction

As a part of the City of San Diego (herein referred to as "the City") Bike Master Plan Update (BMPU), a connectivity analysis was conducted to identify locations within the City where bicycle facilities and network enhancement can provide the greatest connectivity to everyday destinations. The analysis results highlight segments with high levels of connectivity to a variety of destinations or attractions via low stress bicycling facilities, and parts of the City that may have high levels of destinations or attractions, but along high-stress facilities.

Based on feedback from the City Project Team and Technical Working Group, the connectivity analysis considered how accessible a variety of key destinations are from the surrounding areas (or travel sheds). The following destination types were used to understand where travel access and connectivity via low stress bicycle networks should be prioritized:

- ***Schools:*** Public and private grade schools as well as colleges and universities.
- ***Parks****:* Access points to neighborhood and regional parks, beaches, and amusement parks.
- ***Transit Stops:*** Bus, light rail, commuter rail, and regional rail stops.
- ***Libraries:*** Public libraries
- ***Shopping Areas:*** A group of stores (including grocery stores, convenience stores, drug stores, etc.) and services as well Business Improvement Districts.
- ***Jobs:*** Number of jobs per census block.

The connectivity analysis assumed an average biking speed of 10 miles per hour, meaning the analysis assumed the average person will travel five miles on their bicycle in 30 minutes. While

actual speeds may vary from person to person, this average was selected for planning purposes and aligns with best practices for considering all ages and abilities. For each destination type, three travel sheds were assessed and scored. Bike trips within each travel shed were assigned to all roads with or without bike facilities (since bicyclists could presumably share the road with vehicles).

Analysis Inputs

The analysis inputs included network features, destination types (represented by centroids/points), and Bicycle Level of Traffic Stress (LTS). Each data source is described below.

Network Features

The "Roads_All" layer network, downloaded from SanGIS, was used to create the bike traversable network. It was assumed that bicycles are allowed to traverse any road, with or without bike facilities. The network was set up to prohibit bicycles from traveling on roadways of the following functional classes:

- 1; Freeway to freeway ramp
- E; Expressway
- F; Freeway
- R; Freeway/expressway on/off ramp
- M; Military street within base

Destination Types

Destination Types are comprised of specific land uses or places that attract people and generate trips. See **Table 1**Table 2 for the destination types selected and their sources. Destination types were selected to represent everyday places where people may currently bike to or would more likely bike to if they could get to the destination on a low stress bicycle network.

Table 1: Data Sources for Destination Types

Destination Type	Layer Name	Source
Schools	Schools	SanGIS
	Colleges_SG	SanGIS
Parks	Park_Access_Points	City
	Places; Type field filtered to Amusement Park	SanGIS
Transit Stops	Transit_Stops_GTFS	SanGIS
Libraries	Places; Type field filtered to Library.	SanGIS
Shopping Areas	Places; Type field filtered to Shopping Center	SanGIS
	Two Manual Additions:* 1. One Paseo, 3275 Paseo Pl 2. 3239-45 El Cajon Blvd	Google and Fehr & Peers
	Business Improvement Districts**	SanGIS
Jobs per Census Block	OnTheMap (Census Blocks)	US Census Bureau

Source: Fehr & Peers (2024)
*Represents Shopping Centers not included in the SanGIS Database but are key neighborhood destinations for their communities. Centroids were manually added by Fehr & Peers Staff.
** In creating point features from the Business Improvement Districts polygon layer, one point of interest (POI) was assigned for every 2 million square feet of the polygons. This assignment approach was based on the approximate area of the Ocean Beach Business Improvement District, the smallest improvement district, ensuring the points accurately represent the size of each district.

Bicycle Level of Traffic Stress

Bicycle Level of Traffic Stress (LTS) is an analysis used to evaluate how comfortable and safe the transportation network feels for bicyclists. LTS maps the suitability of bicycles for streets and off-

street paths by assigning a score of 1-4 to all segments. The four-category scale ranges from LTS 1 (lowest stress) to LTS 4 (highest stress). See **Table 2** for more information on LTS scoring.

LTS data was provided by San Diego Association of Governments (SANDAG) who performed this analysis at the regional scale as part of the recent Regional Vision Zero Action Plan. The LTS analysis was completed in November 2023. The City conducted LTS analyses for recent Community Plan Updates, but had only analyzed select neighborhoods at the time of the BMPU. The Fehr & Peers Project Team spot-checked the City's community-specific LTS scores against LTS regional scores and found them aligned, confirming applicability of the SANDAG LTS data set for use at the City scale.

Variables used by SANDAG to define Bicyclist Segment LTS include:

- Annual Average Daily Traffic
- Posted Speed Limit
- Number of Lanes Per Direction
- Directionality (One-way vs. Two-way)
- Presence of Centerline Yes No
- On-street Parking (Presence and Width)
- Dedicated Facilities (Bicycle Facility Type and Width)

Table 2: Four-Category LTS Score and Supportive Descriptions

LTS Score	Description	Bicyclist User Type
LTS 1	Minimal traffic stress, suitable for nearly all ages and abilities, including children trained for intersections. Cyclists are physically separated from traffic or in an exclusive bike zone alongside slow, single-lane traffic. Shared roads feature occasional low-speed motor vehicles, and intersections are easy to navigate.	All Ages and Abilities
LTS 2	Low traffic stress, appropriate for most cyclists, but requires more attention than segments with LTS 1. Cyclists are separated from traffic, in exclusive bike lanes, or on shared roads with low-speed vehicle interaction. Crossings are straightforward, and bike lanes at right-turn areas provide clear priority for cyclists. Crossings are not difficult for most adults.	Interested by Concerned

LTS 3	Moderate traffic stress, acceptable to experienced urban cyclists. Cyclists have dedicated lanes next to moderate-speed traffic or share lanes on lower-speed, non-multilane streets. Crossings may be longer or involve mixing with vehicles operating at moderate speed, but still considered acceptably safe to most adults.	Enthused and Somewhat Confident
LTS 4	High traffic stress, suitable only for a small portion of cyclists. This level involves riding alongside higher-speed, high-volume traffic with minimal or no separation, appealing mainly to highly experienced riders.	Strong and Fearless / Highly Confident

Source: Almdale, Schoner, and Sanders (2023) *Working toward an improved representation of Level of Traffic Stress, comfort, and systemic safety risk factors for people walking, biking, and rolling – Draft,* page 2

Analysis Process

The connectivity analysis was conducted using the following steps:

- ***Step 1:*** Develop bicycle travel sheds for all destinations by destination type
- ***Step 2:*** Calculate a "travel shed score" for each roadway segment within the travel shed of a destination, by destination type
- ***Step 3:*** Calculate a normalized segment score by destination type between 0-1
- ***Step 4:*** Combine each destination type's normalized segment score to arrive at the "connectivity score" for each segment. Since there are six (6) destination types, the maximum score for any segment is 6.[1]

Steps 1 through 4 are described in detail in the sections below.

Step 1: Develop Travel Sheds for all Destinations

Three bicycle travel sheds for all destinations were developed using ArcGIS Pro, assuming a 10 mile per hour (mph) travel speed for bikes. The three travel sheds included: 0-5 minutes, >5-15 minutes, and >15-30 minutes. See **Figure 1** for an example travel shed developed for a library destination.

[1] Note that all roadway segments received a score for each destination type between 0-1. The scores are then summed up for the six (6) destination types. This process represents equal weight placed on each destination type. It is possible to weight destination types differently if community values indicate a higher emphasis is placed on a certain destination type.

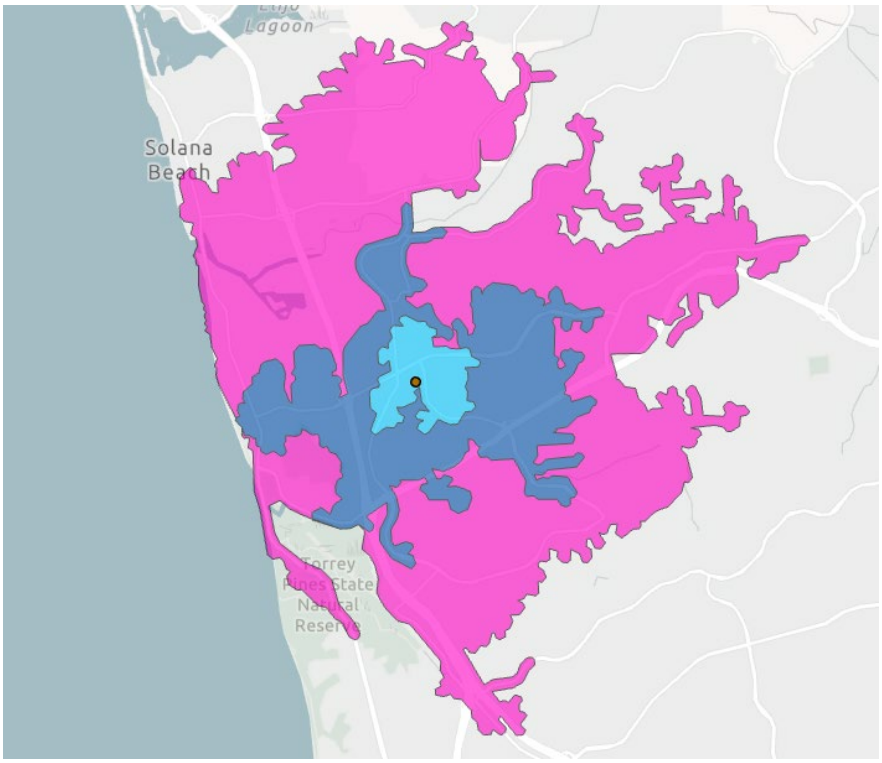


Figure 1: Example of the Bicycle Travel Sheds for Carmel Valley Library, Light Blue = 0-5 minutes, Dark Blue = >5-15 minutes, and Magenta = >15-30 minutes

The three travel sheds were developed for all destination points within each destination type. For destinations that are schools, parks, transit stops, libraries, and shopping areas, the travel sheds are drawn around the land use centroid. For jobs, the travel shed is drawn around any census block that contains at least one job. The number of jobs within the census block is also a critical input, and is accounted for in Step 2.

Step 2: Travel Shed Scores by Destination Type

The next step was performed for each destination type separately. Since there are many destinations for each destination type, there are many travel sheds that overlap one another.

For each individual destination (in the schools, parks, transit stops, libraries, and shopping area types), the roadway segments within that destination's travel shed were assigned a travel shed score as follows:

Travel Shed Score for Each Destination (except jobs):

- 0 – 5 minutes travel shed = All segments within a 5-minute travel shed are assigned a Travel Shed Score of 3

- >5 – 15 minutes travel sheds = All segments within the greater than 5 – 15-minute travel shed are assigned a Score of 2
- >15 – 30 minutes travel sheds = All segments within the greater than 15 – 30-minute travel shed are assigned a Score of 1

Travel Shed Score (for jobs):

For jobs, the travel sheds were drawn around any census block that has at least one job. The travel shed scores are weighted and assigned based on the number of jobs in the census block. A weighted connectivity score was calculated based on total employment of each census block. For example, a census block with 100 total jobs would be scored as follows:

- 0 – 5 minutes travel shed = All segments within a 5-minute travel shed are assigned a Travel Shed Score 300
- >5 – 15 minutes travel sheds = All segments within the greater than 5 – 15-minute travel shed are assigned a Score 200
- >15 – 30 minutes travel sheds = All segments within the greater than 15 – 30-minute travel shed are assigned a Score 100

In other words, the score reflects the number of jobs within the Census Block multiplied by 3, 2, or 1, for each respective travel shed.

Step 3: Calculate Normalized Segment Score

For each destination type, the travel shed scores were summed for each individual road segment in the network. Because there are numerous destinations within each destination type, an individual roadway segment likely falls into travel sheds for several destinations within the same destination type, receiving points for each travel shed.

For illustration, consider a segment near multiple shopping area destinations. Suppose that the segment is within travel sheds of 20 shopping area destinations, resulting in the following travel sheds:

- Within 0-5 travel sheds = 5 destinations
- Within >5-15 travel sheds = 5 destinations
- Within >15-30 travel shed for 10 destinations

The process of calculating the travel shed score for this segment is described in **Table 3**.

Table 3: Travel Shed Score for Process for Described Example

Travel Shed	Score for each Destination in Travel Shed		Quantity of Destinations within Travel Shed		Total Travel Shed Score
0-5 mins	3	*	5	=	15
>5-15 mins	2	*	5	=	10
>15-30 mins	1	*	10	=	10
			Travel Shed Score		35

Source: Fehr & Peers (2024)

In this example, the segment would receive a shopping area destination type total travel shed score of 35.

Once this summation process is complete for all segments by destination type. The total score is normalized by dividing the total travel shed score by the maximum travel shed score for each destination type to arrive at a score between 0-1.

Continuing with the example above, suppose the highest individual segment travel shed score is 100 for the shopping area destination type, then the example segment above would have a normalized score of 35/100=0.35. All segments are assigned a normalized score for each destination type.

Step 4: Calculate the Connectivity Score

To calculate the connectivity score for each roadway segment, the normalized travel shed scores for each destination type are summed. Since there are six (6) destination types, connectivity scores range is between 0-6. This process represents equal weight placed on each destination type. It is possible to weight destination types differently if community values indicate a higher emphasis is placed on a certain destination type, however, for this process each destination type was assigned equal weight and importance.

To understand how this process is applied to a segment, see example below:

For illustration, consider an individual road segment in the network may have received the following normalized scores by destination type:

Table 4: Normalized Score by Destination Type for Described Example

Destination Type	Normalized Score
Schools	0.1
Parks	0.1
Transit Stops	0.8
Libraries	0
Shopping Areas	0.25
Jobs per Census Block	0.5
Total Connectivity Score	**1.75**

Source: Fehr & Peers (2024)

In this example, the sample roadway segment has a connectivity score of 1.75 out of a total of 6.

Analyzing Connectivity By LTS

A primary purpose of developing connectivity scores for roadway segments is to understand which segments provide connections to high levels of (or many) everyday destinations and to what extent people can bicycle to those destinations. Bicycle LTS provides insight into how comfortable a roadway segment is to bicycle on. Ideally, roadways that have high levels of connectivity would also be comfortable to bicycle on. This combination of high connectivity and high comfort (LTS 1 or 2) results in bicycling being a viable travel option and encourages bicycling.

High LTS (or uncomfortable bicycle conditions) was defined as LTS greater than 2, and low LTS (comfortable bicycle conditions) was defined as less than or equal to 2.

High connectivity was defined as a connectivity score above average (3), and low connectivity as a score below average.

Segments were sorted into one of four categories:

- **High Connectivity and High LTS**: Roadway segments where there are many destinations near the segment, but the route is uncomfortable.
- **High Connectivity and Low LTS**: Roadway segments where there are many destinations near the segment, and the route is comfortable.
- **Low Connectivity and High LTS**: Roadways where there are few destinations near the segment, and the route is uncomfortable.
- **Low Connectivity and Low LTS:** Roadways where there are few destinations near the segment, but the route is comfortable.

In general, improving the LTS in the high connectivity/high LTS category would likely result in the greatest shift from driving to bicycling and elevate bicycling as a viable transportation option for the most people to reach everyday destinations.

Figures 2 through 4 illustrate citywide Connectivity scores, LTS scores, and LTS/connectivity score maps, respectively.

Next Steps

The purpose of this analysis is to identify locations in the City where bicycle facilities and network enhancements can provide the greatest connectivity to everyday destinations. The analysis highlights segments with high connectivity to destinations and identifies if there is a low stress network available to access these areas.

As part of the next steps, the Project Team will be evaluating the connectivity analysis with network facility layers, such as existing, designed, and planned, to understand gaps and opportunities in the current network. The primary intent will be to understand if areas with high connectivity are accessible via a low stress network, either along the high connectivity segment or via a low stress parallel street. A preliminary evaluation will be performed as part of the State of the Network, with a more formal process developed as part of the network development included as part of Phase 2.

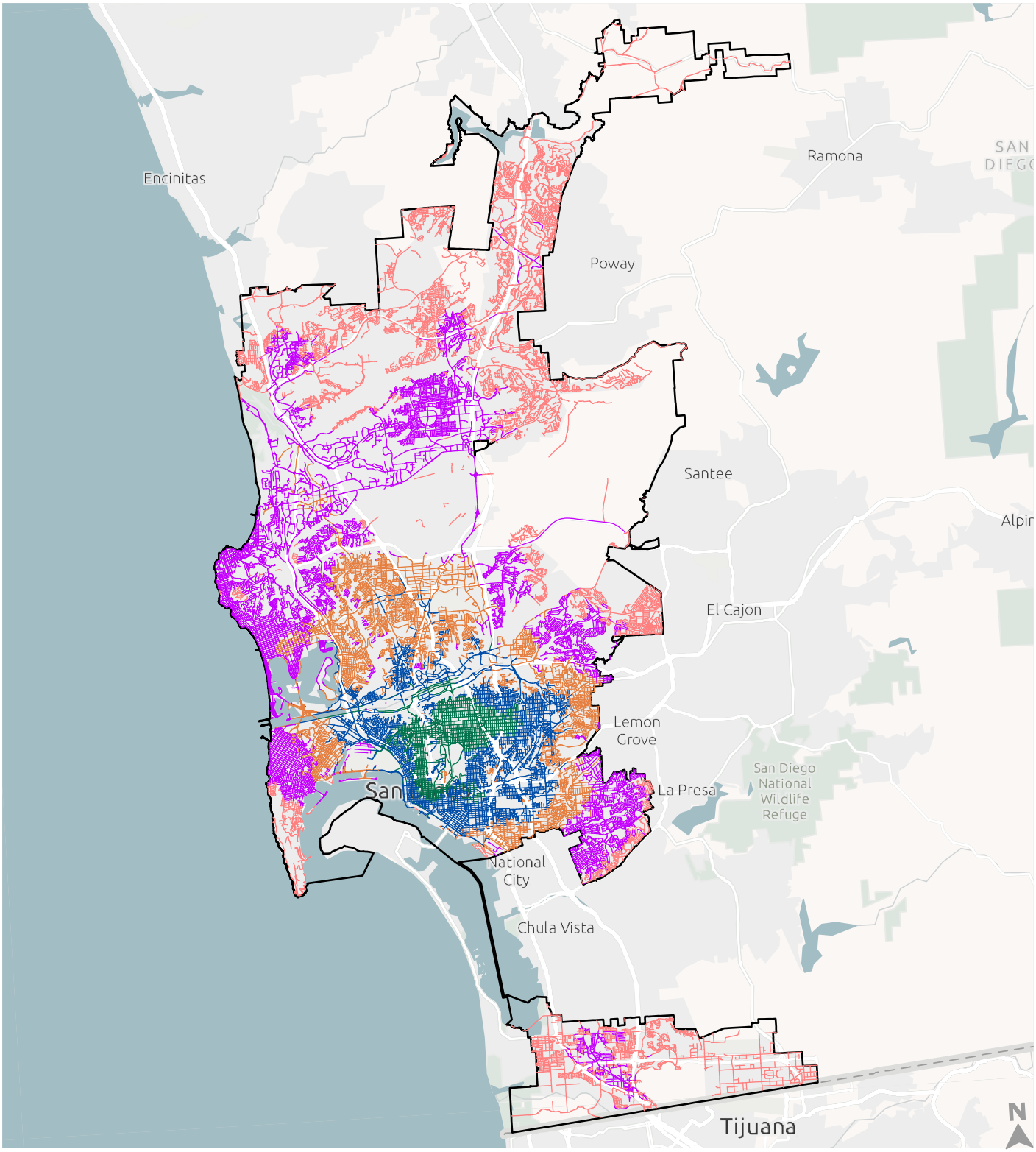
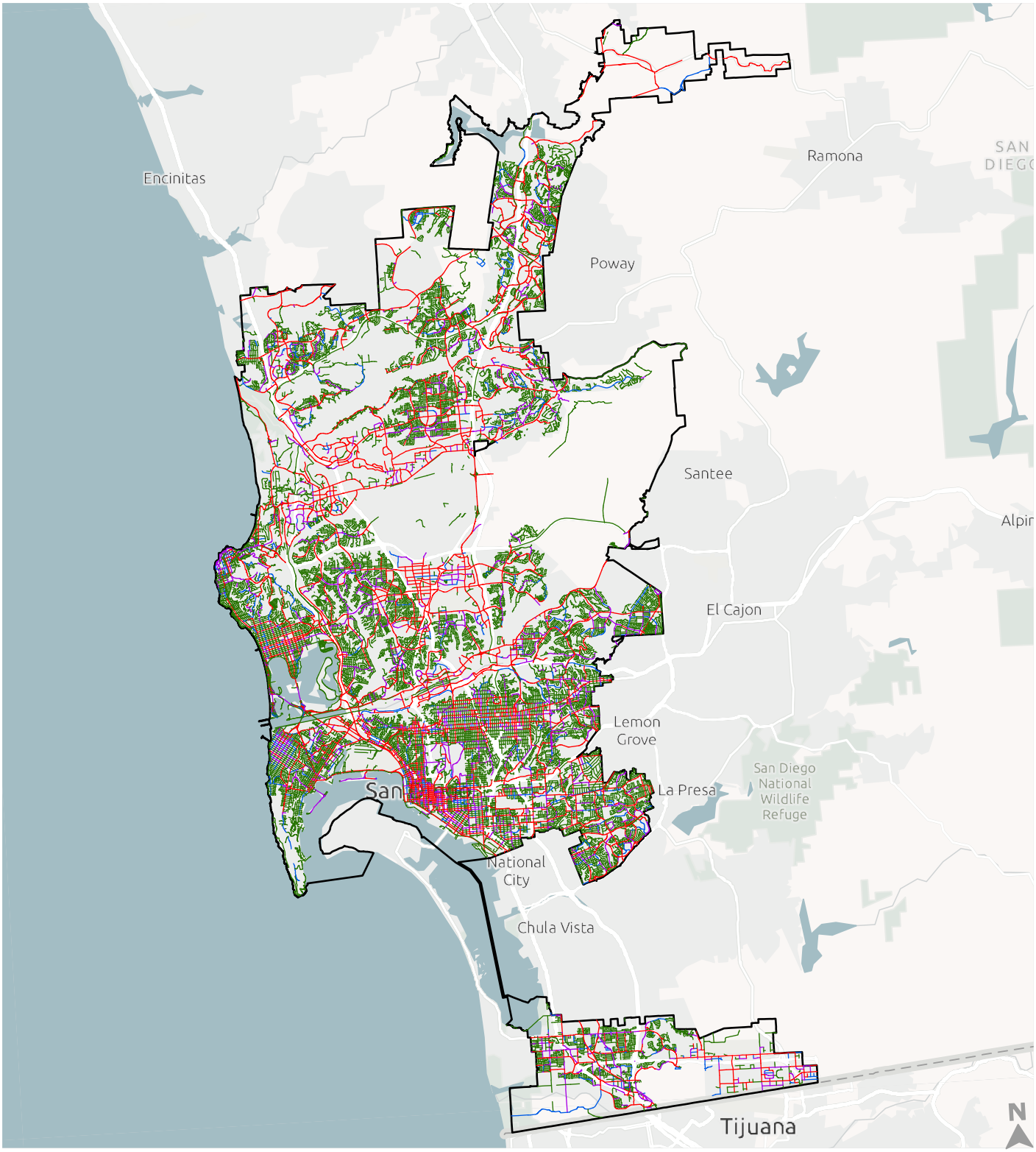


Figure 2

City of San Diego Bike Connectivity Score

Source: Fehr & Peers, 2024



Bike Level of Traffic Stress (LTS)

1 3

2 4

Figure 3

City of San Diego Bike Level of Traffic Stress (LTS)

Source: SANDAG, 2024

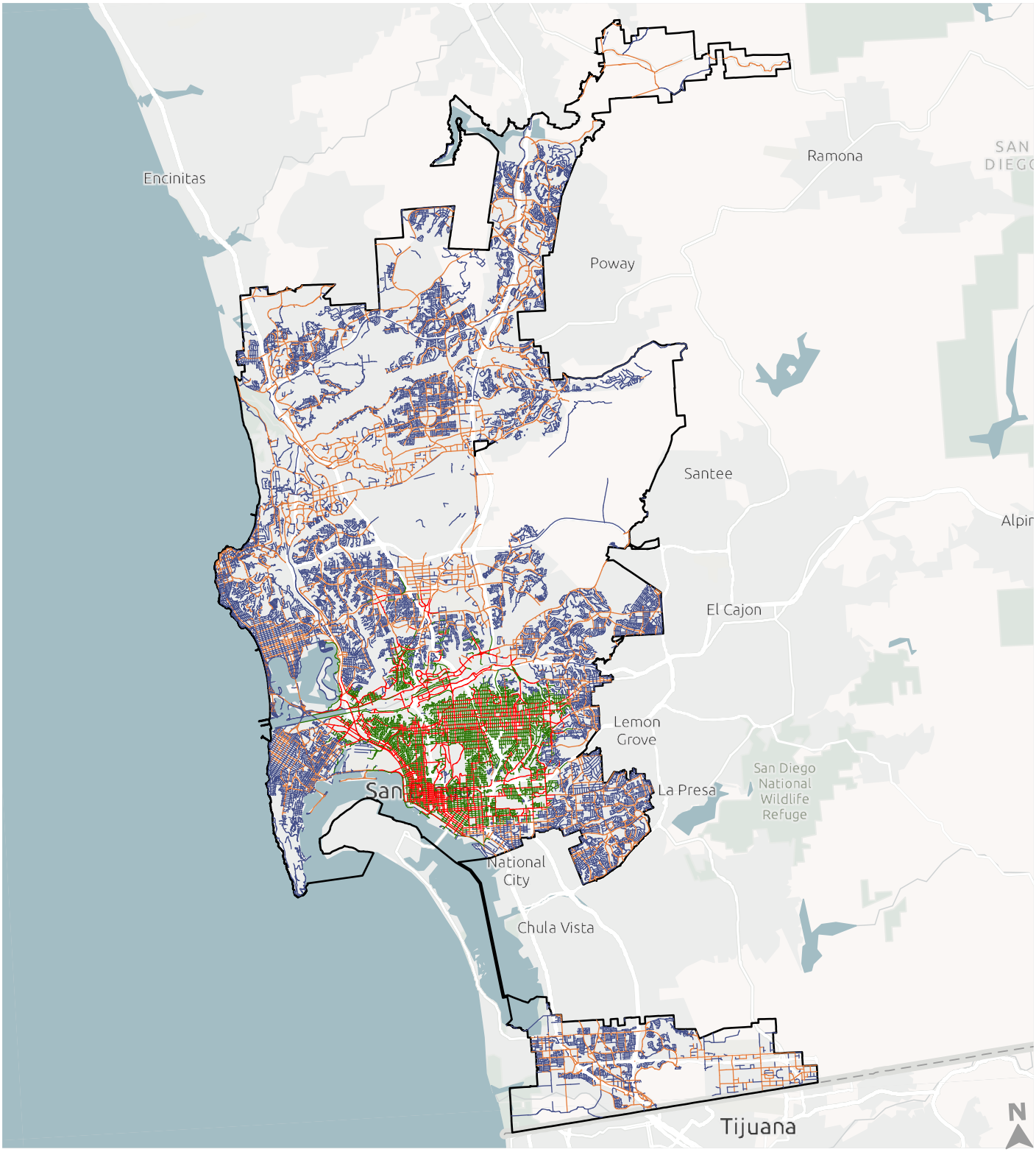


Figure 4

City of San Diego Bike LTS / Connectivity

Source: Fehr & Peers, 2024

APPENDIX G

Collision Analysis



TO: City of San Diego

FROM: Sasha Jovanovic, CR Associates

DATE: 12-16-2024 (REVISED 10-08-2026)

RE: San Diego Bicycle Master Plan Collision Analysis

Introduction

This memorandum summarizes information from 92 bicyclist-involved collisions in San Diego which resulted in either a severe injury or fatality over a period of five years between 2019 and 2023. Each collision's notable attributes (party characteristics, injury severity, type of impact, primary collision factors, etc.) are analyzed and locations and environments in the City where collisions have occurred disproportionately are identified. Findings and narratives from this memo will be incorporated into the Bicycle Master Plan Update's assessment of existing conditions.

Data Sources

The City of San Diego provided historic records maintained by the San Diego Police Department of severe or fatal traffic collision locations through the end of 2023. These records have been vetted by City of San Diego staff for locational accuracy and final injury severity prior to analysis.

The City's data consisted of a generalized block address, injury severity and the date of the collision. To supplement the City's dataset and obtain additional collision attributes, the City's data was matched with corresponding records in the Statewide Integrated Traffic Records System (SWITRS). The SWITRS database contains a wider set of standardized attributes for traffic collisions, regardless of injury severity, reported to police departments across the state. SWITRS database collision attributes are based on police officer reports taken at the scene of the collision. These reports reflect their judgment and assessment at the time it occurred with the information they had available. This information is occasionally subject to later revision, which is why this report gives preference to analyzing the City of San Diego's data source, when its attributes are available.

Data Methods

Criteria used to determine a match between a City-sourced data record and its corresponding SWITRS record included finding consistency between the records' classification of the transportation mode(s) involved (confirming the involvement of a bicyclist), the records' injury severity, the date of the collision, and the geographic location provided by cross-streets or address. Eighty-seven (87) of the City's 92 records were matched with a corresponding SWITRS record to a high or reasonable degree of certainty. Some City records matched with a corresponding SWITRS record on multiple but not all criteria. These cases were ruled as matches with reasonable (though not 100%) certainty. For example, some records may have had close but slightly different dates, but all other criteria matched. There were some records, when compared, which matched dates, injury severity and geographic criteria, though were classified as involving a different mode (a motorcyclist instead of a bicyclist, for example). Another common scenario when records did not match entirely on all criteria was in the classification of injury severity. All fatal injury collisions, however, were matched successfully and analyzed in this memo.

For the five cases where a match could not be established, there were no corresponding SWITRS records which met any of the mode, geographic location, or injury severity criteria occurring within a reasonably close timeframe of the date listed in the City-sourced data. Where this memo's analysis examines variables only available from the SWITRS database (Tables 2 through 5), those five records are excluded from or listed as missing in the summaries. Otherwise, all 92 records are included in the summaries.

Collision Severity and Longitudinal Trends

Table 1 summarizes bicyclist-involved collisions between 2019 and 2023 by the year in which they occurred. The data shows an annual citywide average of approximately 15 severe injury collisions per year and three fatal injury collisions per year. It has been widely documented that the early stages of the COVID-19 pandemic contributed to lower travel activity for much of 2020, helping explain the sharp decrease in collisions of total bicycling collisions in 2020. Total collisions remained constant from 2020 to 2022. These years roughly approximate to the period where pandemic-related social distancing practices impacted levels of trip activity. However, with fewer collisions overall during that three-year stretch, it is notable that six bicycling fatalities occurred in 2021, more than any other year in the five-year period.

Table 1: Bicyclist-Involved Collisions per Year, 2019 to 2023

Year	Fatal Collisions[1]	Severe Injury Collisions[1]	Total Bicyclist Collisions[2]
2023	3	19	365
2022	2	16	323
2021	6	12	325
2020	3	9	324
2019	4	18	356
Total	*18 (1.1%)*	*74 (4.4%)*	*1,693 (94.5%)*
Mean per Year	**3.6**	**14.8**	**338.6**

Source: City of San Diego (2024) [1], SWITRS (2024) [2]

Over the five-year period, fatalities comprised about 1% and severe injuries about 4% of all police reported bicyclist collisions. Total bicyclist-involved collisions regardless of injury severity are about 339 per year.

Collisions by Party at Fault

Party at fault was not an available attribute from the City of San Diego-sourced collision data, hence the five collision records out of 92 which could not be matched to SWITRS were not analyzed. Of the 87 severe or fatal bicyclist-involved collisions with matches to corresponding SWITRS records, 71 involved a driver and their vehicle, 15 collisions were solo-bicyclist collisions, and one collision was bicyclist-pedestrian. All 16 of the City's fatal bicyclist-involved crashes over the five years of data involved a driver. Table 2 summarizes the party at fault by each type of collision.

Table 2: Severe and Fatal Collisions by Parties Involved

Parties Involved	Number of Collisions	Bicyclist at Fault	Non-Bicyclist at Fault	No Party at Fault
Bicyclist-Driver and their Vehicle	71	56.3% (40)	42.3% (30)	1.4% (1)
Solo-Bicyclist	15	86.7% (13)	n/a	13.3% (2)
Bicyclist-Pedestrian	1	0%	100% (1)	0%
Missing Data	5	n/a	n/a	n/a

Source: SWITRS (2024)

As shown, when bicyclists are involved in collisions with other parties, they are found at fault in collisions slightly more often (40 instances to 31, and one collision determined to have no party fault).

Collisions by Type of Impact

Table 3 summarizes the injury severity of bicyclist-involved collisions by the type of impact. Type of impact was not an available attribute from the City of San Diego-sourced collision data, hence the five collision records out of 92 which could not be matched to SWITRS were not analyzed. Of the 87 severe or fatal collisions where this attribute could be determined from SWITRS matches, broadside collisions were the most common collision type overall (though not the most common for fatal collisions). They represent over 40% of all severe injury collisions. Rear end collisions are the most common collision type that resulted in a bicyclist fatality. Exactly half of all bicycling fatalities were rear end collisions.

Table 3: Collisions by Type of Impact and Severity

Type of Impact	Combined Severe & Fatal	% of Combined	Severe Collisions	% of Severe	Fatal Bicyclist Collisions	% of Fatal
Broadside	**31**	**35.6%**	**28**	**40.6%**	3	16.7%
Rear End	21	24.1%	12	17.4%	**9**	**50.0%**
Other	10	11.5%	8	11.6%	2	11.1%
Overturned	8	9.2%	8	11.6%	-	-
Sideswipe	7	8.0%	4	5.8%	3	16.7%
Head-on	4	4.6%	3	4.3%	1	5.5%
Hit Object	4	4.6%	4	5.8%	-	-
Not Specified	2	2.3%	2	2.9%	-	-
Total	87	100%	69	100%	18	100%

***Bold** values = modal category*
Source: SWITRS (2024)

Table 4 summarizes bicyclist-involved collisions by type of impact and party at fault (excluding solo-bicyclist collisions). Between 2019 and 2023, there were 72 non-solo bicyclist collisions, with 18 resulting in fatality. Despite cyclists being at fault more often in collisions involving drivers, the driver was at fault more often when the outcome was fatal (11 instances to six).

Table 4: Collisions by Type of Impact and Party at Fault (Non-Solo Bicyclist Collisions)

Type of Impact	Bicyclist at-Fault	Bicyclist at-Fault Fatal Only	Non-Bicyclist at-Fault	Non-Bicyclist at-Fault Fatal Only	No Fault	No Fault Fatal Only
Broadside	**57.5% (23)**	**33.3% (2)**	25.8% (8)	9.1% (1)	-	-
Rear End	20.0% (8)	**33.3% (2)**	**42.0% (13)**	**63.6% (7)**	-	-
Other	2.5% (1)	-	16.1% (5)	9.1% (1)	**100% (1)**	**100% (1)**
Sideswipe	12.5% (5)	**33.3% (2)**	6.5% (2)	9.1% (1)	-	-
Head-on	2.5% (1)	-	6.5% (2)	9.1% (1)	-	-
Overturned	2.5% (1)	-	3.2% (1)	-	-	-
Not Specified	2.5% (1)	-	-	-	-	-
Total	40	6	31	11	1	1

***Bold** values = modal category*
Source: SWITRS (2024)

Broadsides occurred in most collisions with drivers when a cyclist was at fault. Rear end collisions were the most common type of collision when the driver was at fault (13 out of 31 instances) and the second most common type of collision when a cyclist was at fault (8 of 40 instances). Rear end collisions were by far the leading cause of a fatal bicyclist-involved collision when a driver was at fault.

Collisions by Violation Causes

Table 5 summarizes the violation causes of the 72 non-solo bicycling collisions grouped by primary collision factor. As shown, the most common violation category is unsafe left or right turn (all 14 violations were cited as CVC 22107[1]). Unsafe left or right turns occurred in almost 20% of all collisions analyzed. In the 14 collisions resulting from this violation, the cyclist and driver were at fault an equal number of times. Six of the 16 fatal bicyclist-involved collisions were attributed to this violation, with the driver at fault twice as often when the results were fatal.

Table 5: Collisions by Type of Impact and Party at Fault (Non-Solo Bicyclist Collisions)

Violation Category	Combined Severe & Fatal	Bicyclist at-Fault	Non-Bicyclist at-Fault	No Fault	Fatal Collisions Only	Bicyclist at-Fault	Non-Bicyclist at-Fault	No Fault
Unsafe Left or Right Turn	**19.4% (14)**	17.5% (7)	**22.6% (7)**	-	**33.3% (6)**	**33.3% (2)**	**36.4% (4)**	-
Failure to Yield to Party w/Right of Way	18.1% (13)	15.0% (6)	**22.6% (7)**	-	-	-	-	-
Unsafe Speeds	16.7% (12)	12.5% (5)	**22.6% (7)**	-	27.8% (5)	16.7% (1)	**36.4% (4)**	-
Traveling on Wrong Side of Road	16.7% (12)	**25.0% (10)**	6.5% (2)	-	5.5% (1)	16.7% (1)	-	-
Other Hazardous/Misc.	12.5% (9)	5.0% (2)	19.4% (6)	**100% (1)**	16.7% (3)	-	18.2% (2)	**100% (1)**
Disobeying Signals and Signs	11.1% (8)	17.5% (7)	3.2% (1)	-	-	-	-	-
Unsafe Lane Change	5.6% (4)	7.5% (3)	3.2% (1)	-	16.7% (3)	**33.3% (2)**	9.1% (1)	-
Total	72	40	31	1	18	6	11	1

***Bold** values = modal category*
Source: SWITRS (2024)

[1] CVC 22107: "No person shall turn a vehicle from a direct course or move right or left upon a roadway until such movement can be made with reasonable safety and then only after the giving of an appropriate signal in the manner provided in this chapter in the event any other vehicle may be affected by the movement."

Like unsafe turns, failure to yield to the party with the right of way was another common violation cause (18% of non-solo collisions) and fault for this violation was nearly equal between party types in those collisions. However, no fatalities occurred because of this violation.

Unsafe speeds were another common violation category (17%), with a driver committing this violation slightly more often in collisions attributed to this cause. Unsafe speeds resulted in five bicyclist fatalities (a driver was at fault in all but one of those five instances).

Unsafe lane changes were an infrequent violation category in collisions (6%), though were most likely to result in fatalities when occurring. Three of the four unsafe lane change attributed collisions were fatal. Bicyclists were at fault in these two of these collisions.

Traveling on the wrong side of the road was a common violation type that was heavily skewed toward bicyclist-at fault collisions (10 of the 12 collisions). Despite the high frequency of this violation category in bicyclist-involved collisions, only one fatality was attributed to it. Another violation which skewed heavily toward bicyclists at fault was disobeying signals and signs. Seven of 8 collisions of this violation category were attributed to cyclists. None of the eight collisions of this violation category were fatal.

Of the 15 solo-bicycling collisions, eight were attributed to unsafe speeds and five to unsafe left or right turns.

Collisions by Frequency of Locations

There is only one location in the City where multiple severe bicyclist-involved collision occurred: Balboa Avenue and Viewridge Avenue. The two collisions occurring at this location happened in 2019 and 2023.

Note: this assessment is limited due to the exclusion of non-severe/fatal collisions and the lack of geographic specificity in the City-provided GIS data. The Balboa/Viewridge and 9500 Balboa Avenue collisions in SWITRS are close enough by SWITRS distance offset to be reasonably defined within/near the same intersection. There are two records with 3600 Midway Avenue listed as the location, but they are over 300' apart when taking the SWITRS specified distance offset.

Collisions by Community Planning Areas

Table 6 shows the frequency of severe and fatal bicycling-involving collisions by Community Planning Areas (CPAs) (collisions on a CPA boundary were counted in both communities in the table). As shown, Peninsula had more bicyclist-involved severe injury collisions than any other community with nine. Mid-City: Eastern Area had the most fatal collisions of any community with three.

Table 6: Collisions by CPA

Community Planning Area	Severe and Fatal Collisions	Severe Collisions	Fatal Collisions
Peninsula	9	9	0
Uptown	8	8	0
Downtown	6	4	2
University	5	4	1
Mid-City: Eastern Area	4	1	3
Skyline-Paradise Hills	4	2	2
Mission Bay Park	4	3	1
Linda Vista	4	3	1
La Jolla	4	3	1
Kearny Mesa	4	4	0
Mission Valley	2	1	1

Note this table counts collisions occurring on a CPA boundary in both CPAs
Source: City of San Diego (2024)

Table 7 shows the frequency of severe and fatal bicycling-involving collisions per capita by CPA, excluding communities with one or fewer collisions or a low population to avoid showing skewed data. When adjusting for population, Midway-Pacific Highway (5.3 collisions per 10,000 residents) and Barrio Logan (4.4 per 10,000) show the highest collision rates per capita.

Table 7: Collisions per Capita by CPA

Community Planning Area	Severe or Fatal Collisions[1]	Population[2]	Collisions per 10,000
Midway-Pacific Highway	3	5,677	5.3
Barrio Logan (including 32nd Street Naval Station area)	4	9,120	4.4
Kearny Mesa	4	11,458	3.5
Torrey Pines	2	6,496	3.1
Peninsula	9	42,604	2.1
Uptown	7	42,107	1.7
Ocean Beach	2	13,640	1.5
Black Mountain Ranch	2	14,745	1.4
La Jolla	4	30,200	1.3

Note: ranking excludes CPAs with fewer than two collisions or less than 3,000 population
Source: City of San Diego (2024) [1], SANDAG 2023 Estimates (2024) [2]

Collisions by City of San Diego Equity Variables

Table 8 shows the frequency and rate of severe and fatal bicycling-involved collisions occurring within and outside of City of San Diego Equity Variables. This analysis utilized the overlap of the following variables: the City's Climate Equity Index Communities of Concern[2] (areas with very low, low, or moderate access to opportunity) and the Environmental Justice Communities identified in the General Plan Environmental Justice Element.[3] These geographies comprise about 11% of the San Diego's geographic area and contain just over one quarter of its population. As shown, there is marginal difference in the severe collision rate per 100,000 residents in the equity geography analyzed and Citywide rates.

[2] City of San Diego - Climate Equity Index Scores
[3] Environmental Justice Element of the City of San Diego General Plan

Table 8: Collisions Within City's Climate Equity Index Communities of Concern AND Environmental Justice Communities

Geographic Area	Severe or Fatal Collisions	Severe Collisions	Fatal Collisions	Population	Severe Collisions per 100,000	Fatal Collisions per 100,000
Within City's Climate Equity Index Communities of Concern AND Environmental Justice Communities	25	19	6	414,310	4.59	1.45
Outside the Overlap of City's Climate Equity Index Communities of Concern AND Environmental Justice Communities	67	55	12	1,105,408	4.98	1.09
Citywide	92	74	18	1,519,718	4.87	1.18

Source: City of San Diego (2024)

Systemic Fatal Locations

The City of San Diego conducted a systemic safety analysis update in July 2024. The study analyzed ten years collision history (between 2014 and 2023) with the objective of identifying intersection environments where fatal injury collisions occurred disproportionately. The report identified four-lane by two-lane intersections with transit routes and a minimum of three injury collisions within the analyzed ten-year period as a priority environment for systemic safety improvements. About one quarter of fatal traffic collisions by any mode in the City over the ten year period occurred within these intersection environments (while these environments comprise only about 3% of all intersections in the City).

Four out of 18 fatal bicyclist-involved collisions (between 2019 and 2023) occurred within this systemic hotspot environment. These locations, with roadway the collision occurred on listed first and the intersecting cross-street listed second, were:

- Genesee Avenue and Sauk Avenue
- University Avenue and Alamo Drive
- Market Street and Fifth Avenue (signalized)
- Morena Boulevard and Napier Street

Only one of the systemic hotspot locations with a fatal bicycle collision, Genesee Avenue at Sauk Avenue, has an existing bicycle facility (Class II). The other systemic hotspot locations with fatal bicycle collisions all have previously planned bicycle facilities (Class II on University Avenue, Class III on Market Street, and Class IV on Morena Boulevard, respectively).

Three out of the 74 severe injury collisions (between 2019 and 2023) occurred within this systemic hotspot environments. These locations, with roadway the collision occurred on listed first and the intersecting cross-street listed second, included:

- Linda Vista Road and Fulton Street (signalized)
- Ingraham Street and Oliver Street
- Ingraham Street and Dana Landing Road/Perez Cove Way (signalized)

Two of the locations, Ingraham Street at Dana Landing Road/Perez Cove Way and Linda Vista Road at Fulton Street, have existing Class II bicycle facilities. The latter two locations have previously planned bicycle facilities (Class II on Ingraham Street, and Class IV (two-way) on Morena Boulevard, respectively).

All seven of the fatal and severe-injury bicyclist collisions occurred on the four-lane street. Except for the Market Street & Fifth Avenue collision (in Downtown San Diego) and Ingraham Street & Oliver Avenue (Pacific Beach) collisions, the environments had posted speed limits or 35 mph or greater. Drivers were at fault for five of the seven collisions. Three of the collisions, including two of the fatal collisions, were rear ends.

Citywide there are 487 systemic priority intersections, 299 of the systemic priority intersections have bicycle facility on one or both approaches. **Table 9** shows the distribution of systemic priority intersections by how they are configured with bicycle facilities. As shown, three of the four fatal bicyclist-involved collisions occurring at systemic priority intersections occurred at intersections with no bicycle facility on either cross-street.

Table 9: Systemic Priority Intersections with Existing Bicycle Facility

Bicycle Facility Characteristics	Number of Priority Intersections	Percent of Priority Intersections	Fatal Bicycle Collisions	Severe Bicycle Collisions
Bicycle Facility on Both Cross-Streets	31	6.4%	0	1
Bicycle Facility on Four-Lane Roadway Only	248	50.9%	1	1
Bicycle Facility on Two-Lane Roadway Only	20	4.1%	0	0
No Existing Bicycle Facility on Either Cross-Street	188	38.6%	3	1

Source: City of San Diego (2024)

Table 10 shows the bicycle facility classifications present at the 299 systemic priority intersections with existing bicycle facilities. As shown, when bicycle facilities are present at systemic priority intersections, the most common configuration is Class II on the four-lane street and no bicycle facility on the intersecting two-lane street. This configuration represents over half of all systemic priority intersections with bicycle facilities.

Table 10: Systemic Priority Intersections by Type of Bicycle Facility

Bicycle Facility on Four-Lane Street	Bicycle Facility on Two-Lane Street	Number of Priority Intersections	Percent of Priority Intersections
Class II	None	182	37.4%
Class III	None	34	11.4%
Bus-Bike Lane	None	17	5.7%
Class IV	None	15	5.0%
Class II	Class III	11	3.7%
Class II	Class II	10	3.3%
None	Class III	9	3.0%
None	Class II	6	2.0%
Class III	Class III	4	1.3%
Class IV	Class II	3	1.0%
None	Class IV	3	1.0%
Bus-Bike Lane	Class II	2	0.7%
None	Class IV (Two-Way)	2	0.7%
Bus-Bike Lane	Class IV	1	0.3%
Total Intersections with Bicycle Facility		**299**	**61.4%**

Source: City of San Diego (2024)

One of the objectives of the planned bicycle network will be to increase the quantity of systemic priority intersections with bicycle facilities from the current 61%, and to create more environments where both roadways have bicycle facilities. Presently only 6% of all systemic priority intersections have bicycle facilities on both intersecting roadways.

The installation of bicycle facilities at more systemic priority intersections will provide cyclists with their own space when maneuvering through intersections or treatments which provide separation or exclusive travel phases. The implementation of some bikeways may also result in lane reductions to some four lane streets, which would also result in countermeasures which modify the characteristics of the identified systemic priority intersections.

APPENDIX H

Potential Corridors for Additional Study



There are several corridors throughout the City where continuous and separated bikeways are highly desired, but existing site conditions and constraints are complex and cannot be addressed through signing and striping alone. These types of corridors should be studied in greater detail to assess their feasibility for development into complete streets with continuous and separated bikeways. Examples of corridors with these types of constraints are described below.

Table H-1: Potential Corridors for Additional Study

Street	From	To	Community Planning Areas	Proposed Bikeway (Class)	Additional Considerations	2025 Regional Plan
Chicano Park Bl (formerly Cesar Chavez Parkway)	25th St	Harbor Dr	Barrio Logan Southeastern San Diego	Bike Boulevard (Class III Enhanced)	Evaluate for: -Separated bikeway where feasible. -Maintain business access. -Minimize impacts to parking. -Safety improvements. Coordinate with: -Caltrans through Interstate 5. Notes: Barrio Logan community plan recommends additional study for this corridor.	Golden Hill to Bayshore Bikeway
Imperial Av	47th St	City of La Mesa	Chollas Valley/Encanto Neighborhoods	Bike Lane (Class II)	Evaluate for: -Separated bikeway where feasible Coordinate with: -SANDAG for regional connectivity	Lemon Grove to Imperial Bikeway
College Av	College Grove Dr	City of La Mesa	Eastern Area	One-Way Separated Bikeway (Class IV)	Evaluate for: -Expansion of curb-to-curb within existing ROW. Coordinate with: -Mid-City Communities CPU for potential redevelopment on westside. -Caltrans through SR94. -City of La Mesa for continuity of bikeway.	San Carlos to College and Grantville Bikeway

Street	From	To	Community Planning Areas	Proposed Bikeway (Class)	Additional Considerations	2025 Regional Plan
Adams Av	Park Bl	Aldine Dr	Kensington-Talmadge Normal Heights North Park	Bike Boulevard (Class III Enhanced)	Evaluate for: -Separated bikeways where feasible (e.g. bike lanes). -Traffic calming treatments (e.g. pop-outs, roundabouts, or traffic circles at intersections). -Minimize impacts to parking. -See Landis and Meade bikeway treatments.	Uptown to Kensington Connector
Torrey Pines Rd	La Jolla Village Dr	Prospect Pl	La Jolla	Bike Lane (Class II) Separated Bikeway (Class IV)	Evaluate for: -Corridor wide improvements to enhance safety. -Separated bikeways where feasible. Notes: Coastal Zone	Central Coast Corridor: Pacific Beach to La Jolla
N/E Mission Bay Dr	Sea World Dr	North Terminus	Mission Bay	Bike Path (Class I)	Evaluate for: -A separated off-street bike-or-multiuse path on the eastside of the roadway. -Minimize impacts to parking. Coordinate with: -Parks & Recreation and Park Planning for Mission Bay improvements. -SANDAG for regional connectivity. Notes: Coastal Zone	E Mission Bay Dr - Coastal Rail Trail San Diego (Clairemont to Tecolete) N Mission Bay Dr - North Mission Bay Dr to Rose Creek

Street	From	To	Community Planning Areas	Proposed Bikeway (Class)	Additional Considerations	2025 Regional Plan
Dana Landing Rd	Ingraham St	W Mission Bay Dr	Mission Bay	Two-Way Separated Bikeway (Class IV) south/eastside	Evaluate for: -Separated bikeway on south and eastside either off-street or expanding curb-to-curb. -Active transportation connections through Ingraham St and W Mission Bay Dr. Coordinate with: -SANDAG for regional connectivity Notes: Coastal Zone	Ocean Beach to Mission Bay
Mission Bl	Pacific Beach Dr	San Fernando Pl	Mission Beach	Bike Lane (Class II)	Evaluate for: -Corridor wide improvements to enhance safety. -Evaluate shrinking/removing median and striped buffers. Notes: Coastal Zone	
Taylor St	Pacific Highway	Presidio Dr	Old Town	Bike Lane (Class II)	Evaluate for: -Corridor wide improvements to enhance safety. -Separated bikeways where feasible.	Hotel Circle Connection
Garnet Av	West Terminus	Soledad Mountain Rd.	Pacific Beach	Bike Boulevard (Class III Enhanced) from West Terminus to Ingraham St Bike Lane (Class II) from Ingraham St to Soledad Mountain Rd	Evaluate for: -Corridor wide improvements to enhance safety. -Separated bikeway where feasible. -Removal of center-turn lane east of Ingraham St. Notes: Coastal Zone	Pacific Beach Bikeway (W Terminus to Ingraham)

Street	From	To	Community Planning Areas	Proposed Bikeway (Class)	Additional Considerations	2025 Regional Plan
Grand Av	West Terminus	Mission Bay Dr	Pacific Beach	Bike Lane (Class II)	Evaluate for: -Corridor wide improvements to enhance safety. Notes: Coastal Zone	Balboa Transit Center Connector Bikeway
Ingraham St	Beryl St	Crown Point Dr	Pacific Beach	Bike Lane (Class II) from Beryl St to Pacific Beach Dr Bike Boulevard (Class III Enhanced) Pacific Beach Dr to Crown Point Dr	Evaluate for: -Corridor wide improvements to enhance safety. Notes: Coastal Zone	Midway to Pacific Beach Bikeway
Pacific Beach Dr	West Terminus	East Terminus	Pacific Beach	Bike Boulevard (Class III Enhanced)	Evaluate for: -Corridor wide improvements to enhance safety. Notes: Coastal Zone	Pacific Beach to East Mission Bay
Rosecrans St	Lytton St	Fitch Loop	Peninsula	Bike Lane (Class II)	Evaluate for: -Corridor wide improvements to enhance safety. -Separated bikeways where feasible. Notes: Coastal Zone	Rosecrans Bikeway
North Torrey Pines Rd	Carmel Valley Rd	Torry Pines Scenic Park N	Torrey Pines University	Existing Bike Lane (Class II)	Evaluate for: -Potential road diet -Separated bikeway where feasible Notes: Coastal Zone	Central Coast Corridor: La Jolla to Del Mar

APPENDIX I

Development Process for the Future Bikeway Network



Creating the Future Bicycle Network required balancing technical analysis with community priorities. The City evaluated existing roadway characteristics, travel patterns, and community input to determine the most appropriate bikeway for each corridor. This iterative process helped create a network that is connected, context-sensitive, and responsive to local needs. The following section describes how the City thoughtfully prepared the Future Network for residents.

Built on Existing Plans and Projects

The Future Bicycle Network combines future projects from many sources into one connected vision for biking in San Diego, including:

- Existing bikeways[1]
- Bikeway projects that are already designed or funded[2]
- Recently adopted Community Plan Updates[3]
- Previous City bicycle planning efforts[4]
- New connections identified through this update[5]
- Regional bikeways from the SANDAG Active Transportation Network[6]

Match the Bikeway to the Street

Not every street needs the same type of bikeway.

A quiet residential street is often comfortable enough where bicyclists can share the road, while a busy arterial generally requires bicyclists to have greater separation from vehicle traffic. To identify the most appropriate bikeway for each corridor, the City evaluated roadway characteristics such as vehicle speeds, traffic volumes, and the number of travel lanes, together with current state and national design guidance. The National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide[7] and Caltrans Design Information Bulletin 94[8] served as starting points for developing preliminary bikeway type recommendations for each corridor. The table below summarizes the general guidance used for selecting bikeway types.

[1] Existing Bikeways: Bikeways in the ground as of November 2024.
[2] Designed Bikeways: Bikeways with 100% or nearly 100% designs with secured funding or pending allocation.
[3] Proposed Bikeways in Community Planned Areas: Bikeways adopted in Community Planning Updates between 2022-2025.
[4] Proposed Bikeways: Bikeways identified in City planning documents (e.g. 2013 BMP, Community Planning Documents, etc.).
[5] Gaps/New Connections: New bikeways identified as part of the BMPU.
[6] SANDAG Regional AT Network: Regional bikeways within the City of San Diego identified as part of the SANDAG 2025 RTP Active Transportation Network.
[7] NACTO Urban Bikeway Design Guide. https://nacto.org/publication/urban-bikeway-design-guide/
[8] Caltrans DIB 94. https://dot.ca.gov/-/media/dot-media/programs/design/documents/dib-94-010224-a11y.pdf

Table I-11: Bikeway Type Selection Guide

Vehicle Speed	Average Daily Vehicle Traffic on Roadway	Bikeway Type
Less than 10 mph	Any	Class 3 (Shared Street)
10-20 mph	2,000 or less	Class 3 Enhanced (Bicycle Boulevard)
10-20 mph	2,000 – 4,500	Class 2
10-20 mph	4,500 – 6,000	Class 2 Buffered (Class 2-B)
25 mph	Less than 1,500	Class 3 Enhanced (Bicycle Boulevard)
25 mph	1,500-4,500	Class 2
30 mph	Less than 4,500	Class 2
25 or 30 mph	4,500-6,000 ADT	Class 2 Buffered (Class 2-B)
Any	Greater than 6,000	Class 4 or Class 1
35 mph or greater	Any	Class 4 or Class 1

Source: Caltrans Design Information Bulletin (DIB) 94

Refine the Network Through Local Knowledge and Community Input

Once the initial bikeway types were identified, City staff screened these preliminary recommendations based on additional roadway and local conditions, as well as alignment with other capital projects, operational needs, and opportunities to coordinate implementation with other infrastructure improvements. The preferred minimum roadway widths detailed in the table below were broadly applied to evaluate whether proposed bikeways could generally be accommodated within existing roadway conditions.

Table I-22. Preferred Minimum Roadway Widths Used for Planning-Level Bikeway Feasibility Assessment

Facility	Minimum Width (ft)
General Purpose Through Lane	10 ft; 11 ft if bus route
Center Turn Lane	10 ft
Parking Lane	7 ft

The City then shared the Draft Bikeway Network with community members through an interactive online map-based survey and in-person community pop-ups. Community members and stakeholders identified missing connections, commented on proposed bikeway types, and shared local concerns that helped strengthen the Future Network presented in this Plan

The Future Network reflects the combined input of technical analysis, City staff expertise, and community feedback. While the Future Network establishes the City's long-term vision, individual projects will continue to be refined as they advance through environmental review, engineering design, funding, and future public engagement.

APPENDIX J

Prioritization Criteria and Methodology



TECHNICAL MEMORANDUM
July 9, 2026 (Revised October 8, 2026)

To: Angelica Rocha, Senior Transportation Planner, Fehr & Peers
From: Carl Sorenson, Senior Analyst, Evari Consulting

Re: San Diego Bicycle Master Plan Prioritization Methodology

INTRODUCTION

Priority project development for the City of San Diego will leverage a comprehensive series of datasets from recent and relevant city, regional, and statewide initiatives to identify a prioritized list of facility segments. The effort will align with the following priorities:

- Prioritize safety improvements to reduce fatalities and severe injuries and improve user comfort.
- Identify project opportunities in areas within City of San Diego Equity Variables and the Caltrans Transportation Equity Index.
- Close existing gaps, improve access and safety, and provide convenient connections within the City and beyond.
- Incorporate public feedback to assist with decision making when prioritizing facility segments.

The following pages of this memorandum outline the methodology that will be used to prioritize facility segments.

DATA SOURCES AND FACILITY SEGMENT PRIORITIZATION

The City has developed a comprehensive network of planned bicycle facilities. This network serves as the input for a data-driven prioritization framework designed to identify high-impact projects that advance safety, equity, connectivity, and public support. Each facility segment will be evaluated across multiple criteria and assigned a cumulative prioritization score.

Safety - 4 points

A safe biking environment not only protects current riders but also encourages broader community adoption of cycling as a viable mode of transportation. Each facility segment will receive a safety score based on its proximity to known risk factors. The goal is to prioritize improvements in areas with elevated collision risk, high-speed traffic, high stress roadways and systemic safety concerns. To assess and enhance safety across the network, the following indicators were analyzed. A project can receive up to 4 points for safety, one point for each item below:

Bicycle-Involved Collision History

Locations with a history of serious or fatal bicycle-related collisions are assigned one point. These incidents highlight areas where existing infrastructure may be insufficient or where traffic conditions pose significant risks to cyclists.

- **Step 1:** Map all collision data from 2014–2023
- **Step 2:** Buffer each bicycle facility segment by 50 feet on both sides.
- **Step 3:** Identify facility segments whose buffers intersect with recorded collision points
- **Step 4:** Identify the number of crashes at each facility segment, distinguishing between fatal and severe injury crashes
- **Step 5:** Assign a normalized score from 0-2 with more weight given to fatal or severe injury crashes. The score will be determined using the following inputs.
    - Severe crashes to receive 0.5 points
    - Fatal crashes receive 1 point
    - Total number of crashes

Roadways with High LTS

Level of Traffic Stress (LTS) data was provided by the San Diego Association of Governments (SANDAG), which was completed at a regional scale in November 2023 as part of the Regional Vision Zero Action Plan. SANDAG's facility segment LTS methodology considers how comfortable facilities are for the user, based on factors such as Annual Average Daily Traffic (AADT), posted speed limit, number of lanes per direction, roadway directionality, presence of a centerline, on-street parking characteristics, and the presence and width of dedicated bicycle facilities. Prioritizing facility segments along high LTS (LTS score=3 or 4) roadways can help address these conditions and will receive 1 point.

- **Step 1:** Select all streets where "LTS_Class = 'High LTS'"
- **Step 2:** Select all facilities that overlap with those streets
- **Step 3:** Assign 1 point to selected facility segments

Systemic Safety Priority Intersections

The City conducted a comprehensive safety assessment to identify intersection characteristics with elevated risk factors for cyclists and pedestrians in July 2024. These intersections are defined by the City as being 4 by 2 lane intersections, on a transit route, and where 3 or more injury crashes have occurred in the last 10 years.

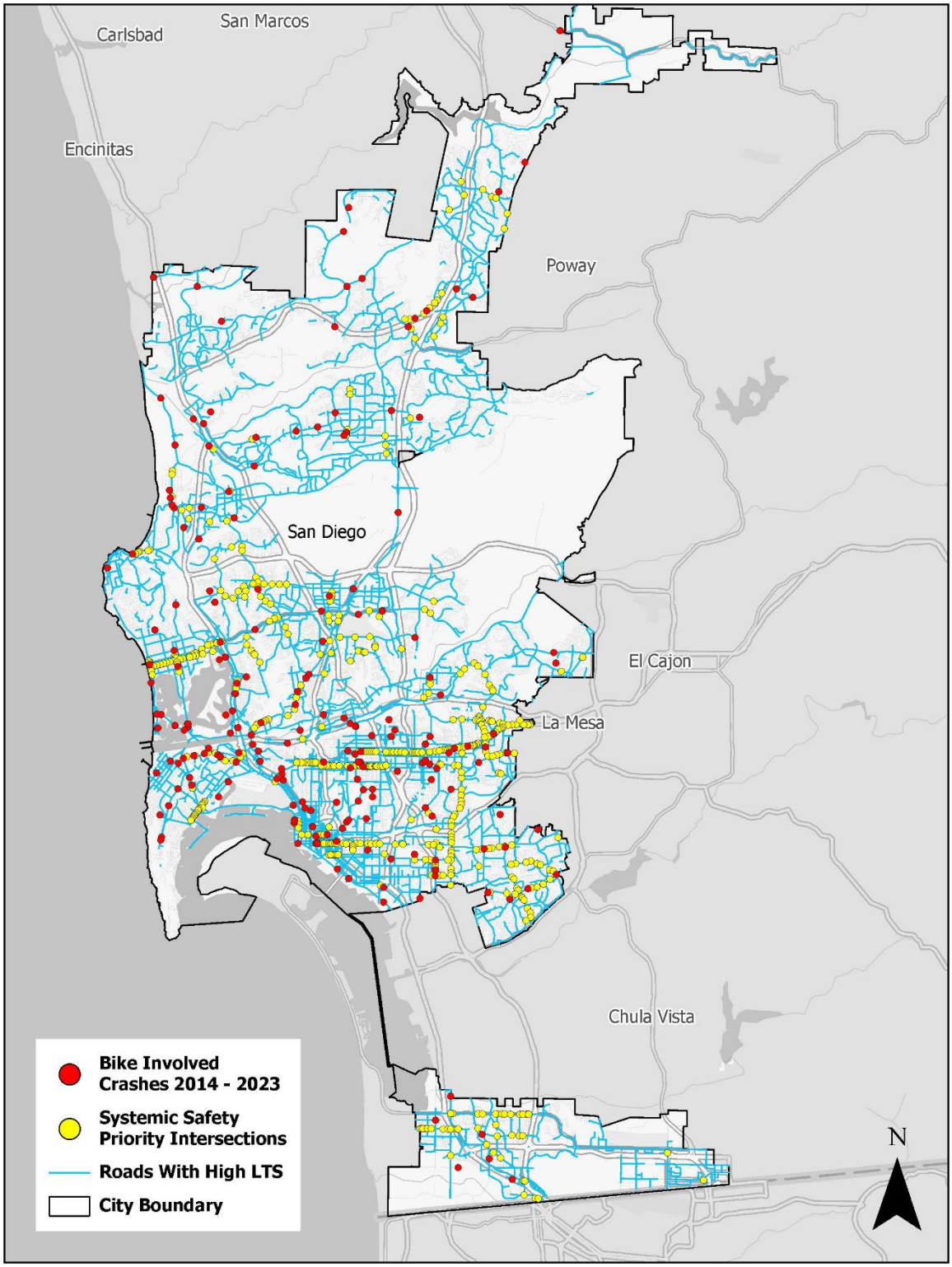
- **Step 1:** Buffer each facility segment by 50 feet on both sides.
- **Step 2:** Select facility segments whose buffers intersect with intersections identified as safety priorities by the City.
- **Step 3:** Assign 1 point to selected facility segments

Table 1: Scoring Safety Metrics

Metric	Category	Layer Description	Layer Name	Score	Source
Bicycle-Involved Collision History	Safety	Collision History	Citywide Collisions Severe Fatal.shp	0-2	City of San Diego
Roadways with High LTS	Safety	Highspeed Roadways/ LTS	Biking_LTS_Connectivity_Summary	0-1	SANDAG Regional Vision Zero Action Plan
Systemic Safety Priority Intersections	Safety	Systemic safety priority Intersections	Priority_Intersections.shp	0-1	City of San Diego

Figure 1 on the next page displays the collision history, high speed roadways and priority intersections citywide.

Figure 1: Safety Metrics



Equity - 3 points

Equity considerations are important to the planning and prioritization of active transportation projects, with a specific focus on identifying opportunities in communities that have been historically and structurally excluded from infrastructure investment.

The goal is to ensure that new and improved bike facilities serve residents of all ages, abilities, and backgrounds, particularly those in underserved neighborhoods where safe, accessible mobility options may be limited.

To guide this effort, a comprehensive set of equity metrics will be incorporated into the prioritization analysis. These metrics offer distinct lenses through which equity can be evaluated:

City of San Diego Equity Variables

This analysis utilized the overlap of the following variables: the City's Climate Equity Index (CEI) Communities of Concern[1] (areas with very low, low, or moderate access to opportunity) and the Environmental Justice Communities identified in the General Plan Environmental Justice Element.[2]. The City recognizes these are underserved areas that lack access to quality, affordable, and reliable mobility options, as well as other essential resources. As such, these areas may face the largest barriers and should be prioritized.

- **Step 1:** Select all census tracts where "CEI_Class_ IN ('Low', 'Moderate', 'Very Low')" overlaps with "EJ Communities"
- **Step 2:** Select all facility segments that intersect those tracts
- **Step 3:** Assign 2 points to selected facility segments

Caltrans Transportation Equity Index

This index supports transportation equity by identifying communities with limited access to mobility, economic opportunity, and safety. It informs Caltrans' planning and funding decisions to ensure that transportation improvements benefit those most in need. For more information about the Caltrans Transportation Equity Index see the link below.

https://dot.ca.gov/programs/eta/transpo-equity/eqi

- **Step 1:** Select all features where "SCREEN IN ('Transportation-Based Priority Populations')"
- **Step 2:** Select all facility segments that intersect those features
- **Step 3:** Assign 1 point to selected facility segments

Facility segments that intersect multiple layers will receive higher equity scores, reflecting their potential to improve access and mobility in underserved areas.

Table 2: Scoring for Equity Metrics

Metric	Category	Layer Description	Layer Name	Score	Source
City of San Diego Equity Variables	Equity	CEI Communities of Concern and Environmental Justice Overlap	Structurally_Excluded_Communities	0-2	City of San Diego

[1] City of San Diego - Climate Equity Index Scores

[2] Environmental Justice Element of the City of San Diego General Plan

Caltrans Transportation Equity Index	Equity	Transportation-Based Priority Populations	Caltrans EQI_Version_1_0	0-1	State - Caltrans

Figures 2 and 3 show the two different equity metrics being evaluated.

Figure 2: Climate Equity Index Communities of Concern AND Environmental Justice Communities

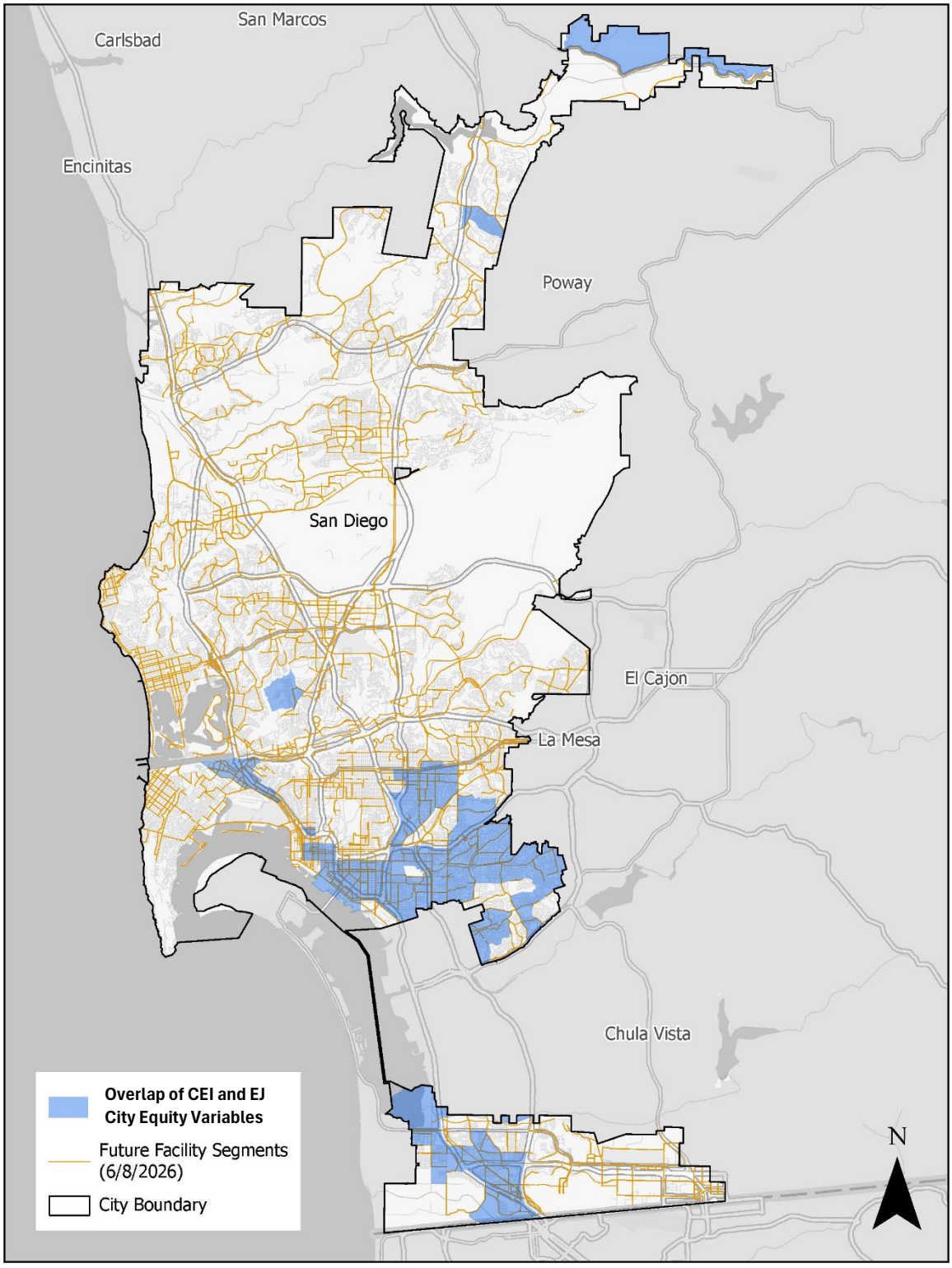
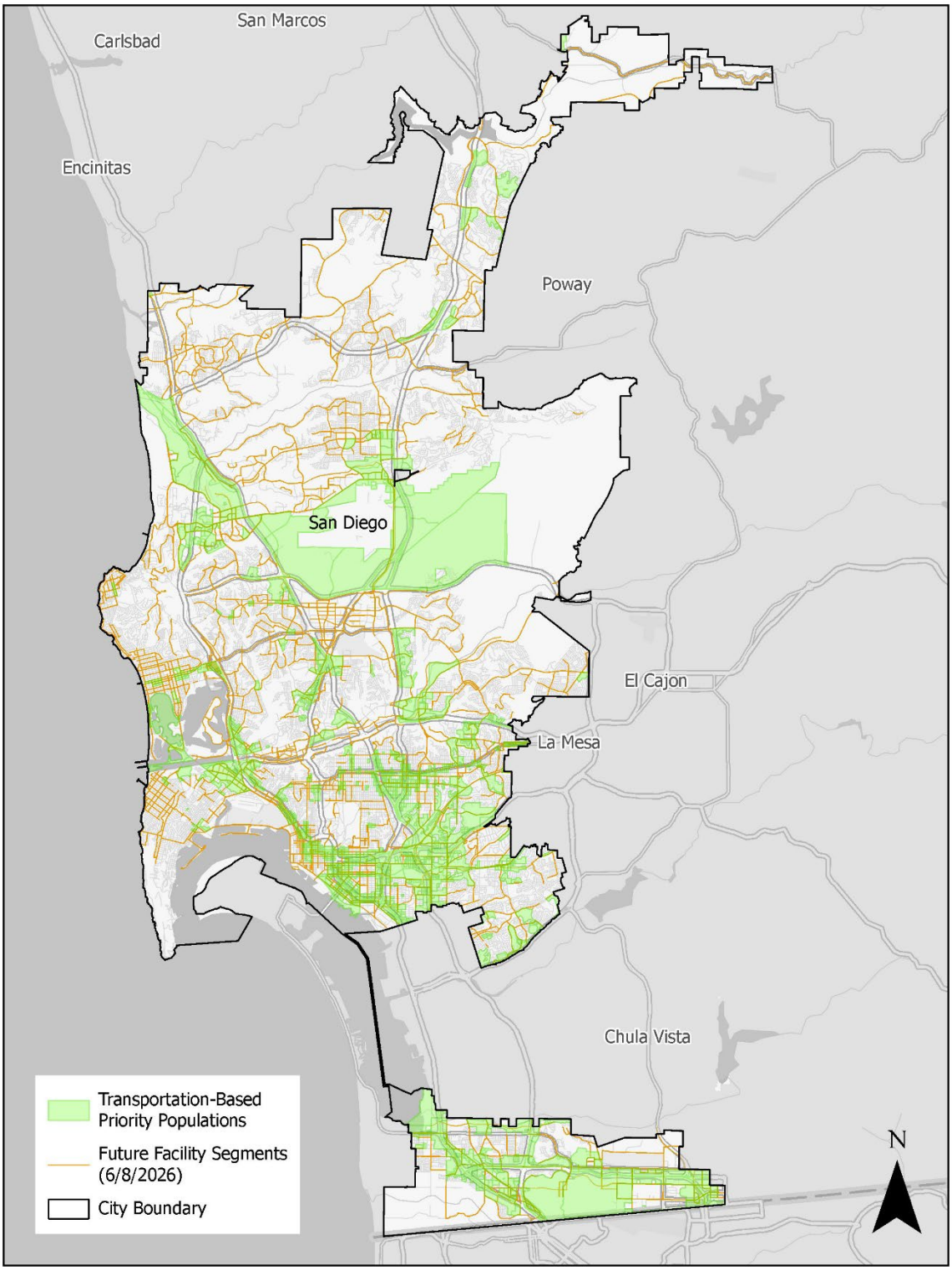


Figure 3: Caltrans Transportation-Based Priority Populations



Connectivity - 2 points

Connectivity Score

As part of Phase 1 of the BMPU, a connectivity analysis was conducted to identify locations in the City where bicycle and network enhancements can provide the greatest connectivity to everyday destinations. The analysis evaluated each network facility segment based on two key dimensions: connectivity (high vs. low access to destinations) and cyclist stress level (low vs. high stress conditions).

This approach allows the City to prioritize low-stress facility segments in areas with high connectivity, ensuring that the most accessible routes are also the most comfortable and safe for cyclists.

This connectivity score was compared to the multimodal heat map from the San Diego Master Mobility plan.

- **Step 1:** Select all road facility segments where "Connectivity_Class = 'High Connectivity'"
- **Step 2:** Select all facility segments that intersect those streets
- **Step 3:** Assign 1 point to selected facility segments

Network Gaps

To help close network gaps, a layer of new facilities was created as part of the BMPU State of the Network presentation. This layer is used to identify facility segments that will help close network gaps

- **Step 1:** Spatial join to identify all planned segments that overlap with new facilities
- **Step 2:** Assign 1 point to facility segments where join count is greater than 0

Table 3: Scoring for Connectivity Metrics

Metric	Category	Layer Description	Layer Name	Score	Source
Connectivity Score	Connectivity	Connectivity Score Results BMPU Phase 1	Biking_LTS_Connectivity_Summary	0-1	BMPU Connectivity Analysis
Network Gaps	Connectivity	New Infrastructure Segments From BMPU State of the Network	FutureNetwork_06192026_NewInfrastructure	0-1	BMPU State of the Network

Figure 4 shows the connectivity scores for all streets, and Figure 5 shows the Network Gaps.

Figure 4: LTS and Connectivity Scores

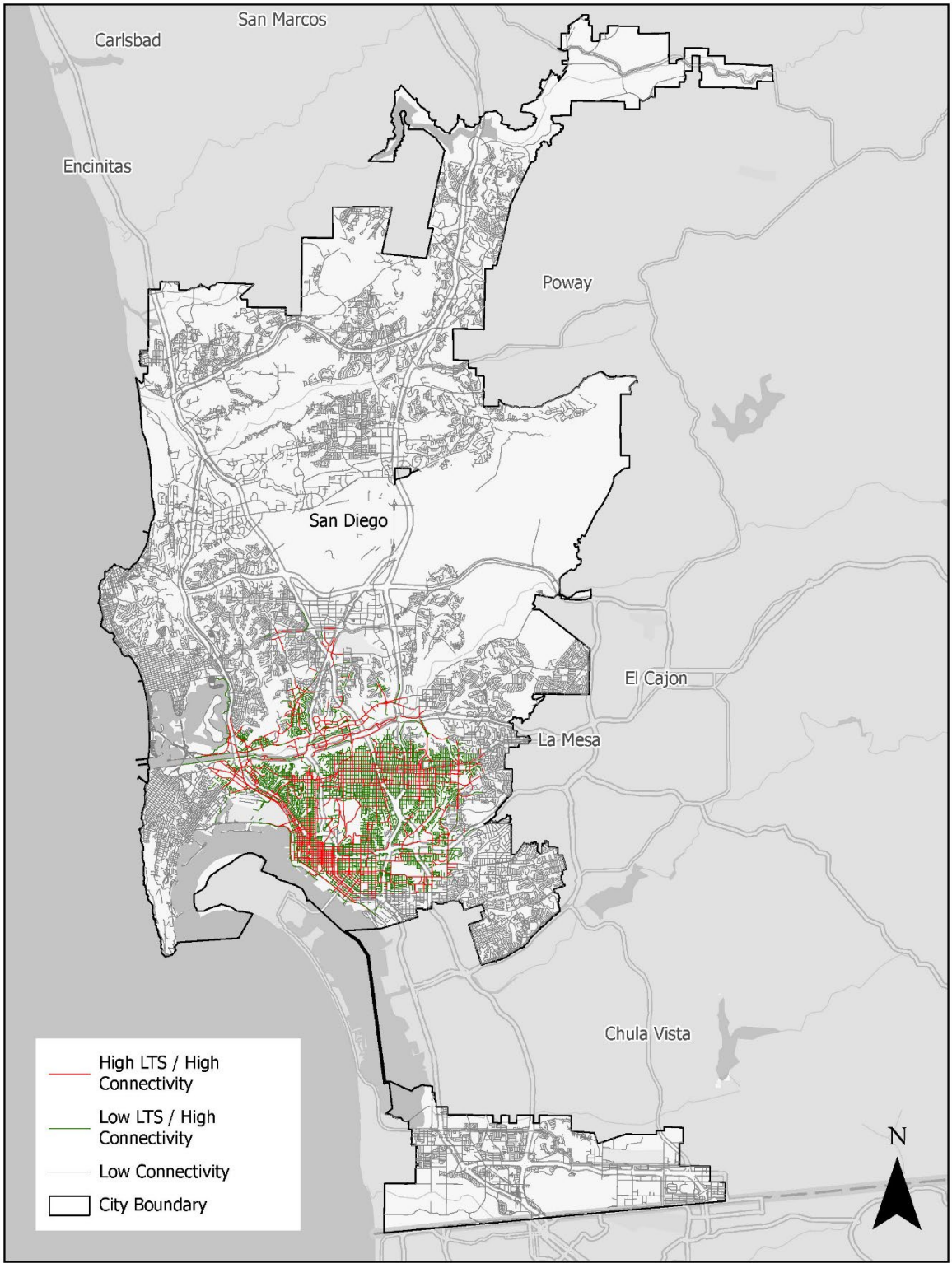
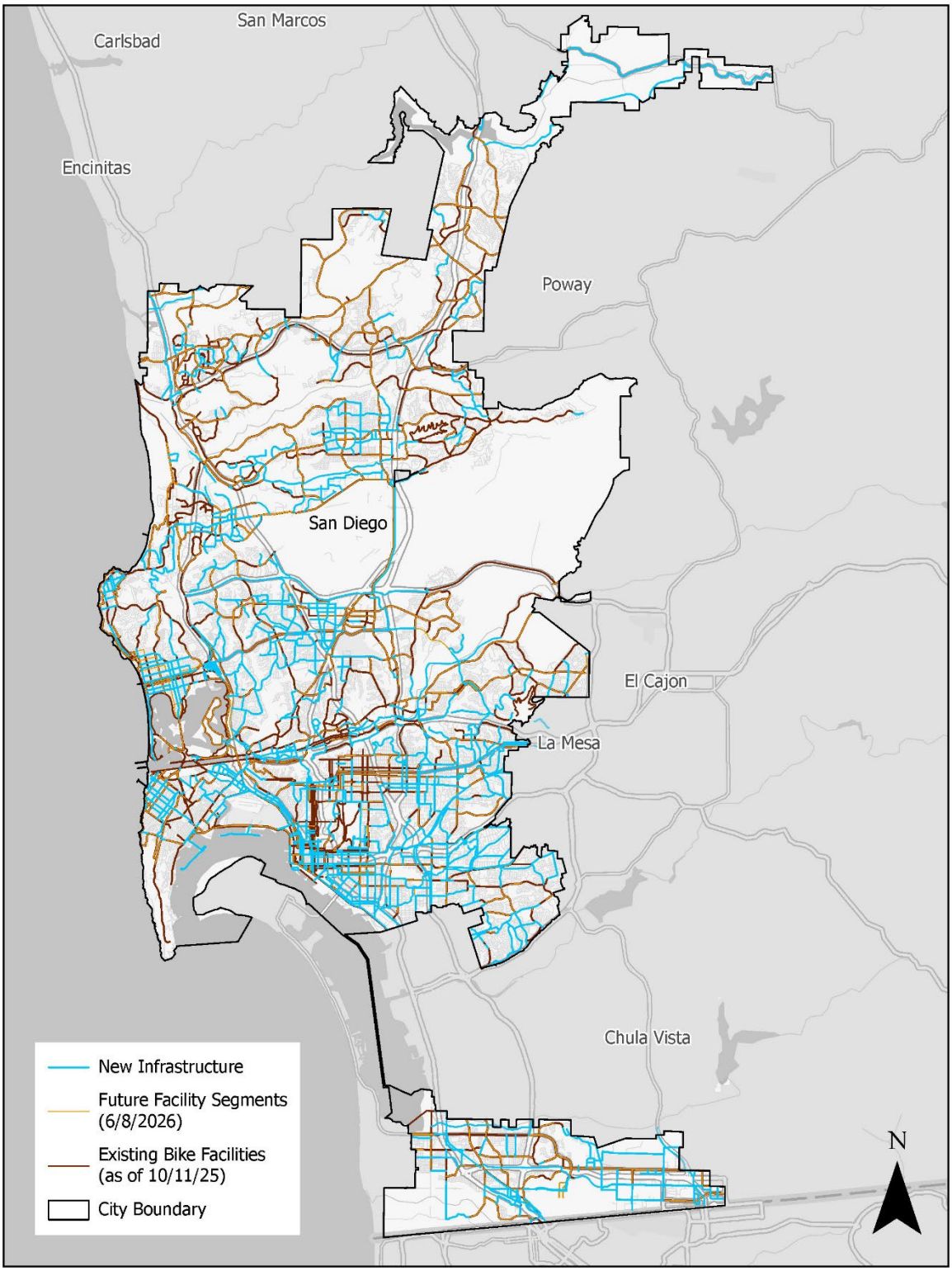


Figure 5: Network Gaps



Public Comment Review - 2 points

As part of Phase 1 of the BMPU and the SANDAG Vision Zero plan, public comments were collected through the Social Pinpoint program on cycling and road safety issues.

To ensure this feedback is meaningfully incorporated into the prioritization process, each comment was subject to a community voting mechanism, allowing participants to express agreement or disagreement through upvotes and downvotes.

To reflect collective sentiment and participation, both comment datasets will be evaluated independently. Each facility segment will be assigned a weighted score from 0-2 points, based on the relative density of public comments.

This approach emphasizes comment density as a quantitative measure of public engagement. By focusing on the relative volume of feedback, the process avoids ambiguity while ensuring that the most widely reported concerns are elevated.

This reinforces transparency and community-driven planning in the decision-making process.

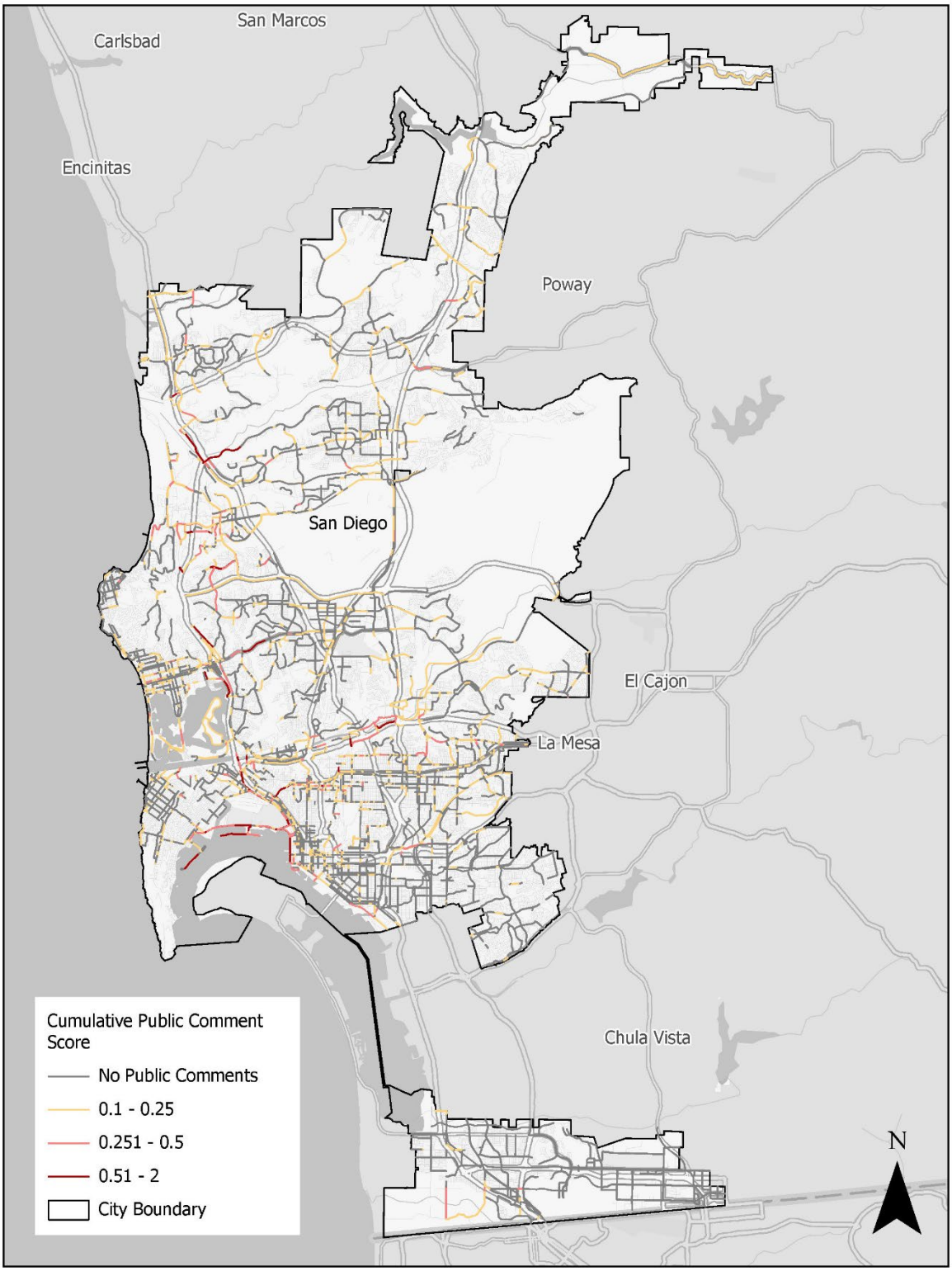
- **Step 1:** Assign comments to facility segments using a spatial join, and determine the quantity of comments associated with each facility segment
- **Step 2:** Assign a score to facility segments based on comment volume with facility segments that have one or more comments receiving a normalized score between 0.25 (1 comment) and 1 (maximum amount of comments)
- **Step 3:** Combine Vision Zero comment score and BMPU comment score so that each facility segment receives a score between 0 and 2

Table 4: Scoring for Public Comment Review

Metric	Category	Layer Description	Layer Name	Score	Source
BMPU Social Pinpoint	Public Comment Review	BMPU Phase 1 Social Pinpoint Public Comments	Feedback	0-1	BMPU Phase 1 Engagement
SANDAG Vision Zero Social Pinpoint	Public Comment Review	SANDAG Vision Zero Social Pinpoint Public Comments	SANDAG_AT-VZ_Social Pinpoint Public Comments (Points).csv	0-1	Regional Vision Zero Action Plan

Figure 6 shows the weighted public comment score for bike facility segments.

Figure 6: Public Comment Review



Smoothed Cumulative Score

All individual scores, Safety, Equity, Connectivity, and Public Comments will be summed to generate a composite prioritization score for each facility segment. This score reflects the facility segment's overall strategic value and readiness for implementation. To review facility segment scores along corridors the results will be smoothed along corridors using a half mile sliding window analysis, which will make values more consistent across corridors and remove the granularity that comes with using segments that have been split at intersections, while also not giving too much weight to longer segments.

- **Step 1:** Split dissolved facility segments at intersections so segments are broken up by block
- **Step 2:** Using the City's street centerline layer create a network of segments that have bicycle facilities that will be used as the routing backbone
- **Step 3:** Run the Create Routes tool on the street centerline network
- **Step 4:** Run the Locate Features Along Routes tool to locate facility segments along each route
- **Step 5:** For each corridor (grouped by Route ID), a half window slides along the route's range and computes a smoothed score at each position, which is then mapped back onto each original segment by snapping to the nearest window center

Table 5 shows the scoring for each category.

Category	Assigned Total	Maximum Possible Score
Safety	0-4 Points	4 Points
Equity	0-3 Points	3 Points
Connectivity	0-2 Points	2 Points
Public Comment Review	0-2 Points	2 Points

NEXT STEPS FOR IMPLEMENTATION*

Based on smoothed cumulative score, Fehr & Peers, Evari and City of San Diego will create three categories of project priorities: Very High Priority, High Priority, and Priority.

Once placed in a category, each facility segment will be further assigned to align with each of the City's funding sources as follows:

- **High Complexity**
- **Low Complexity**

**The updated bicycle network is currently being developed. Once the network has been finalized and all facility segments are confirmed, each facility segment will be evaluated using the defined prioritization metrics, and the approach outlined in previous sections.*

Figure 7 summarizes how each facility segment goes through the full prioritization workflow.

Figure 7: Prioritization Workflow

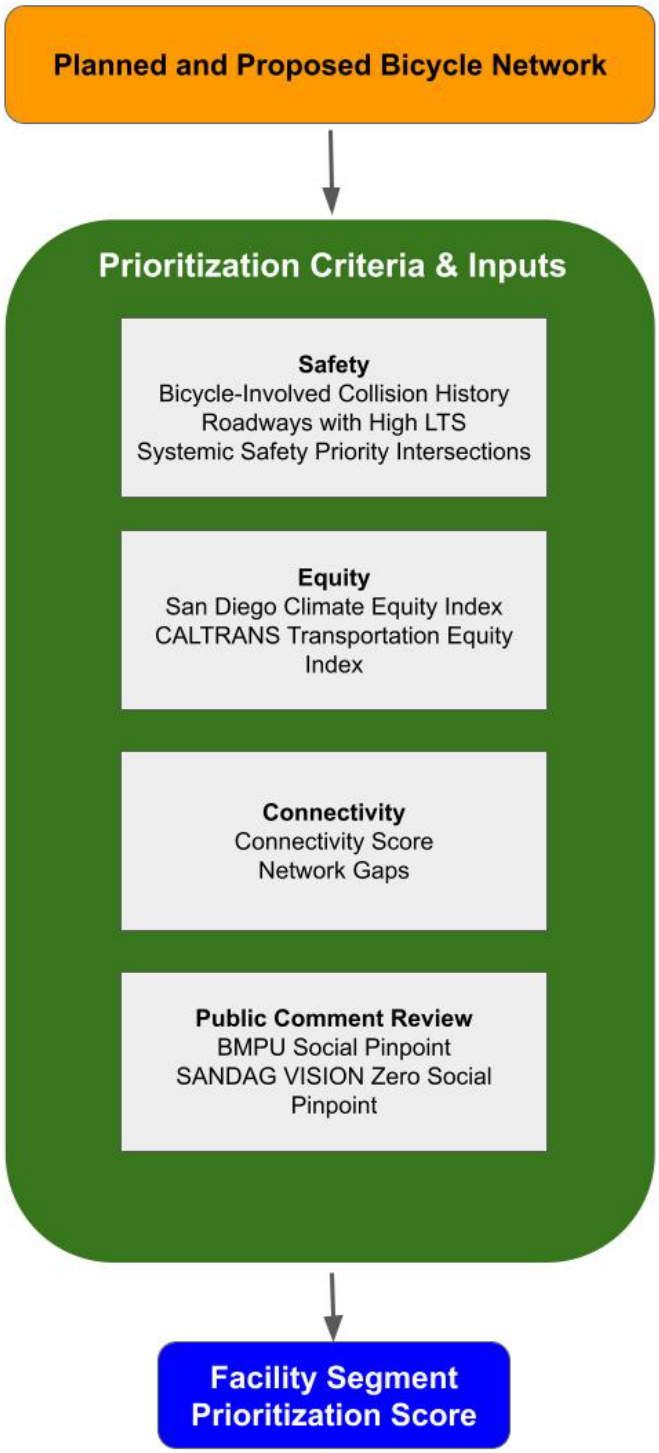


Figure 8: Facility Segment Smoothed Cumulative Priority Score

