FINAL | MARCH 2025

SAFE STREETS FOR ALL SAN DIEGANS

Working Paper 1:
Existing Conditions Analysis



The City of SAN DIEGO



Safe Streets for All San Diegans

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INTRODUCTION, PROCESS & BACKGROUND



INTRODUCTION

The City of San Diego is committed to making it safe for every San Diegan to get where they want to go, no matter how we choose to get around. With the adoption of Vision Zero, we recognized that there is no acceptable loss of life when traveling on our streets, and we have been building new infrastructure to make it safer to travel on our streets ever since. With the size of the City's roadway system, this fundamental shift in viewing our roadways takes time to implement. As we continue to shift processes to put safety first, the federal government Safe Streets for All (SS4A) grant program funded this opportunity to create plans and programs that establish a framework to create Safe Streets for San Diegans.

Individually, the three elements of this grant program each take a step towards improving equitable access and reducing severe injury and fatal crashes in the City:

Historically Disadvantaged Community Quick Build

Identify and prioritize safety improvement projects needed in underserved communities

Comprehensive Speed Management Plan

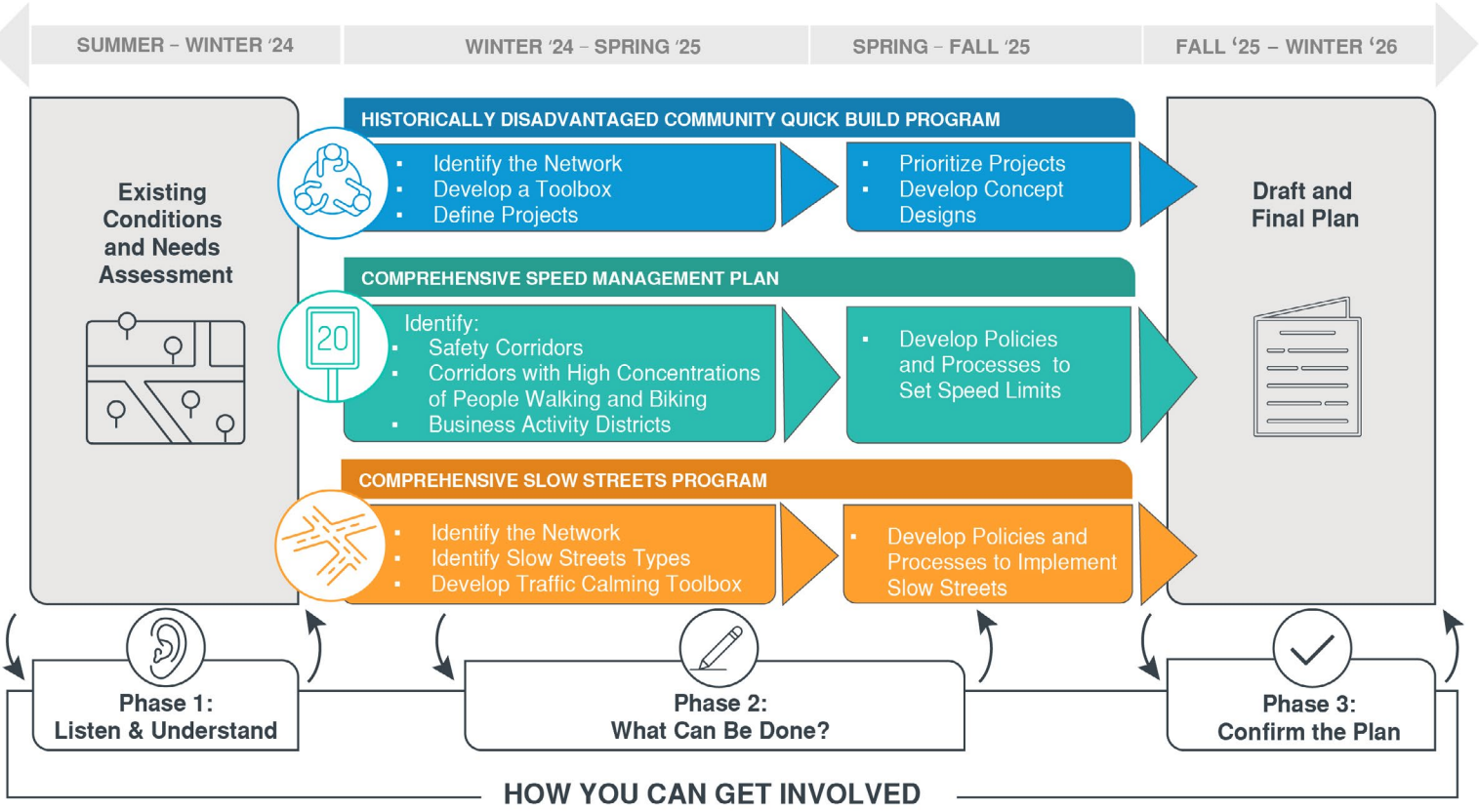
Reduce speed limits citywide and increase awareness on safe speeds

Slow Streets Program

Identify streets where traffic calming initatives are most needed and create safer community spaces

Study Process

The Safe Streets for All San Diegans project will be conducted in four phases supported by community engagement. While the project has three separate components, the efforts will run concurrently as shown below:



EXISTING CONDITIONS ANALYSIS

This interim report summarizes the existing and funded conditions, needs, and opportunities based on data analysis. The features which impact mobility are multifaceted and intersectional, therefore, the team utilized a "layering approach" to analysis, which involved synthesizing layers of data to develop a comprehensive understanding of travel patterns and needs in San Diego. This report is organized as follows:

1. **Study Background & Purpose:** Introduces the plan, three components, and how this analysis relates to each plan.
2. **Planning Context:** Describes relevant current and past planning efforts and summarizes the efforts of peer agencies in implementing slow streets networks.
3. **San Diego Today:** Reports the multimodal, demographic, and land use characteristics in San Diego.
4. **Network Conditions:** Summaries the existing multimodal transportation facilities in San Diego.
5. **Safety:** Summarizes selected safety trends for the five-year period from 2018-2022.
6. **Gaps, Opportunities, and Key Findings:** Synthesizes the existing conditions findings and summarizes the major gaps and barriers for walking and biking and lays the groundwork for next steps.

One Analysis, Three Plans

This existing conditions report summarizes information which will be critical to the development of all three plans. Each of the plans is discussed in more detail here.

Historically Disadvantaged Community Quick Build Program

The City of San Diego has made great strides in responding to urgent transportation and safety needs, rapidly deploying infrastructure like roundabouts to slow traffic, protected bike lanes to support biking, and flashing beacons to help people crossing the street. While some of these projects have been completed to address an acute safety issue, many have been installed opportunistically, tied in with the City's pavement rehabilitation program or other efforts. Additionally, the City recognizes that transportation investments have not always been implemented equally. This has been particularly challenging for underserved communities and community members, reinforcing inequitable land use patterns, creating infrastructure gaps and safety concerns, and contributing to disparate health and economic inequities.

The Historically Disadvantaged Community Quick-Build Program has the potential to rapidly address these discrepancies and improve equity outcomes for the people who need it most. This effort will focus on quick build improvements in historically disadvantaged areas to help people get around safely and comfortably, including systemic ways to address safety challenges.

WHAT IS A QUICK BUILD PROJECT?

Quick-build projects are installations of infrastructure, such as separated bike lanes, curb extensions, roundabouts and other traffic calming elements, that can be quickly installed using readily available and low-cost pre-approved materials that can be modified as needed. They help to accelerate transportation infrastructure safety projects through their streamlined timeline.

Quick builds are distinguished by the types of materials used; usually plastic posts, paint, and recycled materials.

There are many benefits to quick build projects, including the ability to:

- Implement faster than traditional capital improvement projects.
- Respond rapidly to safety issues.
- Test designs and incorporate user feedback for design changes and improvements.
- Provide opportunities to engage and educate people on different types of mobility projects.

Key Outcomes

The final Historically Disadvantaged Community Quick Build Program will have several final key outcomes, as outlined below. This existing conditions review is the first step in the process, to be followed by additional analysis leading to final recommendations as follows:

Existing Conditions Report:

1. Evaluate social, demographic, health, and physical characteristics of disadvantaged communities.
2. Review land use patterns and trends and identify key destinations.
3. Review crash history.
4. Identify community desire lines.
5. Analyze the multimodal transportation network to highlight gaps and opportunities for at the segment and intersection levels.

Quick Build Program Analysis

6. Conduct additional analysis and integrate community engagement results to identify desire lines.
7. Identify street and intersection typologies based on safety, transportation, and land use characteristics.
8. Develop a quick build network and toolbox of treatments, including concept design for 10 corridors.

Comprehensive Speed Management Plan

Effective speed management is critical in supporting safe and convenient travel for everyone—whether they are in cars, walking, riding a bike, or using a mobility device. In 2022, the State of California passed Assembly Bill 43, changing laws and procedures to allow cities more flexibility in setting speed limits. Under the new law, cities can lower speed limits in certain conditions. As part of this project, the City will identify streets that meet the State's criteria for speed limit reductions.

Key Outcomes

The final Comprehensive Speed Management Plan will have several final key outcomes, as outlined below. This existing conditions review is the first step in the process, to be followed by additional analysis leading to final recommendations as follows:

Existing Conditions Report:

1. Review the Citywide street network, including speeds, crashes, and other street characteristics.
2. Review land uses and identifying key destinations.
3. Identify the total length of City-Maintained roads by posted speed limits.

Speed Management Plan Analysis:

4. Overlay the City's speed survey network with pedestrian and bicycle crash data to identify correlations.
5. Overlay the City's speed survey network with fatal and serious injury crashes to identify areas with crash history and determine related street typologies.
6. Review relevant data to identify safety corridors, business activity districts, and streets with high concentrations of bicycle/pedestrian corridors.
7. Review the City's roadway network to identify opportunities to make speed reductions.

SPEED LIMITS & THE CITY

The California Vehicle Code defines how jurisdictions are to set speed limits within their control. The City of San Diego has over 1,500 street segments with speed surveys that set the enforceable speed limit. This Speed Management Plan will evaluate these surveyed streets for potential changes to improve the safety of all road users.

WHAT IS ASSEMBLY BILL 43?

Assembly Bill 43 (AB 43), passed by the California Legislature in 2021, gives the City greater flexibility to lower speed limits in specific areas to protect public safety. Historically, California cities have been required to set speed limits by measuring the current traffic speed, identifying the speed at which 85% of people are driving, and rounded to the nearest 5 miles per hour (mph).

AB 43 allows cities to round down to the nearest 5 mph rather than rounding up if the speed is more than halfway to the next 5 mph. Further, it also allows cities to lower speeds by another 5 mph based on:

- Identified **Safety Corridors**, which are streets with a high number of fatal and serious injury crashes.
- Areas with **high concentrations of pedestrians or bicyclists**, especially from vulnerable groups such as youth, seniors, persons with disabilities, or the unhoused.

AB 43 also allows cities to set a speed limit of either 20 or 25 mph by law in identified **Business Activity Districts** which meet a specific set of criteria, as defined by the state.

WHY LOWER SPEED LIMITS?

Higher speeds increase the risk of a crash, as well as the severity of a crash. Speeding significantly escalates the risk of fatal or serious injury crashes, especially for vulnerable roadway users like people biking or walking and people with disabilities or reduced mobility. People walking and biking are overrepresented among traffic deaths in San Diego.

Comprehensive Slow Streets Program

Cities across the country, including San Diego, have seen success in thoughtful implementation of slow streets projects. As San Diego experienced, these projects work best when they connect to destinations and are placed in communities who have expressed a need or desire for them. Through traffic calming and, in some cases, diversion elements, these projects can help communities transform streets from places for vehicles to public spaces for all, and can support active transportation network by providing low stress connections for all ages and abilities.

Slow Streets can take the form of temporary street closures for events, the closure or restriction of vehicle traffic on single streets providing needed outdoor space, or even networks of traffic calmed streets that supplement the walking and biking network to connect people to everyday needs.

Slow streets are a part of San Diego's growing, connected network of streets that are safe and welcoming places to walk, bike and roll for people of all ages and abilities.

Key Outcomes

The Comprehensive Slow Streets Program will have several key outcomes, as outline below. This existing conditions review is the first step in the process, to be followed by additional analysis leading to final recommendations as follows:

Existing Conditions Report:

1. Conduct a review of peer cities who have implemented Slow Streets programs and extract lessons learned.
2. Review street characteristics, including number of lanes, traffic speeds, and multimodal facilities.
3. Review demographic and transportation characteristics and highlight key destinations and travel patterns.
4. Identify short vehicle trips that could be converted to active modes.
5. Determine the quality and comfort of multimodal networks and measure connectivity to key detestations.

WHAT IS THE PURPOSE OF SLOW STREETS?

Slow Streets prioritize people over cars by limiting vehicle access and reducing traffic speeds to create safer spaces for walking, biking, and community activities. Slow Streets aim to achieve the following goals:

- Provide missing active transportation connections.
- Connect and/or enhance the City's existing bicycle and pedestrian network.
- Improve residential streets by calming vehicular traffic.
- Improve safety and comfort of residential streets for users of all ages and abilities.
- Enhance public space.
- Improve access to destinations.
- Alleviate traffic demand on arterial streets.
- Prioritize underserved communities.

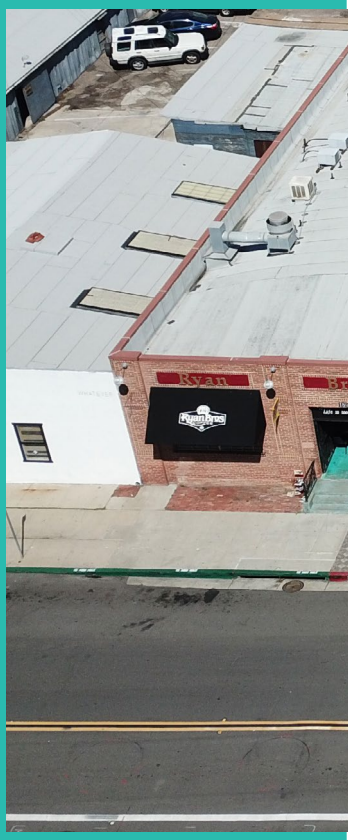
WHAT IS GUIDING THE SLOW STREETS INITIATIVE?

The California Vehicle Code 21101 (f), allows cities to implement slow streets programs which close streets to vehicular traffic or aim to limit vehicle speeds and volumes by using roadway design features. The code requires the city to meet specific criteria to implement such a program, including conducting engagement, maintaining publicly accessible materials, and conducting analysis to identify needs and impacts.

Slow Streets Program Analysis

6. Identify multimodal user priority and integrate community engagement to help identify and address tradeoffs.
7. Identify a slow streets network and toolbox of treatments.
8. Develop a formal process and educational materials for slow streets implementation.

02



PLANNING CONTEXT



PLANS AND STUDIES REVIEW

The project team reviewed relevant local and regional planning literature, design standards, and policy documents to strengthen the team's understanding of the issues previously identified, prior leadership and public input, planned and recommended improvement strategies, and policy guidelines. The plans are described on the following pages and discussed in full in Appendix A: Plan Review Summary.

Summary of Common Goals

While the plans cover various parts of the City and topics, the following common goals and themes were found:

1. **Safety and Traffic Calming:** Support for reducing of speed limits, traffic calming initiatives, and the creation of "slow streets" programs.
2. **Active Transportation and Mobility:** Focus on creation of a network to provide access for people who walk, bike, and roll.
3. **Equity and Community Focus:** Emphasis on improving equity outcomes through and prioritization of historically disadvantaged communities.
4. **Climate Action and Environmental Goals:** Align infrastructure and environmental policy to promote sustainable transportation options and reduce greenhouse gas emissions.
5. **Community Engagement and Inclusion:** Stress the importance of community engagement in decision-making.
6. **Infrastructure Maintenance and Improvement:** Emphasize the importance of maintaining and upgrading streets to support multimodal transportation.

Citywide & Regional Plans

The City has several citywide plans that address mobility, access, safety, climate, and asset management citywide. These plans provide valuable context to the City's initiatives to encourage active transportation and improve neighborhood safety and quality of life through roadway improvement strategies.

PLAN	PLAN SUMMARY
Mobility Plans	The City's Mobility Plans emphasize the demand for safe and comfortable citywide bicycle and pedestrian facilities. Each of the listed mobility plans conducted robust public engagement and administered surveys that will inform this project's efforts.
Bicycle Master Plan Update (Ongoing)	Updated recommendations and prioritization plan for active transportation projects to meet citywide goals, with increased emphasis on equity and serving areas with the greatest needs.
Pedestrian Master Plan	Multi-year framework for planning, implementing, and prioritizing pedestrian improvements and fostering walkable communities.
Mobility Master Plan (Draft)	A guide for implementing, evaluating, and prioritizing citywide projects and programs to advance mobility in a sustainable and equitable manner.
Vision Zero/ Safety Plans	These plans include robust data collection and analysis to define safety needs and recommendations throughout the City.
Vision Zero Strategic Plan 2020-2025	Lays out a course of action to eliminate severe injuries, road deaths, and eliminating greenhouse gas emissions by designing safe streets.
2024 Fatal Report	Ten-year analysis (2014-2023) that found systemic indicators for fatal crashes like four-lane/ two-lane and two-lane/two-lane intersections along transit routes.
2019 Injury Report	Five-year analysis (2014-2018) which found that 75% of crashes are near intersections and recommends treatments like roundabouts.
San Diego Traffic Calming Guidelines	Report summarizing the City's approach and processes for traffic calming, including approved treatments.
Climate and Asset Management	The City's climate and asset management plans provide guidance on maintaining the City's existing infrastructure while advancing plans and new infrastructure in alignment with climate action goals.
Pavement Management Plan	Comprehensive plan for identifying, evaluating, and prioritizing pavement maintenance. Starting in FY24, the City will begin using an equitable community investment factor when selecting streets for maintenance and rehabilitation. Four categories of equity are outlined: access, infrastructure, communities of concern, and processes.
San Diego Climate Action Plan	A roadmap for the City to move towards net zero greenhouse gas emissions by 2035 through six strategies: decarbonization, renewable energy, transportation and land use planning, clean communities, resiliency, and emerging climate actions. The plan includes targets and actions for increasing the number of San Diego residents who walk, bike, and take transit.
Regional Plans	Regional plans guide transportation and land use patterns beyond the City, with a focus on creating multimodal connections between jurisdictions to support regional travel.
SANDAG Regional Plan	The plan outlines a strategy to change transportation with "5 Big Moves" and a Fix It First strategy, which prioritizes funding in disadvantaged communities. The also plan identifies criteria to design comfortable bike facilities and networks for people of all ages and abilities.

Guidance Documents

In addition to citywide plans, San Diego has many documents that provide guidance, direction, and standards for new projects and programs. The project team reviewed the following guidance documents, codes, and policies that are relevant to the work that will be completed as part of this project's scope:

PLAN	PLAN SUMMARY
City Design Guides & Policies	Documents which guide the planning, design, and installation of transportation infrastructure.
Street Design Manual	Guidance for providing information for the design of the public right-of-way that recognizes tradeoffs and the varied purposes that a street serves.
Criteria for Installation of Traffic Signals 200-06	Policy states that only intersections meeting the minimum warrants should be considered for traffic signals. The satisfaction of a warrant is not necessarily justification for signals.
Criteria for the Installation of Stop Signs 200-08	Policy states that the installation of stop signs shall be made using engineering judgment along with the stated criteria.
Complete Streets Policy 900-23	Report summarizing the City's approach and processes for traffic calming, including approved treatments.
State Policies	These adopted state policies lay the foundation for the City's ability to make certain transportation decisions.
California Code, Vehicle Code - VEH § 21101 (f)	Code that allows local authorities to implement slow street programs by limiting access or speed to certain streets through identified Slow Streets programs and roadway design features
Assembly Bill No. 43 - Chapter 690	Bill that amends the law that allows local authorities to reduce speed limits based on defined criteria

Community Plans

The project team reviewed local community plans to gain insight on community-level goals, policies, and visions. The information provided in these community plans will inform slow street strategies, traffic calming measures, and locations to consider for speed reduction. The community plans that the project team reviewed include:

- Mission Valley Community Plan
- Kearny Mesa Community Plan
- Mira Mesa Community Plan
- Hillcrest Focused Plan Amendment
- University Community Plan Update
- Encanto Neighborhoods Community Plan
- Barrio Logan Community Plan

The policies and strategies outlined in the community plans were informed by the San Diego General Plan, San Diego's Climate Action Plan, and the SANDAG Regional Transportation Plan. Several community plans incorporate equity as a vital role throughout the document; like in Barrio Logan, the plan emphasizes policies that mandate equitable community engagement and project prioritization. The plan lays a foundation for equitably approaching and involving historically disadvantaged communities and prioritizing serving these communities during project prioritization and selection. Other community plans like Hillcrest's and University describe incorporating design and mobility policies to improve traffic calming and identify streets and neighborhoods that would benefit from lower vehicle speeds. Finally, some plans, like Mira Mesa's, point to specific streets and intersections where non-motorists would benefit from lower traffic speeds.

LEARNING FROM OUR PEERS

While San Diego has already implemented quick build and slow streets projects, there is still a lot we can learn from looking to our peer agencies. With this in mind, planning and implementation efforts in California and across the US were reviewed in detail to identify successes, challenges, and lessons learned. These lessons learned among all the peer agencies will help inform best practices for the design and implementation of slow streets and quick build projects in San Diego. The full review is located in Appendix B: Peer Agency Review.

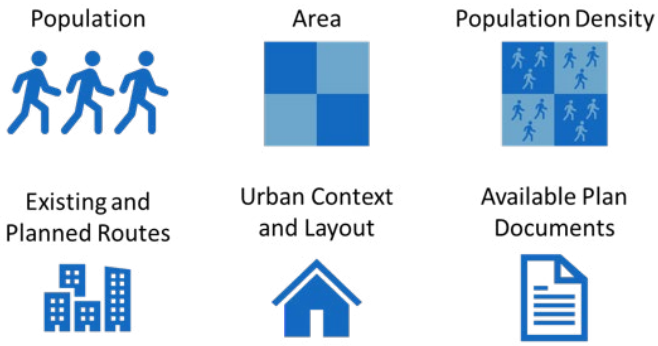
Review Framework

The peer city review is structured around key questions regarding how Slow Streets can be implemented in San Diego, including:

- How are potential Slow Streets identified, prioritized, selected, and implemented?
  - Are costs and benefits weighed in the process?
  - How are competing demands addressed?
- How are projects initiated and by who?
- How are Slow Streets projects funded?
- What policies, processes, plans, tools, or requirements have been developed to aid or guide the projects?
- How is community engagement integrated into the phases of the project life cycle: identification, planning, design, implementation, post implementation, and what lessons can be learned?
- How is equity tied into the selection and implementation process?
- How are projects monitored, modified, or transitioned to full infrastructure investments post implementation?

Peer City Selection

It is important that peer agencies generally reflect the context of San Diego so that lessons learned can be transferable. For this review, peer agencies were identified based on the following specified criteria and coordination with City of San Diego Staff.



CITY	POPULATION	PROGRAM NAME	YEAR STARTED	EQUITY FOCUS	COMMUNITY -DRIVEN	ANNUAL BUDGET
San Francisco, CA	873,000	Slow Streets	2022			$5M
Los Angeles, CA	3,900,000	Slow Streets LA	2020	■	■	$900K
Oakland, CA	440,000	Slow Streets & Essential Places	2020 / 2022	■		N/A
San José, CA	1,000,000	Walk Safe San Jose	2022	■		$400K
Philadelphia, PA	1,600,000	Neighborhood Slow Zone	2019	■	■	$3M
Denver, CO	715,000	Shared Streets	2020	■	■	N/A
Boston, MA	675,000	Neighborhood Slow Streets / Safety Surge	2016	■	■	$12M
Minneapolis, MN	430,000	Neighborhood Traffic Calming	2022	■	■	$400K
Atlanta, GA	498,000	Action Plan for Safer Streets / Tactical Urbanism	2019		■	N/A
Vancouver, BC	662,000	Slow Streets	2020			$400K

Peer Agency Efforts & Accomplishments

San Francisco, CA

Creating low-traffic routes connecting to the city's active transportation network.

- Includes residential street restrictions and a council approved toolbox of traffic calming treatments with triggers for different levels of engagement.

Projects selected based on street connectivity, access to services, and minimal impact on transit and emergency routes.

Los Angeles, CA

Initiated to create safe, low-vehicle spaces, now moving toward permanency.

- Application-based; neighborhoods propose locations and receive City support for safety treatments.
- Streets prioritized based on equity criteria, population density, and access to parks and high-injury locations.

Oakland, CA

Implements Neighborhood Bike Routes with designated Slow Streets to connect key destinations.

- Uses existing/planned bike network and 5-year paving plans to guide Slow Street locations.
- Connects "essential places" like grocery stores and health clinics to improve safety and access.

San José, CA

Pedestrian-focused safety plan targeting areas with high foot traffic and safety concerns.

- A committee of local leaders ensures equity and prioritizes areas for quick-build improvements.
- Uses crash data and community input to identify high-need areas and implements treatments for crosswalk visibility, protected turns, and longer pedestrian clearance at signals.

Philadelphia, PA

Community-led traffic calming within designated slow zones, aligned with Vision Zero goals.

- Community applications score higher with letters of support; zones are evaluated on crash data and demographic factors.
- Applicants must commit to 20 MPH speed limits and potential parking losses for project eligibility.

Denver, CO

Network of shared-use streets, emphasizing active travel and slow vehicles.

- Initial locations chosen through community votes on an online map & program is coordinated with neighborhood bikeways.
- Design templates accommodate residential and commercial areas, incorporating quick-build and permanent materials.

Boston, MA

Comprehensive safety program that sets speed limits and aims for citywide traffic calming.

- Initially application-based, now a city-led approach prioritizing vulnerable neighborhoods using criteria like poverty, zero-car households, and minority population.
- Citywide installations of speed humps, intersection redesigns, and improved crosswalks with annual targets for improvements.

Minneapolis, MN

Community-driven program that allows residents to apply for speed control measures.

- Annual application process where residents propose traffic calming on local streets; screened by traffic and equity criteria.
- Community meetings held for design feedback & data collected post-installation to inform future changes.

Atlanta, GA

Rapid, community led, temporary street changes for safer multimodal streets.

- City-issued Tactical Urbanism guide offers materials, costs, and layouts for community-led safety projects.
- Short and long term options allow for flexible trial periods and community adaptation. City provides materials free of charge in equity priority areas.

Vancouver, BC

Citywide slow street network for safe walking, biking, and rolling access on low-speed streets.

- Phases include initial signage, feedback-driven adjustments, and permanent calming measures.
- Routes prioritized based on proximity to greenways, parks, and high-density areas; integrated with bike infrastructure.

Key Findings

Program Structure and Phases

- **Multi-Phase Approach:** Many cities, such as Vancouver and San Francisco, structure their programs in phases. Typically, this starts with temporary installations (e.g., signage, cones, or barriers) to test feasibility and gather feedback, followed by modifications and permanent installations if successful.
- **City-Led or Community-Driven Process:** Some programs, like those in Boston and Philadelphia, are centralized with oversight from a city department, while others, such as Minneapolis and Atlanta, use a more community-driven approach where local organizations or residents can apply for Slow Streets in their neighborhoods.
- **Annual or Continuous Application Cycles:** Many programs, including those in Minneapolis and Philadelphia, have annual application cycles that review and select new projects each year based on predefined criteria, while others (like Denver's) operate on an ongoing basis with city-led selection of project locations.
- **Prioritization on Safety and Equity:** Programs often include prioritization frameworks based on safety data (e.g., crash history) and equity (e.g., targeting underserved communities), which guide which neighborhoods or corridors receive priority in project selection.

Equity- and Community-Focused Project Requirements

- **Requirements for Community Support and Engagement:** Programs in cities like Philadelphia and Boston require community support letters and hold engagement sessions to tailor designs to community needs. Some programs also include specific requirements, such as commitment letters agreeing to speed limits or installation of traffic calming features, especially if it impacts parking.
- **Equity-Based Criteria and Tools:** Several programs, such as those in Oakland and Minneapolis, use equity metrics (e.g., income levels, car ownership, access to public transit) to prioritize neighborhoods most likely to benefit. This structure ensures that Slow Streets are deployed where they can have the greatest positive impact, often in historically underserved communities.

Types of Projects Allowed

- **Traffic Calming and Safety Measures:** Many Slow Streets programs allow a wide variety of traffic calming treatments, including speed humps, traffic diverters, and mini traffic circles. Minneapolis and Los Angeles provide extensive "toolkits" of traffic calming measures to help neighborhoods select options suited to local conditions.
- **Quick-Build and Temporary Installations:** Cities like Los Angeles and Atlanta allow for temporary projects, such as pop-up bike lanes or pedestrian-only street closures. These quick-build installations help test feasibility, assess community response, and refine designs before committing to permanent infrastructure.
- **Balancing user needs:** Most cities found a balance between vehicle access and prioritizing active transportation, making them adaptable spaces for community use and events. Most cities also only used full traffic diversion when absolutely necessary as demonstrated through post installation of evaluation.
- **Project Size and Scale:** Most programs limit the length of Slow Streets projects or the number of blocks affected. However, most Cities also looked to integrate slow streets into the active transportation network so they could expand access in addition to creating community space.

Permitting and Design Flexibility

- **Streamlined Permitting Processes:** Programs such as Atlanta's Tactical Urbanism initiative streamline the process for community-driven projects by providing clear guidelines on design, permitting, and required materials, which helps community groups implement projects more quickly and affordability.
- **Design Flexibility:** Many cities, including San Francisco and Oakland, allow flexibility in design by offering a pre-approved set of treatments that can be tailored to fit the unique needs of each neighborhood, such as traffic diverters for high-traffic areas or speed humps for quieter residential streets.
- **Evaluate and Monitor Projects:** Effective monitoring, as practiced by San Francisco and Boston, includes collecting traffic volumes, speed data, and community feedback, followed by annual reports or updates. A formalized evaluation process helps ensure that the program meets objectives, such as reducing traffic speeds and crashes.

Summary of Recommendations for San Diego

To structure an effective program, San Diego might consider:

- **Adopting a phased approach** to test temporary installations and scale up successful projects based on evaluation and monitoring results.
- **Offering a toolkit** of pre-approved traffic calming and pedestrian/bike-friendly treatments that includes both quick build and permanent applications.
- **Developing an application process** with a strong equity framework, allowing community-driven proposals while prioritizing underserved neighborhoods. This process should also identify levels of agency support, which may vary by area and project type.
- **Streamlining permitting and design options** to encourage community involvement and ensure projects are feasible.
- **Define project size, scale, and criteria early**, such as proximity to a traffic signal to maximize project utility.
- **Integrate Slow Streets into the Low Stress Network** so that slow streets projects can expand access to as many people as possible without being required to serve as a stand alone network.
- **Prioritize access to everyday destinations** to increase the utility of Slow Streets.
- **Use traffic calming instead of street closures** on Slow Streets to discourage fast driving and cut through traffic while still maintaining the integrity of the transportation network and encouraging usage by all modes.
- **Define flexible targets** for speed and volumes on Slow Streets that are realistic for the community but still meet the needs of people of all ages and abilities.

These findings offer a structured, adaptable, and community-responsive model that can be customized to fit San Diego's unique urban context.





SAN DIEGO TODAY



SETTING THE STAGE: THE CITY OF SAN DIEGO

San Diego is a vibrant and culturally diverse city that is home to millions of residents, tourists, and visitors. The landscape of San Diego is as diverse as its people. It's characterized by miles of beautiful beaches, sprawling canyons, and mesas that create a series of separate yet interconnected neighborhoods. These neighborhoods play a key role in San Diego's makeup, each with its own commercial core and distinct community.

People choose to live in San Diego for a variety of reasons, including its high quality of life, top-tier universities, strong job market, and the opportunity to enjoy an active, outdoor lifestyle. San Diego is often sunny with a temperate climate, making it a great place to walk and bike year round. Additionally, San Diego is home to several world-renowned attractions such as Balboa Park, La Jolla Cove, and the famed San Diego Zoo.

San Diego's existing transportation network plays a significant role in the city's functionality, attractiveness, and overall quality of life. The city boasts a comprehensive and efficient transportation network that includes freeways and roads, transit, rail, an airport, and seaports, resulting in a City that is widely accessible to a variety of modes. Additionally, the City is working to actively promote alternative modes of transportation like walking and biking.

The City recognizes that streets are part of public space and the public realm and should provide more than just transportation to and from destinations, but instead can serve as destinations themselves by providing space for celebrating and gathering.

SAN DIEGANS TODAY

People make mobility choices based on their socioeconomic and cultural backgrounds, the transportation options available to them, and their perceptions of safety, convenience, and cost to reach their intended destination. To assess transportation needs and gaps, it is crucial to understand who lives in the City of San Diego, the built environment around them, and the mobility choices they currently make. This section provides an overview of current demographic and economic characteristics.

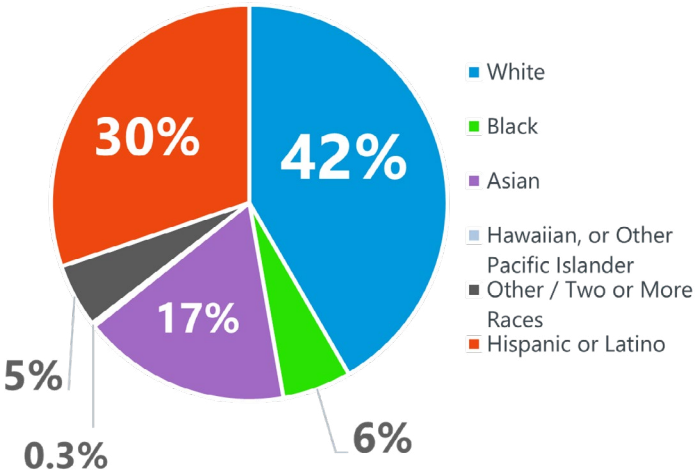
Population at a Glance

The City of San Diego is home to almost 1.5 million people. In recent years, San Diego's population has continued to grow (FIGURE 1 and FIGURE 2). This growth can be attributed to various factors, including the city's strong economy, quality of life, and its key industries such as biotechnology, healthcare, and telecommunications. The city's higher education institutions, including the University of California, San Diego (UCSD) and San Diego State University (SDSU), also attract a significant number of students from around the world.

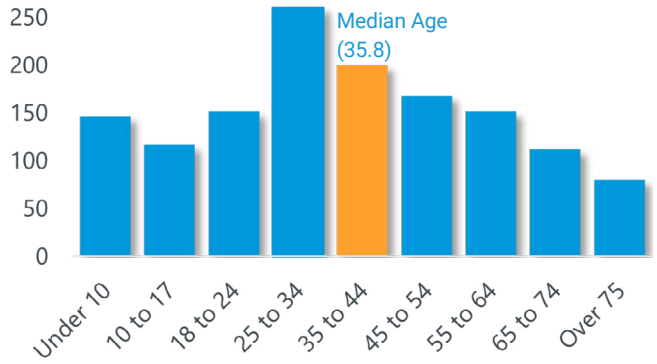
According to the 2022 5-Year American Community Survey (ACS):

- **San Diego is getting a tad older but is still young.** Since 2010, the median age of the City of San Diego has increased 7.2% from 33.4 to 35.8 years of age. The median age (FIGURE 3) of the City of San Diego is 2.5% younger than the County overall (36.7 years) and 4.2% younger than the State overall (37.3 years).
- **San Diego is getting more demographically diverse.** The Hispanic/Latino and Asian Pacific Islander communities continue to grow and is a significant part of the city's population. As of 2022, 58.5% of people in the City of San Diego are people of color, 3.7% more than the County overall (56.4%), but 10.7% less than California overall (64.8%); however, there are 8.7% more people of color in the City than there were in 2010. FIGURE 4 shows the distribution of racial and ethnic groups.
- **San Diego is becoming more educated.** 48.7% of residents over 25 years of age have a bachelor's degree or higher, 18.7% higher than the County overall (41.0%) and 35.7% higher than the State overall (35.9%). This is higher than from 2010 when only 40.8% of people living in the City of San Diego had a bachelor's degree or higher.
- **San Diego is getting wealthier.** The median income of the City is $98,657, 1.7% more than the County overall ($96,974), but 7.3% more than the State overall ($91,905). Median income in the City of San Diego is 57.9% higher than it was in 2010 ($62,480). FIGURE 5 shows the distribution of median household income in the city.

POPULATION BY RACE



POPULATION BY AGE in thousands



HOUSEHOLD INCOME

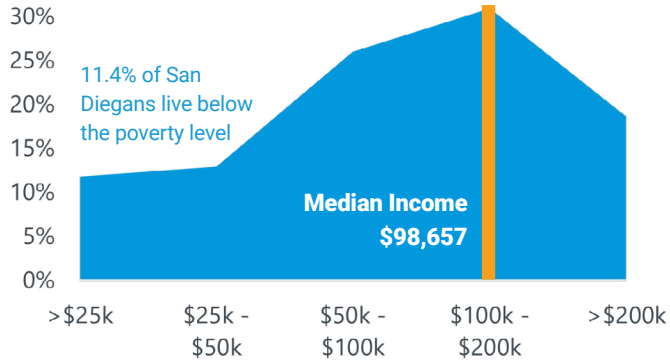
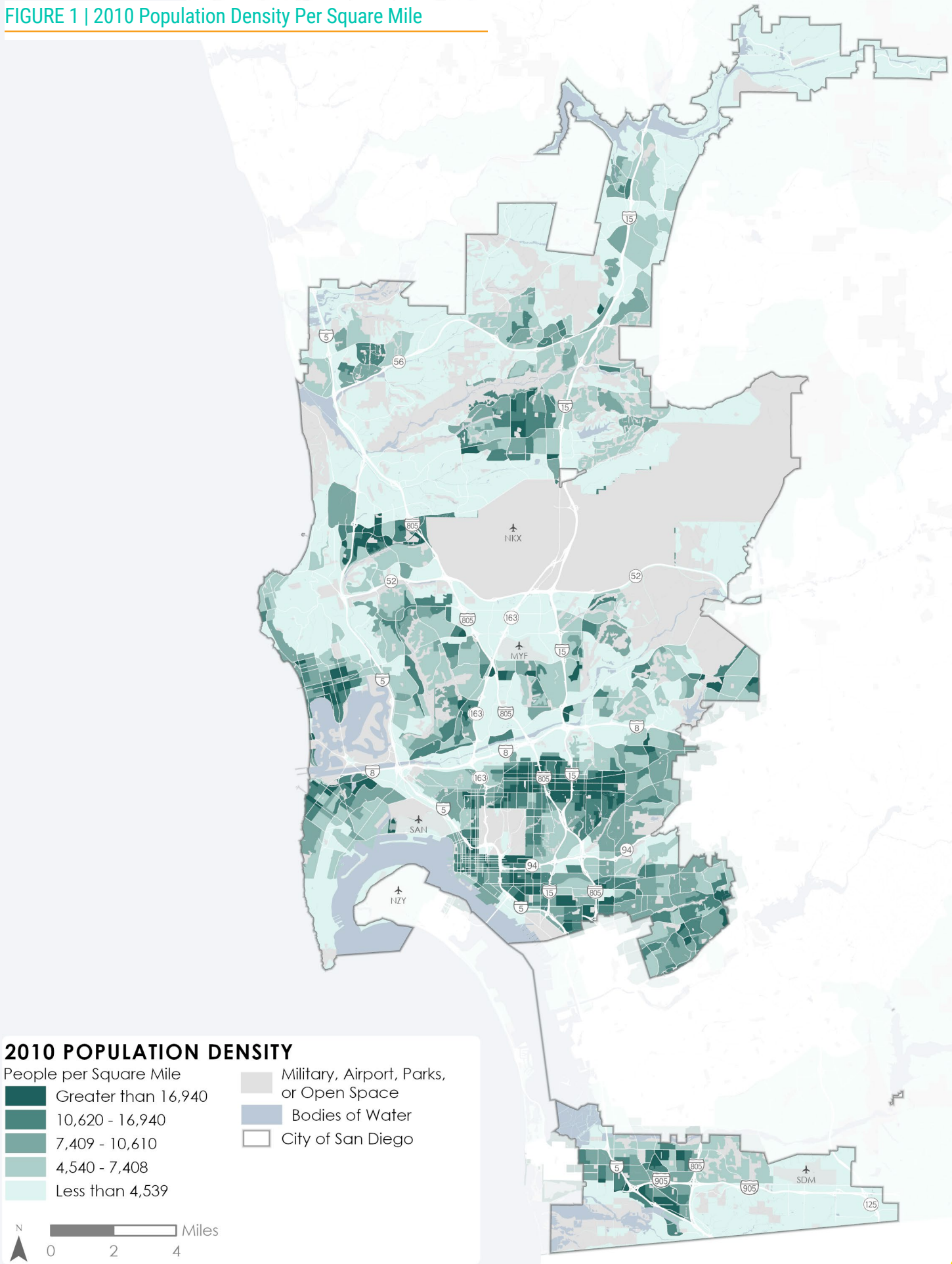
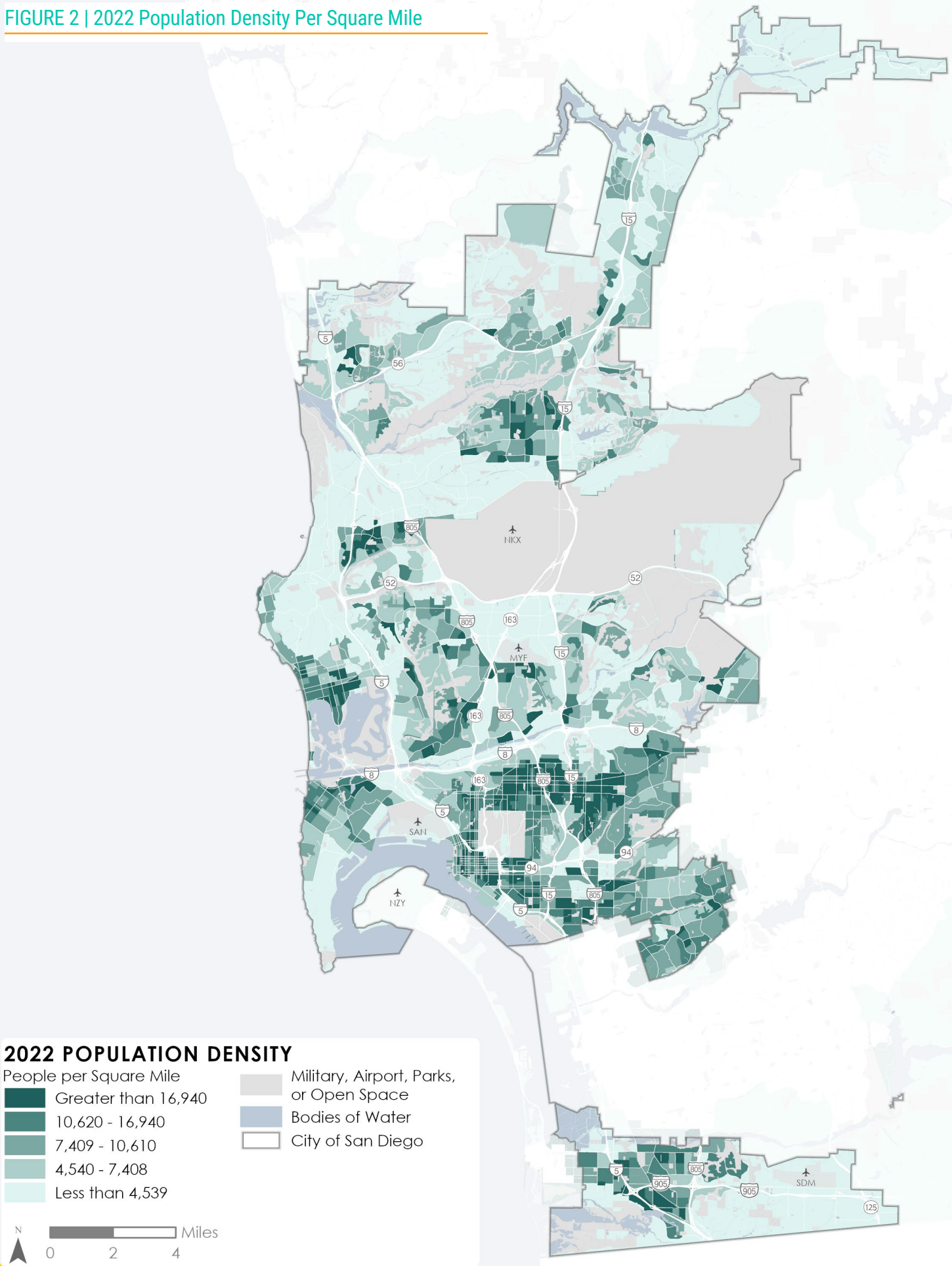


FIGURE 1 | 2010 Population Density Per Square Mile



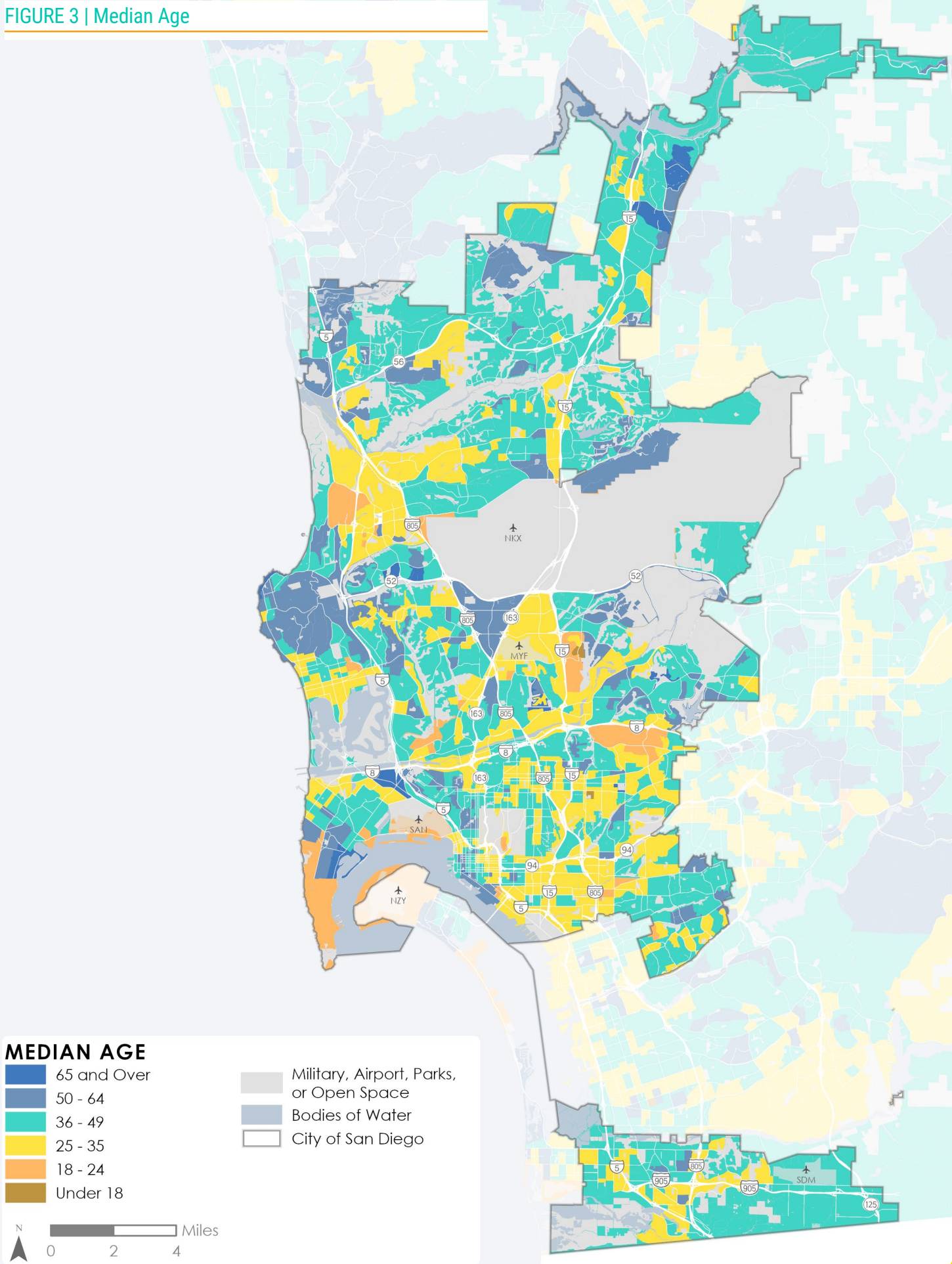
Source: U.S. Census Bureau, 2010 American Community Survey 5-Year Estimates

FIGURE 2 | 2022 Population Density Per Square Mile



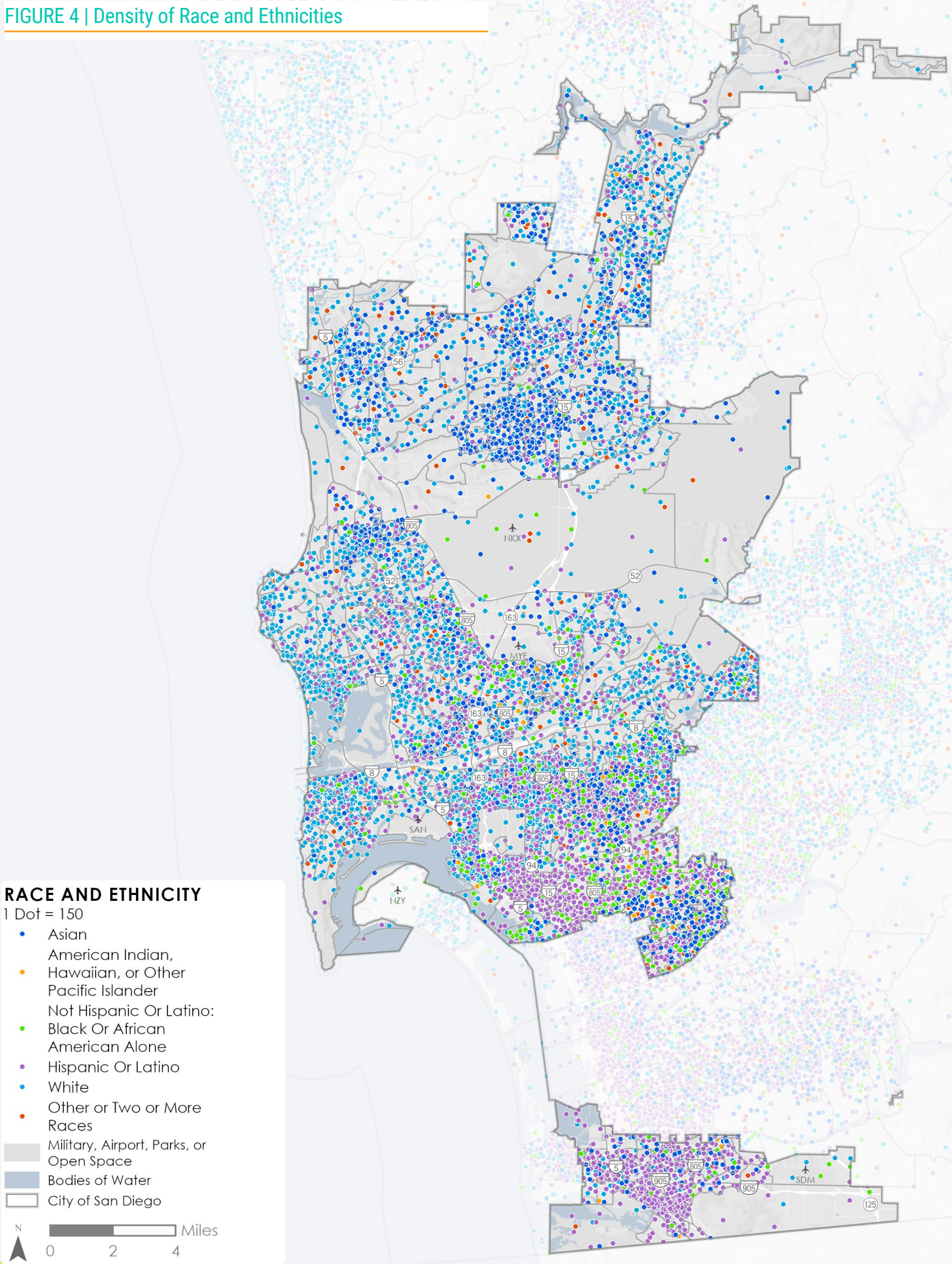
Source: U.S. Census Bureau, 2022 American Community Survey 5-Year Estimates

FIGURE 3 | Median Age



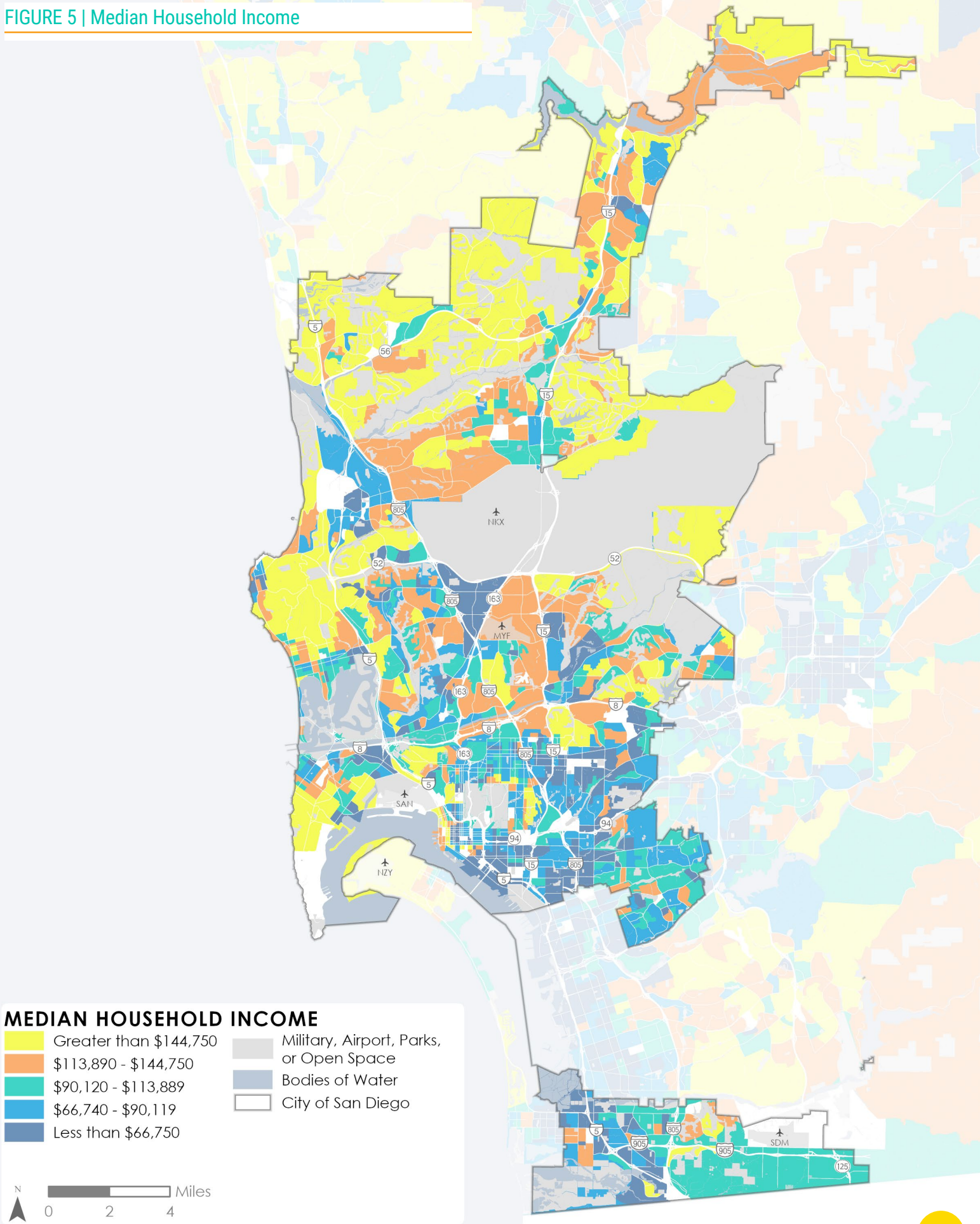
Source: U.S. Census Bureau, 2022 American Community Survey 5-Year Estimates

FIGURE 4 | Density of Race and Ethnicities



Source: U.S. Census Bureau, 2022 American Community Survey 5-Year Estimates

FIGURE 5 | Median Household Income



Source: U.S. Census Bureau, 2022 American Community Survey 5-Year Estimates

Our Social Needs

Everyone has different needs and desires when it comes to transportation. Certain populations are more likely to depend on walking, biking, using an assistive device, and transit to get to their daily needs. Others may choose to walk, bike, or roll for recreation. The statistics below highlight some key demographic findings and how they may relate to active transportation needs or potential usage.

AGES LESS LIKELY TO DRIVE

People under 18 and over 65 may be less likely to own a vehicle, choose to drive if they do, or travel during regular commute times. FIGURE 6 shows concentrations of both populations in Mira Mesa, San Ysidro, and City Heights.

Ages with greater needs for alternatives to driving:



19% Are under the age of 18

13.8% Are over the age of 65

PEOPLE WITH DISABILITIES

People with disabilities may require specialized services to get around, like longer time to cross an intersection, and may be less likely to own a vehicle. FIGURE 7 shows concentrations in Clairemont Mesa and in communities south of I-8 including Normal Heights and City Heights.

May need additional amenities:



9.7% Live with a disability

PEOPLE WHO LIVE IN POVERTY

People living in poverty may not be able to afford to purchase or maintain a vehicle, and therefore are more likely to depend on walking, biking, and transit to get around. FIGURE 8 shows these populations are concentrated in Southeast San Diego and City Heights.

May not be able to afford a vehicle:



11.4% People living under the poverty line in the past 12-months

PEOPLE WITHOUT INTERNET ACCESS

People without access to the internet may have a difficult time accessing services like rideshare and may need to access community destinations regularly for internet access. FIGURE 9 shows this is most common in City Heights, Normal Heights, North Park, and Downtown.

More likely to take trips for services



4.4% Have no internet access

PEOPLE WITHOUT ACCESS TO A VEHICLE

People without access to a vehicle are likely to walk, bike, and ride transit for daily needs and may benefit from investments in walking and biking. FIGURE 10 shows concentrations in City Heights, Southeastern San Diego, Downtown, and Uptown.

May be dependent on walking, biking, and transit

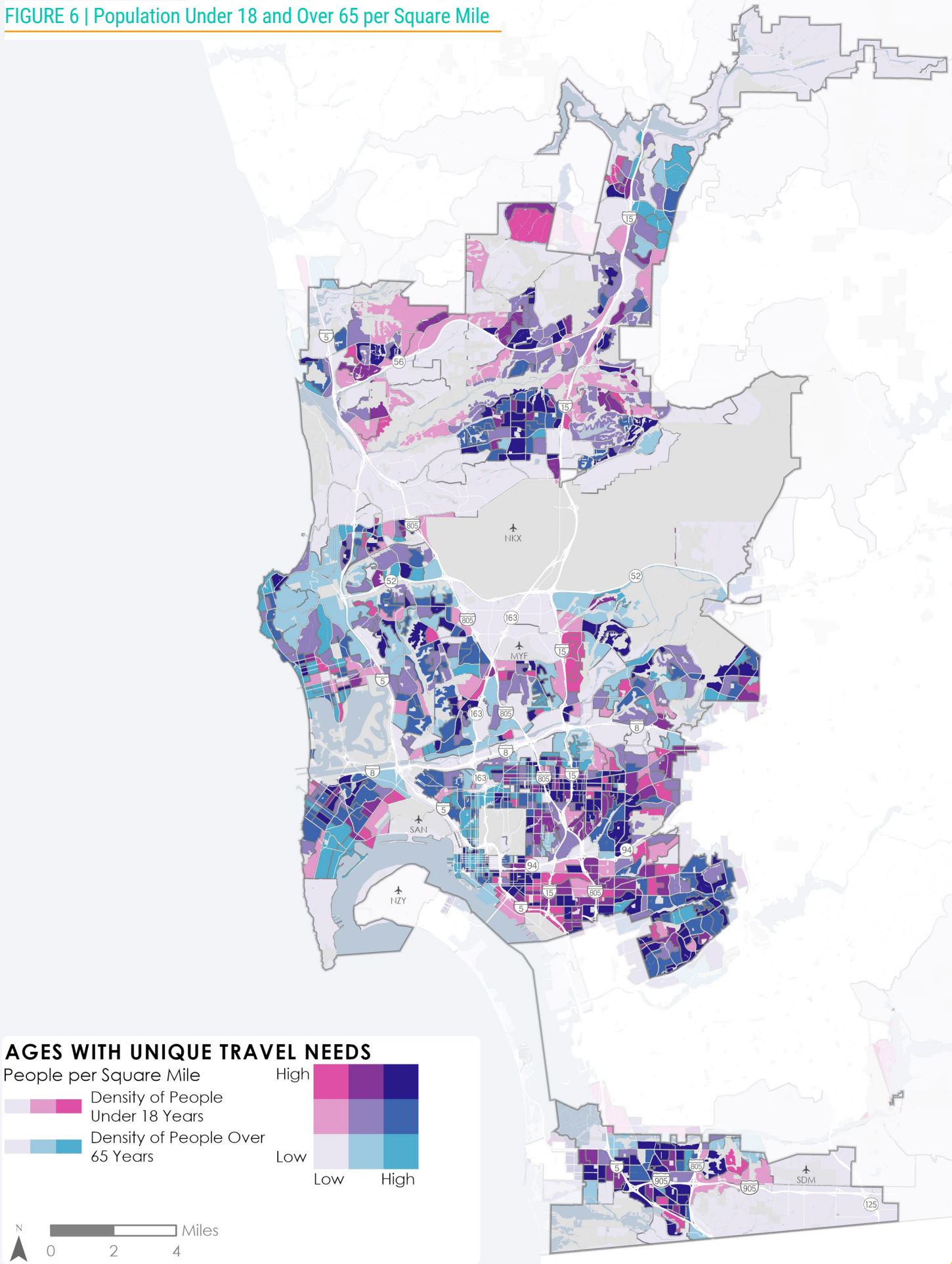


6.1% Households do not have access to a vehicle

CITY OF SAN DIEGO SOCIOECONOMIC CONDITIONS (2022)

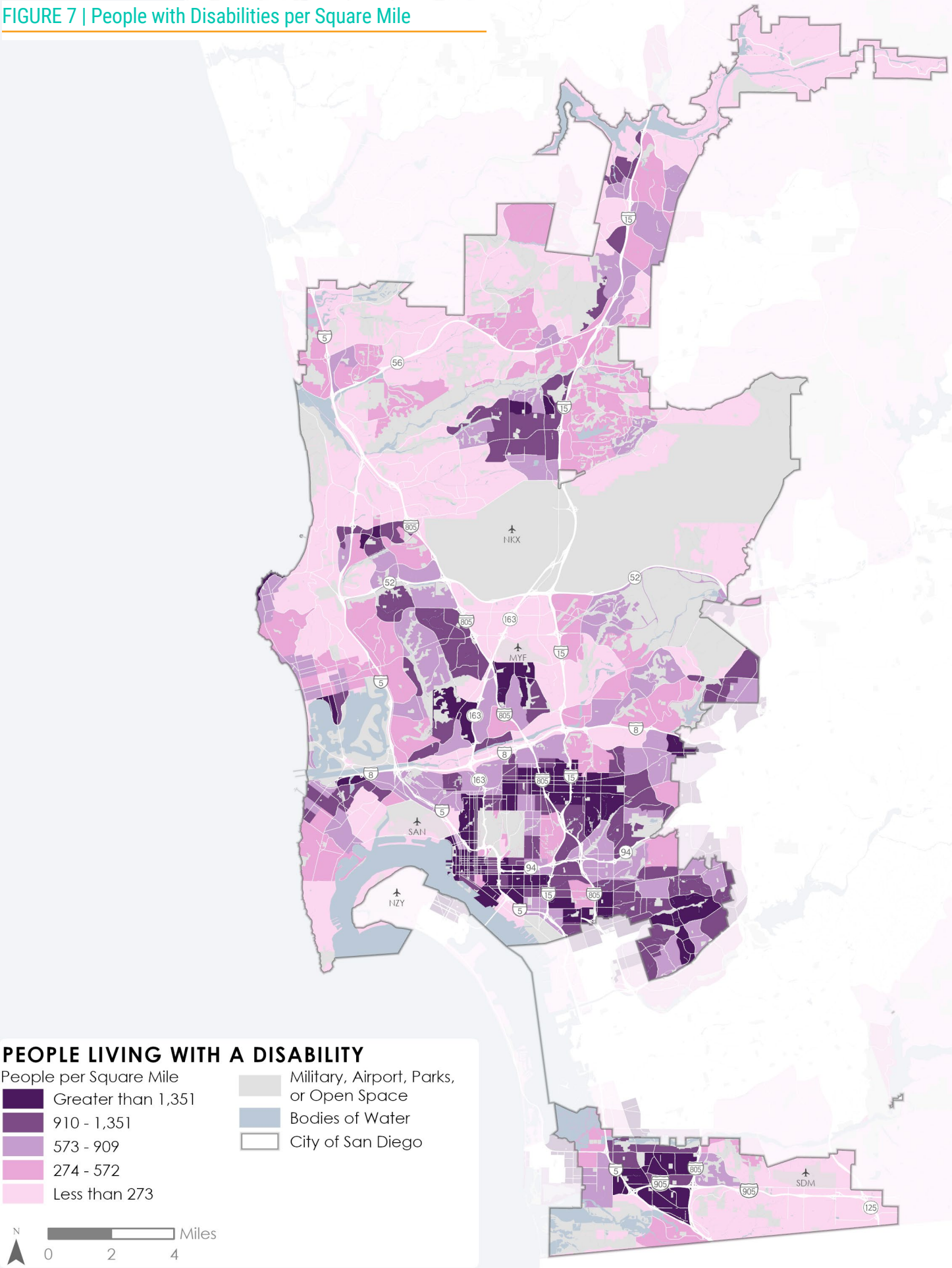
	City of San Diego	County of San Diego	California
Age 18 and Younger	19%	21.2%	22.3%
Age 65 and Older	13.8%	14.7%	14.9%
Population with a Disability	9.7%	10.4%	11.0%
Population below the Poverty Level	11.4%	10.6%	12.1%
Population with Limited English Proficiency	6.6%	6.0%	8.4%
Households with No Internet Access	4.4%	4.7%	6.4%
Households with no Vehicles	6.2%	5.4%	6.9%

FIGURE 6 | Population Under 18 and Over 65 per Square Mile



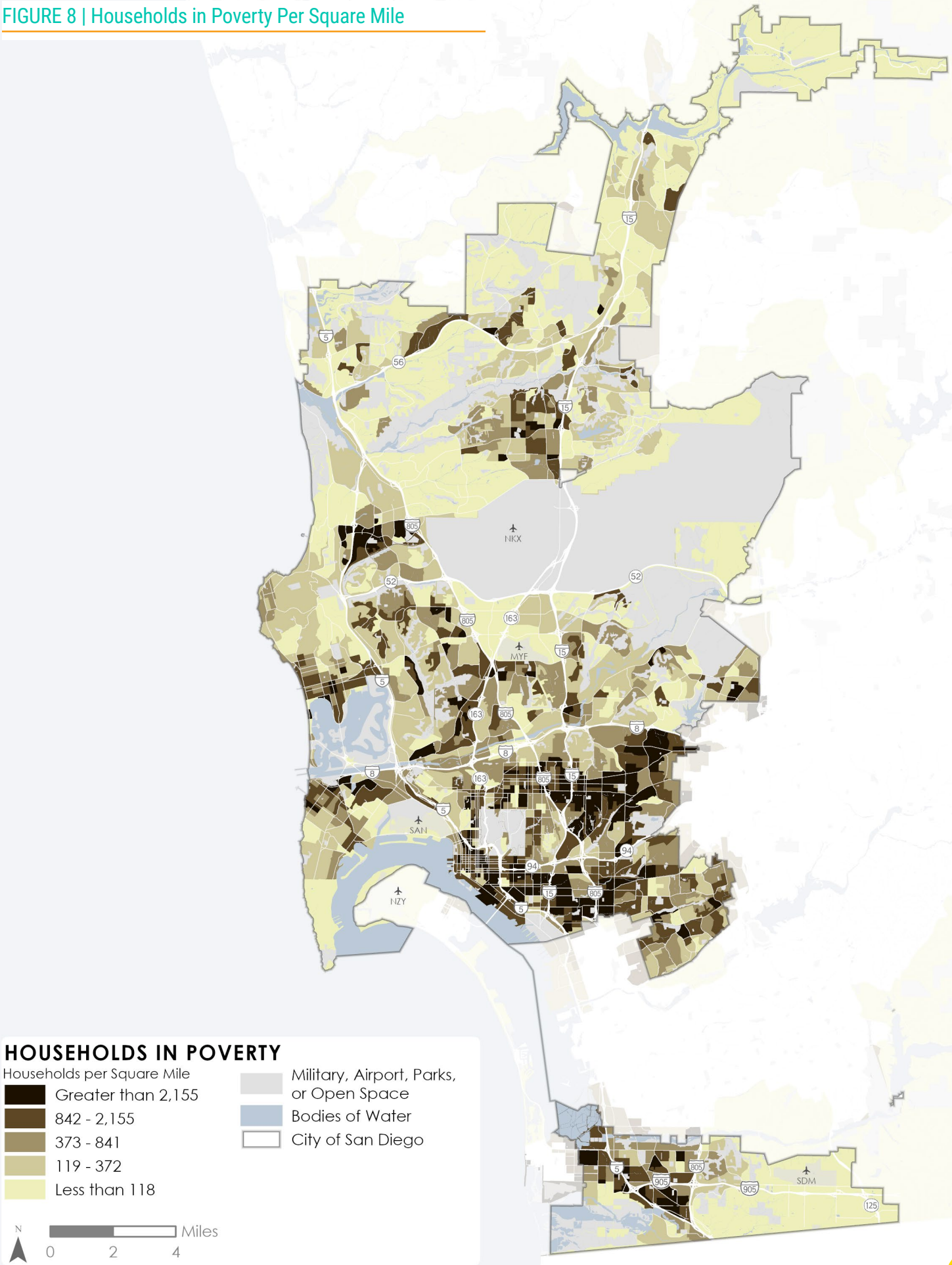
Source: U.S. Census Bureau, 2022 American Community Survey 5-Year Estimates

FIGURE 7 | People with Disabilities per Square Mile



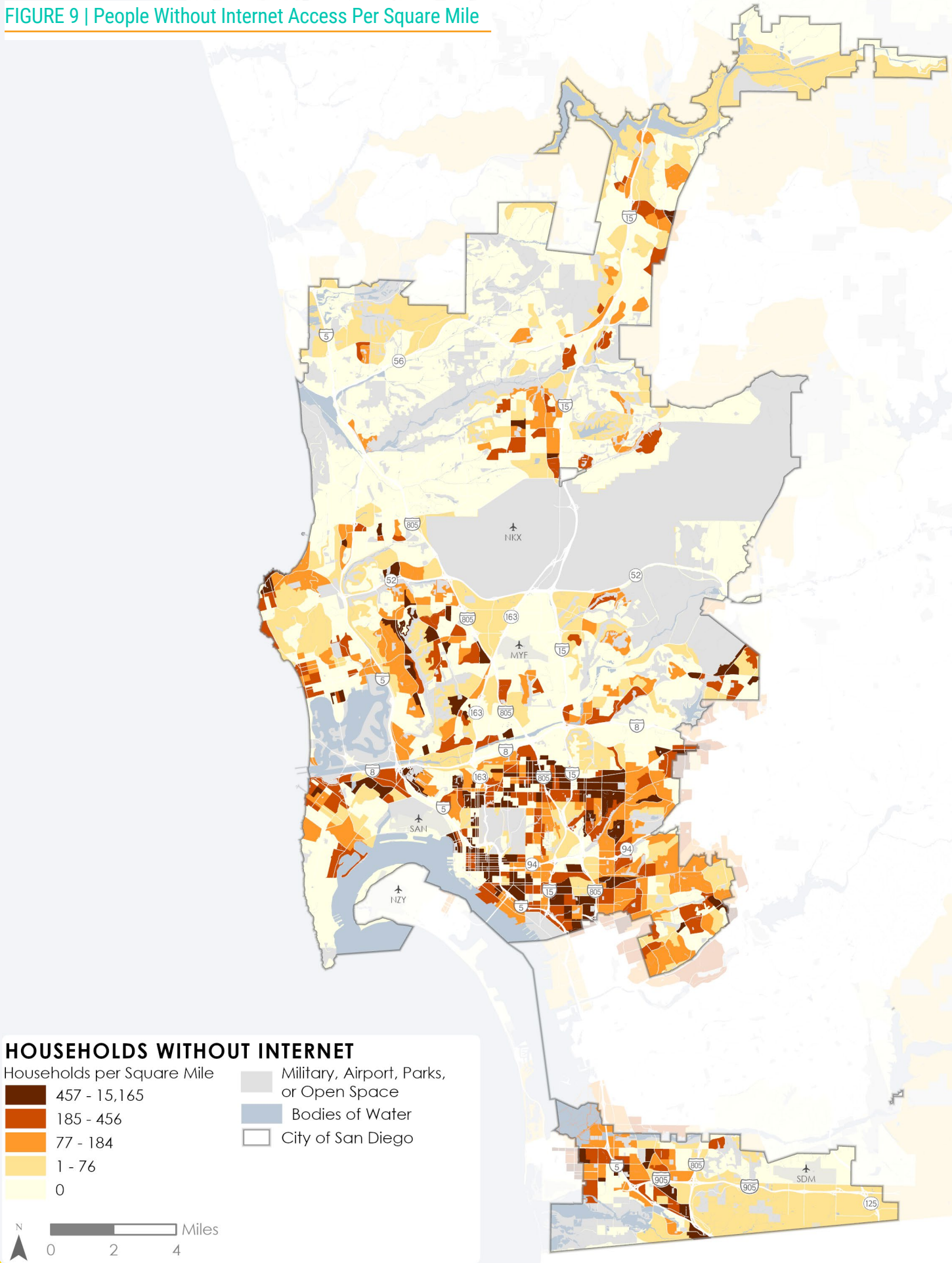
Source: U.S. Census Bureau, 2022 American Community Survey 5-Year Estimates

FIGURE 8 | Households in Poverty Per Square Mile



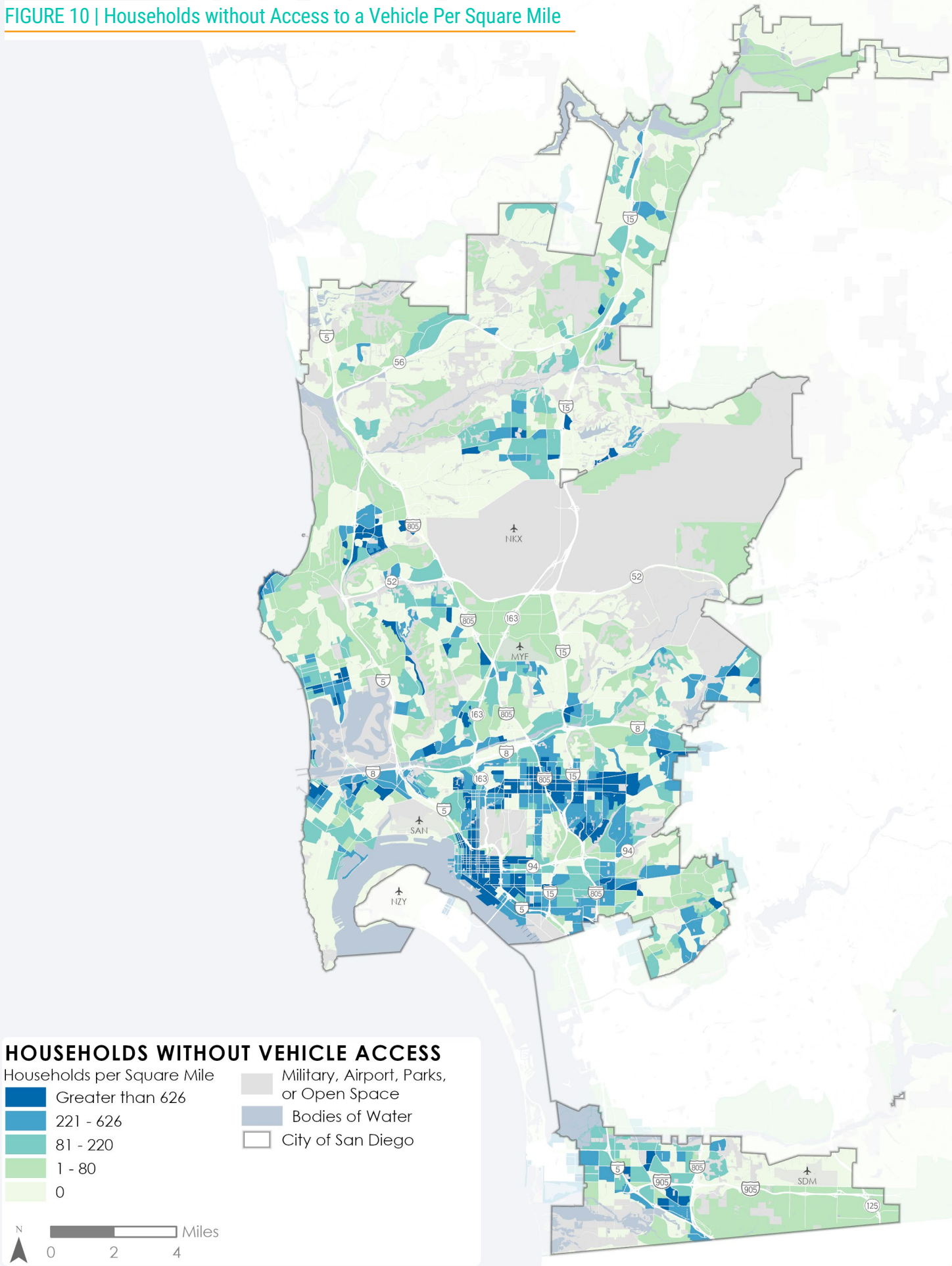
Source: U.S. Census Bureau, 2022 American Community Survey 5-Year Estimates

FIGURE 9 | People Without Internet Access Per Square Mile



Source: U.S. Census Bureau, 2022 American Community Survey 5-Year Estimates

FIGURE 10 | Households without Access to a Vehicle Per Square Mile



Source: U.S. Census Bureau, 2022 American Community Survey 5-Year Estimates

Social Equity

Some San Diego communities have historically had more opportunities for growth, including better mobility and infrastructure, while others have been passed over. The Safe Streets for All San Diegans project has a focus on improving transportation in disadvantaged communities. There is no single way to define disadvantaged communities, but FIGURE 11 shows a consolidated scoring of populations who face challenges related to transportation, employment, housing, health, socioeconomic conditions, and pollution, among others.

The primary source for identifying disadvantaged communities in San Diego is the **City's Climate Equity Index (CEI) score**, which assesses neighborhoods based on factors like street conditions, pedestrian access, transit, environmental and economic indicators. Communities with low or very low access to opportunities (Disadvantaged Communities) have unique lived experiences. For the purposes of this plan, Disadvantaged Communities or Communities of Concern are those rated Very Low, Low, or Moderate Access in the Climate Equity Index. This outreach plan prioritizes gathering input from these communities to ensure their voices are heard.

As can be seen from FIGURE 11 there are concentrations of San Diego CEI Disadvantaged Communities south near the border, surrounding the interchange of I-805 and I-94 in the neighborhoods of Chollas View, Fairmount Park, Mt Hope, Grant Hill, and City Heights. Additional CEI Disadvantaged Communities are concentrated in northern San Diego, located in the San Pasqual Valley.

Two additional sources, also shown in FIGURE 11, were utilized to identify disadvantaged populations, including:

- **CalEnviroScreen**, which is operated by the California Office of Environmental Heath Hazard Assessment. The top 25 percentile of Census Tracts are considered the most disadvantaged.
- **Climate and Economic Justice Screening Tool (CEJST)**, which is operated by the federal government as part of the Justice40 program. According to CEJST, 46.5% of San Diego live in disadvantaged communities.

These sources provide unique insights not present in the City's CEI. For example, military populations, particularly present in Naval Base Point Loma and Marine Corps Air Station at Miramar are not include in the local CEI, but are present in the CEJST analysis.

In many of these disadvantaged areas, transportation barriers pose significant threats. Highways limit safe and comfortable access from Disadvantaged Areas to surrounding key destinations.

Location Efficiency

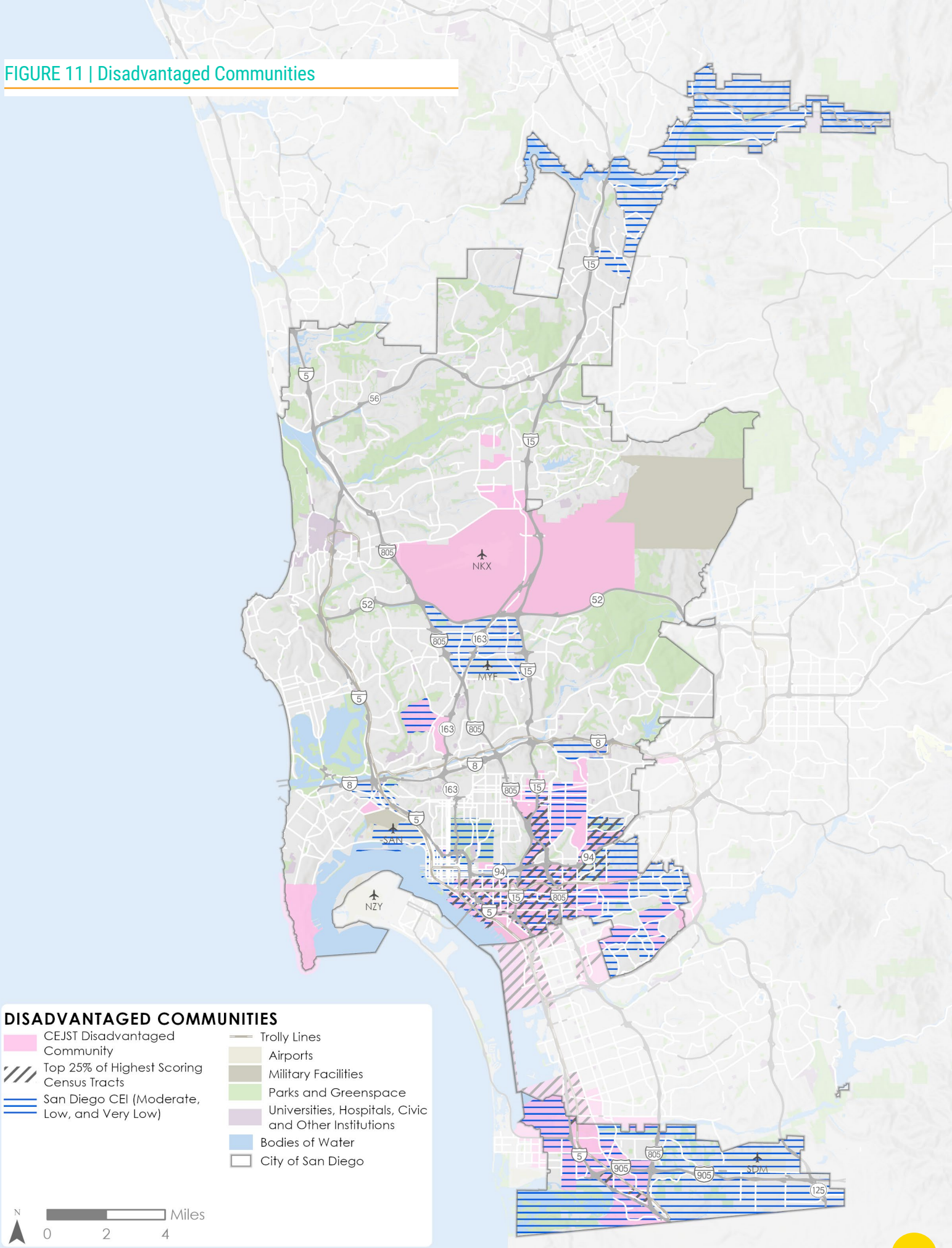
The Housing and Transportation (H&T) Index measures the combined cost of housing and transportation as a percentage of income, setting a target of no more than 45% of income spent on these costs. In San Diego, H&T costs make up about 51% of income, with residents spending approximately 33% ($2,146 monthly) on housing and 19% ($14,883 annually) on transportation.

While housing and transportation costs place the greatest burden on lower-income communities, location plays a key role in shaping these costs. The H&T Index defines location-efficient neighborhoods as compact areas with a mix of uses, proximity to jobs and services, and multiple transportation options. In San Diego, neighborhoods like University City, Downtown, Uptown, Old Town and North Park are considered more location-efficient because they offer better transit access, a concentration of destinations, and the opportunity to reduce reliance on driving to get to daily needs (FIGURE 12).

However, theoretical location efficiency does not always translate into lived experience. Many historically disadvantaged communities are categorized as location-efficient by the H&T Index, yet residents still face significant transportation challenges. While these neighborhoods may have public transit or walkable infrastructure, many residents must travel outside their communities for work, healthcare, or essential services, which are often located farther away. This disconnect forces many to rely on cars despite their neighborhood's theoretical efficiency, leading to higher transportation costs and increased time burdens.

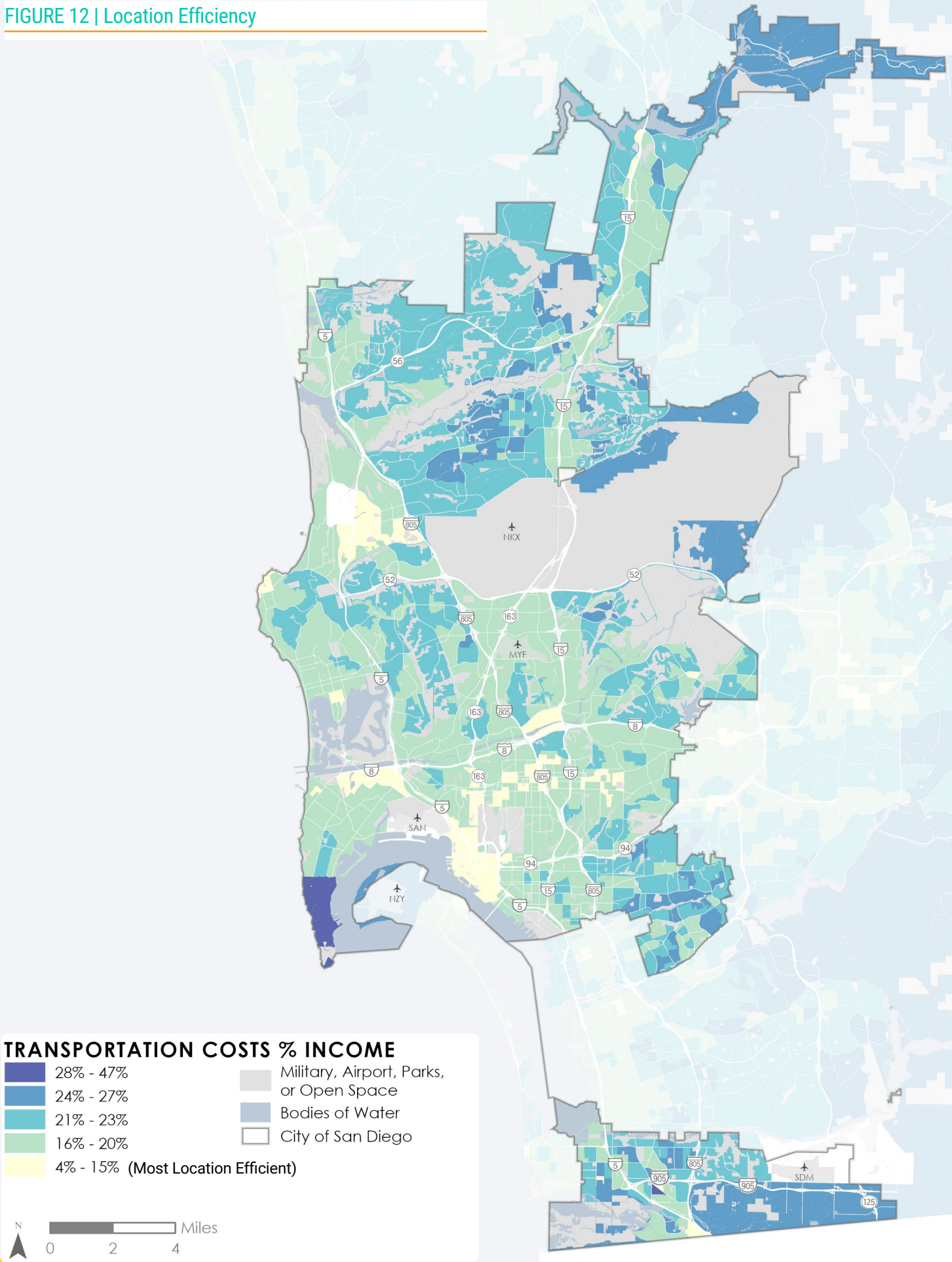
Compared to other U.S. cities, San Diego offers relatively high access to jobs. However, this does not negate the fact that many residents remain car-dependent, with limited viable alternatives to driving. Without strategic investments in transit, job accessibility, and essential services within these communities, location efficiency will remain more theoretical than practical for many San Diegans.

FIGURE 11 | Disadvantaged Communities



Source: City of San Diego, 2019 Climate Equity Index; 2021 CalEnviroScreen 4.0; 2022 Climate and Economic Justice Screening Tool

FIGURE 12 | Location Efficiency



Source: Center for Neighborhood Technology, 2022 Housing and Transportation Affordability Index

LAY OF THE LAND

Having a strong understanding of the land use context and development patterns is imperative to creating a transportation network that complements surrounding character and facilitates movement. Just as land use influences the transportation network, the transportation network influences land use. For example, 30th Street in North Park is designed with people walking and biking in mind to support the intensely mixed land uses.

On the other hand, Mira Mesa Boulevard in Sorrento Valley is auto-centric, with almost exclusively office and commercial uses and prioritized freeway access.

Land Use Today & Tomorrow

San Diego's general plan establishes the future land uses in the City. Because transportation investments are generally long term, and can spur land use changes, the future land use can help provide context for planning decisions.

- Downtown San Diego contains a mix of land uses, with commercial, employment, and some residential uses. The mix of land uses, street grid network, and variety of transportation options make this a vibrant part of the City that promotes a mix of uses, users, and activities.
- Mixed land uses also exist at varying levels in many neighborhoods and rely on a variety of transportation options, which promote walkable, urban communities.
- Some areas of the City primarily consist of parks and open space, military, and agriculture. These are essential uses and it is recognized that transportation options are less expansive in these areas, creating barriers for some neighborhoods.

Canyons & Open Space

The City of San Diego is rich with nearly 40,000 acres of developed and undeveloped open space, over 400 parks, and 26 miles of shoreline. The City's open space includes: the Tri-Canyon Parks, Mission Valley Preserve, Los Peñasquitos Canyon Preserve, Black Mountain Open Space Park, Open Space Canyons, San Pasqual and Clevenger Canyon Open Space Park, and Otay Valley Regional Park.

Additionally, canyons weave through our neighborhoods providing striking views and a consistent connection to nature. Canyons also break up our roadway network. Because of this, network planning efforts must consider the presence of canyons to avoid overloading any one street.

Military Bases

The military plays a key role in not only supporting a thriving economy, but shaping land use and travel in San Diego. We are home to more than 115,000 active duty military service members in seven military bases. These bases have an impact on the transportation system, with service members and civilians traveling to and from each base every day.

For security reasons, military bases also break up the transportation network. As an example, Kearny Villa Road is the only direct, non freeway route between Kearny Mesa and Miramar due to the Miramar Air Force base.

Infill Development

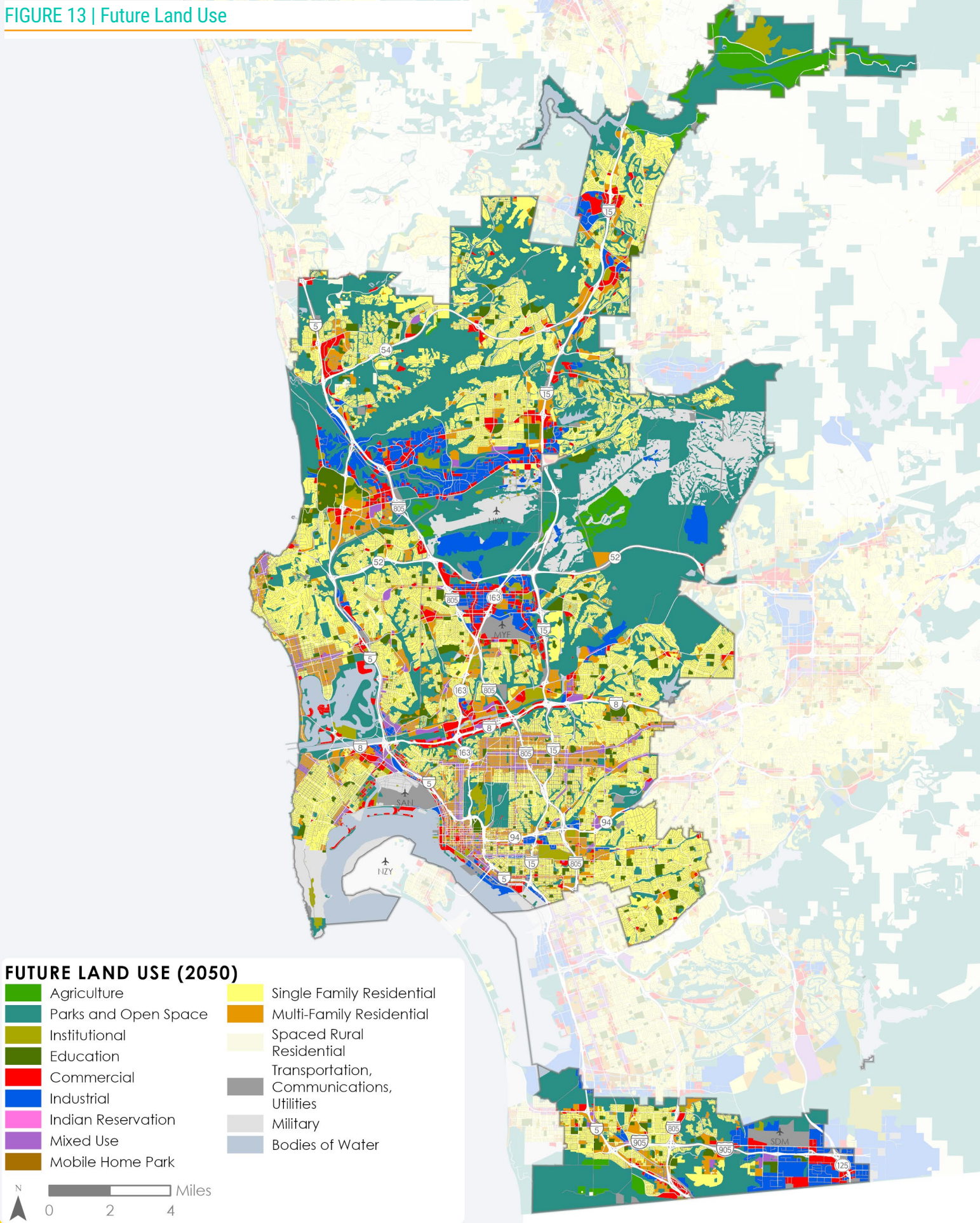
The City has been investing in ways to encourage infill development, especially given the highly limited availability of undeveloped land in San Diego. The 2024 General Plan assigns the developable vacant land for specific land uses, with the major ones being:

- 37% is designated for industrial uses
- 21% is designated for residential uses.

That said, the City anticipates most development will occur through infill development and redevelopment to help provide for needed homes, jobs, and services in communities while reducing the City's environmental impact and improving air quality. Guidance for how this development should occur is provided by the City of Villages strategy.

San Diego uses the City of Villages strategy to focus growth and land development in pedestrian-friendly mixed-use areas that connect to transit. The strategy recognizes the value of San Diego's distinct neighborhoods and open spaces that are unique to San Diego. The City of Villages strategy is an important component of the City's efforts to reduce local contributions to greenhouse gas emissions and provides insights into where San Diego is planning for its most walkable and bikeable communities in the future.

FIGURE 13 | Future Land Use



Source: SANDAG San Diego Regional Data Warehouse, 2024 Planned Land Use for the Series 13 Regional Growth Forecast (2050)

Key Destinations

Understanding where people want to go is one key element in developing a safe, convenient, and accessible transportation network. By providing comfortable routes to places like schools, jobs, healthy food, and social opportunities, the Safe Streets for All San Diegans can help encourage people to walk and bike while also expanding access for people without vehicles. FIGURE 14 illustrates the local destinations people might want to get to every day

Social, recreational, and everyday destinations, are distributed citywide but are concentrated in the urban core, particularly in Downtown, Uptown, North Park, City Heights, Barrio Logan, Logan Heights, and Southeast San Diego, with notable mentions in La Jolla, Pacific Beach, and San Ysidro.

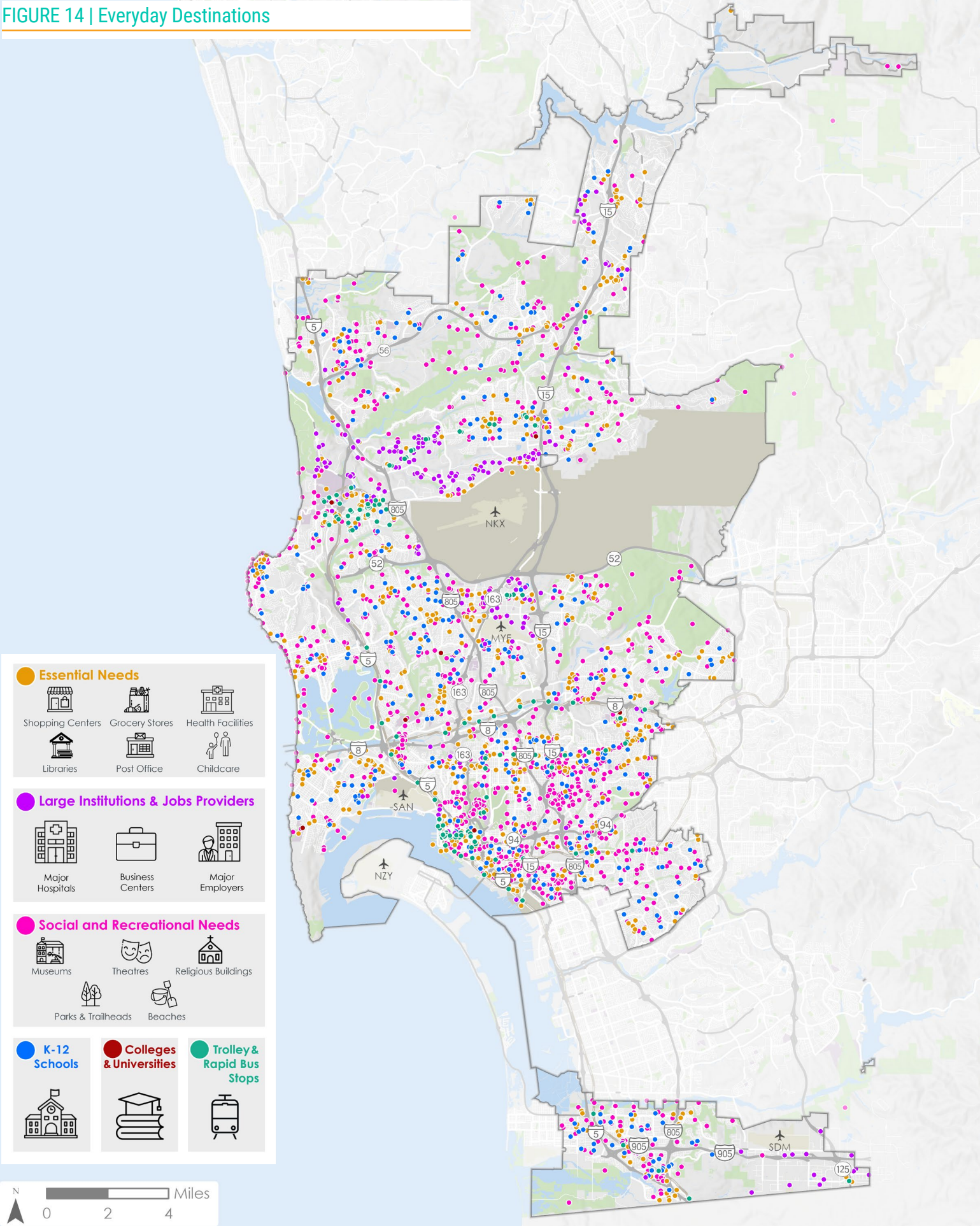
K-12 schools are more evenly distributed across the city, except north of the 52, where they are sparse due to zoning for industrial use, the presence of a major military base and university, and natural canyons. This area, however, hosts a high concentration of large institutions and major job providers, similar to Kearny Mesa, just south of the 52, which features government and medical complexes. Otay Mesa, near the port of entry, is another hub for jobs.

Rapid bus stops and trolley stations are primarily located along major freeways and roadways. Most stops serve the urban core, with additional service to Mission Valley, San Ysidro, Kearny Mesa, Sorrento Valley and other regional destinations.

Finally, the City of San Diego is home to seven major colleges and universities, the largest being the University of California San Diego (UCSD) and San Diego State University (SDSU), located in the University and College Planning Areas, respectively.



FIGURE 14 | Everyday Destinations



Source: 2024 SANDAG San Diego Regional Data Warehouse; 2024 OpenStreetMap; UCSD Homelessness Hub Data Portal; 2024 Replica, MTS GTFS

HOW SAN DIEGO GETS AROUND

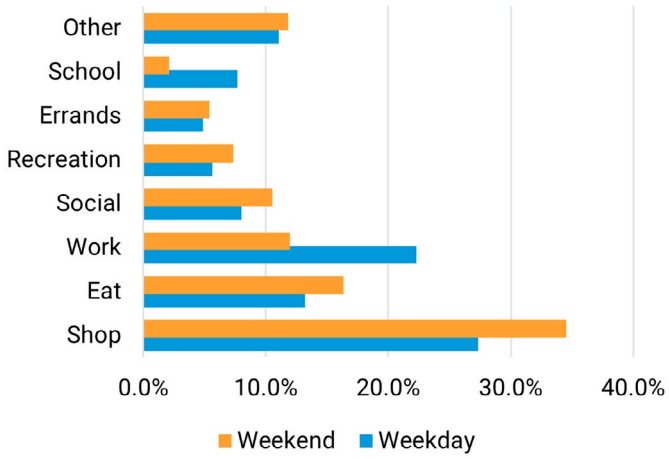
With a broad array of transportation options – such as scooter-share, bike-share, e-bikes, trolley, rapid bus service, and transportation network companies (TNCs) like Uber and Lyft – we have more choices than ever to travel to our desired destinations. Understanding how and where people choose to travel, whether walking, biking, driving, or using transit, is vital for defining the current and future needs and opportunities within our transportation system. This analysis leverages data from Replica, a platform that integrates anonymized information from sources like the US Census Bureau, mobile location data, land use, and economic activity to simulate travel patterns within an area. By examining both average weekday and weekend travel patterns, we gain a comprehensive view of how people move throughout the City of San Diego, helping us design a network that is safe, efficient, and comfortable for everyone.

Where We Want to Go

W travel for many reasons every day such as going to the doctor or getting exercise by taking a stroll at Torrey Pines State Natural Reserve. As shown in FIGURE 15, more than half the trips we take are to do things that make up our quality of life like shopping, eating, and working. This analysis identified several trips that we might take:

- Most trips are for shopping both on the weekend and weekday.
- Just over 20% of trips are taken to get to work on the weekdays and only 12% on the weekend.
- Eating, socializing, and shopping make up a significant portion of trips on the weekdays, but more so on the weekend.

FIGURE 15 | Where We Want to Travel





How We Get There

How we choose to travel may depend on the type of trip, the day of the week, and how far away the destination is. Replica data shows that while the City of San Diego mostly drives to destinations, walking is the second most common way they choose to travel regardless of trip type. This analysis identified several modes we might take to reach our destinations:

GETTING TO SCHOOL

All trips to a person's school or college.

- Most students are driven to school, but just over 1 in 6 students walk or bike to school on weekdays.
- The shortest trip taken on average is getting to school.
- Weekend students typically drive and go to school farther away.

GETTING OUTSIDE

All trips to recreational destinations like parks and trailheads (this does not include trips without a destination, like walking the dog or jogging).

- We tend to drive to get outside whether it is a weekend or weekday.
- Nearly 1 in 6 trips to get outside are done by walking or biking on the weekdays and 1 in 8 trips on the weekends.

TRAVELING FOR DAILY NEEDS

All social trips and trips to destinations where people shop, dine, and run errands.

- We generally choose to travel in the same ways, go similar distances, and spend a similar amount of time on weekends and weekdays.
- Slightly fewer people walk for daily needs on the weekend.

GETTING TO WORK

All trips that end at a person's workplace (including commute trips and things like a trip back from lunch).

- Most trips are taken by personal vehicle – but it is especially high for getting to work.
- People getting to work on the weekend travel fewer miles and get to work faster.

FIGURE 16 | How the City of San Diego Travels to Destinations

WEEKDAY TRAVEL				
Trip Category	**Getting to Work**	**Getting to School**	**Travel for Daily Needs**	**Getting Outside**
Drive	88.1%	81.2%	77.8%	79.7%
Transit	3.0%	1.0%	1.5%	1.3%
Bike	0.6%	2.0%	1.1%	1.1%
Walk	7.3%	15.4%	16.7%	14.9%
Other	1.0%	0.3%	2.9%	3.0%
Average Trip Distance (miles)	13.9	5.6	11.8	11.2
Average Travel Time (minutes)	25.0	16.0	21.1	20.6
WEEKEND TRAVEL				
Trip Category	**Getting to Work**	**Getting to School**	**Travel for Daily Needs**	**Getting Outside**
Drive	87.9%	86.5%	79.9%	83.1%
Transit	2.8%	1.9%	1.0%	1.0%
Bike	0.7%	1.2%	1.0%	0.9%
Walk	7.9%	10.0%	15.1%	12.3%
Other	0.7%	0.4%	2.9%	2.8%
Average Trip Distance (miles)	10.6	6.5	12.3	11.3
Average Travel Time (minutes)	21.6	18.5	21.1	21.0

Where We Take Short Trips

When we travel shorter distances our travel patterns look different, from the routes we take to get to our destinations to the way we choose to get to those destinations. Short trips are those that are two miles or less, and for someone riding a bike 8 MPH, represent destinations that are within a 15-minute bike ride. These trips, regardless of their current mode, are the most likely trips to be converted to walking and biking trips in the future.

- Shopping remains the most common destination, regardless of trip length.
- The number of work trips reduce by half for both weekends and weekdays when restricted to a distance of 2 miles or less.
- Short trips to school are more likely on the weekday (10.5%) than on the weekend (1.6%).

FIGURE 18 shows the areas with the highest volumes of destinations for short trips as well as the top routes we are taking to make those trips. Short trips are often a product of mixed land uses, as can be seen in Downtown, or of the destination like schools or parks.

FIGURE 17 | Where People Take Short Trips To

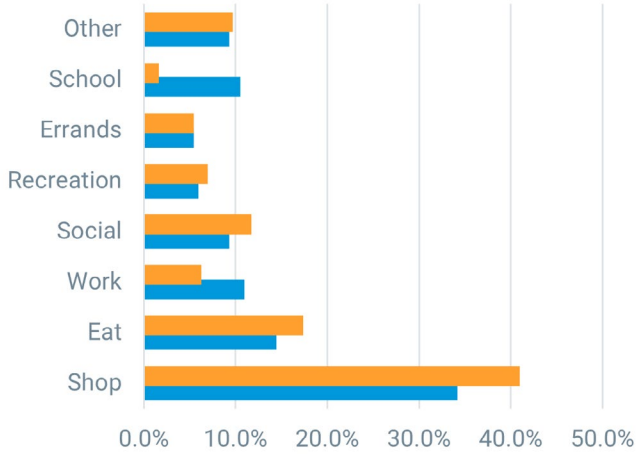
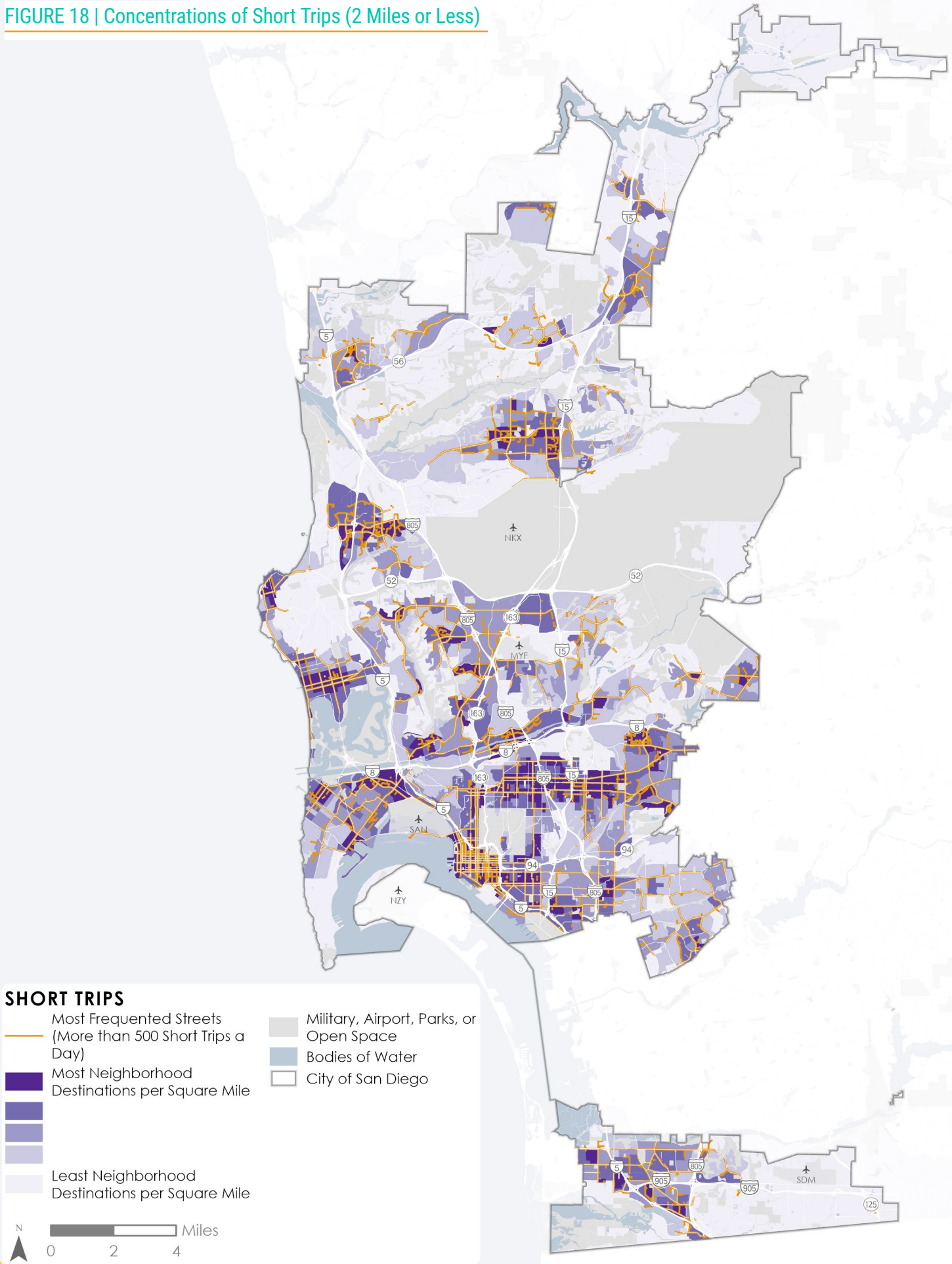


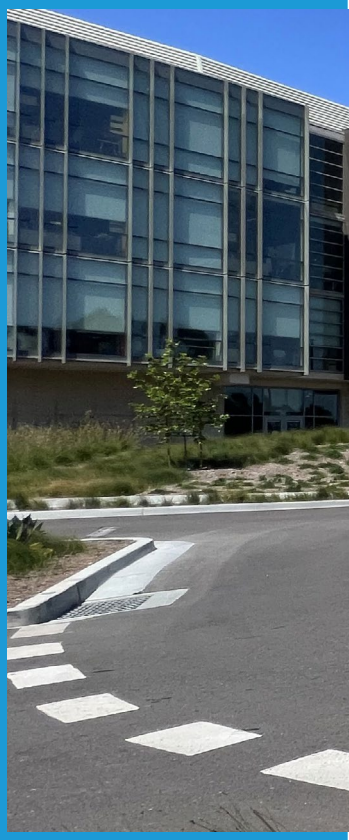


FIGURE 18 | Concentrations of Short Trips (2 Miles or Less)



Source: Replica, Fall 2023 for a Typical Weekday


Harvest



THE TRANSPORTATION NETWORK



THE STREET NETWORK

The way a road is designed, including the posted speeds, number of vehicle lanes, and presence of walking, biking, and other infrastructure has a major impact on how people experience the transportation system. Understanding the City of San Diego's roadway network is critical to determining appropriate locations for different types of facilities for the slow streets network and quick build projects. The following section summarizes typical characteristics of existing roadway conditions and characteristics in the City.

Study Network

For the purposes of this existing conditions report, the study network includes every street in the City with three exceptions:

- **Freeways:** these roads aim to move high volumes of vehicle traffic at high speeds, which is not compatible with non-motorized users or slow streets.
- **Alleys:** alleys often serve numerous functions like trash collection and may not always have the necessary lighting and pavement quality to support non-motorized users.
- **Private Streets:** the City cannot implement projects on private streets.

In the next phases of the project, the street network will be paired back based on regulations and best practices to highlight quick build, slow streets, and speed limit reduction networks.

SAN DIEGO'S STREET NETWORK

Travel corridors connect communities, land uses, employment centers, and link people to goods and services. Traditionally, roadways are grouped into a hierarchical classification, which helps identify the roadway's function, design, speed limits, access control, and adjacent land use development. Understanding roadway classification is imperative when planning an active transportation network. Vehicle volumes, number of lanes, lane width, road condition, and speed limits impact pedestrian and bicyclists' level of comfort. Within San Diego there is a mixture of roadways, including:

LIMITED ACCESS MAJOR ROADS

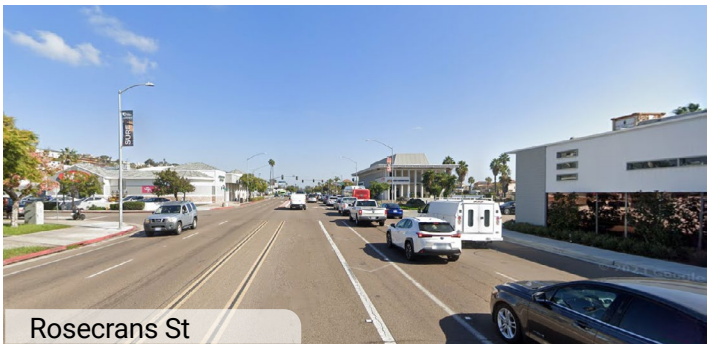
In addition to freeways, San Diego has several major roads with grade separation and limited access. These higher-speed, multi-lane roads provide essential regional connections, with a focus on moving vehicles and is generally uninviting and for walking and biking, even when facilities are present.



Friars Road

ARTERIALS

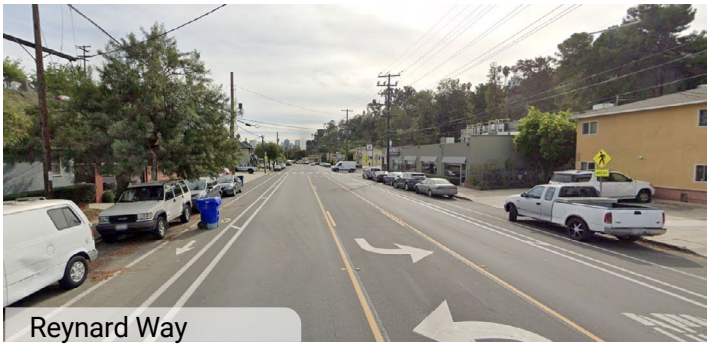
Major roadways with multiple lanes and higher speeds connect residential, industrial, and commercial areas to highways, facilitating vehicle flow between local and regional destinations. However, their high speeds and traffic volumes can make them uncomfortable for people walking and biking.



Rosecrans St

COLLECTORS

Corridors with moderate traffic and speed limits connect neighborhood streets to higher-stress roads, providing access to properties and circulation in denser residential and commercial areas. With proper facilities, these streets can offer comfortable routes for walking and biking.



Reynard Way

LOCAL STREETS

In the City, most streets of 25 MPH or less are two-lane roads in gridded or other neighborhood streets, connecting homes. These low-speed, low volume streets often feature on-street parking and other measures to calm traffic, making them more comfortable for walking and biking.



Dawes St

Travel Lanes

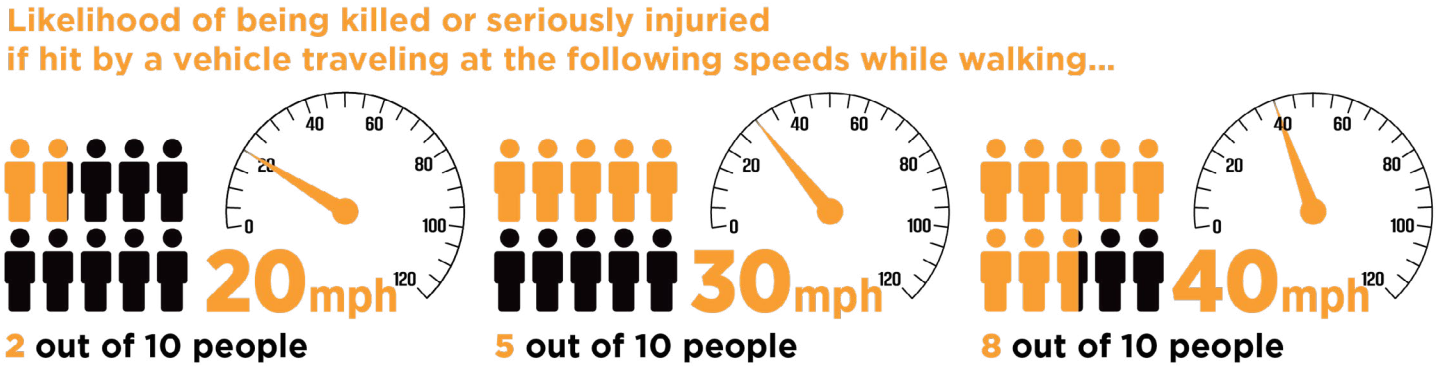
Travel lane characteristics, in conjunction with available right-of-way, play a key role in the expansion potential of walking and biking facilities. The number of lanes and their widths are integral in determining the stress level for people biking. The number of travel lanes on San Diego's streets varies from two- to four lanes on local and collector streets up to six lanes or more on major roads and arterials.

FIGURE 19 illustrates the current number of lanes on San Diego's street system. It's important to note that the figure illustrates the general number of lanes, however, there may be short sections that have more lanes at developments, less in undeveloped sections, or intersections that have additional through or turn lanes.

The number of travel lanes constructed is often determined based on existing or projected vehicle volumes, but sometimes streets are built with more lanes than needed. During the next phase of this project, streets will be evaluated to determine whether it is feasible to repurpose a vehicle travel lane for multimodal use.

Posted Speed Limits

A variety of factors impact safety and comfort for people walking, but interaction with vehicles is one of the most critical. As driving speed increases, a driver's line of sight of the roadway and its surroundings is also impacted. Research shows that when driving at a higher speed, the driver naturally focuses on objects further away. The driver's peripheral vision is reduced, meaning that people driving at faster speeds are less likely to notice a person biking or waiting to cross the street while people driving at slower speeds are more likely to have better awareness of people around them. Speed has a substantial effect on the outcome of crashes as demonstrated in the graphic below.

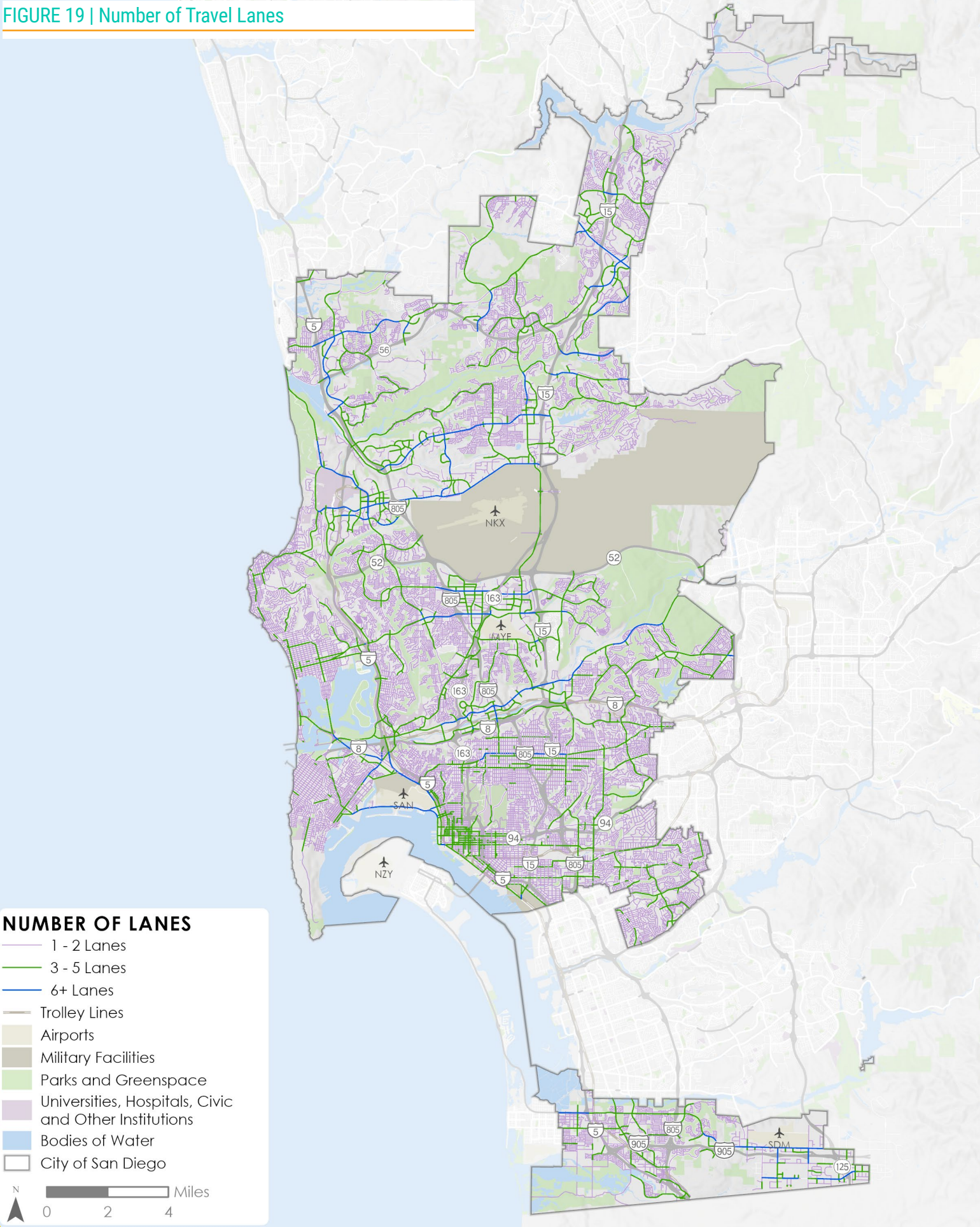


Source: Impact Speed and a Pedestrian's Risk of Severe Injury or Death. Brian Tefft, AAA Foundation for Traffic Safety, 2011

FIGURE 20 illustrates posted speed limits in San Diego. The speed management plan will identify areas where speed limits can be lowered to meet the needs of roadway users. Additionally, the quick build and slow street plans may recommend traffic calming or other infrastructure improvements to slow speed limits through quick build or slow street implementation strategies.

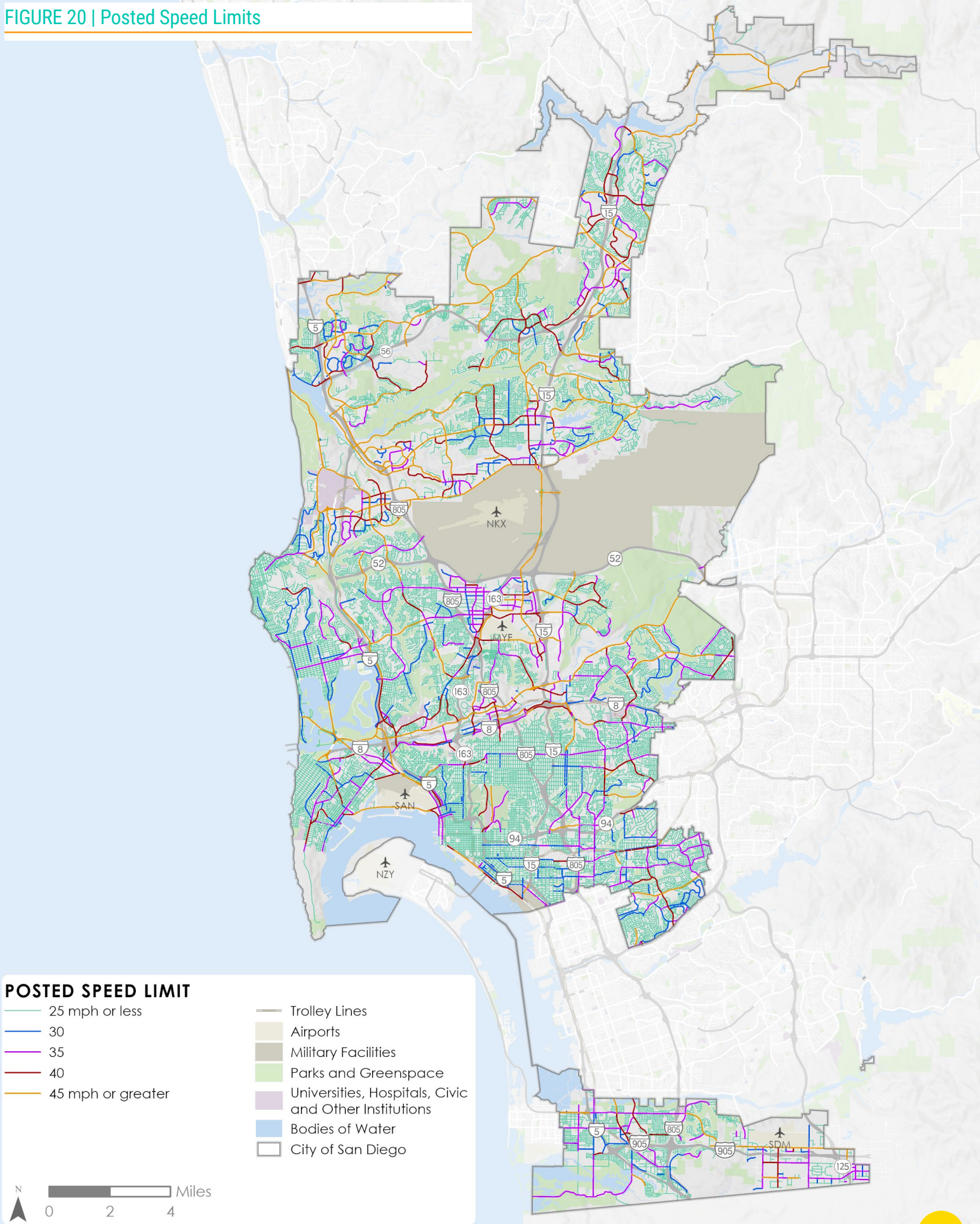
Posted Speed Limit	Lane Miles (Excluding Trails, Alleys, Freeways)
25 MPH or Lower	**2,156**
30-35 MPH	**357**
40 MPH or Greater	**320**

FIGURE 19 | Number of Travel Lanes



Source: 2024 City of San Diego

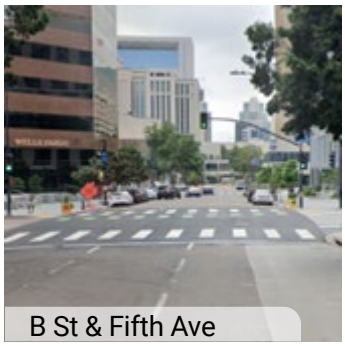
FIGURE 20 | Posted Speed Limits



Source: 2024 City of San Diego

Intersection Control

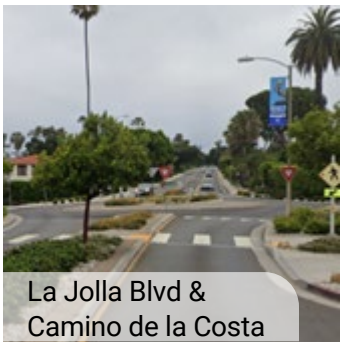
Traffic control devices help manage the movement of people and goods in an efficient manner. Traffic control devices found in the City of San Diego today generally include:



B St & Fifth Ave

TRAFFIC SIGNALS

control the flow of vehicles on the roadway network. Improving traffic signal timing can increase mobility and reduce overall congestion.



La Jolla Blvd & Camino de la Costa

ROUNDABOUTS AND TRAFFIC CIRCLES

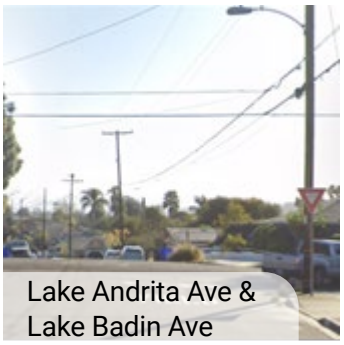
are circular intersections in which traffic flows in one direction around a central island. Roundabouts can improve safety, promote lower speeds, and reduce conflict points.



Stonebridge Pkwy & Old Creek Rd

STOP SIGNS

alert drivers to reduce their speed, come to a complete stop, and ensure the way is clear before proceeding.



Lake Andrita Ave & Lake Badin Ave

YIELD SIGNS

alert drivers to slow down and be ready to stop to give right-of-way to other users.

Traffic Calming Devices

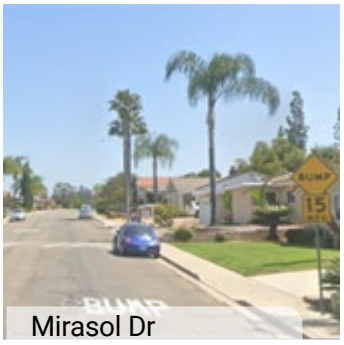
The City of San Diego has been working to calm traffic to improve neighborhood safety and quality of life. The City has Traffic Calming Guidelines that provide a tool for citizens, City staff and other interested parties to use when developing effective traffic calming plans. The Guidelines include a chapter on Traffic Calming Toolbox that contains various traffic calming tools and a usage guide. Some existing traffic calming devices are listed below:



Cañon St

SPEED FEEDBACK SIGN

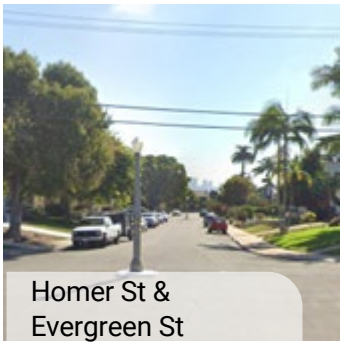
display vehicle speed to drivers as they approach, reducing vehicle speeds by giving drivers a targeted message.



Mirasol Dr

SPEED HUMPS

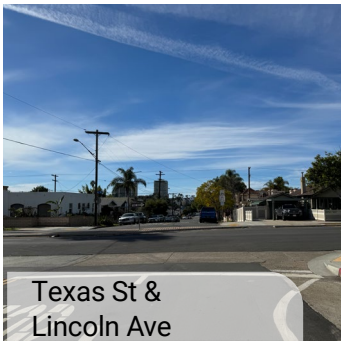
are elevated mounds in the roadway intended to slow traffic.



Homer St & Evergreen St

INTERSECTION DEFLECTORS

are elements in the middle of an intersection that require drivers to slow to a speed that allows them to comfortably maneuver around.



Texas St & Lincoln Ave

TRAFFIC DIVERTERS

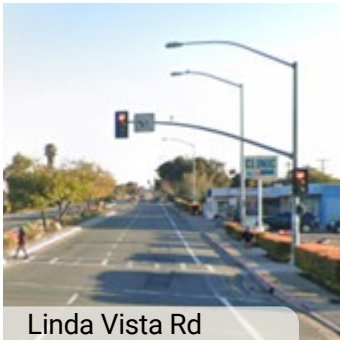
are physical barriers that require drivers to turn left or right, rather than driving through an intersection.

WALKING IN SAN DIEGO

In the City of San Diego, walking infrastructure includes both sidewalks – paved pathways dedicated to people walking, jogging, or using personal mobility devices – and shared-use paths, which accommodate both people walking and those using bicycles or other permitted devices. While most streets in the city feature sidewalks, some local residential streets lack them on one or both sides. Suburban developments in areas like Encanto, La Jolla, and the Peninsula often reflect this deficiency, with sidewalks missing entirely.

Crossing the Street

One of the key factors in making walking comfortable is the frequency, type, and quality of street crossings. The design of a crossing significantly impacts mobility for people walking. For example, signalized intersections generally provide a dedicated time and space for people walking to cross. However, most intersections are not signalized. In California, all intersections are legal crossings unless otherwise indicated, but marked crosswalks help alert drivers and guide people walking on where to cross. This is especially important for crossing wider, faster roads, which can pose barriers for people on foot. In San Diego, various crossing treatments are available at unsignalized intersections today:


Linda Vista Rd

MIDBLOCK PEDESTRIAN SIGNALS

facilitate crossing to places people want to cross along a road segment where there is not an intersection nearby.


Federal Blvd

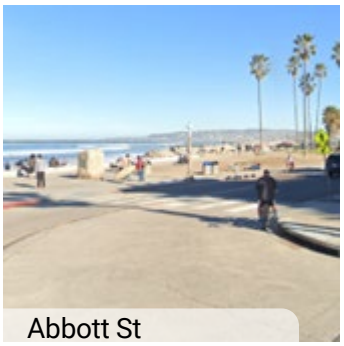
PEDESTRIAN HYBRID BEACONS

facilitate crossings at midblock and uncontrolled intersections on higher-speed roads, stopping traffic only when necessary.


30th St

RECTANGULAR RAPID FLASHING BEACONS

user-activated yellow flashing lights enhance safety at marked, uncontrolled crosswalks by alerting drivers to yield to people walking.


Abbott St

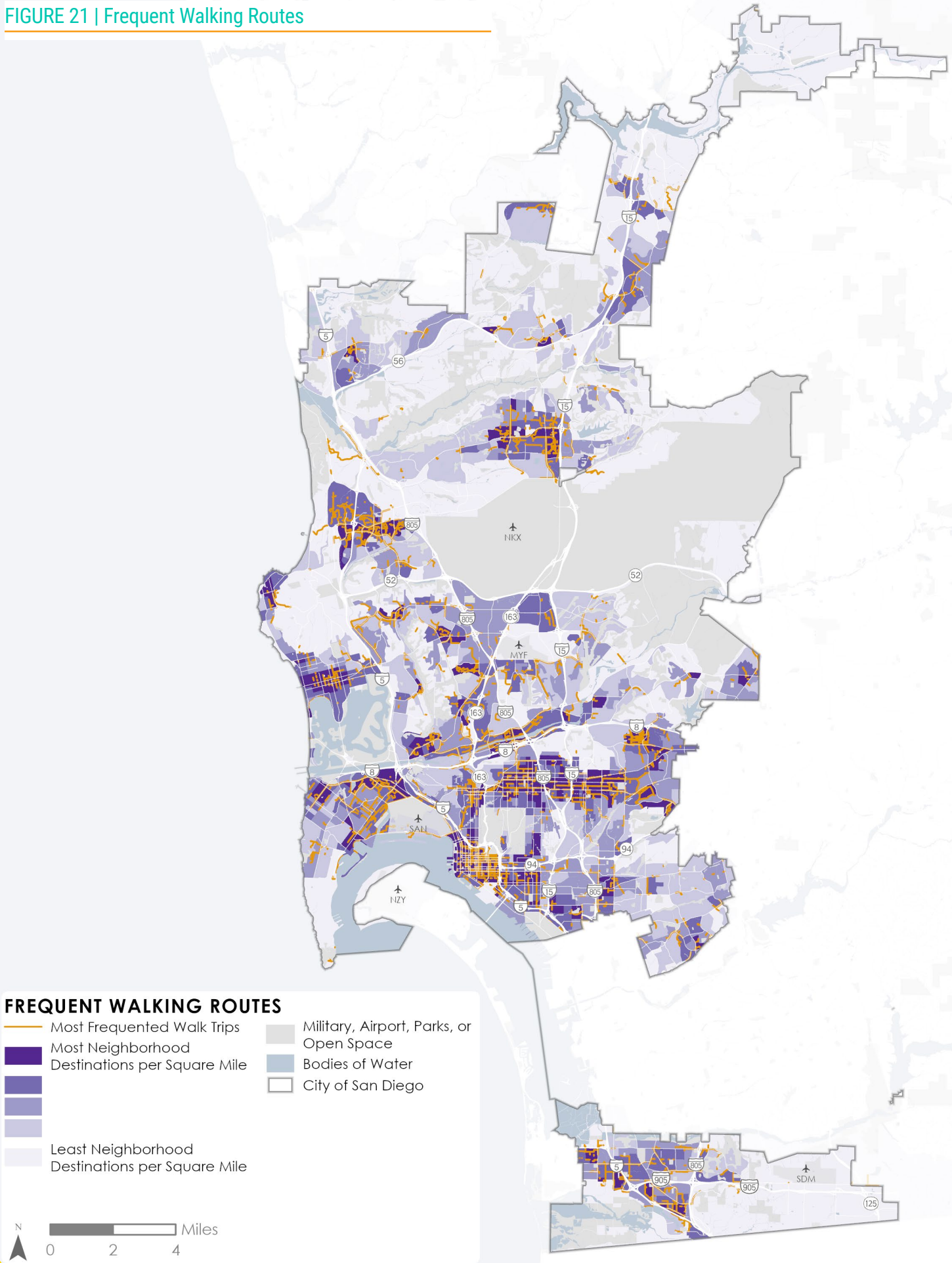
UNCONTROLLED, MARKED PEDESTRIAN CROSSINGS

are located where sidewalks or paths intersect a roadway without traffic control, alerting drivers to the potential of pedestrians crossing.

Where are People Walking?

Replica was used to identify walking trends in the City of San Diego. This tool models trips with specific destinations, meaning trips where someone starts and ends at the same location, such jogging or walking a dog, are excluded. As a result, while trips to recreational destinations like parks are captured, walks taken solely for exercise or leisure are not reflected in the data. FIGURE 21 maps this Replica data, illustrating roadways with the highest number of daily walking trips alongside neighborhoods with the greatest concentration of destinations people walk to. The highest concentration of roadway used by people walking are in Downtown, University, and North Park including main roads such as Broadway, Nobel Drive, and Meade Avenue.

FIGURE 21 | Frequent Walking Routes



Source: Replica, Fall 2023 for a Typical Weekday

Walking & Rolling Comfort Along Segments

In order to understand the level of comfort experienced by people walking on a given roadway, a walking and rolling comfort metric was developed. A variety of factors are known to influence comfort for walking and rolling, such as the speed and volume of traffic, presence of a sidewalk, available shade, and design of the road. Note that additional factors may impact walking, like number of driveways, parking presence, and sidewalk conditions. However, those elements are not available citywide and are therefore not considered in this methodology.

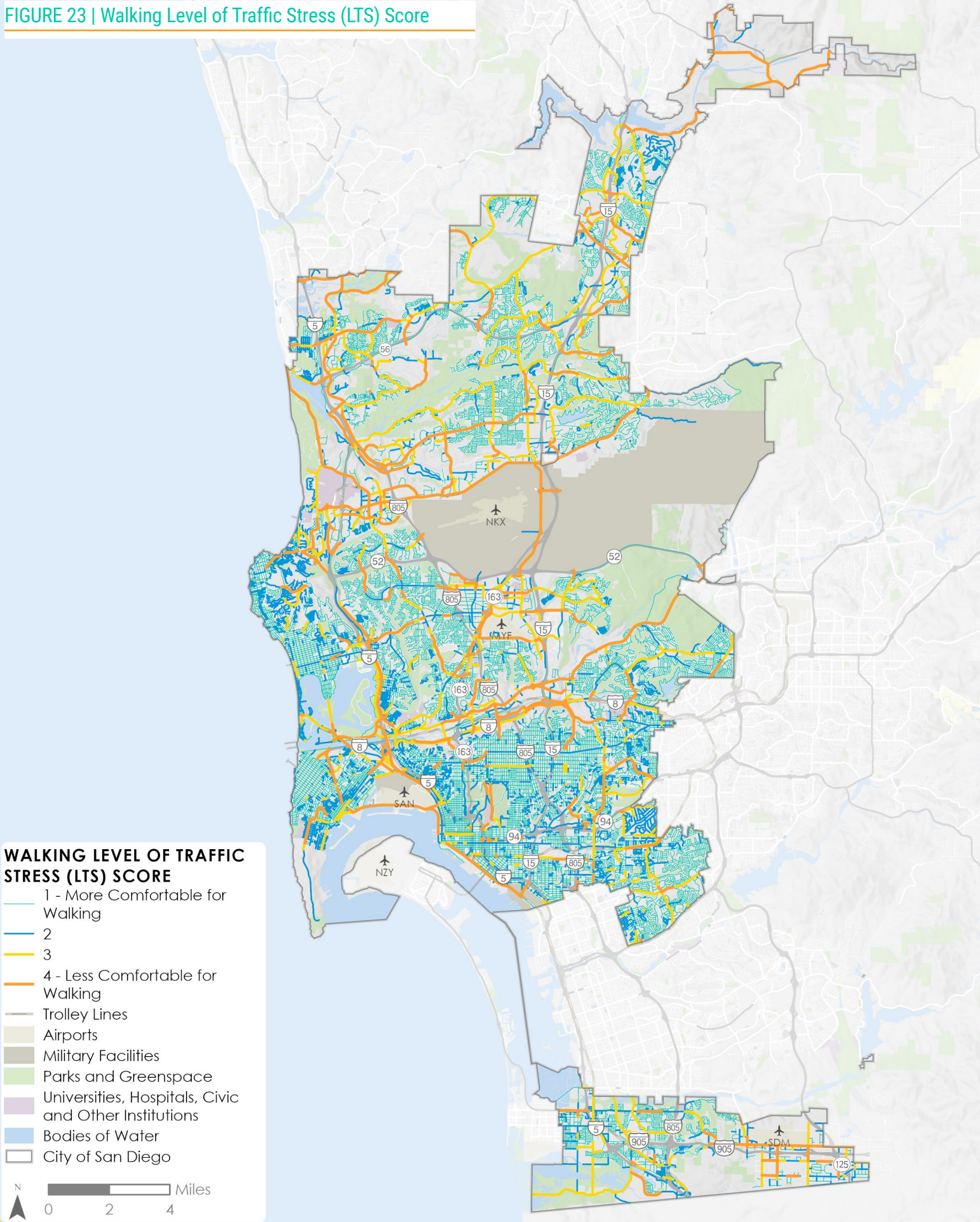
As illustrated below, the walking comfort metric ranges from Level 1 through 4. Level 1 indicates facilities are comfortable for people of any age or ability to walk and roll on like neighborhood streets or shared use paths along streets with low vehicle speeds and numbers of lanes. Level 4 indicates facilities which people might only walk or roll along if they have no other choice, like a high speed arterial or a street with no sidewalks and higher numbers of lane or speeds. The analysis interprets FHWA's Guidebook for Measuring Multimodal Network Connectivity and NACTO's Designing for All Ages and Abilities. This analysis includes surface streets and shared use paths, but freeways are not analyzed as walking and biking is prohibited.

The criteria shown in FIGURE 22 were used to determine the pedestrian comfort scores in FIGURE 23 for each street in San Diego. As can be seen, most of the wider streets with faster travel speeds are higher stress, while local streets are often lower stress. More information can be found in Appendix C: Methodology for Access Analysis.

FIGURE 22 | Walking Comfort Score Methodology

Posted Speed Limit	Number of Lanes	No Sidewalk	Sidewalk	Sidewalk with On-Street Parking and/or Bike Lane	Shared Use Path
25 MPH or Lower	2 Lanes	2	1	1	1
	3 Lanes	4	2	1	1
	4+ Lanes	4	3	2	1
30-35 MPH	2 - 3 Lanes	3	2	1	1
	4-5 Lanes	4	3	2	1
	6+ Lanes	4	4	2	2
40 MPH or Greater	2 - 3 Lanes	4	3	2	1
	4-5 Lanes	4	4	3	2
	6+ Lanes	4	4	4	3

FIGURE 23 | Walking Level of Traffic Stress (LTS) Score



Source: 2024 City of San Diego

Walking Access to Destinations

In order to evaluate access to destinations via walking, a walkability assessment was conducted. Steps to assess walkability include:

- Determine key destinations (FIGURE 14).
- Define the low stress network and crossings and identify barriers for people walking. The analysis assumes people of all ages and abilities will walk along low stress streets and cross at low stress intersections, but that not all people will utilize higher stress streets or intersections. The network and barriers were determined as follows:
  - **Low Stress Network:** includes streets and paths Walking Comfort Score of 1 or 2 (FIGURE 23) for pedestrian comfort.
  - **Street Barriers:** high stress streets for walking, or those scoring a Walking Comfort Score of 3 or 4 (FIGURE 23).
  - **Low Stress Crossings:** (1) Any intersection between two streets part of the low stress network or (2) any intersection between the low stress network intersected a street barrier and a signalized crossing was present.
  - **Crossing Barriers:** Any intersection where the low stress network intersected a street barrier and a signalized crossing was not present.

Walksheds (the area people can comfortably walk from a given destination) were created utilizing GIS for a person walking 4 ft per second on a 15-minute trip—just under 0.70 miles. Walksheds were created for Everyday Destinations (FIGURE 25), Universities or Colleges (FIGURE 26), Major Institution or Jobs Provider (FIGURE 27), K-12 Schools (FIGURE 28), Rapid Bus and Trolley Stops (FIGURE 29), and Social or Recreational Needs (FIGURE 30).

Using Census Block population data, estimates were calculated to quantify how many residents reside within each walkshed have access to any given type of destination. This was completed Citywide and for disadvantaged communities as defined in FIGURE 11. While 70% of the population have access to at least one destination by walking, those numbers drop significantly when considering access to multiple locations. Although over half of residents have access to at least one K-12 School by walking, it may not be the school level appropriate for the children that reside within that shed.

More people in disadvantaged communities have access than in other communities. This is because disadvantaged communities in San Diego are often built on gridded street networks in communities with mixes of uses.

In addition, 16% of residents could have access to at least one walking destination but does not due to walking barriers.

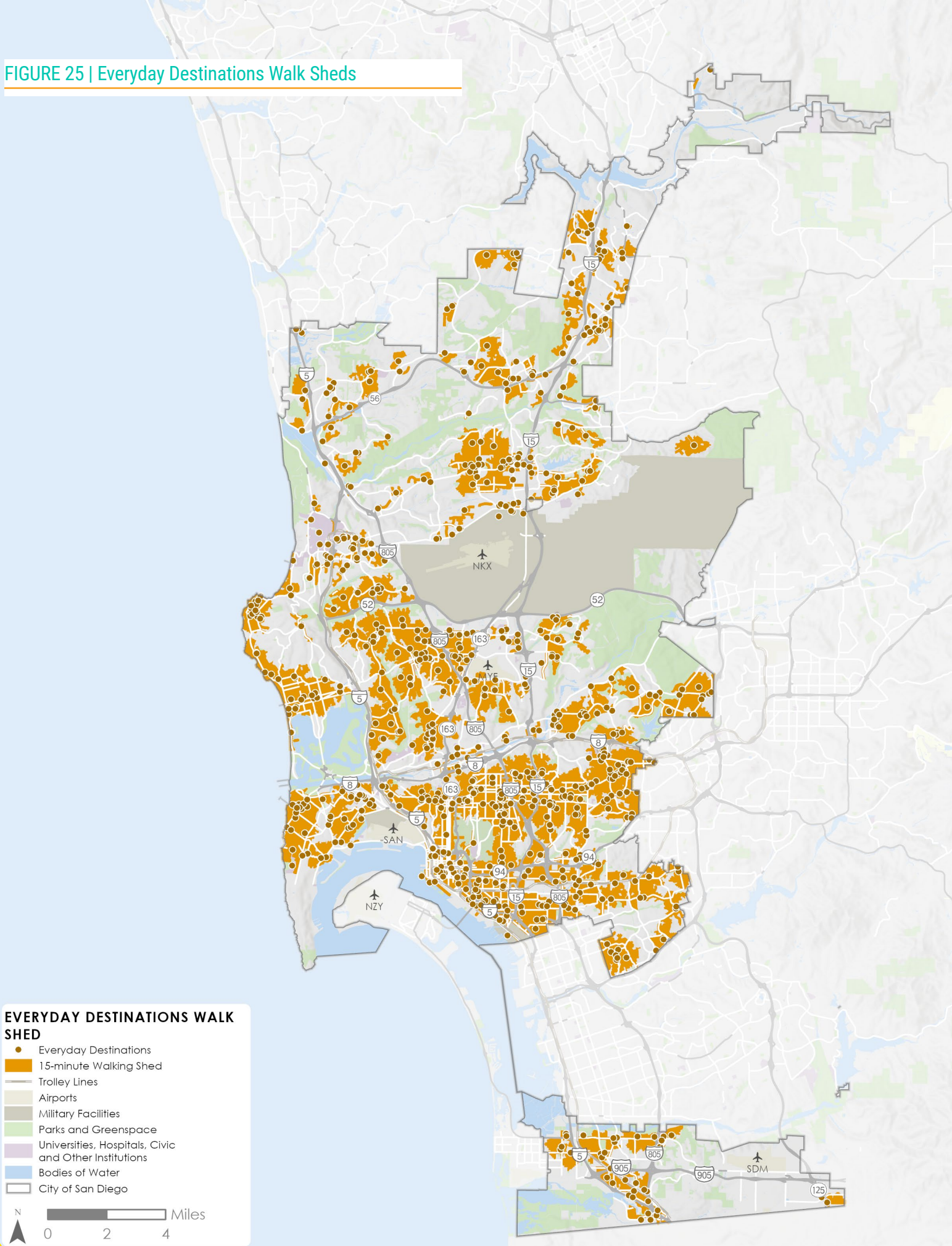
Finally, a **Walking Access Score** (FIGURE 31) was created by adding the total number of destination types accessible from each location--rather, the higher number of destinations types accessible by walking, the higher the score. The areas with the highest access are Downtown and Hillcrest, mixed use destinations where some of the highest pedestrian activity in the City can be found.

FIGURE 24 | Walkshed Access

Access to At Least One...	% Citywide	% in Disadvantaged Communities
Everyday Destinations	55%	65%
University or College	1%	3%
Major Institution or Jobs Provider	5%	5%
K-12 School	53%	63%
Rapid Bus or Trolley Stop	11%	11%
Social or Recreational Need	62%	62%

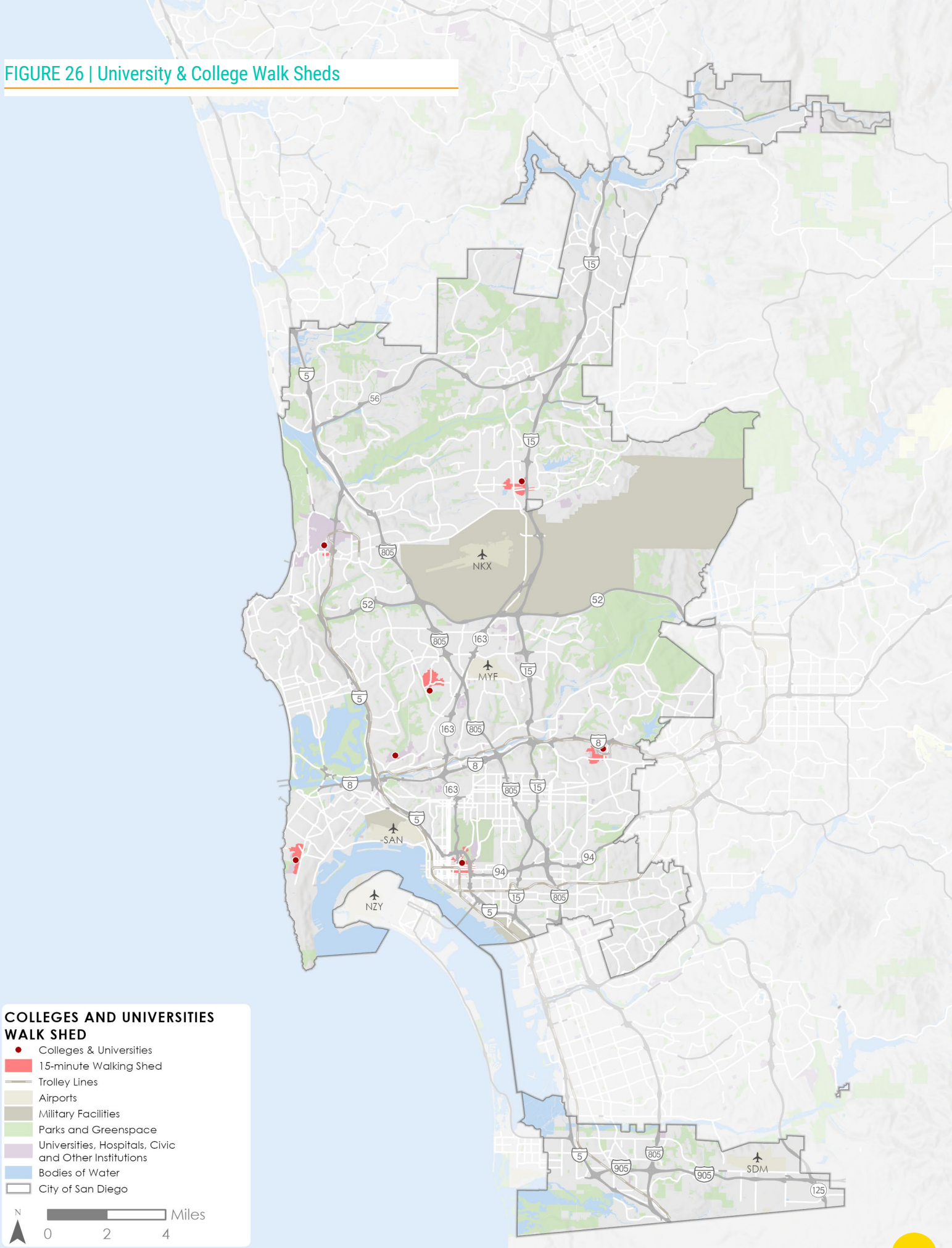
Access to..	% Citywide	% in Disadvantaged Communities
1 or more Destinations	70%	85%
2 or more Destinations	58%	69%
3 or more Destinations	46%	57%
4 or more Destinations	11%	20%
5 or more Destinations	2%	5%
Lack Access to Any Destination Despite Being within Walking Distance	16%	4%

FIGURE 25 | Everyday Destinations Walk Sheds



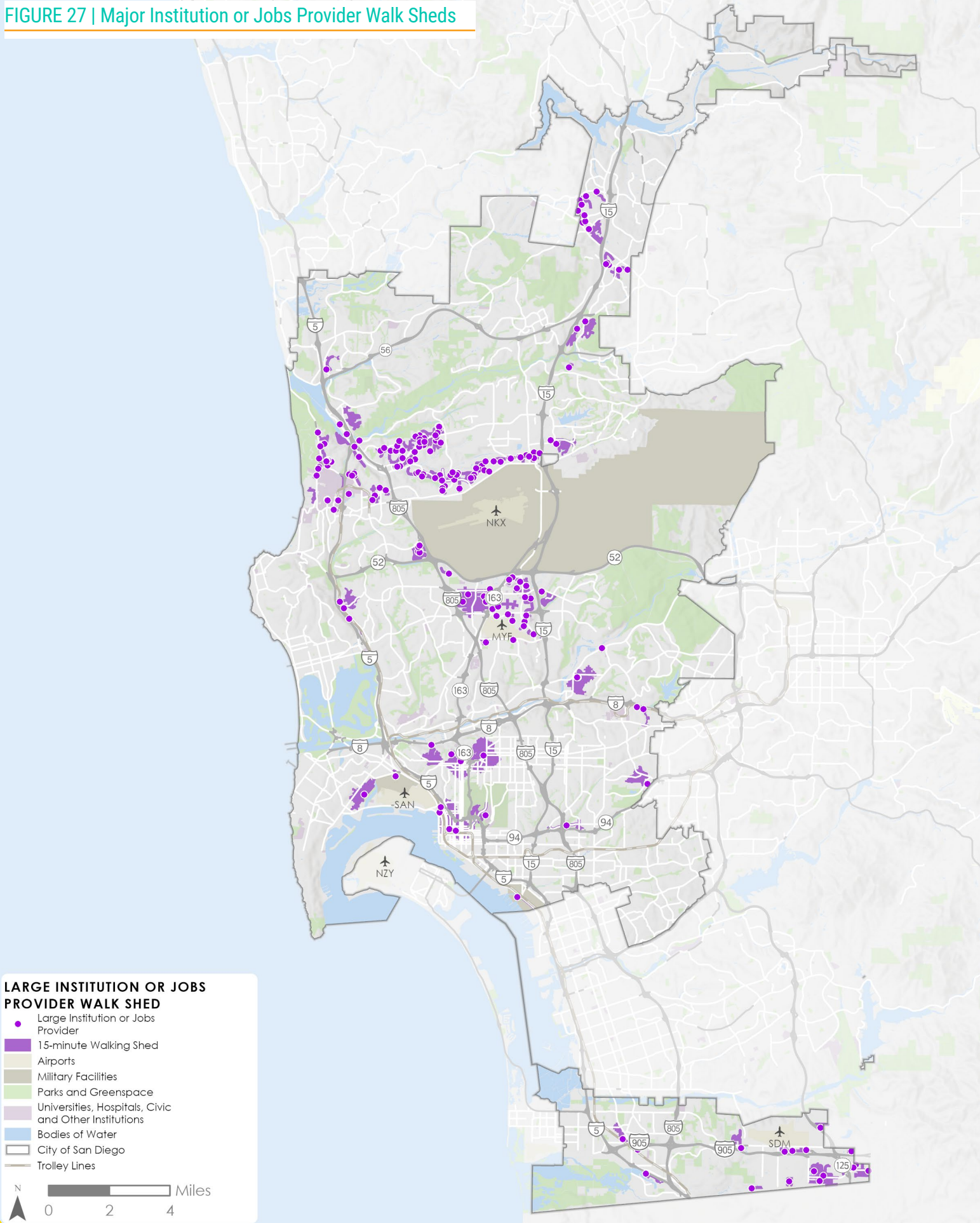
Source: 2024 City of San Diego

FIGURE 26 | University & College Walk Sheds



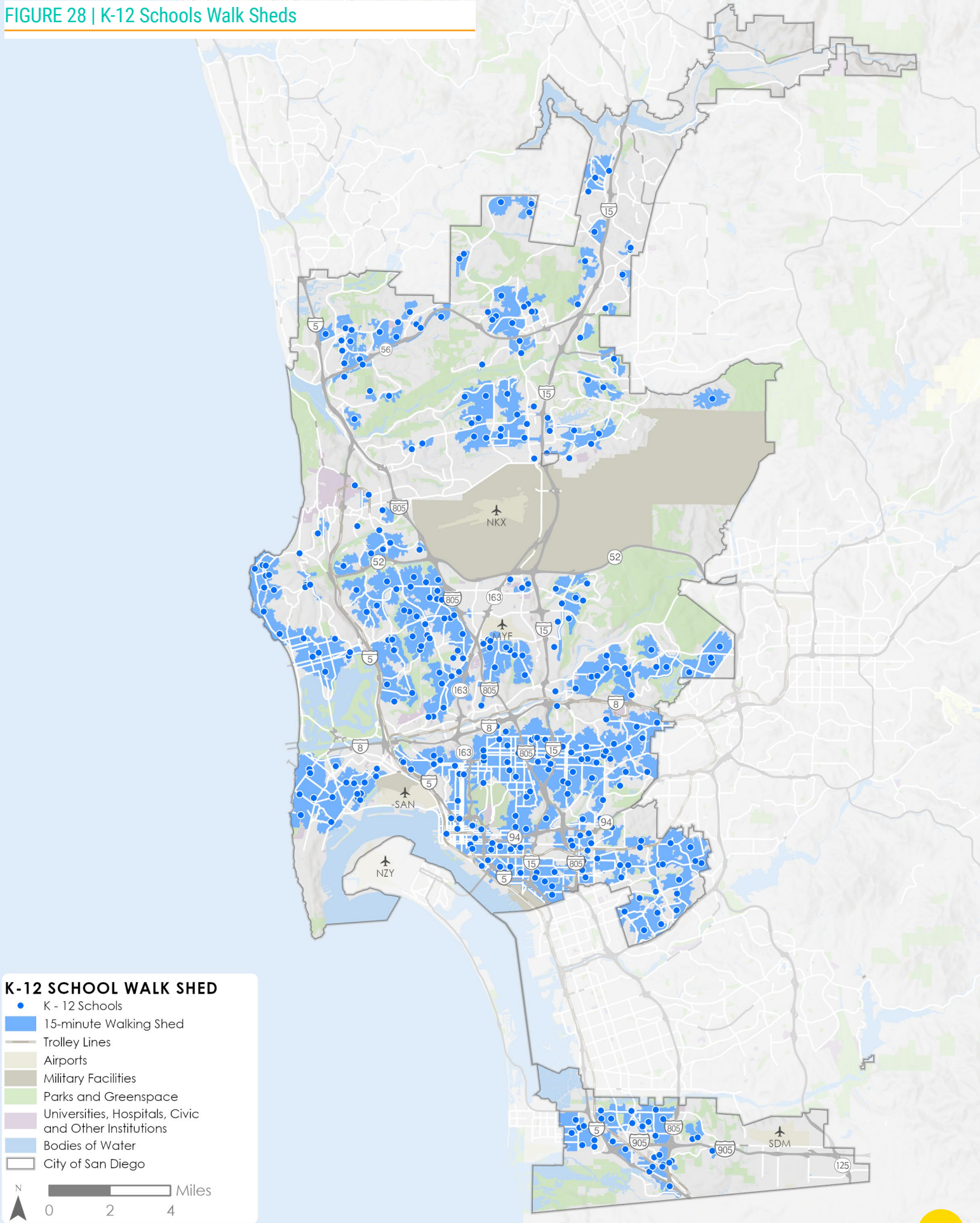
Source: 2024 City of San Diego

FIGURE 27 | Major Institution or Jobs Provider Walk Sheds



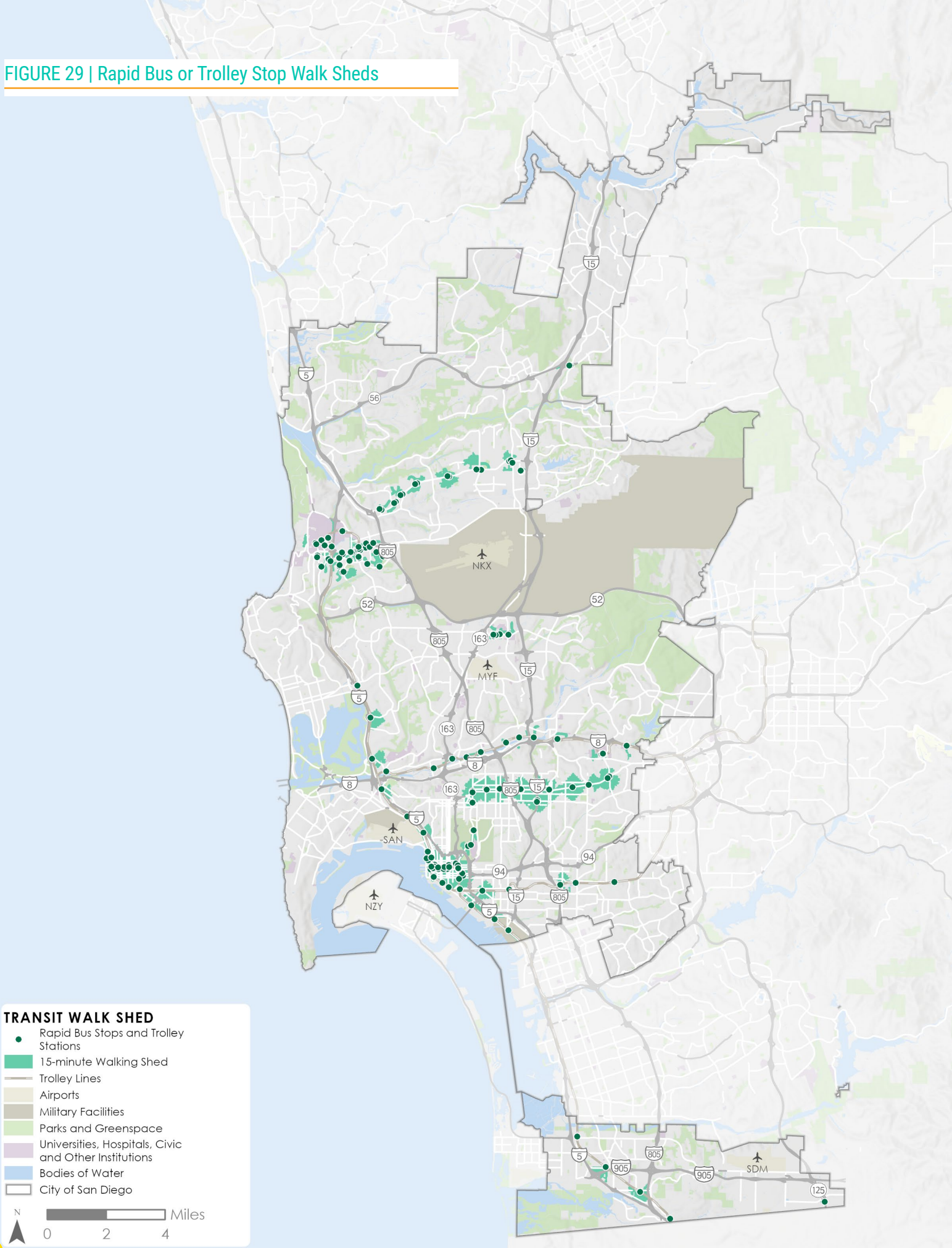
Source: 2024 City of San Diego

FIGURE 28 | K-12 Schools Walk Sheds



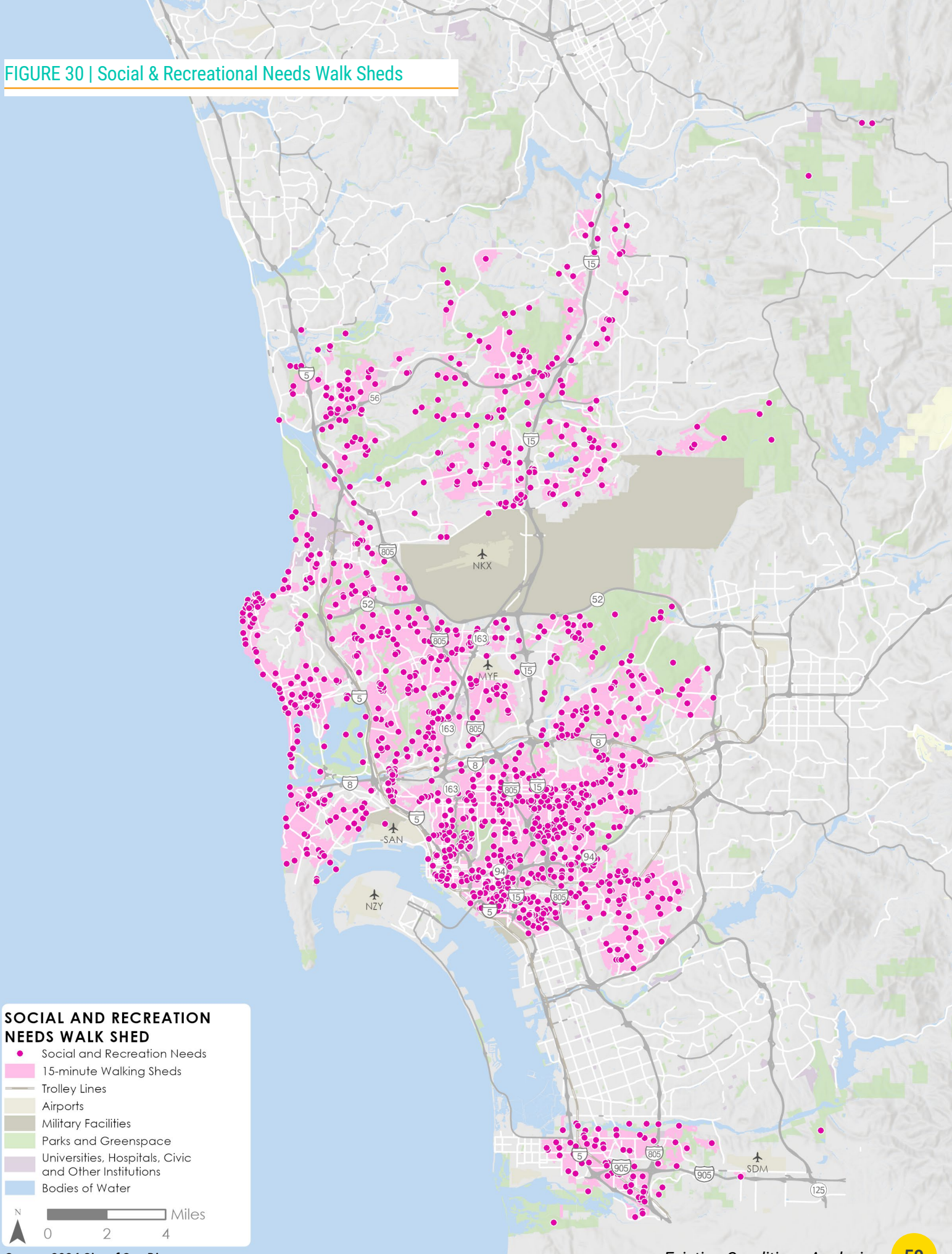
Source: 2024 City of San Diego

FIGURE 29 | Rapid Bus or Trolley Stop Walk Sheds



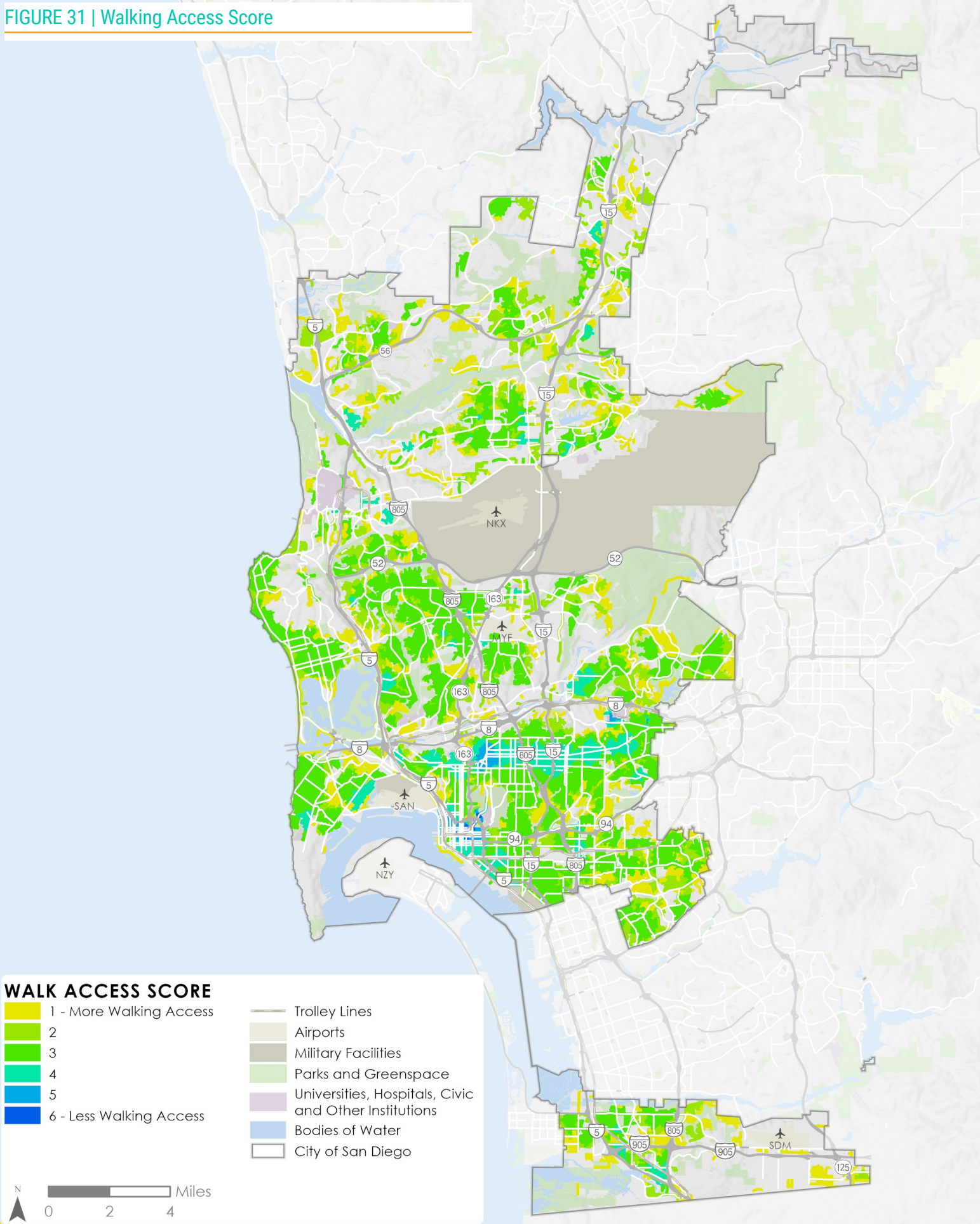
Source: 2024 City of San Diego

FIGURE 30 | Social & Recreational Needs Walk Sheds



Source: 2024 City of San Diego

FIGURE 31 | Walking Access Score



Source: 2024 City of San Diego

BIKING IN SAN DIEGO

A complete and connected bike network that is safe and comfortable for people of all ages and abilities is essential for making biking a viable transportation option throughout the City of San Diego. Such a network ensures that streets are accessible for everyone, whether they are eight or eighty. This vision includes designing streets that are safe and comfortable not just for avid cyclists, but for all users. Practical measures might include installing traffic-calming treatments, creating dedicated spaces for biking, and improving infrastructure like shade and lighting. This network would serve a wide range of users including:

- Children, families, and seniors
- People with disabilities
- People on small wheels (Like scooters and skates)
- People accessing everyday needs
- Visitors
- Road bicycling enthusiasts
- Recreational riders

Each group has unique sensitivities to road conditions, such as gaps in infrastructure, perceptions of safety, traffic volumes and speeds, and pavement quality. While some people may feel comfortable in most environments, many users have varying levels of comfort and need infrastructure that accommodates these differences. By expanding and enhancing the bike network, San Diego can encourage more people to choose biking over driving, helping to reduce traffic congestion and promote a healthier, more sustainable mode of travel for all. The following are examples of bike facilities currently provided in the City of San Diego.



Old Sea World Drive



Camino Del Sur



Congress St



Fifth Ave

CLASS I: SHARED USE PATHS (SUPS)

are paved paths that are shared by non-motorized users and physically separated from vehicular traffic. These facilities are generally considered comfortable for all users. These facilities include the SR 56 Bike Path and San Diego River Trail.

CLASS II: BIKE LANES

are designated lanes for people biking delineated using stripes, markings, and signage. A striped buffer may be used to increase separation from traffic or parked cars, improving comfort for some.

CLASS III: BIKE ROUTES

are signed or marked streets where drivers share the travel lane with people biking. Bike routes on higher speed and volumes roads are generally not considered comfortable for most users. Bike Boulevards are a variation which include traffic calming elements, which make them more comfortable for users.

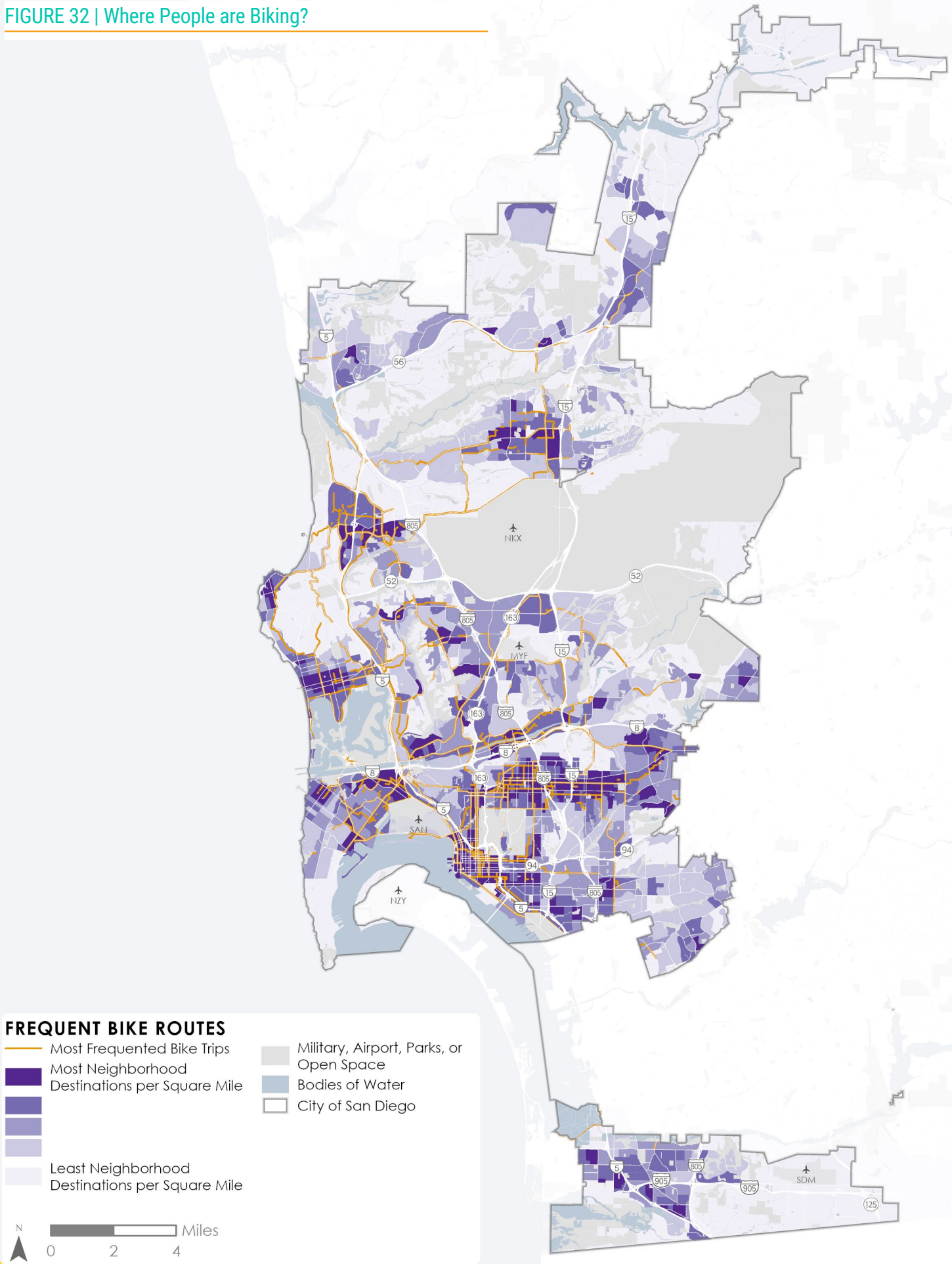
CLASS IV: SEPARATED BIKEWAY

are exclusive spaces for bicycles, physically divided by barriers like flex posts or curbs. They can be one-way or bi-directional and are generally comfortable for most users.

Where are People Biking?

Replica was used to identify biking trends in the City of San Diego. As with walking, this tool only models trips to destinations, or utility biking trips, and excludes trips that start and end at the same location, such as biking for exercise along a trail that loops. Further, Replica only models roadways, so SUPs that do not run along roadways or private trails would not be part of the modeled data. As a result, while trips to recreational destinations like parks are captured, biking trips taken solely for exercise or leisure are not reflected in the data. FIGURE 32 maps the Replica data, illustrating roadways with the highest number of daily biking trips alongside neighborhoods with the greatest concentration of destinations people bike to. The highest concentration of roadway used by people biking are in Downtown, North Park, and Pacific Beach including main roads such as Park Boulevard, 30th Street, and Fanuel Street.

FIGURE 32 | Where People are Biking?



Source: Replica, Fall 2023 for a Typical Weekday

Biking Comfort

While some people may be comfortable riding a bike in any type of environment, neighborhood connections are focused on creating places to bike which are comfortable for anyone, regardless of their age, skills, or ability. As with walking, a variety of factors are known to influence comfort for biking, such as the speed and volume of traffic, presence and type of bicycle facility, and the design of the road. To evaluate how comfortable it is to bike on San Diego's streets, a metric was developed to utilize the data collected for this plan and the unique context in San Diego by interpreting guidance from FHWA's Guidebook for Measuring Multimodal Network Connectivity, FHWAs Bikeway Selection Guide, and NACTO's Designing for All Ages and Abilities. As illustrated in FIGURE 33, the biking comfort metric ranges from low-stress streets suitable for children (Level 1) to high-stress streets only suitable for experienced riders (Level 4). This analysis includes surface streets and shared use paths, but freeways are not analyzed as walking and biking is prohibited.

Combined Bike And Grade Comfort Score

The criteria shown in FIGURE 33 were used to determine the bike level of comfort scores which measures the roadway conditions impact on a rider's comfort while FIGURE 34 was used to determine how roadway grade (or steepness) impacted a riders level of comfort riding on it. While eBikes and other technology help limit the level of effort people biking must exert, eBikes are still comparatively expensive to traditional bikes and are still limited in their ability to overcome all grades. Thus, the Bike Comfort Score was modified to reflect streets with steep grades as noted below. The results are shown in FIGURE 35. More information can be found in Appendix C: Methodology for Access Analysis.

- If **Grade Level of Comfort** is 3 or 4 (roadway is a steep incline or more challenging):
  - Then, the **Combined Bike and Grade Comfort Score** = Bike Level of Comfort Score + 1
  - Otherwise, the roadway is not steep and the **Combined Bike and Grade Comfort Score** = Bike Level of Comfort Score

FIGURE 33 | Biking Level of Comfort Score Methodology

Posted Speed Limit	Number of Lanes	Mixed Traffic / Bike Route	Bicycle Boulevard	Striped Bike Lane		Buffered Bike Lane		Separated Bikeway	Shared Use Path
				No Adjacent Parking	Adjacent Parking	No Adjacent Parking	Adjacent Parking		
25 MPH or Lower	2 Lanes	2	1	1	2	1	2	1	1
	3 Lanes	3	2	1	2	1	2	1	1
	4+ Lanes	4	4	2	3	1	2	1	1
30 MPH	2 Lanes	3	2	1	2	1	2	1	1
	3 Lanes	3	3	1	2	1	2	1	1
	4-5 Lanes	4	4	3	4	2	3	1	1
	6+ Lanes	4	4	4	4	3	4	2	1
35 MPH	2 - 3 Lanes	4	4	3	4	2	3	1	1
	4-5 Lanes	4	4	4	4	3	4	1	1
	6+ Lanes	4	4	4	4	4	4	2	1
40 MPH or Greater	2 - 3 Lanes	4	4	4	4	4	4	2	1
	4-5 Lanes	4	4	4	4	4	4	2	2
	6+ Lanes	4	4	4	4	4	4	3	3

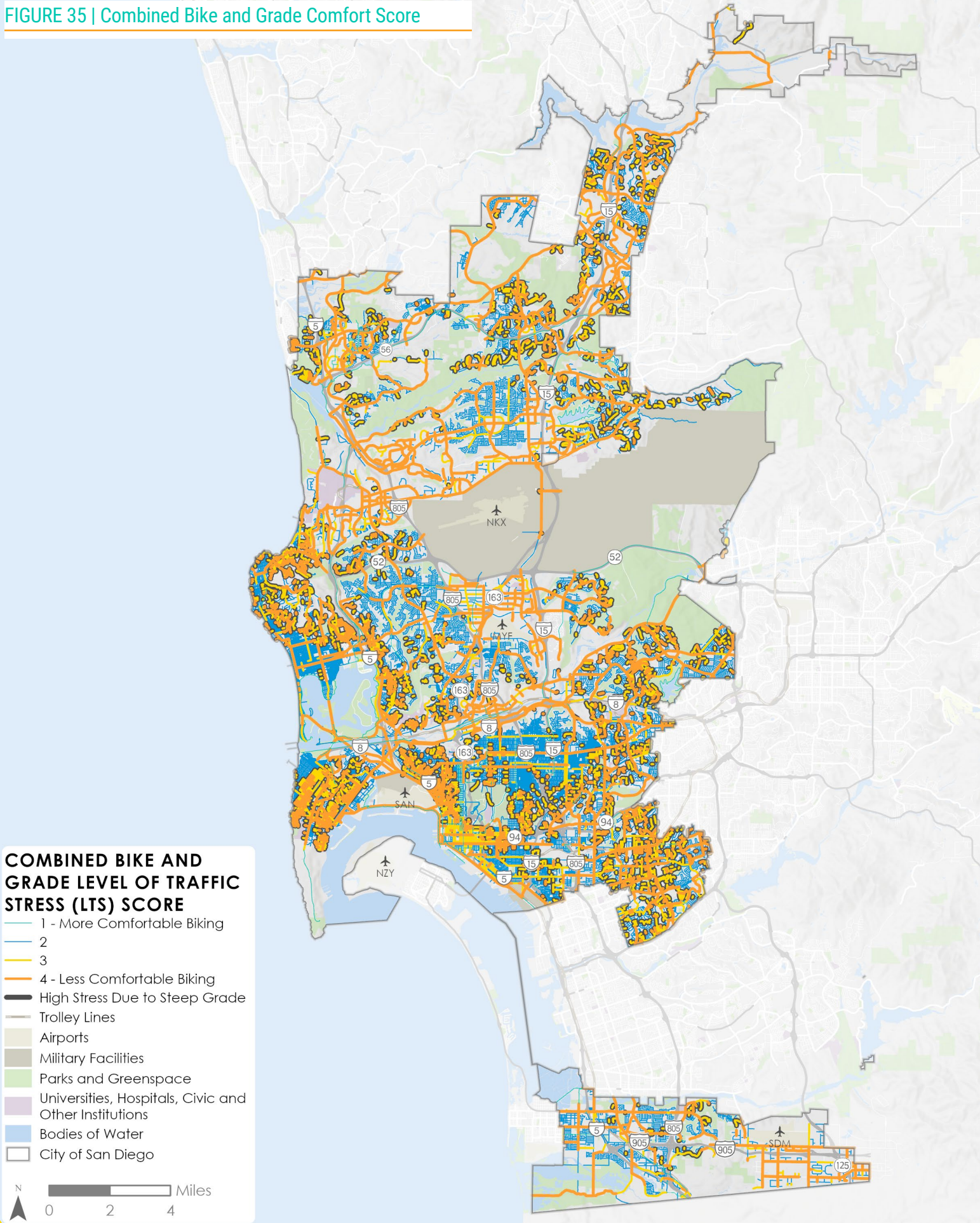
FIGURE 34 | Grade Level of Comfort Score Methodology

Grade	Category	Comfort Level
0%	Flat	1
>0 – 3%	Mostly Flat	1
>3 – 6%	Incline	2
>6 – 9%	Steep Incline	3
>9 – 15%	Very Steep Incline	4
>15%	Impassable for Most Riders	4

**For the purposes of this analysis, bicycle boulevards are defined as mixed traffic streets with at least one traffic calming device.*

**For the purposes of this analysis, if there is a different bikeway facility type on each side of the street, the facility on the least protected side was due to gather a better understating of how people will experience the gaps in infrastructure. However, where a Class 1 Shared use Path or Class IV Two Way Separated Bikeway was provided on one side of the street, that facility was analyzed because it provides two-way travel. Where a Class IV One Way Separated Bikeway was provided on one side of a one way street as part of a couplet, such as Fourth and Fifth Avenue, that facility was analyzed.*

FIGURE 35 | Combined Bike and Grade Comfort Score



Source: 2024 City of San Diego

Biking access to destinations

In order to evaluate access to destinations via biking, a bikeability assessment was conducted. Steps to assess bikeability include:

- Determine key destinations (FIGURE 14).
- Define the low stress network and crossings and identify barriers for people biking. The analysis assumes people of all ages and abilities will bike along low stress streets and cross at low stress intersections, but that not all people will utilize higher stress streets or intersections. The network and barriers were determined as follows:
  - **Low Stress Network:** includes streets and paths with a Combined Bike and Grade Comfort Score of 1 or 2 (FIGURE 35).
  - **Street Barriers:** high stress streets for walking, or those with a Combined Bike and Grade Comfort Score of 3 or 4 (FIGURE 35).
  - **Low Stress Crossings:** (1) Any intersection between two streets part of the low stress network or (2) any intersection between the low stress network intersected a street barrier and a signalized crossing was present.
  - **Crossing Barriers:** Any intersection where the low stress network intersected a street barrier and a signalized crossing was not present.

Bikesheds (the area people can comfortably bike from a given destination) were created utilizing GIS for a typical bike rider that travels 8 MPH, or up to 2 miles, on a 15-minute trip. People riding electric bikes and athletic riders may be capable of higher average speeds and can likely access more destinations than the typical rider; however, using the typical rider allows the sheds to reflect a greater portion of the biking population. Bikesheds were created for Everyday Destinations (FIGURE 37), Universities or Colleges (FIGURE 38), Major Institution or Jobs Provider (FIGURE 39), K-12 Schools (FIGURE 40), Rapid Bus and Trolley Stops (FIGURE 41), and Social or Recreational Needs (FIGURE 42).

Using Census Block population data, estimates were calculated to quantify how many residents reside within bikeshed have access to any given type of destination. This was completed Citywide and for disadvantaged communities as defined in FIGURE 11. Like with walking, there is greater access in disadvantaged communities and the population with access drops significantly when considering access to multiple locations. 31% of residents could have access could have access to at least one walking destination but does not due to walking barriers.

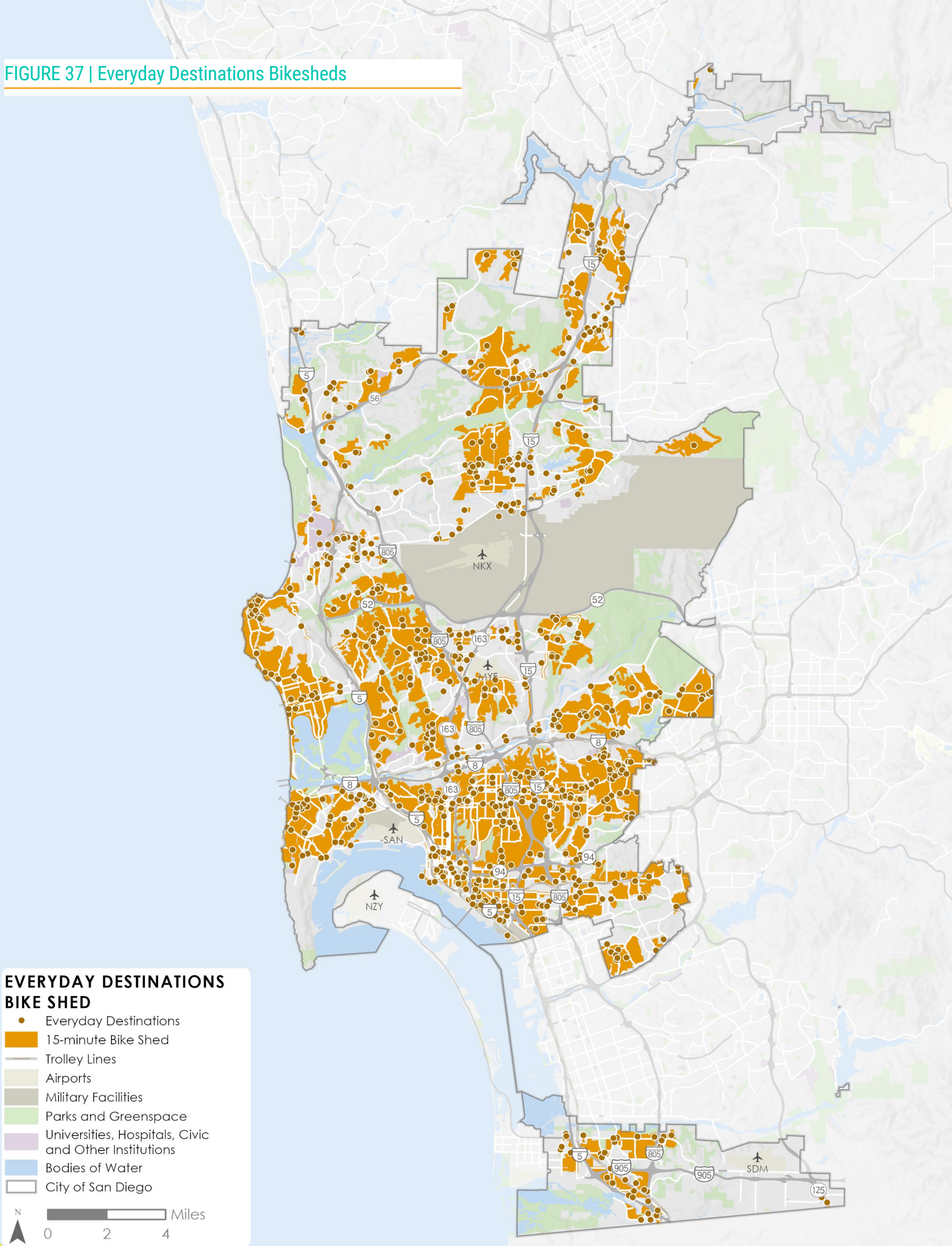
Finally, a **Biking Access Score** (FIGURE 43) was created by adding the total number of destination types accessible from each location–rather, the higher number of destinations types accessible by biking, the higher the score. Similar to Walking Access, the areas with the highest access those with a mixed of destinations and a concentration of low stress biking streets. High levels of bike access (5 or more destinations) are found in parts of Downtown, Bankers Hill, Hillcrest, University Heights, North Park, and Mission Hills near the Presidio and some small pockets of high access in San Ysidro near the trolley line, Redwood Village, and in Mira Mesa near Gold Coast Drive.

FIGURE 36 | Bikeshed Access

Access to At Least One...	% Citywide	% in Disadvantaged Communities
Everyday Destinations	55%	56%
University or College	2%	2%
Major Institution or Jobs Provider	11%	10%
K-12 School	52%	56%
Rapid Bus or Trolley Stop	20%	31%
Social or Recreational Need	61%	66%

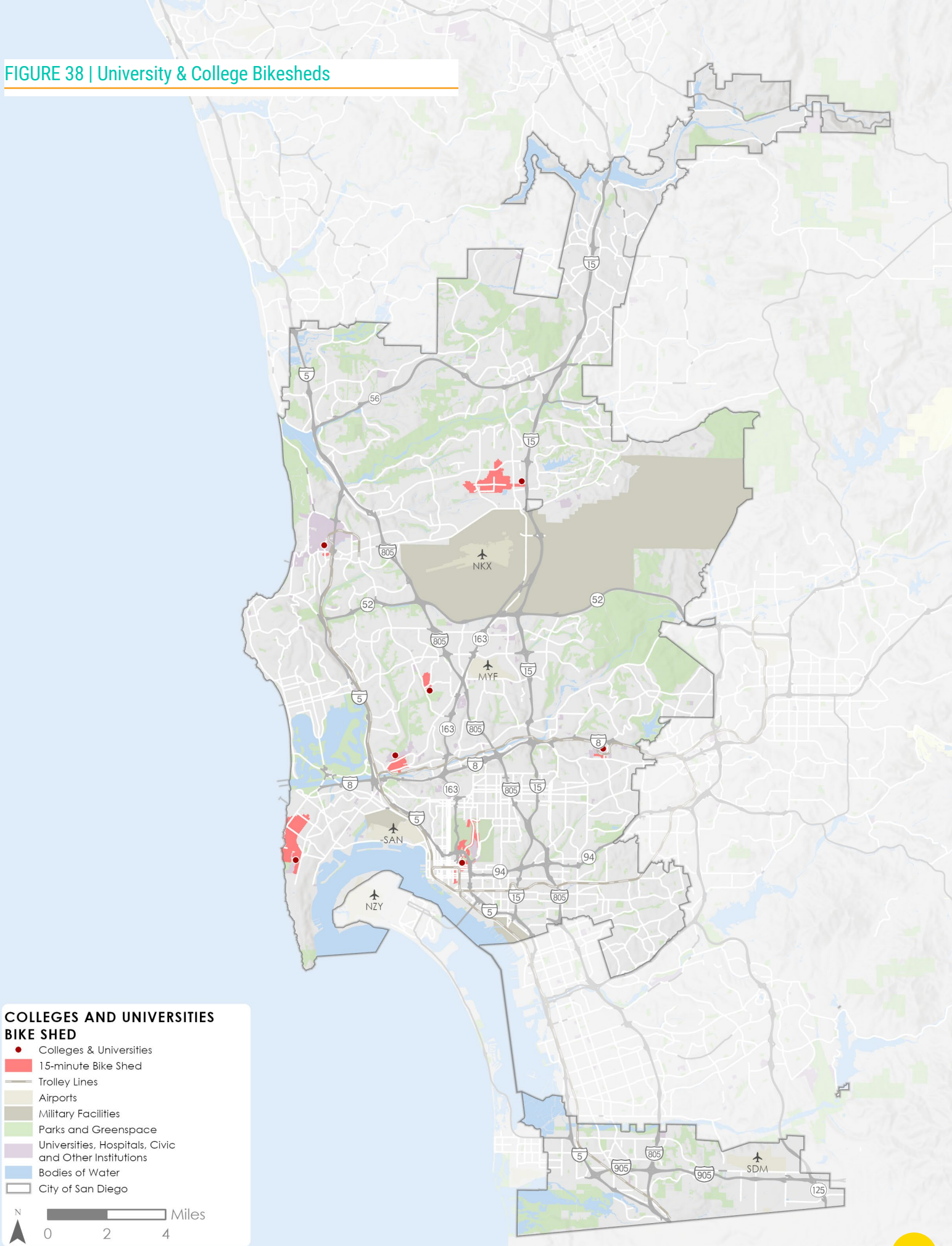
Access to..	% Citywide	% in Disadvantaged Communities
1 or more Destinations	64%	69%
2 or more Destinations	57%	59%
3 or more Destinations	49%	52%
4 or more Destinations	24%	31%
5 or more Destinations	7%	8%
Lack Access to Any Destination Despite Being within Walking Distance	31%	26%

FIGURE 37 | Everyday Destinations Bikesheds



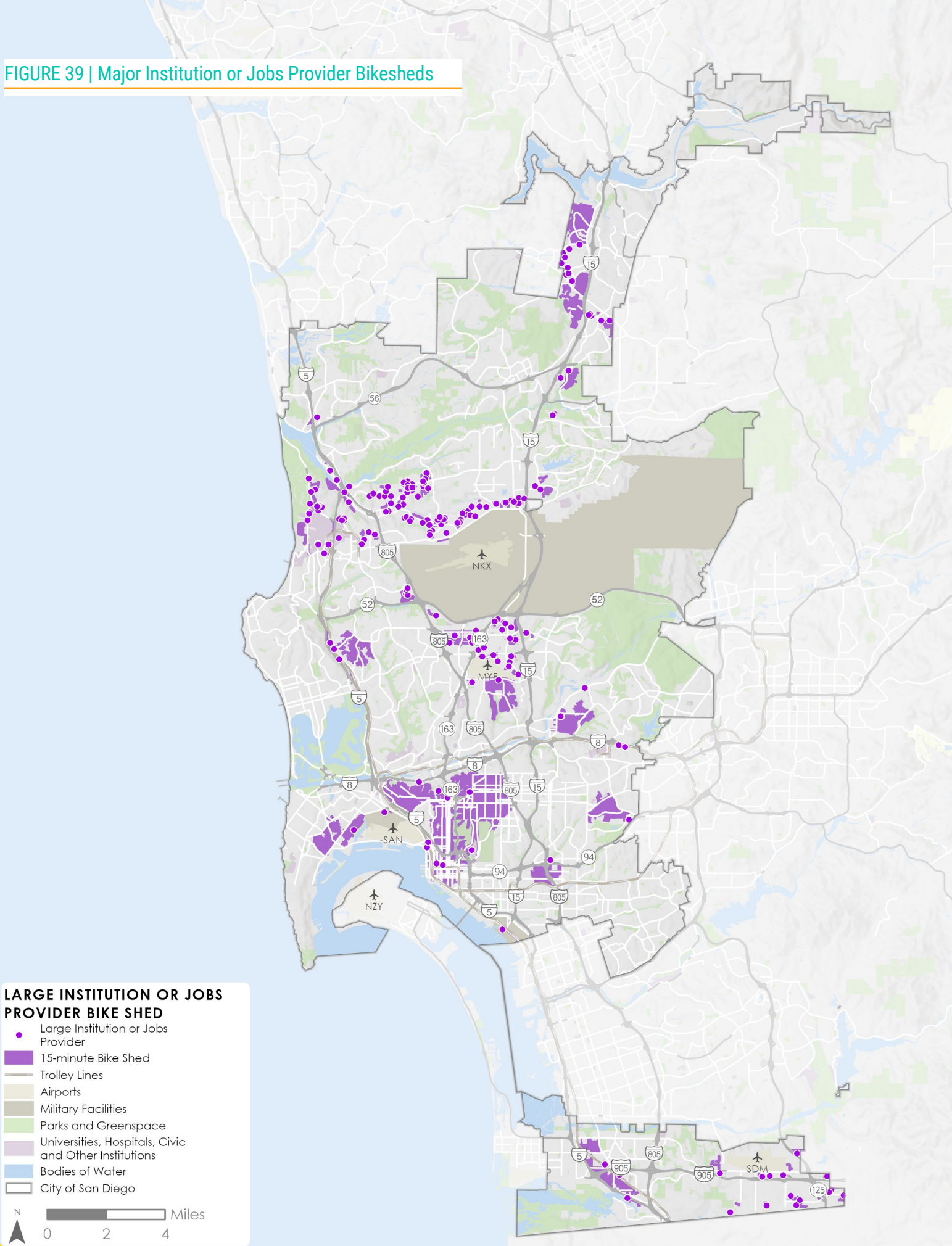
Source: 2024 City of San Diego

FIGURE 38 | University & College Bikesheds



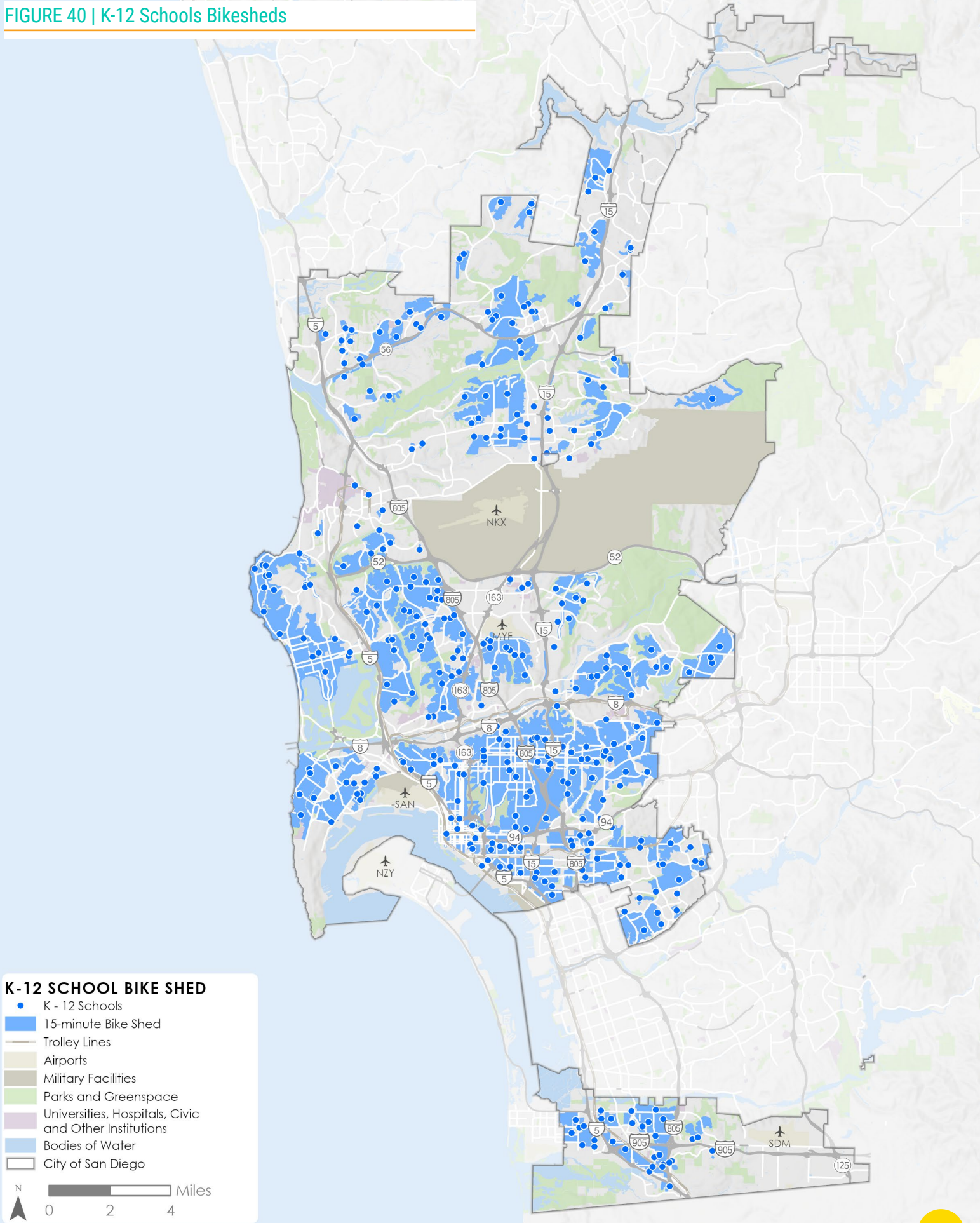
Source: 2024 City of San Diego

FIGURE 39 | Major Institution or Jobs Provider Bikesheds



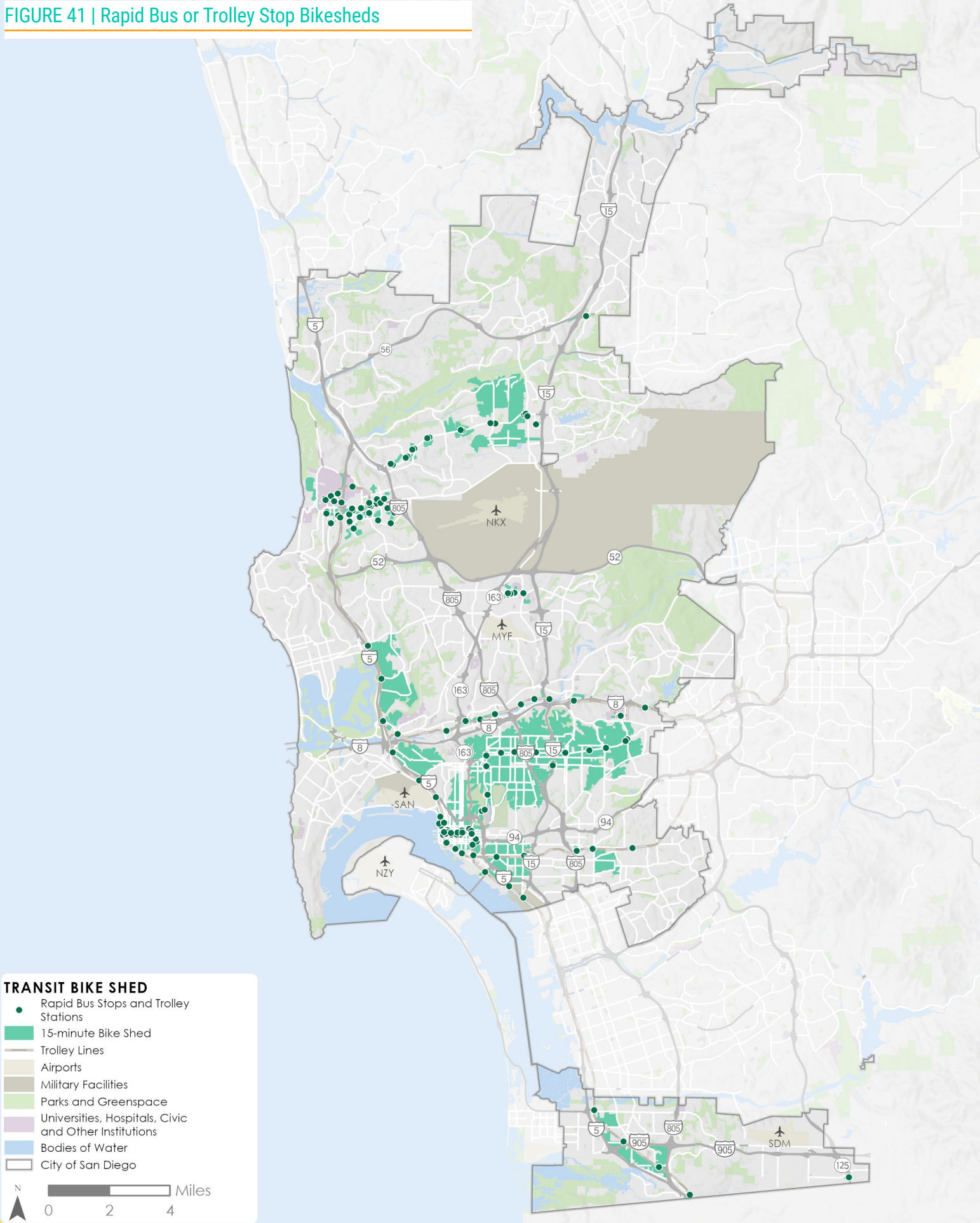
Source: 2024 City of San Diego

FIGURE 40 | K-12 Schools Bikesheds



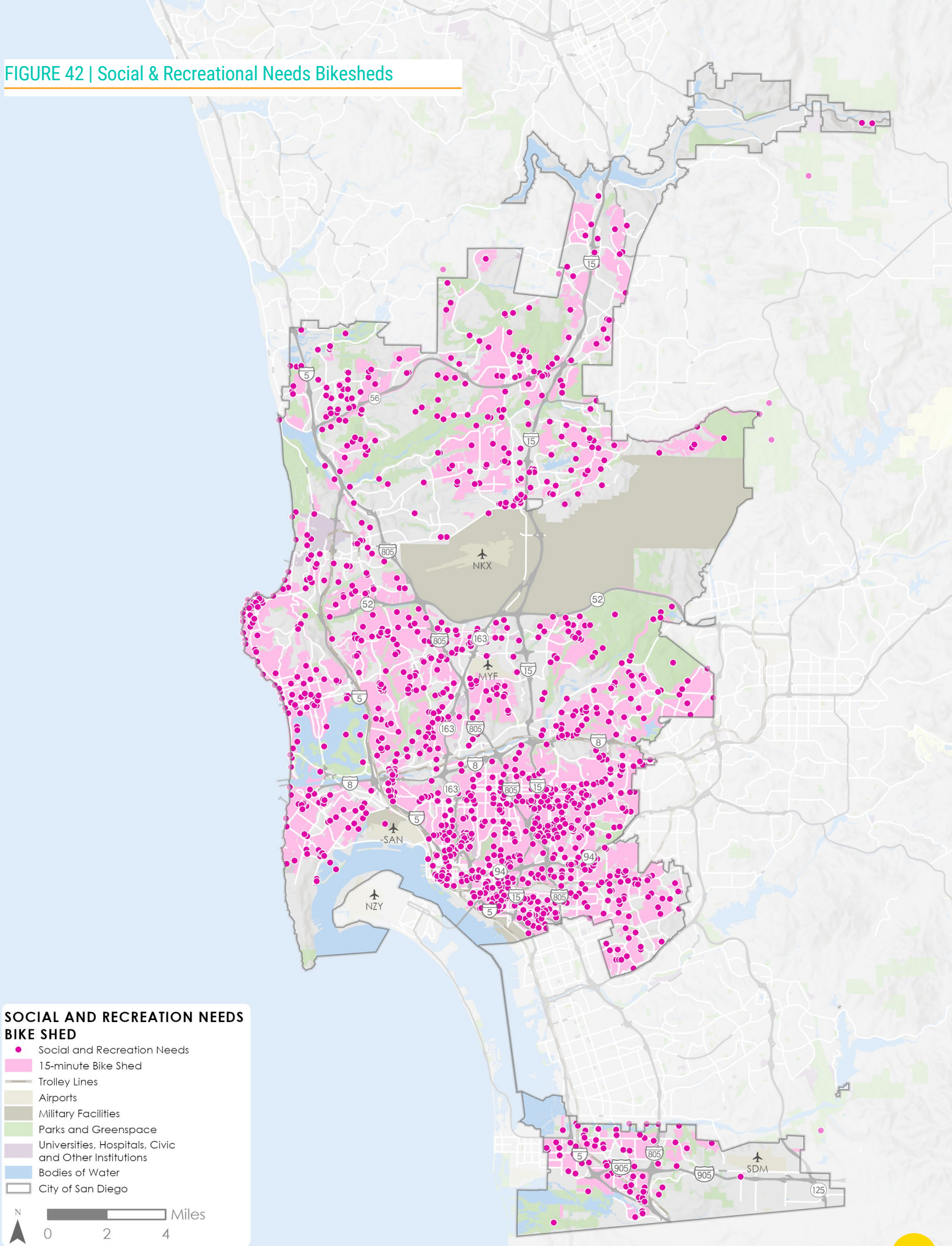
Source: 2024 City of San Diego

FIGURE 41 | Rapid Bus or Trolley Stop Bikesheds



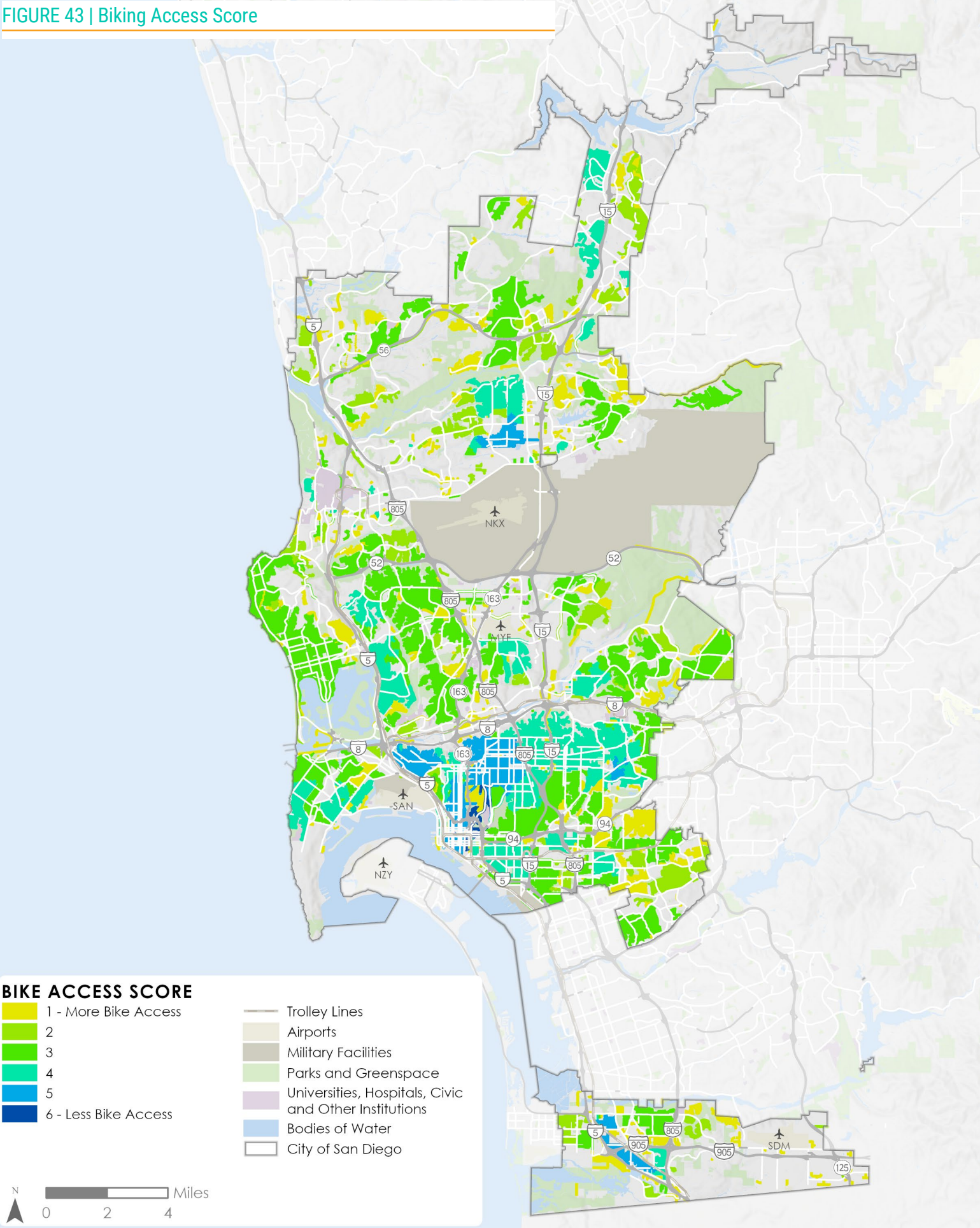
Source: 2024 City of San Diego

FIGURE 42 | Social & Recreational Needs Bikesheds



Source: 2024 City of San Diego

FIGURE 43 | Biking Access Score



Source: 2024 City of San Diego

EXAMPLES OF WALKING AND BIKING ACCESS

The access analysis provides a useful baseline metric, but in order to understand real issues, it is important to take a closer look to understand localized challenges. While this will be conducted in more detail as the project moves forward, two case studies are presented below: one for walking and one for biking.

Digging into the Access Analysis - Walk Access

Torrey Pines Road functions as a barrier to people walking in La Jolla. Neighborhoods south of Torrey Pines Road are disconnected from key destinations along the coast, as well as the many restaurants and shops along Prospect Street.

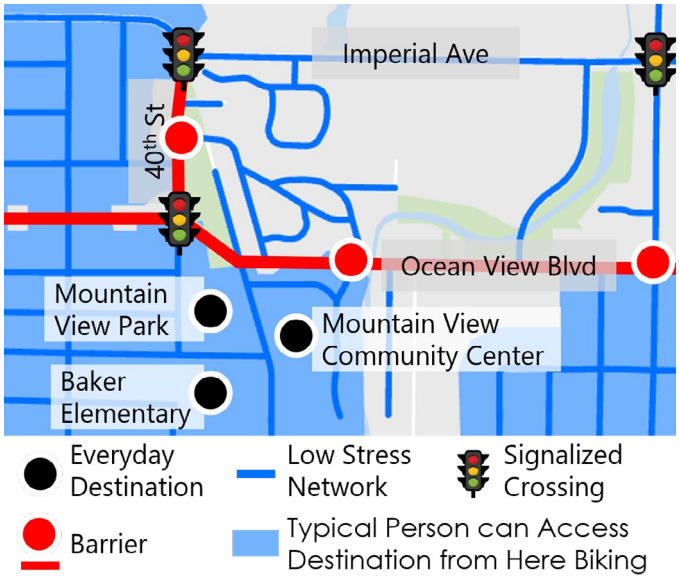
- Torrey Pines Road and La Jolla Parkway are high stress, effectively blocking access for residents to the south.
- Sidewalks are provided along Torrey Pines Road, with some sidewalk gaps on the south side and limited crossing opportunities.
- Bus service along Torrey Pines Road increases demand for a complete and low-stress walking environment.
- Destinations north of Torrey Pines Road are generally accessible via low stress streets for walking.
- Improving crossings along Torrey Pines Road would help connect residents cross this barrier safely and comfortably.



Digging into the Access Analysis - Bike Access

Considering the intersection of 40th Street and Ocean View Boulevard in Southeastern San Diego:

- Key destinations: Mountain View Park, Mountain View Community Center, and Baker Elementary.
- Destinations are generally accessible via low stress streets for biking.
- Ocean View Blvd and 40th St are high stress, effectively blocking access for residents northeast of the intersection.
- Improving the crossing at San Miguel Ave and Ocean View Blvd using flex posts to realign the intersection and create curb extensions and installing a RRFB could create a new low stress connection.
- The high stress segment of 40th St may have space for quick-build protected bike lanes with minimal or no parking loss.



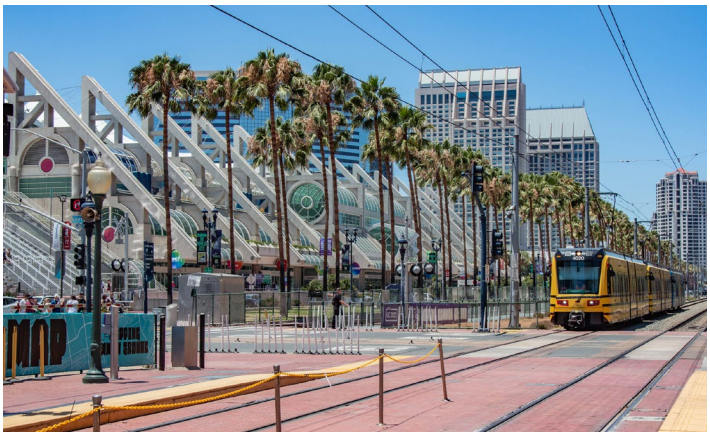
RIDING TRANSIT

Transit services in San Diego are provided by the San Diego Metropolitan Transit System (MTS) and the North County Transit District (NCTD). Amtrak also serves San Diego and provides regional connectivity through the Santa Fe Depot train station.

Transit routes provide important access and connectivity to key destinations and regional access to employment, education, shopping, and services. Therefore, transit stops are daily destinations for many people in San Diego. Since most people walk, bike, or roll to reach transit stops, understanding where they are located is an important element in the development of plans and programs that establish a framework to create Safe Streets for San Diegans.

Transit Today

San Diego MTS operates trolley light rail, local bus, and high-frequency rapid transit services within the City. The MTS light rail trolley routes are partially grade separated and provide direct connections to the border, major employment centers, and destinations such as Petco Park, San Diego State University (SDSU), Seaport Village, the Gaslamp Quarter, and the University of California San Diego (UCSD).



MTS also operates a rapid bus service as a high frequency, limited-stop service along major corridors and provide connections to major destinations, as shown in FIGURE 45.

Local buses generally serve shorter-distance trips and provide fixed-route connections to local destinations and major or regional routes in rural, urban, and suburban areas.

The North County Transit District (NCTD) operates light rail, local bus, and commuter rail services. While it primarily serves North County cities, NTCD services connect to major transit centers within the City of San Diego, including Santa Fe Depot, Old Town Transit Center, and UTC Transit Center.

The COASTER is the primary north-south inter-city commuter rail line operated by NCTD that connects downtown San Diego to the Oceanside Transit Center via coastal cities.

Both operators provide paratransit service to eligible passengers with a qualifying disability.

Major transit centers include 12th & Imperial, Santa Fe Depot, Old Town Transit Center, El Cajon Transit Center, San Ysidro Transit Center, and the University Town Center (UTC) Transit Station.

Connecting to Transit: The First and Last Mile

Most transit riders must walk or bike to and from their transit stop. Poor connecting infrastructure along these "first and last miles" can make it difficult for people to access crucial transit services. Improving these connections can make transit a more viable option for new riders and more accessible for riders who may not have an alternative.

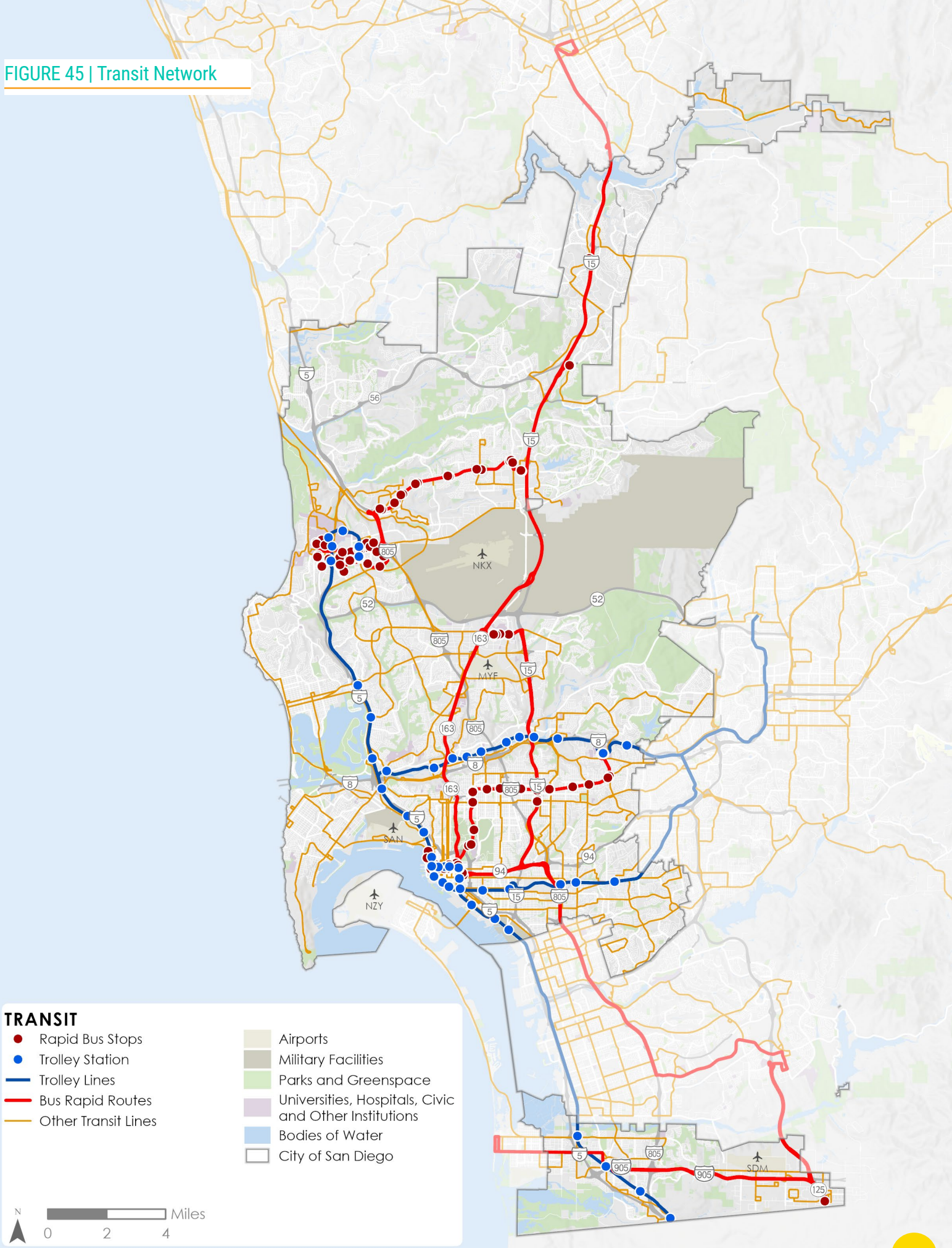
FIGURE 44 | Transit Stop Access

	Number of Stops	Stops *not located* within 250 ft of a Traffic Controlled Crossing*
All Transit Stops	2,878	40%
Rapid Bus Stops	152	28%
Trolley Stations	47	60%

**Traffic controlled crossings include four-way stops, signalized intersections, roundabouts, mid-block pedestrian signals, or pedestrian hybrid beacons*

FIGURE 44 summarizes the number of transit stops within the City of San Diego and details the percentage of stops that are not located near controlled crossings. Traffic controlled crossings allow for a safer and more comfortable crossing for transit users, especially on higher stress, high-volume and speed streets. As shown, a significant percentage of transit stops are not located near controlled crossings, which poses a safety threat to people taking transit. Many trolley stations provide internal or direct connections to destinations such as at SDSU or UTC, thus these percentages may not fully reflect the ability of trolley users to get to their destination comfortably.

FIGURE 45 | Transit Network



Source: UCSD Homelessness Hub Data Portal, 2023 Rapid Bus Stops; Replica, 2024 MTS General Transit Feed Specification

05



SAFETY



HOW SAFE ARE OUR STREETS?

One of the key goals of this plan is to create a transportation network which is safe for everyone to use, whether they are driving, walking, biking, rolling, or riding transit. In order to do this, it is important to first understand where, when, how, and to whom crashes are happening on San Diego streets. In order to understand this, five years of crash data from January 1, 2018 to December 31, 2022 was analyzed from California's Transportation Injury Mapping System (TIMS).

One Additional Layer of Analysis

The City of San Diego has conducted an in-depth analysis of crash trends to identify systemic concerns and solutions. As discussed in Section 2, fatal and severe injury crashes have been examined over 5- and 10-year periods. To ensure accuracy, the City independently reviewed and verified severe injury crash reports, reclassifying some cases based on detailed descriptions within the reports. As a result, the City's classification of fatal and severe crashes may differ from state-published data.

Figures and discussions on fatal and severe crashes in this section reflect this independent analysis, supplemented with TIMS data where relevant. While contributing crash factors were not included in the City's severity classification process, they remain critical for assessing potential safety treatments and crash typologies.

General Safety Trends

In general, the total number of crashes occurring per year has been trending down since 2018, with a big drop in 2020 (FIGURE 46). Due to the Covid-19 Pandemic, there were less people on the road in 2020 years and most places saw a corresponding decline in the number of crashes.

However, this trend does not hold for crashes involving someone walking or biking. While the total number of crashes involving people walking to biking is still lower than in 2018, the crashes are trending back up. They are also getting more severe. While a relatively small number of crashes are related to walking, FIGURE 48 shows that they result in a disproportionately higher percentage of people who are killed or seriously injured (KSI). In fact, while crashes involving someone walking make up 14 percent of all crashes, they make up 38 percent of all KSI crashes. **Furthermore, people walking were almost 3 times more likely to be killed or seriously injured in a crash than people biking or driving.**

FIGURE 46 | All Crashes (2018-2022)

	2018	2019	2020	2021	2022
Vehicle	2,900	2,749	1,989	2,686	2,443
Biking	373	289	260	266	290
Walking	565	544	348	395	466
Total	3,838	3,582	2,597	3,347	3,199

FIGURE 47 | KSI Crashes (2018 - 2022)

	2018	2019	2020	2021	2022
Vehicle	123	73	75	103	101
Biking	24	46	15	35	26
Walking	91	74	63	78	76
Total	238	193	153	216	203

FIGURE 50 Shows the locations of fatal and severe crashes over the study years. Some of these streets have had recent safety improvements that have the potential to dramatically decrease crash rates. For example, Pershing Drive was recently reconfigured from a 4-lane road to a 2-lane road, the speed limit was reduced from 50 MPH to 35 MPH, and a new separated walking and biking path was added. New roundabouts and other treatments were also installed.

As part of the City's 10-year crash analysis, a systemic safety study identified key intersection characteristics associated with a higher likelihood of fatal or severe injury crashes. The analysis found that intersections between 4-lane and 2-lane roads on a transit route, with three or more prior injury crashes over the past decade, are at greater risk for severe crashes.

Based on these findings, the City has designated these intersections as priority locations for safety improvements. By identifying common risk factors, the City can implement targeted, cost-effective countermeasures to help prevent future fatal and severe injury crashes.

FIGURE 48 | KSI Crashes as a Percentage of All Crashes (2018 - 2022)

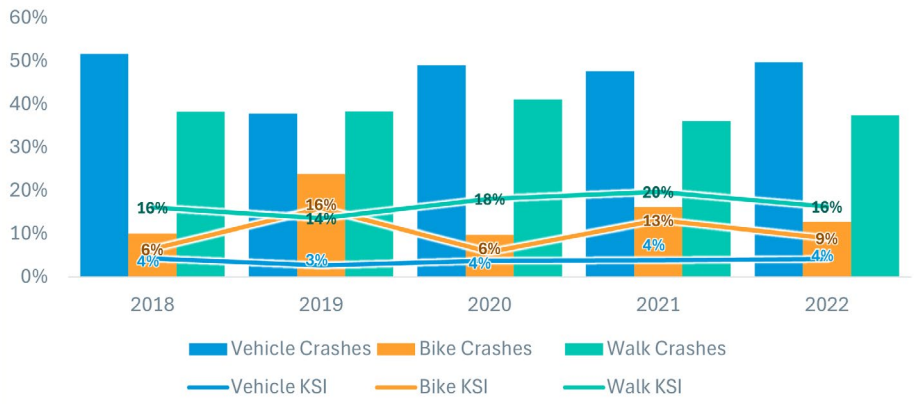
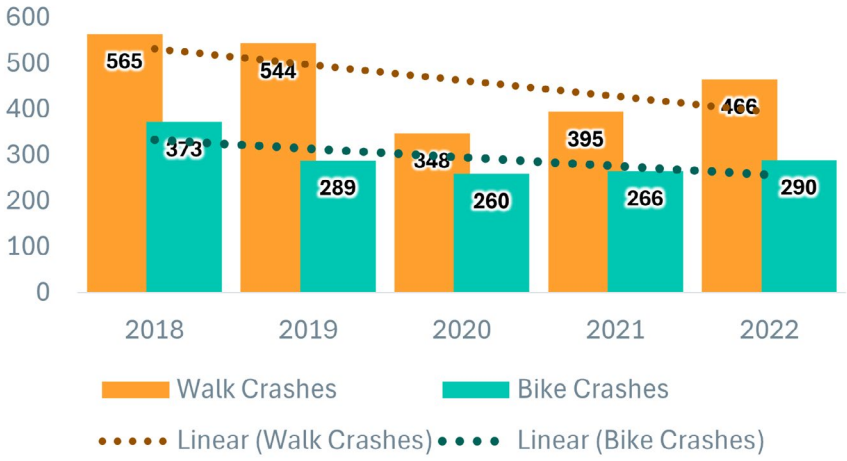
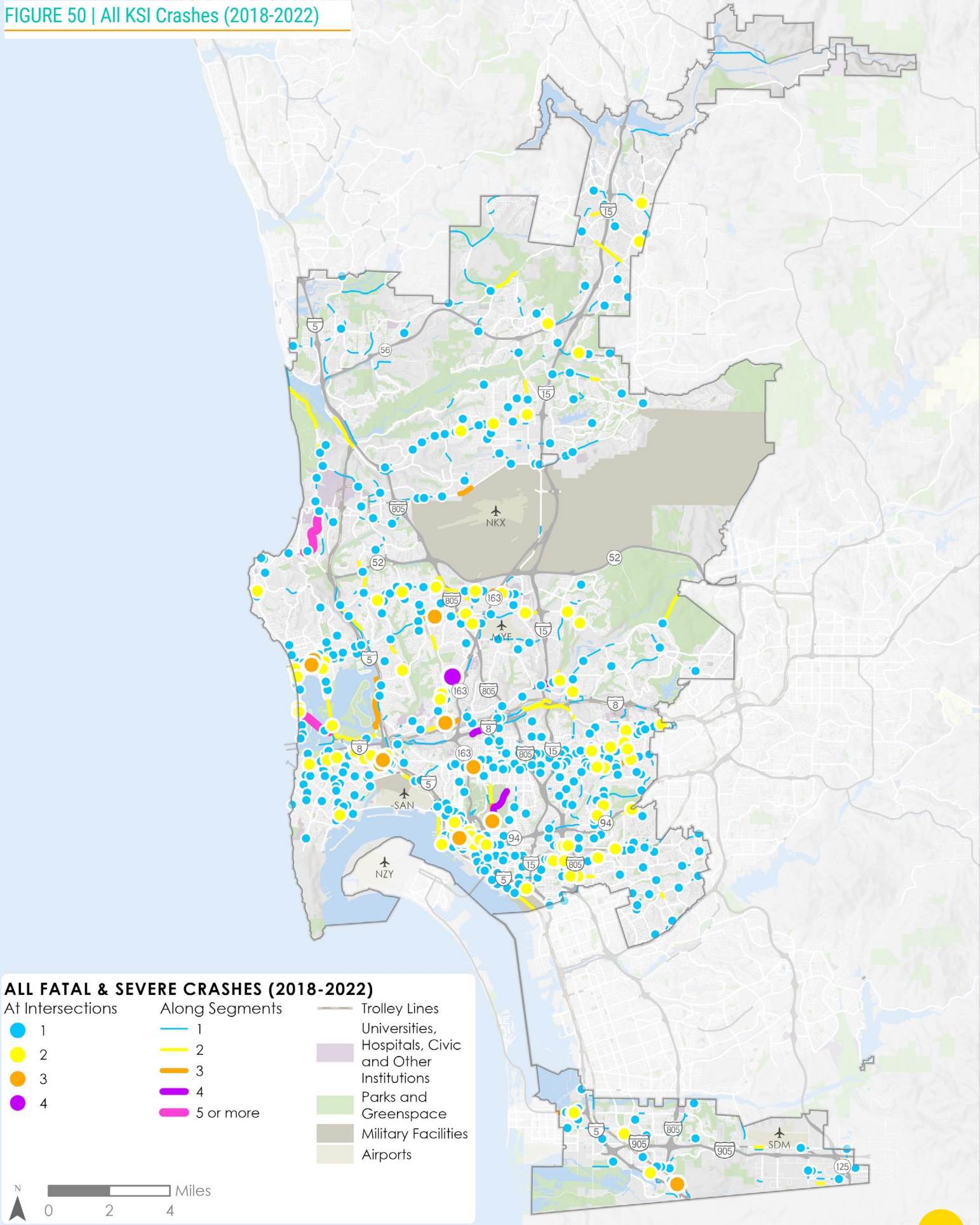


FIGURE 49 | All Walking and Biking Crashes (2018 - 2022)



Note: This analysis groups vehicle crashes with motorcycle and other crashes and combines scooter crashes with bike crashes.

FIGURE 50 | All KSI Crashes (2018-2022)



Source: City of San Diego

Crashes Involving People Walking

Over the five year period from 2018-2022, there were 2,318 crashes involving someone walking. Of these, 126 resulted in someone dying and 256 resulted in a serious injury. The vast majority (73%) of crashes involving someone walking occurred within 150 feet of an intersection.

The most common collision factor for crashes involving people walking was "**pedestrian right of way,**" indicating a driver violated a pedestrian's right of way in an intersection or crossing, followed by "**pedestrian violation**", indicating someone walking was reported as responsible for the primary violation in the collision. These types of crashes made up 32 percent (750) and 29 percent (681) of crashes involving people walking. Note that these violations are based on the responding enforcement officer's interpretation of the crash after the fact.

As shown in FIGURE 51, most crashes occurred along lower speed roadways. **Crash severity risk increased substantially on streets with speed limits 35 miles per hour and over**. Similarly, most crashes occurred on streets with two lanes, but **crash severity risk significantly increased on streets with 3 or more lanes**.

Bringing it all together and looking at level of traffic stress, crashes involving someone walking were more likely to result in a death or serious injury on LTS 3 or 4 roads compared to the total number of crashes involving someone walking on roads with the same LTS.

The percentage of total crashes resulting in KSI crashes decreases with lower LTS facilities. Forty-percent of crashes occurring on streets with LTS 4 facilities result in KSI crashes and nineteen-percent of crashes on streets with LTS 3 or LTS 2 facilities result in KSI crashes, whereas only twelve-percent of crashes on streets with LTS 1 facilities result in KSI crashes.

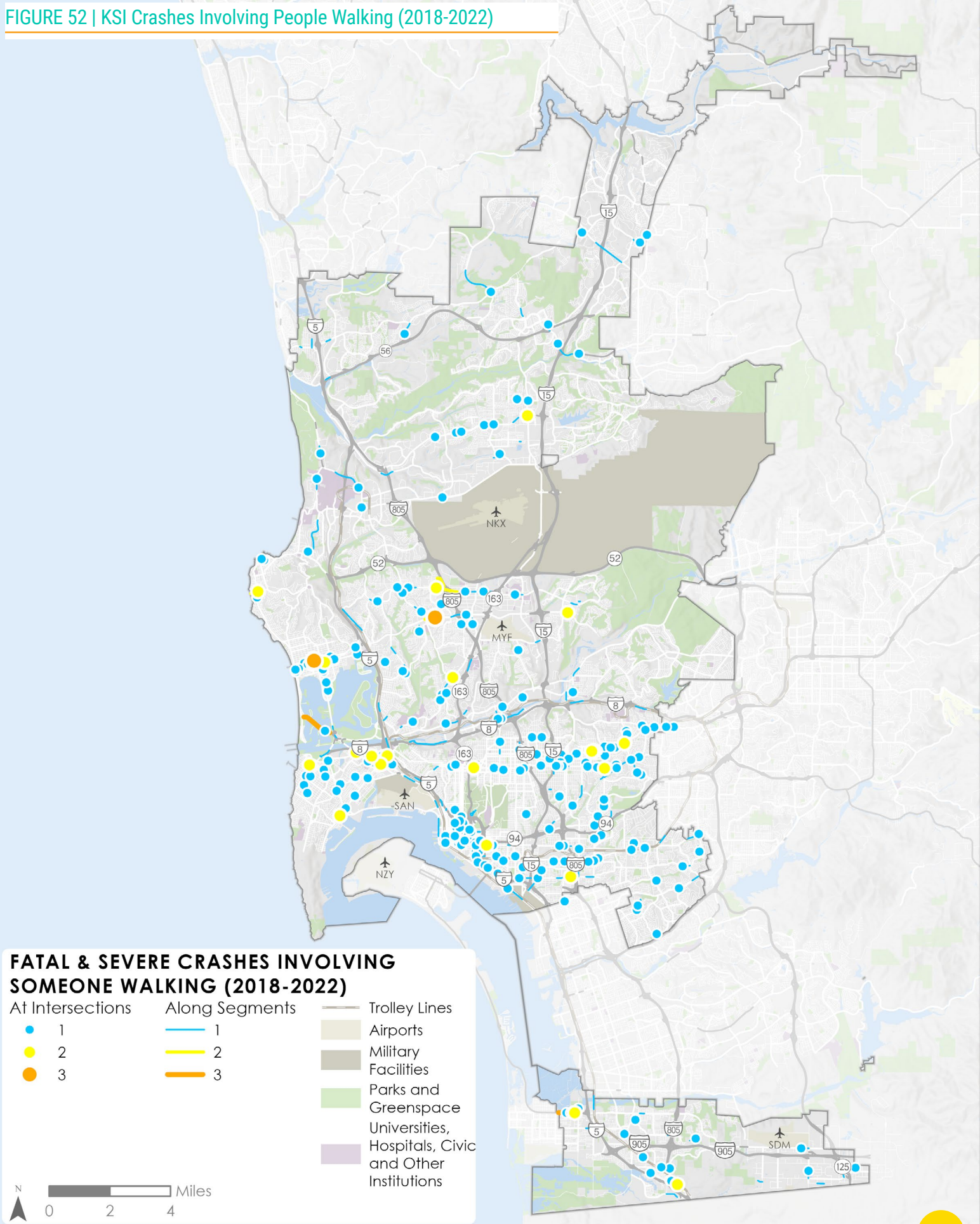
FIGURE 52 shows KSI crashes involving people walking. The highest numbers of crashes generally occurred at intersections in Pacific Beach and Midway-Pacific Highway. Mission Bay Drive, Sports Arena Boulevard, and Clairemont Mesa Boulevard show up as top corridors for crashes.

FIGURE 51 | Selected Characteristics of Crashes Involving People Walking (2018-2022)

	Total Crashes	Percent Crashes Resulting in KSI
Posted Speed		
25 MPH or Lower	1,308 (56%)	165 (45%)
30 MPH	296 (13%)	38 (10%)
35-30 MPH	559 (24%)	122 (33%)
45 MPH or Greater	121 (5%)	42 (11%)
# of Lanes		
2	1,109 (48%)	150 (41%)
3	368 (16%)	34 (9%)
4-5	701 (30%)	140 (38%)
6 or more	110 (5%)	43 (12%)
LTS		
1	1,364 (59%)	159 (43%)
2	496 (21%)	95 (26%)
3	294 (13%)	54 (15%)
4	154 (7%)	62 (17%)

**Note: these statistics reflect crashes recorded on streets only. Crashes on off-street paths, private roads, and parking lots are excluded.*

FIGURE 52 | KSI Crashes Involving People Walking (2018-2022)



Source: City of San Diego

Crashes Involving People Biking

Over the five year period from 2018-2022, there were 1,478 crashes involving someone biking. Of these 13 resulted in someone dying and 81 resulted in a serious injury. Similar to crashes involving people walking, most (60%) of crashes involving someone biking occurred within 150 feet of an intersection.

The most common collision factor for crashes involving people biking was "**improper turning,**" followed by "**automobile right of way**", indicating someone biking violated the driver's right of way, and "**unsafe speed**". Note that these violations are based on the responding enforcement officer's interpretation of the crash after the fact. These types of crashes made up 19 percent (286), 14 percent (207), and 14 percent (205) of crashes involving people biking.

As shown in FIGURE 53, most crashes occurred along lower speed roadways. **Crash severity risk increased substantially on streets with speed limits 35 miles per hour and over**. Similarly, most crashes occurred on streets with two lanes, but **crash severity risk significantly increased on streets with 4 or more lanes**. FIGURE 54 shows KSI crashes involving people biking.

When considering infrastructure, crashes involving someone biking are most likely to occur on a road with Class 2 bike lanes. Further, crashes are more likely to result in an injury or fatality on roads with Class 2 bike lanes. Note: the data also shows a similar trend on streets with protected bikeways, but this is likely due to a lag in the data; many protected bike lanes have been installed since 2022. **The percentage of total crashes resulting in KSI crashes is greatest on streets with LTS 4.** Sixty-eight-percent of crashes occurring on streets with LTS 4 facilities resulted in KSI crashes.

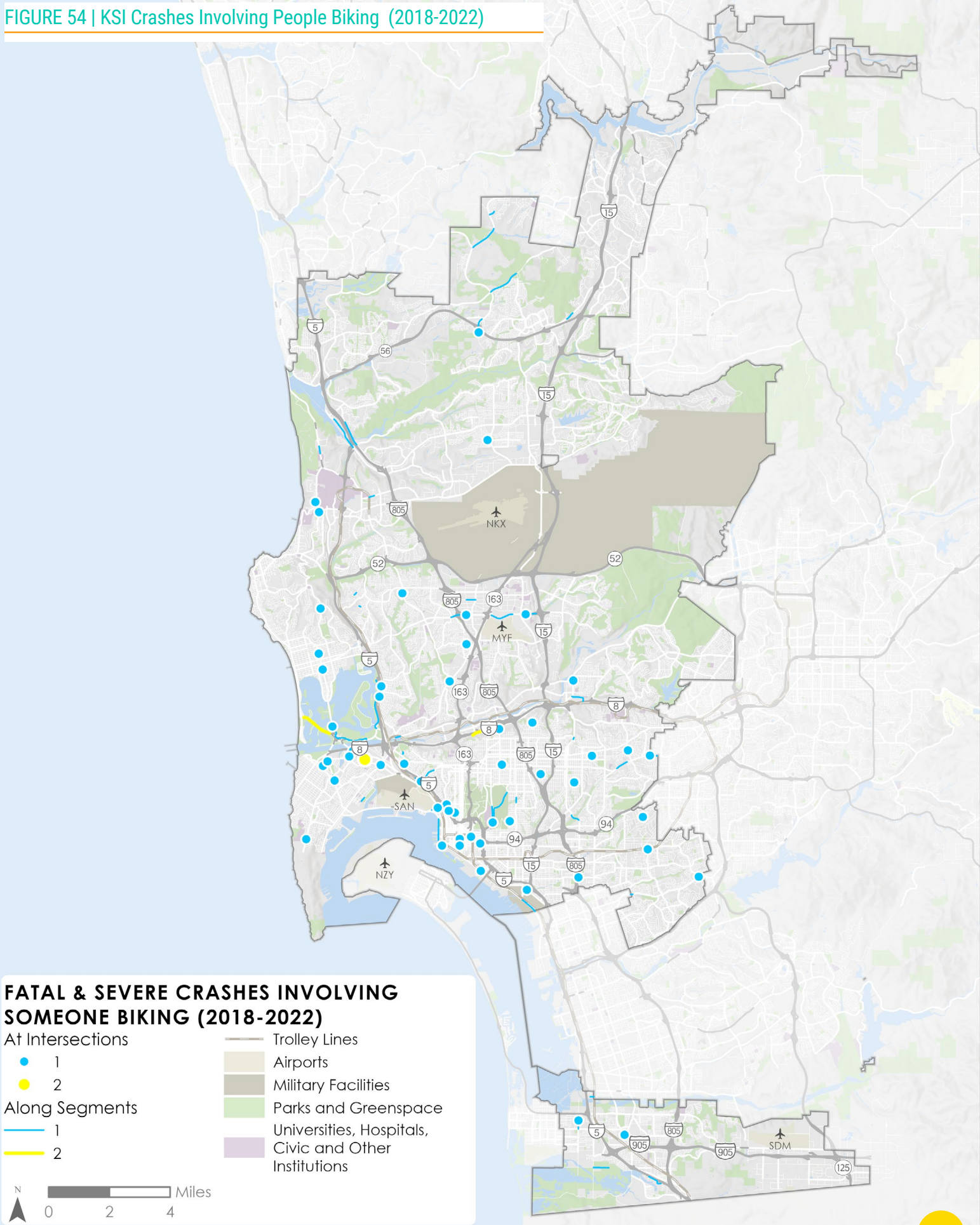
FIGURE 53 | Selected Characteristics of Crashes Involving People Biking (2018-2022)

	Total Crashes*	Percent Crashes Resulting in KSI
Posted Speed		
25 MPH or Lower	765 (52%)	36 (40%)
30 MPH	176 (12%)	4 (4%)
35-30 MPH	332 (22%)	32 (35%)
45 MPH or Greater	163 (11%)	17 (19%)
# of Lanes		
2	745 (50%)	39 (43%)
3	161 (11%)	6 (7%)
4-5	444 (30%)	38 (42%)
6 or more	87 (6%)	6 (7%)
LTS		
1	107 (7%)	5 (5%)
2	622 (42%)	38 (42%)
3	193 (13%)	6 (7%)
4	534 (36%)	42 (46%)

Bike Facility	% of Bike Facilities	% of all Roads	% of Bike Crashes	Percent Crashes Resulting in KSI
Class1	13%	3%	0%	4%
Class2	35%	8%	42%	31%
Class2 Buffered	24%	5%	27%	20%
Class3	19%	4%	19%	16%
Class 3 Bike Boulevard	1%	0%	1%	0%
Class4 One Way	6%	1%	11%	24%
Class4 Two Way	2%	0%	0%	4%

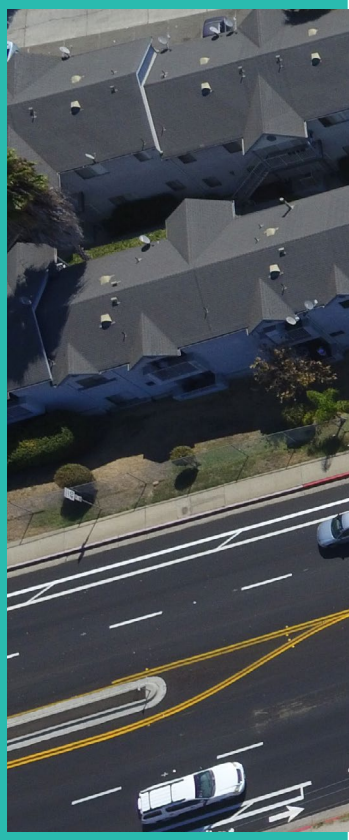
**Note: these statistics reflect crashes recorded on streets only. Crashes on off-street paths, private roads, and parking lots are excluded.*

FIGURE 54 | KSI Crashes Involving People Biking (2018-2022)



Source: City of San Diego

05



GAPS & OPPORTUNITIES



GAPS AND OPPORTUNITIES

Enhancing walking and biking in the City begins with understanding existing barriers and identifying areas with potential for improvement. This section evaluates key findings about where infrastructure could encourage active transportation and where current conditions hinder it. These insights will inform the three elements of this grant program, each designed to improve equitable access and reduce severe injury and fatal crashes. By addressing infrastructure gaps and leveraging opportunities, this program aims to create a safer, more connected, and inclusive network for all users.

Gaps and opportunities for walking and biking were evaluated in three key ways:

1. **Propensity for Active Transportation.** Looking at places where people might choose to walk and bike more given the right infrastructure
2. **Infrastructure Gaps and Opportunities.** Looking at places where existing conditions are making walking and biking less attractive
3. **Transportation Equity.** Looking at differences in investment and outcomes in disadvantaged communities compared to the City overall.

Propensity for Active Transportation

Certain demographic and trip making characteristics can help indicate areas where people might choose to walk and bike if comfortable, connected, and convenient infrastructure was present, even if they are not walking or biking today. A metric to help identify these areas was developed using characteristics at the Census Block Group level:

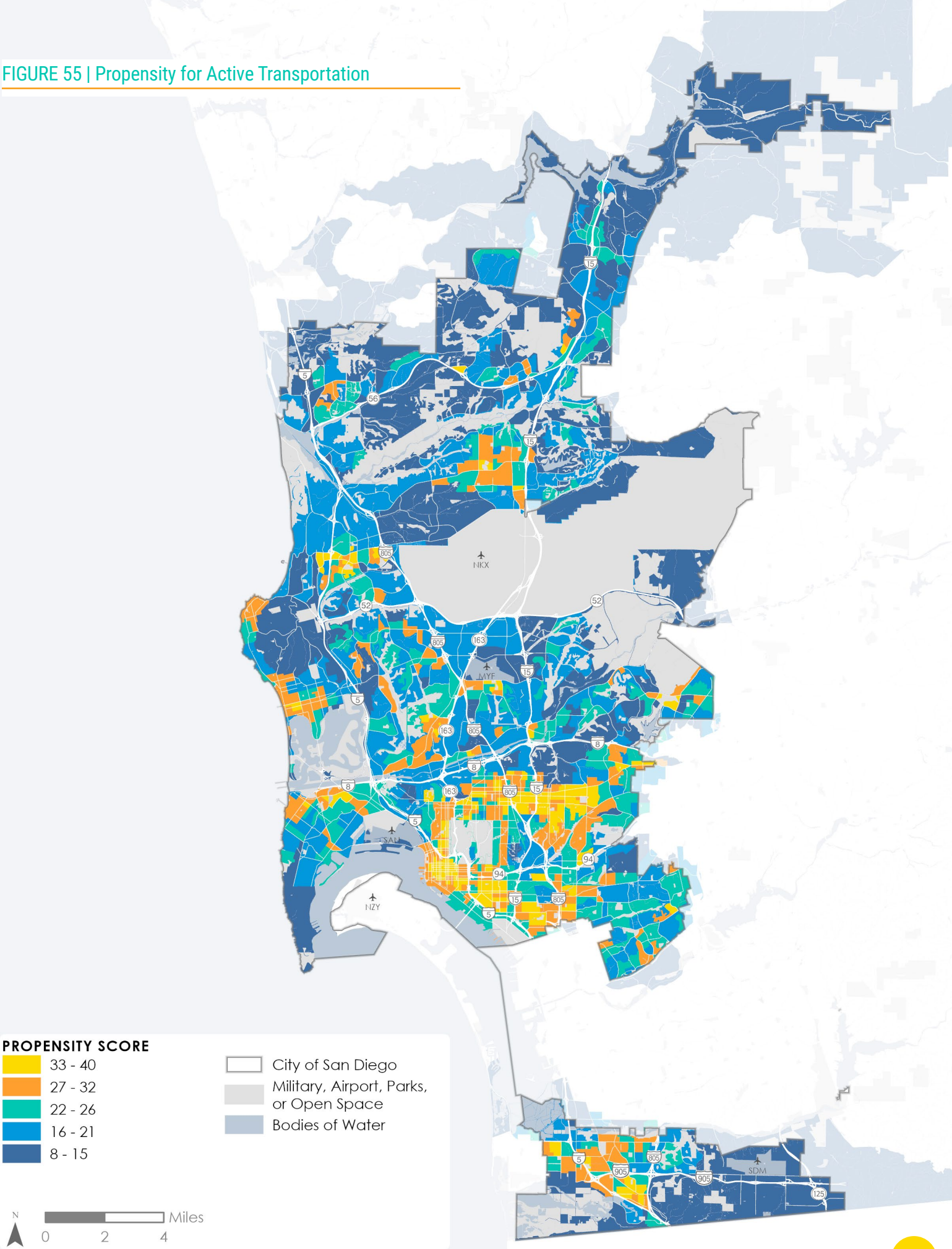
- **Population density** (people per square mile)
- **Employment density** (number of employees per square mile)
- **People under 18** (people under 18 per square mile)
- **People over 65** (people over 65 per square mile)
- **Poverty** (households with income below the federal poverty line per square mile)
- **Vehicle access** (households without access to a car per square mile)
- **Short trip density** (number of short trips per square mile)
- **Destination density** (number of identified everyday destinations per square mile)

To calculate the score, each Census Block Group in the study area was assigned seven different sub-scores (one for each category above), ranging from 1 to 5, with 5 indicating a higher level of demand for active transportation. The sub-scores were assigned by dividing the range of possible scores into five even classes based on quantiles. Then, the scores were summed to give a total score. No weighting was applied.

FIGURE 55 shows that the areas with the highest propensity for walking and bicycling, in many cases, match the areas with activity center designations. The current areas with the highest propensities are mostly located in urban areas and some rural towns. This likely can be attributed to the varying social and demographic characteristics. Places like Downtown, La Jolla, Hillcrest, North Park, and East Village have higher concentrations of destinations, population, and jobs. Other places may show up due to concentrations of people living under the poverty line.



FIGURE 55 | Propensity for Active Transportation



Source: 2024 City of San Diego

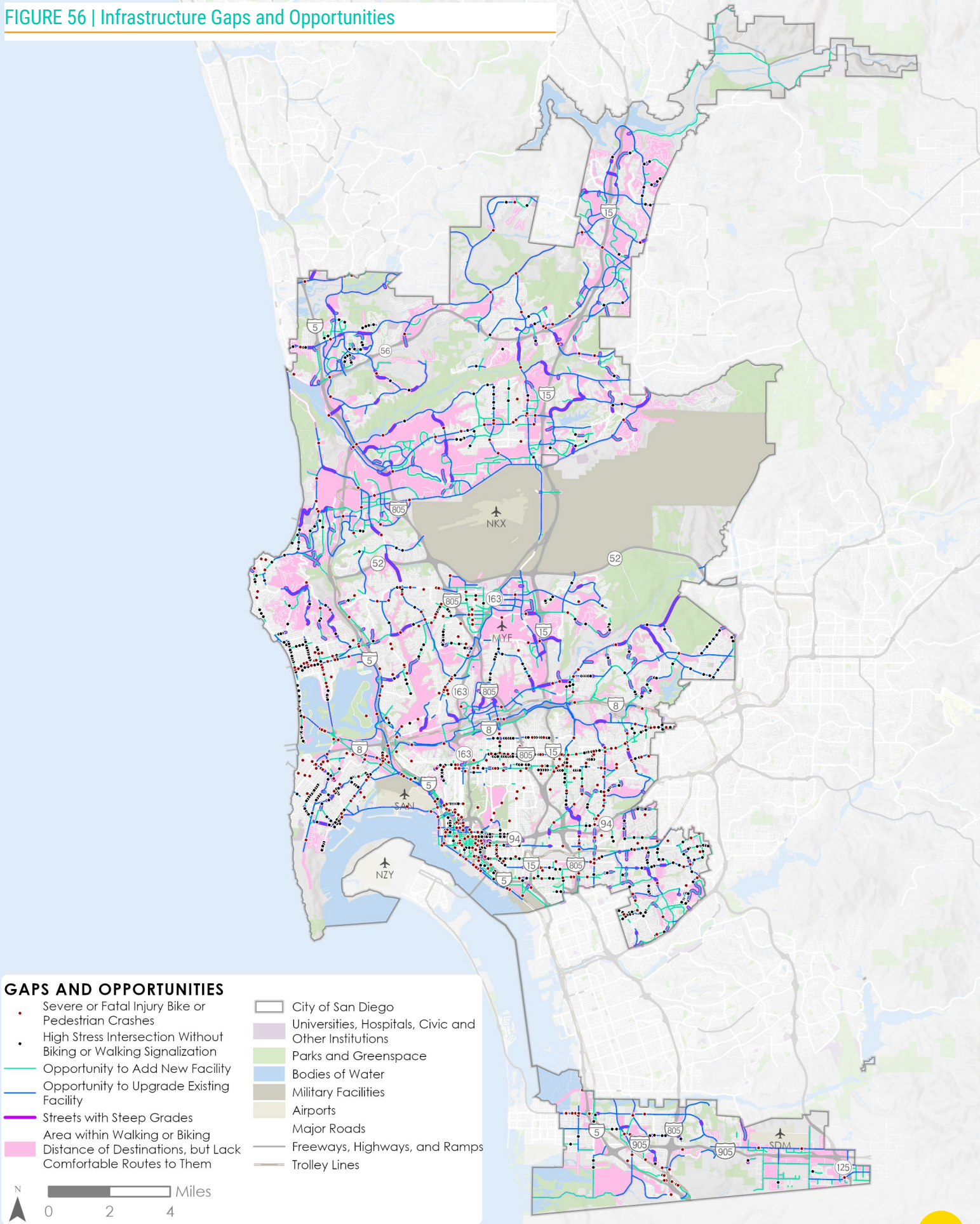
Infrastructure Gaps and Opportunities

FIGURE 56 shows the identified gaps and opportunities, described below.

- **Infrequent crossings & high stress intersections**. High-stress roadways often have few comfortable crossing points due to long gaps between signalized intersections especially in newer suburban developments, which are often wide and increase exposure for people on foot or bike.
- **Opportunities to upgrade existing facilities.** The City of San Diego offers hundreds of miles of bike facilities, but many aren't comfortable for all ages and abilities due to current road conditions, such as speeds and lane numbers. Upgrading these facilities can make walking and biking more comfortable.
- **Opportunities to add new facilities.** Some roadways are considered high stress because they lack biking or walking facilities or only provide facilities on one-side of the road. Adding appropriate infrastructure can improve comfort, expand the network, and increase access to destinations.
- **Streets with steep grades.** Steep grades make walking and biking more physically demanding, which can discourage use or make some routes inaccessible. While ebikes and other assistive technologies offer help, some hills remain too challenging, making the ride infeasible or uncomfortable even with motorized assistance.
- **Severe injury and fatalities.** The perception of safety is crucial in determining whether people feel comfortable walking or biking. Areas where serious injury or fatal crashes have occurred involving people walking or biking represent significant network gaps, highlighting the need for additional safety measures to improve accessibility and reduce risk in those locations.
- **Access gaps.** Access gaps occur in areas where people live within walking or biking distance of destinations, but high-stress roadways or limited crossing opportunities prevent them from reaching destinations. In some contexts, intersection improvements could significantly improve walking and biking in the network without requiring land use changes. However, there are some gaps that cannot be overcome with simple fixes.



FIGURE 56 | Infrastructure Gaps and Opportunities



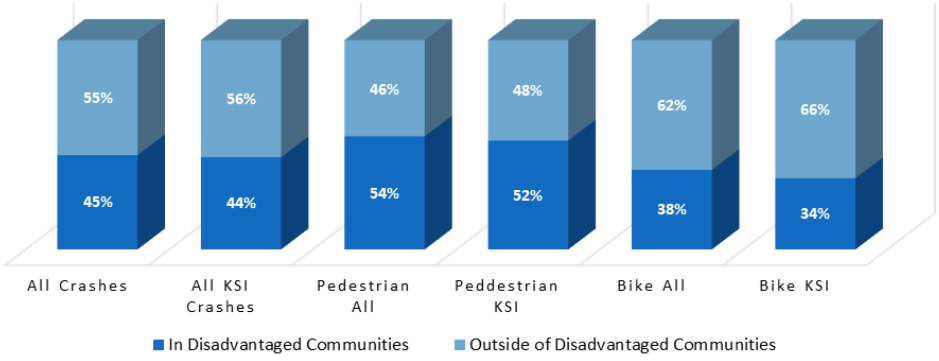
Source: 2024 City of San Diego

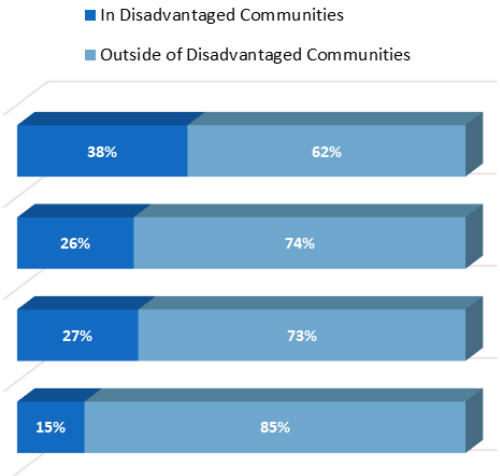
Transportation Equity

Transportation equity is about more than making sure people have comfortable places to walk and bike. As discussed in Our Social Needs, different population groups have different needs when it comes to transportation. We also know that historically in the United States, transportation decisions have had greater negative impacts on people with lower incomes and racial and ethnic minority groups. These groups often stand to gain the most from transportation improvements today when those investments meet their unique needs.

To understand how equitable the transportation system is today, a screening was conducted based on the previous analyses as compared to Disadvantaged Communities. For the purposes of this analysis the definition of Disadvantaged Communities are any area that meets the definition of disadvantaged by CalEnviroScreen 4.0 or CEJST, or has a moderate, low, or very low CEI scores as defined by the City of San Diego.

- **Comfort for People Walking:** The walking network in Disadvantaged Areas and Citywide have about the same ratio of high stress walking routes with 14% of the City wide network and 15% of the walking network.
- **Comfort for People Biking:** While 23% of the bike network is high stress Citywide, this number is higher in Disadvantaged Communities where 28% of the network is high stress.
- **Bike Facilities:** 10% of streets in Disadvantaged Communities have bike facilities and 26% of all bike facilities in the City are located there. The most comfortable facilities (Class 1 and IV) are more often located outside of Disadvantaged Communities than in other places.
- **Households with No Vehicles:** Of the 6% of households without access to a vehicle in San Diego, approximately 50% of them live in Disadvantaged Communities despite just over 30% of total households residing in disadvantaged areas.
- **Ages Less Likely to Drive:** Disadvantaged communities have slightly more people under the age of 18 (21%) than Citywide (19%) and conversely have slightly fewer people over the age of 65 than the City (13% and 14% respectively).
- **Crashes:** For most crash types including those involving people who are killed or seriously injured (KSI), are overrepresented in Disadvantaged Communities which has approximately 35% of the population.





Class 4 Separated Bike Lanes

Class 3 Shared Streets

Class 2 Bike Lanes & Buffered Bike Lanes

Class 1 Shared Use Path


Meade Avenue
30th Street
ON RED

SUMMARY AND KEY FINDINGS

The existing conditions analysis can be summarized into the following key findings. Each key finding includes next steps that correspond to the three elements of this project.



KEY FINDING
Land Use Patterns: Existing land use patterns contribute to accessibility differences in San Diego. There are higher concentration and mix of types of destinations in places like Downtown and the surrounding area, as shown by where San Diegans take short trips. Residents within or adjacent to these areas have greater access overall then other areas in San Diego. Conversely, residential areas that have sparser development patterns such as City Heights or Clairemont have comparatively less access. That said, people may still choose to walk or bike recreationally or for daily needs in those areas.
Destination Location & Access: There are marked differences in development patterns which impact access. Some neighborhood commercial destinations, schools, and other daily needs are designed to front local streets where people can easily walk or bike to access them, such as 5th Avenue in The Gaslamp Quarter. On the other hand, in areas like North Clairemont, schools and commercial destinations are often located on major roads making them easier or more comfortable to access via driving.
Barriers and Open Space Challenges: Freeways, canyons, railroads, and water bodies create barriers for people walking and biking which are difficult to address. Because the number of available crossings of these barriers are infrequent, people walking or biking are forced to travel longer distances to get around them or use high-stress facilities. As a result, they may choose not to cross them or may instead choose to drive. Additionally, in parks, open space, and agricultural areas, populations often rely heavily on one or two main roads that handle most of the daily traffic and serve as primary evacuation routes. These roads are typically high-speed, may have limited visibility, and provide direct access to key destinations, making them critical yet challenging especially to those walking and biking where sidewalks, bike facilities, and crossings are rare.

KEY


Historically Disadvantaged Community Quick Build



Comprehensive Speed Management Plan


Slow Streets Program

NEXT STEP			
Consider longer distance connections in more suburban areas to provide access to key destinations and walkable and bikeable areas.	✓		✓
Identify opportunities for small interventions to increase access for people walking in already walkable and bikeable areas.	✓		✓
Develop place types to help identify context sensitive treatments.	✓	✓	✓
Identify improvements to low stress streets and potential new connections to provide access to destinations without using higher stress / less comfortable roads where possible.	✓		✓
Identify typical transportation and land use characteristics that impact safety and comfort and use them to create street and intersection typologies. Identify treatments which are appropriate to address each typology.	✓		✓
Consider improvements which can make it easier for people to walk and bike to local destinations without crossing major barriers including low stress networks providing parallel connectivity to major roads.	✓		✓
Identify locations where low stress facilities cross high stress ones and determine opportunities for new and improved crossings to provide access to destinations where feasible.	✓		✓
Identify criteria for low stress networks on local roads and use traffic calming to discourage cut through traffic. Carefully consider traffic diversion or street closures and use judiciously to maintain the integrity of the street network, especially where it is disjointed like near canyons.	✓		✓

KEY FINDING
Suburban Roadway Patterns: Recent developments in San Diego follow suburban roadway patterns. This style of development creates disconnected local roadway networks, funneling people walking and biking onto higher-stress roadways, such as collectors and arterials, to reach their destinations. Additionally, these roadway patterns limit direct connections, forcing people to travel significantly longer distances, which discourages biking and walking altogether. Those which have implemented extensive off street path networks provide better multimodal access than others.
Unmet Desires and Needs: People are more likely to walk and bike when they feel safe, comfortable, and have destinations within walking or biking distance. Access gap sheds reveal that while residents may live within a walkable or bikeable distance of their destinations, barriers likely prevent them from doing so. Additionally, areas where people are more likely to need to walk, such as disadvantaged communities and those living in high propensity walking and biking areas, overlap with these access gaps, highlighting unmet needs for improved walking and biking infrastructure.
Inequity in the Transportation System: Many of San Diego's residents have unique travel needs, based on socioeconomic conditions, ability, and age. These individuals may have layered geographic limitations that make traveling around the City difficult. Transportation investments have not always been implemented equally and this has been challenging for underserved communities, reinforcing inequitable land use patterns, creating infrastructure gaps and safety concerns, and contributing to disparate health and economic inequities.
Opportunities to Reduce Vehicle Speeds: Crashes that occur on streets with higher vehicle speeds are more likely to result in KSI crashes, as San Diego's crash data shows. This correlation between vehicle speeds and KSI crashes is especially pronounced with vulnerable users like people walking and biking.
Consider All Road Users: While there is a good portion of residents that have options in their transportation options, some users are limited due to physical ability, commute length, logistical needs, or other reasons. The transportation network should balance the needs of all users, providing safety first solutions for vehicle-oriented travel, active transportation modes, and transit routes. Vehicle travel remains a fundamental function of our system but with more consideration for roadway speed, separation from vulnerable users, and impacts on the adjacent land uses. Increased active transportation facilities encourage shift in mode for those that can, either for the whole trip or to get to transit connections.

KEY

- Historically Disadvantaged Community Quick Build
- Comprehensive Speed Management Plan
- Slow Streets Program

NEXT STEP			
Identify locations where crossing improvements would help connect residents to nearby destinations.	✓		✓
Identify biking and walking infrastructure that would be comfortable for all ages and abilities along or near higher stress roadways.	✓		
Identify improvements to create a connected network of low stress walking and biking facilities which connect all communities to destinations such as offices, retail centers, schools, and rapid bus or trolley stops.	✓	✓	✓
Develop a Slow Streets process with a strong equity framework, allowing community-driven proposals while prioritizing underserved neighborhoods. This process should also identify levels of agency support, which may vary by area and project type.			✓
Focus on quick build improvements in historically disadvantaged areas to help people get around their communities safely and comfortably, including systemic ways to address safety challenges.	✓		
Identify qualifying roadways that could have speed limits reduced and enforced.		✓	
Incorporate traffic calming features into quick build and slow street programs to force lower vehicle speeds.	✓		✓
Develop a Slow Streets process that identifies corridors that prioritize active transportation modes where there are adjacent vehicle connections provided.			✓
Identify treatments that are impactful in reducing fatal and severe injury crashes for all modes.	✓	✓	

NEXT STEPS

This section outlines next steps for each element in this project: Historically Disadvantaged Community Quick Build, Comprehensive Speed Management Plan, and Slow Streets Program.

The next steps detailed below focus on finalizing methodologies and conducting further analysis.

Quick Build

1. Work with City staff to identify potential treatments for a Quick Build Toolbox.
2. Review community feedback from phase 1 engagement and integrate it into the findings.
3. Develop context sensitive intersection typologies based on the City's systemic analysis and identify template treatments for each typology.
4. Develop a methodology to group intersection projects for implementation and identify complementary segment treatments.
5. Develop concept designs for quick build projects for top scoring projects by applying templates.
6. Identify groupings for sets of projects to be moved forward into future community engagement efforts.

Speed Management

1. Review the City's roadway network to identify opportunities to make speed reductions.
2. Overlay the City's speed survey network with pedestrian and bicycle crash data to identify correlations.
3. Overlay the City's speed survey network with fatal and serious injury crashes to identify areas with crash history and determine related street typologies.
4. Review relevant data to identify safety corridors, business activity districts, and streets with high concentrations of bicycle/pedestrian corridors.
5. Develop educational and marketing materials regarding speed limit setting program.

Slow Streets

1. Identify multimodal user priority and integrate community engagement to help identify and address tradeoffs.
2. Identify types of slow streets and appropriate application criteria for each type.
3. Identify a slow streets network utilizing community engagement, analysis results, and criteria agreed upon with city staff.
4. Develop a toolbox of context sensitive treatments for slow streets.
5. Develop a formal process and educational materials for slow streets implementation.

Integrating the Safe System Approach

Building on the systemic safety analysis and existing conditions findings, the next phase of this project will apply the Safe System Approach to implement targeted safety improvements. The Safe System Approach is a proactive strategy that recognizes humans make mistakes and are vulnerable to injury, so roadways must be designed with multiple layers of protection to prevent crashes or reduce their severity when they do occur.

Using this framework, the City will deploy proven safety countermeasures that address the top risk factors identified. Rather than relying on single solutions, we will focus on combinations of treatments to maximize impact and create safer conditions for all users. This data-informed and proactive approach ensures that human mistakes do not result in fatal or severe injuries, advancing our goal of a safer, more resilient transportation system.

APPENDIX A: PLAN REVIEW SUMMARY

CITY OF SAN DIEGO

SAFE STREETS & ROADS FOR ALL ACTION PLAN

WORKING PAPER 1: PLANS & STUDIES REVIEW

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Project No. 30055
FINAL

The City of SAN DIEGO

EXECUTIVE SUMMARY

The City of San Diego has made considerable progress in advancing traffic safety through enacting many policies, plans, and standards. The project team reviewed relevant plans to strengthen our understanding of the issues previously identified, prior leadership and public input obtained, and policy guidelines established. This review will be used to identify opportunities and challenges for the design and implementation of low stress networks and potential new traffic calming and quick-build concepts that have been introduced in recent years. The existing and funded multimodal transportation facilities identified in prior plans will be mapped to provide a citywide context and to identify missing links and opportunities for establishing a quick build program, speed management plan, and comprehensive slow streets program.

Themes among the adopted plans include safety and access for people who walk, bike, and roll. **Table 1** outlines recently implemented and active policies, plans, and standards that the project team reviewed.

Table 1 Previous Plans Reviewed

Document	Document Type	Date Adopted	Focus		
			Quick Build	Speed Management	Slow Streets
San Diego Climate Action Plan	Citywide Plan	2022			
Vision Zero Strategic Plan	Citywide Plan	2020			
Systemic Safety Fatal Crashes	Citywide Plan	2024			
Systemic Safety Injury Crashes	Citywide Plan	2019			
SANDAG Regional Plan	Regional Plan	2021			
San Diego Traffic Calming Guidelines	Citywide Plan	2006			
Pavement Management Plan	Citywide Plan	2024			
Mobility Master Plan (Draft)	Citywide Plan	2024			
Bicycle Master Plan (being updated)	Citywide Plan	2013			
Pedestrian Master Plan	Citywide Plan	2006			
Street Design Manual (being updated)	Manual	2017			
California Code, Vehicle Code - VEH § 21101 (f)	Code/Policy	2023			
Assembly Bill No. 43	Code/Policy	2021			
Criteria for Installation of Traffic Signals 200-06	Code/Policy	1996			
Criteria for the Installation of Stop Signs 200-08	Code/Policy	1994			
Complete Streets Policy 900-23	Code/Policy	2024			
Mission Valley Community Plan	Community Plan	2019			
Keany Mesa Community Plan	Community Plan	2020			
Mira Mesa Community Plan	Community Plan	2022			
Hillcrest Focused Plan Amendment	Community Plan	2024			
University Community Plan Update	Community Plan	2024			
Encanto Neighborhoods Community Plan	Community Plan	2015			
Barrio Logan Community Plan	Community Plan	2023			

CITYWIDE AND REGIONAL PLANS

The City has several citywide plans that address mobility, access, safety, climate, and asset management citywide. These plans provide valuable context to the City's initiatives to encourage active transportation and improve neighborhood safety and quality of life through roadway improvement strategies.

Mobility Plans

- **Bicycle Master Plan Update:** Updated recommendations and prioritization plan for active transportation projects to meet citywide goals, with increased emphasis on equity and serving areas with the greatest needs.
- **Pedestrian Master Plan:** Multi-year framework for planning, implementing, and prioritizing pedestrian improvements and fostering walkable communities.
- **Mobility Master Plan (Draft):** A guide for implementing, evaluating, and prioritizing citywide projects and programs to advance mobility in a sustainable and equitable manner.

The City's Mobility Plans emphasize the demand for safe and comfortable citywide bicycle and pedestrian facilities. Each of the listed mobility plans conducted robust public engagement and administered surveys that will inform this project's efforts. Key findings include:

The City's Bicycle Master Plan survey found that over 70% of residents *prefer off-street paved bike paths over other bike facility types, followed by on street bike lanes*. The survey also found that most respondents indicated that *more bike lanes on major streets* would influence their decision to ride. The Pedestrian Master Plan survey found that over 80% of survey respondents walk recreationally (without a specific destination, e.g., exercise or dog walking). Survey respondents indicated the following as high priorities: *making crosswalks more visible, installing Leading Pedestrian Intervals, and improving connectivity*.

The Mobility Master Plan outlines several mobility trends, including traffic calming and slow streets initiatives that promote safer infrastructure for vulnerable users. Public engagement for this plan included pop-up events, surveys, committees and advisory boards, and community-based organization engagement. One survey found that the majority of San Diego residents agreed that bike lane improvements/expansion would improve community mobility, followed by sidewalk improvements/expansion. The robust public engagement from this plan can help streamline engagement conducted as part of this project. Additionally, the Mobility Master Plan introduces a prioritization plan using a pedestrian model and bike model to predict inclination for people to walk, roll, and bike.

The feedback, goals, objectives, recommended projects, and prioritization methodology from these plans will be used to inform this project's recommendations for the historically disadvantaged community quick build program, the speed management program, and the slow streets program.

Vision Zero/Safety Plans

- **Vision Zero Strategic Plan 2020-2025:** Course of action to eliminate severe injuries, road deaths, and eliminating greenhouse gas emissions by designing safe streets.
- **Fatal Report:** Ten-year analysis (2014-2023) that evaluates intersection characteristics where fatal crashes occurred.
- **Injury Report:** Report summarizing injury crashes, identifying trends and roadway characteristics, and proposing actions to reduce injury crashes.
- **San Diego Traffic Calming Guidelines:** Report summarizing the City's approach and processes for traffic calming, including approved treatments.

The Vision Zero Strategic Plan involved a robust data collection and assessment of existing facilities, which will help inform the recommendations proposed in this project. The plan advances a data-driven approach through the Systemic Safety Analysis Report Program (SSARP), including using crash data to identify predictive crash patterns based on street typologies. The plan also identifies improvement locations where pedestrian hot spots are located and identifies over 500 potential locations for roundabouts citywide, with approximately 100 located in communities of concern. This data-driven, systematic approach to safer streets will be used to help identify locations for speed reduction and traffic calming treatments.

The 2024 Systemic Safety Analysis reviews fatal crashes at intersections over a ten-year period (2014-2023). The report found that common intersection characteristics included:

- Intersections between *four-lane and two-lane streets along transit routes* and with three or more injury crashes in ten years
- Intersections between *two two-lane streets along transit routes* with two or more injury crashes in ten years

The 2019 Injury Crash Report discusses crash trends and found that *75% of fatal and severe crashes occur at or near intersections*. The report explores safety countermeasures installed and implemented by the City and recommends incorporating safe systems like designing roundabouts and medians, as well as reducing vehicle speeds to help minimize crash impacts.

The City's Traffic Calming Guidelines serves as a foundation for defining and making the case for traffic calming. The Plan outlines the City's traffic calming goals, policies, guidelines, process, implementation, and design guiding principles. Additionally, the plan es a traffic calming toolbox for speed and volume reduction strategies that will be used to inform the slow streets program.

Climate and Asset Management

- **Pavement Management Plan:** Comprehensive plan for identifying, evaluating, and prioritizing pavement maintenance with considerations for land uses and equity considerations. Starting in FY24, the City will begin using an equitable community investment factor when selecting streets for maintenance and rehabilitation.
- **San Diego Climate Action Plan:** A roadmap for the City to move towards net zero greenhouse gas emissions by 2035 through six strategies: decarbonization, renewable energy, transportation and land use planning, clean communities, resiliency, and emerging climate actions.

The City's climate and asset management plans provide guidance on maintaining the City's existing infrastructure while advancing plans and new infrastructure in alignment with climate action goals. The Pavement Management Plan emphasizes the importance of incorporating equity into decision making through:

- **Equity in Access:** Enhancing access to city services, destinations, and programs.
- **Equity in Infrastructure:** Addressing disparities in infrastructure maintenance.
- **Equity in Communities of Concern:** Maintaining a Climate Equity Fund that targets Council Districts to prevent enduring underinvestment.
- **Equity in Processes:** Ensuring processes like budget decisions and policies are being guided by an inclusive equity lens.

The Climate Action Plan establishes targets and actions for increasing the number of San Diego residents who walk, bike, and take transit. The guidance provided in these plans will inform this project's plans for implementation and prioritization of recommended treatments.

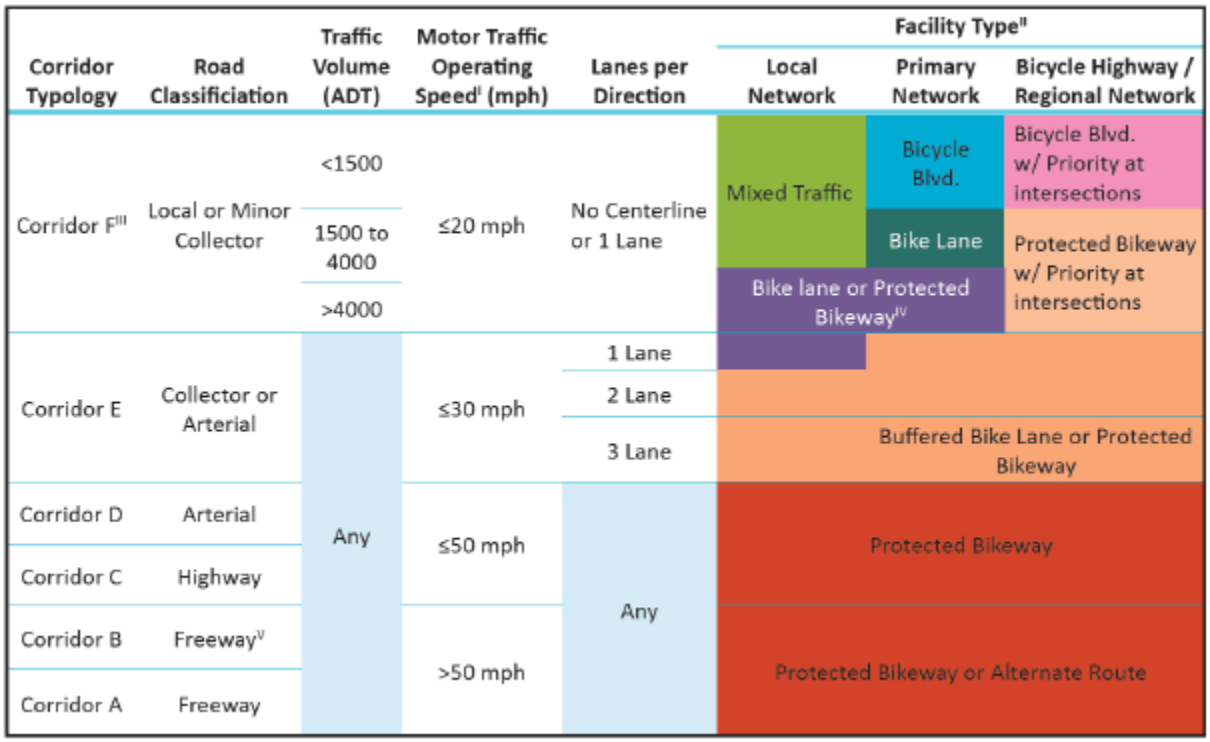
Other City/Regional Plans

In addition to the City's citywide plans, the **San Diego Association of Governments' (SANDAG) Regional Plan** was adopted in 2021 and provides guidance on identifying, prioritizing, and planning for disadvantaged communities in the region. The plan outlines a Fix It First strategy, which prioritizes funding in disadvantaged communities. Additionally, the plan outlines "5 Big Moves" to rethinking regional mobility.

The plan describes expected population and job growth, with most growth occurring within the City, as a result of focused infill development. SANDAG expects the majority of job growth to occur in the community planning areas of Downtown, Kearny Mesa, and Otay Mesa. SANDAG's Regional Plan will inform all three of this project's sub-plans by highlighting priority areas within the region due to their proximity to transit, density, and growth.

Relevant to active transportation, the SANDAG plan identifies criteria for the selection of bikeway facilities which are comfortable for people of all ages and abilities based on context such as posted speed, number of vehicle lanes, and functional classification of the roadway (**Figure 1**). It also identifies criteria for bike network density and directness to create networks which are convenient for all. Regarding network density, the plan recommends a primary network grid of high quality bike corridors spaced approximately ¼ to ½ mile and a network of local slow streets approximately every 800-900 feet.

Figure 1 | SANDAG Bike Facility Selection Tool



GUIDANCE DOCUMENTS

In addition to citywide plans, San Diego has many documents that provide guidance, direction, and standards for new projects and programs. The project team reviewed the following guidance documents, codes, and policies that are relevant to the work that will be completed as part of this project's scope:

- **Street Design Manual:** Guidance for providing information for the design of the public right-of-way that recognizes tradeoffs and the varied purposes that a street serves.
- **California Code, Vehicle Code - VEH § 21101 (f)**: Code that allows local authorities to implement slow street programs by limiting access or speed to certain streets through identified Slow Streets programs and roadway design features
- **Assembly Bill No. 43 - Chapter 690:** Bill that amends the law that allows local authorities to reduce speed limits based on defined criteria
- **Criteria for Installation of Traffic Signals 200-06:** Policy states that only intersections meeting the minimum warrants should be considered for traffic signals. The satisfaction of a warrant is not necessarily justification for signals.
- **Criteria for the Installation of Stop Signs 200-08:** Policy states that the installation of stop signs shall be made using engineering judgment along with the stated criteria.
- **Complete Streets Policy 900-23:** Policy to guide improvements to the public right-of-way so they are designed, operated, and maintained as a well-connected network of multimodal facilities and services that balance access, mobility, and safety for all foreseeable users regardless of location, physical ability, age, or income.

The Street Design Manual provides design details for pedestrian and accessibility design that will be referenced when identifying locations and recommendations for treatments as part of this project's scope. The manual provides limited guidance on bicycle infrastructure and refers users to the City's Bicycle Master Plan. Chapter 3 provides guidance on traffic calming that will be incorporated into the recommendations for this project's slow streets subsection. The plan details horizontal and vertical deflection strategies, intersection pop-outs, traffic diverters, and channelization, with examples, use cases, and design details for each strategy.

The California Code, Vehicle Code VEH § 21101 (f) allows local agencies to implement a slow streets program, which may include closing streets to vehicular traffic or limiting access and speed on local streets that connect to bicycle networks, green spaces, or business districts. It also states that local authorities can use roadway design

features like curbs, islands, or traffic barriers to implement slow streets programs. The code outlines the process for implementing a slow streets program, including *adopting an ordinance for the program, conducting engagement, safety and mobility analysis, and maintaining a publicly accessible website with information on the program*.

Assembly Bill No. 43 – amends the traditional speed limit setting process to provide local agencies additional opportunities to reduce speed limits. Traditional studies allow local agencies to set speeds based on an engineering and traffic study based on the 85th percentile speed. The bill allows rounding down to the next 5 mph instead of to the nearest, and then provides three specific cases in which speed limits may be further lowered:

- **Safety Corridors:** Speeds may be reduced by up to 5 miles per hour lower than the speed indicated by the engineering and traffic study if the corridor is on a designated roadway where the highest number of severe and fatal injury collisions occur. Only 1/5 of the City's roadway can be designated as safety corridors.
- **High Pedestrian & Bicycle Activity Generators:** Speeds may be reduced by up to 5 miles per hour lower than the speed indicated by the engineering and traffic study in the portions of the roadway within 1,320 feet of one or more of 13 designated generators. Generators include employment centers, street facing retail, parks/trails/recreation, schools/universities, senior centers, cultural/entertainment/community centers, religious facilities, health/medical facilities, transit stops, transit oriented developments/transit priority areas, sidewalks, crosswalks, bikeways, four-way signalized intersections, presence of micromobility devices, presence of vulnerable groups (children, seniors, people with disabilities, people using assistive devices, and unhoused people), MPO/RTPA defined disadvantaged communities, students, and needs identified in safety plans.
- **Business Activity Districts:** Allows for the prima facie speed to be set to 20 or 25 mph in areas defined as business districts. The road must be 4 lanes or less, have a speed limit of 25 or 30 mph, and also meet 3 of the following 4 criteria: at least 50 percent of contiguous property as retail or dining use; on street parking present; traffic controls or stop signs every 600 feet or less, and/or marked crosswalks not controlled by a traffic device.

COMMUNITY PLANS

The project team reviewed local community plans to gain insight on community-level goals, policies, and visions. The community plans that the project team reviewed include:

- Mission Valley Community Plan
- Keany Mesa Community Plan
- Mira Mesa Community Plan
- Hillcrest Focused Plan Amendment
- University Community Plan Update
- Encanto Neighborhoods Community Plan
- Barrio Logan Community Plan

The policies and strategies outlined in the community plans were informed by the San Diego General Plan, San Diego's Climate Action Plan, and the SANDAG Regional Transportation Plan. Several community plans incorporate equity as a vital role throughout the document; like in Barrio Logan, the plan emphasizes policies that mandate equitable community engagement and project prioritization. The plan lays a foundation for equitably approaching and involving historically disadvantaged communities and prioritizing serving these communities during project prioritization and selection. Other community plans like Hillcrest's and University City's describe incorporating design and mobility policies to improve traffic calming and identify streets and neighborhoods that would benefit from lower vehicle speeds. Finally, some plans, like Mira Mesa's, point to specific streets and intersections where non-motorists would benefit from lower traffic speeds.

The information provided in these community plans will inform slow street strategies, traffic calming measures, and locations to consider for speed reduction.

APPENDIX B: PEER AGENCY REVIEW

CITY OF SAN DIEGO

SAFE STREETS & ROADS FOR ALL ACTION PLAN

WORKING PAPER:
Peer City Review

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Project No. 30055
FINAL

The City of SAN DIEGO

INTRODUCTION

Report Purpose

The City of San Diego is working to develop a Slow Streets program to create a more livable environment for people by limiting vehicle access and reducing traffic speeds to create safer spaces for walking, biking, and community activities. The California Vehicle Code § 21101 (f) allows cities to implement Slow Streets programs which close streets to vehicular traffic or aim to limit vehicle speeds and volumes by using roadway design features. Slow Streets are a part of San Diego's growing, connected network of streets that are safe and welcoming places to walk, bike and roll for people of all ages and abilities. Slow Streets projects have been implemented successfully throughout the United States and abroad. The following review of peer cities explores lessons learned and best practices regarding Slow Streets implementation in ten cities within the United States and Canada.

Review Framework

The peer city review is structured around key questions regarding how Slow Streets can be implemented in San Diego, including:

- How are potential Slow Streets identified, prioritized, selected, and implemented?
  - Are costs and benefits weighed in the process?
  - How are competing demands addressed?
- How are projects initiated and by who?
- How are Slow Streets projects funded?
- What policies, processes, plans, tools, or requirements have been developed to aid or guide the projects?
- How is community engagement integrated into the phases of the project life cycle: identification, planning, design, implementation, post implementation, and what lessons can be learned?
- How is equity tied into the selection and implementation process?
- How are projects monitored, modified, or transitioned to full infrastructure investments post implementation?

For organization purposes, the peer cities findings are organized into the following categories:

- Project Identification
- Prioritization and Selection
- Implementation
- Additional Resources

Peer City Selection

A long list of potential cities for review was developed based on an assessment of cities throughout the Unites States and Canada which are successfully implementing Slow Streets. The list of cities identified as potential peer cities included seven California cities and 24 additional US cities.

The potential peer cities reviewed were then scored and filtered based on six characteristics (**Figure 1**), and a total of ten cities were selected for in-depth review based on coordination with City of San Diego staff. The goal of this peer selection is to highlight the similarities these cities have with San Diego, as well as the state of their current Slow Streets and neighborhood routes networks.

Figure 1. Peer city selection

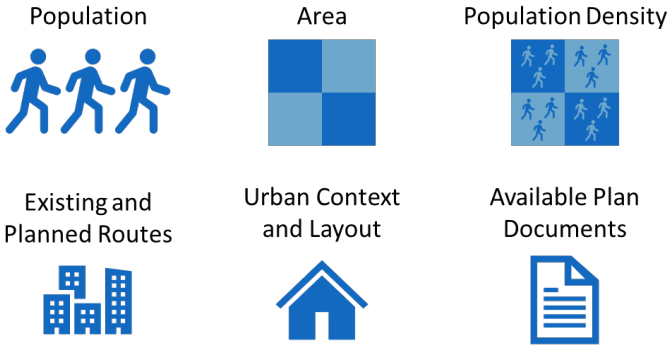


Table 1 shows selected contextual statistics for the ten selected cities for the review. The full long list of cities and reasoning for their inclusion or exclusion can be found in Appendix A.

Table 1: Representative Statistics for Selected Peer Cities

City	Population	Program Name	Date Established	Equity Focus	Community-Driven
San Francisco, CA	873,000	Slow Streets	2022		
Los Angeles, CA	3,900,000	Slow Streets LA	2020	✓	✓
Oakland, CA	440,000	Slow Streets & Essential Places	2020 / 2022	✓	
San José, CA	1,000,000	Walk Safe San Jose	2022	✓	
Philadelphia, PA	1,600,000	Neighborhood Slow Zone	2019	✓	✓
Denver, CO	715,000	Shared Streets	2020	✓	✓
Boston, MA	675,000	Neighborhood Slow Streets / Safety Surge	2016	✓	✓*
Minneapolis, MN	430,000	Neighborhood Traffic Calming	2022	✓	✓
Atlanta, GA	498,000	Action Plan for Safer Streets / Tactical Urbanism	2019		✓
Vancouver, BC	662,000	Slow Streets	2020		

**Original program was community driven; the new one is not*

SAN FRANCISCO, CA

Population	Program Name	Date Established	Equity Focus	Community-Driven
873,000	Slow Streets	2022		

The City of San Francisco's Slow Streets program aims to create safe, comfortable, low-vehicle-traffic routes that prioritize active transportation and community-building. They are open to all forms of transportation, including vehicle traffic, but include treatments to slow drivers or encourage people driving to take other routes. They were first introduced as an emergency response to COVID-19, consisting of temporary signs and barricades. Over time, they became places for communities to gather and organize events and activities. In 2022, the SFMTA Board of Directors approved a permanent Slow Streets program which includes two initiatives:

- **Street Design:** the SFMTA Board approved program included blanket approval for a toolbox of treatments to be implemented on streets that meet the Program's eligibility criteria to create low-stress, shared corridors that prioritize active transportation.
- **Community Building:** SFMTA launched a Slow Streets Mural Pilot Program to enhance placemaking on Slow Streets. The murals will be designed, implemented, and maintained by community members and be painted directly onto the street pavement.

As of May 2023, 32 miles of Slow Streets have been implemented, with more already approved and on the way.

Project Identification

The SFMTA adopted a set of slow street projects in the 2022 program approval which can be added to over time. While Slow Streets often connect to one or more other Slow Streets, the City does not intend for them to create an independent network. Rather, they tie into the larger active transportation network to create a city-wide low stress network.

A potential project must meet these minimum criteria:

- On a residential street within the jurisdiction of the SFMTA
- The proposed street segment has no conflicts with:
    - MUNI (transit) routes (including non-revenue routes)
    - Emergency response corridors
    - Commercial loading zones

Other desirable characteristics include:

- Connections to bikeways
- Relatively flat streets
- Streets with mostly stop-controlled intersections instead of traffic signals
- Streets with two-way operations
- Connections to essential services and commercial corridors
- A continuous and linear route
- A route that is at least 4-6 blocks long

The initial set of projects was developed through extensive engagement based on the temporary streets installed during the Covid-19 Pandemic. These efforts include user perception surveys, community meetings, and other efforts. Moving forward, SFMTA will identify potential corridors for expansion through community outreach, parallel SFMTA efforts like the Biking and Rolling Plan, and resident input.

Prioritization and Selection

Once the City lifted the COVID-19 State of Emergency order, SFMTA identified specific corridors as ideal candidates for permanent Slow Streets treatments. The criteria to determine this included:

- **Neighborhood Residential Street:** At a minimum, the street should be classified as a neighborhood residential street with low traffic volumes.

- **Support for Permanence:** Residents on the Slow Street and within the neighborhood strongly support permanent changes. SFMTA measures this through community outreach efforts and evaluation tools like Slow Street perception surveys.
- **Local Community Partner:** Ideally, the designated street has an identified local community group or organization that supports the Slow Street.
- **Consistency with Plans**: The designation of a Slow Street on a corridor is consistent with city planning efforts (e.g., the corridor is in the Bike Network or the Green Connections Plan or is a pedestrian- or bike-priority street in the General Plan or another community planning effort).
- **Traffic Data Evaluation**: Traffic volume data shows that a street's designation as a Slow Street has not negatively impacted the surrounding transportation network.

So long as an existing Slow Street corridor meets all criteria, it can advance to the reauthorization and design approvals, the two separate actions required by the SFMTA for permanent Slow Streets approval.

Implementation

SFMTA evaluates each Slow Street individually for its potential to become a permanent Slow Street. Once assessed and approved, the process consists of the traditional project timeline listed below.

- Evaluation: identifying street conditions and needs
- Outreach/Design: community engagement to develop a design that meets intended speed, volume, and community vision
- Authorization: approval of treatments (see below)
- Design Approval: City Traffic Engineer approval
- Implementation: installation of treatments
- Evaluation: evaluation of project to determine how it is working

The Board approval for the program included a toolbox of treatments, formal approval for the Transportation Director to develop design criteria for the treatments, and stipulations regarding how design elements can be implemented, including:

At Discretion of City Traffic Engineer	Requires a Public Hearing	Requires Board Approval
• Wayfinding signs • Pavement markings • Slow Streets signs on delineators • Continental crosswalks	• Traffic calming elements: speed humps, raised crosswalks and speed cushions • Turn restrictions • Stop signs • Daylighting • Roadway narrowing and chicanes	• Traffic diverters

Post-Implementation

SFMTA created a Safe Streets Evaluation Handbook which guides project evaluation for all projects. The City collects data on both traffic volumes and speeds and adjusts corridor designs as necessary to achieve actual low-stress corridors and produces an annual report. The program defines a successful Slow Street as one with low traffic volumes and vehicle speeds. The SFMTA takes a data-driven approach to ensuring Slow Streets meets the following low-stress criteria, taking guidance from National Association of City Transportation Officials standards:

- Vehicle volumes of 1,000 per day or less
- Vehicle speeds of 15 mph or less

As of the 2023 project evaluation report, all but three of the corridors meet or exceed the volume goal with a typical volume reduction from approximately 2,000 to around 800 vehicles per day. On average, Slow Streets have seen a 48% decrease in collisions, compared with a 14% decrease citywide in the same period. However, while most Slow Streets have seen speed reductions from an average of 20 MPH to approximately 16 MPH, they have not met the 15 MPH speed target. Because of this, the City is updating designs to include volume management and/or traffic calming treatments on the original streets before selecting new ones to add to the network.

Lessons for San Diego

- Consider allowing all traffic modes to utilize Slow Streets and implement speed and volume control measures to make them feel safe and comfortable.
- Set realistic speed and volume targets for slow streets and evaluate projects to ensure they are meeting the targets.
- Develop a toolbox of treatments and designs and pre-approve them for use on projects. The toolbox should consider when and where treatments are appropriate and the type of engagement needed.
- Consider Slow Streets as a subset of the larger active transportation network as opposed to its own network or independent projects. Identified projects should connect to other low-stress facilities.
- Work with established community groups to build support for projects.

Additional Resources

- SFMTA Slow Streets
- Slow Streets Map
- 2023 Evaluation Results
- Slow Streets Projects
- Slow Streets Program Board Approval
- Safe Streets Evaluation Handbook

LOS ANGELES, CA

Population	Program Name	Date Established	Equity Focus	Community-Driven
3,900,000	Slow Streets LA	2020	✓	✓

The City of Los Angeles established the LADOT Slow Streets program as a pilot during the COVID-19 pandemic in response to the closure of public recreation spaces like parks and trails. The pilot aimed to create opportunities for people to stay physically active while socially distant by reducing speeding on neighborhood streets.

Between May and October 2020, LADOT installed over 50 miles of Slow Streets in 30 neighborhoods. In November 2020, the City Council directed LADOT to stop the installation of new Slow Streets and focus on supporting existing streets with more durable materials. LADOT began installing comprehensive Slow Street treatments in the 30 pre-identified neighborhoods using this new directive.

In November 2021, the LA City Council approved the development of a permanent Slow Streets program whose framework would include the following elements:

- An application process open to all interested and eligible community sponsors.
- Criteria for identifying priority neighborhoods.
- A tool kit of available Slow Streets treatments, including signage, gateway elements, mini traffic circles, turn restrictions, and traffic diverters.
- An approval process consistent with AB773.
- A process for coordinating community-requested Slow Streets locations with existing city plans and programs that aim to increase neighborhood connections.
- Staff and budget need to implement a permanent program.
- A transition plan for existing program participants.

Slow Streets in Los Angeles were originally intended as community spaces, and did not allow through vehicle traffic. They were open to local vehicle traffic, emergency vehicles, and deliveries. In “Slow Streets Phase 2”, the program uses traffic calming and signage to discourage speeding and cut through traffic, but does not prohibit through traffic.

Project Identification

Local community members initiated Slow Streets projects by applying to LADOT through their website. The applications required an eligible sponsor such as a business improvement district, homeowners association, neighborhood council, school or parent-teacher association, church, council district, or community-based organization. LADOT distributed equipment and signage. Sponsors were responsible for monitoring the street and notifying neighbors about the closure; only residential zones were eligible. Slow Streets exclusively facilitated safe “active use” for local community members, such as jogging, walking, and biking. No group activities like block parties or sports were permitted under this effort. LADOT provided guidance that Slow Streets should cover between 10 and 25 intersections or street segments, but no more than 2 miles of streets. Closures of less than 10 blocks were not recommended, as these closures are often too small to facilitate active use. Ultimately, 30 neighborhoods received temporary safety treatments, creating the list for future permanent safety improvement projects.

Prioritization and Selection

The pilot program established over 50 miles of Slow Streets in 30 neighborhoods throughout Los Angeles. The City did not publicly release the location of Slow Streets to deter non-local gatherings, as their stated goal was to maintain safe recreational space for residents only. The subsequent program assessed the original 30 temporary Slow Streets areas and developed an equity framework to prioritize and phase implementation across the City. The equity framework considered the following six social equity and safety metrics:

- Whether the network is within a Slow Street Target Neighborhood defined under Phase 1 (communities most impacted by the lack of open space during the pandemic)

- Population density
- Income
- Los Angeles Countywide Parks and Recreation Needs Assessment score
- Proximity to a High Injury Network (HIN) street
- Total collisions within a quarter mile of the network area

While the program includes social equity metrics, the City recognizes that the request based nature of the program inherently creates equity challenges.

Implementation

Today, Slow Streets is a request-based program that is driven by local neighborhood applicants. District staff review the network of streets proposed by the sponsor and identify appropriate treatments to create slower and calmer neighborhood streets. LADOT then shares back the program goals and proposed treatments for sponsor organization review and approval. Once the sponsor organization confirmed the network and proposed treatments, LADOT prepares the final design plan. LADOT requires a letter of support from the community sponsor organization to move forward with implementation.

Once approved LADOT coordinates installation with field crews. Each of the six District Engineering offices manage a portfolio of Slow Streets within their coverage areas. Community engagement staff support external communications and coordinate with sponsor organizations during each step of the process.

Within the initial program, treatments consisted of "Gateway Signage," which identified the street as a Slow Street. Gateway signage included temporary barricades and signage identifying the program and new temporary rules of the road. Now, treatments include gateway splitter islands, mini traffic circles, mid-block painted medians, intersection tightening, signs, pavement markings for 15-MPH speed limit, and edgelines to visually narrow the road. Treatments are selected based on geometric and safety criteria.

Through 2022, LADOT invested approximately $595,000 in City Measure M Open Streets funding for Slow Streets treatments, including design, materials, and labor. Additional funding is still required to complete improvements in all identified neighborhoods. Implementing Phase 2 of the program has posed numerous challenges due to limited staffing and funding, and design challenges resulting from the need for individually-tailored solutions rather than a one-size-fits-all toolkit. Ongoing maintenance also poses a funding and staffing challenge for expanding a permanent program.

Post-Implementation

LADOT provides intermittent monitoring at Slow Streets locations; however, sponsor organizations are responsible for monitoring risky behavior and ensuring equipment and signage in the street remain in place. Residents are encouraged to report violations and dangerous behavior to their sponsor organization or online to LADOT. News articles on the program indicate the projects have been more or less successful in different areas; those with mostly signage provide less encouragement for drivers to slow down than those with more traffic calming.

The program does not accept new applications and focuses on improving existing installations. However, LADOT is looking forward to the future. They have suggested conducting a city-wide analysis to identify priority areas to offset some of the equity challenges created by the original community led approach. Additionally, community members have suggested tying the Slow Streets network better into the larger active transportation network.

Lessons for San Diego

- Consider more than just signage to better slow traffic and prioritize people walking and biking.
- Consider equity in the analysis and prioritization efforts to create a balanced program.
- Consider minimum lengths of projects or connect into existing low stress active transportation networks.
- Partner with community sponsors to review projects and approve treatments.
- Ensure design toolbox has flexible designs to allow for modifications as needed.
- Consider a flexible installation process which allows design changes in the field to reduce design costs.

Additional Resources

- Slow Streets LA Application
- Slow Streets LA FAQ

- Permanent Slow Streets Resolution
- Slow Streets Program Update 2022

OAKLAND, CA

Population	Program Name	Date Established	Equity Focus	Community-Driven
440,000	Slow Streets & Essential Places	2020 / 2022	✓	

First initiated in 2020 during the COVID-19 Pandemic, Oakland Slow Streets & Essential Places was a temporary program that designated 21 miles of Oakland streets closed to through traffic to create neighborhood space for physical and social activity. The temporary program lasted until 2022. After this, the City announced a successor to the program, Oakland's Slow Streets & Essential Places, taking on the same idea but installing permanent safety improvements instead of temporary ones and using lessons learned from the program's previous iteration.

The original program consisted of three phases, the first of which closed neighborhood streets for outdoor physical activity and made pedestrian safety improvements at 15 essential services including health clinics, food distribution hubs, testing sites, and grocery stores. Phase 2 consisted of an evaluation period and location-specific adjustments based on feedback and need. Phase 3 removed temporary materials and the street closures in response to the reopening of the economy and the end of shelter-in-place.

The new program maintains the original program's mission of connecting essential places with Slow Streets while integrating the City's preexisting Neighborhood Bike Route (NBR) program and Five-Year Paving Plan. The program will use treatment solution tools outlined in the City of Oakland Neighborhood Bike Route Implementation Guide and additional guidance on designated Slow Streets to enhance traffic calming.

Project Identification

In 2019, the City of Oakland's Bicycle Plan proposed 75 miles of neighborhood bike routes (NBRs). Also known as "bicycle boulevards," NBRs are calm, local streets where cyclists have priority but share roadway space with automobiles. As noted, the City of Oakland's Slow Streets program generally will be built on NBRs and will provide access for local traffic while discouraging through traffic through speed and volume calming treatments. The following additional considerations have been highlighted to be addressed:

- Truck routes, bus routes, and emergency routes or routes which provide a through connection in an area with limited street connectivity may not be appropriate for Slow Streets. The program considers if these functions can be served by a nearby parallel route.
- Slow Streets are generally only appropriate on local streets. However, some NBRs are identified on collectors. The City is evaluating reclassifying these collectors to Slow Streets.
- NBRs are disconnected in some areas. Streets may be added to connect neighborhoods.

The City also regularly performs a citywide pavement condition survey and creates a draft list within each planning area to prioritize pavement rehabilitation based on pavement condition, proximity to parks, and adjacent segments in poor condition. The last survey, conducted in 2021, resulted in the 2022 5-year Paving Plan, 50 miles of which overlap with the City's NBRs. OakDOT staff will use these 50 miles to identify locations for new speed humps and traffic circles, determine how to minimize intersections where cross traffic does not stop, and identify major intersecting streets that would benefit from crossing improvements.

Before adopting the Paving Plan, staff shared information in community meetings across Oakland. These presentations also included official City committees and commissions, and all meetings received the same information with presentation materials available online.

Essential Places will continue to factor into where the City will implement the new program. Essential Places have been redefined to include schools, health clinics, early childhood development centers, senior centers, libraries, recreation centers, public transportation, and grocery stores.

Prioritization and Selection

The Paving Plan creates a draft list of local streets within each planning area to prioritize pavement rehabilitation based on pavement condition, proximity to parks, and adjacent segments in poor condition. Slow Streets & Essential Places uses the paving plan schedule but integrates its priority, such as connecting to Essential Places. While the City welcomes feedback given this project's long-term horizon, it does not take specific location requests. Instead, it focuses on the locations and schedules outlined in the Paving and Bike Plan.

Implementation

The Pavement Plan budget analysis assumes current funding levels (approximately $60M annually) continue for the duration of the 5YP. If resurfacing would benefit Slow Street's creation but is cost-prohibitive, spot pavement repairs or paving only the travel lanes, not the parking lanes, are considered.

Establishing NBRs consists of demarcating NBRs with pavement marking and signage, installing traffic calming measures, and improving traffic guidance on signalized and un-signalized intercessions. The Slow Streets program will build on this and further enhance safety on identified streets by:

- Setting target volumes and speeds for motor vehicles
- Installing speed humps on all blocks (as feasible)
- Installing traffic circles at key locations
- Minimizing locations where cross traffic does not stop
- Improving the crossings of major streets
- Applying more robust measures (e.g., diverters, closures) if target volumes and speeds are unmet

Target traffic speeds and volumes for these routes are set by OakDOT based on guidance from the National Association of City Transportation Officials (NACTO):

- Option 1: Speeds less than or equal to 20 mph, less than or equal to 2,000 average vehicles per day, and less than 50 vehicles per hour per direction at peak hour.
- Option 2: Speeds less than or equal to 25 mph, less than or equal to 1,500 average vehicles per day, and less than 50 vehicles per hour per direction at peak hour.

The City will notify residents on and near proposed NBRs in the project development process and address public comments. Traffic diverters and closures proceed through the Capital Improvement Program and require street-specific community involvement.

Post-Implementation

In 2020, the original iteration of the program concluded a report where the City evaluated where and how safety improvements were or were not working. The report gave special attention to Oakland's inequitable distribution of resources and opportunities and the disproportionate effects of the COVID-19 pandemic on Oakland's Latine and Black communities. The report found that Oakland Slow Streets:

- Created space for physical activity without impeding essential street functions
- Generally received a lot of support, but support and use varied by demographics and geography
- Needed better communications to reach more Oaklanders at the time of the report
- Needed better materials, as cones and barricades were not sustainable materials for implementing partial street closures for the duration of the pandemic due to maintenance and replacement materials costs

The report also found that traffic safety was a more critical transportation issue than creating space for physical activity, especially those in high-priority neighborhoods where telecommuting wasn’t as prevalent.

Lessons for San Diego

- Tie Slow Streets to the active transportation network and use a similar toolbox for both.
- Implement Slow Streets through pavement resurfacing.
- Utilize feedback from concurrent planning efforts to identify projects that already have support & conduct targeted engagement for more impactful features.
- Consider multiple options for target speed and volume thresholds to make them easier to meet.

Additional Resources

- Original Slow Streets - Essential Places Program (2020-2022)
- Oakland Slow Streets Interim Findings Report, September 2020
- OakDOT Developing a Network of Slow Streets Presentation
- Oakland Neighborhood Bike Route Implementation Guide

SAN JOSÉ, CA

Population	Program Name	Date Established	Equity Focus	Community-Driven
1,000,000	Walk Safe San José	2022	✓	

Walk Safe San José is a pedestrian safety plan that makes walking, taking transit, and being mobile within identified priority areas safer and more convenient. The City of San José's 2020 Vision Zero Action Plan identified four Council Districts as experiencing the most traffic fatalities and severe injuries for people walking. Walk Safe San José complements the work the City is already doing to redesign Priority Safety Corridors.

The plan uses "big data" and extensive engagement with vulnerable road users to identify locations where community members walk and would benefit from pedestrian safety improvements. An Equity Steering Committee provides input for all aspects of the plan, including where to focus in-person engagement. The Equity Steering Committee centers equity and social justice in making San José a safer place to walk and roll. The committee worked with community-based organizations, partners, stakeholders, and community leaders to help develop the Walk Safe San José plan. A Caltrans Sustainable Transportation Planning Grant funded this study and made it possible to pay this committee for their expert input.

The conceptual plan identified eight locations within four priority districts to perform quick-build demonstration projects. Once evaluated, these projects could become permanent safety improvements.

Project Identification

The City identifies potential projects to improve walking conditions from the research, analysis, and engagement conducted for Walk Safe San José. The City identified potential project locations based on the following:

- The potential that quick build installations would improve safety at the location until more major investments can be implemented
- Existing conditions, needs assessment, and community survey results about safety needs
- The Equity Steering Committee (ESC) and Technical Advisory Committee (TAC) input

Prioritization and Selection

The City conducts a needs assessment to identify places where people feel unsafe. Input includes a technical evaluation of areas with long distances between crosswalks, crossings without significant enhancements on high-speed streets, and the dependence on walking to meet daily needs. The needs assessment also included information from people representing people walking who are very young, very old, or vulnerable community members exposed to potentially unsafe conditions.

An equity-based framework was co-created through the ESC and engagement to limit the number of locations to study further for quick build designs. The framework started with factors identified through engagement. These factors are weighted based on the level of importance expressed for each.

The top three factors for the equity-based prioritization framework include:

- Difficult to cross segments or intersections
- Places that feel unsafe for both personal safety and traffic reasons
- Places to buy food and groceries

In addition to infrastructure treatments, the City is also considering traffic signal changes using their existing equipment. Specific changes being considered include protected left turns, extending crossing times, implementing pedestrian recall during the day and evening, and other strategies to shorten wait times for people walking.

Implementation

The City implements active transportation and safety projects using quick-build strategies. Depending on the context, one of three teams conducts the work: the Pedestrian Safety Enhancement and Quick Build team, the Neighborhood Traffic Management team, or the Geometric and Active Transportation team. Integrating a project into a team's work program depends upon availability, level of effort, location, and the primary design features.

The Pedestrian Safety Enhancement and Quick Build team plans, designs, and builds minor infrastructure projects citywide and quick build projects on Priority Safety Corridors. The Neighborhood Traffic Management team has worked historically on neighborhood speeding and cut-through traffic issues. The Geometric and Active transportation team supports the City's Pavement Maintenance program by leading the design and implementation of signing and striping for streets undergoing repaving.

Post-Implementation

The City conduced several demonstration events and invited the community to test out treatments like curb extensions, slip lane closures, and pedestrian refuge islands. These projects were part of the engagement and education effort of the project. The City collected data on user experience, traffic counts, travel speeds, turning speeds, and yielding behavior during these events and typical conditions. Initial findings included lower through- and turning speeds for drivers and changes in yielding behavior.

They will compare these data to determine the program's effectiveness as it advances. This program began as a conceptual plan. Therefore, the City will conduct further analyses and coordination during detailed planning and design of individual projects.

Lessons for San Diego

- Develop and utilize equity metrics to prioritize focus areas and projects. These metrics may be coordinated with an equity steering committee or similar group.
- Consider access to essential destinations when identifying improvements.
- Simple demonstration projects using traffic cones can be powerful engagement and education tools.
- Consider complimentary changes to signal timing to improve the crossing experience for people on foot.

Additional Resources

- Walk Safe San Jose

PHILADELPHIA, PA

Population	Program Name	Date Established	Equity Focus	Community-Driven
1,600,000	Neighborhood Slow Zone	2019	✓	✓

Philadelphia's Neighborhood Slow Zone Program is a community-led partnership between residents and the City. The City works with successful applicants to bring traffic calming to an entire "Slow Zone" in residential neighborhoods. Within selected Slow Zones, the Neighborhood Slow Zone Program:

- Works with the neighbors to develop a plan for traffic calming that responds to critical safety issues
- Lowers speed limits to 20MPH
- Installs traffic calming (speed cushions and more)

The Neighborhood Slow Zone program supports the City's Vision Zero goal of eliminating traffic fatalities and serious injuries on Philadelphia city streets and growing the demand for traffic calming on neighborhood streets. Vision Zero Philadelphia is a task force that produces plans and reports, offers technical guidance, and evaluates safety projects like the Neighborhood Slow Zones to gauge effectiveness.

The City completed six Neighborhood Slow Zones projects by 2023. In 2023, a new application cycle resulted in 33 applicants and the next period opens in Fall/Winter 2024-2025. Applicants who are not selected are referred to the Streets Department Traffic Unit for further study under the City's traffic calming program.

Project Identification

The Neighborhood Slow Zone program supports the City's Vision Zero goal of eliminating traffic fatalities and serious injuries on Philadelphia city streets and growing the demand for traffic calming on neighborhood streets.

Organizations or neighborhood champions representing the people living within the proposed Slow Zone submit applications. Materials required with each application include:

- Applicant Contact Information
- Traffic Safety Concerns
- Proposed Location Map
- Applicant Letter of Support
- City Council Letter of Support
- (Optional) Additional Community Support

Applicants are required to acknowledge and agree to the installation of 20 MPH signs and traffic calming for at least 5 years. Applicants are also required to acknowledge and agree to the potential loss of parking for daylighting.

Prioritization and Selection

The program scores all Neighborhood Slow Zone applications based on the same criteria. The City selects the highest-scoring applications based on the metrics below and begins designing its Neighborhood Slow Zone.

As part of the prioritization process, the applications must demonstrate the need for traffic safety improvements on their neighborhood's streets; this is by the area's crash history, which makes up 50% of an application's total score. Equity accounts for the next most significant application metric—connections to community resources and overall community support only make up 10%.

Neighborhood Slow Zone Application Scoring	
Criteria (% of total Score)	**Metrics**

Crash History (50%)	• People killed or seriously injured in traffic crashes within the Proposed Slow Zone (weighted 3x) • People injured in traffic crashes within the proposed Slow Zone.
Equity (40%)	• Households with children under 18 • Population over the age of 60 years • Households with annual income below poverty line • BIPOC population (Black Indigenous or People of Color)
Community Places (5%)	• Free Library locations • Schools (district, charter, and other) • City health centers • PHA communities
Community Support (5%)	• (Optional) Additional letters of support (e.g. from school, faith, or business organization) • (Optional) Community signatures petition of support • (Optional) Evidence of support at community meetings (e.g. meeting minutes)

The program integrates equity into the project prioritization and selection phase. The City aims to create Slow Zones within neighborhoods with a higher proportion of vulnerable users, like children under 18 and adults older than 60. The program also considers households living below the poverty line, who are more likely to be transit-dependent and need to walk to transportation options, and people of color.

The program integrates community engagement through its community-led approach and in the prioritization and selection phase. Applications that show strong community support for the proposed Neighborhood Slow Zone receive a higher score. Also, applicants are encouraged to collaborate with local community groups, neighbors, and other stakeholders to obtain this evidenced community support.

Implementation

Once a neighborhood is selected, the City works with the community to design the project and install it. The Neighborhood Slow Zone Program is funded by federal grants, Automated Red Light Enforcement (ARLE) funding distributed by the Pennsylvania Department of Transportation, and dedicated City capital funds. Each Neighborhood Slow Zone has a budget of up to $1,500,000. The program includes a toolbox of traffic calming treatments including gateway signage, 20 MPH signs, high visibility crosswalks, curb extensions using flex posts or concrete, speed cushions / humps, chicanes using quick-build materials, raised crosswalks, one-way to two-way conversions, neighborhood traffic circles, and traffic diverters.

Post-Implementation

The City's Vision Zero program evaluates and monitors the effectiveness of each project through the City's Vision Zero Annual Reports. The report measures the percentage of crashes compared to the previous year; between 2022 and 2023, there will be a rise in the number of Crashes in neighborhood slow zones by 75%.

Lessons for San Diego

- If an application process is developed, consider equity in the scoring.
- The slow zone program considers areas instead of individual streets, providing more access and benefit to more people.
- Identify and publicize a process and requirements for the program, including requiring commitment to lower speed limits and installation of traffic calming even if it is at the expense of parking.

Additional Resources

- Neighborhood Slow Zone Program
- Vision Zero Annual Report 2023

DENVER, CO

Population	Program Name	Date Established	Equity Focus	Community-Driven
715,000	Shared Streets	2020	✓	✓

In 2020, Denver conducted a citywide survey to determine interest and support for a comprehensive Slow Street program. Over 87% stated they supported designating specific streets as car-free and adding temporary bike lanes to reallocation street space for people. The city restricted 11 corridors, amounting to more than seven miles of streets, and designated them "Shared Streets."

The City assessed the 16th Avenue Shared Street to determine the difference in walking and biking compared to normal conditions. They found that, on average, the amount of people walking and biking on this one shared street tripled. By 2022, the success of this program led to the City's decision to begin a program to make shared streets permanent after lifting COVID-19 restrictions.

Denver's shared and open streets can serve residential or commercial functions. The shared streets would be one to three blocks in length and those chosen for the program would receive treatments to aggressively divert and slow vehicle travel in order to create an environment more conducive to walking and gathering. The shared streets are intended to fit into and support a larger citywide network of bicycle, transit and pedestrian infrastructure.

Project Identification

The initial program took on suggestions for shared streets using an online map where community members could vote on roads they wanted to close to through traffic.

The new program will determine locations of Shared Streets using a multi-step process. The City determined the top ten priority commercial and community Shared Streets by first ensuring the project met basic design, feasibility, and safety considerations. Criteria is as follows:

Community Shared Street

- 1-3 blocks in length
- Local or neighborhood streets
- Not on a street with existing RTD public transit (to maintain safety and avoid creating route delays)
- Not adjacent to industrial land uses
- Not connecting to a signalized intersection or arterial street

Commercial Shared Street

- 1-3 blocks in length
- Local, neighborhood or collector streets
- Not on a street with existing RTD public transit (to maintain safety and avoid creating route delays)
- Not adjacent to industrial land uses
- Not adjacent to low-density residential land uses
- Not adjacent to areas with over 50% high-density residential land uses.

Second, using an online map-based engagement tool, the City asked the community to weigh in on desirable shared street locations. Finally, the program applied other locational criteria, such as surrounding land uses and equity considerations, along with the community feedback to rank locations and determine the top ten places to consider for shared streets in the future.

Prioritization and Selection

Crash rates factor into the prioritization of the Shared Streets projects. However, the City intends to implement Shared Streets in locations with low crash rates, low vehicle volumes, and slow speeds to protect pedestrians from conflict with vehicles.

The Shared Streets prioritization process incorporates existing networks and considers connections and gaps for travel and recreation by all modes. This analysis informs the placement of Shared Streets to help increase connectivity throughout the City. The project team also reviews recent plans that have already recommended Shared Streets.

There is no public application to request a Shared Street to maintain an equitable distribution of projects during the selection process. Members of the public have opportunities to recommend locations during each phase of outreach for this project. Additionally, Shared Streets can be discussed and recommended in future neighborhood plans if the community desires them.

Implementation

Funding sources are still being identified but will likely be a mix of funding from the City budget and grants. Equity is at the core of the goals and development of this program. Therefore, equity considerations will be a significant prioritization factor as the City considers which locations to convert to Shared Streets.

The City has adopted an updated Complete Streets design guide includes considerations for shared and open streets. On the Shared Streets Website, the City has design templates for commercial shared streets using quick build or permanent materials. The treatments include chicanes created by bollards to provide gathering space, gateway treatments with curb extensions, planters, and raised crossings. The City also has a template for curbless shared streets.

The program also works concurrently with the Neighborhood Bikeways program, which includes a network of heavily traffic calmed treatments listed publicly online on the City's website. These treatments are used on the residential shared streets.

Post-Implementation

The original project conducted a survey report on the 16th Avenue Shared Street. They found that the number of people walking and biking on the street had increased compared to previous years. On warmer weather days, the total number of people walking and biking ranged from about 1,000 to nearly 1,800, compared to an average of about 360 biking per day in 2015.

Lessons for San Diego

- If an application process is developed, consider equity in the scoring.
- Consider different criteria for residential and commercial shared streets.
- Clear, public facing materials and websites targeted at building support can help create excitement around projects.
- Consider multiple design types representing different levels of investment.

Additional Resources

- Denver Shared & Open Streets
- Denver Walking and Biking Report
- 16th Ave Report
- Denver Shared Streets
- Denver Neighborhood Bikeways

BOSTON, MA

Population	Program Name	Date Established	Equity Focus	Community-Driven
675,000	Neighborhood Slow Streets / Safety Surge	2016	✓	✓*

**Original program was community driven; the new one is not*

The Boston Neighborhood Slow Streets program is the City's comprehensive traffic calming program. This initiative focuses on improving safety on residential streets by slowing traffic speeds and establishing speed limits of 20 MPH within each determined neighborhood zone.

The City initiated the original program in 2018 by designing and implementing traffic calming measures in fifteen neighborhoods across Boston. The program was primarily funded through budget surplus and state funding and sought to create safer neighborhood streets by applying Vision Zero principles of Slow Streets design. The program was complementary to the City's Vision Zero Program, whose Vision Zero Action Plan proposed the original pilot neighborhoods for the Slow Streets program. Furthermore, the Go Boston Vision 2030 Action Plan also listed the program as a top policy.

In 2023, Boston's Mayor announced the program would transition to a new safety program titled Safety Surge that focuses on the rapid implementation and construction of speed humps, safer intersections, and safer signals across the City. This program continues much of the work conducted by Boston's Neighborhood Slow Streets program but no longer waits on individual neighborhoods to apply for safety features. Instead, Safety Surge takes a broader approach by installing safety countermeasures based on demographics, crash history, and appropriateness. The program also maintains project number targets by committing to installing at least 500 speed humps and improving 25-30 intersections through improved geometry and signals annually.

Project Identification

The original process of selecting neighborhoods for safety improvements was community-led. Interested residents completed an application for consideration to the Neighborhood Slow Streets program. Applications must include:

- At least twenty-four signatures from neighborhood residents
- Three letters from community leaders.

The current process no longer has a robust community engagement piece. Instead, the City evaluated all smaller neighborhood streets in Boston and neighborhoods where safety improvements are still needed. The City also evaluates the distance between speed humps on residential streets, aiming to construct a pattern where a driver comes across a speed hump every 150 to 250 feet. The only exclusions are arterials, collectors, and MBTA Routes.

Prioritization and Selection

Initially, the city gathered a list of neighborhoods from these applications and included the previous year's neighborhoods that went unselected. The city maintained an evaluation criterion and used an objective methodology to score and prioritize project selection. The program prioritized neighborhoods most in need by considering neighborhoods that:

- Housed higher percentages of youth, older adults, and people with disabilities
- Experienced higher numbers of traffic crashes per mile that result in an EMS response
- Included or bordered community places such as public libraries, schools, parks, and transit
- Supported existing and planned opportunities for walking, bicycling, and access to transit
- Were feasible for the City of Boston to implement improvements in

Boston's Safety Surge program prioritizes projects with similar performance metrics but emphasizes equity more. The new prioritization metric includes lower-income populations, zero-car households, and people of color. The weighted criteria are as follows:

- Crash frequency: 20%
- Percent of population aged 65 and older: 20%
- Percent of households with children: 20%
- Percent of households with people with disabilities: 20%
- Percent of population that do not identify as white: 10%
- Percent of population at or below the poverty level: 5%
- Percent of households without access to a vehicle: 5%

The City also adjusted the calculation for Crash Frequency. Now, the program evaluates all crashes over the previous five years that resulted in a call to Boston EMS and divides this by the miles of eligible streets in each neighborhood.

Finally, the City chooses the top-scoring neighborhoods in each of Boston's nine city council districts and makes this the list of communities next for safety improvements.

Implementation

City and state funding provided the original program's budget and relied on budget surpluses and funding for Vision Zero projects. The local and state capital budget, as well as federal financing, fund the current program. Specific aspects of Safety Surge, like intersection safety improvements, are also supported through a Safe Street for All federal grant.

The original program considered community involvement throughout the planning process. Once the City selected a neighborhood, they invited the community to a "neighborhood walk" where City leadership assessed issues and listened to community concerns. The City developed a plan and concept design and presented this to the community. The public provided feedback before construction, and regular meetings offered updates on the implementation and construction process.

The current program does not participate in direct public engagement since designs are now standardized and leadership has now committed to improving all eligible streets within the City. An online portal is available for the community members to view which streets are eligible for projects and when improvements will occur.

The City considers equity during the selection and prioritization phase by prioritizing communities with a higher percentage of vulnerable road users (youths under 18, people with disabilities, and elderly populations), lower-income residents, people of color, and non-car households.

Post-Implementation

Following the initial round of street improvements, Boston saw decreases in both pedestrian/cyclist crashes and injuries from 2016 to 2017 and a drop in the overall number of fatal crashes, from 20 in 2015 to 14 in 2017. The success of this original program led Boston to commit to implementing safety improvements citywide. In doing so, they standardized the process and allocated a portion of the City's budget to this program.

Lessons for San Diego

- Operating on an annual schedule for implementing traffic calming yielded regular progress and visible results.
- Inviting the community to request traffic calming features and then scoring applications based on transparent metrics helped build support from the community and equitably distribute improvements.
- Publishing an online map helps residents understand where traffic calming is feasible and where projects have been implemented or are planned in the future.
- Integrating land use to identify context appropriate traffic calming features in residential neighborhoods resulted in slower traffic, reduced crashes, and comfortable walking and biking routes on local streets.

Additional Resources

- Vision Zero Boston Action Plan
- Go Boston 2030 Vision, Project and Policies
- 2018 Application Packet
- 2018 Neighborhood Slow Streets Scoring Methodology and Zone Evaluation
- City of Boston Safety Surge
- 2018 Neighborhood Slow Streets Program Presentation

MINNEAPOLIS, MN

Population	Program Name	Date Established	Equity Focus	Community-Driven
430,000	Neighborhood Traffic Calming	2022	✓	✓

The Neighborhood Traffic Calming program in Minneapolis is a community-initiated program that seeks to make street changes that support slower, safer traffic speeds and discourage cut-through traffic on urban neighborhood streets. Minneapolis Public Works leads the program to support the City's updated speed limits and Vision Zero traffic safety goals. To standardize all projects, traffic calming and improvements are aligned with and informed by other city policies and plans such as the Transportation Action Plan, Street Design Guide, Complete Streets Policy, and Vision Zero Action Plan.

The City's preferred strategies for achieving Slow Streets are speed humps, bollards to reduce crossing distances for vulnerable road users, and traffic circles. Other initiatives taken to achieve their goal are through their Complete Streets and Vision Zero plans. The Complete Streets plan aims for city streets and sidewalks to foster "livable, walkable, bicycle-friending, green neighborhoods," with safety initiatives complemented by the Vision Zero plan.

The goal of these treatments is to reduce dangerous vehicle speeds. The strategy is to pilot speed control measures on busier streets and evaluate the results of implementing the speed control measures to determine the possibility of expanding their implementation at additional locations. In addition to these efforts, the City reduced residential speeds to 20 mph, using signs along the city border to alert drivers of the new limit.

Project Identification

The City's Transportation Action Plan commits Minneapolis to becoming a 15-minute City, where three of every five trips are walking, biking, or transit trips by 2030. To do this, the City relies on its Traffic Calming Toolbox and list of safety treatments from its Vision Zero Action Plan.

Most urban neighborhoods or local residential streets are eligible for traffic calming mind. More specifically, streets that are not eligible include:

- Identified High Injury Streets, which are eligible for improvements through the city's Vision Zero program
- Municipal State Aid streets, which have more resources available to them than other city streets
- Streets not owned by the City but by other agencies (MnDOT, County, University of Minnesota, Private)
- Streets under active construction

Any community member can request traffic calming improvements through this program and must apply by August 1st for consideration in the following year's implementation cycle. Outlined below is the process.

Minneapolis Annual Traffic Calming Process

Step	Description	Phase	Timeline
1	Community member or neighborhood organization submits application to Public Works.	Application	Due August 1st
2	Public Works completes initial screening of all applications received citywide.	Screening & Preliminary Scoring	August
3	Public Works conducts preliminary scoring for remaining applications.		
4	Public Works holds community meeting to get more input and support from the neighborhood on their traffic safety concerns.		September - January

5	Public Works completes technical evaluation and identifies recommended traffic calming treatments.	Data Collection & Design Recommendation	
6	Public Works will use the data collected in the previous phase to establish a final score, priority, and tentative implementation timeline for each application.	Final Scoring & Final Design	February - May
7	Public Works holds community meeting to share data, recommended traffic calming treatment, and implementation timeline and steps.		
8	Public Works implements recommended traffic calming treatment.	Implementation	June - October

Community members can apply through the City's website, by sending an email, or by posting the application in the mail.

An important note is that the application only allows community members to request traffic calming, not a particular treatment; Public Works determines this. However, the city has a separate program for installing stop signs, alley speed bumps, and speed display trailers. So, community members can request these directly from Public Works.

Prioritization and Selection

The Initial Screening and Preliminary Scoring phase uses transportation- and community-based criteria such as traffic volumes, safety, equity, and destinations to score traffic calming applications. Other factors may be considered, such as recent and future street improvements. The Initial Screening and Preliminary Scoring phases consider:

Transportation Conditions:

- Traffic Volume
- Crashes over the past five years

Community Conditions:

- Non-White Majority
  - The percentage of residents that identify as a minority
- Low-income population
- Vehicle Availability
  - Number of household vehicles per resident over age 16
- Population Density
- Proximity to "People Generators"
  - How close the street is to people generators such as schools, parks, libraries, and light rail or bus rapid transit stations.
- Cultural Districts
  - How close the street is to city-designated cultural districts.

Applications that receive high preliminary scores move to the Data Collection & Design Recommendation phase and are considered for implementation the following year.

In the Data Collection & Design Recommendation phase, meetings are held with top-scoring communities to identify traffic safety concerns. The City will ask neighborhoods to provide five or more signatures from other households or businesses supporting the application. Public Works will collect necessary data, finalize the location evaluation, and develop recommended traffic calming improvements. Recommended improvements will generally come from the Traffic Calming Toolkit. Public Works will select treatments based on the needs and context of a particular street, and when possible, proven low-cost/ high-impact treatments will be applied first.

In the Final Scoring and Final design phase, the City hosts a second round of community meetings to collect feedback on the recommended traffic calming improvements and implementation timelines. Where more than one treatment may be appropriate, Public Works invites community members to identify their preferred treatment.

Implementation

The Minneapolis Department of Public Works funds projects annually, and funding availability determines how many applications become projects.

During the Implementation phase, the City turns to its "Traffic Calming Toolbox" and list of safety treatments. Before installation, Public Works will communicate with the applicant and people who participated in community meetings on the timeline and details for traffic calming implementation. Public Works may implement some treatments (for example, bollard bump outs) with low-cost materials. The life of treatments implemented with low-cost materials is about five years – at which time Public Works may determine whether to reinstall the traffic calming treatment with low-cost materials, install the treatment with permanent materials (for example, concrete), or re-evaluate the treatment.

Post-Implementation

After installation, the City monitors the impact and either adjusts the treatment, reinstalls the treatment with permanent materials, or re-evaluates the treatment.

The City has an established process for implementation and evaluation for a variety of street retrofits which has built trust between departments, reduced project implementation timelines, and resulted in better outcomes. The project can generally be defined as follows:

- The transportation action plan identifies networks and the street design guide dictates facilities
- Every project is assigned a project core team of one representative from for each key group including stormwater, transportation, maintenance, and others. The group meets for reviews at 30/60/90 percent design.
- Every project is assigned a transportation planner and engineer from 0% to ensure consistency in design.
- The City has a formalized process for collecting internal feedback, including review responsibilities.
- Projects are evaluated 1-2 years post construction by the same team as core project team. The team generates a report, and determines which elements or treatments they will continue using or which should change. This process informs updates to street design guide.

Lessons for San Diego

- Operating on a strict annual schedule for implementing traffic calming services has served the City well.
- Using public requests as an integral part of that process has kept Minneapolis honest in effectively serving its residents where there is the highest public demand as well as the highest objective need.
- Releasing an online map of eligible streets helps residents understand where traffic calming requests may be considered.
- Integrating quick build treatments and monitoring the results allows city staff to make adjustments to treatments before permanent installation.
- Like Boston, Minneapolis has adopted a slow streets speed of 20 mph.
- The integrated planning, implementation, and evaluation process has resulted in increased trust between departments, more accountability for project results, and a better ability to track results and modify standards to best meet needs.

Additional Resources

- Minneapolis Traffic Calming
- Neighborhood Traffic Calming Guide
- 2024 Traffic Calming Application
- Minneapolis Vision Zero

ATLANTA, GA

Population	Program Name	Date Established	Equity Focus	Community-Driven
498,000	Action Plan for Safer Streets / Tactical Urbanism	2019		✓

In 2019, Atlanta's Mayor announced a two-year, $5 million plan to bring accelerated safety redesigns to Atlanta's streets, identifying more than 20 city corridors for rapid implementation changes to improve safety for people who walk, drive, take transit, or ride a bike or e-scooter.

The plan started with Atlanta's first-ever temporary "pop up" bike lane as part of Biketober. This temporary lane allowed City transportation officials to track impacts in real time while engaging the public and following robust community engagement on potential designs.

In 2022, the City used this pop-up as an example to update its community-led Tactical Urbanism guide. The City uses this program to implement low-cost, short-term projects to change the overall use and feel of streets and public spaces while demonstrating the feasibility and potential of long-term safety changes.

Project Identification

The Action Plan for Safer Streets selected routes by matching the cycling connections needed among city neighborhoods to streets with bike or e-scooter travel capacity. Some are high-priority routes with infrastructure improvements planned and are high-injury corridors. Other selected routes connect neighborhood destinations like MARTA stations, parks, and schools.

The Action Plan for Safer Streets aimed to:

- Connect multimodal transportation facilities
- Provide north-south connections between neighborhoods
- Expand access to transit stations, city parks, and schools by providing first/last mile connections
- Reduce risk as 100% of routes are on the city's high-injury network or near schools

Community members initiate the process through a local community group like a local business association, neighborhood Planning unit, or Community Improvement District. They then submit improvement ideas to the City to gain approval.

The projects can be demonstration projects, which last 30 days or less, or pilot projects which last more than 1 month but less than 1 year.

Prioritization and Selection

The Tactical Urbanism guide builds a process for the community to design and implement impactful projects within their neighborhood.

The process begins with a community led identification of a project and design process. Design standards for eligible treatments are available in the City's Tactical Urbanism Guide. The City then reviews the design and may approve the project or send it back for revisions. The community group then applies for a right-of-way permit and installation may occur. The Tactical Urbanism Guide offers step by step instructions, design standards, materials to be used, and other elements for each treatment. Example applications are also provided.

Given the community-led nature of this project, applicants must address the following considerations before gaining project approval:

- Emergency Access
- Community Engagement and Involvement
- Maintenance
- Compliance with Traffic Control Plans
- Tactical Urbanism best practices

- Insurance and Bonding
- Potential modifications and removal

Implementation

Funding to complete the program will come from redesigning existing projects, departmental budgets, and community partners.

The City has an established equity framework as a part of its Vision Zero efforts. This equity framework utilizes specific data indicators such as households without access to motor vehicles, percentages of school-age children, seniors, and persons with disabilities, as well as race, income, and lack of health insurance, among several other indicators, to determine vulnerability and to establish a base of prioritization for communities of concern.

Applications for projects located within equity priority areas may be considered for loaned materials by ATLDOT, such as traffic cones, barricades, and signs from the City free of charge.

Post-Implementation

Following the installation of Atlanta's first Safer Streets Pop-up Infrastructure, the City surveyed and assessed users and produced a report highlighting the results of its temporary pop-up bike lane. The findings include increased safety, increase multimodal users, fewer people biking or riding scooters on the sidewalk, limited impacts to vehicle travel times, increased access to destinations, and improvements in the perception of safety.

Lessons for San Diego

- Providing free materials or increase support in equity priority areas can help alleviate barriers in disadvantaged communities.
- Developing a full design toolbox helps to standardize designs and makes it more realistic for community members to implement projects.
- Allowing for multiple types of projects and durations can increase opportunities for implementation.
- Atlanta’s process puts the full costs of design and permitting on the applicant; this may be cost prohibitive for some communities.

Additional Resources

- Safer Streets Pop-up Report
- Action Plan for Safer Streets
- Action Plan for Safer Streets Official Site
- Tactical Urbanism

VANCOUVER, BC

Population	Program Name	Date Established	Equity Focus	Community-Driven
662,000	Slow Streets	2020		

In response to the COVID-19 pandemic, Vancouver initiated their Slow Streets program to make it easier for people to exercise and access businesses in their neighborhoods. The initiative has since helped to reshape how the community views and uses local streets, providing a safe and comfortable street environment for different users.

Slow Streets were first designated using signage and temporary barriers. In 2023, the City refreshed the network with more permanent gateways to reduce maintenance costs and encourage drivers to slow down when entering local streets. To do so, Vancouver conducted a three-step implementation and engagement process for Slow Streets.

- Step One: Designate Slow Streets with simple traffic barriers and signage.
- Step Two: Monitor and Gather Feedback; Add temporary traffic calming measures on select streets and Adjust/ Relocate/ Remove if needed.
- Step Three: Review the Slow Streets initiative within the City's COVID-19 response to inform future greenway, bikeway, and traffic calming projects.

The program is currently in the Monitor and Gather Feedback Step.

Project Identification

In the program's first step, the City designated 40 kilometers of road as Slow Streets. They did so by identifying routes:

- Along existing greenways and local streets with no impact on emergency vehicle access, transit, and minimal parking changes
- Based on several criteria, including traffic volumes, existing traffic signals to cross busier streets, equity, and access to green spaces like parks
- To provide segments that can be part of a healthy walk, connect with other segments for a longer run or bike ride, and link to other public life recovery projects like pop-up plazas and open spaces like parks

Prioritization and Selection

Based on feedback collected in the first step, the City implemented temporary traffic calming measures at six locations on the Slow Streets network between fall 2020 and summer 2021 to make those locations safer and more comfortable for people walking, biking, and rolling. The City chose the six locations based on alignment with approved community area plans, future greenway or bikeway upgrades, or where staff had previously heard of traffic concerns.

The City developed a communications outreach plan to support implementation by ensuring public awareness of the initiative, timeline, and opportunities for input. The plan included news releases, posters, road signs, and media campaigns. City officials also met with advisory comments for vulnerable road users like people with disability and seniors to gain their input before the implementation process.

Implementation

The program spans a three-step process. The first Step installed simple signage and traffic barriers. The second Step evaluated the first Step's effectiveness through community feedback and analysis. This Step also identified specific locations to include additional traffic calming measures.

Following the installation of Step Two's temporary measures, the City invited community members to provide location-specific feedback through the 'Step 2 Traffic Calming Survey', which received 451 responses. This feedback informed how the network could evolve, including appearance, compliance, and materiality. The third Step installs permanent measures and continues to monitor effectiveness through community feedback and analysis.

Vancouver's city council approved funding for the program through the City's budget.

Post-Implementation

Through ongoing engagements, the first two Steps helped to foster detailed feedback from residents and businesses on the overall network and specific measures while testing the influence that Slow Streets had on vehicle speeds and volumes. City staff received requests to improve the aesthetic and functionality of Slow Streets after its installation with temporary barriers. By May 2022, the first 'wave' of Slow Streets had been in place for two years. Requests increased as more barriers were removed or damaged, independently of the engagement process, increasing maintenance and operational costs.

In 2023, the City began using permanent safety improvements as part of this program. Vancouver installed Slow Street gateways using concrete barriers where local streets intersect major streets. These gateways encouraged drivers to slow down as they entered the neighborhood. The City will continue to monitor the effects of the Slow Street gateways through speed data collection and use this information to determine long-term traffic calming treatments that reduce vehicle speeds and improve neighborhood safety. City staff also received feedback regarding concerns to traffic impacts to adjacent streets. The City did not find major impacts, but is considering how to integrate this into the engagement project.

The City also found, based on the evaluation, some of the Slow Streets needed to be realigned to better address desire lines as noted by the community. The City is implementing these changes now.

Lessons for San Diego

- Installing quick-build treatments and evaluating them before installing permanent treatments allows for testing to ensure projects meet community needs.
- Consider visual impacts of treatments; if community members do not find treatments attractive they may ask for removal.
- Closing a street to through traffic can push traffic onto adjacent streets, so network level traffic calming may be considered.
- Be open to realigning streets based on evaluation as needed.

Additional Resources

- Vancouver Slow Streets
- Engagement Strategy
- Slow Streets Review and Refresh

SUMMARY

Conclusion

The Slow Streets programs reviewed may provide a framework for San Diego to develop its own program. By exploring diverse approaches to program implementation, this review highlights factors that contribute to the success of these programs, enabling San Diego to tailor its program to the City's unique context. Below is a summary of the common elements and differences in approach among the ten cities. This summary functions as a list of recommendations for the City of San Diego.

Key Findings

Program Structure and Phases

- **Multi-Phase Approach:** Many cities, such as Vancouver and San Francisco, structure their programs in phases. Typically, this starts with temporary installations (e.g., signage, cones, or barriers) to test feasibility and gather feedback, followed by modifications and permanent installations if successful.
- **City-Led or Community-Driven Process:** Some programs, like those in Boston and Philadelphia, are centralized with oversight from a city department, while others, such as Minneapolis and Atlanta, use a more community-driven approach where local organizations or residents can apply for Slow Streets in their neighborhoods.
- **Annual or Continuous Application Cycles:** Many programs, including those in Minneapolis and Philadelphia, have annual application cycles that review and select new projects each year based on predefined criteria, while others (like Denver's) operate on an ongoing basis with city-led selection of project locations.
- **Prioritization on Safety and Equity:** Programs often include prioritization frameworks based on safety data (e.g., crash history) and equity (e.g., targeting underserved communities), which guide which neighborhoods or corridors receive priority in project selection.

Types of Projects Allowed

- **Traffic Calming and Safety Measures:** Many Slow Streets programs allow a wide variety of traffic calming treatments, including speed humps, traffic diverters, and mini traffic circles. Minneapolis and Los Angeles provide extensive "toolkits" of traffic calming measures to help neighborhoods select options suited to local conditions.
- **Quick-Build and Temporary Installations:** Cities like Los Angeles and Atlanta allow for temporary projects, such as pop-up bike lanes or pedestrian-only street closures. These quick-build installations help test feasibility, assess community response, and refine designs before committing to permanent infrastructure.
- **Balancing user needs:** Most cities found a balance between vehicle access and prioritizing active transportation, making them adaptable spaces for community use and events. Most cities also only used full traffic diversion when absolutely necessary as demonstrated through post installation of evaluation.
- **Project Size and Scale:** Most programs limit the length of Slow Streets projects or the number of blocks affected. For example, Los Angeles caps project lengths at 2 miles and limits the scope of installations to ensure they have substantial community benefit without overwhelming resources.

Equity- and Community-Focused Project Requirements

- **Requirements for Community Support and Engagement:** Programs in cities like Philadelphia and Boston require community support letters and hold engagement sessions to tailor designs to community needs. Some programs also include specific requirements, such as commitment letters agreeing to speed limits or installation of traffic calming features, especially if it impacts parking.
- **Equity-Based Criteria and Tools:** Several programs, such as those in Oakland and Minneapolis, use equity metrics (e.g., income levels, car ownership, access to public transit) to prioritize neighborhoods most likely to benefit. This structure ensures that Slow Streets are deployed where they can have the greatest positive impact, often in historically underserved communities.

Permitting and Design Flexibility

- **Streamlined Permitting Processes:** Programs such as Atlanta's Tactical Urbanism initiative streamline the process for community-driven projects by providing clear guidelines on design, permitting, and required materials, which helps community groups implement projects more quickly and affordably.

- **Design Flexibility:** Many cities, including San Francisco and Oakland, allow flexibility in design by offering a pre-approved set of treatments that can be tailored to fit the unique needs of each neighborhood, such as traffic diverters for high-traffic areas or speed humps for quieter residential streets.
- **Evaluate and Monitor Projects:** Effective monitoring, as practiced by San Francisco and Boston, includes collecting traffic volumes, speed data, and community feedback, followed by annual reports or updates. A formalized evaluation process helps ensure that the program meets objectives, such as reducing traffic speeds and crashes.

Summary of Recommendations for San Diego

To structure an effective program, San Diego might consider:

- **Adopting a phased approach** to test temporary installations and scale up successful projects based on evaluation and monitoring results.
- **Offering a toolkit** of pre-approved traffic calming and pedestrian/bike-friendly treatments that includes both quick build and permanent applications.
- **Developing an application process** with a strong equity framework, allowing community-driven proposals while prioritizing underserved neighborhoods. This process should also identify levels of agency support, which may vary by area and project type.
- **Streamlining permitting and design options** to encourage community involvement and ensure projects are feasible.
- **Define project size, scale, and criteria early**, such as proximity to a traffic signal to maximize project utility.
- **Integrate Slow Streets into the Low Stress Network** so that slow streets projects can expand access to as many people as possible without being required to serve as a stand alone network.
- **Prioritize access to everyday destinations** to increase the utility of Slow Streets.
- **Use traffic calming instead of street closures** on Slow Streets to discourage fast driving and cut through traffic while still maintaining the integrity of the transportation network and encouraging usage by all modes.
- **Define flexible targets** for speed and volumes on Slow Streets that are realistic for the community but still meet the needs of people of all ages and abilities.

These findings offer a structured, adaptable, and community-responsive model that can be customized to fit San Diego’s unique urban context.

APPENDIX A: LONG LIST OF PEER CITIES CONSIDERED

Include?	City Name	Population	Equity Component	Community-Driven	Notes
	California Cities				
✓	San Jose	1,000,000			Trying to develop faster processes
✓	San Francisco	873,000			SFMTA, through Vision Zero Safe Streets Evaluation Program, will analyze projects pre- and post-implementation to review outcomes and effectiveness
✓	Los Angeles	3,900,000		Yes	Limited resources available online; has a safe routes to schools and safe routes for seniors program which could be relevant but relies mostly on speed humps through a community application process
✓	Oakland	440,000	Yes		Very equity focused; context is different from San Diego
X	Sacramento	524,000			Still building Slow Streets program; has a mature quick build program but not frequently transitioning to permanent yet
X	Santa Monica	89,947		Yes	Significant traffic calming and quick build program; experimenting with commercial Slow Streets; small population but part of metro LA
X	Long Beach	466,000			Not enough resources
	Cities Outside California				
✓	Philadelphia, PA	1,600,000			Significant work has been done on Slow Streets and quick build; include a top zoned approach & the minimum requirement for installation
✓	Denver, CO	715,000	Yes	Yes	Robust public facing neighborhood Slow Streets program, commercial Slow Streets program, and in progress of making 2 corridors permanent (5 by 2030); design elements and community surveys posted online.
✓	Boston, MA	675,000		Yes	Well established program.

Include?	City Name	Population	Equity Component	Community-Driven	Notes
✓	Atlanta, GA	498,000			Mature implementation program focused on quick build, tactical urbanism, open streets events, and redefining streets as public places.
✓	Minneapolis, MN	430,000	Yes	Yes	Program is well documented in Neighborhood Traffic Calming report with equity criteria.
X	Austin, TX	960,000		Yes	Variety of different types of Slow Streets residents can apply to implement. It also includes very straight forward text on what streets qualify for Slow Streets, a map, and traffic calming treatments for Slow Streets.
X	Houston, TX	2,300,000			Has a traffic calming program and has been implementing quick build projects but does not include elements that can't be found in other recommended cities.
X	Seattle, WA	737,000		Yes	Limited information; Healthy Streets focused more on limited vehicular access
X	Orlando, FL	307,000			Newer program; RAPID implementation may be relevant
X	Jersey City, NJ	287,000			Very different context, moving from QB to permanent
✓	Vancouver, BC	662,000			Currently collecting data for Slow Streets to determine if projects should be made permanent
X	Portland, OR	650,000	Yes	Yes	Little public information on conversion of COVID Slow Streets projects to permanent installations. Evaluation guide is not complete (or not posted).
X	Miami, FL	450,000			Not enough resources.
X	Tampa, FL				Not enough resources.
X	San Antonio, TX	1,430,000			Not enough resources.
X	Houston, TX	2,300,000			Not enough resources.
X	Chicago, IL	2,750,000			Has "quick build network for bike and ped infrastructure" but missing documentation about program.

Include?	City Name	Population	Equity Component	Community-Driven	Notes
X	New York City, NY	8,800,000			Unique context; no explicit traffic calming QB program that has outsized relevance
X	Tampa, FL	408,000			Not enough resources.
X	Charlotte, NC	874,000			Not enough resources.
X	Columbus, OH	905,000			Not enough resources.
X	Honolulu, HI	350,000			Not enough resources.
X	Nashville, TN	680,000			Not enough resources.
X	Phoenix, AZ	1,610,000			Not enough resources.

APPENDIX C: METHODOLOGY FOR ACCESS ANALYSIS

CITY OF SAN DIEGO

SAFE STREETS & ROADS FOR ALL ACTION PLAN

WORKING PAPER 1 APPENDIX C: METHODOLOGY FOR MEASURING WALKING AND BIKING COMFORT

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Project No. 30055
FINAL

The City of SAN DIEGO

METHODOLOGY FOR MEASURING WALKING AND BIKING COMFORT

There are a variety of ways to measure comfort for walking and biking on streets and paths. The most widely used metrics are Level of Traffic Stress and Multimodal Level of Services. These metrics consider a variety of environmental factors such as vehicle speeds, volumes, and lanes; presence, width, and condition of walking and biking facilities; and intersections and crossings, among others. However, these metrics require significant data collection and are difficult to reproduce at the county-scale. They also do not consider the specific cultural, physical, and community characteristics of a place. Therefore, modified and simplified metrics are often used in active transportation plans to evaluate walking and biking comfort for use in active transportation planning. The following metrics were developed utilizing state-of-the-practice resources and professional judgment to evaluate the comfort of walking and biking in San Diego.

Walking & Rolling Comfort Along Segments

In order to understand comfort people walking on a given roadway, a walking and rolling comfort metric was developed. A variety of factors are known to influence comfort for walking and rolling, such as the speed and volume of traffic, presence of a sidewalk, available shade, and design of the road. Note that additional factors may impact rolling, such as tree cover, however, those elements are not available at the regional level and are therefore not considered in this methodology. As illustrated below, the walking comfort metric ranges from Level 1 through 4. Level 1 indicates facilities are comfortable for people of any age or ability to walk and roll on like neighborhood streets or shared use paths along streets with low vehicle speeds and numbers of lanes. Level 4 indicates facilities which people might only walk or roll along if they have no other choice, like a high speed arterial or a street with no sidewalks and higher numbers of lane or speeds. The analysis interprets FHWA's Guidebook for Measuring Multimodal Network Connectivity and NACTO's Designing for All Ages and Abilities. This analysis includes surface streets and shared use paths, but freeways are not analyzed as walking and biking is prohibited.

Posted Speed Limit	Number of Lanes	No Sidewalk	Sidewalk	Sidewalk with On-Street Parking and/or Bike Lane	Shared Use Path
25 MPH or Lower	2 Lanes	2	1	1	1
	3 Lanes	4	2	1	1
	4+ Lanes	4	3	2	1
30-35 MPH	2 - 3 Lanes	3	2	1	1
	4-5 Lanes	4	3	2	1
	6+ Lanes	4	4	2	2
40 MPH or Greater	2 - 3 Lanes	4	3	2	1
	4-5 Lanes	4	4	3	2
	6+ Lanes	4	4	4	3

** For the purposes of this analysis, if there is a sidewalk on one side of the street, the street was analyzed as missing a sidewalk to gather a better understating of how people will experience the gaps in infrastructure.*

Pedestrian Comfort Level

1 2 3 4

Bicycle Comfort

While some people may be comfortable riding a bike in any type of environment, neighborhood connections are focused on creating places to bike which are comfortable for anyone, regardless of their age, skills, or ability. As with walking, a variety of factors are known to influence comfort for biking, such as the speed and volume of traffic, presence and type of bicycle facility, and the design of the road. To evaluate how comfortable it is to walk on San Diego's streets, a metric was developed to utilize the data collected for this plan and the unique context in San Diego by interpreting guidance from FHWA's Guidebook for Measuring Multimodal Network Connectivity, FHWAs Bikeway Selection Guide, and NACTO's Designing for All Ages and Abilities. As illustrated below, the biking comfort metric ranges from low-stress streets suitable for children (Level 1) to high-stress streets only suitable for experienced riders (Level 4). This analysis includes surface streets and shared use paths, but freeways are not analyzed as walking and biking is prohibited.

Posted Speed Limit	Number of Lanes	Mixed Traffic / Bike Route	Bicycle Boulevard	Striped Bike Lane		Buffered Bike Lane		Protected Bikeway	Shared Use Path
				No Adjacent Parking	Adjacent Parking	No Adjacent Parking	Adjacent Parking		
25 MPH or Lower	2 Lanes	2	1	1	2	1	2	1	1
	3 Lanes	3	2	1	2	1	2	1	1
	4+ Lanes	4	4	2	3	1	2	1	1
30 MPH	2 Lanes	3	2	1	2	1	2	1	1
	3 Lanes	3	3	1	2	1	2	1	1
	4-5 Lanes	4	4	3	4	2	3	1	1
	6+ Lanes	4	4	4	4	3	4	2	1
35 MPH	2 - 3 Lanes	4	4	3	4	2	3	1	1
	4-5 Lanes	4	4	4	4	3	4	1	1
	6+ Lanes	4	4	4	4	4	4	2	1
40 MPH or Greater	2 - 3 Lanes	4	4	4	4	4	4	2	1
	4-5 Lanes	4	4	4	4	4	4	2	2
	6+ Lanes	4	4	4	4	4	4	3	3

Bicycle Comfort Level

1 2 3 4

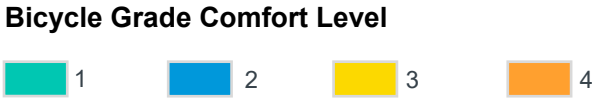
**For the purposes of this analysis, bicycle boulevards are defined as mixed traffic streets with at least one traffic calming device.*

**For the purposes of this analysis, if there is a different bikeway facility type on each side of the street, the facility on the least protected side was due to gather a better understating of how people will experience the gaps in infrastructure. However, where a Class 1 Shared use Path or Class IV Two Way Separated Bikeway was provided on one side of the street, that facility was analyzed because it provides two-way travel. Where a Class IV One Way Separated Bikeway was provided on one side of a one way street as part of a couplet, such as Fourth and Fifth Avenue, that facility was analyzed.*

Grades and Biking

Another element which can impact biking is the grade of a road. As grades get steeper, less experienced or enthusiastic riders may have a more difficult time riding, especially when not using an e-bike. In some cases, grades become so steep that only the most experienced riders may attempt to ride them. The metrics below are intended to assess bike accessibility on every surface street in San Diego, excluding freeways which do not allow biking. These metrics were developed using a variety of sources mainly including cycling focused website, forums, and magazines like Bicycling.com, Cycling UK, and Wired which report real world experience. As illustrated below, the bicycle grade comfort metric ranges from suitable for everyone, including people in assistive devices, (Level 1) to high-stress streets only suitable for experienced riders (Level 4).

Grade	Category	Comfort Level
0%	Flat	1
>0 – 3%	Mostly Flat	1
>3 – 6%	Incline	2
>6 – 9%	Steep Incline	3
>9 – 15%	Very Steep Incline	4
>15%	Impassable for Most Riders	4



Methodology for Assigning Grades to Streets

There is no existing file identifying the grades of streets in San Diego, and so a methodology was developed to assign an estimated street grade using available contour line resources from the US Geological Survey. For this effort, 40ft contour lines were used, as follows:

1. Overlay the street network on top of the 40ft contour lines to identify intersection points
2. Assign contour elevations to the points generated in step 1
3. Split the street centerline segments at the intersection points
4. Assign “start” and “end” elevations to each new segment and use this and segment length to calculate slope grade
5. Join the slope data back to the original line data utilizing the County Unique ID preassigned to each original segment, auto calculating the maximum, minimum, median, and mean slope grades

The resulting estimated grades were then spot-checked using Google Street View and local knowledge. The Maximum and Minimum grades were found to be too extreme, providing an unrealistic picture of the data. The Mean and Median grades were generally more consistent with observed topography; mean grades were generally better at predicting grades along segments with consistent slopes while median grades were better at predicting grades on segments with inconsistent slopes. This methodology produced generally consistent results. However, some streets are relatively flat with extreme slopes on one side or the other, which could skew results in rare cases. To be conservative, the project team selected the lower number of the mean and median grades to calculate the final grade.

Final Bike Comfort Score

In order to gain a full picture of comfort for people biking on a given street, a “bicycle comfort with grade comfort” score was developed. The score begins with the bicycle comfort level score the bicycle comfort level then uses the grade comfort to increase the score as follows:

Bicycle Grade Comfort Level	Impact to Bicycle Comfort Score
1	No Change
2	No Change
3	Increase of one Comfort Level Score *(example: from Level 1 to Level 2)*
4	Increase to Comfort Level 4 *(example: from 1 to 4)*

Walking, Biking, and Rolling Comfort at Intersections

Intersections are critical elements in determining the comfort of a facility for walking, biking, and rolling as they are where people must cross the vehicle path of travel. A variety of factors impact intersection comfort. For this analysis, a simplified method was developed to identify intersections which could be considered barriers in the low stress network at the regional level. Intersections that are considered barriers are those where the Low Stress (Level 1 or 2) Network crosses the High Stress Network (Level 3 or 4) and there is no signalized crossing, roundabout, and/or additional bike intersection treatment like a protected intersection provided. Freeway crossings are considered barriers unless they include a protected crossing for people walking and biking.

Both high stress and low stress "single-leg intersections" were removed. High stress "single-leg intersections" are where one low-stress segment intersects with one or more high stress connections. In these cases, there is no place for someone walking, biking, or rolling to *cross over to* and functionality the low stress network terminates at these junctions. Furthermore, these intersections removal from the barrier list does not impact the analysis. Low stress "single leg" is where one high stress segment intersects with two or more low stress connections. A quick review of an area's general geometry must be determined if these types of roadway would prevent movement from one low-stress leg to another. In previous analysis, most of these intersections were in residential areas and are, indeed, low stress and were removed from the barrier list.

Note: additional factors impact the ability to cross intersections for people with mobility impairments, including the presence of pedestrian ramps and detectable warning surfaces. This data is not available at the county level, but recommendations will be considered related to these elements in later phases of the project.