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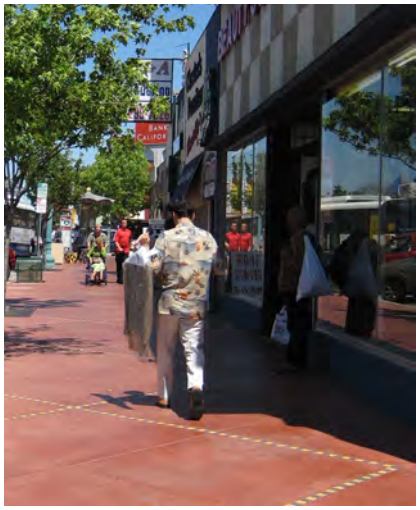

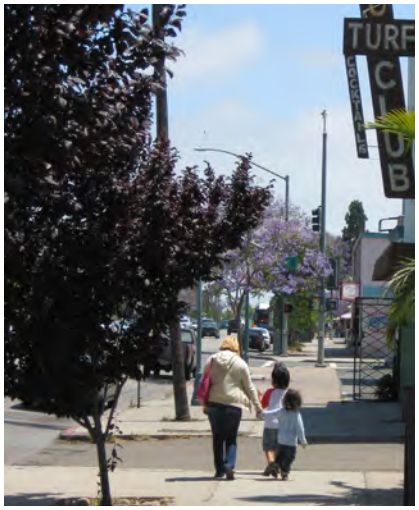

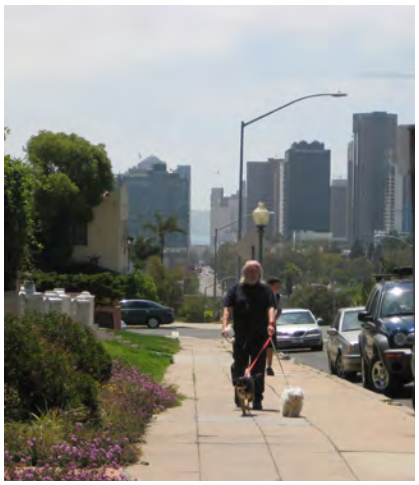

City of San Diego
Final Draft Pedestrian Master Plan
Volume I

alta PLANNING + DESIGN

Acknowledgements

The San Diego Pedestrian Master Plan is the result of a multi-phase process involving a number of engineering and planning firms working closely with City Staff and other stakeholders. The following firms contributed to this report.

- *Phase 1- KTU+A Planning and Landscape Architecture with Stepner Design Group, Walk San Diego, M.W. Steele Group, and Katz, Okitsu, and Associates*
- *Phases 2&3- Alta Planning+Design with CityWorks, Boyle Engineering, and Walk San Diego*
- *Phase 4- RBF Consulting with KTU+A Planning and Landscape Architecture and Stuart Engineering*

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1 Introduction

1. Introduction

The City of San Diego is committed to supporting walking as a form of mobility and recreation. Walking is the oldest and most basic form of transportation. At some point during the day, we are all pedestrians, whether walking to school, transit, a parked car, work, stores, or for exercise. As part of the City's long-term vision contained in the General Plan, the City supports the planning and development of pedestrian-friendly streets, development projects, communities and neighborhoods. The General Plan Mobility Element includes the following four goals related to the pedestrian environment:

- A city where walking is a viable travel choice, particularly for trips of less than one-half mile.
- A safe and comfortable pedestrian environment.
- A complete, functional, and interconnected pedestrian network, that is accessible to pedestrians of all abilities.
- Greater walkability achieved through pedestrian-friendly street, site and building design.

The Mobility Element also has a number of policies (ME-A.1- ME-A.9) which are intended to create a more pedestrian-friendly environment in the City of San Diego.

The Pedestrian Master Plan includes a comprehensive analysis of existing pedestrian conditions and needs with an emphasis on community input throughout the process. The Plan identifies pedestrian routes to activity centers and infrastructure improvement concepts along these routes. The Plan will be a key resource for the City when seeking grant funding needed to implement pedestrian improvements that promote pedestrian safety, walkability, mobility, and neighborhood quality.

1.1 Plan Purpose

The purpose of this Master Plan is to establish a multi-year framework for planning pedestrian improvements within the public right-of-way, thus fostering walkable communities consistent with the City of San Diego General Plan Mobility Element policies. Walkable communities have broad benefits-- fostering healthy lifestyles, creating human-scale interaction and defensible space, connecting important public spaces, providing access to and supporting transit, and supporting sustainability goals.

Specific master plan objectives include:

- To guide the implementation of pedestrian improvements in a consistent manner throughout the city;

Figure 1-1: Walkable Community Benefits

- To identify high priority pedestrian routes for providing pedestrian improvements in each community planning area;
- To identify potential pedestrian improvement concepts along high pedestrian priority routes that focus on improving pedestrian safety, accessibility, connectivity and walkability in each community planning area; and
- To engage community members in the process of identifying and prioritizing potential pedestrian improvement concepts in each community planning area.

1.2 Plan Vision Statement

"To create a safe, accessible, connected and walkable pedestrian environment that enhances neighborhood quality and promotes walking as a practical and attractive means of transportation in a cost-effective manner."

1.3 Goals and Outcomes

The four goals that directly support the vision statement are:

1.3.1 Safety

Create a safe pedestrian network free of barriers and tripping hazards, that has sufficient street crossings, buffer pedestrians from vehicles and has facilities wide enough to accommodate peak pedestrian use.

1.3.2 Accessibility

Make facilities accessible to pedestrians of all abilities and meet all local, state and federal requirements.

1.3.3 Connectivity

Develop a complete pedestrian network that provides direct and convenient connections for neighborhoods, employment centers, transit stations, public places and community destinations.

1.3.4 Walkability

Create pedestrian facilities that offer amenities to encourage usage and to enhance the pedestrian experience.

Three expected outcomes describe the results of implementing the four supporting goals described above:

1.3.5 Neighborhood Quality

When walkable communities are provided, they enhance neighborhood quality by providing opportunities for social interaction, enhanced economic development and healthy lifestyles.

1.3.6 Alternative Transportation

When walkable communities are provided, they support walking as a primary means of transportation, support transit and bike mobility options and can also improve the beginning and end of vehicular trips when the driver becomes a pedestrian.

1.3.7 Cost Effectiveness

When funded equitably and appropriately, pedestrian improvements can combine public and private investments for the good of the public and can lower expenses related to vehicular and transit investments.

1.4 How the Plan was Developed

This Plan was developed in phases beginning with Phase 1 which resulted in the Pedestrian Master Plan Framework Report (December 2006). During Phase 1, a team of consultants was guided by the Planning Department and the Pedestrian Master Plan Project Working Group (PWG). The PWG was comprised of City staff, representatives from the Community Planners Committee (CPC), the Subcommittee for the Removal of Architectural Barriers (SCRAB), the Community Planners Advisory Committee on Transportation (COMPACT), the San Diego Association of Governments (SANDAG), pedestrian advocacy groups, and members of the public. These representatives served as liaisons to their departments and organizations. The PWG met monthly to guide the development of the Plan.

In addition, public input was solicited through a Public Open House, project website, and questionnaires. The Phase 1 effort identified the vision and goals, documented general pedestrian issues and solutions, defined pedestrian route types and treatments, developed the pedestrian priority model, prioritized the community planning areas (CPA) for developing the Plan, and provided guidance on developing the Plan in each community.

Phases 2 and 3 of the Pedestrian Master Plan were combined and was completed in 2015. These phases refined the focus area identification process, provided information and guidance related to the City's efforts to provide accessibility within the public right-of-way, compiled this Volume I document, largely distilled from the Phase I Citywide Framework Report, and developed 68 planning-level improvement concept sheets for the highest priority corridors and intersections identified within the following seven community planning areas: Barrio Logan, City Heights, Greater Golden Hill, Greater North Park, Normal Heights, Southeastern San Diego, and Uptown.

Phase 4 of the Plan was completed in 2013 and developed 68 more improvement concepts for the highest priority locations in the following seven community planning areas of the City: Kensington-Talmadge, College, Midway-Pacific Highway, Ocean Beach, Old Town, Pacific Beach, and San Ysidro.

1.5 Overview of the Plan/Organization

Volume I

Volume I is designed to provide policy guidance and a methodology framework for the two-volume Pedestrian Master Plan, and forms the basis for identifying the specific improvement recommendations to the pedestrian realm within communities found in Volume II.

Volume I of the San Diego Pedestrian Master Plan is organized according to the following chapters:

Chapter 1	Introduction
Chapter 2	Context - This chapter summarizes San Diego's urban form, walking trends, and benefits of walking.
Chapter 3	Issues and Solutions- This chapter lists the issues and potential solutions concerning safety, accessibility, connectivity, and walkability by category.
Chapter 4	Route Types and Treatments - This chapter includes a description of route types and treatments.

Chapter 5 Pedestrian Priority Model - This chapter describes the extensive Geographic Information Systems (GIS) model that identifies areas of high priority for evaluation for pedestrian improvements.

Chapter 6 Community Pedestrian Plan Development Guidelines - This chapter presents the process to develop Volume II Community Pedestrian Plans, including the methods used to inventory and assess communities, identify deficiencies and potential improvement concepts, and prioritize these improvements.

Chapter 7 Funding - This chapter presents an overview of the potential funding sources for the implementation of the Pedestrian Master Plan improvement concepts.

Volume II

Volume II of the Pedestrian Master Plan contains the Community Pedestrian Plans which document potential pedestrian improvement concepts using the guidance and methodology provided in Volume I. Volume II of the Plan is organized as follows.

The Volume II Phases 2&3 Binder contains Community Pedestrian Plans for:

- Barrio Logan
- City Heights
- Greater Golden Hill
- Greater North Park
- Normal Heights
- Southeastern San Diego
- Uptown

The Volume II Phase 4 Binder contains Community Pedestrian Plans for:

- College Area
- Kensington-Talmadge
- San Ysidro
- Midway-Pacific Highway
- Ocean Beach
- Old San Diego
- Pacific Beach

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2 Context

2. Context

2.1 Urban Form

The layout of our city has a major influence on the walkability of our neighborhoods. Certain types of land use mixtures, densities and the configuration of our streets can dramatically affect the amount of pedestrian activity found within a community.

Safety and directness are both important components of connectivity. In San Diego, many routes may be relatively safe, but are not direct, such as in a suburban neighborhood with large numbers of cul-de-sac streets or dead end streets on canyons. In other cases, routes may be direct, but encounter barriers such as where a wide, high-speed arterial street bisects an otherwise walkable community.

Traditional Neighborhoods

San Diego neighborhoods vary tremendously in the degree of street connectivity. Neighborhoods built prior to World War II (1940-1945) were designed primarily for pedestrians and streetcars. Streets were laid out on a grid pattern, making it simple and efficient to reach a destination on foot. Often, streets would dead end at canyons or be built down steep slopes regardless of the topography. Examples include most of the beach communities -- Ocean Beach, Pacific Beach and La Jolla -- as well as most neighborhoods south of Interstate 8 and north of 94.

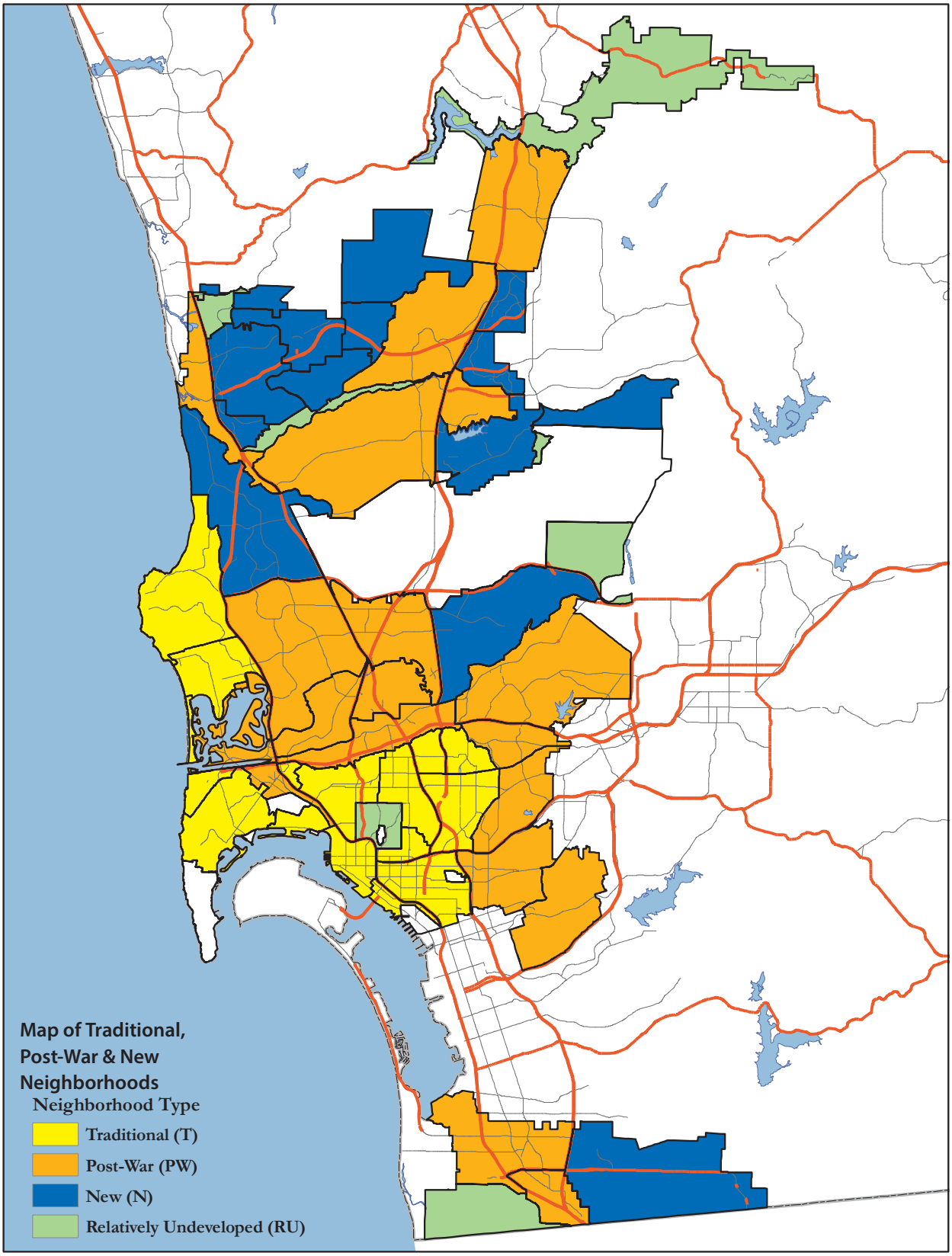
Post-World War II Neighborhoods

Following the war years (1945-1980), communities were built around the premise that most trips would be made by private automobile and the car became the common denominator for neighborhood design. Streets were designed (dictated by zoning and street standards) with a functional hierarchy, with limited-access residential streets emptying onto collector streets, which then funneled traffic onto large arterial streets. Sidewalks, other pedestrian facilities, and street connectivity were often given a low priority. For most people, distances between destinations were too great to walk because the curving, indirect routes required traveling a much greater distance than the older style of interconnected grid system of streets and walks. A majority of San Diego's developed land is occupied by neighborhoods built in this style.

New Urbanized Communities

Communities built from the 1980s to the present are generally less circuitous and more pedestrian oriented than those built in the post war period. New communities, master planned communities and neo-traditional neighborhoods are terms used for these newer parts of the city. Over the past few decades, many residential developers have discovered that home-buyers prefer neighborhoods that support walking for transportation and physical activity. Streets in these communities are generally narrower, though usually still wider than traditional neighborhoods. One variation of these newer communities is referred to as neo-traditional. A neo-traditional community attempts to take the best of traditional neighborhoods and create new variation where the street layout is a modified grid. The modified grid has the interconnected benefits of a traditional grid, but provides greater visual interest and variety by providing blocks of varying size. Even though some streets may not completely connect, pedestrian facilities strive to be interconnected and may continue where the street ends. Examples of new walkable communities include Black Mountain Ranch and Pacific Highlands Ranch.

Figure 2-1: Traditional, Post-War, New, and Relatively Undeveloped Neighborhoods



Source: Pedestrian Master Plan Citywide Framework Report, 2006

Figure 2-1 classifies the community based on its relative age, dominant street pattern, and timeframe of development. Many redeveloped areas of downtown San Diego have had key streets rebuilt to enhance pedestrian comfort and connectivity. Examples of new neighborhoods in traditional communities include the Marina District, Cortez Hill, East Village and Little Italy. Other infill development, such as the Uptown District, the City Heights Urban Village, and the Kearney Mesa General Dynamics redevelopment also provide a new interpretation on a traditional walkable community.

Relevance of Urban Form

- Urban form (street layouts) is a major factor in determining walkability
- Urban land uses and the distances between them are also major factors in determining walkability
- Short block lengths set on a grid with a broad mixture of land uses and a distributed circulation network are more walkable than long blocks set in a curvilinear fashion with isolated land uses and hierarchical circulation.

2.2 Walking Trends

Walking in the U.S. has declined over time among both children and adults. For example, in 2009 only 12 percent of K-8 students usually walked to school and one percent biked, compared with 48 percent of students who usually walked or biked to school in 1969 (How Children Get to School: School Travel Patterns from 1969 to 2009, November 2011). In 2009 approximately 2.8 percent of workers usually walked to work, compared to 4.1 percent in 1977 (Summary of Travel Trends 2009 National Household Travel Survey, June 2011) In 2011, approximately 18,000 people in the City of San Diego walked to work (2009-2011 American Community Survey, 3-Year Estimates). This represents approximately 3% of the commuting population of the City. The proportion of San Diego commuters who walk varies by neighborhood with the highest walk to work rates in neighborhoods that are more compact and have a mix of uses or include a university.

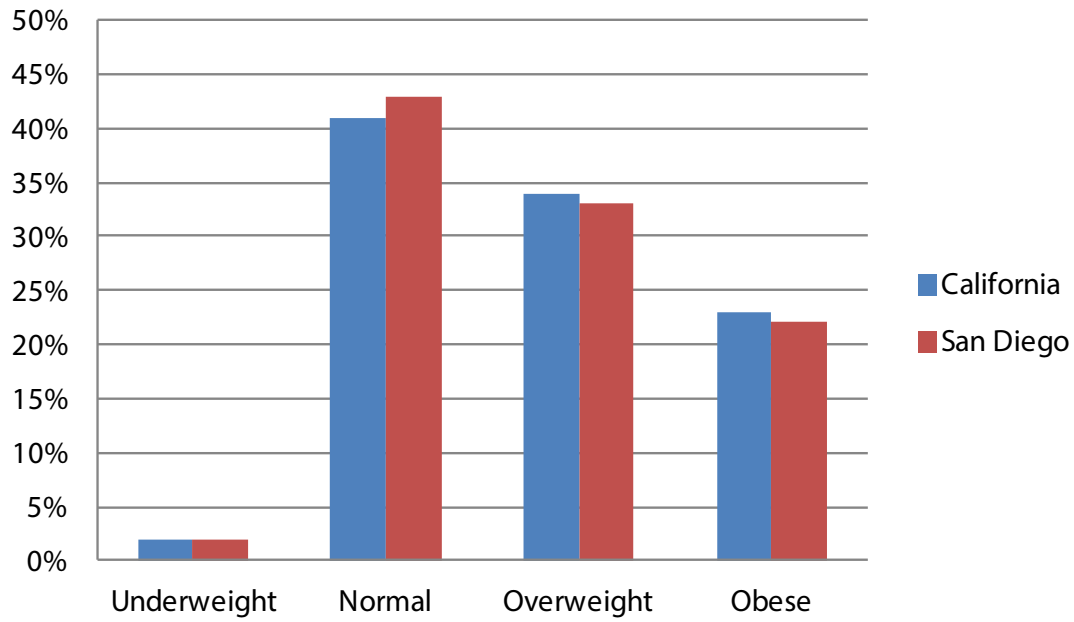
2.3 Benefits of Walking

Walking is important to San Diego's future due to its potential to address several interrelated challenges, including traffic, air quality, greenhouse gases, public health and creating a sense of community. By planning a city that is more walkable, the City can affect all of these areas, which collectively can have a profound influence on existing and future quality of life in San Diego.

2.3.1 Public Health Benefits

In recent years, public health professionals and urban planners have become increasingly aware that the impacts of automobiles on public health extend far beyond asthma and other respiratory conditions caused by air pollution. There is a much deeper understanding of the connection between the lack of physical activity resulting from automobile-oriented community designs and various health-related problems such as obesity and other chronic diseases. Although diet and genetic predisposition contribute to these conditions, physical inactivity is now widely understood to play a significant role in the most common chronic diseases in the US, including coronary heart disease, stroke and diabetes — each of which is a leading cause of death in San Diego. Physical inactivity can lead to the growing trend of obesity. As **Figure 2-2** shows, obesity has generally been on the rise in California.

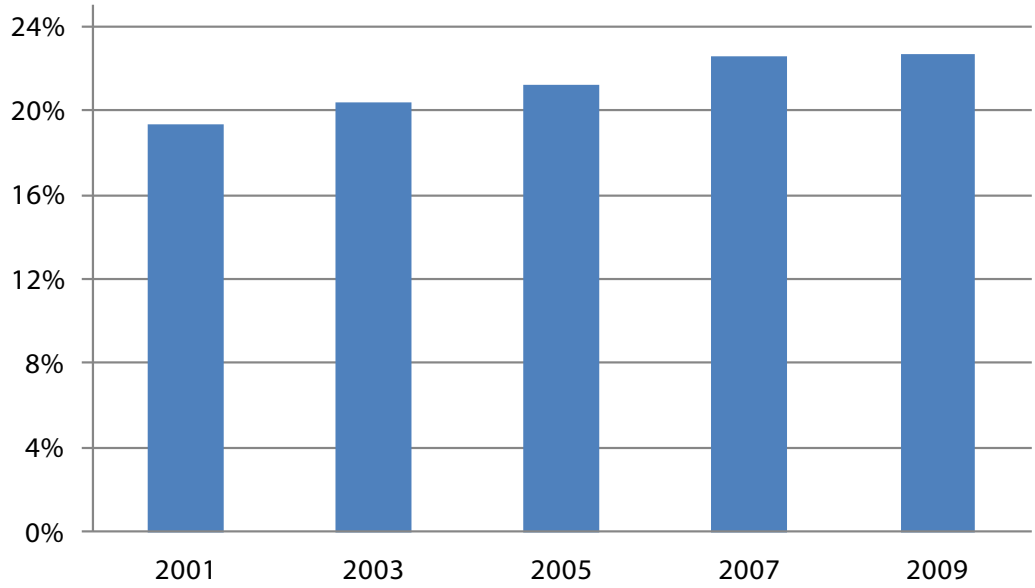
Figure 2-2: Obesity in California and San Diego County



Source: Centers for Disease Control

Like the state of California, San Diego County also has a growing trend of obesity. **Figure 2-3** shows BMI categorized as underweight, normal, overweight and obese. A majority of respondents were either overweight or obese in both the County and the entire state.

Figure 2-3: Percent of Obese Adults in California 2001-2009



Source: Centers for Disease Control

Obesity alone is a health issue and it can also lead to other chronic diseases such as heart disease and Type 2 diabetes.

Obesity is not just an epidemic facing adults as an increasing number of children are now considered either overweight or obese. Over the last three decades, the childhood obesity rate has more than doubled for preschool children aged 2-5 years and adolescents aged 12-19 years, and it has more than tripled for children aged 6-11 years. There are several factors that have led to the rise in childhood obesity, such as urban design that discourages walking/biking, increased consumption of foods high in calories and fat, and less time spent playing outdoors.

By providing a more pedestrian-friendly environment, it is expected that both children and adults will walk on a more regular basis, which will contribute towards reversing the troubling health trends of recent decades, and could improve outcomes for healthier child development, improved mental health, and socialization, among other desirable effects.

2.3.2 Environmental Benefits

As San Diego becomes more inviting to pedestrians, increasing numbers of shopping, restaurant, school and recreational trips will be made on foot. Increased pedestrian travel can mean reduced vehicle miles traveled, which in turn reduces traffic congestion and the volume of pollutants in the air.

Other environmental benefits of replacing vehicle trips with pedestrian trips could include a reduction in overall neighborhood noise levels, in addition to improvements in local water quality as fewer automobile-related discharges end up in the local wetlands, streams, rivers and lakes.

2.3.3 Economic Benefits

Walking is an affordable form of transportation, particularly when compared to vehicle operation. According to AAA, in 2012 the average cost of operation for an average vehicle rose 1.1 cents per mile to 59.6 cents per mile, or $8,946 per year, based upon 15,000 miles of annual driving.

From a real estate standpoint, the positive impact of sidewalks and greenways should be considered, which are essential components of a complete pedestrian network. According to the 2002 CEOs for Cities report: *Walk the Walk*, "houses [in neighborhoods] with above-average levels of walkability command a premium of about $4,000 to $34,000 over houses with just average levels of walkability in the typical metropolitan areas studied."

Other potential economic benefits of improved walkability and more walking include increased local business activity and employment, support for transit and other alternative modes, reduced public cost for transportation infrastructure or services, such as roads and school buses, and health cost savings from increased physical activity.

2.3.4 Mobility Benefits

In 2009, the National Household Travel Survey found that roughly 69% of all trips taken by car are less than 2 miles. By taking short trips on foot, rather than in a car, San Diegans could have a substantial impact on local traffic and congestion. Additionally, many people do not have access to a vehicle, are not able or choose not to drive. An improved pedestrian network provides greater and safer mobility for these residents.

According to the Brookings Institution, the number of older Americans is expected to double over the next 25 years. Many seniors will confront an array of medical and other constraints on their mobility even as they continue to seek an active community life. Senior citizens deserve access to independent mobility, and providing safe places for them to walk is an essential factor in meeting this important need.

Children under the age of 16 also deserve access to safe mobility. A safe walking environment provides opportunities for children to enlarge their geographical boundaries, develop physical and practical life-skills, and learn how to make decisions without direct adult supervision.

Taken together, the case for safe, accessible pedestrian infrastructure throughout San Diego for all ages is a compelling one, and one which will be strengthened by a continuing focus on developing and implementing additional pedestrian infrastructure and support programs.

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3 Issues and Solutions

3. Issues and Solutions

This chapter identifies citywide pedestrian issues and potential solutions used to inform the development of specific recommendations found in Volume II of the Pedestrian Master Plan.

3.1 Safety-Related Issues and Solutions

Goal: **Create a safe pedestrian network free of barriers and tripping hazards, that has sufficient street crossings, buffers pedestrians from vehicles and has facilities wide enough to accommodate peak pedestrian use.**

3.1.1 Pedestrian Collision Circumstances and Contributing Factors

According to the Statewide Integrated Traffic Records System, 511 pedestrians in the city of San Diego were involved in collisions in 2012. Of these, 22 were fatal (4.3%). Pedestrian violations accounted for 179 (35%) of the primary contributing factors. Violations of the pedestrian right-of-way by automobiles accounts for 150 cases (29.4%). The young and old are the most at risk and vulnerable to pedestrian collisions and injuries.

By improving the pedestrian enviroment, alerting motorists to the presence of pedestrians, and better controlling vehicular operations through traffic calming and other measures, rates and severity of collisions can be improved.

The following key factors were found to be correlated with the rate and severity of pedestrian collisions citywide:

- Personal and Demographic Factors (age, income, disability status, etc.)
- Alcohol Impairment
- Improper Pedestrian and Driver Actions
- Driver Speed and Roadway Characteristics
- Time of Day
- Vehicle Design
- Physical Environment

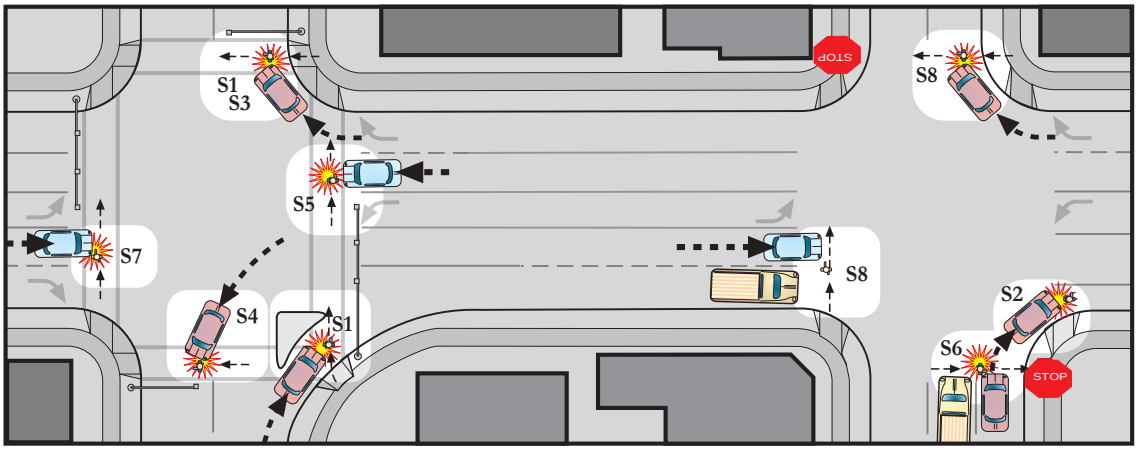
The Pedestrian Master Plan focuses on identifying infrastructure improvements to address deficiencies in the pedestrian environment.

Figures 3-1 and 3-2 on the following pages illustrate and describe safety issues and potential solutions at intersections and along street segments.

Figure 3-1: Safety Issues at Intersections

Safety Issues (at Intersections)

These tables and graphics are for illustrative purposes only and are not to be used for engineering analysis or design.



Issues	Potential Solutions (See legend*)
S1 - Right turning collisions. Collisions can occur between right turning vehicles and pedestrians even though both may have a green light. High speed right turns may divert the driver's attention from watching for pedestrians, to watching for vehicles approaching from the left. Dual right turn lanes and wide-radius corners with channelized right turn lanes can make collisions more frequent and severe.	**2S, 3S, 4S, 7S, 8S, 9S, 11S, 17S, 18S, 19S**
S2 – Turns from minor road stop-controlled intersection. Turning vehicles may violate the pedestrian right-of-way.	**2S, 3S, 4S, 7S, 17S, 19S**
S3 – Right turns at red lights. Right turn traffic may conflict with pedestrians during right turns on red or during jaywalking as drivers tend to look for vehicles approaching from their left while pedestrians may cross from their right.	**2S, 3S, 4S, 9S, 17S, 19S**
S4 - Left turning collisions. Left turning vehicles at permissive left turns may conflict with pedestrians crossing at the WALK indication or at protected left turn where pedestrians are crossing against the DONT WALK indication.	**1S, 3S, 4S, 8S, 11S, 17S, 19S**
S5 – Wide streets. Age, ability and street crossing distance may make it difficult for some pedestrians to cross wide streets in one cycle. Pedestrians may enter the crossing signal phase illegally without time to cross.	**1S, 2S, 3S, 4S, 8S, 11S, 17S, 18S, 19S**
S6 - Multiple lane crosswalk collisions. Pedestrian collisions with vehicles can occur in crosswalks at stop signs with multiple lanes in each direction. Larger vehicles can shield views of pedestrians and drivers from each other. Drivers may also encroach on the crosswalk in an attempt to see oncoming traffic.	**2S, 3S, 4S, 5S, 17S, 18S, 19S**
S7 - Controlled intersection collisions. Pedestrian collisions with vehicles may occur at intersections with signals or stop signs. Collisions may occur due to high speeds, signal running, or either a driver or pedestrian violating the other's right-of-way.	**1S, 2S, 3S, 4S, 6S, 9S, 11S, 17S, 18S, 19S**
S8 - Uncontrolled intersection collisions. Collisions may occur at intersections or approaches with no stop signs or traffic signals. Multiple lanes in each direction intensify this problem dramatically, as well as poor visibility and lack of median refuges. Drivers may not understand that pedestrians have the right-of-way at uncontrolled intersections or unmarked crosswalks.	**1S, 2S, 3S, 4S, 5S, 7S, 17S, 18S, 19S, also see 5W**

Safety Solutions

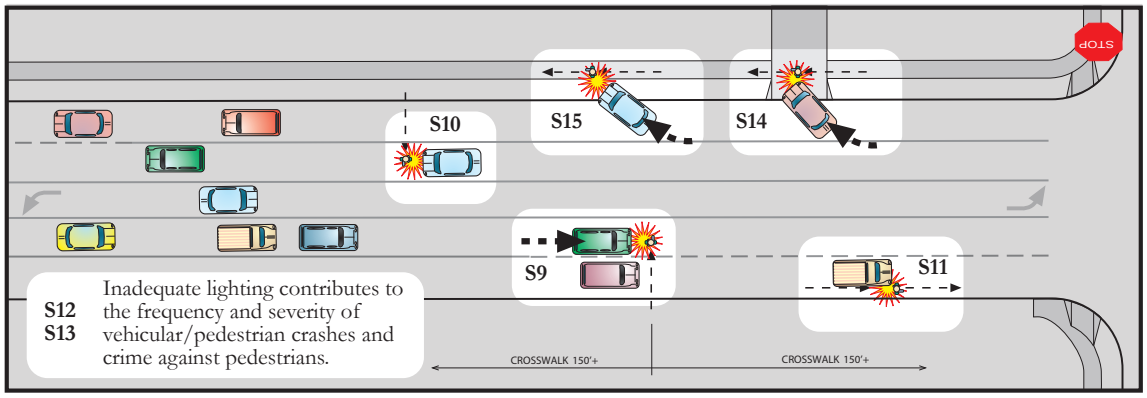
1S) Median refuges (a safe place to stand in the street)
2S) Pedestrian pop-outs (curb/sidewalk extensions into street)
3S) High-visibility crosswalk striping
4S) Elevated and/or specially paved crosswalks
5S) Advance stop bars
6S) Radar speed monitoring and display
7S) Reduced curb radii
8S) Early pedestrian start at crossing signal
9S) No right turn on red at intersection
10S) Mid-block crosswalks with pedestrian flashers, but no traffic control
11S) Automatic pedestrian detection and signal control
12S) Mid-block crosswalks with signs, median or curb extensions and flashing lights in roadway
13S) Mid-block crosswalks with pedestrian-actuated traffic control devices
14S) One-lane mid-block crossing with high contrast markings, signs, and center lane marker
15S) Parkway planting buffer between cars and pedestrians
16S) On-street parking buffer between cars and pedestrians
17S) Adequate pedestrian lighting levels
18S) Traffic calming measures
19S) Enforcement and education solutions
20S) Missing sidewalk added or provide adequate walkway width clear of obstructions

* The potential solutions are a possible list of methods to address the problem. Implemented solutions will be determined by actual site conditions, interpretation of policies and engineering evaluation.

Figure 3-2: Safety Issues Along Streets

Safety Issues (along Streets)

These tables and graphics are for illustrative purposes only and are not to be used for engineering analysis or design.



Issues	Potential Solutions (See legend*)
S9 – Lack of legal or safe crossings. Uncontrolled, restricted or excessively spaced crossings without stop signs or signal control can encourage mid-block crossings (whether legal or illegal).	**1S, 5S, 10S, 11S, 12S, 13S, 14S, 17S, 18S, 19S**
S10 – Mid-block "jay walking." Safe, controlled intersection crossings often exist within typical blocks. However, some adjacent uses and high levels of pedestrian demand may encourage illegal crossings, putting the pedestrian at risk, especially if crossing from between parked vehicles.	**1S, 5S, 10S, 11S, 12S, 13S, 14S, 17S, 18S, 19S**
S11 - Street collisions where no sidewalk exists. Where sidewalks are missing or damaged pedestrians may be required to walk in the street, exposing them to collisions. Walking in the street is especially unsafe if vehicular speeds are above 25 mph, the travel lane is next to the curb or edge of the roadway, and the roadway is relatively narrow.	**18S, 19S, 20S**
S12 - Unsafe conditions in the dark. Where lighting and/or building forms do not allow for defensible space, the walker may be subjected to robbery or personal harm.	**17S, 18S**
S13 - Disincentive to walk in the dark. Inadequate light levels can influence a pedestrian's decision to not walk at night and can also result in collisions due to low visibility.	**17S, 18S, 19S**
S14 - Turning into or out of driveways and alleys. Vehicles turning into or out of curb-cuts, driveways or alleys can collide with pedestrians on sidewalks. The driver is violating pedestrian right-of-way, but this collision is difficult to control through physical changes.	**15S, 16S, 17S, 18S, 19S**
S15 - Out-of-control collisions on sidewalks. Pedestrians may be exposed to high speed vehicles where no buffers exist (such as trees, bike lane or parked cars). The problem is worse where there is no buffer between travel lanes and sidewalks.	**6S, 15S, 16S, 17S, 18S, 19S**

Safety Solutions

1S) Median refuges (a safe place to stand in the street)
2S) Pedestrian pop-outs (curb/sidewalk extensions into street)
3S) High-visibility crosswalk striping
4S) Elevated and/or specially paved crosswalks
5S) Advance stop bars
6S) Radar speed monitoring and display
7S) Reduced curb radii
8S) Early pedestrian start at crossing signal
9S) No right turn on red at intersection
10S) Mid-block crosswalks with in-roadway warning lights, but no traffic control
11S) Automatic pedestrian detection and signal control
12S) Mid-block crosswalks with signs, median or curb extensions and flashing lights in roadway
13S) Mid-block crosswalks with pedestrian-actuated traffic control devices
14S) One-lane mid-block crossing with high contrast markings, signs, and center lane marker
15S) Parkway planting buffer between cars and pedestrians
16S) On-street parking buffer between cars and pedestrians
17S) Adequate pedestrian lighting levels
18S) Various traffic calming measures
19S) Enforcement and education solutions
20S) Missing sidewalk added or provide adequate walkway width clear of obstructions

* The potential solutions are a possible list of methods to address the problem. Implemented solutions will be determined by actual site conditions, interpretation of policies and engineering evaluation.

3.2 Accessibility-Related Issues and Solutions

Goal: **Make facilities accessible to pedestrians of all abilities and meet all local, state and federal requirements.**

3.2.1 Regulatory Context - Americans with Disabilities Act of 1990 and California Title 24

The Americans with Disabilities Act (ADA) of 1990 set standards and a compliance schedule for providing public accommodations for persons with disabilities. Typically, right-of-way accommodations include:

- Continuous, maintained sidewalks with uplifts not exceeding one-half inch
- Slopes not exceeding 1:12 (or 8.33 percent) for pathways with handrails and not exceeding 1:20 (or 5 percent) without handrails
- Curb ramps at crosswalks and along other paths of travel
- Accessible signals at signalized intersections
- Detectable warning surfaces indicating the boundary between a pedestrian route and a vehicular route including curb ramps and blended transitions at pedestrian street crossings, pedestrian refuges islands, and trolley platforms.

In addition to the ADA, California has additional accessibility regulations through California Code of Regulation, Title 24. The federal ADA Accessibility Guidelines and California Title 24 differ in several technical respects, but the most important distinction between the two is that the ADA is civil rights legislation and Title 24 is a building code. Another important difference is that ADA applies to existing facilities, while Title 24 only applies when alterations, additions or new construction takes place. Therefore, if remedial work is performed to eliminate a physical barrier, the more stringent of ADA Accessibility Guidelines or Title 24 applies.

The ADA and Title 24 are also enforced differently. The ADA can be enforced only in a court of law when no other resolution is possible, and Title 24 is enforced by state and local building departments, either when a building permit is obtained or when a citizen complaint is filed in regard to an existing facility. Title 24 is the regulation that most directly affects the built environment in San Diego and provides the state leverage for implementing the federal ADA through the building review, approval and inspection process.

3.2.2 City of San Diego ADA Transition Plan

The City's 1997 ADA Transition Plan supplied a compliance "baseline" for providing navigable walkways and corner curb ramps. The 1997 Plan indicated:

- Since the 1970s, the City has administered an aggressive curb ramp retrofit program.
- A survey from the early 1990s found that approximately 39 percent, or 20,931 corner curb ramps were in place.
- There were 20 public stairways, none of which provided adjacent ramps. The Plan called for providing signs indicating an alternative route via public sidewalks.

- Of the approximately 4,000 transit stops within the City, half were estimated to be accessible.

Since the adoption of the Transition Plan in 1997, the City has continued to install curb ramps, repair uplifted or broken sidewalks and make transit stops accessible. Accessible pedestrian crossing signals have been installed at many intersections throughout the City.

The property owner and the City both have responsibility in making the public right-of-way fully accessible for pedestrians under the reasoning that accessibility is not limited to the installation of curb ramps and sidewalk maintenance is the responsibility of the adjacent property owner. Universal access as well as Title 24 and ADA require accessible paths of travel that are free from obstructions, meet specific slope and cross slope requirements and are maintained to be safe and accessible. This requirement includes the street pavement used for crossing streets, whether in marked or unmarked crosswalks.

The ADA Transition Plan helps to guide the implementation of improvements to the public right of way, considering limited financial ability to address all shortcomings. Findings within this Pedestrian Master Plan provide valuable input toward implementation of the ADA Transition Plan.

3.2.3 Solutions that Address Accessibility Issues

An interim document developed as part of this Plan, "Guidelines for Achieving Accessibility in the Public Right of Way," is in Appendix A. This paper provides a summary of current regulations, guidelines, and best practices related to meeting accessibility standards within the public right-of-way (PROW); documents the City's current PROW accessibility programs, policies, and methods for implementing accessibility improvements within the PROW; and presents results from a survey of comparable jurisdictions' accessibility-related PROW databases. Key findings are provided below.

Multiple City of San Diego departments are involved in implementing access compliance policies within the PROW. These include Disability Services; Development Services; Planning; Public Utilities; Public Works – Engineering and Capital Projects; and Transportation and Storm Water. Procedures vary due to the diversity of departments, their roles, and the variety of ways accessibility issues emerge and are addressed.

Opportunities were identified to improve consistency between approaches such as ensuring a single protocol is used to address citizens' requests or complaints regardless of which department, division, or group receives the report and to consistently inform staff about the practices of departments, divisions, or groups outside of their sphere of work. A recent reorganization of City departments facilitates these improvements.

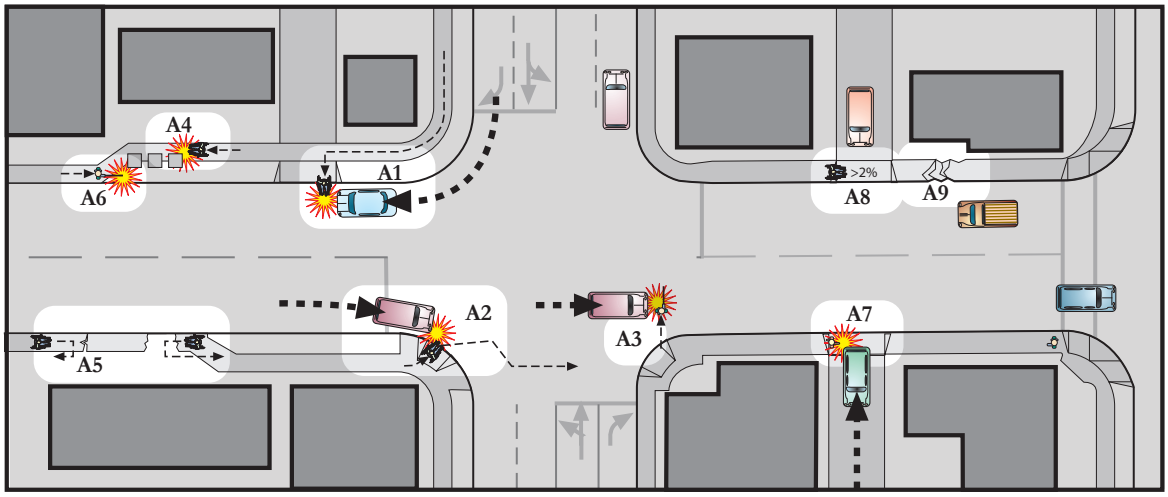
Additionally, to improve inter-departmental coordination and information sharing, the City is moving toward creating a single database, where accessibility-related activities are documented. The database is part of the City's current effort to initiate an Enterprise Asset Management System (EAM) to manage city assets throughout their life cycle. The database would have individual layers so that departments could record their activities and view other departments' activities. Finally, efforts to inventory curb ramps, sidewalk, and barriers will provide valuable data on progress made and remaining work needed to achieve accessibility in the public right-of-way.

Figure 3-3 on the following page illustrates and describes accessibility-related issues and solutions.

Figure 3-3: Accessibility Issues

Accessibility Issues

These tables and graphics are for illustrative purposes only and are not to be used for engineering analysis or design.



Issues	Potential Solutions (See legend*)
A1 – Missing pedestrian ramps. Pedestrians requiring the use of ramps for maneuverability may not be able to cross the street, or may be forced to travel in the street, increasing the risk of vehicular/pedestrian collision.	**1A, 2A**
A2 – Pedestrian ramps do not meet standards. Ramps that lack tactile indicators, or ramps that are constructed with steep running slopes, large gutter transitions or excessive cross slopes, decrease accessibility. Some intersections require two ramps per corner for safety and access.	**2A, 3A, 4A, 6A, 7A**
A3 – Missing pedestrian signals. Missing or non-accessible (height or location) pedestrian signals or signal actuators diminish maneuverability.	**2A**
A4- Sidewalk obstacles. Site furnishings, above-grade utilities and temporary construction fencing can create vertical clearance and protruding barriers.	**3A, 4A**
A5 – Sidewalk gaps. Missing sidewalk segments can make an entire route inaccessible for some pedestrians.	**4A, also see 20S**
A6 – Inconsistent sidewalk design. Meandering walkways or abrupt changes in the travel path can be difficult for the visually impaired to navigate.	**4A**
A7 – Cross slopes. Excessive cross slopes, often at driveways, can decrease accessibility.	**5A**
A8 – Steep grades. Excessive grades, often at intersections with alleys, can make maneuverability difficult.	**6A**
A9 – Substandard walking surfaces. Slick or uneven walking surfaces, or trip hazards, can make maneuverability difficult.	**7A**

Accessibility Solutions

1A) Pedestrian ramps
2A) Audible/visual crosswalk signals
3A) Walkways and ramps free of damage or trip hazards
4A) Pedestrian paths free of gaps, obstructions and barriers
5A) Sidewalks with limited driveways and minimal cross-slope
6A) Re-grade slope of walkway to meet ADA/Title 24 standards
7A) Repair, slice or patch lifts on walking surfaces and re-set utilities boxes to flush

* The potential solutions are a possible list of methods to address the problem. Implemented solutions will be determined by actual site conditions, interpretation of policies and engineering evaluation.

3.3 Connectivity-Related Issues and Solutions

Goal: Develop a complete pedestrian network that provides direct and convenient connections for neighborhoods, employment centers, transit stations, public places and community destinations.

Connectivity refers to the existence of a defined direct pedestrian path (generally along streets) between where a walker starts and where she or he wants to go. Community connectivity is the basis for a pedestrian-friendly environment. The human scale of walking is typically not much more than 1/4 mile distance which is equivalent to a five- to ten-minute walk at an easy pace. Within this ten-minute radius, residents should be able to walk to the center from anywhere in a neighborhood to take care of daily needs or to use public transit. The pedestrian system is an integral component of the overall transit system and serves as a connector between where we live and where we work and how we connect to the city.

3.3.1 Typical Connectivity Issues

In San Diego, sidewalk obstacles that make walking difficult include gaps in the sidewalks, multi-block areas without pedestrian facilities, steep slope/canyon barriers, "difficult to cross" road barriers and land use barriers that prevent easy pedestrian flows through a site.

Sidewalk Network Gaps: Throughout the City, there are gaps where sidewalks have not been completed because of development phasing. Lack of sidewalk facilities exist at the local site level as well.

Multi-block Areas without Pedestrian Facilities: During the 1960s and 1970s, some large development projects in some areas of the City were constructed without sidewalks and pedestrian facilities.

Steep Slope/Canyon Barriers: San Diego's canyons and hillsides are its defining natural features, but these landforms can make pedestrian movement difficult. In some of the City's older neighborhoods, these gaps were addressed by pedestrian bridges and stairways along hillsides.

Road Barriers: Designing for the movement of vehicles has often relegated the pedestrian to a secondary status. This includes practices of wide curb radii that allowed cars to make turns without significantly reducing speed, and freeway-like ramping, turn lanes and merge lanes that required a pedestrian to cross high speed traffic. Also, high-speed, high-volume and wide streets represent barriers because of the length of time needed to wait between cycles to cross, the overall crossing distance and the fear of safety issues.

Sidewalk Capacity & Obstruction Barriers: The location and size of sidewalks can also be a connectivity problem if the route is avoided because of other walkability issues. A sidewalk, even one that meets the City's minimum required width, can be a deterrent to pedestrian travel. Poles for streetlights, traffic signal poles, utility boxes, newspaper racks, backflow preventers, vending machines, etc., may be located in the path of pedestrian travel making it difficult to maneuver even if there is only a small number of pedestrians using the walk.

Street Patterns that Limit or Extend Pedestrian Connections: The typical suburban street layout, with its hierarchal designation of streets, long blocks without cross-streets and streets ending in cul-de-sacs, makes it difficult for pedestrians to walk from home to school, to shopping, or to recreation, because

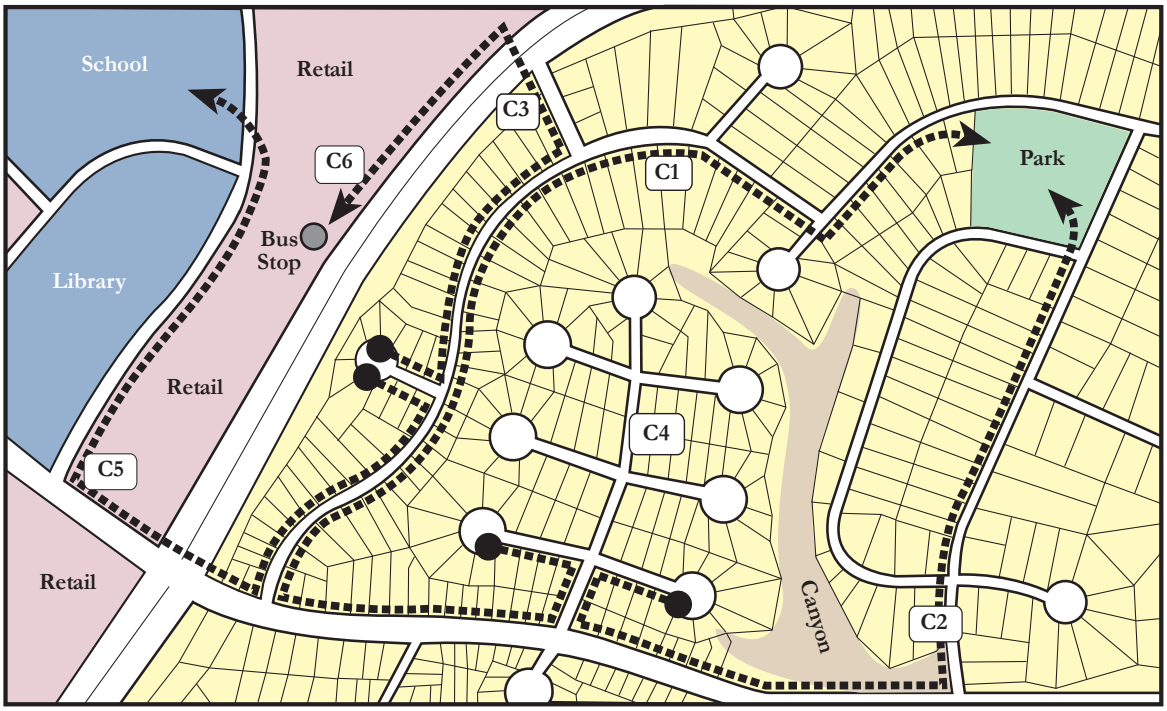
the street pattern does not allow easy access to destinations, even if they are relatively close by. In turn, this forces potential walkers to rely on the automobile. In some of the region's newer developments, a "connected" street system has been put in place. While not as formalized and geometrically arranged as the street systems in older communities, these systems do allow many options for people to walk to their destinations and they allow people to walk around the block. In neighborhoods where the street connectivity is not possible due to topography or traffic, pedestrian-only walkways have been put in place and some cul-de-sacs have pedestrian connections to adjacent areas.

Figure 3-4 on the following page illustrates and describes connectivity-related issues and potential solutions.

Figure 3-4: Connectivity Issues

Connectivity Issues

These tables and graphics are for illustrative purposes only and are not to be used for engineering analysis or design.



Issues	Potential Solutions (See legend*)
C1 - Street patterns are not connected. Pedestrians are required to take a long route to reach neighborhood attractors, schools and transit. Curvilinear and dead-end streets (cul-de-sacs) tend to discourage walking.	**1C, 2C, 3C, 5C**
C2 - Walking barriers. Natural barriers (canyons or slopes) or man-made barriers (freeways or rail lines) tend to discourage walking.	**6C**
C3 - High speed roadway barriers. High volume, multi-lane and high speed roads create a perceptual and/or safety barrier that discourages crossing and may require pedestrians to walk blocks out of direction to safely cross.	**4C, 5C, 6C, 7C, also see 1S, 2S, 3S, 4S, 10S, 11S, 12S, 13S**
C4 - Complete lack of walkways. Entire neighborhoods may lack pedestrian facilities. Except in some rural locations or other special circumstances, all streets should have sidewalks.	**2C**
C5 - Isolated land uses. If the distance between where people live and where they work, shop, learn or play is more than a mile, most people will never walk. Curvilinear streets and non-connected street patterns contribute to this effect.	**3C, 5C, 8C**
C6 - Isolated transit facilities. Transit systems are often not close enough to origins (generators) or destinations (attractors) to make walking between them feasible. Transit systems generate pedestrian activity, which, in turn, supports transit if the stops are within a reasonable walking distance.	**1C, 2C, 3C, 4C, 5C, 6C, 7C, 8C**

Connectivity Solutions

1C) Missing sidewalk segments added in areas where sidewalks mostly exist
2C) Missing sidewalks added in areas where no sidewalks exist at all
3C) Connecting pathways added between streets
4C) Street widths reduced or features added to narrow crossing distance
5C) Destinations added or made more connected within walking distance of origins
6C) Pedestrian bridges added that avoid excessive ramp lengths
7C) Pedestrian crossing opportunities added for all sides (legs) of intersections
8C) When reviewing projects, verification that pedestrian routes and distances between land uses are reasonable and direct

* The potential solutions are a possible list of methods to address the problem. Implemented solutions will be determined by actual site conditions, interpretation of policies and engineering evaluation.

3.4 Walkability-Related Issues and Solutions

Goal: **Create pedestrian facilities that offer amenities to encourage usage and to enhance the pedestrian experience.**

Walkability is defined as a mixture of physical and perceptual elements that make up the built environment that are conducive to walking. They generally fall within one of four zones (road edge zone, furnishing zone, throughway and the building frontage zone). The physical elements include the walkway itself (throughway zone), amenities along the walkway (usually in the furnishing zone), items that provide protection from harsh environmental conditions of sun, wind or rain, and the uses along the walkway edge (usually the vehicular edge on one side and some form of building frontage zone on the other side). The perceptual elements are factors that contribute to the feeling of safety, protection from collisions, avoidance of crime, buffering from activity and noise, and the comfort and interest that the visual environment provides. The ultimate measure of walkability is whether pedestrians seek out the walking environment, ignore the environment as they pass through it, or actually avoid it completely because of it being perceived as not being walkable.

3.4.1 Basic Requirements for Walkability

In addition to providing a safe, accessible and connected pedestrian environment, a walkable environment includes some additional elements and requirements including:

- The introduction of elements such as shade trees, pedestrian-level lighting, street furniture and appealing plazas not only enhance the pedestrian walking experience, but create streetscapes of superior design that improve the City's image and make the driving experience more pleasant.
- Protection from the elements. This is mostly handled through the use of street trees that add shade and reduce ground reflection of heat and light during warm weather. They provide protection from wind and rain during cold weather. They add visual interest to the streetscape. Trees also serve an important role in increasing safety from passing traffic and the improved perception of safety by buffering adjacent busy uses.
- The arrangement of physical elements must be handled in a way that promotes defensible space.
- Visual access into adjacent land uses such as windows of stores or residences, or an unfenced yard, park, or garden add interest and provide a sense that other people are providing "eyes on the street."
- Public art, water fountains, benches, trash receptacles, drinking fountains and quality lighting communicate welcome and invite lingering, increasing economic activity.

Figure 3-5 on the following page illustrates and describes walkability-related issues and potential solutions.

Figure 3-5: Walkability Issues

Walkability Issues

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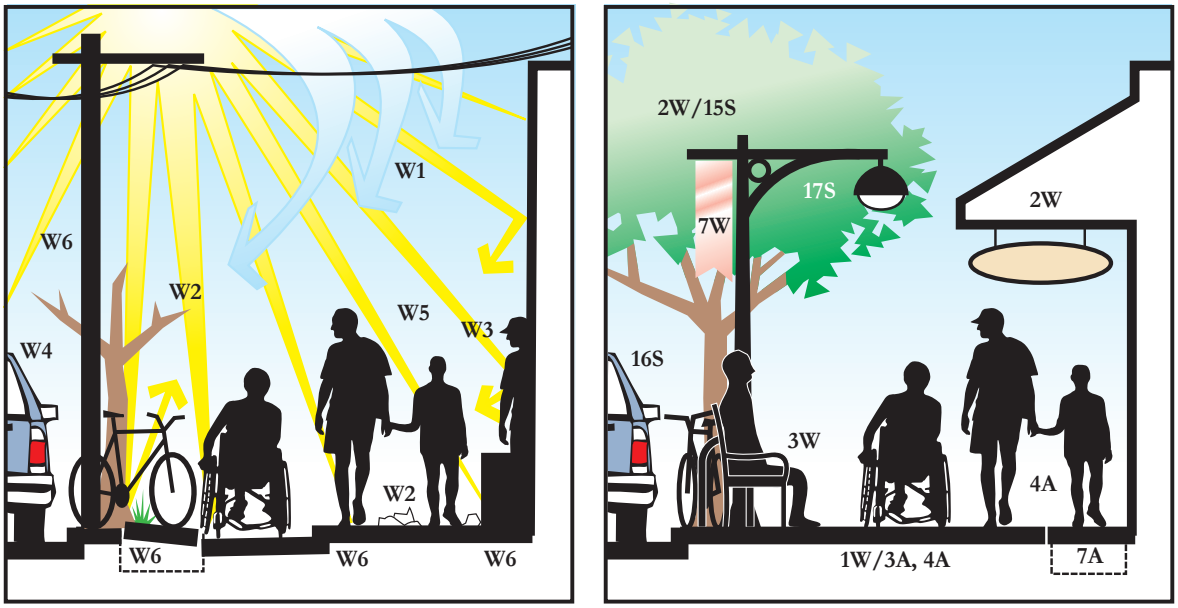

An unwalkable environment...made walkable

Issues	Potential Solutions (See legend*)
W1 - Harsh environmental conditions. Direct sun, noise, vehicle fumes and wind can all contribute to an unpleasant walking environment.	**1W, 2W, also see 15S, 16S**
W2 - Poor maintenance. Trash, weeds, derelict structures and graffiti can discourage people from walking.	**1W, also see 19S**
W3 - Perceived unsafe walkways due to fear of crime. The actual or perceived threat of theft, assault or panhandling can discourage walking.	**1W, 7W, also see 19S**
W4 - Lack of buffer from high speed or high volume traffic. Proximity to high speed, high volume traffic creates an unpleasant walking environment.	**1W, 2W, 3W, also see 2S, 15S, 16S, 18S**
W5 - Absence of site amenities. Streets lack amenities such as places to sit, shade, drinking fountains, trash receptacles, bicycle racks and pedestrian signage.	**3W, 7W, also see 15S**
W6 - Walkway obstructions. This issue goes beyond minimum ADA standards and includes obstructions that force a sidewalk user to go around an obstruction, crowded sidewalks, or the presence of multiple surfaces, slopes and trip hazards.	**1W, also see 3A, 4A, 7A**
W7 - Limited street crossing options. Walkability can be impaired when it takes a long time to get from origin to destination.	**4W, 5W, 6W, also see 2S, 7S, 8S, 10S, 11S, 12S, 13S, 14S, 20S**

Walkability Solutions

1W) Provide greater than minimum walkway widths (>5 feet)
2W) Provide trees, awnings or building overhangs to shade walkways
3W) Provide street furnishings for comfort and enjoyment
4W) Provide pedestrian countdown signals
5W) Provide traffic control for crossings such as traffic signals or "all way stops"
6W) Provide "pedestrian scrambles" (simultaneous crossing allowed in any direction, including diagonally)
7W) Provide public art such as decorative paving, tree grates, banners, art pieces, signage, etc.

* The potential solutions are a possible list of methods to address the problem. Implemented solutions will be determined by actual site conditions, interpretation of policies and engineering evaluation.

3.5 Other Issues and Solutions

Neighborhood Quality: Although not a primary issue and solution topic, neighborhood quality is often the result of a variety of environmental and social elements that have been brought together to create a quality living and working environment.

There is a link between the physical environment and the degree of social interaction in a community. Streets and neighborhoods that promote pedestrian activity provide opportunities for the development of social networks. The physical environment of neighborhoods is also known to correlate with the incidence and fear of crime and violence. Certain building designs, the presence of trees and green space, good street lighting and community gathering places are all commonly known to provide residents with a greater sense of security and to serve as an actual deterrent to crime and violence.

An inviting pedestrian environment helps create a sense of place within a neighborhood and not only makes the streets more walkable, it actually encourages walking, which is part of the vision of this plan.

Places that feel inviting to pedestrians usually share some common characteristics or amenities, such as:

- A sense of enclosure, provided by buildings or other structures, awnings, or trees close to the walkway. Particularly in suburban areas, the proliferation of low-density neighborhoods with wide streets has not allowed a sense of enclosure to develop. There are notable exceptions in denser areas and traditional main streets such as La Jolla, Newport Avenue in Ocean Beach and Adams Avenue in Normal Heights.
- In traditional neighborhoods, buildings were not set back from the street and "window shopping" drew pedestrians along the street. In suburban areas, buildings were set far back from the street, separated from the sidewalk by parking lots, or feature blank walls rather than windows. In some cases, this suburban building form has also been allowed in traditional neighborhoods and in Downtown San Diego, disrupting the pedestrian environment.
- Clearly defined spaces are provided by the City via controls on the intrusion of private commercial uses in the pedestrian way such as zoning ordinances and code enforcement. However, in neighborhoods lacking a planting buffer or a defined place for fixtures, the pedestrian path may be interrupted by a proliferation of utility poles, newspaper racks, mailboxes and other obstacles.

Alternative Transportation: When walkable communities are provided, they satisfy a need, support walking as a means of transportation, support other transit and bike transportation options, and can also improve the beginning and end of vehicular trips when the driver becomes a pedestrian. To support the goal of increasing the mode shares of non-motorized transportation, a pedestrian-friendly environment is needed that is safe, accessible, walkable, and provides needed connections between homes, schools, transit, work, and civic centers. When neighborhood quality goals are achieved as well, the environment will tend to support walking as a viable and preferred travel choice.

Cost Effectiveness: When funded equitably and appropriately, pedestrian improvements can combine public and private investments for the good of the public and can lower expenses related to vehicular and transit investments. Successful examples of improved pedestrian facilities that increase safety, access, connectivity and walkability are needed to ensure the continued availability of funding for this alternative transportation mode.

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4 Route Types and Treatments

4. Route Types and Treatments

4.1 Overview

Roadways are typically classified by functional type and capacity. This chapter defines the different types of pedestrian facilities that exist in the City of San Diego based on similar functions, adjacent uses and characteristics of the walking environment. Different route types require different treatments in order to best support the walking environment of a particular area. Not all walking facilities need the same level of treatment. This chapter helps to establish a common definition of walking facilities and recommends treatments that may be applied to match the facility with the circumstance.

4.2 Types Defined

All walking facilities found within the City of San Diego fit into one of the following categories of walking facilities. **Table 4-1** describes each route type. See **Figures 4-1 through 4-7** for route types and examples.

District Sidewalks

District Sidewalks, labeled as Route Type 1, are sidewalks along roads that support heavy pedestrian levels in mixed-use concentrated urban areas. Usually, the district is an urbanized area with special functions, such as theater districts, office parks, shopping centers, or college campuses. The location of the district may be adjacent to neighborhoods, but these routes can be distinguished easily by adjacent uses, densities and urban form. It has an identifiable focus that provides orientation and character, and reinforces a sense of community among users by encouraging walking.

Corridor Sidewalks

Corridor sidewalks are labeled as Route Type 2 and defined as sidewalks along roads that support moderate density business and shopping districts with moderate pedestrian levels. They can range from wide walks along boulevards to small sidewalks along a heavily auto oriented roadway. They may connect moderate to high density residential areas, but only if they are located along major arterials.

Connector Sidewalks

Connector sidewalks, labeled as Route Type 3, tend to have low pedestrian levels and are along roads with moderate to high average vehicular traffic. Connector sidewalks tend to be long and, in some cases, do not have accessible land uses directly adjacent to the sidewalk. This can include sidewalks along major arterials that run parallel to open space and canyon lands. Often, they are along land uses that require buffering from the street noise, resulting in noise walls that further isolate the pedestrian from the adjacent land uses.

These sidewalks have limited pedestrian use levels typically because of their remoteness and lack of nearby destinations. Often they can lead to nowhere, with the sidewalk stopping a distance away from other uses, typically where topography restricts the width of the road or where a development ends its improvements. Without the existence of these walkways, the pedestrian may be forced to walk in a high speed and high volume street.

Table 4-1: Route Types

ROUTE TYPE:	1. District Sidewalks	2. Corridor Sidewalks	3. Connector Sidewalks	4. Neighborhood Sidewalks	5. Ancillary Pedestrian Facilities	6. Path	7. Trail (Included for Reference Only, not a Focus of this Plan)
Purpose	Sidewalks Along Roads that Support Heavy Pedestrian Levels in Mixed-use Concentrated Urban Areas	Sidewalks Along Roads that Support Moderate Density Business & Shopping Districts with Moderate Pedestrian Levels	Sidewalks Along Roads that Support Institutional, Industrial or Business Complexes with Limited Lateral Access & Low Pedestrian Levels	Sidewalks Along Roads that Support Low to Moderate Density Housing with Low to Moderate Pedestrian Levels	Facilities Away or Crossing Over Streets such as Plazas, Paseos, Promenades, Courtyards or Pedestrian Bridges & Stairways	Walkways and Paved Paths that are not Adjacent to Roads that Support Recreational and Transportation Purposes	Unpaved Walk Not Adjacent to Roads Used for Recreational Purposes
Typical Adjacent "Street Design Manual" Classifications	All types of adjacent streets are possible	Commercial, Urban Collector, Urban Major & Arterial	Commercial, Industrial, Urban Major, Rural Collector & Arterial	Rural, Low Volume Residential, Residential Local & Sub-collector	Not associated with a street	Not associated with a street	Not associated with a street
Cross Reference to Related "Strategic Framework Plan" Definitions	Existing: Regional Centers, Urban Villages & Neighborhood Villages	Existing: Sub-regional Districts and Transit Corridors	Existing: Sub-regional Districts, Transit Corridors, & Suburban Residential along Major Arterials	All other Residential Areas not Classified under the Strategic Framework Plan	Most common in Regional Centers, Urban or Neighborhood Villages but can be in any area	Can occur in any area, but most often found in Recreation, Tourist or Open Space Areas	Can occur in any area, but most often found in Recreation or Open Space Areas
Typical Adjacent Land Uses	Mixed-use Housing, Commercial, Office & Entertainment with Urban Densities	Multiple Land Uses but may be Separated. Often Strip Commercial or Office Complex.	Open Space, Industrial Uses, Institutional Uses or other Pedestrian Restricted Uses	Single-family and Moderate Density Multi-Family with Limited Supporting Neighborhood Commercial	Adjacent Land Uses Vary	Adjacent Uses Vary, Often Recreational or Open Space or Housing	Open Space, Parks and Natural Areas

Neighborhood Sidewalks

Neighborhood sidewalks, labeled as Route Type 4, are sidewalks along roads that support low to moderate density housing with low to moderate pedestrian levels. Neighborhood streets and their associated walkways are generally lower volume streets, with low to moderate widths, single lanes in each direction and posted (prima facia) speed limits of 25 miles per hour. They are not as difficult to cross as a pedestrian and pedestrian collisions occur less frequently because the driver has ample time to see, react and brake. Speeding on these streets does occur and can result in pedestrian collisions. However, most physical design changes are not as likely to reduce these pedestrian collisions since they result from careless behavior.

Ancillary Pedestrian Facilities

Route Type 5, Ancillary Pedestrian Facilities, are facilities away from or crossing over streets such as plazas, paseos, promenades, courtyards or pedestrian bridges and stairways. Many of these ancillary facilities attract local residents and workers and therefore generate moderate to high pedestrian use.

Paths

Route Type 6, Paths, are paved facilities with exclusive right-of-ways that act as corridors and have little or no vehicular cross flows. Many of these paths are exclusive to pedestrians and bicycles and

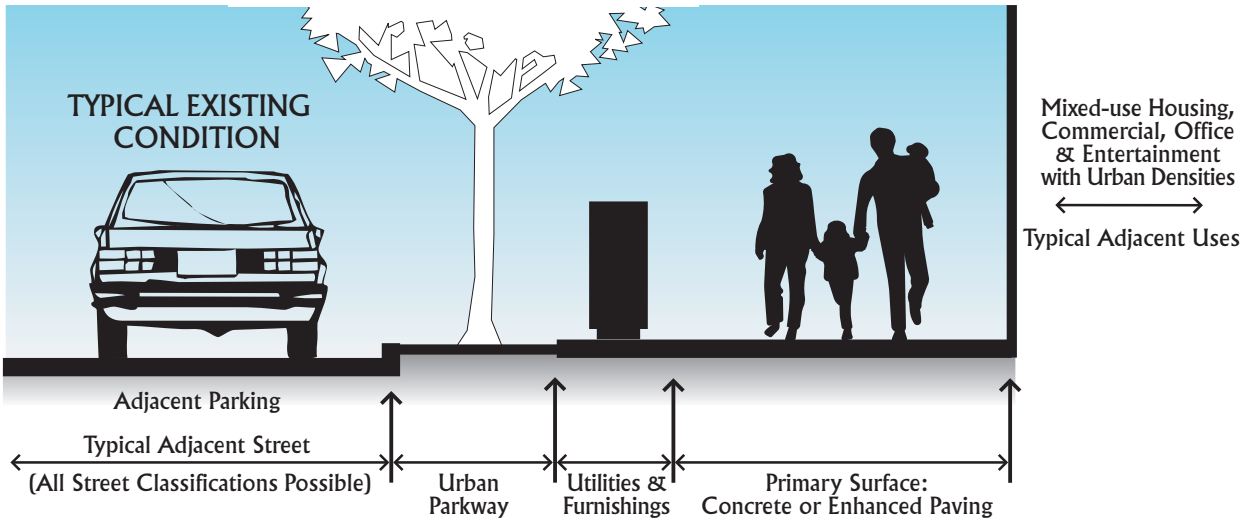
are not associated with streets. Paths defined by the Pedestrian Master Plan are often associated with recreational uses. Many of these paths can be found in parks, near open space preserves and away from streets in residential areas. They are defined in this plan as being paved, away from a street edge and not shared with vehicles (except for emergency or maintenance vehicles). They are often shared with runners, skaters, cyclists and other recreational users.

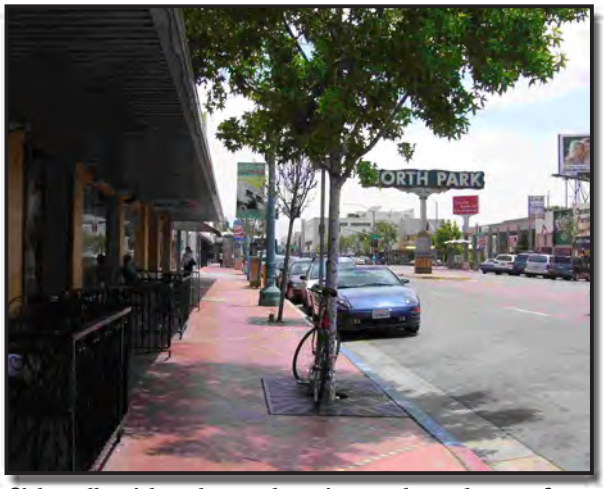
Trails

Unpaved walkways or roads used for recreational use or open space maintenance are classified as Trails, Route Type 7. Trails are separated from roads and support activities such as hiking, biking and walking primarily through parks and open space. They differ from paths in that they are not paved with concrete or asphalt. Only authorized vehicles are permitted to access these trails, which in many cases are not ADA-compliant. Trails are not included in this study, but are defined to present all levels of pedestrian walkways. The San Diego Trails Master Plan and other Park Master Plans should be consulted for guidance on unpaved trails.

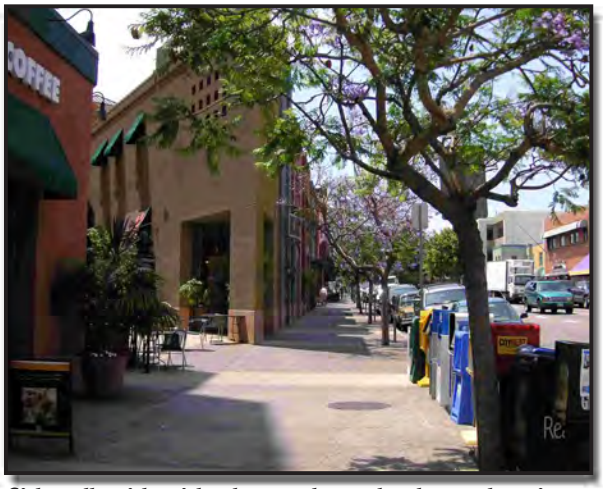
Figure 4-1: Route Type 1 - District Sidewalks

Sidewalks Along Roads that Support Heavy Pedestrian Levels in Mixed-use Concentrated Urban Areas

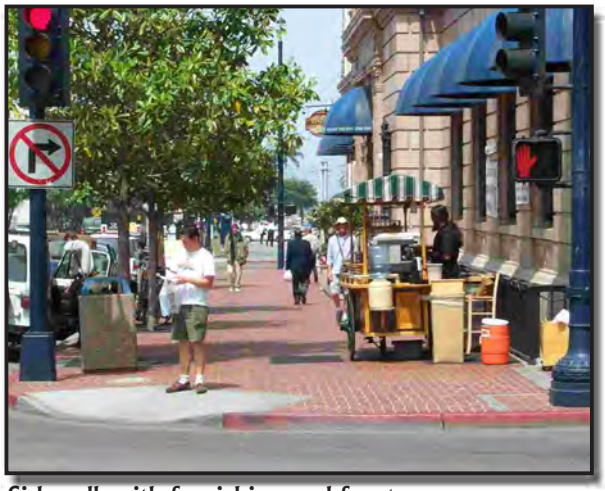




Sidewalk with enhanced paving and outdoor cafes
(University Avenue near 30th Street)



Sidewalk with wide clear paths and enhanced paving
(Fifth Avenue at Washington Street)

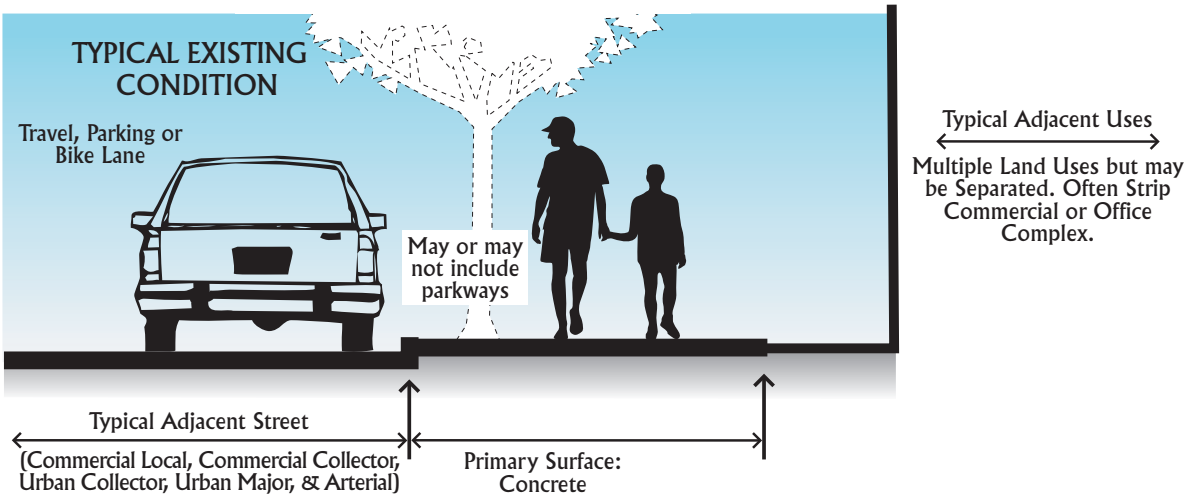


Sidewalk with furnishing and frontage zones
(Broadway at Columbia Street)

Sidewalk with street trees
(Goldfinch Street north of Washington Street)

Figure 4-2: Route Type 2 - Corridor Sidewalks

Sidewalks Along Roads that Support Moderate Density Business and Shopping Districts with Moderate Pedestrian Levels



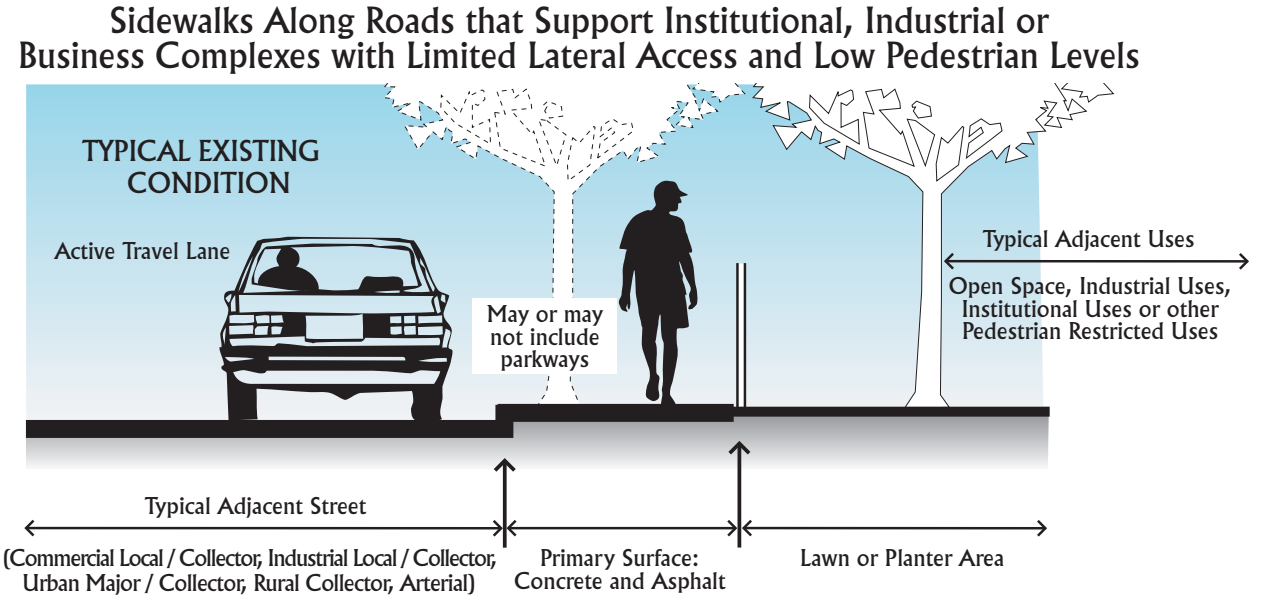
Sidewalk at curb
(Convoy Street at Engineer Road)

Wide sidewalk and angled parking
(Park Boulevard north of Polk Avenue)

Smaller scale sidewalk with street trees
(El Cajon Boulevard near Interstate 15)

Typical commercial district with supporting sidewalks
(San Ysidro)

Figure 4-3: Route Type 3 - Connector Sidewalks



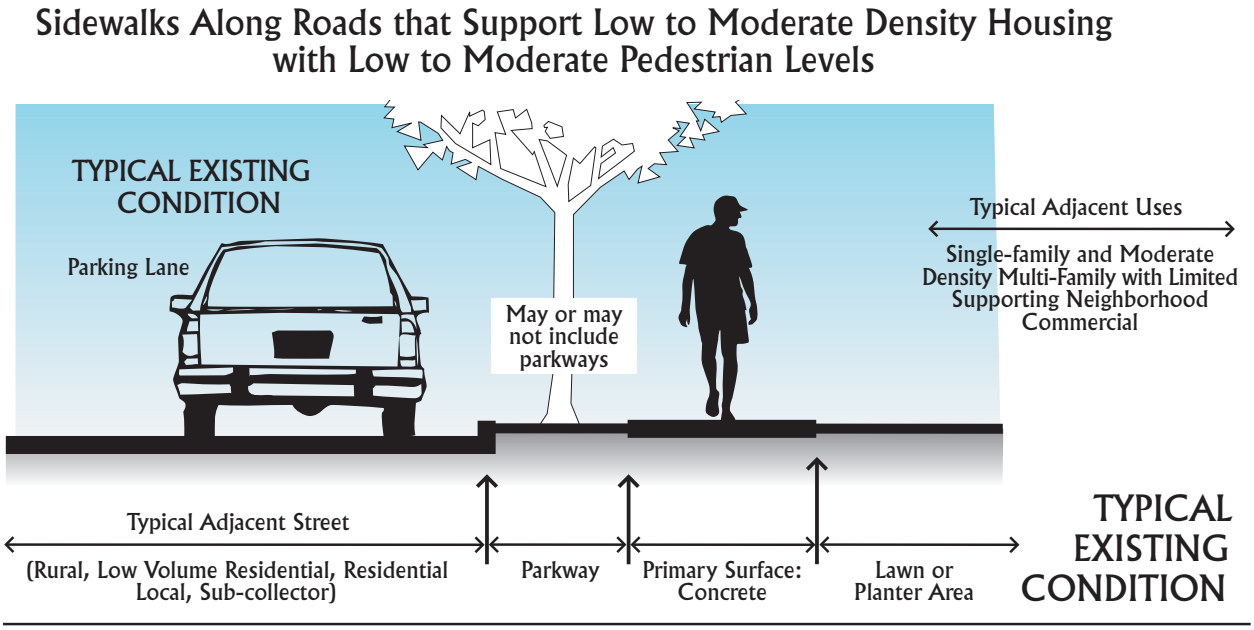
Asphalt sidewalk along curb
(Genesee Avenue north of Regents Road)

Though in a residential area, there are no connections to adjacent land uses (Camino de la Plaza in San Ysidro)

Buffered sidewalk
(Scripps Poway Parkway near Spring Canyon Road)

Wide but unbuffered sidewalk
(Mira Mesa Boulevard near Parkdale Avenue)

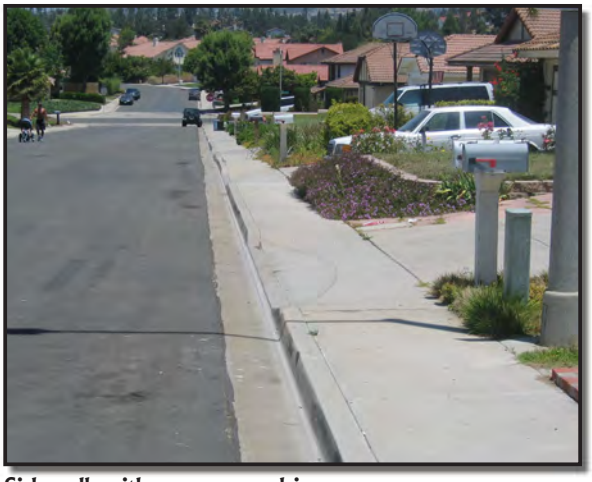
Figure 4-4: Route Type 4 - Neighborhood Sidewalk



Sidewalk and parkway
(Myrtle Street west of Richmond Avenue)

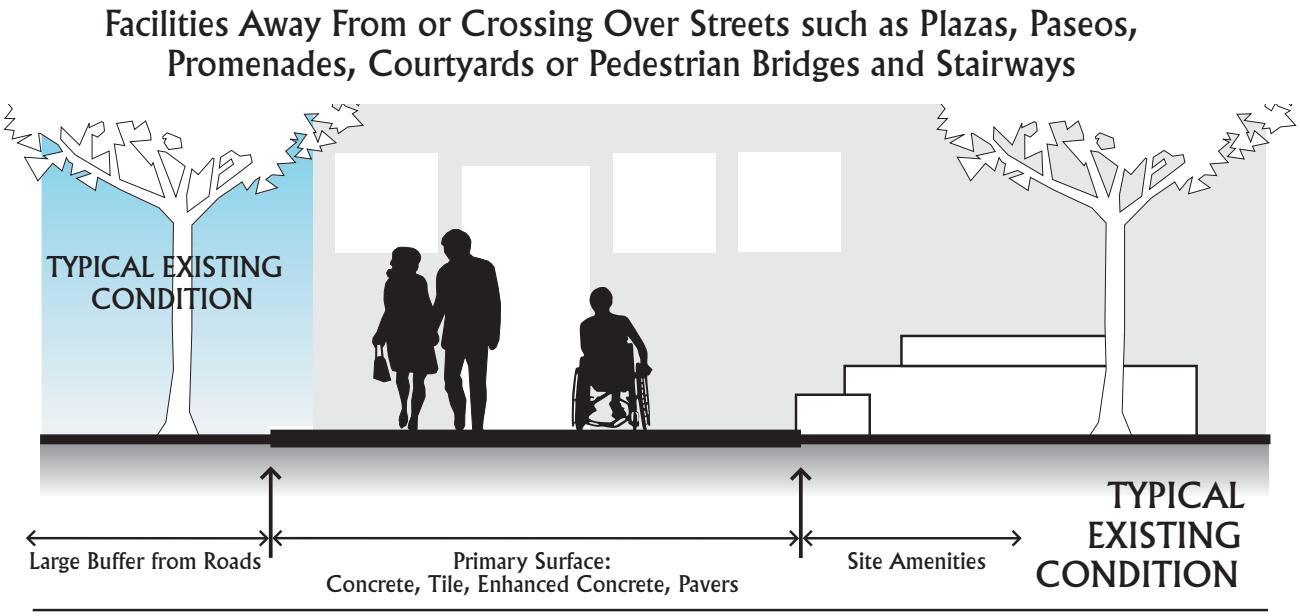
Typical sidewalk in newer residential area with three car garage driveways (Seadrift & Sea Reef Way, Otay Mesa)

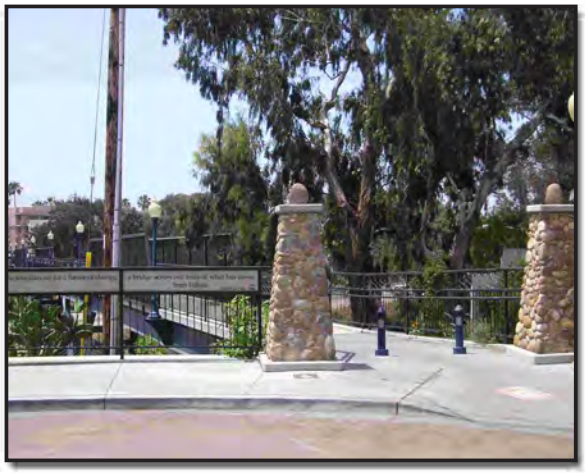
Sidewalk with wide driveways
(41st Street south of University Avenue)



Sidewalk with numerous driveways
(Russet Leaf Lane and Street)

Figure 4-5: Route Type 5 - Ancillary Pedestrian Facilities




Vermont Street bridge (over Washington Street)


Martin Luther King Plaza and Promenade


Civic Center Plaza

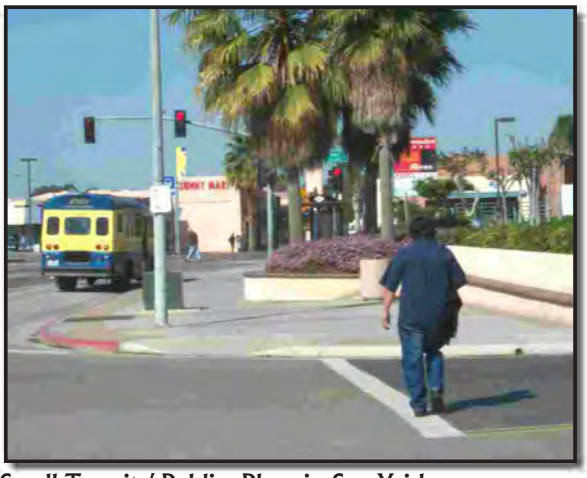
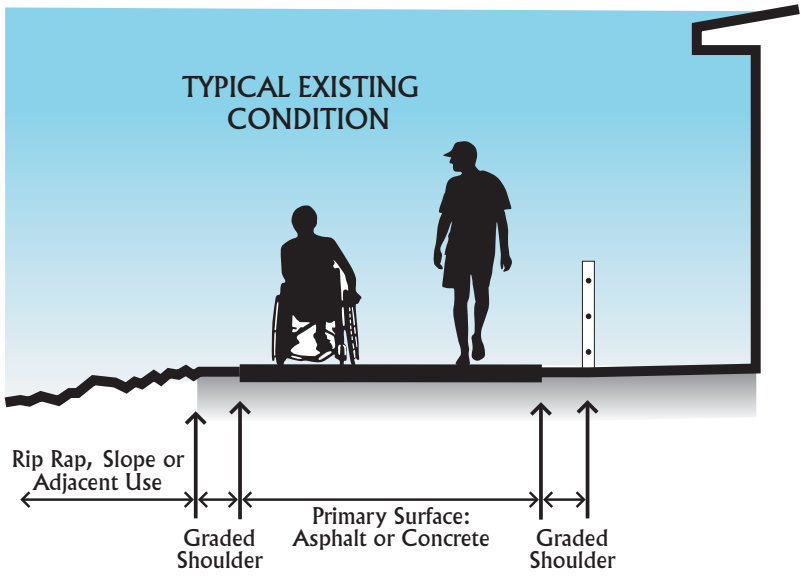

Small Transit / Public Plaza in San Ysidro

Figure 4-6: Route Type 6 - Multi-use Pathways

Walkways and Paved Paths not Adjacent to Roads that Support Recreational and Transportation Uses

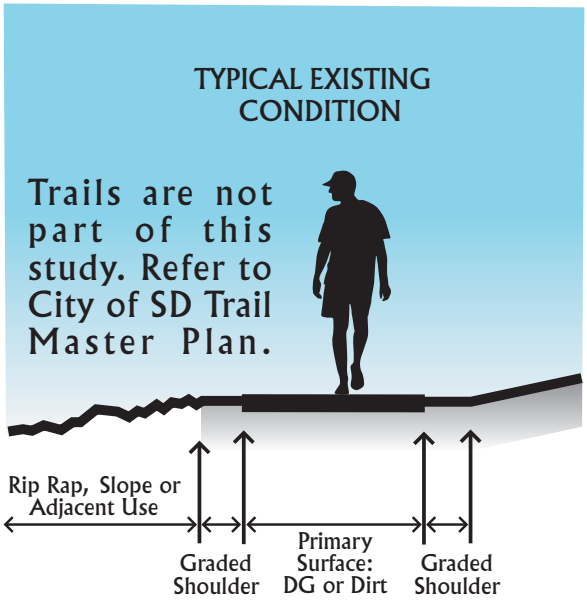


Multi-use path
(Mission Beach Boardwalk)

Walkway and bike path
(Embarcadero at G Street)

Figure 4-7: Route Type 7 - Walking or Hiking Trail

Unpaved Walk Not Adjacent to Roads, Used for Recreational Purposes



Dirt road/trail
(Balboa Park west of SR163)

Narrow trail
(Biltmore Trail in San Clemente Canyon)

4.3 Treatment Levels

Though there should be flexibility in the specific conditions of any pedestrian facility, in general, different route types deserve different treatments.

Table 4-2 describes four treatment levels ranging from extensive treatments (Premium), to standard (Basic) and less expensive treatments for pedestrian facilities. Each of the treatment levels indicates the types of special circumstances that, if present, may warrant increasing the treatment up to the next level.

Table 4-2 also summarizes pedestrian facilities, techniques and enhancements that could be used in a particular area. This table (and the described treatment levels) have been created to help guide the appropriate use of treatments and to stretch limited public funding for pedestrian improvements.

A major premise of the "Basic Level" is that it is the minimum level that should be provided in all circumstances. In the case of certain neighborhoods and along certain connector streets, this "Basic Level" is adequate to provide the minimum level of safety, connectivity, access, and walkability.

In other areas, however, the "Basic Level" may not be enough to assure safety, connectivity, accessibility and walkability. In specific areas, the presence of major roadways and other detractors from pedestrian activity suggests a much higher level and expense associated with pedestrian treatments. In these situations, an "Enhanced Level" is recommended.

In yet other areas, the urban densities and design requirements and the presence of certain safety issues require a "Premium Level" to meet safety, connectivity, accessibility, and walkability goals.

Table 4-2: Treatment Levels and Potential Improvements

TREATMENT LEVEL:	Treatment Level 1 "Premium" Walkway Improvements	Treatment Level 2 "Enhanced" Walkway Improvements	Treatment Level 3 "Basic" Walkway Improvements	Treatment Level 4 "Special Use" Walkway Improvements
Route Types Receiving These Treatment Levels (Unless Special Circumstances Exist*)	District Route Type / Special Pedestrian Zone	Corridor Route Type	Connector and Neighborhood Route Type	Path & Ancillary Route Types
*Special Circumstances that Warrant a Higher Treatment Level than Normal. Requirements in Each Column would Increase to the Column on its Left	Already Uses Highest Treatment Level	If within 1/4 mile of Transit/ School/ Ped. High Use/ Major Arterial	If within 1/4 mile of Transit/ School/ Maj. Commercial Facilities/ Maj. Arterials	Case-by-Case Basis
Provide Accessible Facilities Such As:				
1A) Curb ramps	!	!	!	?
2A) Audible/visual crosswalk signals	!	!	?	?
3A) Walkways & ramps free of damage or trip hazards	!	!	!	✔
4A) Pedestrian paths free of obstructions and barriers	!	!	!	✔
5A) Sidewalks with limited driveways and minimal cross-slope	!	✔	✔	✔
6A) Re-grade slope of walkway to meet ADA / Title 24 standards	?	?	?	?
7A) Repair, slice or patch lifts on walk surfaces or reset utility boxes to be flush	?	?	?	?
Provide Safety Features Such As:				
1S) Median refuges (a safe place to stand in the street)	!	✔	-	-
2S) Pedestrian popouts (curb / sidewalk extensions into street)	✔	✔	-	-
3S) High visibility crosswalk striping	!	✔	-	?
4S) Raised crosswalks or special paving materials to denote crosswalks	✔	✔	-	?
5S) Advance stop bars >10 feet from crosswalk	✔	✔	!	?
6S) Radar Speed Monitor & Display	?	?	?	?
7S) Reduced curb radii	✔	✔	✔	-
8S) Early pedestrian start at crossing signal (Lead Pedestrian Interval)	✔	?	-	?
9S) No Turn on Red at Intersection	?	?	?	?
10S) Mid-block crosswalks with ped. flashers but no traffic control	-	-	✔	-
11S) Automatic pedestrian detection & signal control	✔	-	-	?
12S) Mid-block crossing with signs, median or curb ext. & flashing lights in road	?	?	-	?
13S) Mid-block crosswalks with ped. actuated traffic control device	✔	?	-	-
14S) 1-Lane Mid-block with high contrast crossings, signs & center lane marker	?	?	✔	?
15S) Parkway planting for buffer between sidewalk and cars	!	!	!	?
16S) On-street parking for buffer between sidewalk and cars	!	✔	✔	-
17S) Adequate levels of pedestrian lighting	!	!	✔	✔
18S) Various traffic calming measures	✔	✔	✔	-
19S) Enforcement, education or encouragement solutions	?	?	?	?
20S) Missing sidewalks added or provide adeq. walk width clear of obstructions	?	?	?	?
Improve Walkability by Providing:				
1W) Above minimum walkway widths (> 5')	!	✔	?	?
2W) Trees that provide shade on walkways	!	!	✔	✔
3W) Street furnishings for comfort and enjoyment	!	✔	?	✔
4W) Countdown display crosswalk signals	✔	?	?	-
5W) Traffic control for crossings such as traffic signals or "All way stops"	!	✔	✔	✔
6W) Pedestrian scrambles (cross all directions of street)	?	-	-	?
Ensure Connectivity by Adding:				
1C) Missing sidewalk segments in areas where sidewalks mostly exist	!	!	✔	✔
2c) Missing sidewalks in areas where no sidewalks exist at all	!	✔	?	✔
3C) Connection pathways between streets	!	✔	✔	✔
4C) Narrow street widths or adding features to narrow for pedestrians	!	✔	✔	✔
5C) Destinations within walking distance of origins	!	✔	✔	✔
6C) Pedestrian bridges that avoid excessive ramp lengths	?	-	-	?
7C) Pedestrian crossing opportunities for all sides (legs) of an intersection	!	✔	✔	-
8C) Verify that pedestrian distances between land uses are reasonable & direct	?	?	?	?

LEGEND ("!"= highly recommended, "✔" = recommended "?"= recommended if conditions or standards met & "-" = not applicable)

This table is intended to indicate general treatment levels. Determination of actual treatments requires engineering studies and application of established installation criteria.

5 Pedestrian Priority Model

5. Pedestrian Priority Model

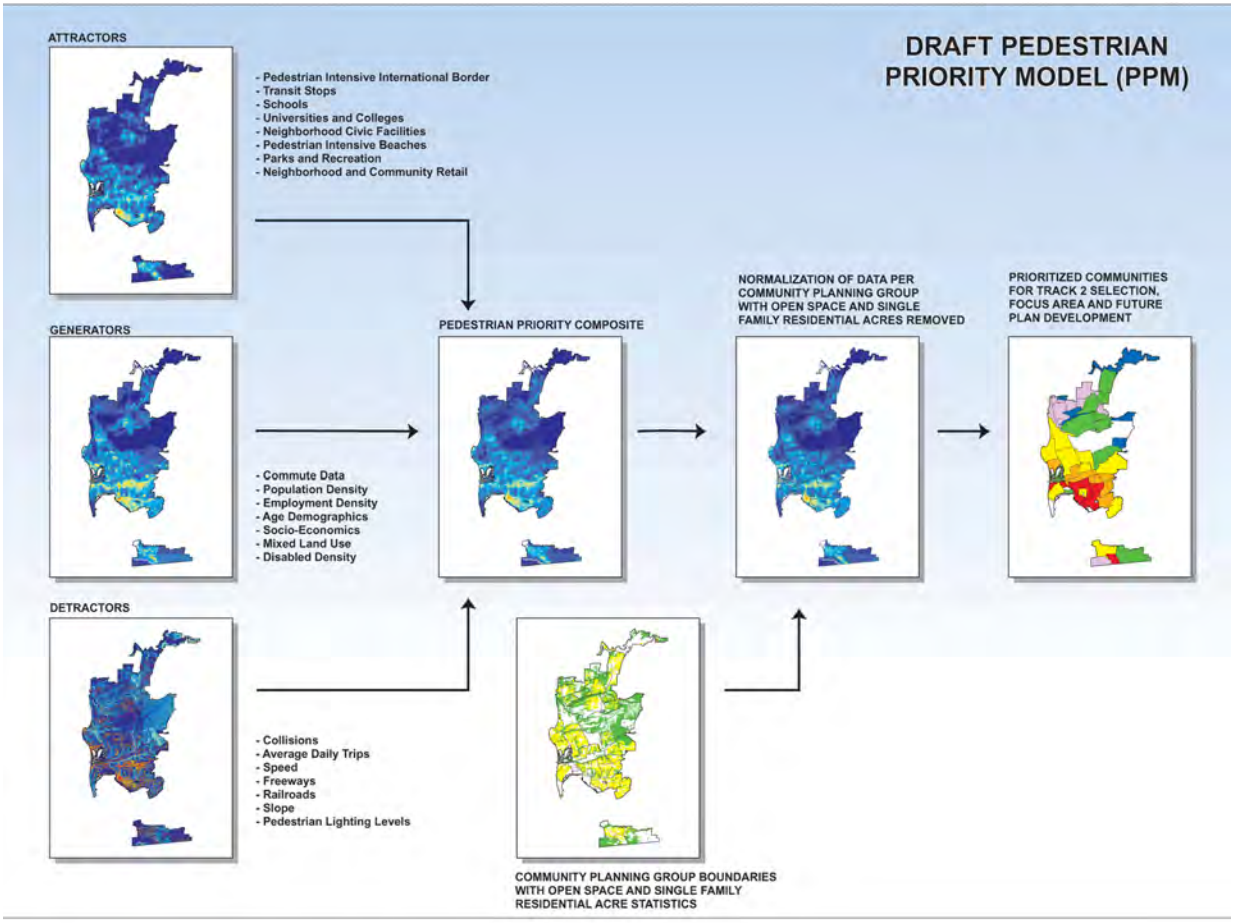
5.1 Model Overview

The Pedestrian Priority Model (PPM) was developed to determine the highest priority areas within the City of San Diego for evaluation of pedestrian improvements. Given the size of the city and the level of effort needed to develop the Pedestrian Master Plan for each community, the model was utilized to prioritize communities for development of the Plan. Additionally, the priority model is also used to help prioritize potential pedestrian improvement concepts. The PPM utilizes existing data available citywide as part of an extensive GIS database.

The model has three basic components, which include:

- Pedestrian Attractors
- Pedestrian Generators
- Pedestrian Detractors

Figure 5-1: Initial Pedestrian Priority Model (PPM) Process Chart



When these three interim models are combined, they create the Pedestrian Prioirty Model. The city is divided up into a grid of cells. Each grid represents an area on the ground that is 75 feet by 75 feet. This cell size was chosen to capture the best detail possible in relation to the overall scale of the datasets and the geographic size of the City of San Diego. The model identifies the characteristics of each particular area in geographic space and assigns a numeric value for each of these characteristics. The score per area is then added to create a ranking for that particular area in geographic space.

5.2 Pedestrian Attractors

The Pedestrian Priority Model identifies pedestrian activity areas by utilizing pedestrian-related geographic features that are likely to attract pedestrians.

Five types of features have been used at the following locations:

- Schools
- Transit stations
- Parks and recreation facilities including beaches
- Neighborhood and community retail and
- Neighborhood and community serving destinations (post offices and libraries)

Points were assigned to several categories in each feature type, recognizing certain features are likely to attract more pedestrians than others.

Concentric circles (referred to as buffers) were drawn around each feature type at increasing distances from the feature's center point, and weighted distance values were assigned to each buffer. For example, a 1/8-mile radius buffer is assigned a higher value than 1/2-mile radius buffer, since more people were likely to walk 1/8 of a mile than 1/2 of a mile.

The values assigned to each feature type were multiplied by the weighted distance values for each distance buffer. Each of the individual buffered feature types with their multiplied weighted values were overlaid on the citywide cell grid.

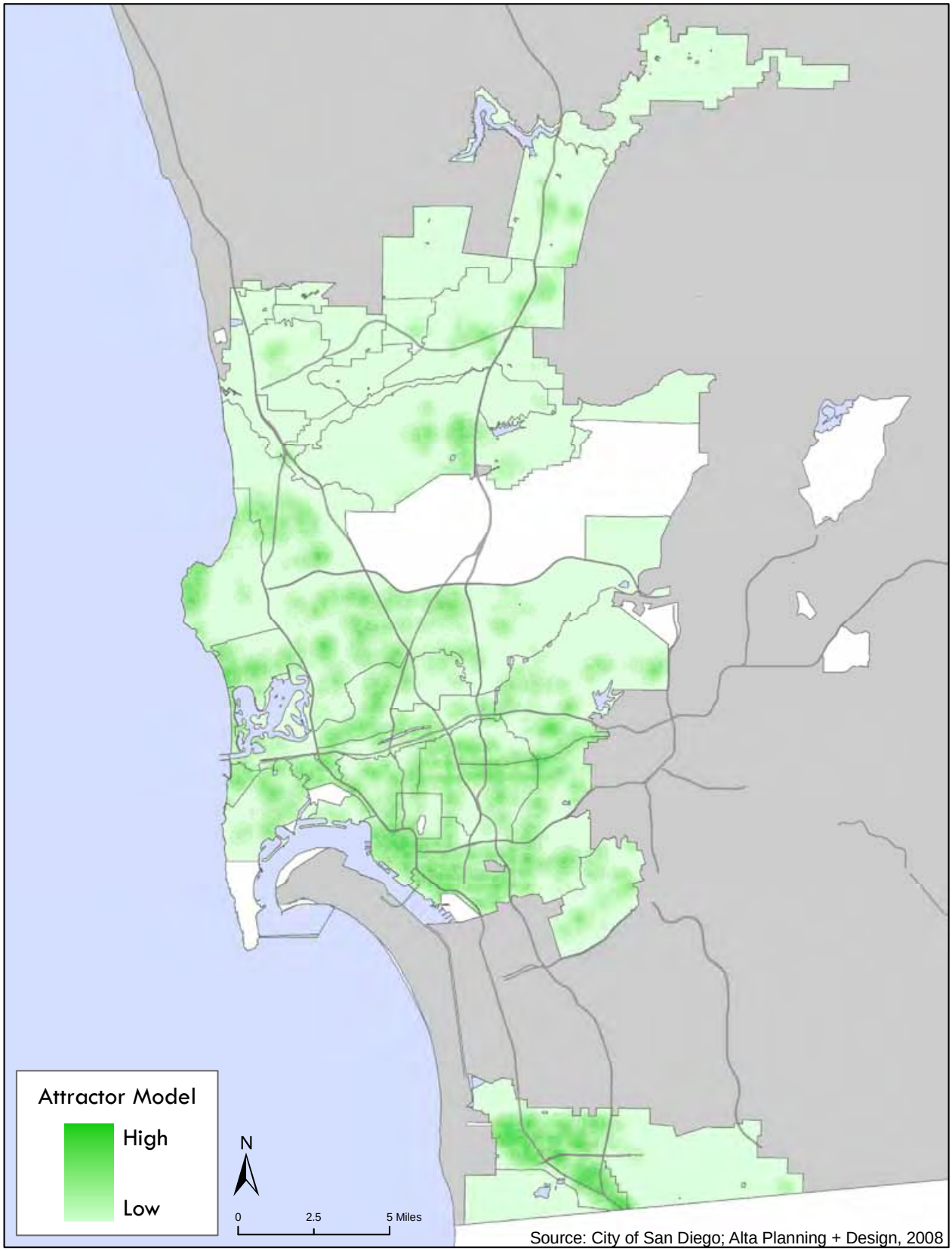
Within each analysis cell, the feature points were multiplied by the weighted values and then added to other feature point scores with a resulting total attractor value assigned to the cell.

Table 5-1 indicates the specific pedestrian attractor features and scoring used in this portion of the model. **Figure 5-2** shows the Updated Pedestrian Attractor Model Results.

Table 5-1: Pedestrian Attractor Factors and Scoring

Pedestrian Attractors	Points	Weighted Multiplier	Final Score
Pedestrian Intensive International Border	6	1	6
Major Multi-Modal Transit Center (> 10,000 boardings and alightings per day)	5		5
Major Transit Stops (1,000-10,000 boardings and alightings per day)	4		4
Transit Stops (100-1,000 boardings and alightings per day)	3		3
Elementary Schools (Including Private)	3		3
Middle Schools	2		2
Universities and Colleges	2		2
Neighborhood Civic Facilities (Libraries, Post Office & Religious Facilities)	2		2
Neighborhood and Community Retail	2		2
Pedestrian Intensive Beaches	2		2
Parks & Recreation (excludes non-useable open space)	1		1
High Schools	1		1
Weighting Values Based on Distance to Attractor			
1/8 Mile	1.5	1	1.5
1/4 Mile	1		1
1/3 Mile	0.75		0.75
1/2 Mile	0.5		0.5

Figure 5-2: Updated Pedestrian Attractor Model Results



5.3 Pedestrian Generators

The Pedestrian Priority Model also utilizes demographic data as indicators of propensity of pedestrians based on how many people live or work within the pedestrian activity areas identified in the first step of the model.

Total population and employment were used as well as other demographic data, such as age and income data. Pedestrian activity areas that contain a greater number of people living or working within them were more likely to have more people walking.

The model uses the SANDAG boundary designation known as Master Geographic Reference Areas (MGRAs) citywide and U.S. Census Bureau Census Block Groups.

Land use adjacency data was also used to determine areas of high pedestrian activity using the SANDAG Existing Land Use database. This land use adjacency helped to determine both the existing and proposed mixed land use factors. Generator inputs included:

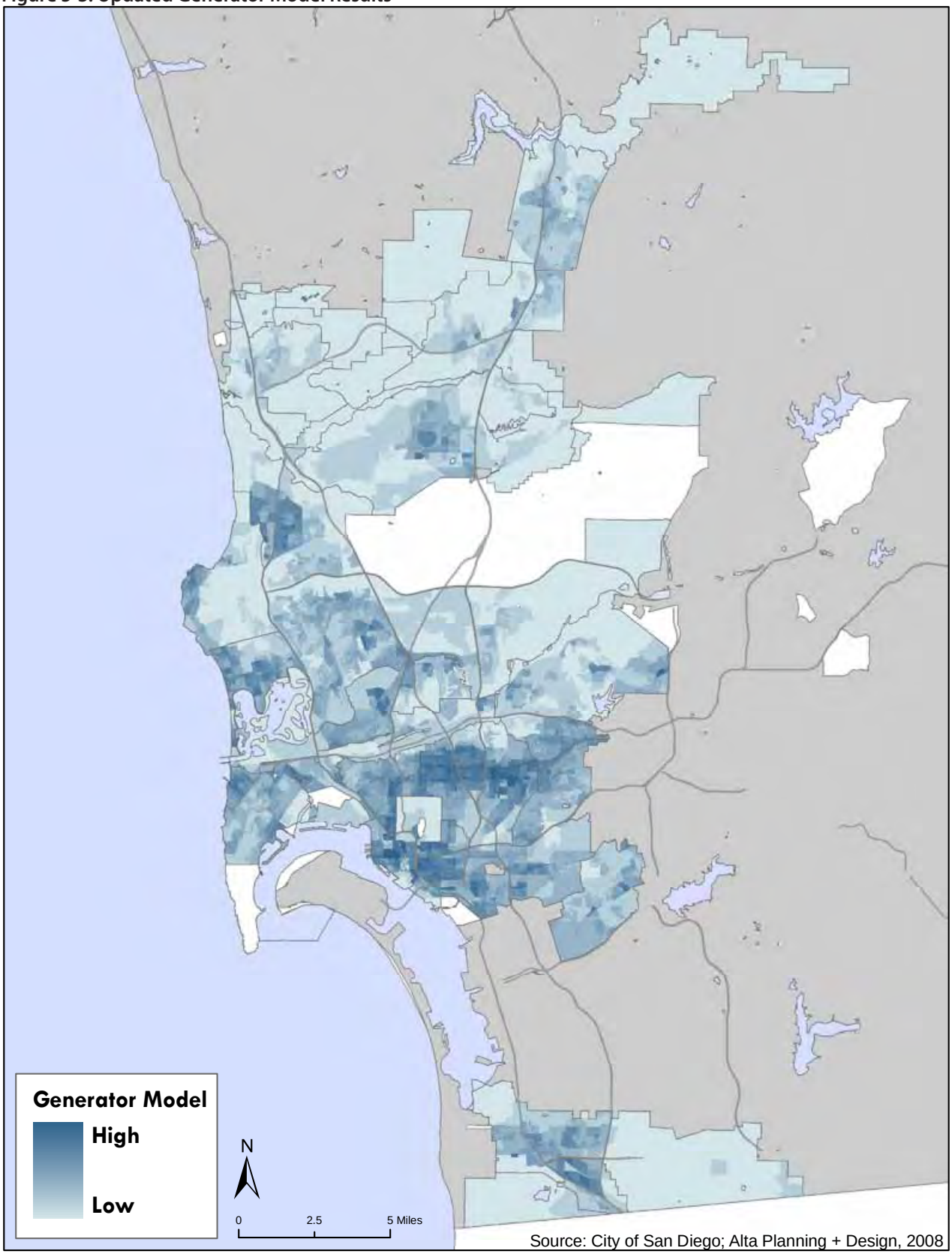
- Population density
- Employment density
- Other demographic indicators of subgroups with high rates of pedestrian activity including Median Household Income, Census Mobility, Age, and disability status.

Table 5-2 indicates the specific factors and scoring used in this portion of the model. **Figure 5-3** shows the Updated Generator Model Results.

Table 5-2: Pedestrian Generator Factors and Scoring

Pedestrian Generators	Points	Weighted Multiplier	Final Score
Census Mobility: People who walk to work			
> 2	3	2	6
1 - 2	2		4
.25 - 1	1		2
< .25	0		0
Population Density (People per acre)			
> 25	3	2	6
5 - 25	2		4
1 - 5	1		2
Employment Density (Employees per acre)			
> 15	3	2	6
5 - 15	2		4
1 - 5	1		2
Age Density: Senior Citizens per acre (65			
> 10	3	2	6
5 - 10	2		4
1-5	1		2
< 1	0		0
Household Income (Affects Transportation			
< $34,500	3	1	3
$34,500 - $63,400	2		2
> $63,400	1		1
Age Density: Children per acre (under 16			
> 10	3	1	3
5 - 10	2		2
1-5	1		1
< 1	0		0
Disability Density: People with disabilities			
> 5	3	1	3
2 - 5	2		2
1-2	1		1
<1	0		0
Existing Mixed Land Use Adjacencies			
Housing near employment & commercial	3	1	3
Housing near commercial	2		2
Housing near employment	1		1
Proposed Mixed Use			
As shown in adopted Community Plan	2	1	2

Figure 5-3: Updated Generator Model Results



Source: City of San Diego; Alta Planning + Design, 2008

5.4 Pedestrian Detractors

Detractors are features that are likely to discourage or detract people from walking. Examples of detractors include:

- Pedestrian / Vehicular Collisions
- Street Lighting
- Slope
- ADT (Average Daily Trips)
- Speed Limits
- Railroads and Freeways

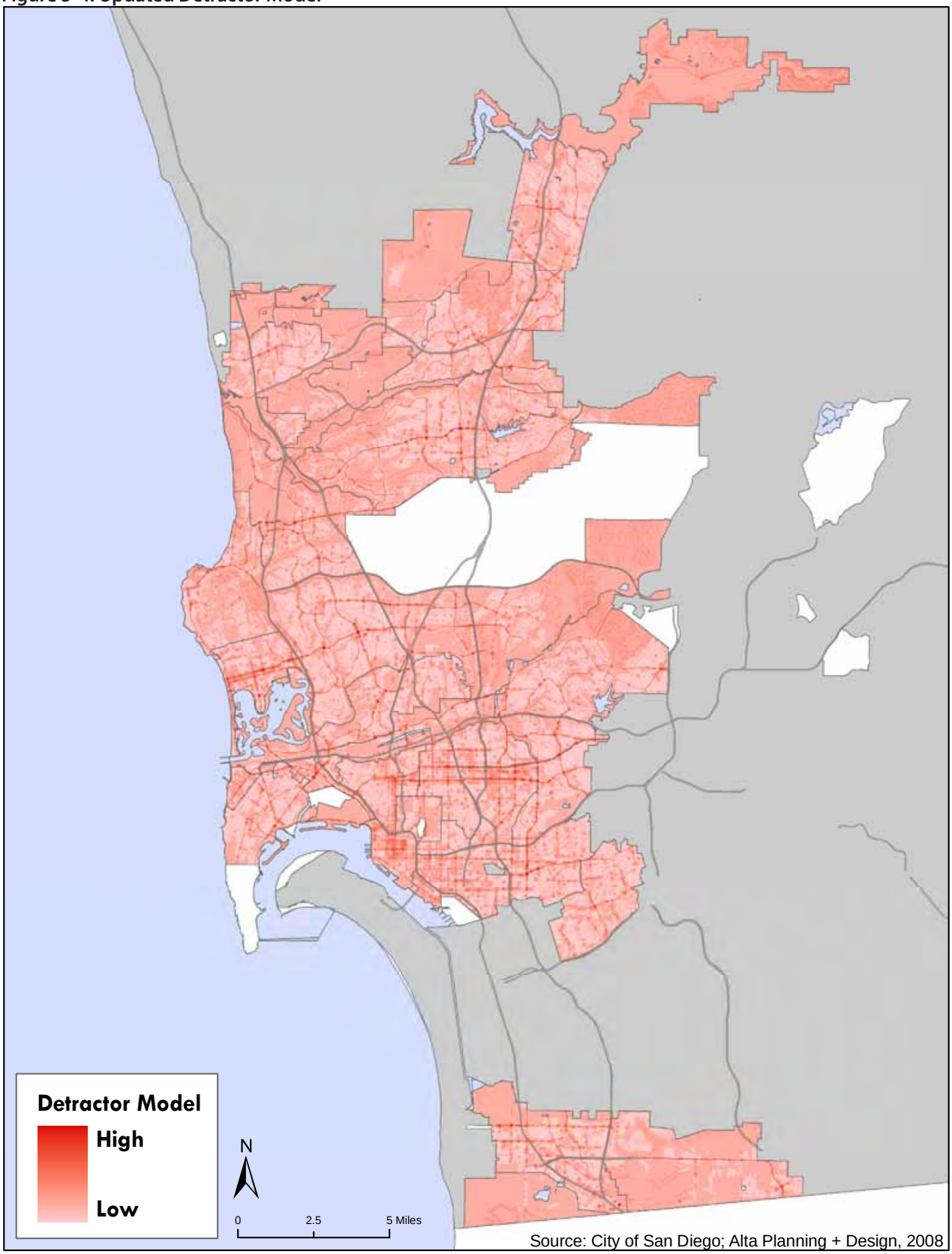
Detractors are also physical limitations of topography or street patterns and intensity of vehicular use that prevent pedestrians from getting around from their origin to their intended destination. The presence of a detractor, although a negative for walkability, increases the ranking of an area for priority pedestrian treatments.

Table 5-3 indicates the specific factors and scoring used in this portion of the model. **Figure 5-4** shows the Updated Detractor Model Results.

Table 5-3: Pedestrian Barrier Factors and Scoring

Pedestrian Detractors	Points	Weighted Multiplier	Final Score
Collisions Per Year (1/16 mile buffer applied to each collision)			
1 +	3	3	9
.5 - .9	2		6
0 - .5	1		3
0	0		0
Average Daily Trips as it Affects Crossing Wait Time, Safety & Visibility			
> 45,000	3	2	6
35,000 - 45 ,000	2.5		5
25,000 - 35,000	2		4
15,000 - 25,000	1.5		3
10,000 - 15,000	1		2
5,000 - 10,000	0.5		1
< 5,000	0		0
Speed as it Affects the Ability to Cross Safely			
> 45	3	1	3
35 - 45 mph	2		2
25 - 35 mph	1		1
< 25 mph	0		0
Lack of Street Lighting			
strian walking more than 300 ft from street lights	3	1	3
150-300 ft	2		2
75 - 150 ft	1		1
0 - 75 ft	0		0
Railroads & Light Rail as Barriers to Pedestrian Travel			
	1	1	1
Freeways as Barriers to Pedestrian Travel			
	1	1	1
Slope & Canyons as Barriers to Pedestrian Travel			
Landform Feature with Slope > 25%	2	1	2
Landform, Walkway or Street Slope 10-25%	1		1
Walkway Slopes < 10%	0		0

Figure 5-4: Updated Detractor Model



Source: City of San Diego; Alta Planning + Design, 2008

5.5 Composite Model

The Pedestrian Priority Model combines the Generators, Attractors and Detractors to identify areas that have high generators, attractors and barrier points. From there, the Attractor, Generator and Detractor grid cell points were overlaid on top of each other to produce the Pedestrian Priority Composite Model.

To begin the ranking process, the combined grid cells that contain generators, attractors and detractors were added to provide a total composite value for each combined cell, which identifies the areas that have a higher pedestrian activity point total.

The ranking of each community is then normalized by dividing the total pedestrian score by the community's acres. This allows the comparison of communities based on a common denominator and identifies the communities with high densities of pedestrian activity.

This effort provides data-driven guidance to identify the areas with the highest concentration of factors that help to predict pedestrian propensity, not a total score for a community. **Figure 5-1** illustrates the workflow of the effort.

The PPM was updated and refined in order to reflect updated land use and demographic data, as well as new information related to the location of transit stops and ridership levels, traffic counts, and pedestrian crashes.

Figure 5-4 displays the output from the Updated Final Composite Priority Model.

5.6 Model Results by Community Planning Area

Table 5-4 shows the ranking of Community Plan Areas based upon the updated PPM, while **Figure 5-6** displays the updated Community Plan Area rankings across the jurisdiction.

The results of the revised PPM and the ranking of communities were subsequently used to establish geographic priorities and areas of need for the subsequent Community Pedestrian Master Plans.

Figure 5-5: Updated Final Composite Model

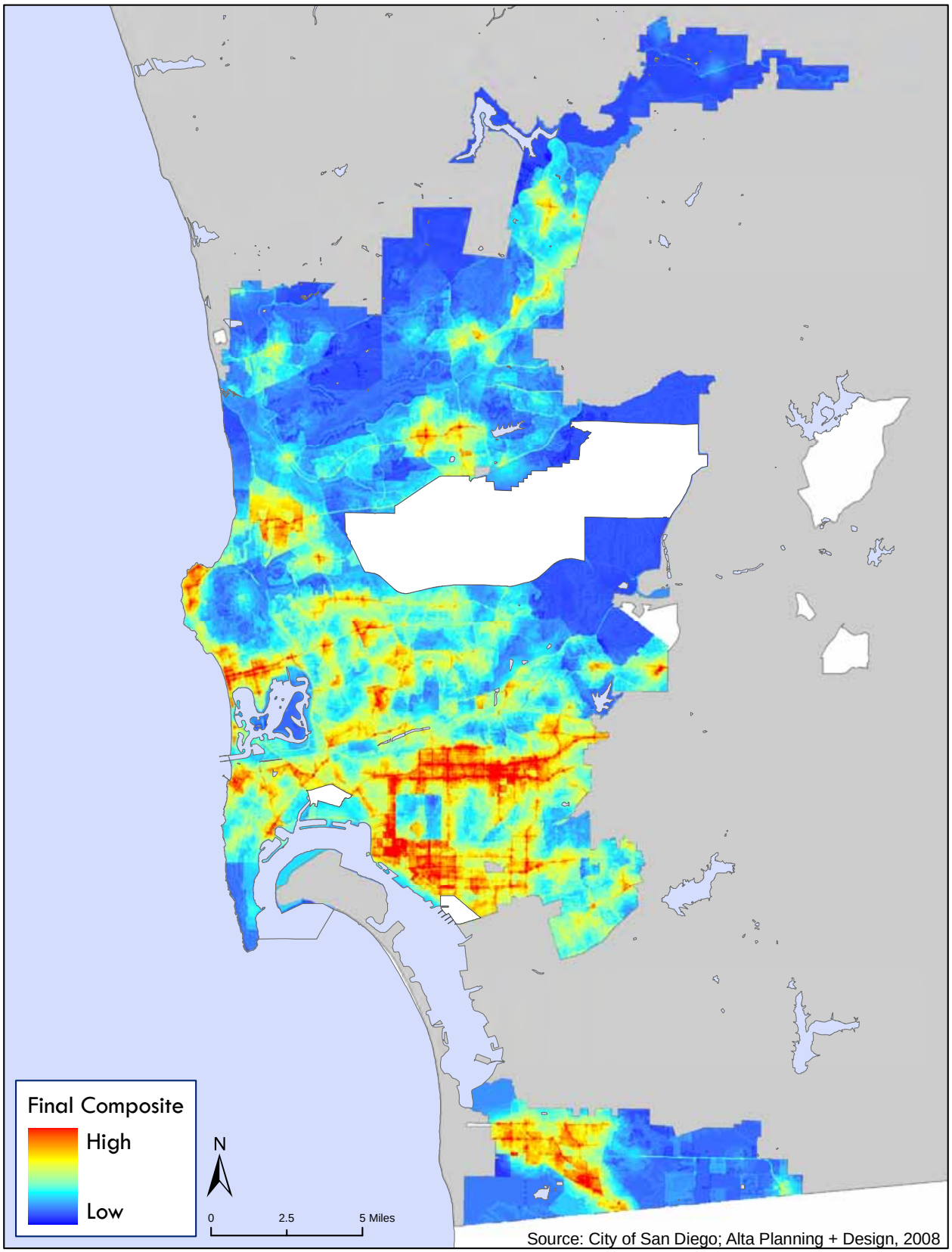


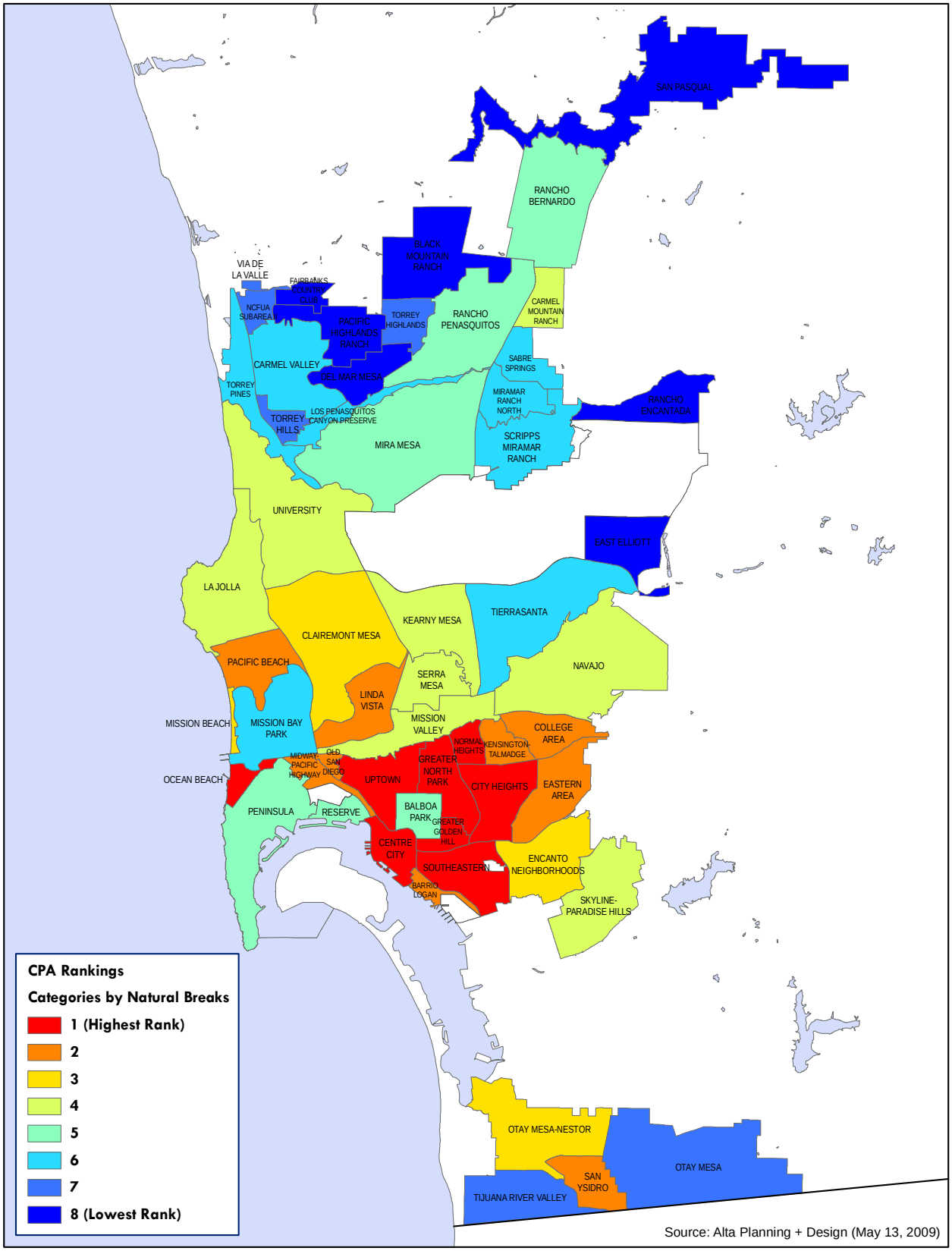
Table 5-4: Updated Community PPM Points and Rankings

Updated Ranking	Community Planning Area	Average PPM Points	Updated CPA Ranking Group
1	**Centre City**	**230.0**	**1 (210-230 points)**
2	Greater North Park	229.4	
3	Mid-City: Normal Heights	226.6	
4	Mid-City: City Heights	222.1	
5	Southeastern San Diego	220.3	
6	Uptown	218.1	
7	Greater Golden Hill	212.3	
8	Ocean Beach	209.7	
9	San Ysidro	205.9	2 (186-206 points)
10	Pacific Beach	202.0	
11	College Area	199.1	
12	Midway-Pacific Highway	196.9	
13	Barrio Logan	193.5	
14	Mid-City: Kensington-Talmadge	191.4	
15	Old San Diego	188.7	
16	Linda Vista	187.9	
17	Mid-City: Eastern Area	185.7	
18	Mission Beach	179.8	3 (160-180 points)
19	Southeastern: Encanto Neighborhoods	171.2	
20	Otay Mesa-Nestor	164.4	
21	Clairemont Mesa	160.4	
22	Serra Mesa	144.4	**4 (125-145 points)**
23	Mission Valley	140.6	
24	Skyline-Paradise Hills	138.9	
25	University	135.9	
26	Carmel Mountain Ranch	132.8	
27	La Jolla	132.2	
28	Navajo	131.2	
29	Kearny Mesa	127.7	
30	Peninsula	122.6	5 (110-123)
31	Rancho Bernardo	114.6	
32	Mira Mesa	113.6	
33	Balboa Park	113.5	
34	Reserve	112.7	
35	Rancho Penasquitos	111.9	
36	Tierrasanta	98.6	6 (80-100 points)
37	Scripps Miramar Ranch	94.3	
38	Mission Bay Park	94.2	

Table 5-4: Updated Community PPM Points and Rankings (continued)

Updated Ranking	Community Planning Area	Average PPM Points	Updated CPA Ranking Group
39	Carmel Valley	93.9	6 (80-100 points)
40	Torrey Pines	91.5	
41	Sabre Springs	83.4	
42	Miramar Ranch North	82.8	
43	Los Penasquitos Canyon Preserve	82.3	
44	Torrey Highlands	73.4	7 (55-75 points)
45	Tijuana River Valley	73.1	
46	Via de la Valle	71.1	
47	Torrey Hills (Sorrento Hills)	67.5	
48	Otay Mesa	60.3	
49	NCFUA Subarea II	57.8	
50	Pacific Highlands Ranch	44.9	8 (35-45 points)
51	San Pasqual	39.0	
52	Black Mountain Ranch	38.9	
53	Fairbanks Country Club	38.9	
54	East Elliott	38.9	
55	Del Mar Mesa	37.6	
56	Rancho Encantada	37.6	

Figure 5-6: Composite Model Community Ranking



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6 Community Pedestrian Plan Development Guidance

6. Community Pedestrian Plan Development Guidance

This chapter provides guidance on the process for developing the Community Pedestrian Plans found in Volume II of the Plan. The process involves data collection, GIS mapping, field investigation, assessments, interdepartmental coordination, and community input which occur throughout the steps described in the following sections.

6.1 Public Input Process

Community input is an important component of development of the Community Pedestrian Plans and should be encouraged throughout the process, with specific feedback requested at key milestones to provide direction to the project team. Community members are intimately familiar with the issues and constraints they face in their own community. The outreach strategy may be tailored to each community, but efforts should use the community planning group as the primary point of contact with targeted efforts to reach other stakeholders, and include an interactive project website, online survey and/or questionnaire, email distributions, presentations, workshops or open house events, walk audits (facilitated or self-guided), and language interpretive services where needed.

6.2 Collect and Process Mapping

Current GIS data used in the pedestrian priority model described in Chapter 5 should be updated with more current inputs if necessary. In particular, the locations of transit stops and ridership levels, land uses, traffic counts, and pedestrian crashes may have more recent data available than that used during the prior PPM update. Current datasets are collected and the PPM is updated. In addition other existing conditions information such as sidewalk, curb ramp, and street tree data and relevant mobility and planning studies should be compiled.

6.3 Review Collision Data and Maps

A high priority in the development of the Community Pedestrian Plans is the identification of safety issues and the application of relevant countermeasures to resolve these issues. Collision data collected in the previous step is mapped and analyzed to identify trends, and geographic areas of concern.

6.4 Develop Pedestrian Route Types

Chapter 4 goes into great detail on the characteristics of each route type. All walkways in the City fit into one of seven categories: district, corridor, connector, neighborhood, ancillary facility, path, and trail. Route types within the community under study are initially developed using GIS and then refinements are made, as needed, to ensure the correct relationship between the proposed route type and the adjacent land uses and levels of pedestrian activity. Additional detail on the procedures for developing route types within the community are provided in **Appendix B**.

6.5 Identify Focus Area(s) within the Community

Although there are numerous pedestrian routes throughout each community, not all meet the minimum criteria for detailed study in the Community Pedestrian Plans. Focus areas narrow down the routes

within each community that meet these minimum criteria. Those areas that fall outside the Focus Area(s) may be addressed through other City planning or operations processes. In most cases, streets that are not within the Focus Area(s) are lower density residential streets, streets within industrial areas, or areas with lower demand for pedestrian activity.

The method to identify the focus area(s) incorporates two basic steps – ranking locations and selecting focus areas. Locations are ranked based on four key inputs related to pedestrian use and need – Pedestrian Demand (which is comprised of Pedestrian Attractors and Pedestrian Generators), Pedestrian Detractors, Route Type, and Proximity to Public Facilities. Point values associated with each of the four input factors are summed and utilized to rank all study area roadway segments and intersections. Table 6-1 displays the input factors and point values associated with each input.

Table 6-1: Factors and Points System Used in Ranking Locations

Factors	Points	Basis for Points
Pedestrian Demand Model	1 to 4	Identifies locations with relatively high pedestrian demand potential
Pedestrian Detractor Model	1 to 5	Identifies locations with relatively low pedestrian quality
Route Types	1 to 4	Identifies relative importance of facility as a pedestrian route
Public Facilities	0 to 2	Identifies locations in close proximity to public facilities (parks, schools and libraries)

After locations are ranked, the mean and standard deviation of the roadway segment priority score are calculated for the community or communities. If there is significant variance in the mean and standard deviation of scores for communities under study, the analysis may be done by individual community instead of for the combined communities to provide a more even distribution of focus areas across communities. Two tiers of priority are established using thresholds related to the mean and standard deviation of the priority score in order to capture the highest priority locations within the community. These segments and the adjacent pedestrian environment form the priority focus areas.

6.6 Existing Conditions

Once the Focus Areas are defined, an investigation of existing conditions is conducted to determine specific needs in each of the communities. Existing conditions data is collected from numerous sources:

- City of San Diego Collision Data
- SANDAG Sidewalk Inventory
- City of San Diego Curb Ramp Inventory
- City of San Diego Existing Street Light Inventory
- Community Groups and Community Plan Update Public Input
- Community Walk Audits (received via email and internet)
- Project Team Walk Audits
- Interdepartmental Coordination

Existing conditions maps are developed that identify locations where improvements to the walking environment would be beneficial to the community. Draft improvement Area boundaries are defined for each community. Improvement areas are classified as Intersection Improvements, Corridor Improvements or Corridor Mobility Studies. The Pedestrian Master Plan aims to identify areas that would benefit from pedestrian related improvements. However, the Plan is not intended to fully vet the potential issues that may arise as a result of the recommendations identified in this plan. In nearly all cases, further design, analysis or environmental review will be necessary before improvements can be implemented.

6.7 Presentation to Community Planning Group

A presentation should be made at the community planning group to introduce the Pedestrian Master Plan and its development within the community under study. Maps showing the existing conditions data, focus areas, and draft improvement areas should be shared and community input should be requested on these and any other pedestrian concerns in the community that have not been identified. If appropriate, community members are referred to the Transportation Department's established Traffic Request System (for operations requests) or Street Service Request (for maintenance issues) to address concerns that fall outside the purview of the pedestrian master plan effort. The date and time of a future workshop/open house where the proposed improvements will be presented should be announced along with project website information.

6.8 Determine Treatments

An investigation of potential improvements is conducted to determine what changes could be made to improve the walking conditions in one or more of the following areas:

• ***Safety***: Create a safe pedestrian network free of barriers and tripping hazards, that has sufficient street crossings, buffer pedestrians from vehicles and has facilities wide enough to accommodate peak pedestrian use.

• ***Accessibility***: Make facilities accessible to pedestrians of all abilities and meet all local, state and federal requirements.

• ***Connectivity***: Develop a complete pedestrian network that provides direct and convenient connections for neighborhoods, employment centers, transit stations, public places and community destinations.

• ***Walkability***: Create pedestrian facilities that offer amenities to encourage usage and to enhance the pedestrian experience.

The process for identifying Improvement Areas is multi-step and involves not only physical review of the existing conditions, but also input from the community, review of accident history and research of on-going planning efforts within the planning areas. In addition, interdepartmental coordination is necessary to ensure recommendations are feasible and will be supported through implementation.

A potential repair or improvement to a pedestrian facility does not necessarily qualify to become an improvement area in the plan. An improvement recommendation is new construction or a major retrofit that would likely require the development of design and engineering plans, a permit or other ministerial or discretionary review, and would likely be built by a contractor or substantial city work forces.

6.9 Community Workshop/Open House to Present Improvement Concepts

A public workshop or open house is conducted to obtain input from the broader community on the planning effort and draft recommended improvements and priorities for implementation. Presentation materials should include general project overview and community-specific information such as existing conditions, route types, focus areas, and recommended improvement concepts. Information should be made available online for those unable to attend.

6.10 Finalize Community Pedestrian Plan

Improvement recommendations and planning-level prioritization are refined based on input from the community and the Community Pedestrian Plan is finalized. The document should include information on the process, methodology, and community-specific route types, focus areas, recommended improvement concepts, and planning-level prioritization.

6.11 Present Final Report to Community Planning Group

A presentation is made to the Community Planning Group on the Final Community Pedestrian Plan, improvement concept recommendations, prioritization, and next steps for implementation. Additional input from the Community Planning Group is documented.

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7 Funding and Implementation

7. Funding and Implementation

7.1 Funding Sources

Funding that can be used for pedestrian projects, programs, and planning efforts comes from all levels of government. This section describes federal, state, regional, and local sources of funding that have been used by local agencies to fund pedestrian infrastructure and programs.

7.1.1 Federal Funding Sources

MAP-21 Funds

On July 6, 2012 the Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law. MAP-21 funds surface transportation programs at over $105 billion for fiscal years (FY) 2013 and 2014. MAP-21 includes the following funding programs that may support pedestrian projects in the City of San Diego

Transportation Alternatives Program (TAP)

MAP-21 consolidates prior sources for non-motorized improvements such as Transportation Enhancements, Safe Routes to School, and Recreational Trails into the Transportation Alternatives Program (TAP). Total TAP funding is 2% of MAP-21 highway funding. TAP-eligible activities include construction, planning and design of facilities for pedestrians and bicyclists; safe routes for non-drivers to access daily needs; community improvement activities; environmental mitigation; recreational trial program projects; safe routes to school projects; and projects for the planning, design, or construction of boulevards and other roadways largely in the right of way of former Interstate System routes or other divided highways. More information is available at: http://www.fhwa.dot.gov/map21/guidance/guidetap.cfm. In California, TAP funds will be distributed through the State's Active Transportation Program described in the State section.

Community Development Block Grants

The CDBG program provides money for streetscape revitalization, which may be largely comprised of bicycle and pedestrian improvements. Federal Community Development Block Grant Grantees may use CDBG funds for activities that include (but are not limited to) acquiring real property; building public facilities and improvements, such as streets, sidewalks, and recreational facilities; and planning and administrative expenses, such as costs related to developing a consolidated plan and managing CDBG funds.

Congestion Mitigation and Air Quality Improvement Program

Congestion Mitigation and Air Quality Improvement funds are programmed for projects that are likely to contribute to the attainment of a national ambient air quality standard, and provide congestion mitigation. These funds can be used for a variety of bicycle and pedestrian projects, particularly those that are developed primarily for transportation purposes. The funds can be used either for construction of bicycle transportation facilities and pedestrian walkways, or for non-construction projects related to safe bicycle and pedestrian use (maps, brochures, etc.). The projects must be tied to a plan adopted by the State of California and the Regional Government Agency.

7.1.2 State Funding

This section summarizes the primary state of California bicycle and pedestrian project and planning funding sources.

Active Transportation Program

On September 26, 2013, legislation creating the Active Transportation Program (ATP) in the Department of Transportation was signed into law. The ATP consolidates existing federal and state transportation programs, including the Transportation Alternatives Program (TAP), Bicycle Transportation Account (BTA), and State Safe Routes to School (SR2S), into a single program with a focus to make California a national leader in active transportation. The ATP administered by the Division of Local Assistance, Office of Active Transportation and Special Programs.

The purpose of the ATP is to encourage increased use of active modes of transportation by achieving the following goals:

- Increase the proportion of trips accomplished by biking and walking,
- Increase safety and mobility for non-motorized users,
- Advance active transportation efforts of regional agencies to achieve greenhouse gas reduction goals,
- Enhance public health,
- Ensure that disadvantaged communities fully share in the benefits of the program, and
- Provide a broad spectrum of projects to benefit many types of active transportation users.

The State awarded $221 million in funding for Cycle 1 in August, 2014 for 148 bicycle and pedestrian projcts and programs. Another call for projects is anticipated in 2015.

Environmental Enhancement and Mitigation Program (EEMP)
Environmental Enhancement and Mitigation Program (EEMP) funds are allocated to projects that offset environmental impacts of modified or new public transportation facilities including streets, mass transit guideways, park-n-ride facilities, transit stations, tree planting to equalize the effects of vehicular emissions, and the acquisition or development of roadside recreational facilities, such as trails. State gasoline tax monies fund the EEMP, which annually allocates $10 million for mitigation projects.

Highway Safety Improvement Program (HSIP)
The Highway Safety Improvement Program (HSIP) is a state safety program that funds safety improvements on public roads and highways. These funds attempt to reduce the number and severity of traffic accidents at improved locations. HSIP funds are eligible for work on any public road or publicly owned bicycle or pedestrian pathway or trail, or on tribal lands for general use of tribal members, that corrects or improves the safety for its users.

Local agencies compete for HSIP funds each year by submitting candidate safety projects to Caltrans for review and analysis. Caltrans prioritizes these projects statewide and releases an annual HSIP Program Plan that identifies the approved projects. The state disperses funding annually following the federal fiscal year. Approximately $150 million dollars were available in the 2013 funding cycle. The next call for projects is anticipated in Spring 2015.

Office of Traffic Safety (OTS) Grant
The Office of Traffic Safety (OTS) grants fund safety programs and equipment. Bicycle and pedestrian safety is one of ten specifically-identified priorities. This category of grants includes enforcement and education programs, which can encompass a wide range of activities, including bicycle helmet distribution, design and printing of billboards and bus posters, other public information materials, the development of safety components as part of physical education curriculum, or police safety demonstrations through school visitations. The grant cycle typically begins with a request for proposals in October, which are due the following January.

Subvention Funds
The Air Pollution Control District (APCD) collects $4 from each registration/renewal and distributes the money via grants to mobile-source emission reduction projects. Subvention Funds can be used for projects that reduce mobile source emissions.

Sustainable Transportation Planning Grants

The Sustainable Transportation Planning Grant Program was created by Caltrans to address a wide range of transportation planning needs. Dedicated funding is no longer allocated to Environmental Justice, Community-Based Transportation Planning and Transit Planning, though these types of projects are eligible for funding under this new program. Grant programs are described below. The two planning grants under this program are Strategic Partnerships and Sustainable Communities.

Sustainable Transportation Planning Grants: Strategic Partnerships

Strategic Partnership grants are funded by the FHWA, approximately $1.5 million will be available for projects in the FY 2015-2016 grant cycle. The minimum grant is $100,000 and the maximum is $500,000. Projects funded by this grant may include, but are not limited to, studies that identify regional or statewide mobility needs, studies that evaluate transportation issues, and transportation demand management.

Sustainable Transportation Planning Grants: Sustainable Communities

The Sustainable Communities grants are funded by the FTA and the State Highway Account. In the FY 2015-2016 grant cycle, approximately $8.3 million will be available, with a minimum grant of $50,000 and maximum grant of $500,000. The goal of the projects funded under these grants are to address multi-modal transportation systems and environmental issues.

7.1.3 Regional Funding Sources

Regional pedestrian funding comes from a variety of sources, including MAP¬-21, the state budget, and the TransNet half-cent countywide sales tax. Regional funds are allocated by the San Diego Association of Governments (SANDAG).

SANDAG Active Transportation Program
The SANDAG Board of Directors allocates funds under the Transportation Development Act (TDA) and the TransNet local sales tax program to support non-motorized transportation projects in the San Diego region. As part of the approval of the Regional Bicycle Plan Early Action Program, SANDAG recently revised regional grant funding that would be made available for local bicycle and pedestrian projects to $1 million per year. However, as part of the new State Active Transportation Program described in the

previous section, SANDAG will also distribute the region's share (approximately $8 million) of the first three-year allocation of ATP funds through a competitive process by September 2014. When the state initiates the next cycle of ATP funds (expected in 2015), there may be another regional competition for funds.

7.1.4 Local Funding Sources

City's Local TransNet Allocation

The City of San Diego receives a share of the local half-cent TransNet sales tax funds for transportation related capital improvements and maintenance. During Fiscal Year 2012 the City received approximately $26.6 million in TransNet revenue of which, per the TransNet Extension Ordinance, at least 70% is allocated for congestion relief purposes and a maximum of 30% may be allocated for maintenance purposes. Less than five million is generally available for new projects selected in the Citywide Annual Allocations-Transportation Projects. The remainder of this funding is committed to projects already in progress.

Development Impact Fees

Another source of funding in developed communities is Development Impact Fees (DIFs), which are intended to fund improvements to address impacts of development in urbanized communities. Fees are generally established by community planning area.

Table 7-1 highlights federal, state and local funding sources available for pedestrian projects.

Table 7-1: Summary of Federal, State, Regional and Local Pedestrian Facility/Programs Funding Sources

Grant Source	Application Deadline	Agency	Program Funds Available	Matching Requirement	Eligible Applications	Commute	Recreation	Safety & education	Comments and Information
Federal Funding									
MAP-21 Funds	Ongoing	FHWA	$105 billion in FY 2013-2014		Public agencies and private entities with project sponsored by a public authority	X	X	X	More information is available at: www.fhwa.dot.gov/map21
Transportation Alternatives Program (TAP)	Ongoing	FHWA	$1.6 million in 2013-2014	Varies by state	Public agencies	X	X	X	More information is available at: www.fhwa.dot.gov/map21/guidance/guidetap.cfm
Congestion Mitigation and Air Quality (CMAQ)	Ongoing	FHWA	$8.6 billion nationwide under SAFETEA-LU (2005-2009)	20% local match	State DOTs, MPOs, transit agencies	X	X		Information: http://www.fhwa.dot.gov/environment/cmaqpgs/
Community Development Block Grants	Varies	US Dept. of Housing and Urban Development (HUD)	$29.5 million in FY-2014	None, but may be used as an evaluation criterion	States and local jurisdictions	X	X		More information: http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs
State Funding									
Active Transportation Program	Varies	Caltrans	$221 million awarded in 2014	11.47% minimum match required, except for projects serving disadvantaged communities	Local, Regional or State agencies, Caltrans, transit agencies, natural resource or public land agencies, public schools or school districts, tribal governments, provate non-profit tax-exempt organizations	X	X	X	More information: http://www.catc.ca.gov/programs/ATP.htm

Table 7-1: Summary of Federal, State, Regional and Local Pedestrian Facility/Programs Funding Sources (continued)

Grant Source	Application Deadline	Agency	Program Funds Available	Matching Requirement	Eligible Applications	Commute	Recreation	Safety & education	Comments and Information
Environmental Enhancement and Mitigation Program (EEMP)	Currently suspended (as of mid-2006)	State Resources Agency, Caltrans	$10 million statewide	Not required but favored	Local, state and federal government non-profit agencies	X	X	X	Projects that mitigate environmental impacts of planned transportation projects; can include acquisition or development of roadside recreational facilities. Contact Carolyn Dudley, State Resources Agency, (916) 653-5656
Highway Safety Improvement Program (HSIP)	Cycle 7 call for projects TBA in Spring 2015	Caltrans	$150 million in 2013	Varies between 0-10%	City, County or Tribal Government	X	X	X	More information: http://www.dot.ca.gov/hq/LocalPrograms/hsip.html
Office of Traffic Safety Grants	Jan. 31	Office of Traffic Safety	Varies	None http://www.aqmd.gov/docs/default-source/transportation/ab2766-motor-vehicle-subvention-fund-program/ab2766-resource-guide.pdf?sfvrsn=2	Governmental agencies, state colleges, and universities, local city and county government agencies, school districts, fire depts, and public emergency services providers			X	Grants are used to mitigate traffic safety program deficiencies, expand ongoing activity, or develop a new program. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation, or construction. Contact OTS Regional Coordinator Lisa Dixon at, (916) 262-0978 or ldixon@ots.ca.gov
Subvention Funds	Ongoing	Air Pollution Control District	Varies	None	Cities and Counties	X	X	X	DMV charges $6 fee surcharge per vehicle, subvened to the SCAQMD for disbursement

Table 7-1: Summary of Federal, State, Regional and Local Pedestrian Facility/Programs Funding Sources (continued)

Grant Source	Application Deadline	Agency	Program Funds Available	Matching Requirement	Eligible Applications	Commute	Recreation	Safety & education	Comments and Information
Sustainable Transportation Planning Grants: Sustainable Communities	October 31	Caltrans	$8.3 million FY 2015-2016, $500,000 maximum	11.47% local match	Primary recipients: MPOs/RTPAs, Transit Agencies, Cities, Counties, Native American Tribal Governments	X	X	X	Consolidated funding program for Community-Based Transportation Planning, Environmental Justice and Transit Planning. http://www.dot.ca.gov/hq/tpp/grants.html
Strategic Partnerships	October 31	Caltrans	$1.5 million FY 2015-2016, $500,000 maximum	20% mocal match	Primary recipients: MPOs/RTPAs	X	X	X	Consolidated funding program for Community-Based Transportation Planning, Environmental Justice and Transit Planning. http://www.dot.ca.gov/hq/tpp/grants.html
Regional Funding									
SANDAG Active Transportation Program	Varies	SANDAG	$8.8 million awarded in 2012	None, but is included in evaluation criteria	Cities, county	X	X	X	For more information: http://www.sandag.org/index.asp?projectid=418&fuseaction=projects.detail
Local Funding									
Local TransNet Allocation	N/A	City of San Diego	Approximately $26.2 million in FY 2012	None	N/A	X	X		At least 70% is allocated for congestion relief purposes and a maximum of 30% may be allocated for maintenance purposes.
Development Impact Fees	N/A	Community Planning Areas	Varies	None	City	X	X		

7.2 Implementation

Pedestrian improvements within the public right of way are initiated and implemented through multiple city departments, programs, and funding sources, as well as by private property owners, and other public agencies such as Caltrans and SANDAG. This section describes the primary mechanisms for implementing pedestrian improvements in order to provide a framework for how the high priority pedestrian improvement projects identified in the Pedestrian Master Plan could be implemented. This section addresses installation of new improvements and replacing or rehabilitating infrastructure, as opposed to maintenance of existing pedestrian facilities which is discussed in the next chapter.

7.2.1 Capital Improvement Program

The Capital Improvement Program (CIP) is the City's long-range plan for all individual capital improvement projects and funding sources. CIP projects are unique construction projects that provide improvements or additions such as land, buildings, and infrastructure. The CIP process includes identifying, prioritizing, and finding funding for needed projects; developing and approving the annual CIP Budget, and implementing multi-year capital improvement projects. The CIP is constrained by limited available funding and funding sources that have specific restrictions on how they can be used. In recent years, the majority of the CIP budget has funded ongoing projects and only a small portion has been available to begin new projects. The City recently formalized the process to obtain public input on community infrastructure needs and priorities through the Community Planners Committee (CPC) (Council Policy 000-32).

Some CIP projects are clearly pedestrian improvements such as sidewalks, curb ramps, curb extensions, and enhanced pedestrian crosswalks. Others may benefit pedestrians, such as streetlights and traffic signals. Still others may primarily address other infrastructure, but may include pedestrian improvements within their scope of work such as street resurfacing or water/wastewater pipeline projects which may incorporate curb ramp improvements as required accessibility upgrades.

The City allocates funding to stand-alone capital improvement projects as well as to established annual allocations, for which the City provides an amount of funding each year for various transportation project types. Following is a list of the City's annual allocations for transportation projects.

Citywide Annual Allocations - Transportation Projects

A-IA.00001	Minor Bicycle Facilities
A-IE.00001	Bridge Rehabilitation – City wide
A-IG.00001	Median Installation
A-IH.00001	Street Lights – Smart Growth Areas
A-IH.00001	Street Lights – Fund 400156
A-IK.00001	New Walkways (Sidewalks – Citywide)
A-IK.00002	School Traffic Safety Improvements
A-IL.00001	Traffic Control/Calming Measures – Smart Growth Areas
A-IL.00001	Traffic Control/Calming Measures Fund 400156
A-IL.00002	Traffic Signal Interconnect Projects
A-IL.00004	Traffic Signals – Citywide
A-IL.00005	Traffic Signals – Modification/Modernization

Pedestrian improvements identified in this Pedestrian Master Plan along with previously identified unfunded pedestrian improvement are considered for available funding every year.

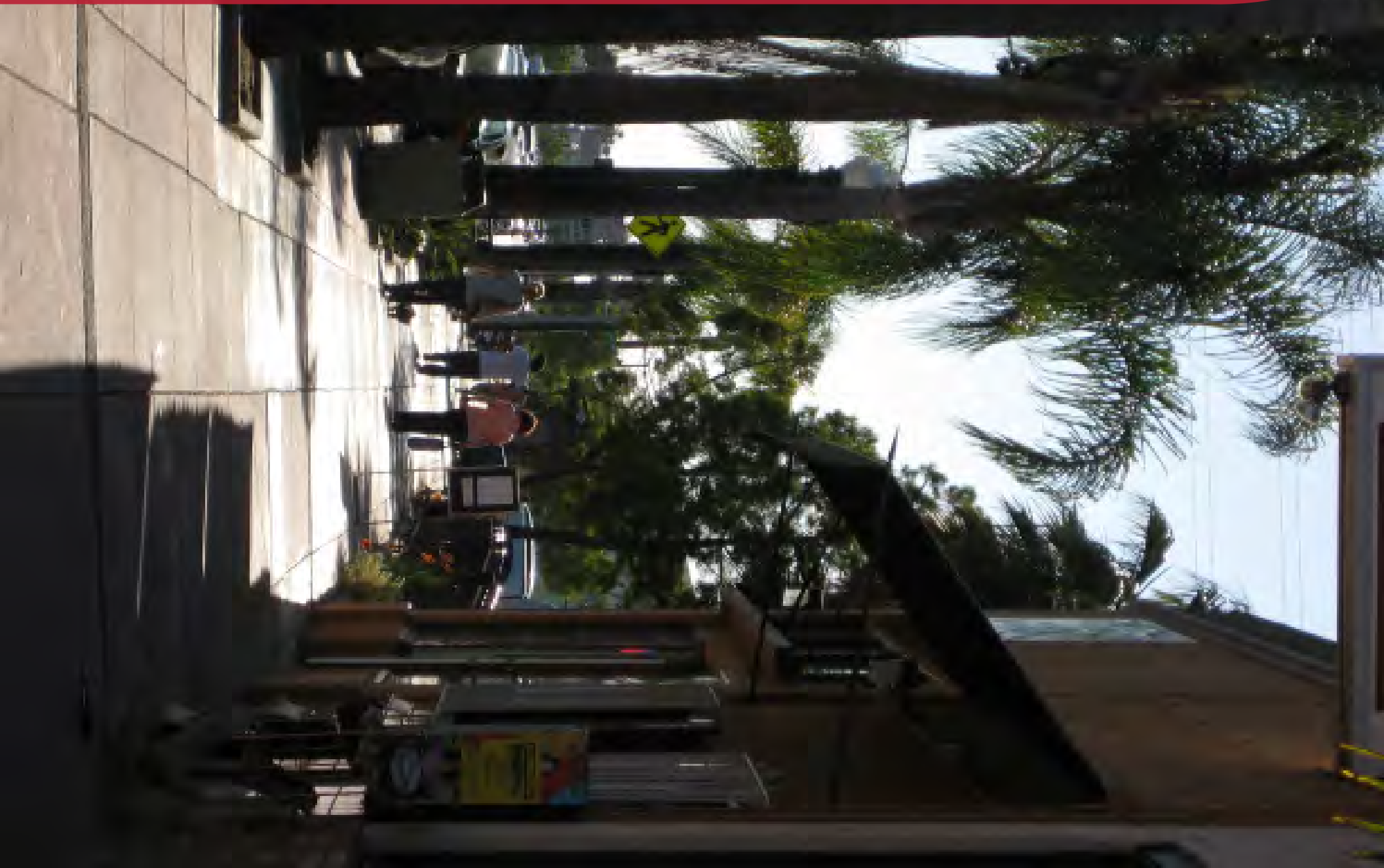
Currently the CIP Budget does not include new projects starting in later fiscal years. However, the City is in early stages of developing a multi-year Capital Improvements Plan that will show what projects are planned; what projects are needed; what revenue is projected from existing funding sources; and what priority projects lack a funding source. The multi-year Capital Improvements Plan could identify priority unfunded needs and develop strategies for financing these needs, such as General Obligation Bond Programs.

7.2.2 Transportation Plan

The City of San Diego published a Draft Climate Action Plan (CAP) in September 2014. The Plan identifies measures to effectively meet greenhouse gas (GHG) reduction targets for 2020 and 2035. Attainment of the reduction targets will require significant City and regional actions amongst other measures. Some of these actions tie into advancing the "City of Villages" concept of walkable and pedestrian friendly neighborhoods with a mixture of uses that revitalize existing neighborhoods while retaining the individual character and promoting active transportation.

To further address the City of San Diego's commitment to the CAP, a Transportation Plan will be established and utilized for implementation of the pedestrian improvements and evaluation of the pedestrian environment. Specific performance measures will be established, and a review of accomplishments will be performed. Performance measures may include, but are not limited to, items such as number of gaps eliminated, crossings improved, pedestrian environment quality improvements, route directness, and safety enhancements.

8 Maintenance



8. Maintenance

There are approximately 5000 miles of sidewalk in the City of San Diego. The City is undertaking its first comprehensive sidewalk assessment to be completed by early 2015 which will provide a detailed database of the overall condition of city sidewalks and areas for which no sidewalks currently exist. This information can then be used by various departments for planning and estimating purposes. The following sections describe the current sidewalk maintenance policy and procedures which may be revised upon completion of the sidewalk assessment.

8.1 Sidewalk Maintenance Policy and Procedures

The City is responsible for the repair of sidewalk damage caused by vehicle crashes, water main breaks, grade subsidence and street trees within the City's right-of-way. Normal sidewalk wear and tear or age damage is the responsibility of the homeowner who can take advantage of the City's 50/50 Cost Sharing Program to help offset the cost of repairs.

The typical process of sidewalk repair starts with notification of a repair need. Generally, a resident (or a City employee in the normal course of field duties) notifies the City's Street Division about sidewalk maintenance issues and a supervisor inspects the location to determine the cause of the damage. To limit liability and increase safety, the City has generally dealt with sidewalk complaints by mitigating the hazard as soon as possible, and notifying the property owner of the issue.

Qualifying City repairs are prioritized based on a damage rating system, consideration of the amount of pedestrian traffic at the location and the date of notification. Currently, if a property owner must repair and replace any portion of the sidewalk, they are required to obtain a permit from the City, which is used for plan-check and inspections. This permit is not required for sidewalk repair that is addressed under the 50/50 Cost Sharing Program.

8.2 50-50 Cost Sharing Program

Property owners are responsible for repair or replacement of their sidewalk when damaged by privately owned tree roots, heavy vehicle traffic or drainage from private property. However, when sidewalks are simply old and deteriorated the City will split the cost with the property owner as part of the 50/50 Cost Sharing Program. To qualify, the area to be repaired must be at least 75 square feet of old and deteriorated sidewalk, not including the driveway entrance.

8.3 Maintenance of Enhanced Facilities

A Maintenance Assessment District (MAD) is a legal mechanism by which property owners can vote to assess themselves to pay and receive services above-and-beyond what the City of San Diego normally provides. This above-and-beyond service level is called a "special benefit." What the City normally provides is called the "general benefit." An Encroachment Maintenance and Removal Agreement (EMRA) allows encraochment into the public right-of-way by installing and maintaining private improvements whereby the property owner assumes liability and responsibility for maintenance.

New installations of enhanced sidewalks, landscaping, street trees, street lighting, and street furniture involve consideration of irrigation and long-term maintenance, and require an EMRA or the establishment of a MAD.