Pedestrian Master Plan

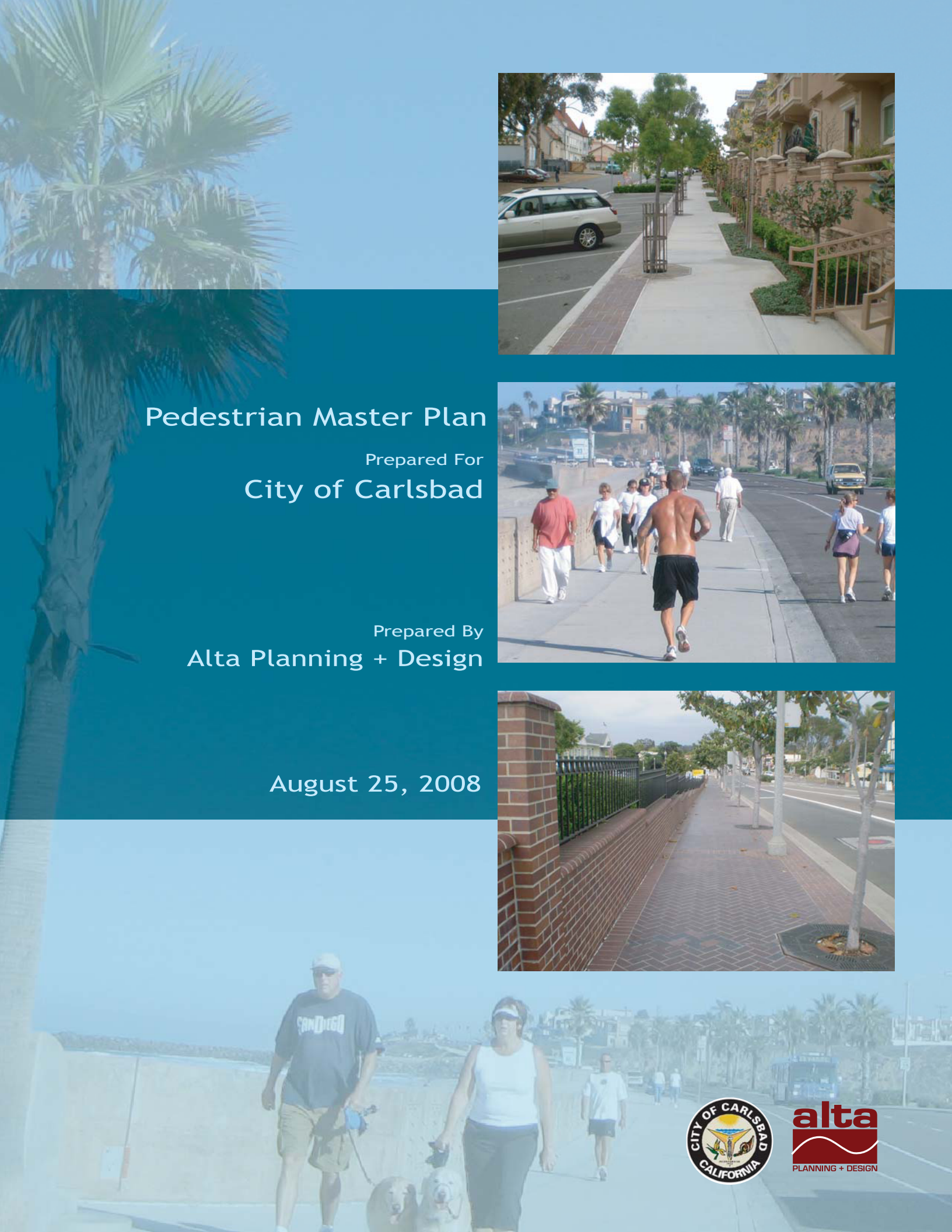
Prepared For

City of Carlsbad

Prepared By

Alta Planning + Design

August 25, 2008



3.0 Goals, Objectives and Policies

This section presents the recommended goals, objectives and policies for the Carlsbad Pedestrian Master Plan. The goals and objectives provide the long-term vision and serve as the foundation of the plan, while the policies provide more specific descriptions of actions to undertake to implement the plan.

As part of the Pedestrian Master Plan, the goals, objectives and implementing policies of the existing 2004 General Plan Circulation and Land Use Elements have been expanded upon to provide an updated and comprehensive set of goals, objectives and policies covering Streets and Traffic Control, Alternative Modes of Transportation, Overall Land Use Policies, Residential Land Uses, Commercial Land Uses and the Village. Goals, objectives and policies shown in *italics* are taken directly from these existing General Plan Circulation and Land Use Elements.

3.1 Streets and Traffic Control

3.1.1 Goals

Goal 1. *A City with inviting streetscapes that encourage walking and promote a sense of neighborhoods in residential developments.* (Street and Traffic Control Goal A.5)

Goal 2. *A City with streets designed to balance vehicular requirements with the needs of all pedestrians including children, the elderly and the disabled.* (Street and Traffic Control Goal A.6)

Goal 3. *A City with a circulation system that promotes alternative transportation such as walking, bicycling and public transportation.* (Street and Traffic Control Goal A.8)

3.1.2 Objectives

Objective 1. *To design streets for the safe and efficient movement of people, goods and services in the most environmentally sound manner possible.* (Street and Traffic Control Objective B.2)

Objective 2. *To design new subdivisions with streets where trees, parkways and traffic calming measures beautify neighborhoods, slow vehicle speeds, maintain on-street parking and encourage residents to walk or bicycle.* (Street and Traffic Control Objective B.8)

3.1.3 Implementing Policies

Policy 1. *Require new subdivisions to provide walkways linking homes with stores, schools, businesses and transportation corridors, etc.* (Street and Traffic Control Implementing Policy C.20)

Policy 2. *Require new subdivisions to incorporate parkways to encourage pedestrian activity.* (Street and Traffic Control Implementing Policy C.21)

Policy 3. *Require residential subdivisions to provide street connectivity to the maximum extent feasible by limiting the use of single access streets.* (Street and Traffic Control Implementing Policy C.22)

3.2 Alternative Modes of Travel

3.2.1 Goals

Goal 1. *A City which promotes, encourages, and accommodates a variety of transportation modes as alternatives to the automobile.* (Alternative Modes of Transportation Goal A)

3.2.2 Objectives

Objective 1. *To provide infrastructure and facilities necessary to accommodate pedestrians, bicycles, and other non-automobile modes of transportation.* (Alternative Modes of Transportation Objective B.1)

Objective 2. *To reduce the number and severity of vehicular, bicycle and pedestrian-related accidents.* (Alternative Modes of Transportation Objective B.2)

Objective 3. *To prioritize future sidewalk construction.* (Alternative Modes of Transportation Objective B.3)

3.2.3 Implementing Policies

Policy 1. *Encourage the construction of sidewalks along all public roadways with special emphasis given to collectors, arterials, and areas with high pedestrian traffic generators such as schools, commercial centers, transportation facilities, public buildings, beaches and parks.* (Alternative Modes Implementing Policy C.1)

Policy 2. *Encourage pedestrian circulation in commercial areas through the provision of convenient parking facilities, increased sidewalk widths, pedestrian-oriented building designs, landscaping, street lighting and street furniture.* (Alternative Modes Implementing Policy C.2)

Policy 3. *Design pedestrian spaces and circulation in relationship to land uses and available parking for all new construction and redevelopment.* (Alternative Modes Implementing Policy C.3)

Policy 4. *Link public sidewalks to the network of public and private trail systems.* (Alternative Modes Implementing Policy C.4)

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Policy 5. *Provide for handicapped access to and along public sidewalks and along as much of the trail system as feasible.* (Alternative Modes Implementing Policy C.5)

Policy 6. *Install sidewalks and trail systems within existing and new industrial developments.* (Alternative Modes Implementing Policy C.6)

Policy 7. *Encourage school districts to implement safety programs for pedestrians and bicyclists within the public school system.* (Alternative Modes Implementing Policy C.7)

Policy 8. *Maintain a Traffic Safety Commission composed of Carlsbad citizens for the purpose of studying matters of traffic and pedestrian safety and making recommendations to the City Council regarding measures to promote and improve traffic and pedestrian safety.* (Alternative Modes Implementing Policy C.8)

Policy 9. *Employ improved traffic control devices and monitor police accident reports to increase pedestrian and bicyclist safety.* (Alternative Modes Implementing Policy C.9)

Policy 10. *Prepare and maintain an inventory of all missing and incomplete sidewalk segments within the City for the purpose of prioritizing future sidewalk connections.* (Alternative Modes Implementing Policy C.10)

Policy 11. *Provide linkage to bus, pedestrian and bicycle routes from any new light rail commuter transit facility.* (Alternative Modes Implementing Policy C.18)

Policy 12. *Encourage passive and active use of the railroad right-of-way as trail linkage and bicycle pathway.* (Alternative Modes Implementing Policy C.19)

3.3 Overall Land Use Patterns

3.3.1 Goals

Goal 1. *A City which provides for an orderly balance of both public and private land uses within convenient and compatible locations throughout the community and ensures that all such uses, type, amount, design and arrangement serve to protect and enhance the environment, character and image of the City.* (Overall Land Use Pattern Goal A.2)

3.3.2 Objectives

Objective 1. *To create a distinctive sense of place and identity for each community and neighborhood of the City through the development and arrangement of various land use components.* (Overall Land Use Pattern Objective B.1)

3.3.3 Implementing Policies

Policy 1. Use the Pedestrian Design Guidelines contained in this Plan to guide development of pedestrian facilities.

Policy 2. Encourage new subdivisions to incorporate street designs, appropriate widths, and standards to reduce vehicle speeds and encourage pedestrian activity.

Policy 3. *Evaluate each application for development of property with regard to the following specific criteria:*

- *The provision of public and/or private usable open space and/or pathways designated in the Open Space and Parks and Recreation Elements.*
- *Contributions to and extensions of existing systems of foot or bicycle paths, equestrian trails, and the greenbelts provided for in the Circulation, Parks and Recreation and Open Space Elements of the General Plan.*
- *Development proposals which are designed to provide safe, easy pedestrian and bicycle linkages to nearby transportation corridors.* (Overall Land Use Pattern Implementing Policy C.7)

3.4 Residential

3.4.1 Goals

Goal 1. *A City with neighborhoods that have a sense of community where residents including children, the disabled and the elderly feel safe and comfortable traveling to daily destinations; where homes and trees line the streets; where central gathering places create focal points; and where recreation areas are provided for a variety of age groups.* (Residential Land Use Goal A.2)

3.4.2 Objectives

Objective 1. *To ensure that new development is designed with the focus on residents instead of the automobile by providing: pedestrian-friendly, tree-lined streets; walkways to common destinations such as schools, parks and stores; homes that exhibit visual diversity, pedestrian-scale and prominence to the street; and recreation amenities for a variety of age groups.* (Residential Land Use Objective B.5)

3.4.3 Implementing Policies

Policy 1. *Require new residential development to provide pedestrian and bicycle linkages, when feasible, which connect with nearby community centers, parks, schools, points of interest, major transportation corridors and the proposed Carlsbad Trail System.* (Residential Land Use Implementing Policy C.11)

3.5 Commercial

3.5.1 Goals

Goal 1. *A City that provides for the development of compatible, conveniently located local shopping centers.* (Commercial Land Use Goal A.2)

3.5.2 Objectives

Objective 1. *To ensure that all residential areas are adequately served by commercial areas in terms of daily shopping needs which include convenience goods, food, and personal services. "Adequately served" means no residential area is outside the primary trade area of the nearest local shopping center.* (Commercial Land Use Objective B.2)

3.5.3 Implementing Policies

Policy 1. *Build and operate local shopping centers in such a way as to complement but not conflict with adjoining residential areas. This shall be accomplished by:*

- *Providing bicycle and pedestrian links between proposed local commercial centers and surrounding residential uses.* (Commercial Land Use Implementing Policy C.3)

Policy 2. *Comprehensively design all commercial centers to address common ingress and egress, adequate off-street parking and loading facilities. Each center should be easily accessible by pedestrians, bicyclists, and automobiles to nearby residential development.* (Commercial Land Use Implementing Policy C.4)

Policy 3. *Ensure that all commercial development provides a variety of courtyards and pedestrian ways, bicycle trails, landscaped parking lots, and the use of harmonious architecture in the construction of buildings.* (Commercial Land Use Implementing Policy C.7)

3.6 Village

3.6.1 Goals

Goal 1. *A City which preserves, enhances, and maintains the Village as a place for living, working, shopping, recreation, civic and cultural functions while retaining the village atmosphere and pedestrian scale.* (Village Land Use Goal A.1)

Goal 2. *A City which creates a distinct identity for the Village by encouraging activities that traditionally locate in a pedestrian-oriented downtown area, including offices, restaurants, and specialty retail shops.* (Village Land Use Goal A.2)

Goal 3. *A City that encourages a variety of complementary uses such as a combination of residential and commercial uses to generate pedestrian activity and create a lively, interesting social environment and a profitable business setting.* (Village Land Use Goal A.4)

3.6.2 Objectives

Objective 1. *To implement the Redevelopment Plan by developing a comprehensive plan to address the unique residential and commercial needs of this segment of the community.* (Village Land Use Objective B)

3.6.3 Implementing Policies

Policy 1. *Seek ways of strengthening existing establishments through façade and streetscape improvements, upgraded public and private landscaping and aesthetically-upgraded signage.* (Village Land Use Implementing Policy C.4)

Policy 2. *Promote the inclusion of housing opportunities in the Village as part of a mixed-use concept.* (Village Land Use Implementing Policy C.5)

3.7 Transportation Corridor

3.7.1 Goals

Goal 1. *A City which supports the improvement and modernization of railroad facilities within Carlsbad and the region.* (Transportation Corridor Land Use Goal)

3.7.2 Objectives

Objective 1. *To encourage the use of the excess railroad right-of-way for landscaping, parking facilities, recreation areas, trails and similar uses.* (Transportation Corridor Land Use Objective B.2)

3.7.3 Implementing Policies

Policy 1. *Adopt a comprehensive plan addressing the design and location of future commuter rail stations as well as methods of improving the appearance and public use of the railroad right-of-way.* (Transportation Corridor Land Use Implementing Policy)

4.0 Existing Conditions

The most basic elements of the pedestrian network are sidewalks, trails, crosswalks, and curb ramps. Sidewalks provide a space for pedestrian activity separated from motor vehicle traffic. Curb ramps provide a transition between the raised sidewalk and the crosswalk for persons using mobility assistance devices. Trails also provide a separation from motor vehicle traffic, although pedestrians may have to share trails with bicyclists and other non-motorized users. These elements should form a connected network that is functional, safe, and encourages people to walk. The following sections describe the key elements of the City of Carlsbad pedestrian network, including sidewalks, curb ramps, street lights, and trails. Gaps and areas of low pedestrian facility coverage are highlighted.

4.1 Sidewalks

According to the most recent sidewalk inventory, there are currently about 500 linear miles of sidewalk within Carlsbad. Approximately 305 miles of a total 339 miles of publically-maintained Carlsbad roadways (or roughly 90% percent), provide sidewalks within the roadway cross-section, along one or two sides of the roadway. There are approximately 33.7 miles of roadway within the City that do not provide sidewalks. The City of Carlsbad maintains an inventory of sidewalks in a GIS database that allows the sidewalk network to be mapped and analyzed.

Table 4.1 summarizes roadways without sidewalks by City of Carlsbad quadrant. As shown, the Northwest and Southwest quadrants currently have the highest proportion of total roadways without sidewalks, with roughly 56.1% of all roadways without sidewalks in the Northwest quadrant, and 21.7% of all roadways without sidewalks in the Southwest quadrant. Almost 93% of the City's sidewalks are 5 feet wide. Approximately 3%, or 14.4 miles, of City sidewalks are wider than 5 feet, ranging from 5.5 feet to 20 feet. Most of the wider sidewalks are located in the Village along Carlsbad Village Drive, State Street, Grand Avenue, Madison Avenue, and Carlsbad Boulevard along the beach. Sidewalks in downtown, where present, are typically 10 feet wide.

Figure 4-1 displays the roughly 500 total miles of existing sidewalks in the City of Carlsbad, as well as the roadways without sidewalks.

Table 4.1
City of Carlsbad Roadways Without Sidewalks by Quadrant

Quadrant	Miles of Roadways without Sidewalks	Percent of Total Missing Sidewalks
Northwest	18.9 miles	56.1%
Northeast	3.6 miles	10.7%
Southwest	7.3 miles	21.7%
Southeast	3.9 miles	11.5%
TOTAL	33.7 miles	100%

Source: Alta Planning + Design, City of Carlsbad 2007 Sidewalks Shapefile

4.2 Curb Ramps

According to the most recent curb ramp inventory there are 4,623 curb ramps in the City of Carlsbad. **Figure 4-2** displays intersections without curb ramps in the City of Carlsbad. **Table 4.2** summarizes the City's curb ramp conditions by city quadrant.

Table 4.2
City of Carlsbad Curb Ramp Conditions by Quadrant

Quadrant	Total Curb Ramps	Curb Ramps in "Good" Condition	Curb Ramps in "Fair" Condition	Curb Ramps in "Poor" Conditions
Northwest	1,390	1,352 (97%)	35 (2.5%)	3 (0.5%)
Northeast	674	627 (93%)	46 (6.9%)	1 (0.1%)
Southwest	838	760 (90.9%)	77 (9.0%)	1 (0.1%)
Southeast	1,716	1,502 (87.5%)	214 (12.5%)	0
TOTAL	4,618	4,241 (91%)	372 (8%)	5 (<1%)

Source: Alta Planning + Design, City of Carlsbad 2007 Curb Ramp Shapefile

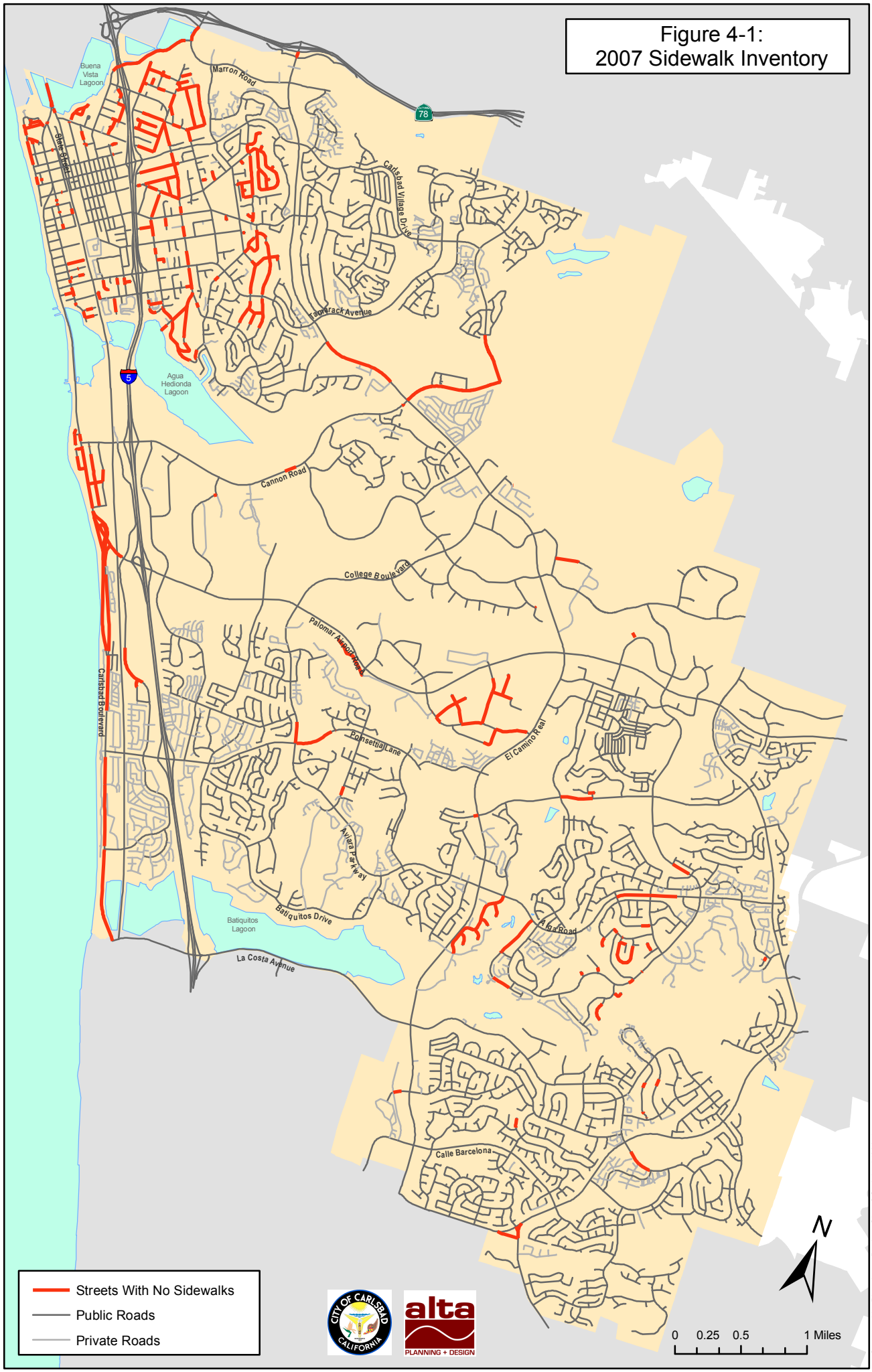
Figure 4-1:
2007 Sidewalk Inventory
Buena Vista Lagoon
Marron Road
78
Carlsbad Village Drive
State Street
Tamarack Avenue
5
Agua Hedionda Lagoon
Cannon Road
College Boulevard
Palomar Airport Road
Carlsbad Boulevard
Poinsettia Lane
El Camino Real
Aviara Parkway
Batiquitos Drive
Batiquitos Lagoon
La Costa Avenue
Alga Road
Calle Barcelona
Streets With No Sidewalks
Public Roads
Private Roads
CITY OF CARLSBAD CALIFORNIA
alta PLANNING + DESIGN
N
0 0.25 0.5 1 Miles
Source: Alta Planning + Design, City of Carlsbad (2007)

are in some of the most challenging topography of the City. These areas are characterized by newly urbanized developments providing some of the most state-of-the-art public facilities including new schools, parks, and a library. There are also several regional tourist attractions in this area including Legoland, California, the Flower Fields, the Four Seasons Resort, and the La Costa Resort and Spa.

1.2 Plan Contents

The Carlsbad Pedestrian Plan is organized according to the following chapters:

- **Chapter 2: Benefits of Walking**

  This chapter discusses the benefits of walking for the environment, for individuals, and for the overall Carlsbad's community. It also includes a summary of Carlsbad's existing walking statistics.

- **Chapter 3: Goals, Objectives and Policies**

  This chapter presents the vision for Carlsbad's pedestrian network, based on the City's General Plan, as well as extensive public input.

- **Chapter 4: Existing Conditions**

  This chapter summarizes the location and quantities of key pedestrian facilities within the City of Carlsbad, including sidewalks, curb ramps, trails, and street lights. The location and quantities of missing facilities is also summarized.

- **Chapter 5: Pedestrian Needs Analysis**

  This chapter presents an analysis of those factors – pedestrian attractors, generators and barriers – indicating high pedestrian need across the City of Carlsbad. The chapter concludes by calling out pedestrian planning focus areas that provide a framework for the identification of pedestrian projects.

- **Chapter 6: Recommended Projects**

  This chapter presents pedestrian projects to improve pedestrian accessibility and circulation in Carlsbad. The total cost for implementing all of the recommended capital improvement projects in Chapter 6 is approximately $23 million. Project sheets are provided for top 15 priority pedestrian project locations.

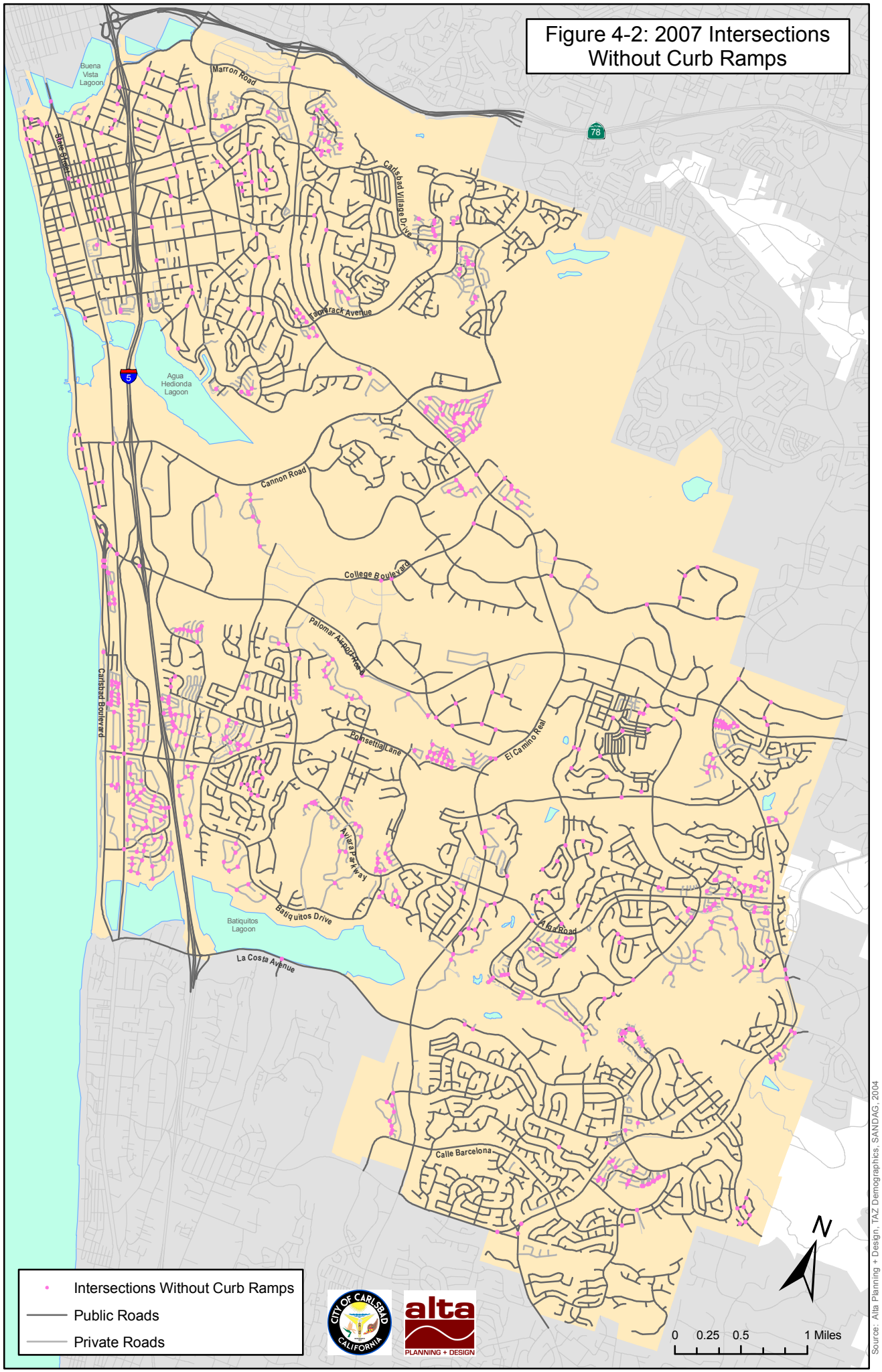
Figure 4-2: 2007 Intersections Without Curb Ramps
Buena Vista Lagoon
Marron Road
Carlsbad Village Drive
Tamarack Avenue
Agua Hedionda Lagoon
Cannon Road
College Boulevard
Palomar Airport Road
Carlsbad Boulevard
Poinsettia Lane
El Camino Real
Aviara Parkway
Batiquitos Drive
Batiquitos Lagoon
La Costa Avenue
Alga Road
Calle Barcelona
Intersections Without Curb Ramps
Public Roads
Private Roads
N
0 0.25 0.5 1 Miles
Source: Alta Planning + Design, TAZ Demographics, SANDAG, 2004

Approximately 91% of the curb ramps are rated as being in "good" condition, 8% are rated as being in "fair" condition, and less than 1% are rated as being in "poor" condition. Curb ramps in poor condition were identified at the following locations: El Camino Real/EB SR-78 On-Ramp, Monroe Street/Marron Road, Marron Road/Jefferson Street, Ivy Street/Daisy Avenue, and Halley Drive/Faraday Avenue.

4.3 Trails

The Carlsbad Citywide Trails network covers approximately 95 miles. **Figure 4-3** displays the current and planned trail system in the City of Carlsbad. Excluding existing sidewalk and bike lane connections (which account for 73.2 miles of the system), there are approximately 22 miles of trail network. There are 17.7 miles of existing unpaved trails, while the remaining trails are paved. The Carlsbad trail system includes three large sub-networks, as follows:

- Aviara Trail runs through residential subdivisions in southern Carlsbad and near Batiquitos Lagoon,
- Rancho Carrillo Trail runs through residential subdivisions in southeast Carlsbad, and
- Hosp Grove Trail is located just south of Buena Vista Lagoon in northern Carlsbad.

There are 2.3 miles of "specialty" trails including the Carlsbad Sea Wall and the Coastal Rail Trail, which runs alongside the San Diego Northern Railway in northwest Carlsbad (the right-of-way used by the Coaster commuter rail and Amtrak). Approximately 12 miles of the existing network are privately owned, though available for public use.

Future plans for the Carlsbad Citywide Trails network include the expansion of the Coastal Rail Trail south to the border with Encinitas, which would add an additional 5.5 miles of trail. There are also plans to expand the network of unpaved trails as residential development expands eastward in Carlsbad. Construction of future planned unpaved trails would add another 56.4 miles to the network.

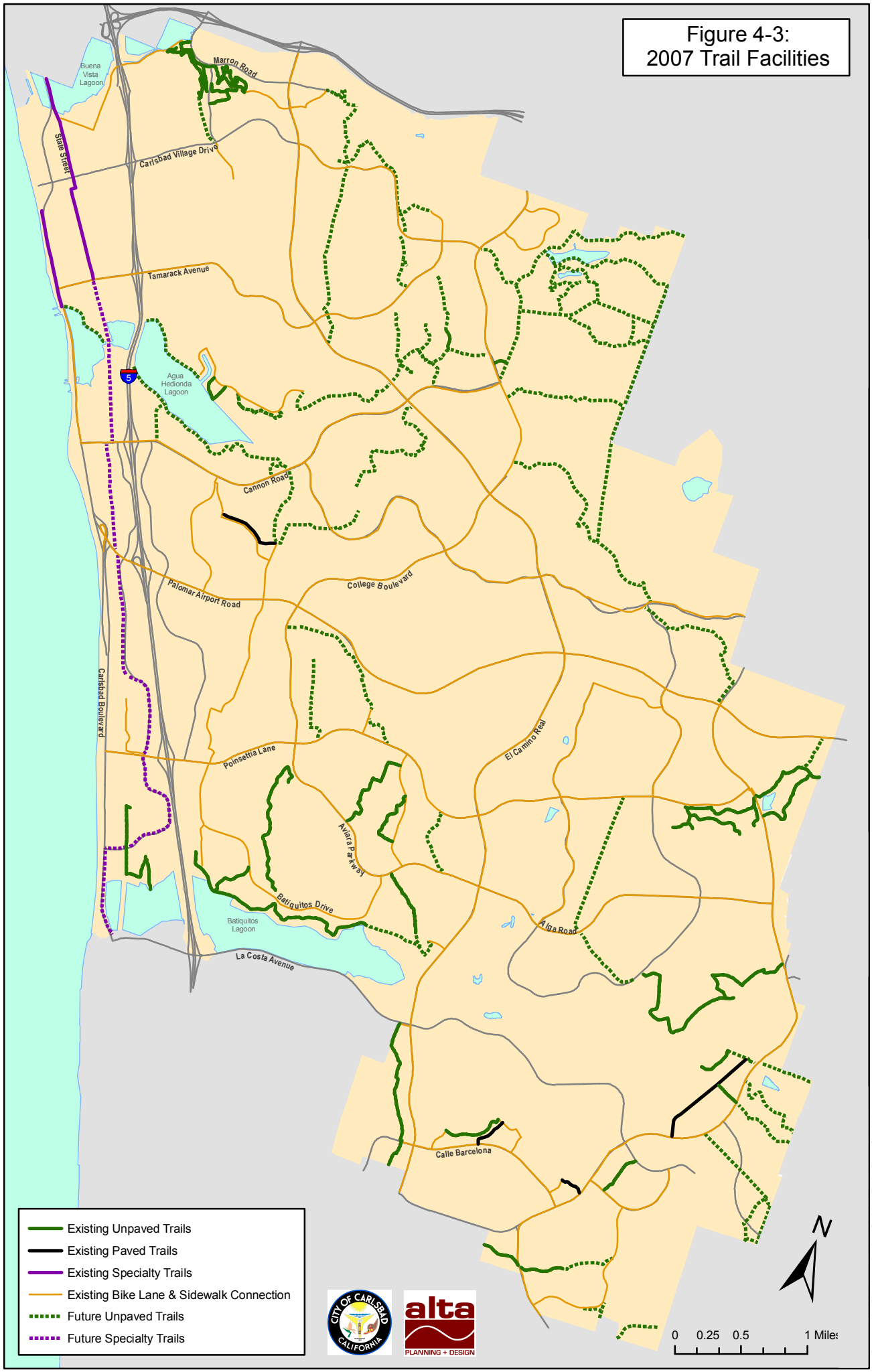
Figure 4-3:
2007 Trail Facilities
Buena Vista Lagoon
Marron Road
State Street
Carlsbad Village Drive
Tamarack Avenue
5
Agua Hedionda Lagoon
Cannon Road
College Boulevard
Palomar Airport Road
Carlsbad Boulevard
Poinsettia Lane
El Camino Real
Aviara Parkway
Batiquitos Drive
Batiquitos Lagoon
Alga Road
La Costa Avenue
Calle Barcelona
Existing Unpaved Trails
Existing Paved Trails
Existing Specialty Trails
Existing Bike Lane & Sidewalk Connection
Future Unpaved Trails
Future Specialty Trails
CITY OF CARLSBAD CALIFORNIA
alta PLANNING + DESIGN
N
0 0.25 0.5 1 Miles
Source: Alta Planning + Design, Carlsbad Trails Shapefile, 2007

4.4 Street Lights

Figure 4-4 displays the inventory of street lights in Carlsbad. There are a total of 7,355 street lights in Carlsbad. Nearly 71% of the existing sidewalk network is within 100 feet of a street light. Downtown Carlsbad along Carlsbad Village Drive and Grand Avenue has the highest concentration of street lights, averaging about one every 50 feet. Greater distances between street lights exists along the east-west arterial roadways south of Agua Hedionda Lagoon, such as Cannon Road, Palomar Airport Road, and La Costa Avenue. Street lighting along these roadways is typically spaced about 500 feet apart, although in some cases, exceeds 1,000 feet. Newer developed residential areas around the City have street light coverage with distances between lights rarely exceeding 250 feet

4.5 Crosswalks

The majority of crosswalks in Carlsbad are transverse crosswalks, however high visibility ladder crosswalks are employed in various locations. The Carlsbad Village also has a system of crosswalks with brick pavers and transverse striping. A majority of the schools in the city employ yellow crosswalks near schools consistent with MUTCD recommendations.

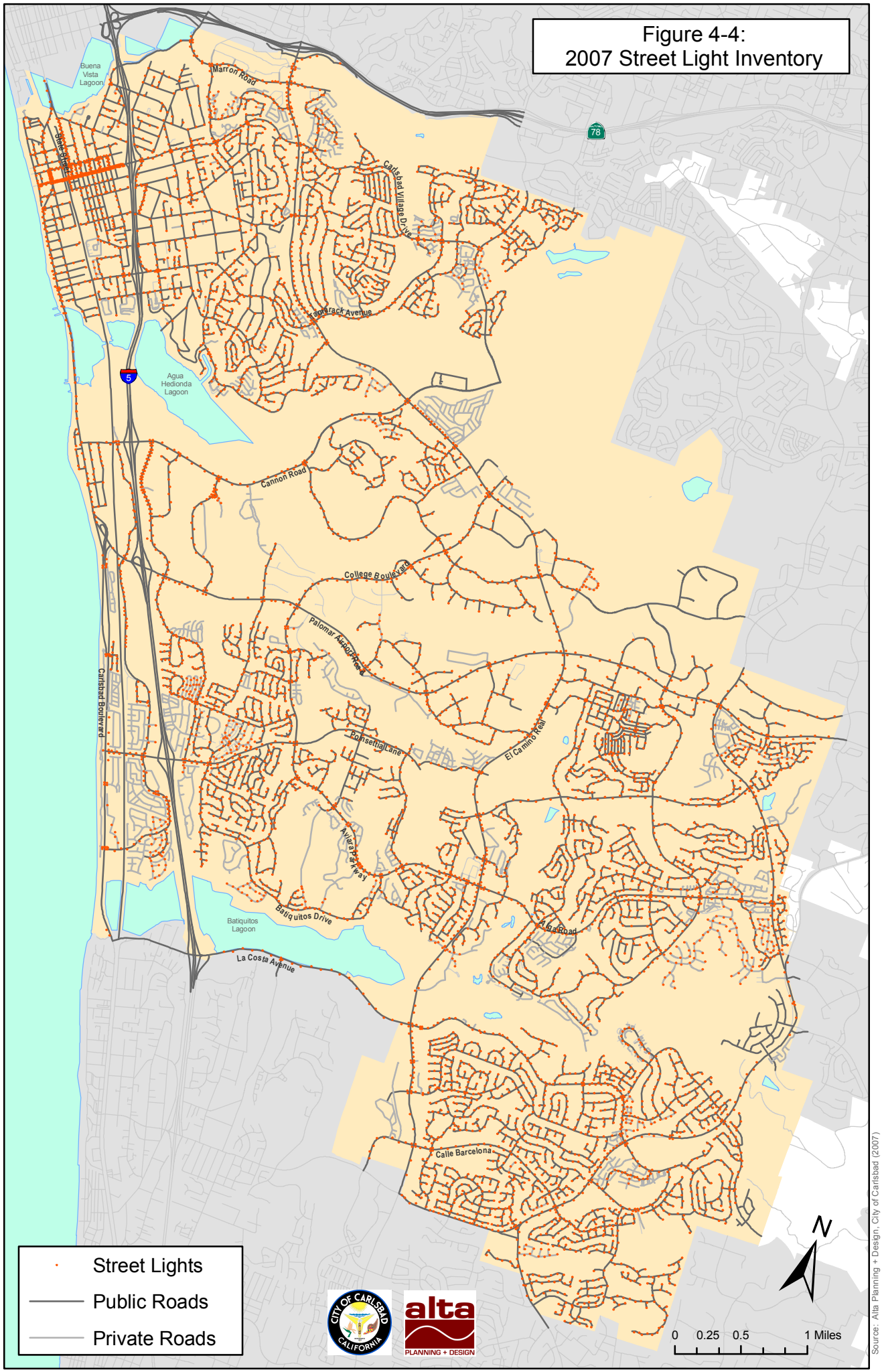
Figure 4-4:
2007 Street Light Inventory
Buena Vista Lagoon
Marron Road
State Street
Carlsbad Village Drive
Tamarack Avenue
5
Agua Hedionda Lagoon
Cannon Road
College Boulevard
Palomar Airport Road
Carlsbad Boulevard
Poinsettia Lane
El Camino Real
Aviara Parkway
Batiquitos Drive
Batiquitos Lagoon
La Costa Avenue
Alga Road
Calle Barcelona
78
Street Lights
Public Roads
Private Roads
CITY OF CARLSBAD CALIFORNIA
alta PLANNING + DESIGN
N
0 0.25 0.5 1 Miles
Source: Alta Planning + Design, City of Carlsbad (2007)

5.0 Pedestrian Needs Analysis

We are all pedestrians at some point during the day, whether or not we walk the entire way to a destination, walk to transit, or simply walk to and from our car into a building. One goal of this plan is to evaluate indicators of current or potential pedestrian demand across the City of Carlsbad, such as presence of schools, transit centers, youth and elderly. Studying the distribution of certain population segments and land use types in Carlsbad helps us to understand where the greatest potential for a walking trip might be, and thereby allows the city to focus its resources in these areas. In addition to understanding the potential demand for walking, it is also important to understand current and potential barriers to walking, such as freeways, rail rights-of-way, unsafe intersections, and poor facility connectivity.

The key outcome of the pedestrian needs analysis presented in this chapter is a thorough understanding of current and potential pedestrian demands and barriers in the City, which then become the focus for project recommendations in Chapter 6.0.

5.1 Pedestrian Generators

This section summarizes the location and intensity of pedestrian generating land uses and subpopulations across Carlsbad. This analysis guides the planning process toward those areas of Carlsbad where investments in pedestrian facilities is most beneficial in terms of the current propensity for pedestrian activity[4].

5.1.1 Total Population and Employment Density

Population density, measured as the number of persons per acre of residential land, is a strong indicator of potential pedestrian activity. Generally, higher population densities are associated with more urban environments, which tend to support pedestrian travel through mixed land uses and interconnected street networks.

[4] The analysis of pedestrian generators and attractors is based upon methodologies employed by the City of San Diego's 2006 Draft Pedestrian Master Plan Citywide Implementation Framework Report. This methodology received broad pubic review by the City of San Diego and was widely supported by San Diego Association of Governments staff.

Figure 5-1 displays population density for the City of Carlsbad. As shown, the Village has some of the highest population densities within the City, ranging from 25 to 60 persons per residential acre. Low population densities occur in the City's southeast quadrant south of Rancho Santa Fe Road and just north of the City's border with Encinitas. There is a noticeable absence of population density in the central portions of the City, north of Palomar Airport Road, where the land uses are predominately office and industrial. Residential development is limited in this area in large part due to McClellan-Palomar Airport.

Figure 5-2 displays employment density for the City of Carlsbad. There are several locations with high concentrations of employment, including the Village, the area between Cannon Road and Palomar Airport Road, and the area along Marron Road which is the site of the Westfield shopping center. Low employment densities occur in the southeast quadrant, in the area bordered by Aviara Parkway and Rancho Santa Fe Road.

5.1.2 Pedestrian Dependent Sub-Populations

This section summarizes population characteristics associated with higher levels of walking, including youth, elderly, physically disabled, and median household income. Certain population characteristics, such as age and household income, have been shown to influence pedestrian activity. For example, youth tend to walk more given they cannot legally drive; elderly and physically disabled tend to walk or use sidewalk facilities more given physical impairments which may restrict their ability to drive; and finally, lower income households tend to walk more given their lack of access to vehicles for driving. Mixed land uses tend to generate higher levels of pedestrian activity since multiple and varying opportunities within close proximity of each other creates shorter trip lengths, which in turn increases the propensity to make a trip on foot.

Figure 5-3 displays the distribution of population younger than 16 years across Carlsbad. The distribution and intensity of youth generally follows the overall population density patterns, although there is a notable concentration of youth in the census block groups adjacent to Interstate 5, between Carlsbad Village Drive and Tamarack Avenue.

Figure 5-4 displays the distribution of population older than 65 years across Carlsbad. Locations of higher concentrations of elderly population generally follow similar patterns to the overall population, with notable concentrations in the census block groups along Carlsbad Village Drive,

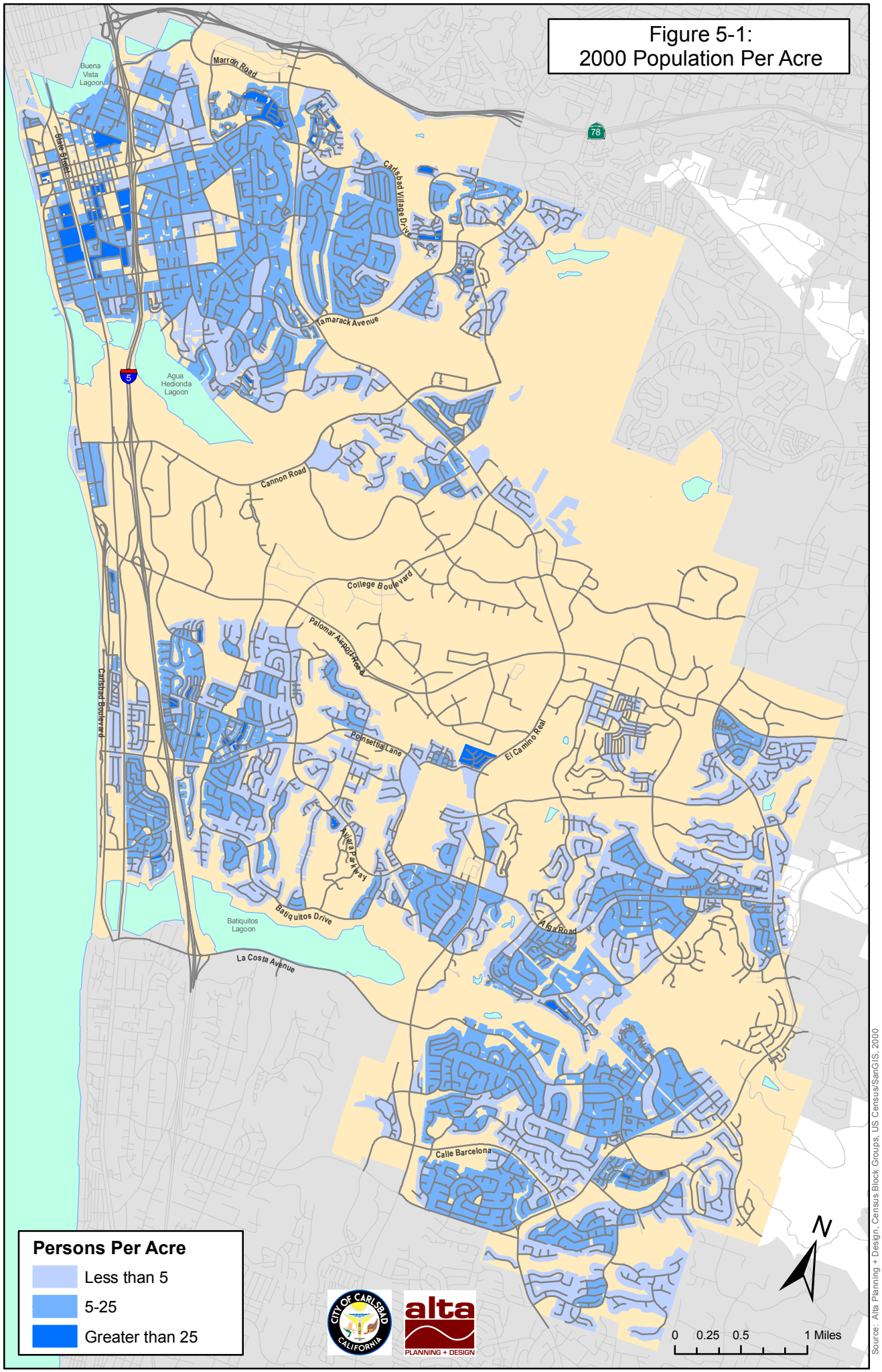
Figure 5-1:
2000 Population Per Acre
Buena Vista Lagoon
Marron Road
State Street
Carlsbad Village Drive
78
Tamarack Avenue
5
Agua Hedionda Lagoon
Cannon Road
College Boulevard
Palomar Airport Road
Carlsbad Boulevard
Poinsettia Lane
El Camino Real
Alga Road
Batiquitos Drive
Batiquitos Lagoon
La Costa Avenue
Calle Barcelona
Persons Per Acre
Less than 5
5-25
Greater than 25
CITY OF CARLSBAD CALIFORNIA
alta
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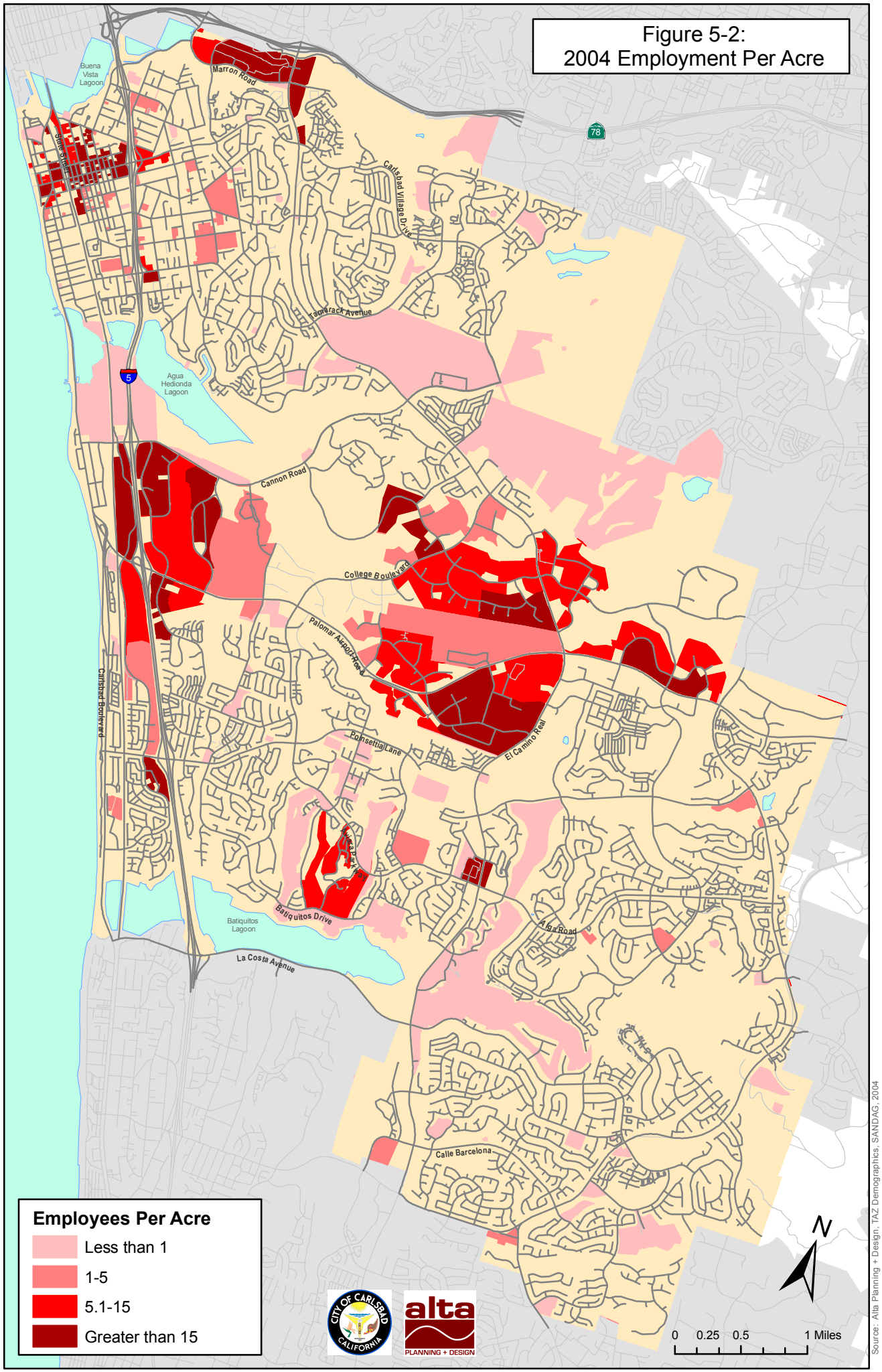
N
0 0.25 0.5 1 Miles
Source: Alta Planning + Design, Census Block Groups, US Census/SanGIS, 2000

Figure 5-2:
2004 Employment Per Acre



Source: Alta Planning + Design, TAZ Demographics, SANDAG, 2004

- **Chapter 7. Encouraging People to Walk**

  This chapter presents non-infrastructure programs intended to educate, encourage and increase awareness of pedestrians in Carlsbad.

- **Chapter 8: Implementation and Funding**

  This chapter focuses on implementation and funding for the Pedestrian Master Plan and sets out a program of projects to be implemented over the next 20 years. This chapter also outlines available regional, state and federal funding sources that can provide project funding and a brief description of program features such as minimum local match requirements or limitations on eligible projects.

1.3 How Citizens Can Use This Plan

Citizens can use this Pedestrian Master Plan to ensure that pedestrian needs and conditions are properly identified, and assist the City in keeping this Plan accurate over time as it is updated. Citizens can also identify City priorities and proposals and how and when they may impact their own neighborhoods or walking routes. Most importantly, citizens can use this Plan to identify the various tools and strategies that are available to improve conditions on their streets, and work with the City to help fund and implement these improvements.

1.4 How Will the City Use This Plan

This document will serve as a technical resource for the City to guide the implementation of goals and policies in Chapter 3. This document will help City staff with the following steps:

- Understand the constraints, opportunities and setting that will define project feasibility
- Identify appropriate programs and plans
- Identify areas where further neighborhood input is necessary
- Prioritize projects
- Identify funding sources

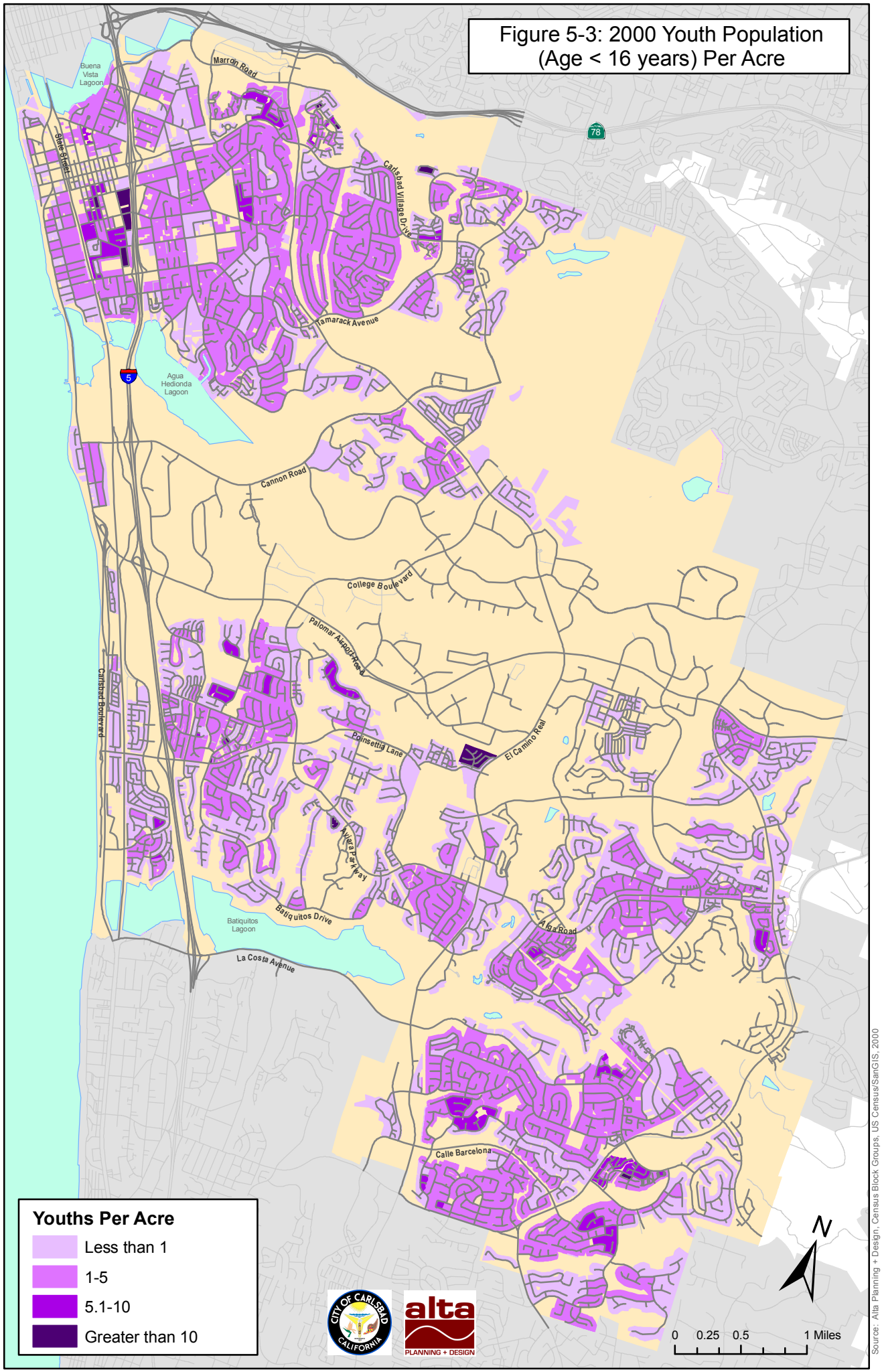


Figure 5-3: 2000 Youth Population
(Age < 16 years) Per Acre
Buena Vista Lagoon
Marron Road
State Street
Carlsbad Village Drive
Tamarack Avenue
Agua Hedionda Lagoon
Cannon Road
College Boulevard
Palomar Airport Road
Carlsbad Boulevard
Poinsettia Lane
El Camino Real
Avlea Parkway
Batiquitos Drive
Batiquitos Lagoon
La Costa Avenue
Alga Road
Calle Barcelona
Youths Per Acre
Less than 1
1-5
5.1-10
Greater than 10
CITY OF CARLSBAD CALIFORNIA
alta PLANNING + DESIGN
N
0 0.25 0.5 1 Miles
Source: Alta Planning + Design, Census Block Groups, US Census/SanGIS, 2000

2.0 Benefits of Walking

2.1 Why Walking is Important

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

2.1.1 Traffic and Air Quality

Each time a Carlsbad driver chooses to walk, one car is removed from the road. As Carlsbad becomes more inviting to pedestrians, increasing numbers of shopping, restaurant, school and recreational trips will be made on foot. Cumulatively, this pattern may reduce traffic in some neighborhoods, which can also improve air quality. Because pedestrians breathe air without the benefit of air conditioning and tend to respire at a faster rate than automobile occupants, improving air quality in walkable communities is even more important than elsewhere.

2.1.2 Public Health

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 auto-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[1]—each of which is a leading cause of death in Carlsbad. In 2003-05 (the most

[1] McKenna, M.T., Taylor, W.R., Marks, J.S., & Koplan, J.P., "Current issues and challenges in chronic disease and control" in *Chronic Disease Epidemiology and Control*, 2nd edition, American Public Health Assn. , 1988.

recent period for which data is available) 26 percent of all deaths in the north coastal region of San Diego County were from heart disease[2]. Stroke and diabetes were responsible for an additional nine percent of deaths during this period.

Figure 2-1 shows that walking statistics for San Diego County are a small margin greater than statewide statistics. The Figure shows responses to the survey question: "Have you walked for transportation, fun, or exercise during the past week?" As shown, nearly 21 percent of San Diego County respondents and 22 percent of California respondents did not walk for any purpose in the previous week.

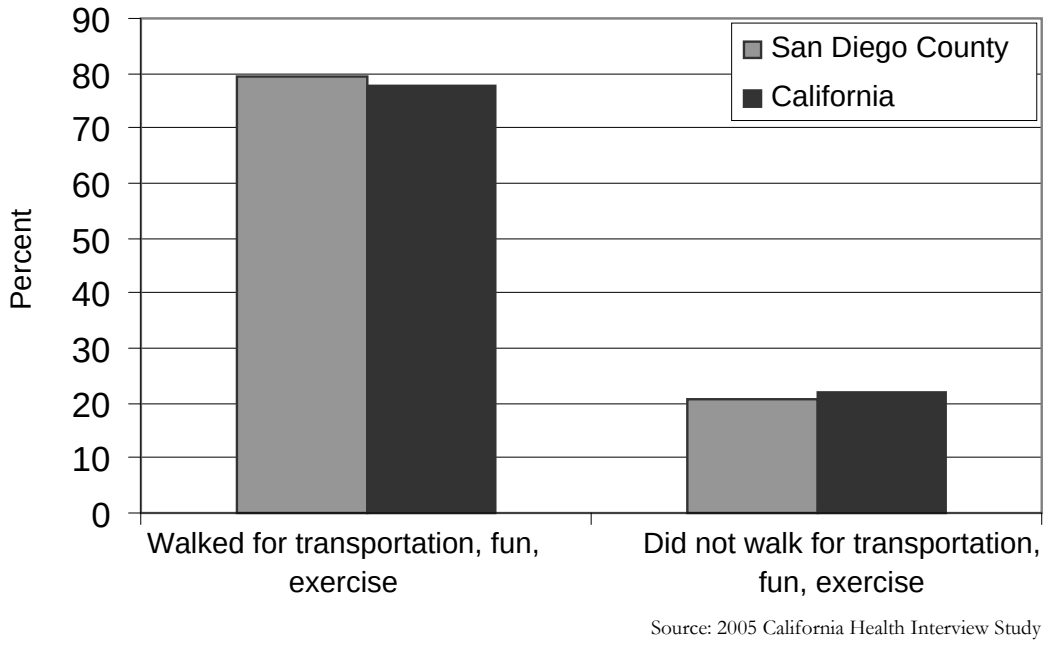


Figure 2-1: Walking Trips based on California Health Interview Survey

Physical inactivity can lead to the growing trend of obesity. As **Figure 2-2** shows, obesity or body mass index (weight in kilograms divided by height in meters squared) has been on the rise for the last decade in California.

[2] *County of San Diego, HHSA, Public Health Services, Community Health Statistics Unit, 2007*

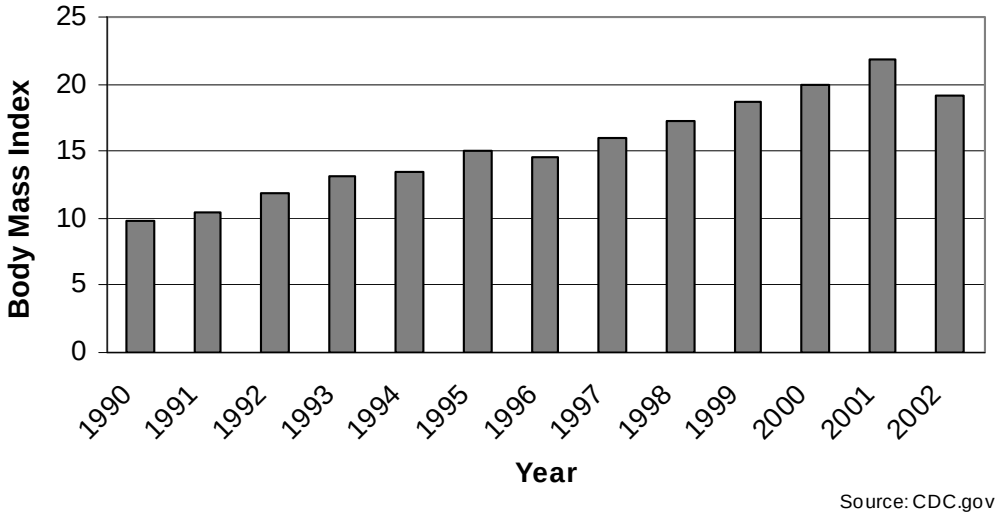


Figure 2-2: Annual Obesity in California by Body Mass Index

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. As shown, San Diego County has approximately two percent more respondents within the normal category than the state of California; however a majority of respondents were either overweight or obese in both the County and the entire state.

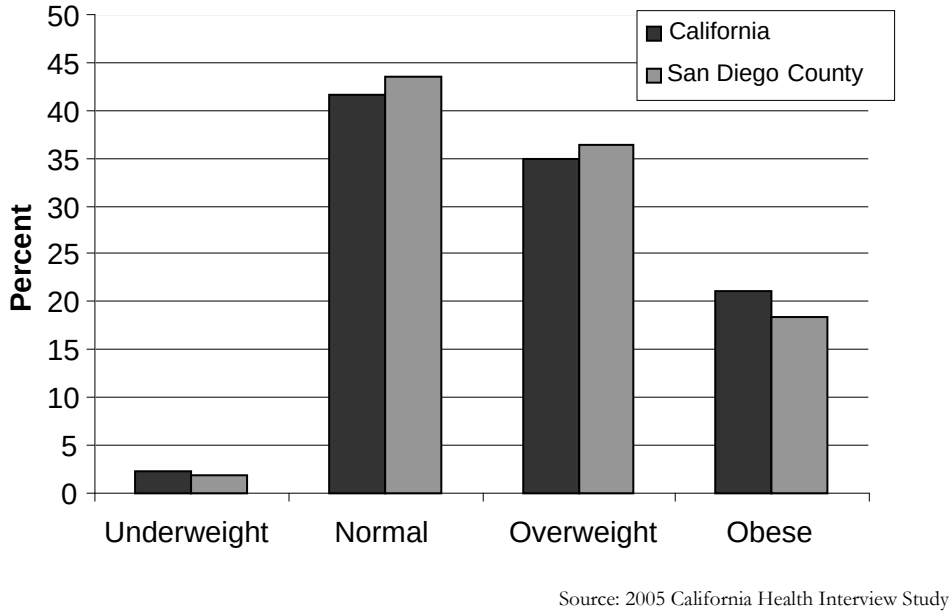


Figure 2-3: Obesity in California and San Diego County

Obesity alone is a health issue and it can also lead to other chronic diseases such as heart disease and diabetes. According to the County of San Diego Health and Human Services Department, heart disease was a leading cause of death between 2003 and 2005 in the County. By providing a pedestrian-friendly environment more people will walk on a regular basis and can help reverse these health trends.

In response to these trends, the public health profession has begun to advocate for the creation of walkable neighborhoods as one of the most effective ways to encourage active lifestyles. Studies show that 43 percent of people with safe places to walk within 10 minutes of home meet recommended activity levels, compared to only 27 percent of those without safe places to walk.[3] As Carlsbad becomes a more walkable city, Carlsbad's population will have more opportunities to exercise, ideally resulting in a higher proportion of Carlsbad residents achieving recommended activity levels.

2.1.3 Sense of Community

City's in which people walk provide more opportunities for chance meetings than do areas where travel is primarily by automobile. Such serendipitous encounters help neighbors get better-acquainted and provide eyes on the street, which can make an area feel and be safer. Carlsbad residents' sense of living in a cohesive community will be enhanced as the City focuses future residential growth in compact, walkable communities, creates shopping districts that cater to those on foot, and provides facilities that enhance the pedestrian experience.

2.2 Current Walking Rates in Carlsbad

According to the 2000 Census, 775 people in Carlsbad reported walking to work. This represents about 0.79% of the commuting population of the City. The proportion of Carlsbad commuters who walk is less than that for the overall San Diego region, which is approximately 3.4%. **Figure 2-4** displays the percent of pedestrian commuters by census block groups. Population residing in the Village reported the highest rates of pedestrian commuting. There are also pockets of high

[3] Powell, K.E., Martin, L., Chowdhury, P.P., "Places to walk: Convenience and regular physical activity" in *American Journal of Public Health*, 2003.

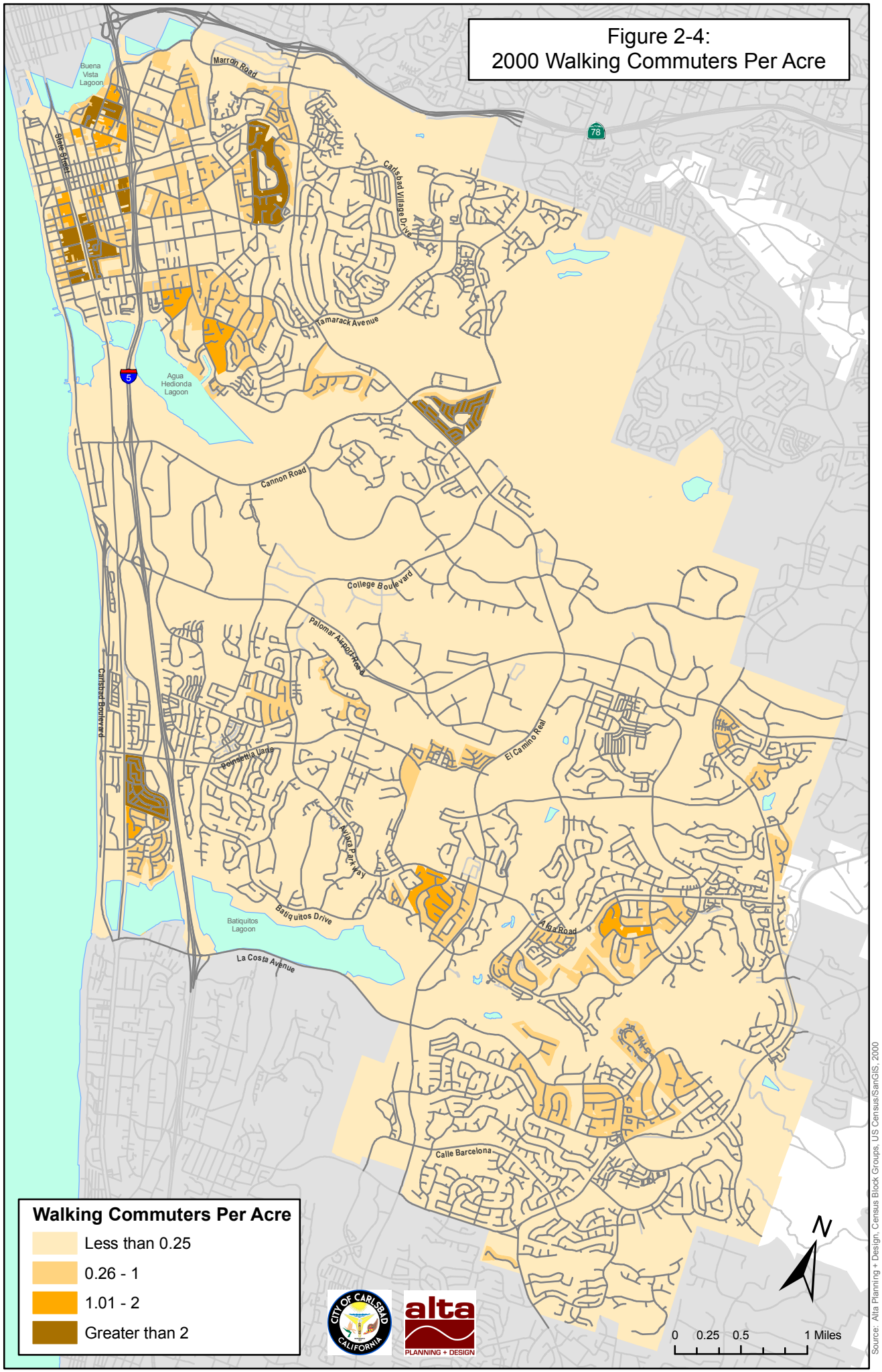


Figure 2-4:
2000 Walking Commuters Per Acre
Buena Vista Lagoon
Marron Road
State Street
Carlsbad Village Drive
Tamarack Avenue
Agua Hedionda Lagoon
Cannon Road
College Boulevard
Palomar Airport Road
Carlsbad Boulevard
Poinsettia Lane
El Camino Real
Aviara Parkway
Batiquitos Drive
Batiquitos Lagoon
La Costa Avenue
Alga Road
Calle Barcelona
Walking Commuters Per Acre
Less than 0.25
0.26 - 1
1.01 - 2
Greater than 2
CITY OF CARLSBAD CALIFORNIA
alta PLANNING + DESIGN
N
0 0.25 0.5 1 Miles
Source: Alta Planning + Design, Census Block Groups, US Census/SanGIS, 2000

pedestrian commuting in the area roughly bound by Monroe Street, Carlsbad Village Drive, El Camino Real and Tamarack Avenue; and at the southwest corner of Avenida Encinas and Poinsettia Lane.