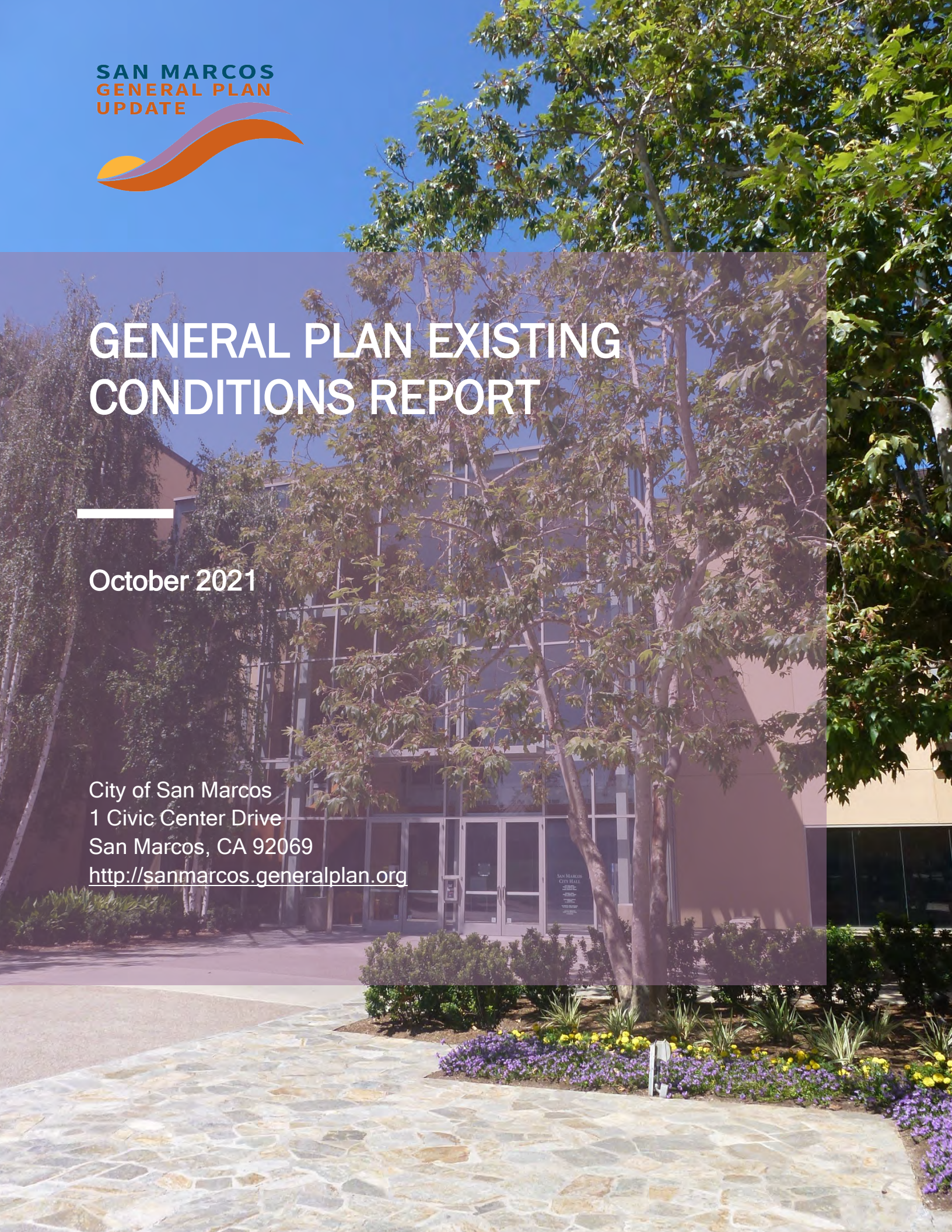

SAN MARCOS
GENERAL PLAN
UPDATE

GENERAL PLAN EXISTING CONDITIONS REPORT

October 2021

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http://sanmarcos.generalplan.org

SAN MARCOS
GENERAL PLAN
UPDATE

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INTRODUCTION

INTRODUCTION

The City of San Marcos General Plan identifies the community's vision for the future and provides a framework to guide decisions on growth, development, and conservation of open space and resources in a manner consistent with the quality of life desired by residents and businesses – the people that live, work, and play in the City.

This General Plan Existing Conditions Report provides an overview of San Marcos' physical, environmental, economic, and demographic setting, as of early-2020.

City staff, the General Plan Update consultant (De Novo Planning Group), and its team of subconsultants have worked together to ensure that this is an accurate and reliable source of information. This document is intended to serve as a comprehensive reference for community members, policymakers, City staff, and the consultant team throughout the General Plan Update process.

The City's General Plan was last comprehensively updated in 2012 and the Housing Element was adopted in 2013 (in accordance with State housing law). The City of San Marcos' General Plan Update is a multi-year process that will include a comprehensive review and revision of the City's existing General Plan, which establishes a vision for the future of the City. This process also includes the preparation of an Environmental Impact Report (EIR), which investigates the possible impacts of the General Plan Update policy changes to the surrounding physical environment. This Existing Conditions Report document represents a key initial step in the multi-year process of updating the San Marcos General Plan.

This chapter provides a brief background of the City of San Marcos, summarizes the contents of this Existing Conditions Report, and provides an overview of the General Plan Update process.

BACKGROUND

The City of San Marcos has a population of approximately 98,400, with an area of roughly 24.38 square miles (California Department of Finance, 2019). San Marcos is located in the central portion of northern San Diego County (North County), approximately 40 miles north of downtown San Diego. The City is bounded by the cities of Vista and Carlsbad to the west, the City of Escondido to the east, and unincorporated areas within the County of San Diego to the north and south. Regional access to the City is provided by State Route 78, an east/west highway that links Interstate 5 with Interstate 15, which provide north/south access to San Marcos and the greater San Diego region.

From its rural and agricultural origins, San Marcos has become one of the fastest growing cities in San Diego County with existing and future residents finding themselves drawn to the excellent quality of life and the unique character the City. The City of San Marcos was incorporated in 1963, although its settlement history dates back to the 1850s and even earlier as Rancho Vallecitos de San Marcos, a Mexican land grant given in 1840. San Marcos began experiencing meaningful growth in 1956, when the first water from the Colorado River arrived, facilitating robust development of the area. By the 1970s, San Marcos was flourishing, and had a population of approximately 17,500 by 1980. The population continued to boom over the next two decades, nearing 85,000 by 2010.

Today, San Marcos offers an interface between urban and rural living. Surrounded by foothills, it is a midsize suburban city with a family-friendly atmosphere that has become an education hub in North County, home to two places of higher learning – Palomar College and California State University San Marcos. Included in a larger trade area along the 78 Corridor, San Marcos is part of a diverse and dynamic economy priding itself on innovation. Residents of San Marcos enjoy a high quality of life with an abundance of open space and amenities.

EXISTING CONDITIONS REPORT CONTENTS

To prepare a meaningful General Plan, existing conditions must be understood and documented. The Existing Conditions Report identifies development patterns, natural resources, socioeconomic conditions, and environmental constraints in the City and identifies the regulatory environment for each topic. This report will be a resource for the City Council, Planning Commission, General Plan Advisory Committee, City staff, and the consultant team throughout the process of preparing the General Plan Update and Environmental Impact Report. The Existing Conditions Report makes extensive use of maps, graphics, and user-friendly non-technical terms to help make it accessible to the general public.

The Existing Conditions Report provides background data and will serve as a technical framework, while the General Plan will focus on goals, policies, and implementation programs. The information collected for the Existing Conditions Report will also be used as the basis for the "existing setting" sections of the General Plan EIR. The following topic areas are addressed in the Existing Conditions Report:

Chapter 1 Demographics, Land Use, and Community Character

The Demographics, Land Use, and Community Character chapter addresses the community's demographic patterns, land use context, including issues related to the current General Plan, existing land use patterns, local planning context, and special community character and is intended to assist the General Plan Update process by providing a baseline of existing demographic and land use information. The information in this chapter provides both an historical and current perspective on land use and is intended to assist the General Plan Update process by establishing a baseline of existing land use information. This information will be used when formulating and considering amendments to the City's current land use pattern, or when considering alternate growth and land use scenarios for the City.

For the purposes of the San Marcos General Plan Update, the "Planning Area" studied is defined as the area within the City's jurisdictional boundary and also within its Sphere of Influence (SOI), which is the City's probable ultimate physical boundary and service area. It is Planning Area that is included in the analysis and planning for the approximate 20-year horizon of the City's General Plan Update. This is discussed further in Chapter 1.

Chapter 2 Transportation and Circulation

The Transportation and Circulation chapter describes the circulation network serving the City. Existing conditions are described for roadway operations, pedestrian-bicycle facilities, transit service, and multimodal operations. This chapter includes a review of relevant transportation planning documents describing the San Marcos area including the current Mobility Element. Federal, State, regional, and local regulations pertaining to traffic and circulation in San Marcos are also described.

Chapter 3 Utilities and Community Services

The Utilities and Community Services chapter describes the existing conditions and regulatory context regarding community services and utilities, including water, wastewater, drainage and flood control, education, public safety services, schools, and parks and recreational resources within the City. These facilities and services provide a framework that supports growth and development in the City. This chapter describes existing service levels, available resources, and planned expansion of services and infrastructure.

Chapter 4 Hazards, Safety, and Noise

The Hazards chapter includes a listing of key significant issues that will ultimately guide the preparation of the Safety Element of the General Plan. This chapter provides a summary of the existing setting and conditions associated with natural and man-made hazards that may pose a danger to City residents, employees, and visitors including: dangers from hazardous materials sites (i.e. landfills, superfund sites, pipelines, and sites with the potential for chemical explosion); fire hazards; aircraft hazards; flood hazards; and emergency response. Known hazardous conditions listed in available State and County databases are also described.

Additionally, this chapter includes descriptions of the characteristics of sound and noise and a description of transportation, stationary, and construction noise sources within the City's Planning Area. A description of the noise monitoring survey results, tabularized noise exposure contours, and an existing conditions noise contour map that reflects traffic and stationary noise sources are included. This section also summarizes current information on ground vibration thresholds and summarizes the existing vibration environment.

Chapter 5 Conservation and Natural Resources

The Conservation and Natural Resources chapter discusses conservation issues related to cultural and historic preservation, air quality, greenhouse gases, biological resources, geologic and mineral resources, hydrology and water quality, and visual resources in and around the City. This chapter also discusses open space as it relates to the preservation of natural resources as part of the biological resources discussion, open space associated with managed production of surface water and groundwater resources as part of the hydrology discussion, and open space associated with public health related to geologic and hydrologic hazards as part of the geologic resources and hydrology discussions, respectively. Federal, State, and local regulations that pertain to each of these topics are also described.

Chapter 6 Community Health and Wellness

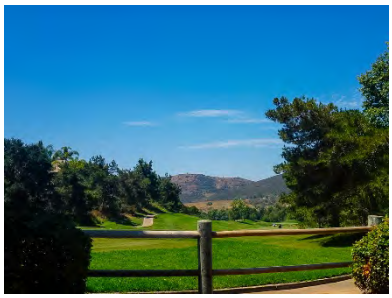
The Community Health and Wellness chapter addresses a wide range of topics related to the health and well-being of City residents and workers. A community's overall health depends on many factors, including the environment in which people live and work. A healthy living environment reduces risks and facilitates healthy lifestyles. Critical indicators of healthy living environments, which will be used to develop a community health baseline, include:

- Public health indicators – vulnerable populations, asthma, obesity, diabetes, and chronic disease;
- Active lifestyle opportunities – walking and bicycling to services, and availability of recreational facilities;
- Community design – safe neighborhoods and public spaces, affordable housing, and sustainable development;
- Healthy lifestyle determinants – local foods, healthy shopping options, number of fast food restaurants, medical and mental health services; and
- Environmental quality – clean air and water.

The context of each indicator in promoting healthy communities is described and supporting information that evaluates existing conditions in San Marcos is provided. This section also includes a summary description of current efforts that the City is undertaking to promote sustainability and healthy community strategies.

Chapter 7 Environmental Justice

The Environmental Justice chapter addresses the presence of Disadvantaged Communities (DACs) in San Marcos, in accordance with SB 1000 regulations. The chapter identifies the multiple facets of the environmental justice setting within San Marcos and provides an assessment of numerous factors that can impact environmental justice within the City.



Chapter 8 Market Conditions

The economic development discussion provides information about the City's economic trends and conditions. The purpose of this information is to describe the City, its residents, and business activity from an economic market perspective. This section discusses the current economic base of the City, business in industrial and commercial core areas, and local employment conditions. This section identifies the employment and industry sectors present in the City, jobs by employment and industry sector, and employment trends. It also addresses fiscal considerations in the City, especially as they relate to the City's current General Plan expenditures and revenues.

Chapter 9 Framework

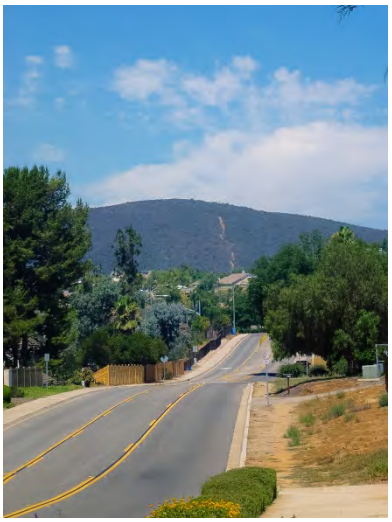
The vast range of topics addressed in the General Plan are informed by – and respond to – existing regulatory structures at the federal, state, and local levels. This Chapter presents an overview of the myriad of programs and policies that impact the way San Marcos addresses its General Plan topics.

Chapter10 Glossary

A glossary of key words and acronyms to support the Existing Conditions Report is included as Chapter 10.

GENERAL PLAN OVERVIEW

State law requires every city and county in California to prepare and maintain a planning document called a general plan. A general plan is a "constitution" or "blueprint" for the future physical and economic development of a city or county. All future planning decisions and project approvals must be consistent with the general plan, including, but not limited to: Area Plans, Master Plans, subdivisions, public works projects, public services, and zoning decisions.

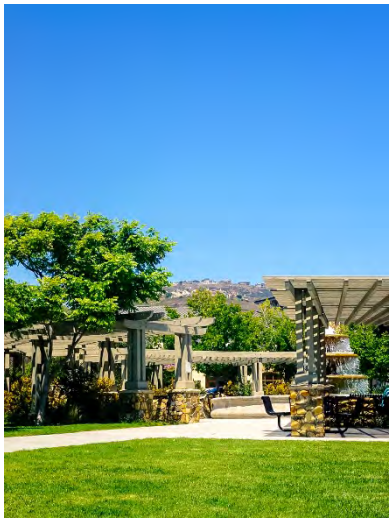


A general plan has four defining features:

- **General.** As the name implies, a general plan provides general guidance for future land use, transportation, infrastructure, environmental, and resource decisions.
- **Comprehensive.** A general plan covers a wide range of social, economic, infrastructure, and natural resource issues. There are seven State mandated topics that general plans must cover, including: land use, circulation, housing, conservation, open space, safety, and noise. The San Marcos General Plan Update will include goals, policies, and implementation programs to address the seven State mandated topics.
- **Long-Range.** A general plan provides guidance on achieving a long-range vision of the future for a city or county. To reach this envisioned future, the general plan includes goals, policies, and implementation programs that address both near-term and long-term needs. The City of San Marcos General Plan Update will look ahead approximately 20 years.
- **Integrated and Coherent.** The goals, policies, and implementation programs in a general plan must present a comprehensive, unified program for development and resource conservation. A general plan uses a consistent set of assumptions and projections to assess future demands for housing, employment, public services, and infrastructure. A general plan has a coherent set of policies and implementation programs that enables citizens to understand the vision of the general plan, and enables landowners, businesses, and industry to be more certain about how future planning decisions will be made and implemented.

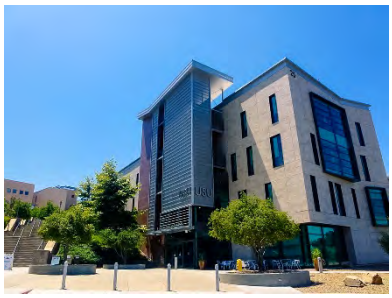
USING THE GENERAL PLAN

The General Plan is used by the City Council, appointed Boards, Commissions, and Committees, and City staff on a regular basis to make decisions with direct and indirect land use implications. It also provides a framework for inter-jurisdictional coordination of planning efforts among officials and staff of the City and other government agencies such as the County, State, and Federal agencies.



The General Plan is the basis for a variety of regulatory mechanisms and administrative procedures. California planning law requires consistency between the General Plan and its implementation programs. Implementation programs and regulatory systems of the General Plan include zoning and subdivision ordinances, capital improvement programs, specific plans, environmental impact procedures, and building and housing codes.

Over time, the City's population will change, its goals will be redefined, and the physical environment in which its residents live and work will be altered. In order for the General Plan to be a useful document, it must be monitored and periodically revised to respond to and reflect changing conditions and needs. As such, a general plan should be comprehensively updated approximately every 15-20 years to reflect current conditions and emerging trends.



The City's General Plan should also be user-friendly. To this end, the San Marcos General Plan Update will be divided into two primary documents: the Existing Conditions Report and the General Plan Policy Document. The Policy Document is the essence of the General Plan. It contains the goals and policies that will guide future decisions within the City. It also identifies a full set of implementation programs that will ensure the goals and policies in the General Plan are carried out.

CHAPTER 1
DEMOGRAPHICS, LAND USE, AND COMMUNITY CHARACTER

1 DEMOGRAPHICS, LAND USE, AND COMMUNITY CHARACTER

This chapter addresses the community's demographic patterns, land use context, and special community character and is intended to assist the General Plan Update process by providing a baseline of existing demographic and land use information to be used when formulating and considering amendments to the City's long-term policy direction. The chapter is organized into:

- 1.1 Demographics
- 1.2 Land Use
- 1.3 Community Character

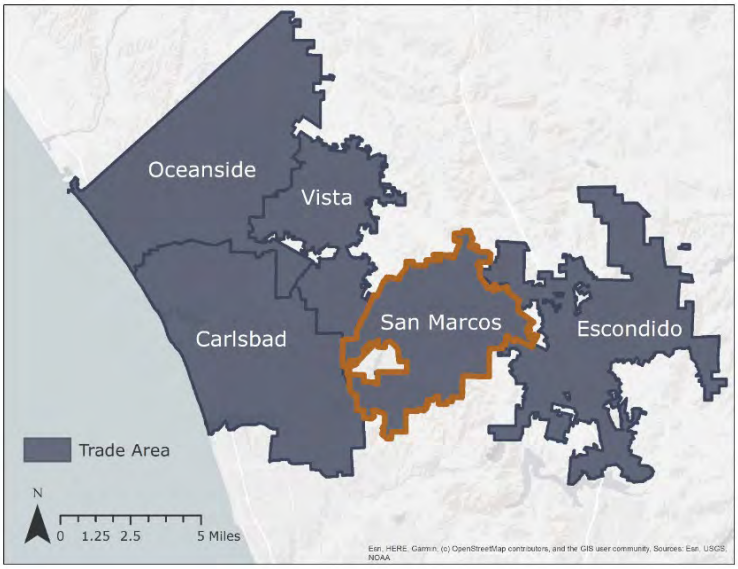
1.1 DEMOGRAPHICS

This section provides an overview of socio-economic trends such as demographics of the City's residents and characteristics of jobs in the City. Overall, the City saw significant growth in both population and number of jobs from 2000 to 2018, although growth was faster in the first half of that period than in the second half. While household incomes have been on the rise in the City, many residents commute out, particularly to jobs in higher wage sectors. Accordingly, the City may want to look for opportunities to capture a greater proportion of Trade Area job growth in those sectors that are currently underrepresented in its job distribution. In particular, the City may look at the potential for its largest and fastest-growing industry sectors, education and healthcare, to attract complementary sectors and businesses that may provide jobs in line with the skill sets of City residents.

1.1.1 Geographic Focus

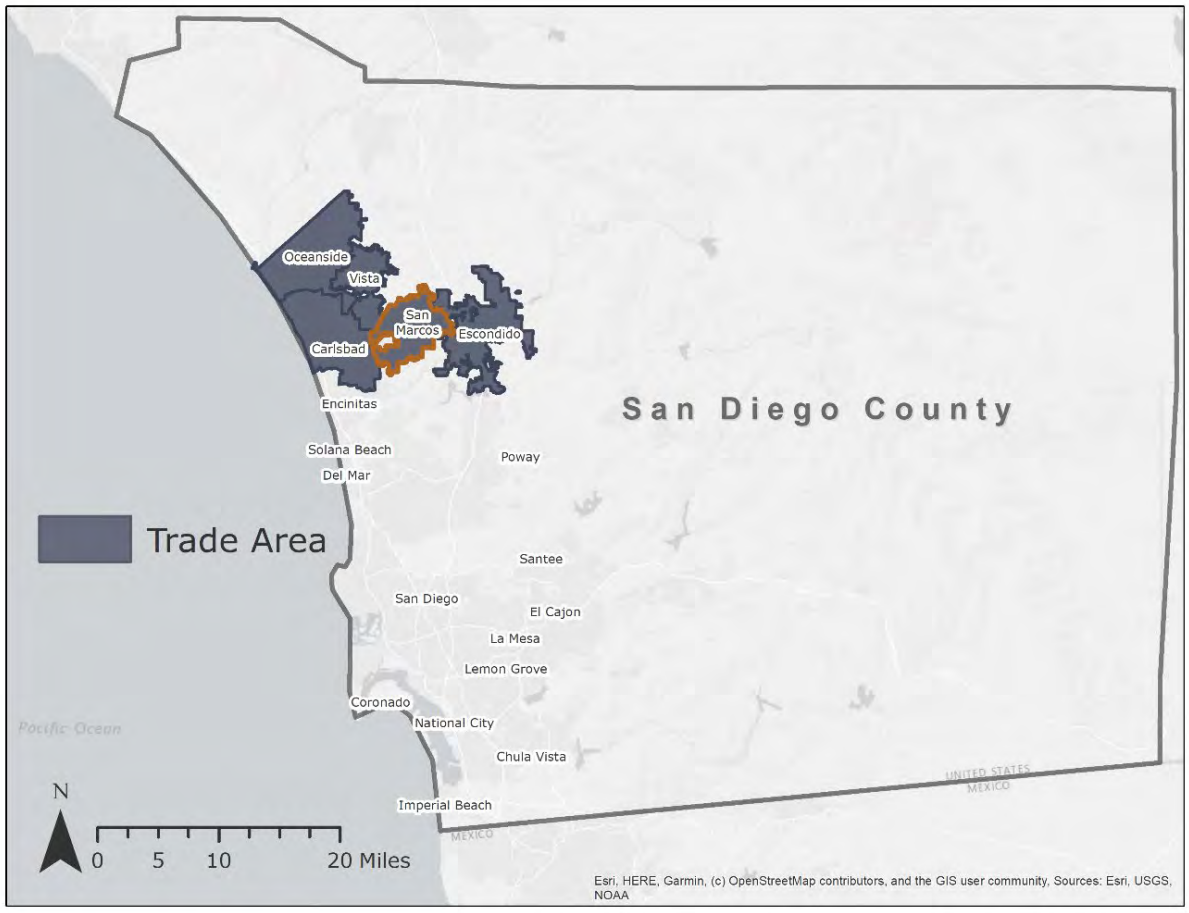
While this analysis focuses on data metrics for the City of San Marcos, it also provides data on other geographic areas for context and comparison purposes. In particular, a Trade Area is defined, which includes the cities of Carlsbad, Escondido, Oceanside, San Marcos, and Vista, shown in Figure 1-1.

Figure 1-1: Map of San Marcos Trade Area



Broader regional and even national trends will also play a role in the City's evolution. Accordingly, this analysis includes data on San Diego County as a whole as a basis for illustrating key trends and performance indicators. The Trade Area's geographic location relative to the County is shown in Figure 1-2.

Figure 1-2: Map of San Diego County and San Marcos Trade Area



1.1.2 Population and Household Characteristics

San Diego County is the second most-populous county in California and has seen over 15 percent growth since 2000. The Trade Area, which represents close to 20 percent of the County population, has grown even faster, as shown in Table 1-1. Meanwhile, growth in San Marcos has outpaced that of the Trade Area, with the City's population growing 72 percent from 2000 and 2018. Most of that growth occurred between 2000 and 2010, but the City still grew by about 20 percent from 2010 to 2018.

The age profile of the study geographies has also been trending older over the past decade. The City's 55 to 74 year-old population grew between 2010 and 2018, while most other age groups declined, including the prime working age cohort of 20 to 44 years (see Figure 1-3). While all study geographies have seen their median resident age tick up since 2010, San Marcos maintains a slightly younger age profile than the County overall with a median age of 34.4 years. This is partly attributable to a relatively high proportion of the population in the 20 years or younger cohort, suggesting many family households as well as college student households associated with the City's higher education institutions. But the decline in young professionals (aged 20-34) in particular suggests that the City may not be retaining those institutions' graduates.

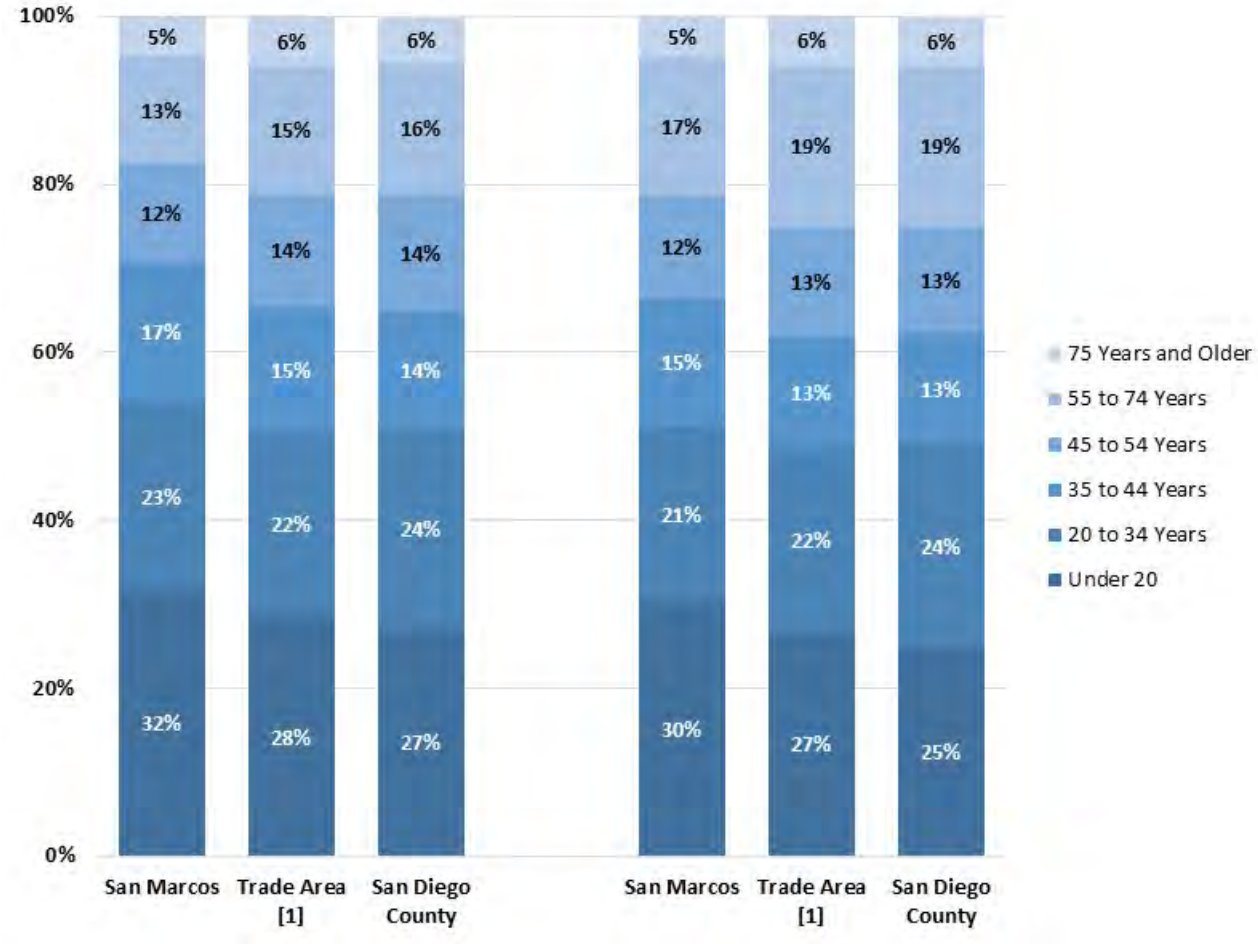
Table 1-1: Population and Household Trends, 2000-2018

Category	2000	2010	2018	% Ch. '00-'18	% Ch. '10-'18
San Marcos					
Population	54,977	78,127	94,709	72%	21%
% of Trade Area	11%	14%	15%		
Households	18,111	25,621	29,171	61%	14%
% of Trade Area	10%	13%	14%		
Trade Area [1]					
Population	517,669	576,065	634,991	23%	10%
% of County	18%	19%	19%		
Households	178,814	197,088	210,733	18%	7%
% of County	18%	19%	19%		
San Diego County					
Population	2,813,833	3,022,468	3,302,833	17%	9%
Households	994,677	1,061,789	1,118,980	12%	5%

[1] Trade Area is the cities of Carlsbad, Escondido, Oceanside, San Marcos, and Vista

Source: U.S. Census; American Community Survey; Economic & Planning Systems

Figure 1-3: Age Distribution of Residents, 2010-2018



1.1.3 Household Income

While North County is home to some of the more affluent communities in San Diego County, median household incomes in the Trade Area are and have been in line with County incomes overall. Neither geography has seen growth in median household income in real (2018) dollars since 2010, although the Trade Area has seen a small decrease in its poverty rate, while the County's poverty rate has ticked up slightly.

At the same time, the City has seen notable growth in median household incomes since 2010, as shown in Table 1-2. Whereas City households earned less overall than Trade Area or County households in 2010, by 2018 they were earning slightly more, representing a nearly ten percent increase in real (2018$) income. This trend in household incomes aligns with findings related to median wages and distribution of job types among City residents, which are all trending towards higher earning potential, as discussed further in subsequent sections.

Table 1-2: Median Household Income, 2010-2018

Year	San Marcos	Trade Area [1]	San Diego County
Nominal Dollars [1]			
2010	$58,897	$63,006	$63,069
2018	$76,619	$75,851	$74,855
% Change '10-'18	30%	20%	19%
Real Dollars [1]			
2010	$70,194	$75,092	$75,166
2018	$76,619	$75,851	$74,855
% Change '10-'18	9%	1%	0%
Poverty Rate [3]			
2010	8.0%	8.5%	8.6%
2018	8.0%	8.2%	8.7%

[1] Nominal values represented in dollar value of given year; real values represented in 2018 dolla

[2] Trade Area is the cities of Carlsbad, Escondido, Oceanside, San Marcos, and Vista; median income show n represents w eighted average of median incomes for included geographies.

[3] Poverty rate show n for the Trade Area is an average of the poverty rates for the included cities.

Source: U.S. Census; American Community Survey; Bureau of Labor Statistics; Economic & Planning Systems

1.1.4 Education

As detailed in Table 1-3, San Marcos has a well-educated working-age population. About 45 percent of all City residents over the age of 25 have an associate's, bachelor's or graduate degree, and the proportion of residents with associate's and bachelor's degrees specifically exceeds the Trade Area and County proportions.

Table 1-3: Educational Attainment (Population Aged 25 Years and Older)

Level of Education Completed (%)	San Marcos	Trade Area [1]	San Diego County
Less than High School	15.4%	15.0%	12.9%
High School Diploma or Equivalent	18.9%	19.6%	18.4%
Some College, No Degree	20.9%	22.8%	22.4%
Associate's Degree	8.9%	8.6%	8.2%
Bachelor's Degree	23.9%	21.6%	23.5%
Graduate or Professional Degree	12.0%	12.4%	14.7%

[1] Trade Area is the cities of Carlsbad, Escondido, Oceanside, San Marcos, and Vista

Source: U.S. Census; American Community Survey; Economic & Planning Systems

The City also has significant educational assets for residents of both the City and the region. San Marcos Unified School District has a 95 percent graduation rate and exceeds state averages in academic performance measures.1 The City is also home to two large institutions of higher learning—California State University-San Marcos (CSUSM) and Palomar College—which together enroll almost 45,000 full-time and part-time students. This combination of a highly-educated population and strong educational resources is one that the City can leverage in attracting residents and employers.

1.1.5 Employment Status

As shown in Table 1-4, San Marcos has a labor force participation rate of 66 percent among residents aged 16 and older, and an unemployment rate of just 4.5 percent, slightly outperforming the Trade Area and County. The number of employed residents has also grown by nearly 45 percent since 2010, faster than the City's population growth overall. A more detailed breakdown of resident employment by industry sector is provided in the subsequent section on economic trends.

1 Data collected from the California School Dashboard district performance overviews (www.caschooldashboard.org).

Table 1-4: Resident Employment

Category	San Marcos	Trade Area [1]	San Diego County
Labor Force Participation	66.2%	65.9%	65.7%
Unemployment Rate	4.5%	5.1%	6.4%

[1] Trade Area is the cities of Carlsbad, Escondido, Oceanside, San Marcos, and Vista

Source: U.S. Census; American Community Survey; Economic & Planning Systems

1.1.6 Population Growth Projections

Looking forward, the San Diego Association of Governments (SANDAG) projects that San Marcos's population will grow at a more moderate rate through 2040 compared to the previous 20 years (see Table 1-5).2 While the City's projected growth rate aligns with the County overall, it is faster than forecasts for the Trade Area, suggesting that the City is seen to have more growth potential than some of its neighbors.

It is important to note, however, that these projections, which are compiled using a number of sources including adopted plans, historical trends, and interviews with local jurisdictions, tend to be more accurate on a regional than local level. Consequently, projections for San Marcos should not be regarded as determinative. It is likely that through a combination of market changes, catalytic projects, updated land use direction in the General Plan, and other factors, San Marcos could capture either more or less of expected regional growth than what is forecasted by SANDAG.

Table 1-5: Population Growth Projections, 2020-2040

Population	San Marcos	Trade Area [1]	San Diego County
2020	98,915	657,412	3,435,713
2040	113,540	717,954	3,937,280
% Change from 2020 to 2040	15%	9%	15%

[1] Trade Area is the cities of Carlsbad, Escondido, Oceanside, San Marcos, and Vista

Source: SANDAG 2012-2050 Growth Forecast; Economic & Planning Systems

1.2 LAND USE

This section provides an overview of existing land use patterns, types and location of development in the City, and approved and pending projects within the Planning Area (i.e., the City and its

[2] SANDAG Series 13 growth forecasts for the San Diego region through 2050 were accepted by the SANDAG Board in 2013. SANDAG works extensively with cities in the region to develop subregional forecasts that reflect planned land use and development patterns and constraints. Further information on approach and methodology can be found on SANDAG's website at www.sandag.org/index.asp?classid=12&subclassid=84&projectid=503&fuseaction=projects.detail

Sphere of Influence). Existing land use conditions, including land uses by General Plan designation and assessed land uses, are also described. Figure 1-4 shows the San Marcos City Limits, and the General Plan Planning Area boundaries. The San Marcos General Plan currently includes the following goals and policies which guide land use decisions in San Marcos.

Element	Topic Area	Goal	Policy
Land Use and Community Design Element	Balanced and Compatible Land Uses	Goal LU-1: Achieve a balanced distribution and compatible mix of land uses to meet the present and future needs of all residents and the business community.	Policy LU-1.1: Ensure that adjacent land uses complement one another by considering compatibility of activities, development patterns and architectural character elements and access to various mobility choices. Policy LU-1.2: Promote commercial uses that provide a solid economic base and employment opportunities. Policy LU-1.3: Diversify land uses by providing mixed use land uses in strategic locations within the City that place housing adjacent to employment. Policy LU-1.4: Maintain the natural integrity of open space preserves by ensuring development projects are sensitively integrated along the edges of preserved or protected areas. Policy LU-1-5: Provide for and retain a variety of complementary industrial uses that offer employment opportunities. Policy LU-1.6: Allow home offices, and other low-impact home businesses, that do not change the character of the residential unit or neighborhood and remain incidental to the primary residential use. Policy LU-1.7: Require the installation of a linear park amenity within Focus Area 2 on the designated open space when mixed use development occurs east of S. Rancho Santa Fe Road. The development of the neighborhood/linear park shall be installed by the property owner along Pawnee Street from Descanso Avenue to Linda Vista Drive.
	High Quality and Sustainable Development	Goal LU-2: Promote development standards and land use patterns that encourage long-term environmental sustainability.	Policy LU-2.1: Promote compact development patterns that reduce air pollution and automobile dependence and facilitate walking, bicycling, and transit use. Policy LU-2.2: Encourage new development to be sited to respond to climatic conditions, such as solar orientation, wind, and shading patterns. Policy LU-2.3: Require the incorporation of green building practices, technologies, and strategies into development projects per code standards.

Land Use and Community Design Element			Policy LU-2.4: Encourage retrofits of existing buildings to promote energy efficiency and indoor air quality. Policy LU-2.5: Promote landscaping (e.g., native, drought tolerant plants) that minimizes demands on water supply. Policy LU-2.6: Promote use of community gardens, farmers markets, and agricultural lands to provide locally-grown food. Policy LU-2.7: Promote the instillation of trees to reduce the urban heat-island effect and green infrastructure to reduce storm water runoff.
	Community Connections	Goal LU-3: Develop land use patterns that are compatible with and support a variety of mobility opportunities and choices.	Policy LU-3.1: Require that new development and redevelopment incorporate connections and reduce barriers between neighborhoods, transit corridors, and activity centers within the City. Policy LU-3.2: Promote street-oriented development, within mixed use areas with parking located behind or next to buildings rather than in front. Encourage commercial activities such as wide sidewalks and outdoor dining. Policy LU-3.3 Where feasible, consolidate inadequately sized land into parcels suitable for integrated development with improved pedestrian and vehicular circulation. Policy LU-3.4: Provide non-motorized (pedestrian and bicycle) access/circulation within, and to, mixed use centers to reduce reliance on the automobile. Policy LU-3.5: Provide an interconnected open space system that is accessible to the public, including pedestrian and equestrian links, bicycle paths, multiuse trails, recreation areas, and drainage-ways. Policy LU-3.6: Encourage the creation of live/work units to maintain business and living space under common ownership. Policy LU-3.7: Require new development to prepare traffic demand management programs. Policy LU-3.8: Require new development and discretionary actions to annex into a Congestion Management Community Facilities District. Policy LU-3.9: Review SANDAG's Regional Transportation Plan/ Sustainable Communities Strategy each time the City reviews and updates its General Plan and any specific plan, strategy, and zoning, to ensure overall consistency among all

Land Use and Community Design Element			of these plans and strategies, and allow for associated CEQA streamlining and eligibility for State transportation funding. Policy LU-3.10: Require new development/redevelopment in Focus Areas 1, 2 and 3 to provide neighborhood parks near conceptual "floating neighborhood park" locations identified in Figures 2-7, 2-8, 2-9, and 2-10. These parks are intended to provide a variety of recreational amenities and improve pedestrian connections for the future mixed use project and surrounding development.
	Educational Hub	Goal LU-4: Promote San Marcos as the educational center of North County while creating a greater synergy between the business community and its academic institutions.	Policy LU-4.1: Continue to encourage the development, expansion, and upgrade of higher education facilities such as Palomar Community College, California State University San Marcos, and private educational facilities. Policy LU-4.2: Support Palomar Community College, California State University San Marcos, and other higher education institutions in providing comprehensive adult education programs to promote opportunities for continuing education, job training, and career advancement. Policy LU-4.3: Promote the growth of research, development, and high tech businesses and organizations associated with California State University San Marcos to further develop the connection between academic innovation and community development and to identify new areas of growth for local businesses. Policy LU-4.4: Establish a "Business Park" zone that promotes the intent of the Business Park land use, and allows for attraction of highly technical businesses like green-tech and bio-medical industries.
	A City of Distinct and Memorable Places	Goal LU-5: Promote community design that produces a distinctive, high-quality built environment with forms and character that create memorable places and enrich community life.	Policy LU-5.1: Create unique mixed use districts with public spaces and vertical massing to create sense of place. Policy LU-5.2: Establish a "downtown" as a focal point for the San Marcos community and an attraction for North County. Policy LU-5.3: Use public landscaping, banners, and signage along streets, sidewalks, property frontages, and in public spaces to strengthen the City's identity and create a unique sense of place. Policy LU-5.4: Require building and site design that respects the natural topography and iconic ridgelines that serve as the visual backdrop for San Marcos.

Land Use and Community Design Element			Policy LU-5.5: Encourage development of public spaces and plazas within commercial, mixed use, and residential projects that include fire and water features that can accommodate civic events and function as community gathering areas. Policy LU-5.6: Require a specific plan for strategic areas/properties that require high-quality design, orientation and development due to their location or visibility within the community. Policy LU-5.7: Architecture shall be enhanced with high-end building materials, varied roof lines, and decorative details. Policy LU-5.8: Ensure that automobile-oriented businesses have pedestrian-friendly exterior design.
	Economic Strength and Stability	Goal LU-6: Maintain a supportive business climate and a healthy, sustainable economy to retain and attract high quality businesses and create additional employment opportunities.	Policy LU-6.1: Pursue a variety of funding approaches, including grants, impact fees, assessments, and transportation funds to support public services, municipal programs, and capital investments that support City businesses. Policy LU-6.2: Encourage businesses and existing employers to remain and expand in San Marcos. Policy LU-6.3: Encourage and actively promote the location of clean, high tech, telecommunications, and research and development uses within designated industrial and business park areas. This is intended to provide jobs for highly skilled manufacturing and research/development employees, create local revenue sources, support other business sectors, and provide other benefits to local residents and the City. Policy LU-6.4: Encourage and support the renovation and reuse of under utilized or vacant parcels/buildings/ shopping centers. Policy LU-6.5: Support ongoing marketing efforts that encourage job growth and attract residents outside of the City to shop and visit San Marcos. Policy LU-6.6: Maintain an active presence in the business community and engage in outreach efforts with property owners, tenants, brokers, community stakeholders, and local residents to promote economic development and identify development opportunities. Policy LU-6.7: Promote development and revitalization of revenue-generating land uses in areas designated for commercial and industrial uses that will support business and employment growth.

Land Use and Community Design Element			Policy LU-6.8: Protect the sales tax base in the commercial core and State Route 78 light industrial corridor by limiting non-retail uses, or offsetting lost sales tax by another beneficial action or measure, such as an in-lieu fee for loss of retail sales based on compatible retail uses in the area. Policy LU-6.9: Ensure high architectural standards and aesthetic design quality particularly for redevelopment along the State Route 78 corridor and within the commercial core of the community. Policy LU-6.10: Apply a Transitional Zoning category, as part of the comprehensive update to the Zoning Ordinance, to those industrial designated/zoned properties where there is a future nonindustrial land use designation per Figure 2-5. Each property shall ultimately be removed from this exhibit pending a rezone approval matching the adopted General Plan Land Use designation per Figure 2-5.
	Growth Management and Adequate Provision of Urban Services	Goal LU-7: Direct and sustain growth and expansion in areas of San Marcos that can support a concentration of a variety of uses and are particularly suitable for multimodal transportation and infrastructure expansion and improvements. Goal LU-8: Ensure that existing and future development is adequately serviced by infrastructure and public services.	Policy LU-7.1: Support walkable, mixed use development along main transit and transportation corridors. Policy LU-7-2: Coordinate pedestrian, transit and infrastructure upgrades with infill and redevelopment opportunities. Policy LU-8.1: New development shall pay its fair share of required improvements to public facilities and services. Policy LU-8.2: Promote development timing that is guided by the adequacy of existing and/or expandable infrastructure, services, and facilities. Policy LU-8.3: Focus Capital Improvement Plan infrastructure improvements in areas needed to support more concentrated development and that is contiguous to existing development and available infrastructure.

		Goal LU-9: Community Facilities: Establish and maintain community facilities that enhance the quality of life for residents in San Marcos, such as community and senior centers.	Policy LU-9.1: Expand and improve City facilities and buildings as needed to meet the community's needs, based on regular monitoring and evaluation of their condition and the needs of the community.
Land Use and Community Design Element		Goal LU-10: Fire Protection, Emergency Services, and Law Enforcement: Provide effective, high-quality and responsive services.	Policy LU-10.1: Provide demand-based fire-fighting and emergency medical services infrastructure, equipment, and personnel to provide a high level of fire, emergency medical, and law enforcement service in San Macros to meet existing and future demands. Policy LU-10.2: Work closely with the County of San Diego Sheriff's Department to determine and meet the community needs for adequate personnel, equipment and state-of-the-art technology to effectively combat crime, and meet existing and projected service demands. Policy LU-10.3: Continue to conduct Public Outreach and education regarding fire safety and crime prevention within San Marcos.
		Goal LU-11: Schools: Ensure all residents have access to high-quality education.	Policy LU-11.1: Collaborate with the local public school district (SMUSD), private schools, and institutions of higher learning to ensure a range of traditional and distance-learning educational opportunities are provided in superior, accessible facilities that compliment the surrounding land uses. Policy LU-11.2: Work with San Marcos Unified School District and developers to ensure adequate school facilities are funded as required by State law and through developer mitigation agreements between the school district and the developer. The City shall require a "will serve" letter substantiating that the developer has paid fees to the satisfaction of the school district prior to issuance of building permits.
		Goal LU-12: Libraries: Provide library resources and services that meet the needs of the community.	Policy LU-12.1: Provide adequate library facilities and technological access that enhance San Marcos's quality of life and create a civic environment with vast opportunities for self-learning and academic enrichment.

Land Use and Community Design Element		Goal LU-13: Water Service and Supply: Manage and conserve domestic water resources by reducing water usage and waste on a per capita basis, to ensure an adequate water supply for existing and future residents.	Policy LU-12.2: Accommodate technology needs of the community and locate accessible technology in the library. Policy LU-13.1: Work closely with local and regional water providers to ensure high quality water supplies are available for the community. Policy LU-13.2: Actively promote water conservation programs aimed at reducing demand. Policy LU-13.3: Encourage exploration and use of deep underground wells to reduce reliance on treatable water.
		Goal LU-14: Wastewater: Ensure an adequate wastewater system for existing and future development.	Policy LU-14.1: Work closely with local service providers to ensure an adequate wastewater system for existing and future development is in place. Policy LU-14.2: Ensure development approval is directly tied to commitments for the construction or improvement of primary water, wastewater, and circulation systems.
		Goal LU-15: Flood Control and Storm Water Drainage Facilities: Ensure adequate flood control and storm water drainage is provided to the community.	Policy LU-15.1: Implement activities, practices, procedures, or facilities that avoid, prevent, or reduce pollution of the San Marcos Storm Water Conveyance System and Receiving Waters. Policy LU-15.2: Improve inadequate or undersized drainage/ flood control facilities to solve both small neighborhood and large regional drainage and flood control problems. Policy LU-15.3: Avoid, to the extent possible, development in floodplain and flood prone areas.
		Goal LU-16: Solid Waste: Reduce the amount of waste material entering regional landfills with an efficient	Policy LU-15.4: Retain drainage courses in their natural condition, to the extent possible. Consider smaller-scale drainage improvements to protect the environment and avoid disturbing natural drainage courses; consider detention areas and raised building pads.

		and innovative waste management program. Goal LU-17: Utilities and Communications: Encourage provision of power and communication systems that provide reliable, effective and efficient service for San Marcos.	Policy 16.1: Work closely with local service providers to ensure adequate solid waste disposal, collection, and recycling services. Policy 16.2: Increase recycling, composting, source reduction, and education efforts throughout the City to reduce the amount of solid waste requiring disposal at landfills. Policy LU-17.1: Coordinate with all communications and utility companies (electrical, gas, telephone, cable, satellite and future utilities) in the provision of services throughout the community and the installation and maintenance of facilities in their respective franchise areas. Policy LU-17.2: Require all new development and redevelopment to provide the technology to support multiple telecommunications facilities and providers such as multi-media products, wireless technologies, and satellite communications. Policy LU-17.3: The City shall prohibit above ground utility equipment within any of the pedestrian pathway and street frontage areas. All above ground utilities shall be placed either within; "wet closets" within the buildings, underground vaults, or behind buildings where they are not visible. The developer shall be responsible to contact the applicable utility agencies in advance to coordinate utilities prior to approval of the final street improvement plans for both public and private street frontages and prior to submittal of building permits. Policy LU-17.4: Require utility location to be shown on all site development plans at the time of development/ project application.

1.2.1 Existing Setting

This section describes the existing land use context in San Marcos, including its Specific Plans, current Land Use Designations, existing (on-the-ground) land uses, and ongoing projects in San Marcos and nearby communities.

General Plan

The City of San Marcos has a General Plan that was adopted in 2012. The General Plan is a planning document used to guide the city's growth and development. The General Plan consists of numerous

elements and policies that work to shape the future changes in the City. The Land Use and Community Design Element in the existing San Marcos General Plan establishes the planned land use pattern for the City based on the community's vision and goals. Decision-makers and community members can look to the Land Use and Community Design Element to understand the type of development allowed across different locations within San Marcos.

Zoning Code

The City of San Marcos has a zoning code that is a code of regulations that outlines what land uses can exist in specific geographic areas. An interested party can utilize the zoning code to identify what types of uses are allowed on a certain property, or the size, dimensions, or density of development allowed within a parcel of land.

Specific Plan Areas

Specific plans are hybrid documents that act as a bridge between the General Plan and zoning regulations for future development of a particular area. Specific plans are tools that public agencies and developers use to achieve better specificity on the vision, development potential, and architectural style of a specific planning area. San Marcos has several major land use plans for specific planning areas (more than 80 in total) that oversee the development of their respective planning areas. These plans act as tools for implementing the goals and policies of the General Plan through the regulation of use, density, height, and other design standards to achieve the overall vision for the selected area. While not inclusive of all of the City's specific plans, listed below are some of the commonly referenced and largest specific plan documents with brief descriptions.

Heart of the City Specific Plan

The Heart of the City Specific Plan was developed in response to the establishment of California State University San Marcos with the objective of improving the regional image of San Marcos and making the City the educational center of North San Diego County. Another goal of the Specific Plan was to develop a mixed-use town center and City Hall site to serve, in conjunction with the university campus and surrounding development, as the community focal point.

The Specific Plan is important to the City and its residents because it emphasizes the establishment of an urban core and a true town center for the City. The Plan also encourages pedestrian mobility and mass transit alternatives via the SPRINTER light rail line. At buildout, the Specific Plan would provide for a range of between 2,624-3,845 dwelling units, with the majority consisting of "High Density Multi-Family Residential" (15-20 dwelling units per acre) clustered near CSUSM and adjacent business districts.

San Elijo Hills Specific Plan

The San Elijo Hills Specific Plan was developed to create a master-planned community in the hills of San Marcos – a residential community featuring a variety of housing types and densities with retail commercial shopping opportunities for community residents and others nearby. The Specific Plan has a maximum development potential of approximately 3,466 dwelling units at an overall maximum density of 1.75 dwelling units per acre. San Elijo Hills was designed to feel like a small town and is a walkable community with everyday essentials close at hand. The Specific Plan implemented a comprehensive design program, which guides the aesthetic values of San Elijo Hills including landform alterations, architecture, entries, and signage.

San Marcos Creek Specific Plan

The San Marcos Creek Specific Plan represents an effort to create a planning framework for future growth and redevelopment of approximately 214 acres along San Marcos Creek in central San Marcos. The Specific Plan, which was developed with a thorough analysis of environmental conditions and input from City decision-makers, landowners, neighbors, and the community-at-large, provides a comprehensive vision for the Creek District along with goals, policies, and development standards to guide future public and private actions relating to the area's development and conservation of open space and natural resources.

A "Design With Nature" approach to planning was the conceptual framework used to create the Specific Plan. The premise for this approach is that a systematic understanding of the environmental setting, including natural, cultural, social, and economic factors, is essential to creating truly sustainable human environments.

Santa Fe Hills (Paloma) Specific Plan

The Santa Fe Hills (Paloma) Specific Plan, formerly the Neighborhood One Specific Plan, was prepared in order to create a well-balanced, economically viable, and resource-sensitive community in the northwest portion of the City, adjacent to Palomar Community College. The Specific Plan was originally adopted in 1988 and has resulted in the development of primarily single-family residential land uses varying from 2-6 dwelling units per acre. The remaining land uses consist of an elementary school, parks, and open space. At buildout, 1,565 dwelling units were anticipated.

University District Specific Plan

The University District Specific Plan was adopted as a targeted update to a distinct district of the Heart of the City Specific Plan in a manner that renews its original objectives of a "university village" atmosphere. University District is located at the core of San Marcos, and is envisioned as an urban mixed-use center with a variety of housing types, as well as strong emphasis on pedestrian movement and mass transit. In keeping with the objectives of the original Heart of the City Specific Plan, the University District concept intends to "attract clean, campus-related and 'spin-off' development of a high design quality, while continuing to enhance the City's original vision of creating an authentic governmental, administrative, educational, and corporate downtown center."

Prominent themes addressed in the Specific Plan include: integrating Low Impact Development (LID) and sustainable design features; providing a range of residential unit types for students, faculty, families, and seniors; maintaining and enhancing the strong physical connections between the University District, CSUSM, Civic Center, San Marcos Creek, project parks, and the SPRINTER light rail line; and providing commercial and office uses along State Route 78 (SR-78).

Current San Marcos General Plan Land Use Designations

The City's General Plan Land Use Map (Figure 1-5) designates land uses within the Planning Area. Table 1-6 below summarizes land uses included in the General Plan. A description of each General Plan Land Use Designation is provided below. The land use classification system includes 25 land use designations. These land use designations identify the types and nature of development allowed in particular locations depicted on the Land Use Map.

Table 1-6: Current General Plan Land Use Designations

General Plan Designation	Within City Boundary		Within Sphere of Influence		Total Planning Area	
	Acres	% of Total Acres	Acres	% of Total Acres	Acres	% of Total Acres
Agriculture/Residential (AG)	1,406.7	9.0%	2,986.6	53.8%	4,393.3	20.8%
Hillside Residential 1 (HR1)	-	-	1,314.8	23.7%	1,314.8	6.2%
Hillside Residential 2 (HR2)	-	-	97.5	1.8%	97.5	0.5%
Rural Residential (RR)	-	-	2.2	<0.1%	2.2	<0.1%
Very Low Density Residential (VLDR)	1,108.4	7.1%	24.9	0.4%	1,133.3	5.4%
Low Density Residential (LDR)	769.2	4.9%	292.6	5.3%	1,061.8	5.0%
Low Medium Density Residential (LMDR)	128.4	0.8%	23.4	0.4%	151.8	0.7%
Medium Density Residential 1 (MDR1)	52.4	0.3%	52.0	0.9%	104.6	0.5%
Medium Density Residential 2 (MDR2)	214.9	1.4%	13.0	0.2%	227.9	1.1%
Medium High Density Residential (MHDR)	50.4	0.3%	-	-	50.4	0.2%
High Density Residential (HDR)	-	-	-	-	-	-
Mixed Use 1 (MU1)	107.8	0.7%	-	-	107.5	0.5%
Mixed Use 2 (MU2)	-	-	-	-	-	-
Mixed Use 3 (MU3)/SP (Nonresidential)	58.9	0.4%	-	-	58.9	0.3%
Mixed Use 4 (MU4)/SP (Nonresidential)	8.5	0.1%	-	-	8.5	<0.1%
Commercial (C)	279	1.8%	66.3	1.2%	345.3	1.6%
Neighborhood Commercial (NC)	19.3	0.1%	-	-	19.3	<0.1%
Office Professional (OP)	20.5	0.1%	33.5	0.6%	53.9	0.3%
Business Park (BP)	50.6	0.3%	-	-	50.6	0.2%
Light Industrial (LI)	405.3	2.6%	10.7	0.2%	416.0	2.0%
Industrial (I)	321.9	2.1%	-	-	321.9	1.5%
Public/Institutional (PI)	839	5.4%	8.32	0.1%	847.3	4.0%
Parks (P)	696.8	4.5%	-	-	696.8	3.3%
Open Space (OS)	2,793	17.9%	257.9	4.6%	3,050.8	14.4%
Specific Plan Area (SPA)	3,507.3	22.5%	69.43	1.2%	3,576.7	16.9%
Transportation/Utilities Related	2,765.2	17.7%	301.9	5.4%	3,067.2	14.5%
Total	*15,603*	*100%*	*5,555*	*100%*	*21,158*	*100%*

Source: City of San Marcos GIS Dataset; De Novo Planning Group 2020.

The table above displays the parcel specific acreage for land uses within the City of San Marcos and the Planning Area. As evident in the table, there are 21,158 acres of land (33.06 square miles) within the Planning Area. Of the designated land uses, the largest land use designation within the Planning Area is Agriculture/Residential (AG), with 4,393 acres of land designated for this development.

It should be noted that there are multiple Specific Plan Areas (SPAs) within San Marcos that are regulated by Specific Plans relevant to that plan area (over 80 total). For a majority of these Specific Plan Areas there are no underlying land use designations; instead, all requirements are outlined within the corresponding Specific Plan. Therefore, the acreage of these undesignated SPAs is identified within Table 1-6 and Figure 1-5 (General Plan Land Use Map) as "Specific Plan Area" acreage. Figure 1-6 illustrates the Specific Plan areas. In some instances, land within the SPAs does fall into an underlying land use designation. For the purposes of this report, when a SPA and land use designation overlap occurs, the underlying land use designation takes precedent and all acreage is assigned to the land use designation category rather than the SPA category. The San Elijo Hills Specific Plan is one such area that contains underlying designations for some of the land (e.g., open space and parks). In the table above, the acreage for these underlying designated parcels within the San Elijo Hills Specific Plan area were incorporated into their assigned underlying land use areas rather than being incorporated into the total acreage for the San Elijo Hills Specific Plan.

Agricultural/Residential (AG): Agricultural uses as the primary use. Agricultural uses include greenhouses, wholesale nurseries, and agricultural crops. Raising poultry, cattle, birds, small animals, horses, and bovine animals is permitted. Agricultural tourism activities may also be allowed. This designation allows a maximum density of 0.125–1.0 dwelling units (du) per parcel based on location and slope.

Hillside Residential 1 (HR1): Single-family homes on larger lots in hillside areas as the primary use with the objective of preserving the hillside. Agricultural uses include trees, flower and vegetable gardens, and other horticultural stock. Horses and certain combinations of poultry and bovine animals are permitted. This designation allows a maximum density of 0.05–0.25 du/acre, depending on slope.

Hillside Residential 2 (HR2): Single-family homes in hillside areas as the primary use with the objective of preserving the hillside. Agricultural uses include trees, flower and vegetable gardens, and other horticultural stock. Horses and certain combinations of poultry and bovine animals are permitted. This designation allows a maximum density of 0.25–0.5 du/acre, depending on slope.

Rural Residential (RR): Single-family homes and limited agricultural uses. Agricultural uses include flower and vegetable gardens, fruit trees, and horticultural stock. This designation allows a maximum density of 1.0–2.0 du/ac.

Very Low Density Residential (VLDR): Conventional single-family residential development characterized by individual single-family homes constructed in subdivisions, or by custom units built on individual lots. This designation allows a maximum density of 2.1–4.0 du/ac.

Low Density Residential (LDR): Single-family and duplex residential development including detached condominiums, clustered homes, and courtyard housing. Mobile home parks are also allowed. This designation allows a maximum density of 4.1–8.0 du/ac.

Low Medium Density Residential (LMDR): Row homes, townhomes, and multi-family (apartments and condominiums), and duplex units. Small-lot single-family homes with alley access and unique design features are included. Mobile home parks are allowed as consistent with zoning. This designation allows a maximum density of 8.1–12.0 du/ac.

Medium Density Residential 1 (MDR1): Row homes, townhomes, and multi-family (apartments and condominiums) units. This designation allows a maximum density of 12.1–15.0 du/ac.

Medium Density Residential 2 (MDR2): Row homes, townhomes, and multi-family (apartments and condominiums) units. This designation allows a maximum density of 15.1–20.0 du/ac.

Medium High Density Residential (MHDR): Multi-family units (apartments and condominiums), row homes, and townhomes. This designation allows a maximum density of 20.1–30.0 du/ac.

High Density Residential (HDR): Multi-story, multi-family (apartments and condominiums) developments with either surface or structured parking, typically found along or near major transportation corridors within walking distance of commercial centers and transit services. This designation allows a maximum density of 30.1–45.0 du/ac. (*Note that no land within the Planning Area is currently designated as HDR.)*

Mixed Use 1 (MU1): A wide variety of commercial, office, civic, and residential uses integrated as a cohesive development. These uses may be mixed "vertically" (on separate floors of a building) or "horizontally" (in separate buildings) on a single site or on adjacent parcels. Structured parking may be necessary to accommodate maximum allowable densities, and shared parking arrangements may be allowed consistent with the nature of the mixed uses. To maintain a pedestrian scale and orientation, retail and other active uses are encouraged at street level. The maximum intensity of development is a floor area ratio (FAR) of 1.75 and 20.1–30.0 du/ac.

Mixed Use 2 (MU2): A wide variety of commercial, office, civic, and residential uses integrated as a cohesive development. These uses may be mixed "vertically" (on separate floors of a building) or "horizontally" (in separate buildings) on a single site or on adjacent parcels. Structured parking may be necessary to accommodate maximum allowable densities, and shared parking arrangements may be allowed consistent with the nature of the mixed uses. To maintain a pedestrian scale and orientation, retail and other active uses shall be located at street level. The maximum intensity of development is a FAR of 2.25 and 30.1–45.0 du/ac. *(Note that no land within the Planning Area is currently designated as MU2.)*

Mixed Use 3 (MU3) (Nonresidential): Provides for a variety of commercial and office uses integrated as a cohesive development. These uses may be mixed "vertically" (on separate floors of a building) or "horizontally" (on a single site or adjacent parcels). Structured parking, while not required to achieve the maximum FAR, may be allowed. Shared parking arrangements may also be allowed consistent with the nature of mixed uses. Typical uses include retail, commercial services, administrative and office uses, institutional and government uses, business support and financial uses, restaurants, and health care facilities. To maintain a pedestrian scale and orientation, retail and other active services are encouraged at street level. This designation does not allow residential uses. A Specific Plan is required for development. The maximum intensity of development is a FAR of 1.50.

Mixed Use 4 (MU4) (Nonresidential): Provides for a variety of commercial, office professional, and business park uses integrated as a cohesive development. These uses may be mixed "vertically" (on separate floors of a building) or "horizontally" (on a single site or adjacent parcels). Structured parking may be necessary and/or shared parking arrangements may be allowed consistent with the nature of mixed uses. Typical uses include commercial retail, commercial

services, office, and business park uses. Retail and other active services are encouraged at street level. This designation does not allow residential uses. A Specific Plan is required for development. The maximum intensity of development is a FAR of 1.50.

Commercial (C): Commercial areas where a wide range of retail activities, services, and offices are permitted. Typical uses include general retail, markets, commercial services, restaurants, hardware, home improvements centers, financial institutions, lodging, and commercial recreation. The maximum intensity of development is a FAR of 0.70.

Neighborhood Commercial (NC): General retail, markets, commercial services, offices, and restaurants designed to serve primarily the needs of surrounding neighborhood and residential areas. The maximum intensity of development is a FAR of 0.30.

Office Professional (OP): Office-based working environments for administrative and professional offices and necessary support uses. Typical uses include administrative and professional offices, supporting retail and service functions, and health care facilities. The maximum intensity of development is a FAR of 1.50.

Business Park (BP): Employee-intensive uses including research and development, "clean" industry, technology centers, offices, administrative uses, supporting retail, and industrial support services. The maximum intensity of development is a FAR of 1.20.

Light Industrial (LI): Light manufacturing, processing, assembly, wholesale, office, and research and development laboratories, all within enclosed buildings with limited outdoor storage, in freestanding or campus-style industrial development. Supporting uses, such as office, limited retail, and business services, are also allowed. The maximum intensity of development is a FAR of 0.60.

Industrial (I): Manufacturing, assembly, processing, and distribution of goods. Warehousing and wholesale activities associated with industrial operations, and small-scale support retail, service commercial, and office uses may also be established. Allows outdoor storage as part of industrial operations and, in limited circumstances, without buildings on-site. The maximum intensity of development is a FAR of 0.50.

Public/Institutional (PI): Facilities built and maintained for public use such as academic facilities, institutional uses, community service facilities, water and sewer facilities, detention and drainage facilities, cemeteries, police and fire stations, and other government buildings and property. This designation may include privately owned facilities built and maintained for public use. The maximum intensity of development is a FAR of 3.0.

Parks (P): Active and passive public or privately owned parks. Park lands are for outdoor and indoor recreation including playing fields, playgrounds, community centers, small accessory buildings, and other appropriate recreational uses. Community gardens may be considered for some parks.

Open Space (OS): Undeveloped lands, visually significant open lands, trails, utility corridors, water areas, and wildlife habitat. Land designated as open space is intended to remain undeveloped in the future.

Specific Plan Area (SPA): Applied to areas where a Specific Plan has been adopted by the City. A Specific Plan is a detailed plan for the development of a particular area and may contain residential, commercial, industrial, public, and/or open space uses. Detailed land use regulations are contained within each adopted Specific Plan document. The maximum allowable density/intensity of development varies by location.

Existing Land Use Patterns (On-the-Ground)

When discussing land use, it is important to distinguish between planned land uses and existing land uses that reflect existing on-the-ground development. The current General Plan land use designations identify the long-term planned use of land, but do not necessarily present a complete picture of existing land uses. The San Diego County Assessor's office maintains a database of existing "on-the-ground" land uses on individual parcels, including the number of dwelling units and related improvements such as non-residential building square footage. However, it should be noted that the San Diego County Assessor data does not always accurately reflect existing on-the-ground conditions.

Figure 1-7 shows a map of existing on-the-ground land uses in the Planning Area. As evident from the map, San Marcos is dominated by single-family housing, open space, and rural lands, generally in line with the planned land uses depicted on its General Plan Land Use Map. Other residential uses, including manufactured homes and multi-family housing developments, exist in the Planning Area but are less prevalent than single-family developments. Commercial and industrial uses are primarily located near the SR-78 corridor.

Regional Housing Needs Allocation (RHNA)

California General Plan law requires each city and county to have adequate land zoned to accommodate its fair share of the regional housing need. The share is known as the Regional Housing Needs Allocation (RHNA) and is based on a Regional Housing Needs Plan (RHNP) developed by councils of government. SANDAG is the lead agency for developing the RHNP for the area that includes San Diego County and the City of San Marcos. As part of its planning efforts, SANDAG must allocate housing units within the region consistent with the development pattern included in the 2050 Regional Transportation Plan/Sustainable Communities Strategy (2050 RTP/SCS).

San Marcos' fair share of the adopted RHNP for the RHNA for 2021-2029 is 3,116 units, as summarized in Table 1-7. The City of San Marcos is not required to ensure that there is adequate development to accommodate the RHNA; however, the City must ensure that land is available for housing development and that unnecessary development constraints have been removed. The City's Housing Element, adopted in July 2021, provides for the accommodation of the 2021-2029 RHNA. This serves as the baseline for the General Plan Update.

Table 1-7: 2021-2029 Regional Housing Needs Allocation

City	Number of Very Low-Income Households	Number of Low-Income Households	Number of Moderate-Income Households	Number of Above Moderate-Income Households	Total
San Marcos	728	530	542	1,316	**3,116**

Source: City of San Marcos Housing Element, 2021.

1.2.2 Pending and Recently Approved and Completed Projects in San Marcos

Table 1-9 provides a sampling of San Marcos' pending or recently completed projects. At the writing of this report, 54 major development projects were identified on the City's website.

Table 1-9: Pending and Recently Completed Development Projects

Project Name	Location	Description	Status
Artis Senior Living	North side of San Elijo Road, east of Rancho Santa Fe Road	Specific Plan Amendment and Site Development Plan request to develop a 39,951 sf residential care facility for Alzheimer's and memory care on a 2.18-ac property in the University Commons (Old Creek Ranch) SPA	Approved
Brookfield Residential Multi-Family (MU-4)	Twin Oaks Valley Road	Specific Plan Amendment, General Plan Amendment, Tentative Subdivision Map, and Multi-family Site Development Plan to allow for the construction of 220 residential condominium units on 23.22 ac	Under construction
Discovery Village South	Discovery Street	General Plan Amendment, Specific Plan, Tentative Subdivision Map and Development Agreement to construct 230 residential units on 38 vacant acres	Under construction
Hunter Industries	0 Opal Street	67,657 square foot, two-story light industrial/office building	Planning application in process
Kaiser Permanente Hospital	400 Craven Road	Site Development Plan for a 428,500 sf, 7-story, 206-bed hospital, including a 26,000 sf central power plant in the Heart of the City Specific Plan Area-Hospital Complex (SPA-HC) Zone	Under construction

Pacifica San Marcos	S. Rancho Santa Fe Road	Three-story, mixed-use development with approximately 5,000 sf commercial/retail space on the ground floor and 31 residential units on the upper floors	Approved
San Marcos Highlands	Las Posas Road	Specific Plan Amendment, Tentative Map, Pre-Zone, and General Plan Amendment to build a 187-unit single-family residential community and open space on 265 ac within the San Marcos Highlands SPA, plus an additional 27.5 ac of contiguous open space	Under construction
The Sunrise Project	Barham Drive, West of Myers Avenue	Pre-Zone, General Plan Amendment, Multi-Family Site Development Plan, Tentative Subdivision Map, Specific Plan, Conditional Use Permit, and Grading Variance to change the land use from Light Industrial, Single-family, and Mobilehome Park to Multi-family Residential, to allow construction of 193 multi-family dwelling units with passive and recreational open space on 14.4-acres	Under construction
Urban Villages San Marcos, LLC - Block 3 Student Housing	Northeast corner of Barham Drive and June Way	Site Development Plan to construct a 95,713 sf student housing development consisting of 36-units and 342 beds	Approved

Source: Major Development Projects, City of San Marcos Website, February 2021.

1.2.3 Pending and Recently Approved and Completed Projects in Surrounding Jurisdictions

Table 1-10 lists recently completed, approved, or pending projects near San Marcos in the adjacent cities of Vista, Carlsbad, and Escondido, and neighboring unincorporated San Diego County. The projects identified in Table 1-10 were selected based on proximity to the Planning Area and relative scale of the project.

Table 1-10: Surrounding Jurisdictions Pending and Recently Completed Development Projects

Project Name	Location	Description	Status
Projects Under Review			
Green Oak Ranch	Vista – West end of Green Oak Road, west of Sycamore Avenue	Site Development Plan to demolish up to 15 existing structures and construct a 14,750 sf multi-purpose building and three 5,040 sf residential buildings	Pending Review
Vista Palomar	Vista – 2100 W. San Marcos Blvd	General Plan Amendment, Zone Change, Special Use Permit, and Site Development Plan for 191 condominium units and a 100-room hotel on 17.2 ac	Under Construction
Marja Acres	Carlsbad – 4901 El Camino Real	Density Bonus development w/ 248 townhomes, 46 senior units, 10,000 sf of retail/restaurant uses, w/ community recreation areas on 20.65 ac	Pending
North County Plaza Mixed-Use Redevelopment	Carlsbad – 1810 Marron Rd	Mixed-use project involving demo of 46,000 sf of existing commercial bldgs. and replacement w/ 272 apartment units plus replacement of 6,810 sf of retail shops	Pending
Safari Highlands Ranch	Escondido – North of San Diego Zoo Safari Park	Specific Plan for 550 SFR lots on 1,100 ac	Under Review
Wismer – Felicita Hotels	Escondido – Felicita Rd	140-unit hotel, 80-unit extended stay hotel, 120-bed assisted living facility and gas station on 6.9 ac	Incomplete; In Redesign

Sources: City of Vista Website, City of Carlsbad Website, City of Escondido Website, 2020.

1.2.4 Land Uses Surrounding the City of San Marcos

The City of San Marcos is surrounded by several local jurisdictions including the cities of Vista, Carlsbad, Escondido, and unincorporated San Diego County. The following land uses are identified along common boundaries and areas near San Marcos:

City of Vista

- Low Density Residential (LD)
- Medium Density Residential (MD)
- Medium High Density Residential (MHD)
- High Density Residential (HD)
- Mixed Use (MU)
- General Commercial (GC)
- Research Light Industrial (RLI)

City of Carlsbad

- Residential 0-4 du/ac (R-4)
- Residential 4-8 du/ac (R-8)
- Residential 8-15 du/ac (R-15)
- Community Facilities (CF)
- Open Space (OS)

City of Escondido

- Estate I: 1 du/1,2,4,20 acres
- Estate II: 1 du/.5,1,20 acres
- Suburban: Up to 3.3 du/acre
- Urban I: Up to 5.5 du/acre
- Planned Commercial
- Light Industrial
- Specific Plan Area

Unincorporated San Diego County (Lake San Marcos SOI)

- Village Residential (VR-24)
- Village Residential (VR-10.9)
- Village Residential (VR-7.3)
- Village Residential (VR-4.3)
- Village Residential (VR-2)
- Semi-Rural Residential (SR-1)
- Semi-Rural Residential (SR-2)
- Semi-Rural Residential (SR-10)
- General Commercial
- Office Professional
- Public/Semi-Public Facilities

Unincorporated San Diego County (North/Twin Oaks SOI)

- Semi-Rural Residential (SR-2)
- Semi-Rural Residential (SR-4)
- Semi-Rural Residential (SR-10)
- Rural Lands (RL-20)
- Rural Commercial
- Office Professional
- Public/Semi-Public Facilities

Other Unincorporated San Diego County

- Village Residential (VR-7.3)
- Village Residential (VR-4.3)
- Village Residential (VR-2.9)
- Semi-Rural Residential (SR-1)
- Semi-Rural Residential (SR-2)
- Semi-Rural Residential (SR-4)
- Semi-Rural Residential (SR-10)
- Rural Lands (RL-20)
- Open Space (Conservation)

1.2.5 References

The primary sources of data referenced for this section are the following:

City of Carlsbad, 2015. City of Carlsbad General Plan. Accessed February 2020.

City of Escondido, 2012. City of Escondido General Plan. Accessed February 2020.

City of San Marcos, 2012. City of San Marcos General Plan. Includes Housing Element adopted June 2013.

City of Vista, 2012. City of Vista General Plan. Accessed February 2020.

Governor's Office of Planning and Research 2017 General Plan Guidelines. Available at: http://www.opr.ca.gov/planning/general-plan/

San Diego County, 2011. San Diego County General Plan. Accessed February 2020.

San Diego County, 2020. Parcel Data provided by the County Assessor's Office, February 2020.

1.3 COMMUNITY CHARACTER

The community character of the San Marcos Planning Area is defined by its special natural environment, family-friendly residential atmosphere, and its position as an educational hub in North San Diego County. People are attached to their communities through the look and feel of a place; some of these qualities or attributes are tangible while others are intangible. The City's General Plan will consider the character of San Marcos and identify goals and policies to maintain the City's high quality of life while looking towards the needs of future generations. Some key considerations related to the formation of San Marcos' community character include its elevation/topography, the history and quality of its residential neighborhoods (including its Specific Plan Areas), and its visual resources. The first two of these topics are described below, while the City's visual resources, considered a "natural resource" for the City of San Marcos, are described in more detail in Section 5.0 (Conservation and Natural Resources).

1.3.1 Elevation

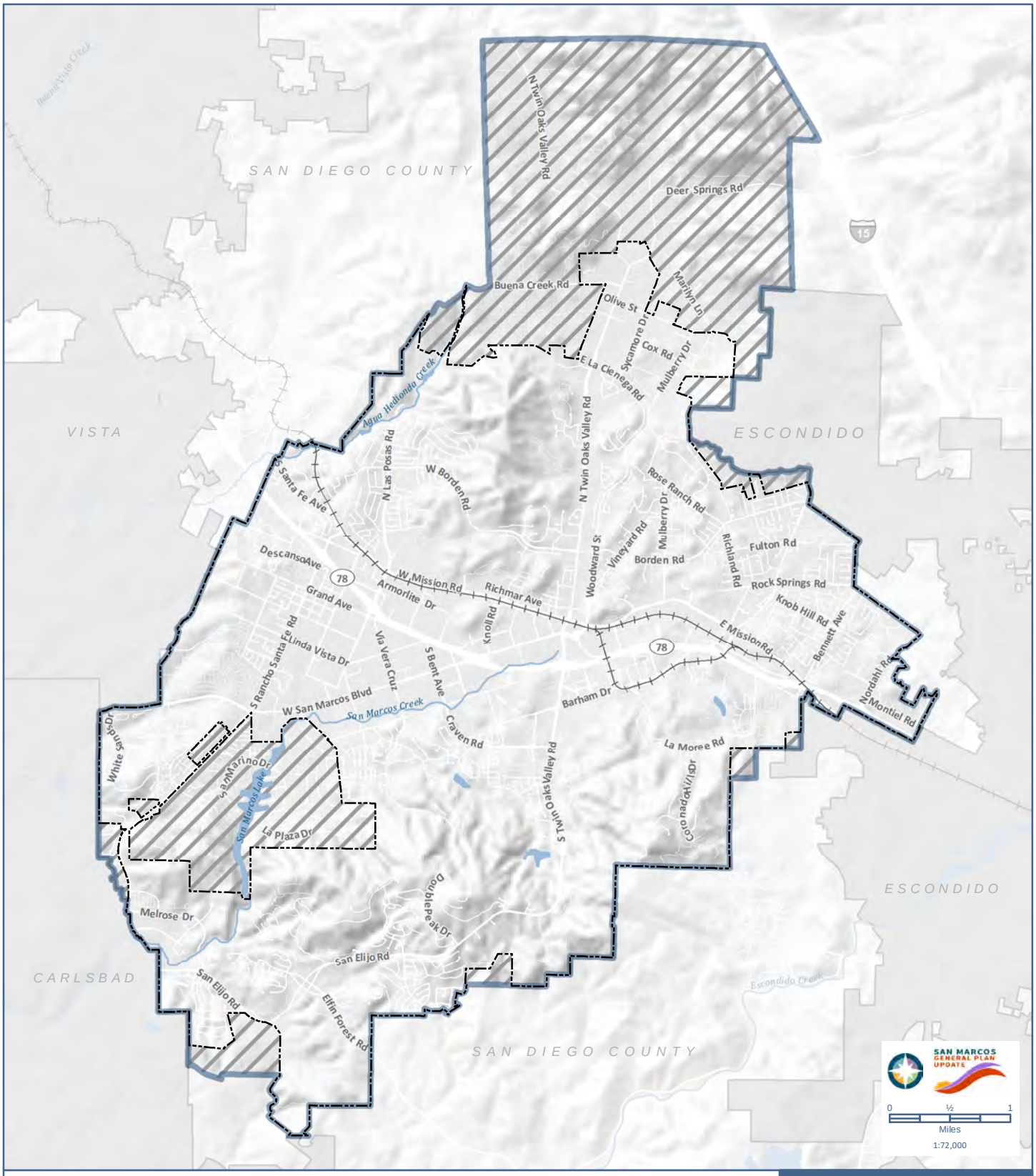
The elevation in the Planning Area (which includes the unincorporated County areas within the City's Sphere of Influence) traverses almost 1,200 feet, from a low point in the Lake San Marcos community (in unincorporated San Diego County in the City's Sphere of Influence) of 510 feet above sea level and rising to 1,688 feet towards Frank's Peak. This environment creates beautiful views to the mountains and ocean throughout the community. However, San Marcos' unique and undulating topography can pose challenges when ensuring that land uses are planned in a safe manner and viewsheds are preserved. Careful attention must be paid to preserving and protecting the surrounding natural environment and recognizing the opportunities that come with changing elevations and slopes. These qualities can also make walking and biking along certain steep routes difficult, a topic which is discussed in greater detail in Section 2.0 (Transportation and Circulation).

1.3.2 Residential Areas and Specific Plan Areas

The Planning Area is primarily a residential community with well-established neighborhoods. San Marcos is home to a number of Specific Plan Areas which significantly shape the City's existing land use pattern and built environment through their own individual community design, monumentation, architecture, and amenities.

1.3.3 Age of Structures

Most of the City's housing stock was developed between 1980 and 2009, with the oldest homes being located primarily on the east side of the City, north of SR-78. Data from the 2018 American Community Survey (ACS) indicates the highest percentage of units were built between 2000 and 2009 (21.8%). Newer homes were built later as residential development moved up and away from SR-78, both north and south, as easier access was provided primarily by Twin Oaks Valley Road. The relatively young age of San Marcos' housing stock indicates that overall housing conditions are good; however, older housing units are more likely to be in need of repair, as well as focused maintenance and neighborhood enhancement goals, policies, and implementation strategies.



LEGEND

- City of San Marcos
- Planning Area/Sphere of Influence
- Areas within the Planning Area/Sphere of Influence
- Neighboring City
- Unincorporated San Diego County
- Lake or Pond
- Creek
- Railroad

FIGURE 1.4.

PLANNING AREA MAP

Data sources: SANGIS; CalAtlas. Map date: April 14, 2020.

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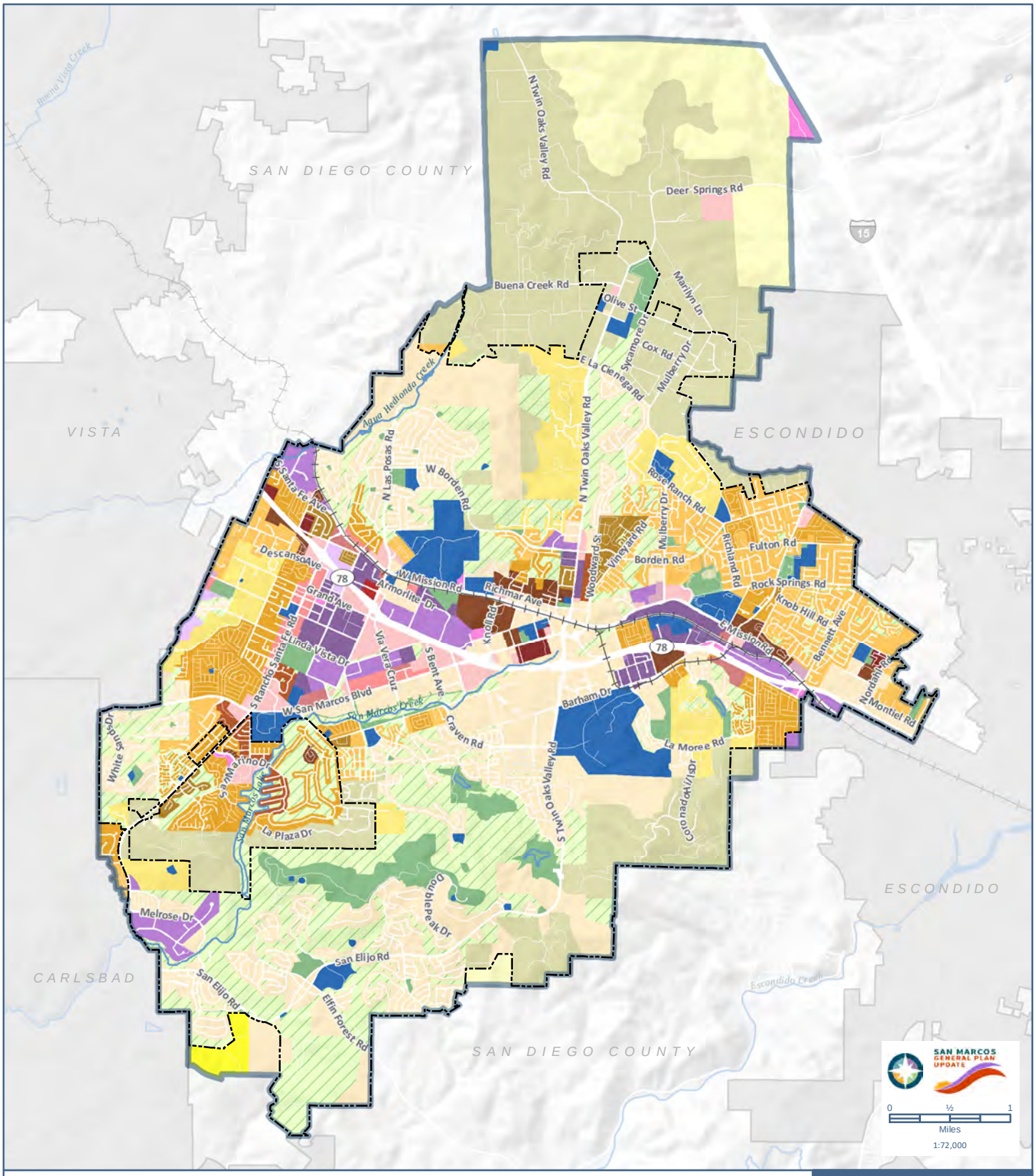

LEGEND

- City of San Marcos
- Planning Area/ Sphere of Influence
- Lake or Pond
- Creek
- Railroad

- AG-Agricultural/Residential
- COUNTY RR-County Rural Residential
- HR1-Hillside Residential 1
- HR2-Hillside Residential 2
- RR-Rural Residential
- VLDR-Very Low Density Residential
- LDR-Low Density Residential
- LMDR-Low Medium Density Residential
- MDR1-Medium Density Residential 1
- MDR2-Medium Density Residential 2
- MHDR-Medium High Density Residential
- MU1-Mixed Use 1
- MU3-Mixed Use 3
- MU4-Mixed Use 4
- C-Commercial
- NC-Neighborhood Commercial
- OP-Office Professional
- BP-Business Park
- LI-Light Industrial
- I-Industrial
- PI-Public/Institutional
- P-Parks
- OS-Open Space
- SPA-Specific Plan Area

FIGURE 1.5.

GENERAL PLAN LAND USE

Data sources: City of San Marcos; SANGIS; CalAtlas. Map date: April 14, 2020.

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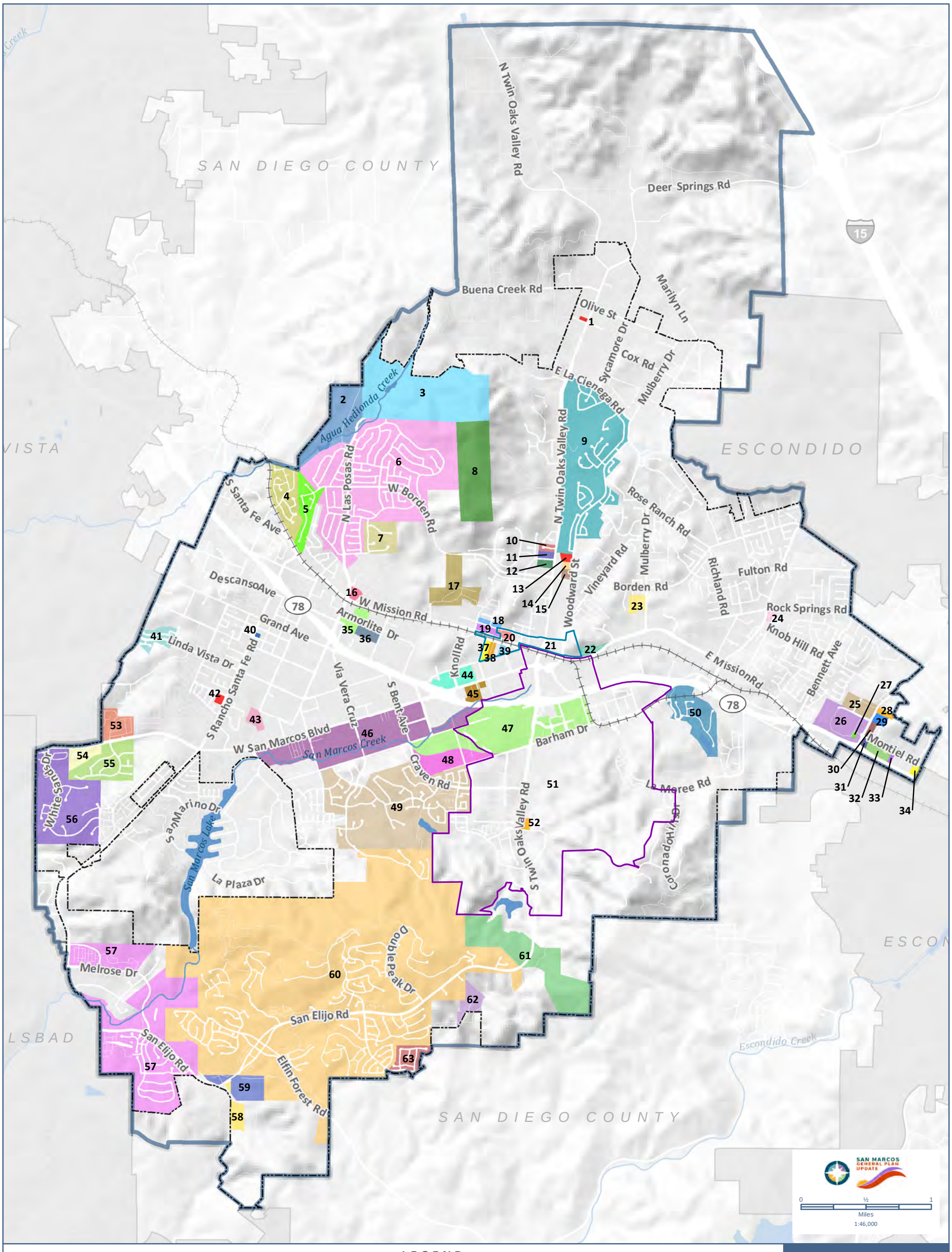

LEGEND

- City of San Marcos
- Planning Area/ Sphere of Influence
- Neighboring City
- Unincorporated San Diego County
- Lake or Pond
- Creek
- Railroad

1 Feed Store
2 Murai Specific Plan/Open Space
3 San Marcos Highlands
4 Rancho Santalina
5 Loma Alta
6 Paloma (Santa Fe Hills)
7 Palomar Heights
8 Future SPA - Chang
9 Twin Oaks Valley Ranch
10 Vidler Estates (Montessa)
11 Schenker
12 SPA Industrial
13 Woodward Senior Apartments
14 Future SPA - Senior Housing
15 Future SPA - Senior Housing
16 Collucci/Mobile
17 Vallecitos Ridge
18 Villa Serena Specific Plan
19 Paseo De Oro
20 El Dorado II
21 Richmar
22 Mission 316
23 Mulberry
24 Starling
25 Rancho Vallecitos/Casa Vallecitos
26 Nordahl Marketplace
27 Vallecitos Town Center
28 Richland Hills North
29 Nordahl Med-Prof Office Building
30 San Marcos Plaza
31 Norman Hutchinson
32 Red Rock
33 Montiel Corporate Center
34 North County Yamaha
35 Palomar Station
36 Marc San Marcos
37 Westlake Village
38 Parkview Homes
39 Autumn Terrace
40 Kragen
41 Arbor Ranch
42 Rancho Santa Fe Village
43 Future SPA-Markstein
44 Home Depot/Commerce Square
45 San Marcos RV Mall
46 San Marcos Creek
47 University District
48 Discovery Village
49 Discovery Hills
50 Walnut Hills II
51 Heart of the City
52 Campus Pointe II
53 Las Brisas Pacificos
54 Meadowlark Canyon
55 Laurels
56 Rancho Dorado
57 University Commons
58 Lomas San Marcos
59 Limited Use .125
60 San Elijo Hills
61 SPA 2 (White/Attebury)
62 Future SPA-Questhaven 23
63 Venzano

FIGURE 1.6.

SPECIAL PLAN AREAS

Data sources: City of San Marcos; SANGIS; CalAtlas. Map date: April 16, 2020.

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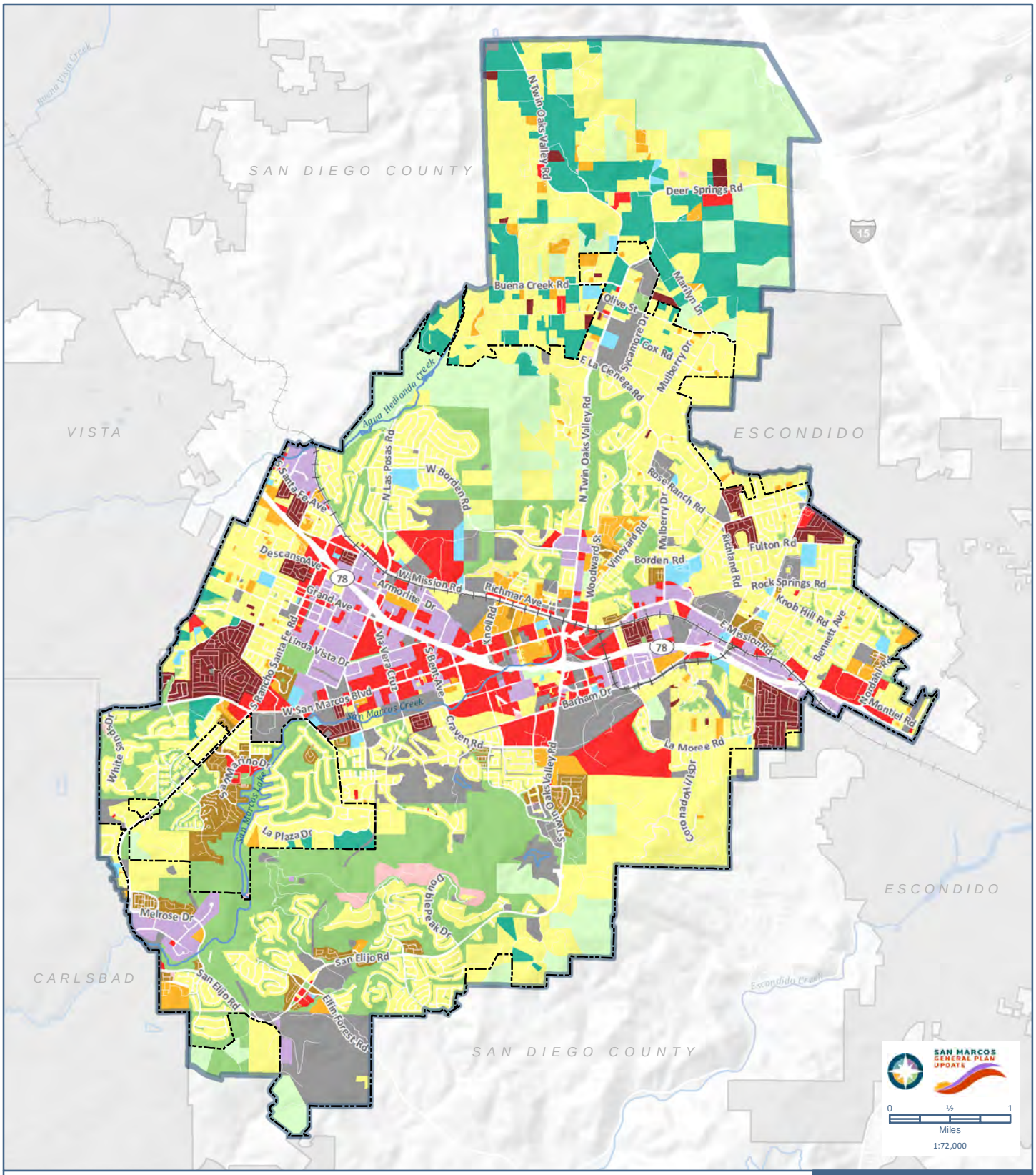

LEGEND

- City of San Marcos
- Planning Area/ Sphere of Influence
- Lake or Pond
- Creek
- Railroad
- Rural Lands
- Residential
- Multiple
- Condominiums
- Manufactured Homes
- Commercial
- Industrial
- Irrigated Farm
- Co-op/Misc
- Institutional
- Recreational & Government
- Unknown

FIGURE 1.7.

ASSESSED USES

Data sources: City of San Marcos; SANGIS; CalAtlas. Map date: April 14, 2020.

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CHAPTER 2
MOBILITY

2 MOBILITY

This chapter describes the regulatory framework and existing transportation conditions in the City of San Marcos. A discussion of pertinent federal, state, regional, and local regulations and plans is presented first. This is followed by a discussion of transportation facilities in San Marcos that accommodate pedestrians, bicycles, transit, freight, and automobiles, plus an assessment of commute trip patterns, roadway operations, and collisions. At the end, new technologies in transportation are recommended.

The Mobility Element portion of the General Plan Update addresses active transportation modes, complete streets, vehicular operations, and mobility options for transit-dependent populations. In addition, transformational technologies, like transportation network companies (e.g., Uber, Lyft, Bird, Lime) and the future advent of connected/autonomous vehicles will also be addressed. In particular, connected/autonomous vehicles may affect the parking demand for various uses, allow for changes to the need for public parking facilities and therefore the City's parking requirements.

Finally, Senate Bill (SB) 743 provides the Vehicle Miles Traveled (VMT) metric for environmental review impact analyses, while Level of Service (LOS) remains the metric to measure operating conditions of roadways and impacts to local circulation outside the realm of the CEQA analysis. The Mobility Element will consider the projected increases in City population and employment through 2040 and the resulting increase in demand on transportation facilities.

2.1 REGIONAL AND LOCAL REGULATORY FRAMEWORK

2.1.1 Regional Regulations

San Diego Association of Governments (SANDAG)

SANDAG is a federally-designated Metropolitan Planning Organization (MPO) comprised of the County of San Diego and 18 city governments, including the City of San Marcos. SANDAG develops long-range regional transportation plans including sustainable communities strategies and growth forecast components, regional transportation improvement programs, and regional housing needs allocations.

SANDAG approved its most recent Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in October 2011, referred to as the 2050 RTP/SCS. This document outlines the long-range vision and the region's transportation system planned investments through 2050. A selection of 2050 RTP/SCS transportation-related goals are:

- Provide 156 new miles of trolley service
- Provide 130 miles of managed lanes to facilitate carpools, vanpools, and premium bus service
- Invest $2.7 billion for regional and local bicycle and pedestrian projects and programs
- Create new carpool and telework incentive programs to reduce single-occupancy vehicles
- Double the homes and jobs within one-half of a mile of transit
- Build nearly three-quarters of multifamily housing on redevelopment or infill sites
- Plan for 84 percent of new housing units to be multifamily
- Double transit service miles and increase transit frequency in key corridors

The 2050 RTP/SCS plans for an estimated $214 billion investment in local, state, and federal transportation needs over the next 40 years. The percentage dedicated to transit is expected to grow each decade, up to 44 percent from 2021 to 2030, 47 percent in the third decade, and 57 percent in the last decade of the plan.

2035 Potential Transit Priority Project Areas

The 2050 RTP/SCS identifies potential High-Quality Transit Corridors, which are corridors that include major transit stops and/or 15-minute peak period service as defined in SB 375. The 2050 RTP/SCS includes Figure 3.23,[1] showing the relationship of higher-density land uses (residential, employment, and mixed use) to planned high-quality transit corridors. These areas are considered "priority project areas" because they play a special role in connecting jobs and housing and other major activity centers. The following streets within San Marcos are High-Quality Transit Corridors in SANDAG's 2050 RTP/SCS:

- West and East Mission Road
- South Las Posas Road
- South Santa Fe Avenue
- Via Vera Cruz
- West San Marcos Boulevard (partial)
- Craven Road
- East Barham Drive (partial)
- Discovery Road (existing and future)
- Knoll Road
- Los Vallecitos Boulevard
- West Lake Drive
- Campus View Drive

[1] 2050 RTP/SCS Figure 3.23: 2050 Transit Network and Higher Density Land Uses. Page 3-67

iCommute

SANDAG operates iCommute, a Transportation Demand Management (TDM) program for the San Diego region. TDM programs typically encourage ridesharing, transit use, biking, and walking as alternatives to single-occupancy vehicle trips. iCommute aims to reduce overall vehicle miles traveled, make more efficient use of existing roadways, maximize the movement of people and goods, and reduce traffic congestion and associated greenhouse gas emissions and other environmental pollutants.[2]

Riding to 2050: The San Diego Regional Bicycle Plan

In 2010, SANDAG adopted the San Diego Regional Bike Plan to support the implementation of San Diego Forward: The Regional Plan. The Regional Bicycle Plan provides strategies to increase everyday bicycling with the goal of a more balanced and sustainable regional transportation network. The plan provides local jurisdictions with information about the structure of the Regional Bike Network, the supporting policies and programs, and the benefits of implementation.

2.1.2 Local Regulations

With the exception of State highways that are under Caltrans' jurisdiction, streets in San Marcos are generally under the jurisdiction of the City.

San Marcos General Plan

The current San Marcos General Plan, adopted in 2012, is the primary planning document for the City and serves to guide new development and infrastructure. The General Plan Circulation Element, updated in 2012, provides the policy framework for the regulation and development of transportation systems, balancing demands for moving people and goods within the city. In particular, the Circulation Element addresses vehicular, pedestrian, bicycle, transit, truck, neighborhood electric vehicle (NEV), and rail transportation. Table 2-1 includes the General Plan goals related to transportation and traffic.

[2] SANDAG Transportation Demand Management Fact Sheet. 2019

Table 2-1: San Marcos General Plan Transportation Goals

Goal	Description
M-1	Provide a comprehensive multimodal circulation system that serves the City land uses and provides for the safe and effective movement of people and goods.
M-2	Protect neighborhoods by improving safety for all modes of travel and calming traffic where appropriate.
M-3	Promote and encourage use of alternative transportation modes, including transit, bicycles, neighborhood electric vehicles (NEVs), and walking, within the city.
M-4	Provide efficient parking within the city.
M-5	Provide for the safe and efficient movement of goods throughout the City.

Source: City of San Marcos General Plan, February 2012

San Marcos Trails Master Plan

The San Marcos Trails Master Plan, currently pending approval, envisions a 108-mile, interconnected trail system. The City of San Marcos currently owns and manages 70.4 miles of completed trails. Trails that are planned or under construction will connect key recreational destinations throughout the City, such as San Marcos Creek, Owens Peak, Discovery Park, Twin Oaks Valley Road, Sunset Park, and the Rail Trail.

San Marcos Capital Improvement Plan

The City of San Marcos Capital Improvement Plan (CIP) provides a financial strategy for implementing infrastructure improvements. In particular, the CIP keeps a list of projects programmed for funding for a five-year period. Current and upcoming projects include road widenings, road improvements, street realignments, traffic signal timing plans, sidewalk installation, bikeway installation, interchange improvements, and park improvements.

2.2 EXISTING SETTING

2.2.1 Resident and Worker Travel Behavior

According to data obtained from the 2012 California Household Travel Survey,[3] most San Marcos residents use motor vehicles as the primary mode of travel, accounting for 89 percent of all trips (54 percent as a driver, 35 percent as a passenger in a vehicle). In contrast, all trips by other modes include one percent by transit, five percent by bike, and five percent by walking. For school trips, 19 percent are made by walking, compared to zero to five percent of trips walking to other destinations listed in Table 2-2. The mode share by general trip purpose for San Marcos is shown in Table 2-2.

[3] California Household Travel Survey. Caltrans, 2013.

For comparison, mode share at the County level is shown in Table 2-3. Generally, San Marcos experiences higher levels of driving, carpooling and bicycling than the county, and corresponding lower levels of transit and walking.

Table 2-2: San Marcos Mode Share by Trip Type

Home	48%	39%	0%	9%	5%
Work	93%	0%	0%	7%	0%
School	42%	37%	2%	0%	19%
Other	54%	37%	2%	1%	5%
Overall	54%	35%	1%	5%	5%

Source: California Household Travel Survey, 2013

Table 2-3: San Diego County Mode Share by Trip Type

Home	55%	27%	1%	2%	15%
Work	85%	7%	1%	1%	6%
School	16%	55%	7%	2%	20%
Other	49%	25%	9%	1%	16%
Overall	53%	26%	5%	1%	15%

Source: California Household Travel Survey, 2013

The mode share for San Marcos commuters has slightly changed in recent years according to data obtained from the U.S. Census Bureau American Community Survey (ACS). Commuting mode share estimates from the ACS over the years 2013 through 2017 (Table 2-4) show that commuters driving alone and those who carpool, comprise around 90 percent of commuter trips. The shares of biking, working from home and by taxi, motorcycle or other have increased over this period, while public transit share remained the same.

Table 2-4: San Marcos Share Commute Mode Share by Year (2013-2017)

	2013	2014	2015	2016	2017	% Change (2013-2017)
Drove alone	79.9	81.8	81	80.8	79.7	-0.3%
Carpooled	12.2	10.4	10	8.1	8.2	-48.8%
Public transportation (excluding taxicab)	1.6	1.1	1.4	1.7	1.6	0.0%
Walked	1.3	1.4	1.8	1.9	2.4	45.8%
Bicycle	0	0.1	0.1	0.2	0.3	100.0%
Taxicab, motorcycle, or other means	0.8	0.8	1.2	1.9	2.2	63.6%
Worked at home	4.3	4.4	4.5	5.4	5.6	23.2%

Source: US Census, ACS 5-year estimates (2013-2017)

2.2.2 Pedestrian Facilities

San Marcos offers several types of facilities and amenities that support walking in the city. The availability and quality of pedestrian facilities vary throughout the city and have been analyzed using seven key factors as shown in Table 2-5.

Table 2-5: Pedestrian Facility Conditions in San Marcos

Factor	Description	Assessment
	Sidewalk availability is core to supporting walkability and safety separating pedestrians from vehicles and other modes. In addition, it is important that sidewalks are present on both sides of the roadway and are contiguous along the entire segment rather than ending midblock.	The City strives to have sidewalks generally provided on both sides of arterial and local streets. However, gaps exist where sidewalk is not present on at least one side of the street. Examples include: • Twin Oaks Valley Road: Barham Drive and SR-78 • North Rancho Santa Fe Road overpass at SR-78 • Borden Ranch Road: Via Barquero and Comet Circle • Linda Vista Drive: South Pacific Street and South Las Posas Road • Barham Drive: SR-78 offramp to Woodland Parkway • Barham Drive: La Moree to Venture Street • Barham Drive: Bennett Court to Meyers Avenue Missing segments of sidewalk increase in older residential areas of town as well as in industrial areas, where sidewalk was implemented inconsistently. The widths and accessibility features such as pedestrian ramps vary widely.
	Cracked, broken, or otherwise damaged sidewalks can pose a safety hazard and discourage walking.	Sidewalks in the city are generally in good condition, free of cracks or uplifts.
	Marked crosswalks can safely accommodate pedestrians that need to cross streets. A lack of marked crosswalks could hinder walkability since pedestrians need to travel greater distances to reach a safe marked crossing point. Drivers may also be less likely to yield to intersections at unmarked crossings.	Marked crosswalks are consistently provided at intersections across the city.
	Shading, whether natural or artificial, can encourage walking in areas such as Southern California which are relatively warm with limited rainfall, especially in the summer.	Shading is inconsistently provided across the city in the form of tree landscaping within the parkways or on adjacent property along roadways. City trail standards call for the implementation of landscape buffers to provide additional shading.
	Steep hills and ravines can discourage walking, especially for pedestrians with limited mobility.	Within the City core, many portions of the road network are generally flat without steep grade changes at the pedestrian level. Outside the City core, many residential areas are generally hilly. Locations with noticeable grade changes include Borden Road, Craven Road, La Moree Road, South Twin Oaks Valley Road between Santa Barbara Drive and Duncan Court, San Elijo Road

		between Rancho Santa Fe Road and Duncan Court, and Elfin Forest Road between Crescent Place and the city's western boundary.
	Buffers which provide separation between pedestrians and moving vehicles can help improve the walking experience, and can include landscaping, parked vehicles, and bulbouts, which serve to both reduce pedestrian crossing distances at intersections and as a traffic calming measure.	Some residential neighborhoods include buffers with grass, trees, and other landscaping. Street-adjacent trails typically include a landscape buffer and lodge pole fencing. "Paseos" providing for separated pedestrian and bicycle access with landscaping exist within the University District area between SR-78 and Barham Drive, and they are planned within the San Marcos Creek Specific Plan area. Arterial roads tend to include contiguous sidewalk with no physical buffers; on-street parking is generally prohibited, and Class II bike lanes are usually present.
	In addition to physical facilities that accommodate walking, useful or interesting amenities along sidewalks create a more interesting walking environment and increase pedestrian comfort. Amenities can include sidewalk-adjacent retail and restaurants, landscaping, and street furniture.	Within San Marcos's residential neighborhoods, the primary amenity is street-adjacent landscaping. At the intersection of San Elijo Road and Elfin Forest Road, there is a road median park. Additional wide landscaped park areas south of the San Marcos Boulevard multi-way are planned in the San Marcos Creek Specific Plan. Some trail segments include street furnishing amenities, such as benches and drinking fountains. Arterial roads offer few pedestrian-level amenities, and retail is generally not pedestrian-facing.

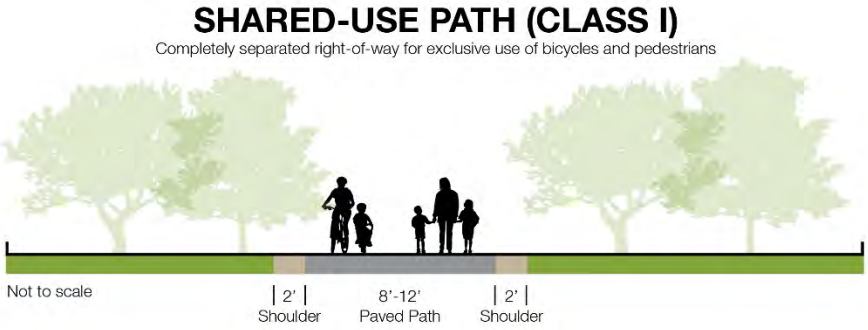
Note: This is not an exhaustive inventory
Source: Kittelson & Associates, Inc., 2020

In addition to on-street facilities, San Marcos offers several off-road multi-use trails comprising of over 55 miles designed for non-motorized commuting and recreational use. These multi-use paths have a typical width of 7 feet to 10 feet. The City of San Marcos Master Trails Plan includes a projected 72 miles of interconnected trails. The current system includes the Old Creek Ranch/Canyon Trail, Las Posas/Borden Trail, and Twin Oaks Valley Trail as well as other trails in and around the city, as shown in Figure 2-1.

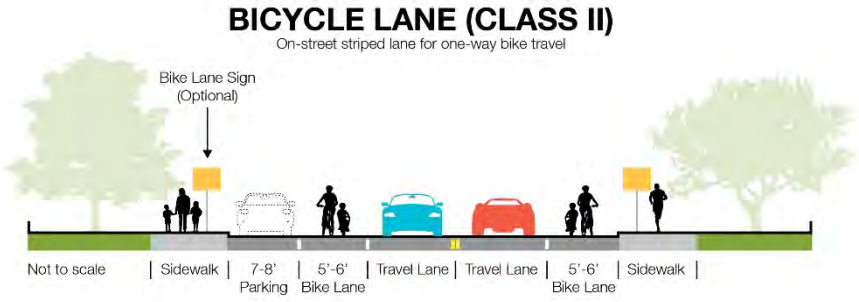
2.2.3 Bicycle Facilities

The City of San Marcos has a network of bicycle facilities that consists of dedicated off-street paths and on-street bicycle lanes and bicycle routes. Figure 2-1 displays the existing designated bicycle facilities in the city. Bicycle facilities are categorized into four types, as described and depicted in illustrations below. Note that while the graphics include typical widths for the various facilities, the exact configuration of a bike facility can vary depending on its location and the jurisdiction's preferences.

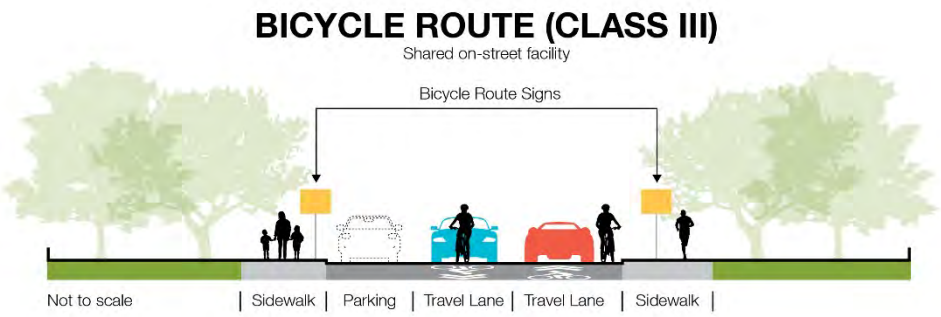
- **Class I** Bikeway **(Bike Path).** Also known as a shared path or multi-use path, a bike path is a paved right-of-way for bicycle travel that is completely separate from any street or highway.



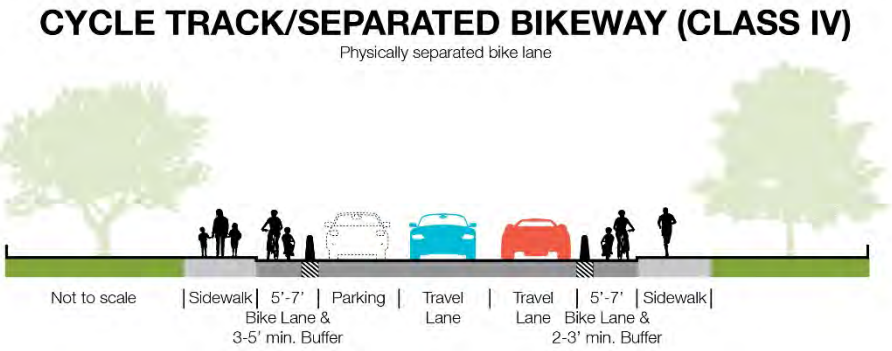
- **Class II Bikeway (Bike Lane).** A striped and stenciled lane for one-way bicycle travel on a street or highway. This facility could include a buffered space between the bike lane and vehicle lane and the bike lane could be adjacent to on-street parking.



- **Class III Bikeway (Bike Route).** A signed route along a street where the bicyclist shares the right-of-way with motor vehicles. This facility can also be designated using a shared-lane marking (sharrow).



- **Class IV Bikeway (Separated Bike Lane).** A bikeway for the exclusive use of bicycles including a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.



As shown in Figure 2-1, the existing bicycle facilities in San Marcos include, but are not limited to, the following:

- Class I:
  - Inland Rail Trail along West Mission Road and south of East Mission Road
  - East of North Twin Oaks Valley Road
  - North along most of San Elijo Road
  - Along Melrose Drive from San Elijo Road to access road west of Diamond Street
  - Along Craven Road
- Class II:
  - West San Marcos Boulevard
  - Grand Avenue, portion buffered from Creekside Drive to east terminus
  - East Mission Road, including buffered lanes on some segments such as near Mission Hills Court
  - West Mission Road- buffered from Woodward Street to N Rancho Santa Fe Road
  - North Twin Oaks Valley Road including buffered lanes on some segments
  - Rancho Santa Fe Road, including portions of buffered lanes from Linda Vista Drive to La Mirada Drive, First Street to Lake Ridge Drive, and Island Drive to Via Cancion
  - East Barham Drive with buffers proposed by a private development to be installed between Twin Oaks Valley Road and Campus Way

    - South Twin Oaks Valley Road
    - Borden Road
    - South Las Posas Road
    - San Elijo Road
    - Rancheros Drive
    - Vineyard Road
    - Mulberry Drive
    - Rock Springs Road
    - Bennet Road
- Woodland ParkwayClass III:
    - Campus Way
    - West Mission Road from N Pacific Street to N Ranch Santa Fe Rd includes a portion with sharrows
    - Melrose Drive from San Elijo Road to Boulderidge Drive
- Class IV:
    - Armorlite Drive
    - A multi-use trail with fencing along the curb line, a soft-surface pedestrian path, and a paved pathway suitable for bicycling exists on Twin Oaks Valley Road from Windy Way to La Cienega.
- San Marcos has various paved and soft surface multi-use trails citywide.

The iCommute program offers free bike education classes, group rides, and safety checks for employers and schools in San Diego County to encourage biking as an everyday transportation choice. The program also manages more than 750 bike parking spaces at more than 60 locations throughout San Diego County. Secure bike parking spaces are available at all SPRINTER stations, including the three stations in San Marcos: Palomar College, San Marcos Civic Center, and Cal State San Marcos.

The SANDAG Household Travel Behavior Survey (2016) offers data based on a volunteer group of residents across the San Diego region. Their trips were weighted to reflect the overall regional population, to calculate the top walking and biking trip destinations in the region. Survey respondents who were walking reported an average trip length of 0.7 miles, and those traveling by bike reported an average trip length of 3.4 miles.

2.2.4 Transit Service

North County Transit District (NCTD) provides train and bus service and shared-ride paratransit service throughout the North County region of San Diego County. NCTD was established in 1975 to provide public transportation for North San Diego County and serves more than 10 million passengers every year.[4] NCTD offers six types of public transit operations, of which SPRINTER and

[4] NCTD 2020 <https://www.gonctd.com/about-nctd/about-us/>, accessed on February 2, 2020

BREEZE service San Marcos. Existing transit service is shown in Figure 2-2; ridership is shown in Figure 2-3.

SPRINTER

SPRINTER is a diesel hybrid rail connection between Escondido and Oceanside. The line spans 22 miles and connects Oceanside, Vista, San Marcos and Escondido along the SR-78 corridor. San Marcos is served by three of the 15 total stations: San Marcos Civic Center Station, Cal State San Marcos, and Palomar College Station. In addition, the Nordahl Road station is located just east of the City boundaries, in the City of Escondido. The SPRINTER has 30-minute headways in each direction Monday through Friday, operating from approximately 4:00 AM to 9:30 PM. On weekend days and holidays, the trains run every 30 minutes between 10:00 AM and 6:00 PM and hourly before and after these times, generally 4:30 AM to 9:30 PM. In addition, there is supplemental late-night service on Friday and Saturday nights. Weekday average boardings and alightings at the stations within San Marcos are shown in Table 2-6.

In addition to serving as transit points and hubs for local bus service, the SPRINTER stations provide secure bike parking. The Palomar College Station on Amorlite also includes restrooms and a free park-and-ride parking lot that also allows access to the Palomar College transit station across Mission Road.

Table 2-6: Fiscal Year 2019 (October through April) Weekday SPRINTER Ridership

Sprinter Station	Weekday Average Boardings	Weekday Average Alightings	Total
Cal State San Marcos Station	492	504	996
Palomar College Station	760	774	1534
San Marcos Civic Center Station	344	318	662
Total	**1,595**	**1,596**	**3,192**

Source: NCTD, 2019

BREEZE

BREEZE is a bus service is a public road transportation network for residents of North San Diego County. Since 2010, the service has been operated by First Transit, Inc. The fleet comprises 161 vehicles, including 120 compressed natural gas (CNG) buses, and operates along 30 routes. Transit riders can access BREEZE bus routes which operates within San Marcos and connect to several destinations in the region. The five routes that operate within San Marcos:

- 304 (Encinitas to San Marcos via Rancho Santa Fe Road)
- 305 (Escondido to Vista via Mission Road & South Santa Fe Avenue)
- 347 (Cal State San Marcos to Palomar College)
- 353 (Escondido Transit Center to Nordahl Marketplace via Citracado Parkway)
- 445 (Carlsbad Poinsettia COASTER Connection to Palomar College)

While some bus stops in the city include amenities such as benches and/or shelters, most do not include amenities and generally consist of a signpost.

In addition to the Palomar College Station park-and-ride lot is the Barham park-and-ride located near SR-78 at Barham Drive. It has a capacity of 89 parking spaces and is not adjacent to transit. There are several other park-and-ride lots adjacent to San Marcos, most of which are in Escondido.

2.2.5 Freight and Goods Movement

Freight and goods movement plays an important role in San Marcos's circulation network, given the City's proximity to SR-78 and Interstate 15 (I-15). The freight and goods movement system in San Marcos consists of a rail system and designated truck routes on local roads.

Freight Rail System

Freight rail runs through San Marcos and generally follows SR-78, including a portion that is parallel to East and West Mission Road. Freight rail service is operated by Burlington Northern Santa Fe (BNSF). The mainline of the BNSF freight rail service runs along the I-5 corridor, while the area around San Marcos is served by handling carrier.[5]

Truck Routes

The Surface Transportation Assistance Act (STAA) of 1982 defines a network of state facilities as truck routes which accommodate large trucks. SR-78, which runs through San Marcos, is an STAA-designated truck route. I-15, which runs north-south and about 5 miles east of the city limits, is also an STAA-designated truck route.

The City has also designated several local roads as local truck routes and has been in the process of updating the network (including eliminating, modifying or adding routes), which are outlined below and in Figure 2-4. Changes to the truck route network are subject to public hearings and consideration by the Traffic Safety Commission and City Council prior to their adoption.

Current routes:

- Mission Road: from South Rancho Santa Fe Road to the eastern City limits
- South Santa Fe Avenue: from South Rancho Santa Fe Road to Smilax Road
- Grand Avenue: from South Rancho Santa Fe Road to South Las Posas Road
- Linda Vista Drive: from South Rancho Santa Fe Road to South Las Posas Road
- West San Marcos Boulevard: from Grand Avenue to Knoll Road
- South Rancho Santa Fe Road: from Mission Road to the southern City limits
- Las Posas Road: from Linda Vista Drive to Mission Road
- Woodland Parkway: from East Mission Road to East Barham Road
- Barham Road: from South Twin Oaks Valley Road to eastern City limits
- Twin Oaks Valley Road/San Elijo Road: from the northern City limits to South Rancho Santa Fe Road

Planned routes:

- Discovery Street extension: from Grand Avenue extension to Twin Oaks Valley Road

[5] BNSF, 2018. BNSF Railway Fact Sheet. Accessed through https://www.bnsf.com/about-bnsf/pdf/fact_sheet.pdf

- Grand Avenue: from South Las Posas Road to future Discovery Street extension
- San Marcos Boulevard from Mission Road to Twin Oaks Valley Road

Routes to be eliminated:

- West San Marcos Boulevard: from Knoll Road to South Twin Oaks Valley Road
- San Marcos Boulevard: from Rancho Santa Fe Road to Grand Avenue
- South Las Posas Road: from West San Marcos Boulevard to Linda Vista Drive
- Grand Avenue: from South Las Posas Road to West San Marcos Boulevard
- Pico Avenue: from West San Marcos to West Mission Road
- Linda Vista Drive: from Rancho Santa Fe Road to Grand Avenue
- Via Vera Cruz: from Grand Avenue to West San Marcos Boulevard

2.2.6 Roadway System

The 2012 General Plan focuses on "Street Typologies" instead of roadway classifications in recognition of the 2012 San Marcos Mobility Element focuses on "connecting people to places" and that "utilization of Roadway Classification all but ignores the other modes of travel..."[6] such as walking, bicycling, and taking transit.

Street Typologies

Street Typologies is a term that relates to the concept of Complete Streets and considers how streets facilitate movement for all users and provide a system for all modes, and are defined below.

- **Multi-Way Boulevard.** Multi-lane boulevards provide through travel lanes near the center of the roadway (next to the median or without a median) to serve through traffic, while local traffic is served via a local circulator roadway that is buffered (by a landscape barrier) from the through trips along the main roadway. Wide sidewalks are provided adjacent to the travel lane, and the local circulator street is low-speed to be compatible with parking, driveway accessibility, and bicycle/pedestrian activity. There are no current multi-way boulevards in the city; however, San Marcos Boulevard between Discovery Street and Bent Avenue was proposed as one in the 2012 Mobility Element.
- **Arterial.** Arterials provide mobility for all modes of travel, but are primary links in the City's vehicular transportation system and provide sidewalks plus Class II and Class III bike facilities. Key arterial facilities include Rancho Santa Fe Road, Las Posas Road, and Twin Oaks Valley Road (near SR-78).
- **Arterial with Enhanced Bike/Pedestrian Facilities.** These facilities are key links for all modes of travel within the city. All modes are prioritized, with higher vehicle speeds and a separate/enhanced right-of-way for bicyclists and pedestrians. Mission Road is an example of these facilities.

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- **Collectors.** These are intermediate facilities to connect local areas to regional mobility corridors, prioritizing bicycles and pedestrians.
- **Neighborhood Streets.** Connecting people to their residences, these streets are meant to serve bicycles, pedestrians, and vehicles. These streets are focused on the person scale and can include traffic calming techniques.
- **Industrial Streets.** While these facilities can serve all modes of travel, their primary purpose is to connect industrial uses to regional facilities, with design focused on heavy vehicles.
- **Main Street.** These facilities provide access to key activity centers. They are complete streets which emphasize walking and bicycling and have slow vehicle travel, such as the Main Street typology constructed in the University District.
- **Highway.** State Route-78 serves regional vehicular travel to and from the city and can provide regional bus transit connectivity.

The City's typologies also include Class I facilities, designated bicycle and pedestrian trails.

Roadway Descriptions

Key roadways within the city are described below. In general, the east-west roadways provide connections to neighboring cities such as Escondido and Vista, and the north-south roadways connect San Marcos to SR-78 and I-15.

San Marcos Boulevard is an east-west connection providing connectivity to retail centers and SR-78. Ultimately, it is designated as a future Multi-way Boulevard between Discovery Street and Bent Avenue. The Multi-Way concept will include a median-separated access lane for slower vehicles accessing curbside parallel and diagonal parking. Currently, San Marcos Boulevard is classified as an Arterial throughout its length. There are two to three travel lanes in each direction with a landscaped median. On-street parking is prohibited and there are bike lanes in each direction. The posted speed limit is 40 miles per hour.

Twin Oaks Valley Road is a north-south connection to retail centers, SR-78, and adjacent cities such as Encinitas. It is classified as an Arterial. North of Borden Road, the corridor is a four-lane Rural Major Arterial with enhanced bicycle and pedestrian facilities. From San Elijo Road to Borden Road, Twin Oaks Valley Road is a four to six-lane Major Arterial. Bicycle facilities along Twin Oaks Valley Road include bike paths and bike lanes, and a multi-use trail with a soft-surface pedestrian path and a paved surface suitable for biking is provided from Windy Way to La Cienega. On-street parking is prohibited. There is one travel lane in each direction with a two-way left-turn lane north of Cassou Road, two travel lanes in each direction with a landscape median or two-way left-turn lane between Cassou Road and San Marcos Boulevard, three travel lanes in each direction with a landscaped median between San Marcos Boulevard and Village Drive, two northbound and three southbound travel lanes with a landscaped median between Village Drive and Duncan Court, and two travel lanes in each direction with a landscaped median south of Duncan Court. The posted speed limit is 45 miles per hour.

Mission Road (known as Santa Fe Avenue west of Rancho Santa Fe Road) is classified as an Arterial west of N Twin Oaks Valley Road and as an Arterial with Enhanced Bike/Pedestrian Facilities east of N Twin Oaks Valley Road. It is an east-west facility connecting to the cities of Vista and Escondido. A Class I shared path runs along this arterial and a portion of the street's

bike lanes are buffered; on-street parking is prohibited. There are two to three travel lanes in each direction with a landscape median or two-way left-turn lane. The posted speed limit is 45 miles per hour.

Rancho Santa Fe Road is a north-south Arterial connecting to Lake San Marcos and Encinitas. It includes bike lanes, including buffered bike lanes from Camino del Arroyo to La Mirada Drive and on-street parking is prohibited. There are two travel lanes in each direction with a landscaped median or a center two-way turn lane. The posted speed limit is 45 miles per hour.

Barham Drive is an east-west Arterial connecting to Cal State San Marcos and SR-78. Bike lanes are provided on most segments but are missing in areas such as east of the eastbound SR-78 onramp. Sidewalks are absent on Barham Drive from the SR-78 offramp to Woodland Parkway, from La Moree to Venture Street, and from Bennett Court to Meyers Avenue. On-street parking is prohibited. Depending on the available right-of-way, the number of travel lanes in each direction fluctuates between one to three lanes, as does the presence of landscaped medians, two-way left-turn lanes, and painted centerlines. The posted speed limit is 45 miles per hour between Twin Oaks Valley Road and SR-78 EB on-ramp, with the exception of section between EB SR-78 off-ramp and Woodland Parkway, where it is 40 miles per hour. The posted speed limit is again 40 miles per hour from SR-78 EB on-ramp to the eastern City Limits.

2.2.7 Study Roadway Segments

Operations on 15 key roadway segments throughout the city were determined on a daily traffic volume basis. Operations were assessed and assigned a level of service (LOS) letter grade ranging from LOS A to LOS F (from better to worse congestion), with LOS A signifying free-flow traffic and LOS F signifying volumes that are over roadway capacity. The roadway segment LOS thresholds are shown in Table 2-7. These thresholds are based on the roadway classifications and capacities recommended for use in the San Diego Region by the Institute of Transportation Engineers (ITE) San Diego Section (January 2019).

Table 2-7: Daily Roadway Capacity Values for Arterial Level of Service

	A	B	C	D	E
Prime Arterial 6 Lane	25,000	35,000	50,000	55,000	60,000
Secondary Arterial 4 lanes	10,000	14,000	20,000	25,000	30,000
Major Arterial 4 Lane	15,000	21,000	30,000	35,000	40,000

Source: Institute of Transportation Engineers San Diego Section

All 24-hour vehicle volumes were collected at the study roadway segments in March 2020. Table 2-8 provides the study roadway segments, existing daily volumes, and the resulting levels of service. As shown in the table, all roadways currently operate at LOS D or better. Roadway segment daily volumes and LOS are shown in Figure 2-6.

Table 2-8: Existing (2020) Study Roadway Segment Level of Service

Roadway	Extent	Roadway Type	ADT[1]	LOS
S Santa Fe Ave	N Rancho Santa Fe Rd to Las Flores Dr	Prime Arterial 4 Lane	18,436	B
San Marcos Blvd	S Las Posas Rd to S Pacific St	Prime Arterial 4 Lane	36,340	D
	Avenida Cielo to Cascade	Prime Arterial 5 Lane	34,613	C
E Mission Rd	Mulberry Dr to Falcon Pl	Prime Arterial 6 Lane	24,977	A
Grand Ave	Linda Vista Dr to Via Vera Cruz	Secondary Arterial 4 Lane	10,770	B
W Mission Rd	Palomar College to Comet Cir East	Major Arterial 4 Lane	17,843	B
S Twin Oaks Valley Rd	Village Dr to Duncan Ct	Major Arterial 5 Lane	22,437	B
S Rancho Santa Fe Rd[2]	Linda Vista Dr and La Mirada Dr	Prime Arterial 4 Lane	N/A	N/A
Twin Oaks Valley Rd	Buena Creek Rd to Olive St	Rural Major Arterial 2 Lane	16,241	D
Twin Oaks Valley Rd	Del Roy Dr to Legacy Dr	Rural Major Arterial 4 Lane	19,237	B
Craven Rd	Lupine Dr to Foxhall Dr	Major Arterial 4 Lane	18,267	B
Rock Springs Rd	Woodland Pkwy to Lancer Park Ave	Secondary Arterial 2 Lane	6,698	B
E Barham Dr	Campus Way to La Moree Rd	Prime Arterial 5 Lane	14,053	A

Rancho Santa Fe Rd	Island Dr to Via Allondra	Prime Arterial 4 Lane	30,000	C
Twins Oaks Valley Rd	Barham Dr to SR-78	Prime Arterial 8 Lane	45,143	B

Source: Kittelson & Associates, Inc, 2020

Notes:

1. ADT signifies average daily traffic.

2. Data was not collected at this location due to construction. Data will be collected at a later time.

2.2.8 Study Intersections

Weekday AM and PM peak hour operations were assessed at 31 key intersections within the city, shown in Figure 2-7. Vehicle turning movement data was collected during the week of March 2 through March 6, 2020 when schools were in session, during the weekday morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) peak periods. The study locations, traffic control devices, and governing jurisdictions are shown in Table 2-9; the count data is shown in Figure 2-8.

Table 2-9: Study Intersections

Int. #	Location	Traffic Control	Jurisdiction
1	Twin Oaks Valley Rd and E La Cienega Rd	Signalized	San Marcos
2	Twin Oaks Valley Rd and W Borden Rd	Signalized	San Marcos
3	Rose Ranch Rd and Borden Rd	Signalized	San Marcos
4	Rancho Santa Fe Road/Santa Fe Road and Mission Road	Signalized	San Marcos
5	W Mission Rd and N Las Posas Rd	Signalized	San Marcos
6	E Mission Rd and E San Marcos Blvd	Signalized	San Marcos
7	E Mission Rd and Woodland Pkwy	Signalized	San Marcos
8	Nordahl Rd and Montiel Rd	Signalized	San Marcos
9	W San Marcos Blvd and N Twin Oaks Valley Rd	Signalized	San Marcos
10	SR-78 WB ramp and S Rancho Santa Fe Rd	Signalized	Caltrans
11	SR-78 EB ramp and S Rancho Santa Fe Rd	Signalized	Caltrans
12	S Las Posas Rd and SR-78 WB ramp	Signalized	Caltrans
13	Las Posas Rd and Grand Ave	Signalized	San Marcos
14	Grand Ave and SR-78 EB ramp	Signalized	Caltrans
15	Knoll Rd/SR-78 WB ramp and San Marcos Blvd	Signalized	Caltrans
16	SR-78 EB ramps and San Marcos Blvd	Signalized	Caltrans
17	Grand Ave and San Marcos Blvd	Signalized	San Marcos
18	N Twin Oak Valley Rd and SR-78 WB ramp	Signalized	Caltrans
19	S Twin Oaks Valley Rd and SR-78 EB ramp	Signalized	Caltrans
20	Rancheros Dr and SR-78 WB ramp	AWSC[1]	Caltrans
21	Barham Dr and SR-78 EB Ramp	Signalized	Caltrans
22	E Mission Rd and Rancheros Dr	Signalized	San Marcos

23	SR-78 WB Ramps and Nordahl Rd	Signalized	Caltrans
24	W San Marcos Blvd and Via Vera Cruz	Signalized	San Marcos
25	S Twin Oaks Valley Rd and Barham Dr	Signalized	San Marcos
26	Rancho Santa Fe Rd and San Marcos Blvd	Signalized	San Marcos
27	S Twin Oaks Valley Rd and Craven Rd	Signalized	San Marcos
28	San Elijo Rd N and Elfin Forest Rd E	Signalized	San Marcos
29	San Elijo Rd S and Elfin Forest Rd E	Signalized	San Marcos
30	San Elijo Rd N and Elfin Forest Rd W	Signalized	San Marcos
31	San Elijo Rd S and Elfin Forest Rd W	Signalized	San Marcos

Source: Kittelson & Associates, Inc, 2020

Notes:

1. AWSC signifies an all-way stop-controlled intersection

Study intersections were analyzed using the Highway Capacity (HCM) 6th Edition methodology. The HCM methodology assigns a level of service grade to an intersection based on the average control delay for vehicles at the intersection, ranging from LOS A to LOS F; LOS A signifies very slight delay with no approach phase fully utilized while LOS F signifies very high delays and congestion, frequent cycle failures, and long queues. LOS grades and corresponding delay values under the HCM methodology are provided in Table 2-10.

Table 2-10: Intersection Level of Service and Delay Thresholds (HCM Methodology)

Level of Service	Signalized	Unsignalized
	Average Control Delay Per Vehicle (Seconds)	
A	< 10.0	< 10.0
B	> 10.0 to 20.0	> 10.0 to 15.0
C	> 20.0 to 35.0	> 15.0 to 25.0
D	> 35.0 to 55.0	> 25.0 to 35.0
E	> 55.0 to 80.0	> 35.0 to 50.0
F	> 80.0	> 50.0

Source: Highway Capacity Manual

Table 2-11 shows the existing weekday AM and PM peak hour intersection LOS, which are also shown in Figure 2-9 and Figure 2-10. As shown in the table, the following intersections currently operate at LOS E or F during either or both of the study periods:

- W Mission Rd and N Las Posas Rd (AM/PM)
- E Mission Rd and E San Marcos Blvd (AM/PM)
- W San Marcos Blvd and N Twin Oaks Valley Rd (AM/PM)
- S Las Posas Rd and SR-78 EB ramp (AM)
- Las Posas Rd and Grand Ave (AM/PM)
- Grand Ave and SR-78 EB ramp (AM/PM)
- Grand Ave and San Marcos Blvd (PM)
- Rancheros Dr and SR-78 WB ramp (AM/PM)
- E Mission Rd and Rancheros Dr (PM)
- S Twin Oaks Valley Rd and Barham Dr (AM/PM)
- Rancho Santa Fe Rd and San Marcos Blvd (AM/PM)
- S Twin Oaks Valley Rd and Craven Rd (PM)

In general, during the weekday AM and PM peak hours, most of intersections with LOS E/F conditions are located near the SR-78 freeway, including at the freeway ramp terminal intersections. Major intersections on Twin Oaks Valley Road and San Marcos Boulevard are also operating at LOS E/F during AM and PM peak hours.

Table 2-11 Existing (2020) Intersection Level of Service – Weekday AM/PM Peak Hours

#	Intersection	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1	Twin Oaks Valley Rd and E La Cienega Rd	12.3	B	11.7	B
2	Twin Oaks Valley Rd and W Borden Rd	37.8	D	32.9	C
3	Rose Ranch Rd and Borden Rd	22.7	C	26.7	C
4	Rancho Santa Fe Road/Santa Fe Road and Mission Road	10.9	B	14.7	B
5	W Mission Rd and N Las Posas Rd	71.7	E	79.8	E
6	E Mission Rd and E San Marcos Blvd	55.2	E	61.7	E
7	E Mission Rd and Woodland Pkwy	54.3	D	34.5	C
8	Nordahl Rd and Montiel Rd	13.0	B	28.7	C
9	W San Marcos Blvd and N Twin Oaks Valley Rd	60.3	E	51.1	D
10	SR-78 WB ramp and S Rancho Santa Fe Rd	49.7	D	30.2	C
11	SR-78 EB ramp and S Rancho Santa Fe Rd	20.3	C	26.8	C
12	S Las Posas Rd and SR-78 WB ramp	61.6	E	15.7	B
13	Las Posas Rd and Grand Ave	76.6	E	72.1	E
14	Grand Ave and SR-78 EB ramp	72.6	E	>80.0	F
15	Knoll Rd and San Marcos Blvd	26.3	C	25.4	C
16	SR-78 EB ramps and San Marcos Blvd	9.7	A	10.1	B
17	Grand Ave and San Marcos Blvd	25.7	C	63.1	E
18	N Twin Oak Valley Rd and SR-78 WB ramp	19.2	B	18.5	B
19[1]	S Twin Oaks Valley Rd and SR-78 EB ramp	16.0	C	16.0	C
20[2]	Rancheros Dr and SR-78 WB ramp	64.6	F	55.2	F
21	Barham Dr and SR-78 EB Ramp	36.6	D	11.7	B
22	E Mission Rd and Rancheros Dr	34.9	C	>80.0	F
23	SR-78 WB Ramps and Nordahl Rd	14.9	B	34.1	C
24	W San Marcos Blvd and Via Vera Cruz	25.4	C	44.3	D
25	S Twin Oaks Valley Rd and Barham Dr	56.9	E	>80.0	F
26	Rancho Santa Fe Rd and San Marcos Blvd	68.6	E	>80.0	F
27	S Twin Oaks Valley Rd and Craven Rd	46.9	D	>80.0	F
28	San Elijo Rd N and Elfin Forest Rd E	35.6	D	41.6	D
29[3]	San Elijo Rd S and Elfin Forest Rd E	NA	NA	NA	NA
30	San Elijo Rd N and Elfin Forest Rd W	40.1	D	44.0	D
31	San Elijo Rd S and Elfin Forest Rd W	12.8	B	11.1	B

Source: Kittelson & Associates, Inc, 2020

Note:

1. This intersection was analyzed using the HCM 2000 methodology instead of the HCM 6th Edition methodology due to its unique signal phasing.

2. This is an unsignalized intersection. The delay and LOS are based the worst approach.

3. Data was not collected at this location due to technical issue. Data will be collected at a later time for the general plan update transportation impact analysis.

2.2.9 Collision Analysis

Analysis for vehicle, bicycle, and pedestrian collisions that occurred in San Marcos was conducted using the most recently available data for a five-year period (2013-2017) from the Transportation Injury Mapping System (TIMS) and the Statewide Integrated Traffic Records System (SWITRS).

Collision Type and Severity

The number of total collisions has increased over the study period, with the most collisions occurring in 2017 – an increase in total crashes of 50 percent compared to the number of collisions in 2013. The general percentage of each collision category has stayed about the same over the five-year period. Table 2-12 shows the number of collisions per year and their severity breakdown. The proportion of collisions resulting in a fatality or severe injury remained at a range of three to six percent.

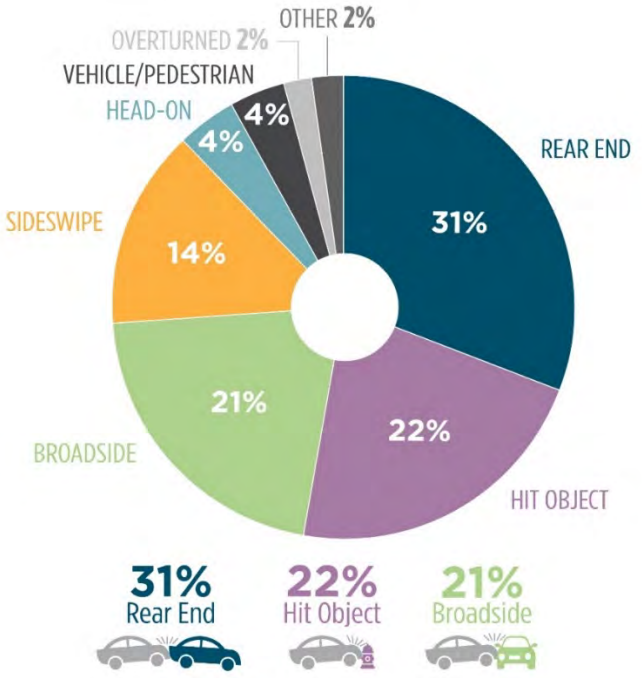
Table 2-12: San Marcos Collision Severity by Year (2013-2017)

YEAR	FATAL/SEVERE INJURY CRASHES	OTHER INJURY CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES
2013	4%	40%	56%	379
2014	6%	39%	55%	371
2015	5%	42%	53%	413
2016	6%	43%	51%	523
2017	3%	39%	58%	570

Source: SWITRS, 2013-2017

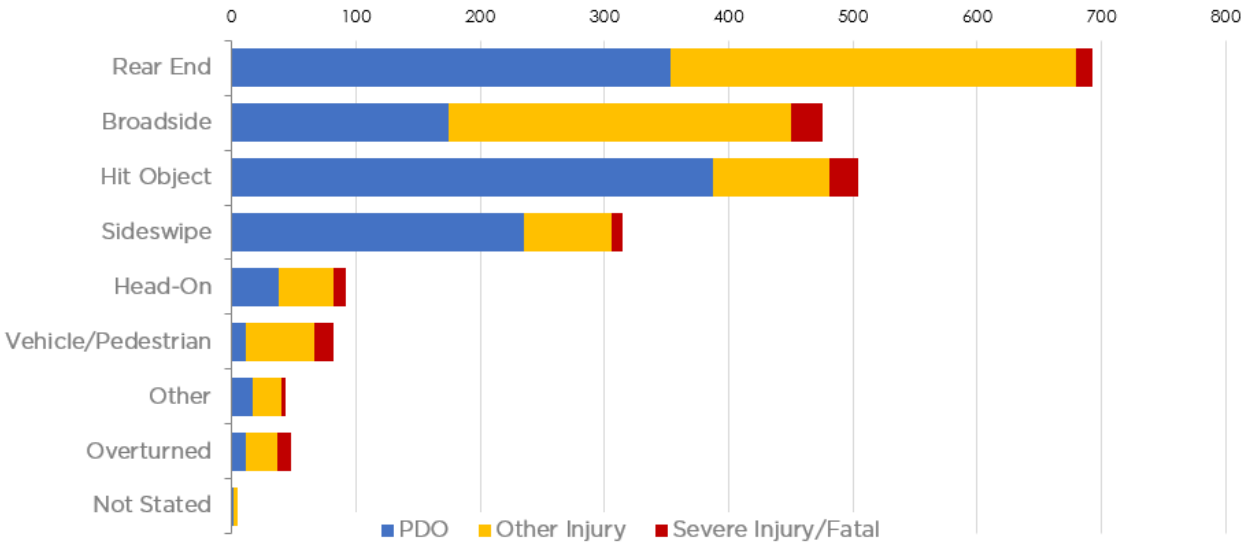
Table 2-13 and Table 2-14 show collisions by type and collisions by type and severity during the 2013-2017 period. The three most common collision types were rear end collisions (31 percent), hit object collisions (22 percent), and broadside collisions (21 percent). Collisions that resulted in a fatality or severe injury were present for all types of collisions but made up a larger proportion for vehicle-pedestrian collisions (26 percent), overturned vehicle collisions (24 percent), broadside collisions (10 percent), and head-on collisions (10 percent).

Table 2-13: San Marcos Collisions by Type (2013-2017)



Source: SWITRS, 2013-2017

Table 2-14: San Marcos Collisions by Type and Severity (2013-2017)



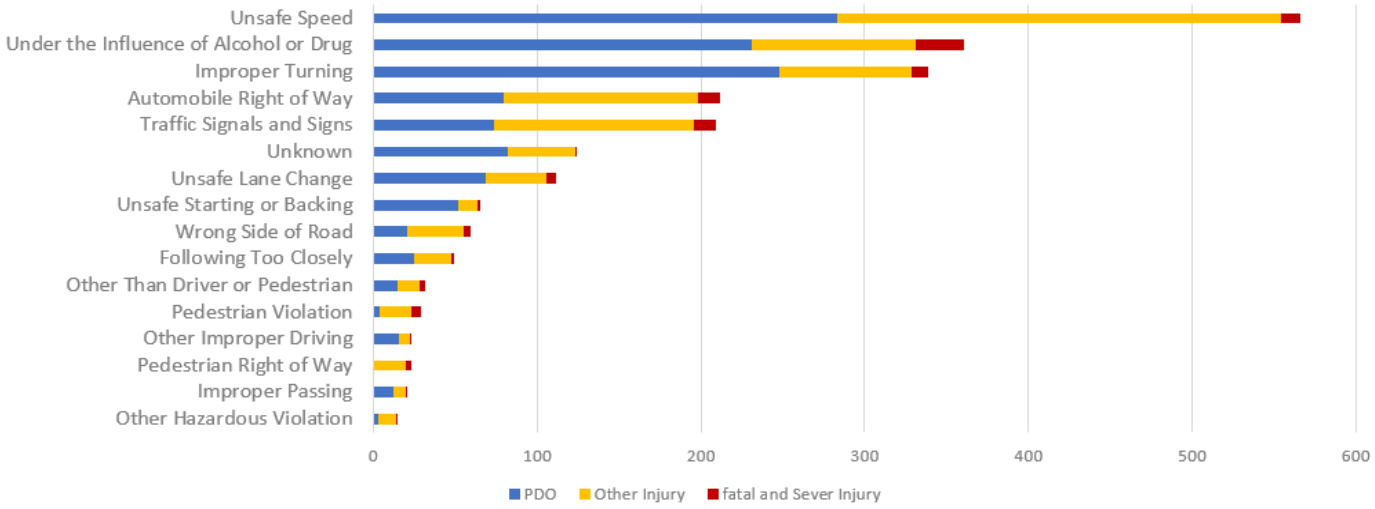
Source: SWITRS, 2013-2017

Table 2-15 shows the primary collision factors. The top five primary contributing factors to these collisions included unsafe speed (25 percent), driving or bicycling under the influence of alcohol or drugs (16 percent), improper turning (15 percent), automobile right of way[7] (9 percent), and traffic signals and signs[8] (9 percent). Other contributing factors accounted for between one and five percent of collisions.

[7] *Automobile right of way* refers to a crash resulting from one motorist's failure to yield to another motorist who had the right of way.

8 *Traffic Signals and Signs* refer to a crash resulting from a motorist's failure to comply with a traffic control device (traffic signal, yield sign, or stop sign).

Table 2-15: San Marcos Primary Collision Factors (2013-2017)

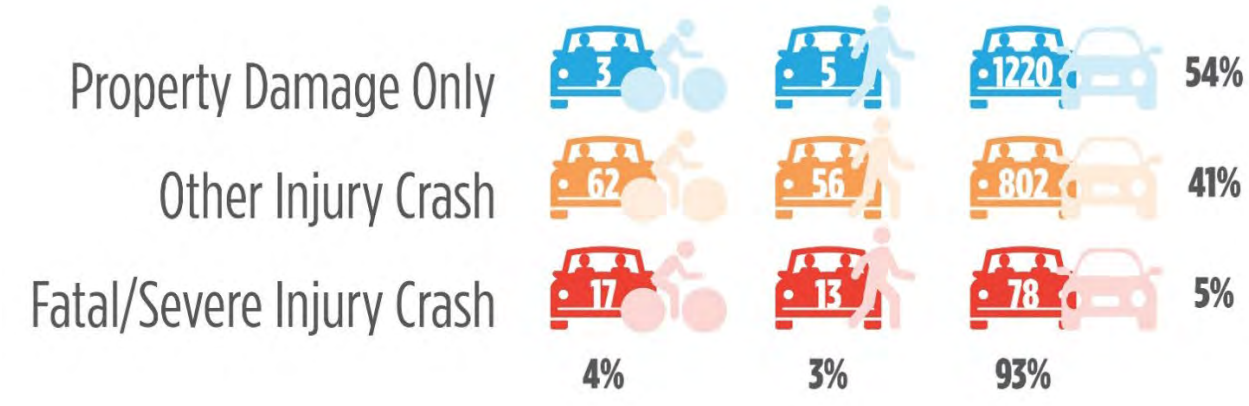


Note: PDO = property damage only
Source: SWITRS, 2013-2017

Bicycle and Pedestrian Collisions

While bicycle and pedestrian collisions with vehicles make up a small portion of the overall collisions (7 percent), these collisions more often result in severe injuries and fatalities. Table 2-16 shows the severity by road user involved. The fatal/severe injury ratios are 21 percent (17 out of 82) for bicyclist-involved collisions, 18 percent (13 out of 74) for pedestrian-involved collisions, and four percent (78 out of 2100) for vehicular collisions.

Table 2-16: San Marcos Road Users Involved and Crash Severity (2013-2017)

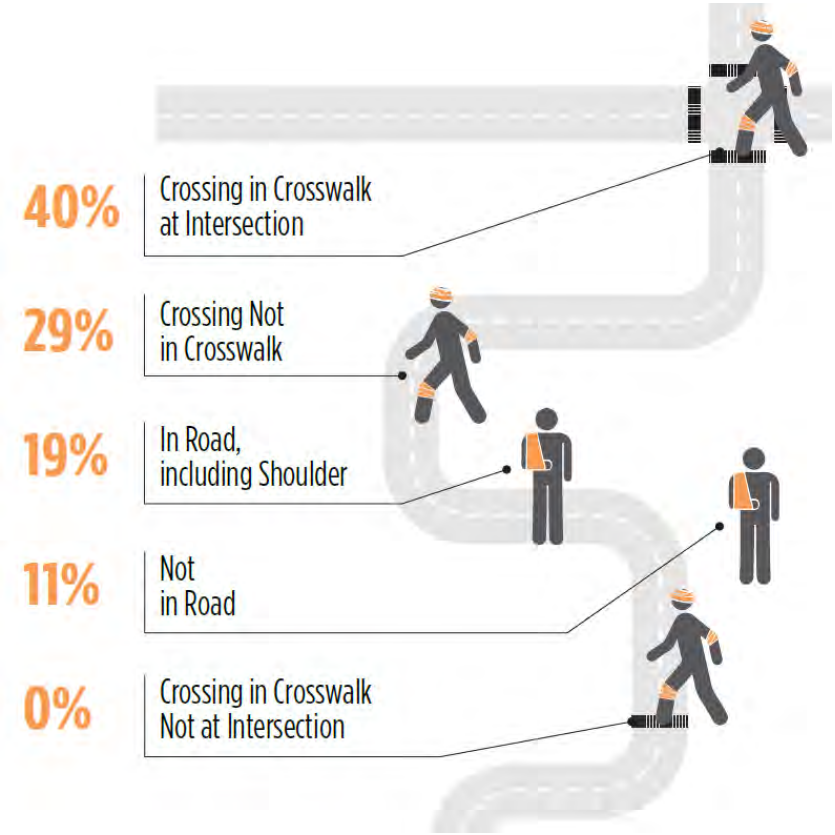


Source: SWITRS, 2013-2017

For pedestrian collisions, it is also important to note exactly where the pedestrians were walking when the collision occurred. Table 2-17 shows the pedestrian collisions by pedestrian action. For pedestrian-involved collisions, the location in relation to the roadway was recorded. The largest share (40 percent) of this type of collision occurred while the pedestrian was crossing at an

intersection in the crosswalk. In addition, 29 percent of pedestrian-involved collisions occurred when the pedestrian was crossing where a crosswalk was not present, and 19 percent of pedestrian-involved collisions occurred on the road (including the shoulder). Finally, 11 percent of pedestrian collisions with a vehicle at a location that was not a roadway. As shown in the figure, there were no pedestrian-involved collisions recorded in crosswalks not at an intersection (e.g., at a mid-block crosswalk).

Table 2-17: San Marcos Pedestrian Collisions by Pedestrian Action (2013-2017)



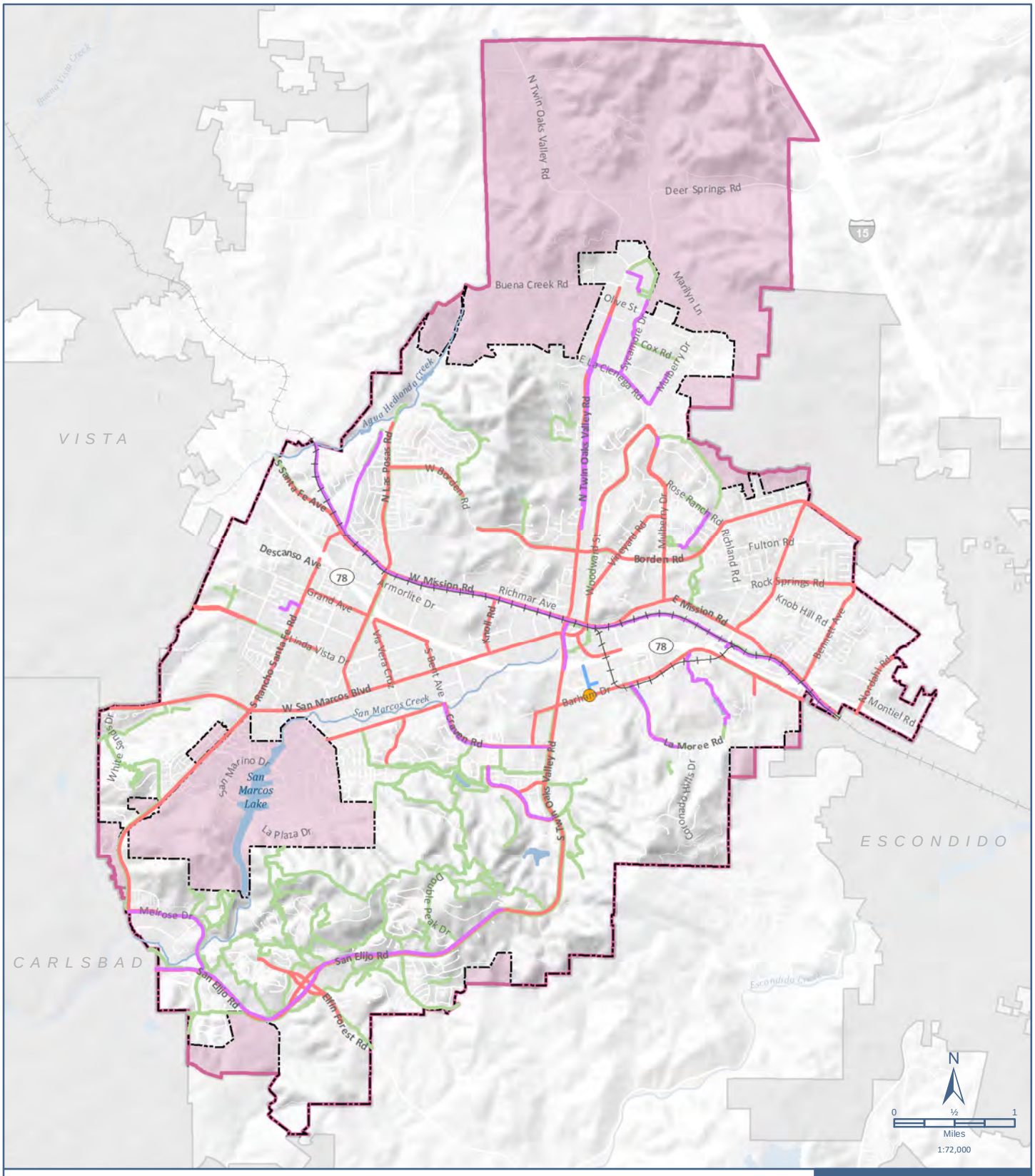
Source: SWITRS, 2013-2017

San Marcos' Collision Locations

Collisions of for all roadway users that resulted in an injury or fatality are shown in Figure 2-11. Collisions occurred primarily on San Marcos' arterial roads, with fewer collisions occurring on local residential streets. In addition, fatalities occurred at West San Marcos Boulevard, North Twin Oaks Valley Road, Mission Road, South Santa Fe Avenue, and Grand Avenue. A noticeable concentration of collisions occurred at South Rancho Santa Fe Road.

Pedestrian Collision Locations

Bicycle and pedestrian-involved collisions are shown in Figure 2-12. Bicycle and pedestrian collisions mainly occurred on West San Marcos Boulevard, Twin Oaks Valley Road, Mission Road, South Santa Fe Avenue, Grand Avenue and South Rancho Santa Fe Road.



LEGEND

- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Multi-Use Path
- Pedestrian Bridge
- City of San Marcos
- Sphere of Influence
- Areas within the Sphere of Influence
- Neighboring City

Data sources: City of San Marcos; SANGIS; CalAtlas. Map date: February 24, 2020.

City of San Marcos
General Plan

FIGURE 2-1.

Existing Bicycle & Pedestrian Facilities

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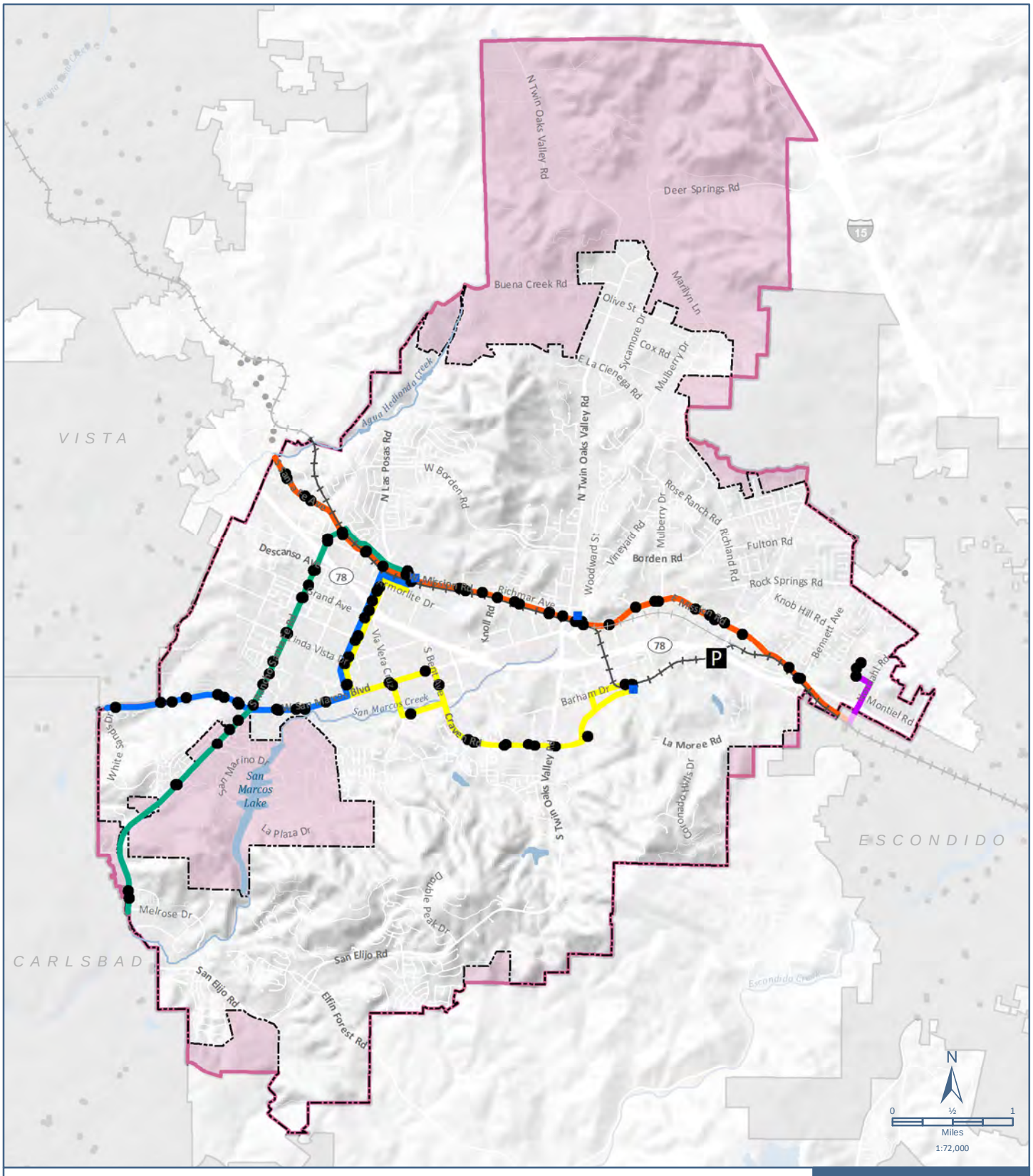

LEGEND

NCTD Breeze Routes

- 304
- 305
- 347
- 353
- 445

- NCTD SPRINTER Rail Line
- Park & Ride
- SPRINTER Stations
- NCTD Bus Stops
- City of San Marcos
- Sphere of Influence
- Areas within the Sphere of Influence
- Neighboring City

Data sources: SANGIS; CalAtlas. Map date: February 24, 2020.

City of San Marcos
General Plan

FIGURE 2-2.

Existing Transit Facilities

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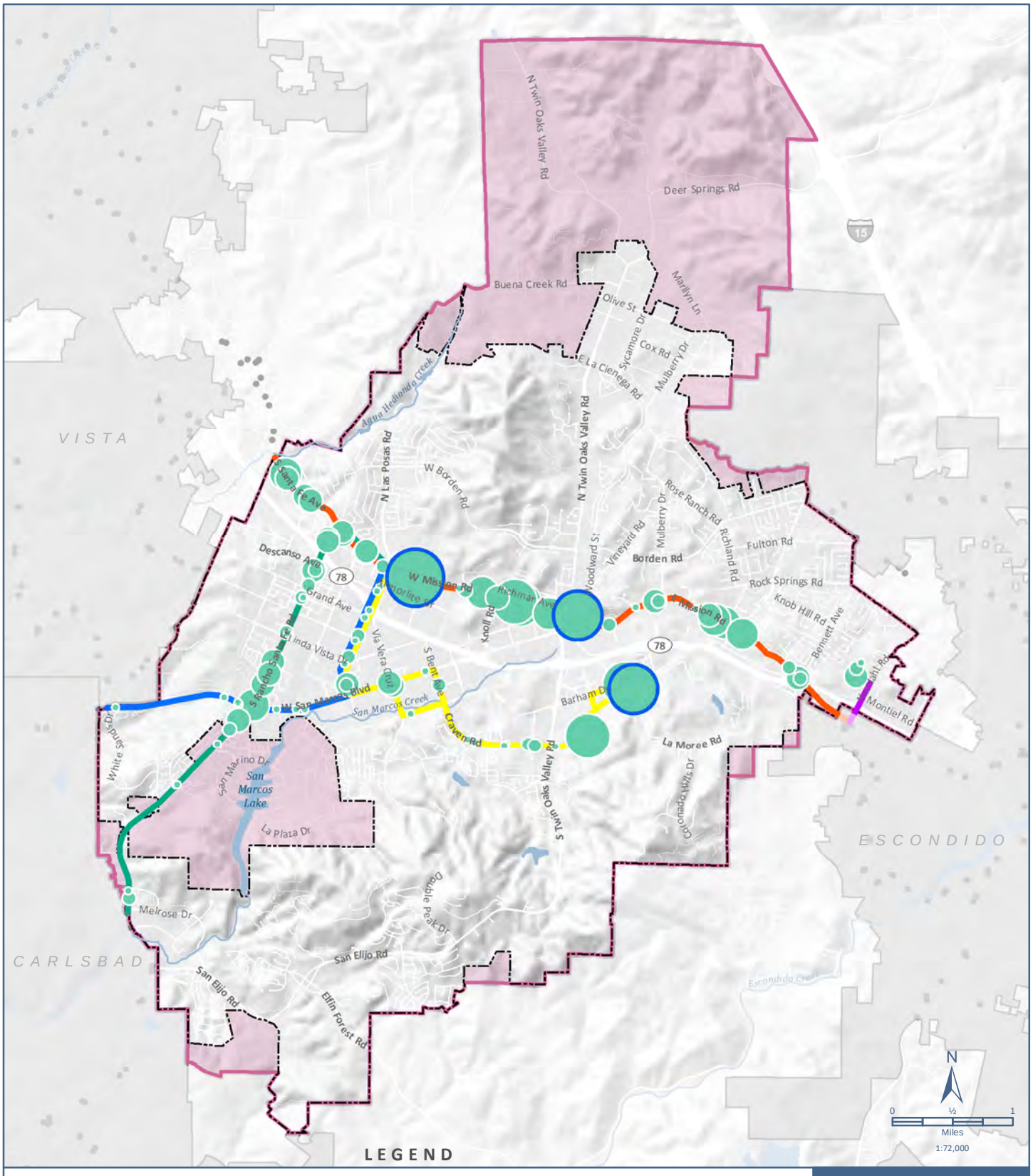

City of San Marcos
General Plan

FIGURE 2-3.

Existing Transit Ridership

Data sources: SANGIS; CalAtlas. Map date: February 24, 2020.

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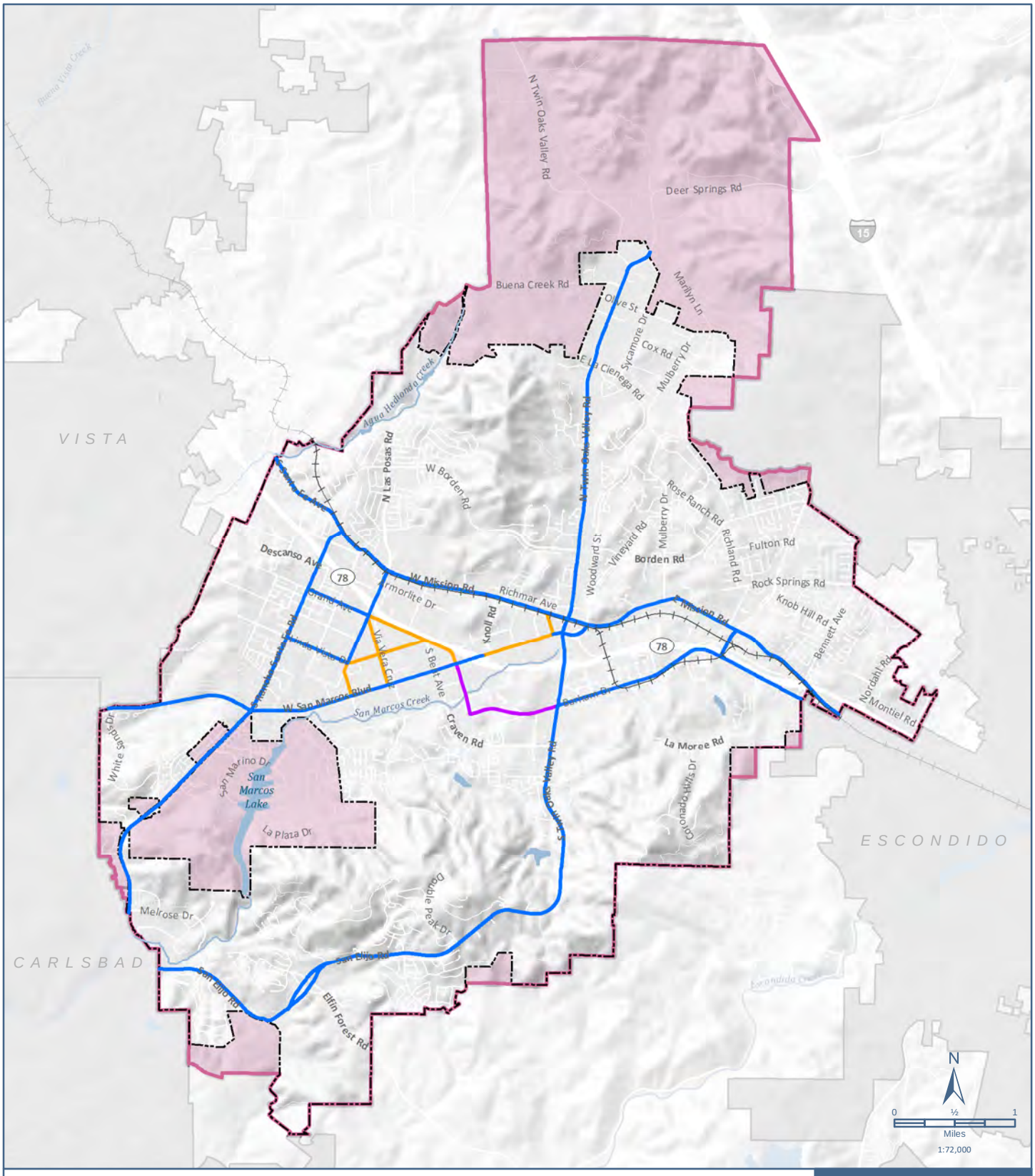

LEGEND

- Existing Freight Route
- Existing Freight Route (To be eliminated)
- Proposed Freight Route
- City of San Marcos
- Sphere of Influence
- Areas within the Sphere of Influence
- Neighboring City

Data sources: City of San Marcos; SANGIS; CalAtlas. Map date: February 24, 2020.

City of San Marcos
General Plan

FIGURE 2-4.

Existing & Future Freight Routes

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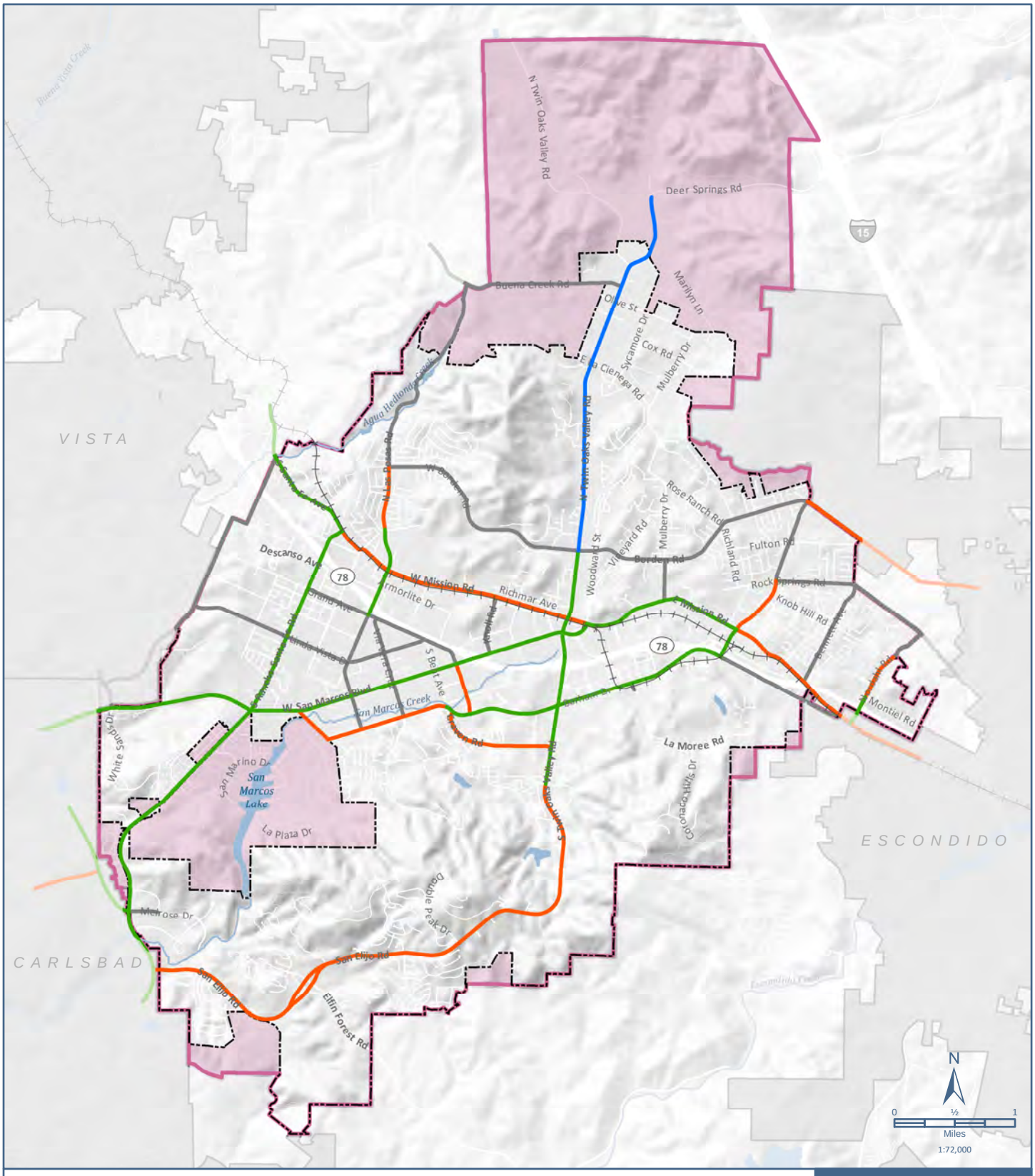

LEGEND

- Prime Arterial
- Major Arterial
- Rural Major Arterial
- Secondary Arterial
- City of San Marcos
- Sphere of Influence
- Areas within the Sphere of Influence
- Neighboring City

Data sources: City of San Marcos; SANGIS; CalAtlas. Map date: February 30, 2020.

City of San Marcos
General Plan

FIGURE 2-5.

Existing Roadway Classifications

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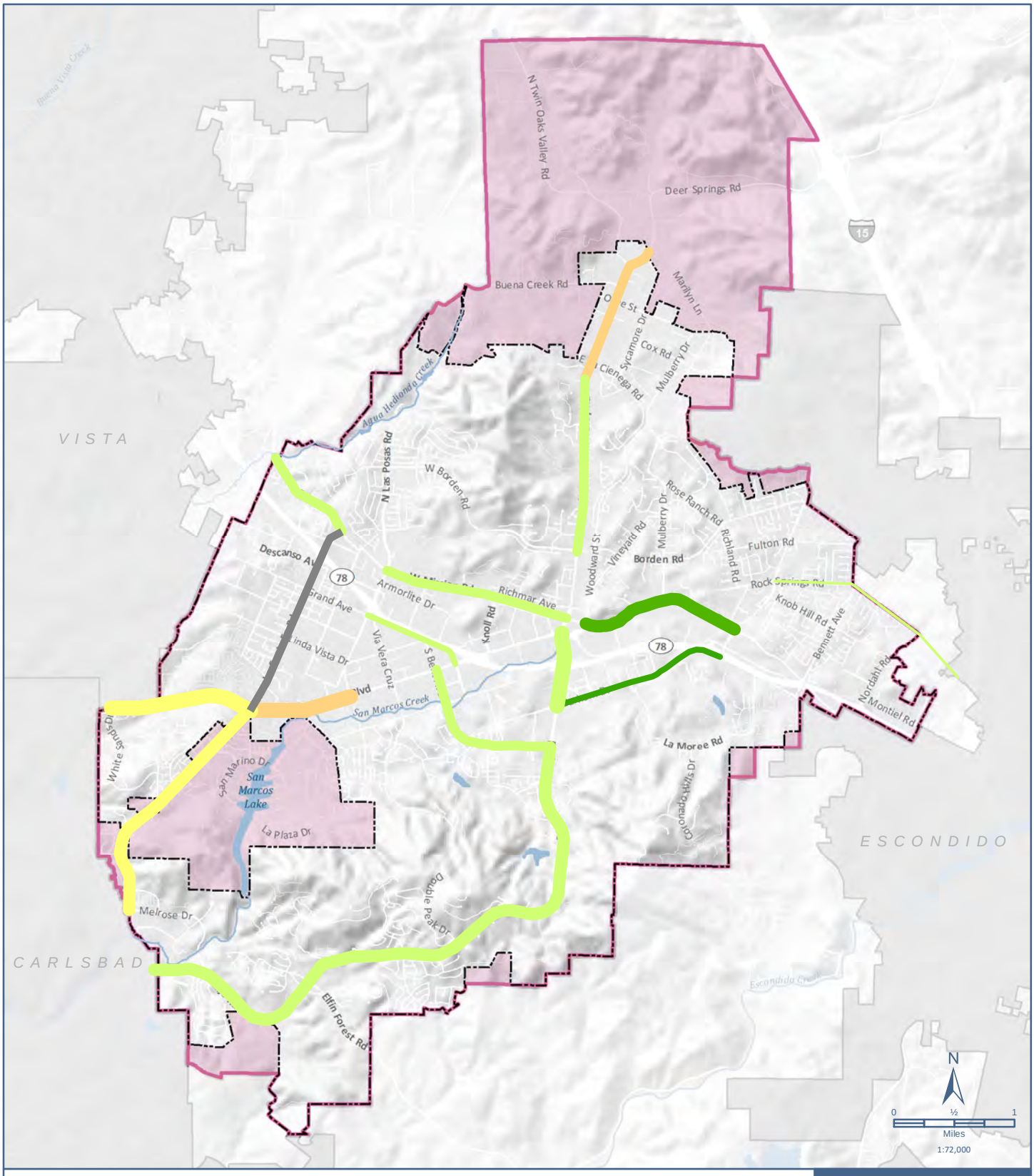

LEGEND

- Data is missing
- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F
- < 10,000 ADT
- 10,000 - 15,000 ADT
- 15,000 - 20,000 ADT
- 20,000 - 30,000 ADT
- > 30,000 ADT
- City of San Marcos
- Sphere of Influence
- Areas within the Sphere of Influence
- Neighboring City

Data sources: City of San Marcos; SANGIS; CalAtlas. Map date: February 30, 2020.

City of San Marcos
General Plan

FIGURE 2-6.

Existing Roadway ADT and LOS

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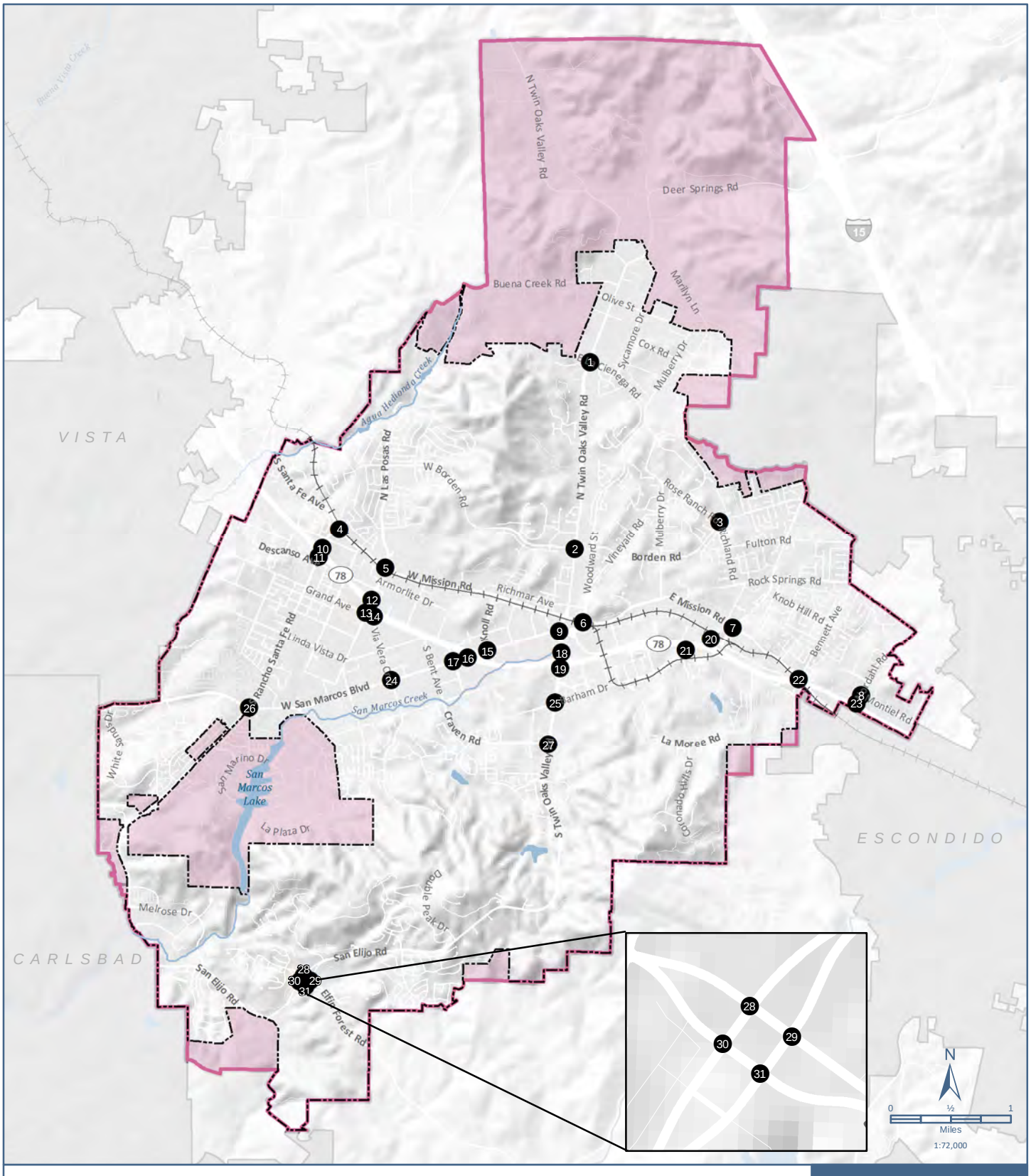

LEGEND

- Study Intersection
- City of San Marcos
- Sphere of Influence
- Areas within the Sphere of Influence
- Neighboring City

Data sources: SANGIS; CalAtlas. Map date: March 2, 2020.

City of San Marcos
General Plan

FIGURE 2-7.

Intersection Study Locations

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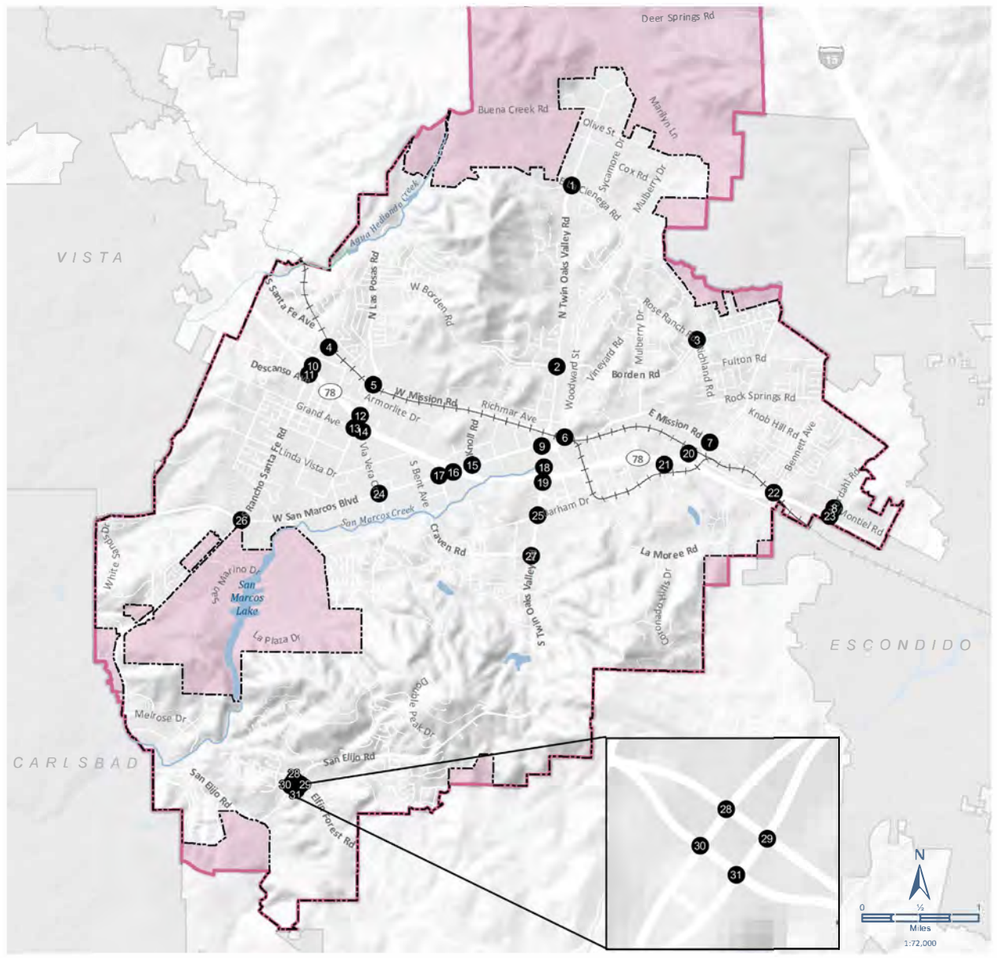

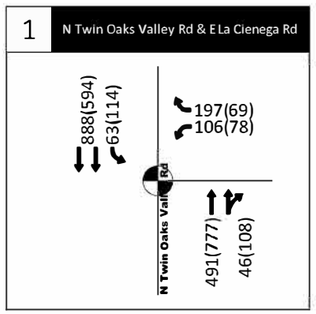

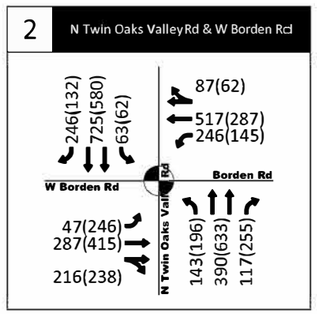

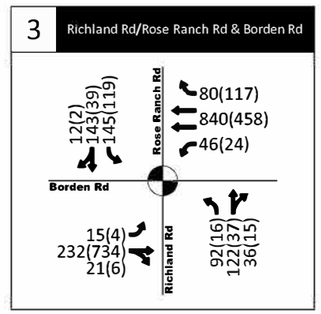

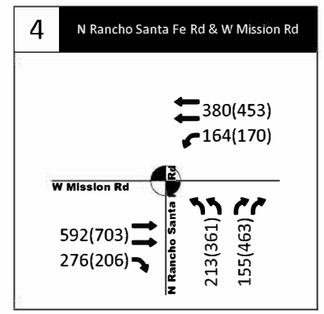

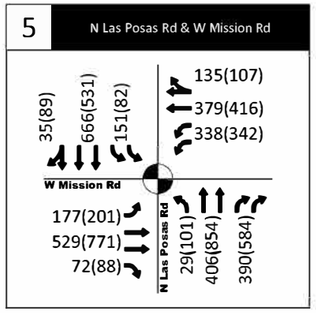

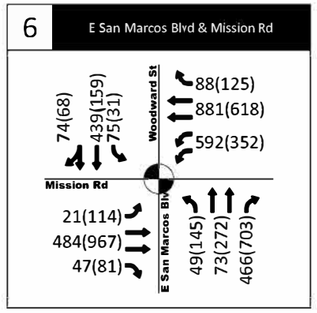

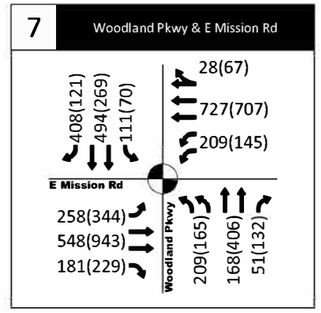

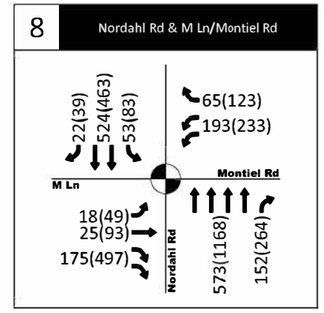

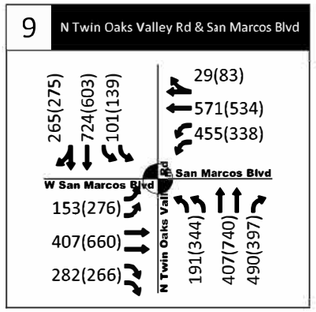

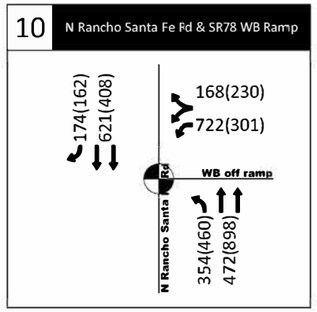

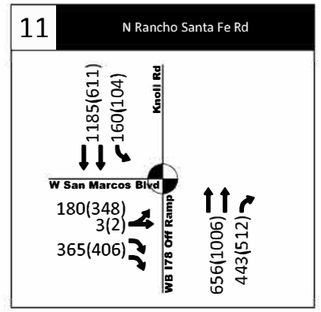

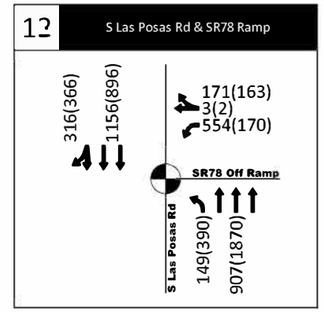

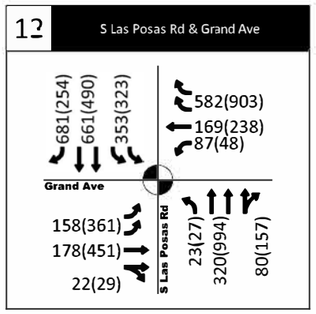

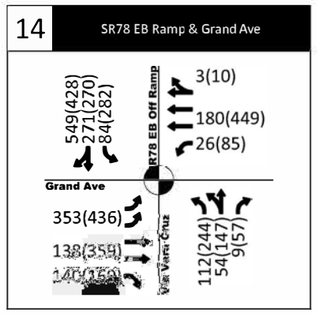

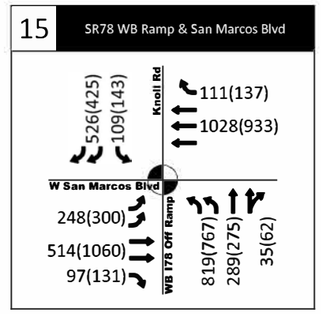

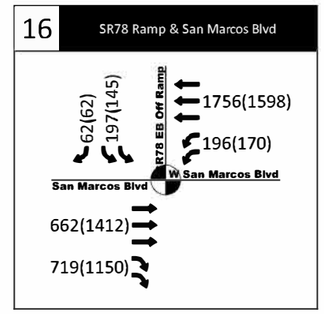

AM(PM) - Traffic Volume

- Traffic Signal

Existing Weekday AM & PM Peak Hour Traffic Volumes and Lane Geometries
San Marcos, CA

Figure
2-8

KITTELSON & ASSOCIATES

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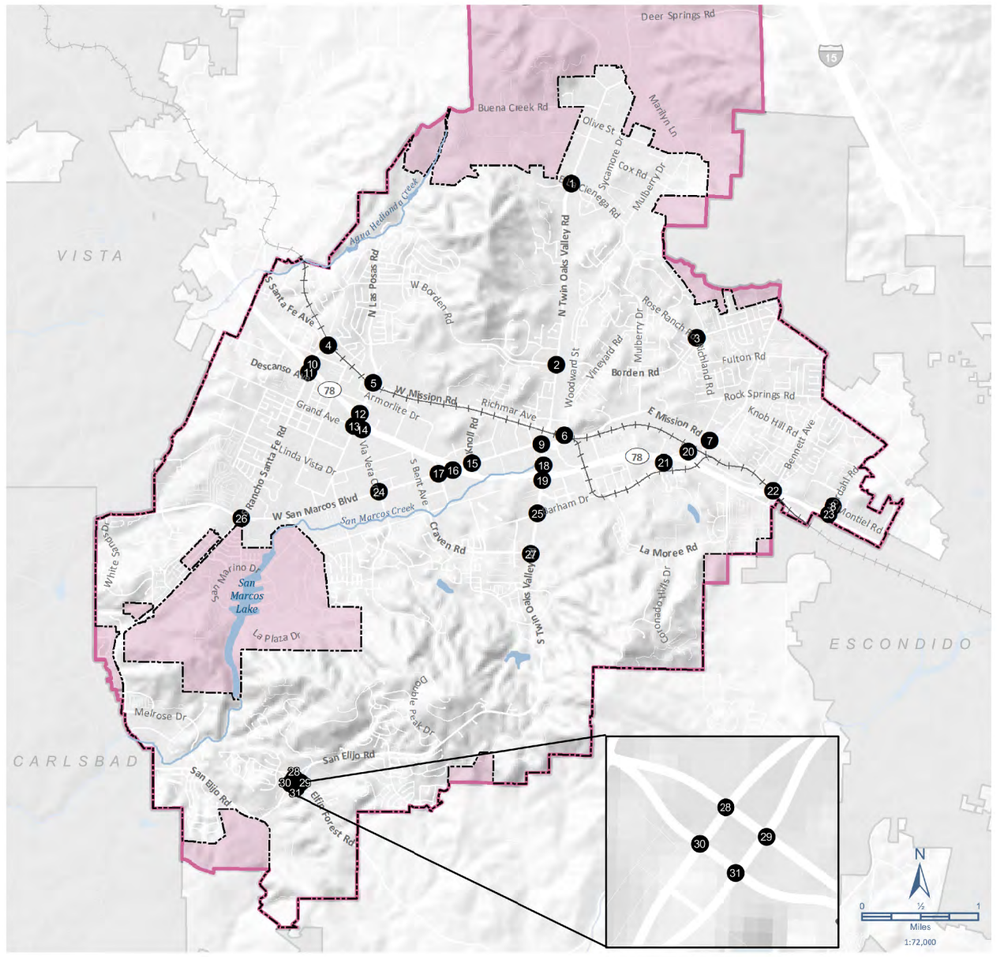
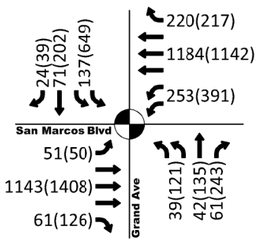
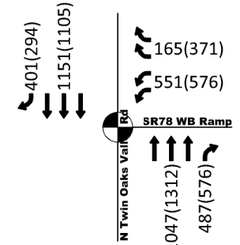


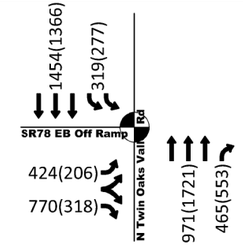
17 Grand Ave & San Marcos Blvd



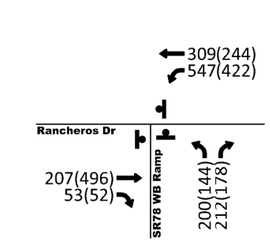
18 N Twin Oaks Valley Rd & SR78 WB Ramp



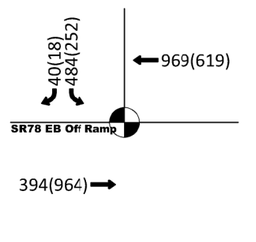
19 N Twin Oaks Valley Rd & SR78 EB Ramp



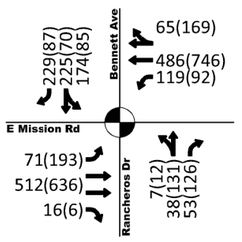
20 SR78 WB Ramp & Rancheros Dr



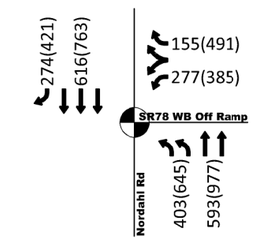
21 Barham Dr & SR78 EBOff Ramp



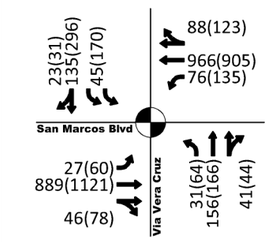
22 Rancheros Dr/Bennett Ave & E Mission Rd



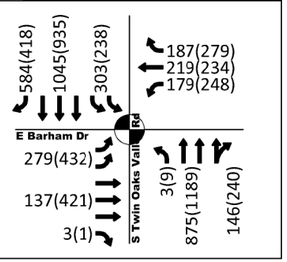
23 Nordahl Rd & SR78 WB Ramp



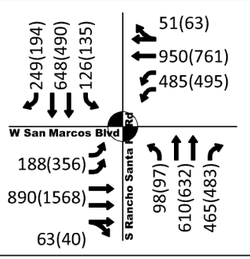
24 Via Vera Cruz & San Marcos Blvd



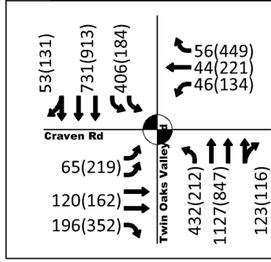
25 S Twin Oaks Valley Rd & E Barham Dr



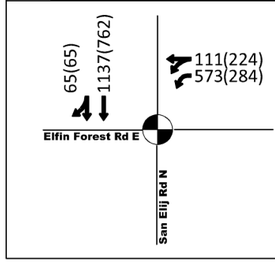
26 S Rancho Santa Fe Rd & W San Marcos Blvd



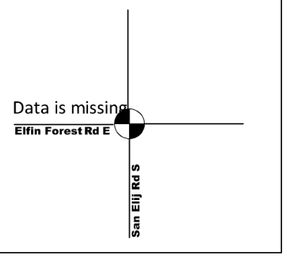
27 Twin Oaks Valley Rd & Craven Rd



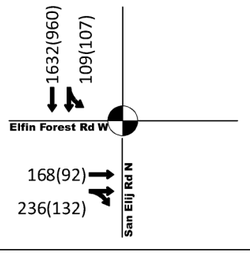
28 San Elij Rd N & Elfin Forest Rd E



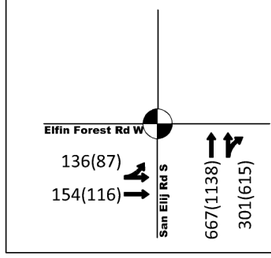
29 San Elij Rd S & Elfin Forest Rd E



30 San Elij Rd N & Efin Forest Rd W



31 San Elij Rd S & Elfin Forest Rd W



AM(PM) - Traffic Volume

- Traffic Signal

Existing Weekday AM & PM Peak Hour Traffic Volumes and Lane Geometries
San Marcos, CA

Figure **2-8**

KITTELSON & ASSOCIATES

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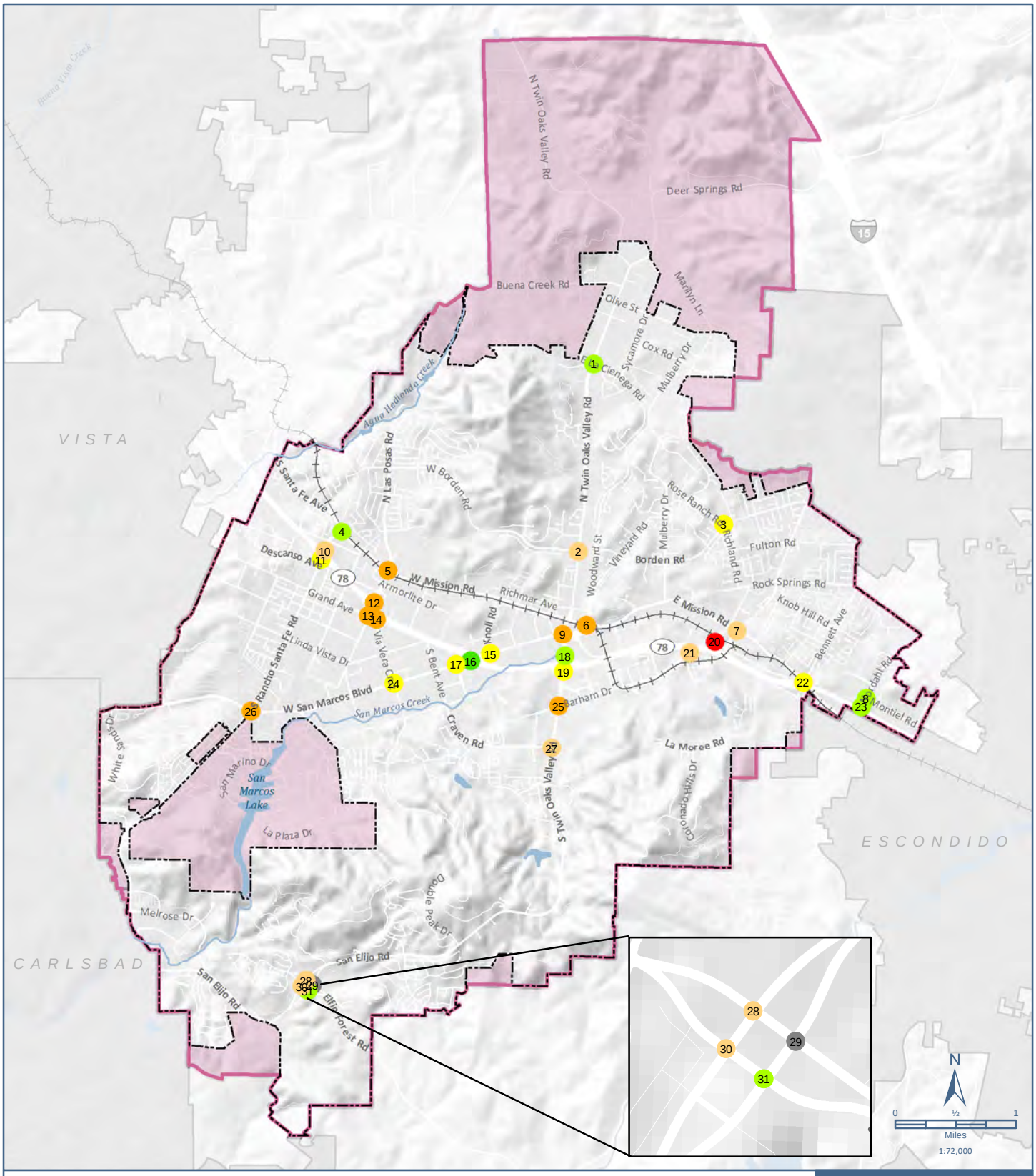

LEGEND

- Data is missing
- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F
- City of San Marcos
- Sphere of influence
- Areas within the Sphere of Influence
- Neighboring City

Data sources: SANGIS; CalAtlas. Map date: March 2, 2020.

City of San Marcos
General Plan

FIGURE 2-9.

Weekday AM Peak Hour Intersection LOS

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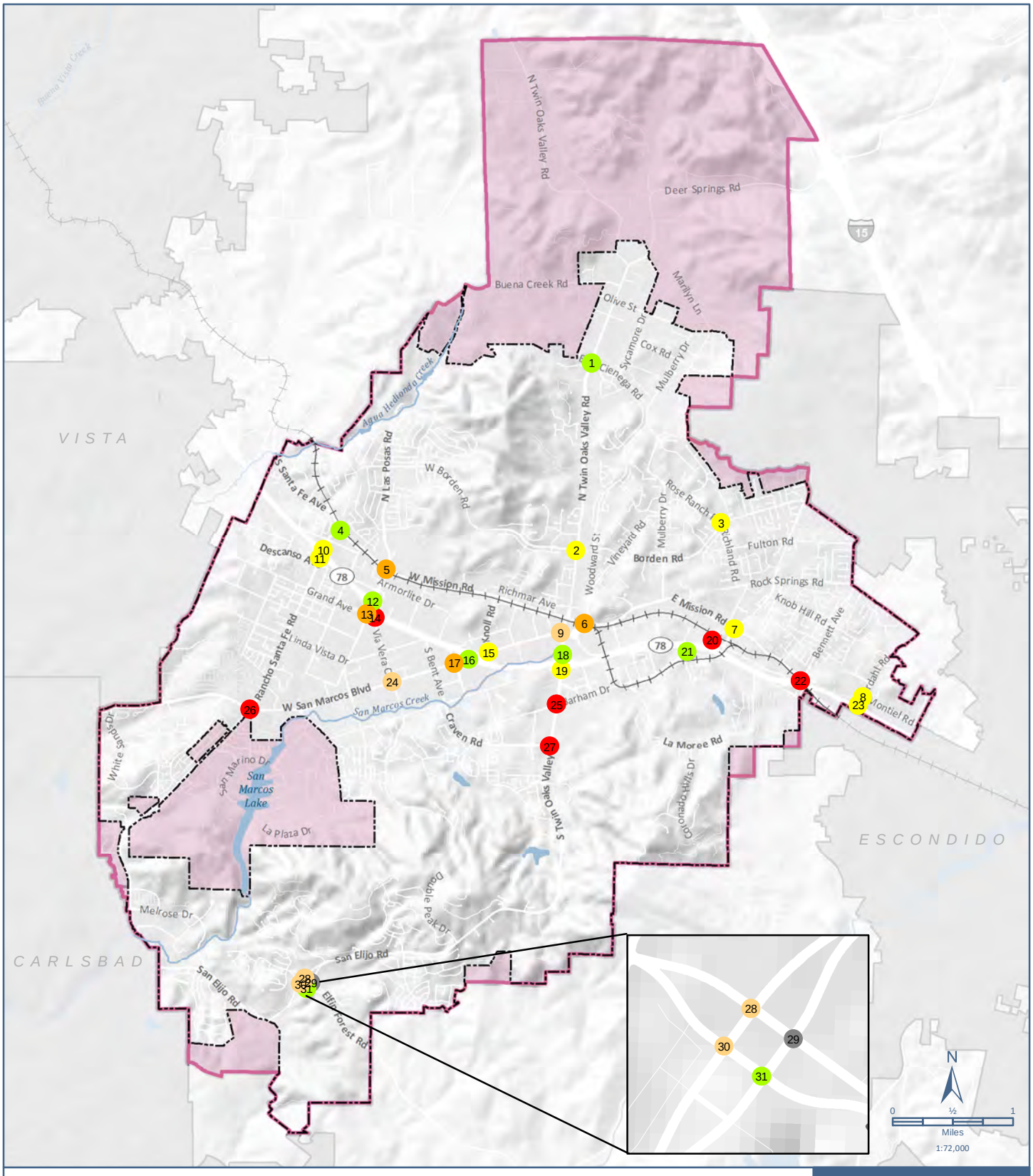

LEGEND

- Data is missing
- A
- B
- C
- D
- E
- F
- City of San Marcos
- Sphere of Influence
- Areas within the Sphere of Influence
- Neighboring City

Data sources: SANGIS; CalAtlas. Map date: March 2, 2020.

City of San Marcos
General Plan

FIGURE 2-10.

Weekday PM Peak Hour Intersection LOS

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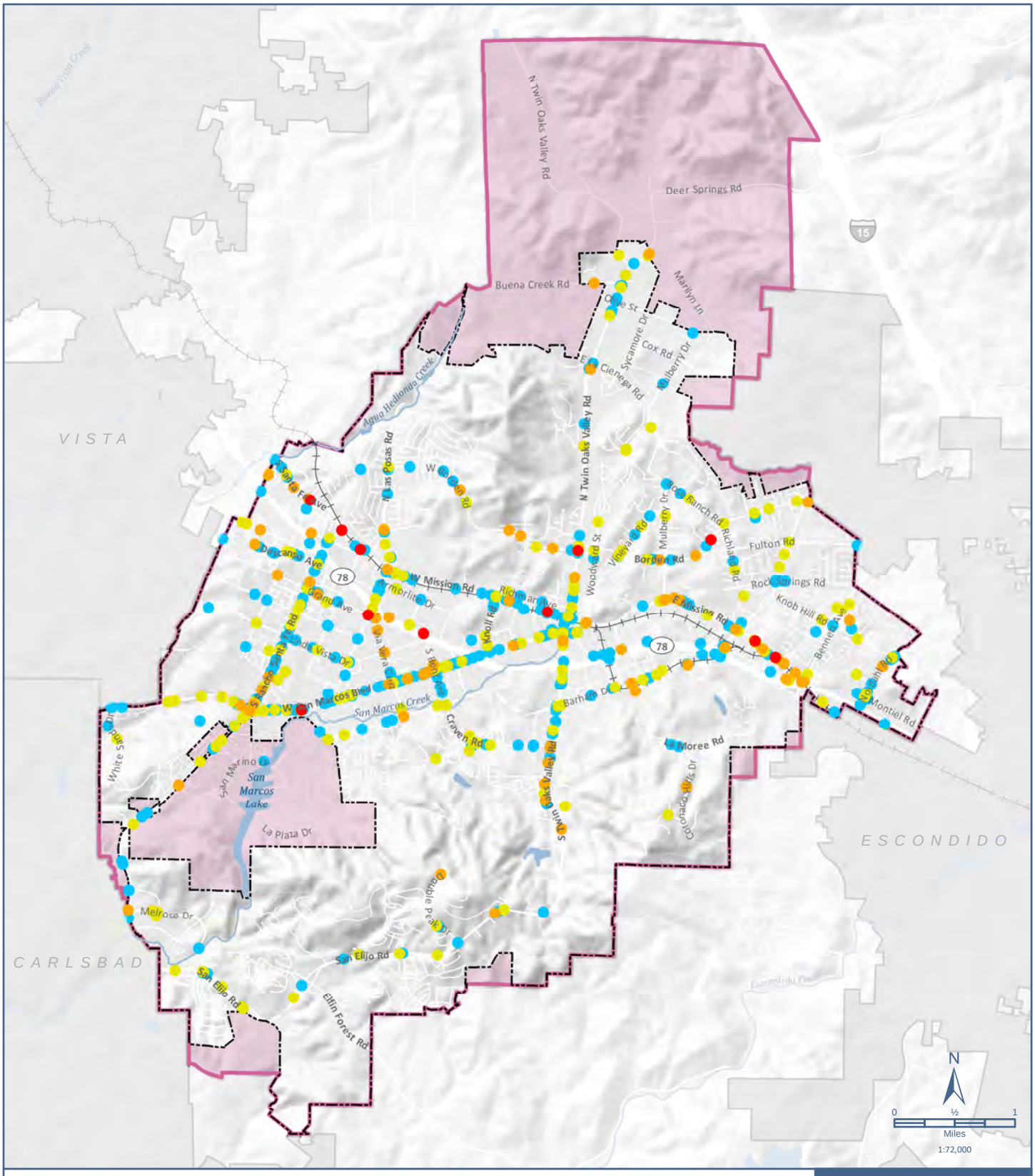

LEGEND

Collision Severity

- Fatal
- Injury (Severe)
- Injury (Other Visible)
- Injury (Complaint of Pain)

- City of San Marcos
- Sphere of influence
- Areas within the Sphere of Influence
- Neighboring City

Data sources: SWITRS; SANGIS; CalAtlas. Map date: February 24, 2020.

City of San Marcos
General Plan

FIGURE 2-11.

Existing Collision Data (2013 - 2017)

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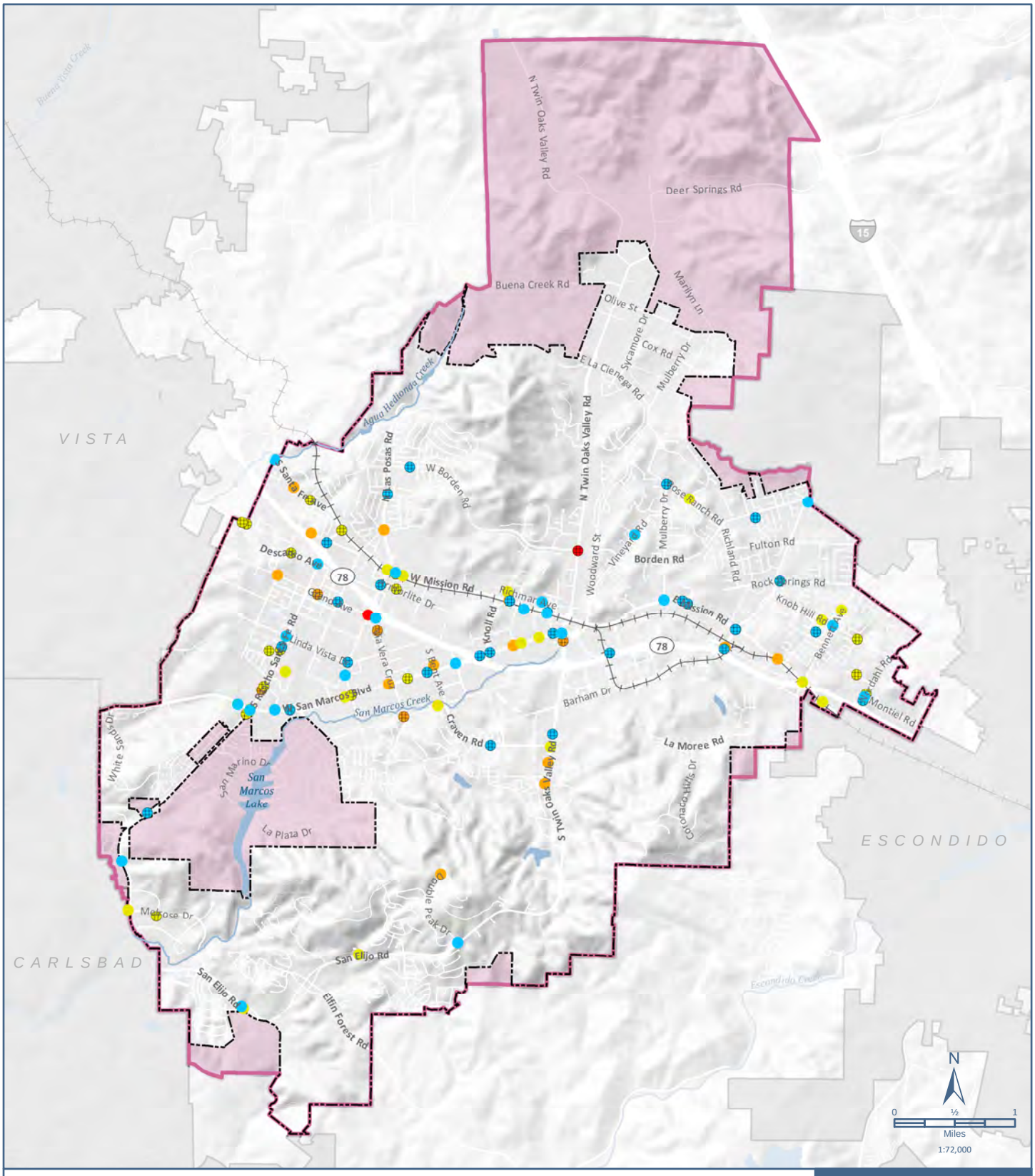

LEGEND

Collision Severity

- Fatal
- Injury (Severe)
- Injury (Other Visible)
- Injury (Complaint of Pain)
- Bicycle Collision
- Pedestrian Collision
- City of San Marcos
- Sphere of Influence
- Areas within the Sphere of Influence
- Neighboring City

Data sources: SWITRS; SANGIS; CalAtlas. Map date: February 24, 2020.

City of San Marcos
General Plan
FIGURE 2-12.

Existing Bicyle & Pedestrian Collision Data (2013 - 2017)

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CHAPTER 3
UTILITIES AND COMMUNITY SERVICES

3 UTILITIES AND COMMUNITY SERVICES

This chapter addresses utilities and community services within the Planning Area. Utility services include the provision of water services, wastewater (sewer) services, stormwater and drainage, solid waste disposal, electricity, and natural gas. Community services include fire protection, law enforcement, parks and recreation, schools, libraries, and other public facilities.

3.1 WATER SERVICES

This section describes the Planning Area's water demands, water supplies, water quality, water distribution system, and area plans.

The City's current General Plan includes the following goals, policies, and implementation measures related to water services and supplies.

Element	Topic Area	Goal	Policy
Land Use and Community Design	Water Services	Goal LU-13: Water Service and Supply: Manage and conserve domestic water resources by reducing water usage and waste on a per capita basis, to ensure an adequate water supply for existing and future residents.	Policy 13.1: Work closely with local and regional water providers to ensure high quality water supplies are available for the community. Policy 13.2: Actively promote water conservation programs aimed at reducing demand. Policy 13.3: Encourage exploration and use of deep underground wells to reduce reliance on treatable water.

Source: City of San Marcos General Plan, 2012

Water Demands

Water resources in San Marcos include imported water resources such as the Second San Diego Aqueduct connections to the Vallecitos Water District, Vista Irrigation District, Olivenhain Municipal Water District, Rincon del Diablo Municipal Water District (Rincon Water District), and the siphon Vista Canal. Other local groundwater and surface water resources include Discovery Lake, South Lake, privately owned and operated Lake San Marcos, and multiple wells. Figure 3-1 shows an overview of the City's water service area.

The Planning Area's water supply and services are provided primarily by Vallecitos Water District (VWD), a member agency of the San Diego County Water Authority (SDCWA). Limited portions of the Business/Industrial District, College Area Neighborhood, Twin Oaks Valley Neighborhood, and Richland Neighborhood are served by Vista Irrigation District (VID). A southern portion of the Questhaven/La Costa Meadows Neighborhood is served by the Olivenhain Municipal Water District (OMWD), and an eastern portion of the Richland Neighborhood is served by Rincon.

Vallecitos Water District (VWD)

Most of San Marcos is provided water service by VWD, which also serves portions of Escondido, Carlsbad, and Vista. According to the VWD 2018 Master Plan, VWD services an area of approximately 45 square miles containing 96,200 residences. VWD provided an average of 14.8 million gallons a day (MGD) of potable water for residential, commercial, light industrial, institutional, construction, landscape irrigation, and agricultural uses in 2014. The total operation storage capacity for VWD is 120.5 million gallons.

VWD buys water from SDCWA, which is the largest purchaser of water from the Metropolitan Water District of Southern California (MWD). MWD owns and operates the Colorado River Aqueduct and buys the most water from the State Water Project for the delivery of Sacramento-San Joaquin Delta water to Southern California. An additional water purchase agreement for desalinated water from the future Carlsbad Seawater Desalination Facility is in place, which will eventually comprise 35 percent of VWD's supply at current demand levels.

Future water demand for VWD was calculated in its 2015 Urban Water Management Plan (UWMP) up to the year 2035. The ultimate future (i.e., beyond 2035) built-out water demand projection for VWD is approximately 12,520 million gallons per year, nearly three times that of its delivery of potable water in 2015. The table below lists the water demand projections for VWD from 2020 through 2035.

Table 3-1: VWD Projected Demands for Potable and Raw Water

Year	Projected Water Use Potable and Raw	Projected Water Use Recycled Water	Total Projected Water Use
2020	10,173	471	10,644
2025	10,716	471	11,187
2030	10,798	771	11,569
2035	11,559	771	12,330

Note: Units are in million gallons.
Source: Vallecitos Water District, 2015 Urban Water Management Plan (UWMP)

Vista Irrigation District (VID)

The Vista Irrigation District service area is over 21,000 acres and includes areas within the City of San Marcos, City of Vista, and County of San Diego. VID currently has several water sources including imported water, local surface water, and groundwater. However, due to limitations on the latter two sources, the SDCWA, which is the source of purchased water, will provide a growing percentage of VID's supply to meet future water demands. The SDCWA, in turn, currently purchases about half of its water from MWD but is seeking to further diversify its supplies.

Utilizing population forecasts reported in the VID 2015 Urban Water Management Plan, the population in the VID service area is expected to increase approximately 24 percent from 2015 to 2040. The Vista Irrigation District estimates a 24 percent increase in water demand by 2040 as a result of this population growth, which would project a total water demand of approximately 21.44 to 21.56 MGD in the year 2040. Table 3-2 shows the 2015 VID UWMP projections for future water demand in MGD from 2020 through 2040.

Table 3-2: VID Projected Demands for Potable and Raw Water

Year	2015 UWMP Demand Projection	2015 UWMP Under Single and Multi Dry Year Conditions	Estimated Water Conservation Savings	2015 UWMP with Dry Year Conditions and Conservation Savings
2020	17.63	19.39	2.77	16.62
2025	19.04	20.94	3.38	17.56
2030	20.20	22.22	3.51	18.72
2035	20.82	22.90	3.74	19.16
2040	21.56	23.72	3.97	19.75

Note: Units are in million gallons.
Source: Vista Irrigation District, 2015 Urban Water Management Plan (UWMP)

Olivenhain Municipal Water District (OMWD)

OMWD serves the cities of Carlsbad, Encinitas, and the southern end of San Marcos within the Questhaven/La Costa Meadows Neighborhood. OMWD only serves a few residential and commercial customers as much of the Planning Area within their service is currently open space area. Due to its small service area within San Marcos, no further review of OMWD's system is included in this report.

Rincon del Diablo Municipal Water District (Rincon)

On the southeast side of the Planning Area, Rincon serves water to a small population of San Marcos residents per agreement with VWD. Due to its small service area, no further review of Rincon's system is included in this report.

3.1.1 Water Supplies

Vallecitos Water District (VWD) Supplies

As of 2015, VWD obtained 100 percent of its water supply directly or indirectly from the SDCWA. This reliance on the SDCWA is anticipated by VWD for the foreseeable future. The table below outlines projected water supplies for VWD until the year 2035.

Table 3-3: VWD Projected Supply of Potable and Raw Water

Year	Projected Purchased or Imported Water Supply	Projected Desalinated Seawater Supply	Projected Water Supply from Storage	Projected Recycled Water Supply	Total Projected Water Supply
2020	5,180	1,140	123	471	6,914
2025	6,266	1,140	134	471	8,011
2030	6,741	1,140	142	771	8,794
2035	7,141	1,140	146	771	9,198

Note: Units are in million gallons.
Source: Vallecitos Water District, 2015 Urban Water Management Plan (UWMP)

Tables 3-1 and 3-2 show that VWD projects a shortage in its supply capabilities starting in Year 2020. VWD planned demand-reduction actions and conservation measures in its 2015 UWMP to account for this shortage. However, VWD projections based on normal water year data can be exceeded in dry years by 7 percent as per the SDCWA's 2015 UWMP, which would exacerbate VWD's water supply shortage. Table 3-4 shows water demand projections and shortages in the case of a single dry year.

Table 3-4: VWD Project Supply and Demand Comparison for Single Dry Year

Year	Supply Totals	Demand Totals	Difference
2020	7,362	11,399	4,037
2025	8,539	11,985	3,446
2030	9,359	12,398	3,039
2035	9,799	13,225	3,426

Note: Units are in million gallons.
Source: Vallecitos Water District, 2015 Urban Water Management Plan (UWMP)

Since the VWD is the primary supplier of water across the Planning Area, the projected water supply shortage identified in the 2015 VWD UWMP will likely prove to be a challenge for San Marcos as it plans for future growth.

3.1.2 References

California Department of Water Resources, 1980. Groundwater Basins in California – A Report to the Legislature in Response to Water Code Section 12924. Bulletin 118 – 80.

California Department of Water Resources, 2003. California's Groundwater Bulletin 118-Update.

California Department of Water Resources, 2017. Final California 2014 and 2016 Integrated Report (CWA Section 303(d) List / 305(b) Report).

Vallecitos Water District, 2015. 2015 Urban Water Management Plan. Accessed March 2020. Available at: http://www.vwd.org/departments/engineering/capital-facilities/urban-water-management-plan-uwmp-copy

Vista Irrigation District, 2015. 2015 Urban Water Management Plan. Accessed March 2020. Available at: https://www.vidwater.org/planning-documents

West Yost Associates, 2020. Background Report for Infrastructure Analysis for the City of San Marcos General Plan Update. Prepared April 2, 2020.

3.2 WASTEWATER

This section describes the Planning Area's wastewater infrastructure, wastewater flows, and previous infrastructure planning. The City of San Marcos does not own or operate a sanitary sewer (wastewater) system. San Marcos's sewer services are provided by three utility districts – VWD, the City of Vista, and Buena Sanitation District. Among the three entities, there are approximately 211 miles of sewer mains within the borders of the Planning Area. The wastewater infrastructure that serves San Marcos is shown in Figure 3-2.

3.2.1 Wastewater Collection System

Vallecitos Water District (VWD)

According to its 2018 Master Plan, VWD has approximately 1.35 million feet (255 miles) of gravity sewer mains ranging in size from 4-inches to 42-inches in diameter. The oldest pipelines were installed in 1956 and consist of vitrified clay pipe (67 percent of pipes) and poly-vinyl chloride pipe (25 percent of pipes). VWD operates four wastewater drywell/wet well lift stations and utilizes two wastewater treatment facilities, a land outfall, and a sludge pipeline to failsafe pipeline to treat and convey wastewater flows.

City of Vista & Buena Sanitation District

According to the 2017 City of Vista Comprehensive Sewer Management Plan, the City of Vista's combined system contains approximately 317 miles of pipeline and four pump stations. However, only a small portion of the system is located on the western edge of San Marcos.

3.2.2 Wastewater Treatment Capacity

Vallecitos Water District (VWD)

The Encina Wastewater Authority (EWA) is the primary wastewater treatment provider utilized by VWD and was established to provide for the day-to-day operation of the Encina Water Pollution Control Facility (EWPCF). The EWPCF also serves the City of Carlsbad, City of Encinitas (Encinitas Sanitary Division), Leucadia Wastewater District, and Buena Sanitation District (City of Vista).

VWD's Unit I capacity rights at the EWPCF were set forth in the 1998 Revised Basic Agreement and included 7.54 MGD of liquids treatment capacity and 7.54 MGD of solids treatment capacity. The most recently completed Phase V Expansion of the EWPCF was primarily solids driven. With that expansion, VWD maintained its 7.54 MGD of liquids treatment capacity, and increased its solids treatment capacity to 10.47 MGD. In 2014, EWA re-rated the EWPCF capacity and a "true-up" calculation was performed, which increased VWD's liquid capacity to 7.67 MGD.

VWD owns and operates the Meadowlark Water Reclamation Facility (MRF). The MRF treats wastewater to meet recycled water standards in accordance with State of California Title 22 requirements and under the provisions of Waste Discharge Permit R9-2007-0018 issued by the State of California Regional Water Quality Control Board for Region 9. The treatment process includes tertiary treatment with disinfection. Most of the existing flows that MRF treats are diversions via VWD's Lift Station 1 located along San Marcos Boulevard and Rancho Santa Fe Road, and via Lake San Marcos Lift Station along Rancho Santa Fe Road. Ultimately, the southern portions

of VWD will build out and contribute additional wastewater flows to the MRF, reducing the diversion from the EWPCF basin via Lift Station 1.

The MRF was recently upgraded to a capacity of 5.0 MGD, with a peak wet weather capacity of 8.0 MGD. It is anticipated that at buildout, approximately 3.5 MGD and 1.5 MGD of source wastewater will come from the San Elijo area (including flows from the Questhaven Lift Station) and the Lake San Marcos Lift Station, respectively, requiring little to no "make-up" wastewater during dry weather conditions from Lift Station 1. The plant does not have solids treatment capability. Solids are pumped from the MRF through a sludge pipeline to the land outfall and subsequently treated at the EWPCF. Therefore, VWD requires a higher capacity of solids treatment than liquid treatment at EWPCF. When combined with the 7.67 MGD treatment capacity of the EWPCF, VWD currently has a total liquids treatment capacity of 12.67 MGD.

City of Vista & Buena Sanitation District

The City of Vista's combined system conveys sewage to the EWPCF for treatment. With the recently completed Phase V Expansion, the combined systems have liquids and solids capacity rights of 13.67 MGD, with 10.67 MGD owned by the City and 3.0 MGD owned by the Buena Sanitation District. In 2016, total wastewater flows from all agencies to the EWPCF averaged 20.76 MGD with approximately 33 percent of that flow originating from the City of Vista's combined system.

3.2.3 Wastewater Flows

Projected wastewater flows for the two districts serving San Marcos are discussed below.

Vallecitos Water District (VWD)

In the VWD 2018 Master Plan, the wastewater flow under the buildout scenario was calculated based on the established unit rates and the approved planned land use data. Interim flow projections (2020-2035) were estimated based upon SANDAG's growth forecasts for VWD.

As show in Table 3-5, the projected average annual flow under ultimate buildout conditions is 14.4 MGD. This total represents the potential flow based on allowable land uses and existing flows. The VWD 2018 Master Plan also noted that continued conservation and water use efficiencies could delay reaching ultimate buildout condition flows.

City of Vista & Buena Sanitation District

Some areas along the west edge of the Planning Area are served by the City of Vista's combined system. Table 3-5 shows the City of Vista's projected wastewater flow through buildout conditions for its combined system.

Table 3-5: Projected Sewer Flow vs. Treatment Capacity

Utility District	Projected Buildout Flow	Current Liquid Treatment Capacity	Current Total Solids Treatment Capacity
VWD	14.4	7.67	10.47
City of Vista	18.8	13.67	13.67

Note: Units are in million gallons.

Sources: Vallecitos Water District, 2018 Master Plan; City of Vista, 2017 Sewer Master Plan

3.2.4 References

City of San Marcos, 2012. City of San Marcos General Plan EIR.

The Vallecitos Water District, 2018. 2018 Water, Wastewater, and Recycled Water Master Plan.

West Yost Associates, 2020. Background Report for Infrastructure Analysis for the City of San Marcos General Plan Update. Prepared April 2, 2020.

3.3 STORMWATER AND DRAINAGE

Provided below is a discussion of the stormwater drainage and flood control systems that serve the Planning Area. Issues related to the floodplain are addressed in Chapter 4. The existing City of San Marcos General Plan identifies the following policies related to hydrology and water quality.

Element	Topic Area	Goal	Policy
Land Use and Community Design	Flood Control	Goal LU-15: Flood Control and Storm Water Drainage Facilities: Ensure adequate flood control and storm water drainage is provided to the community.	Policy 15.1: Implement activities, practices, procedures, or facilities that avoid, prevent, or reduce pollution of the San Marcos Storm Water Conveyance System and Receiving Waters. Policy 15.2: Improve inadequate or undersized drainage/ flood control facilities to solve both small neighborhood and large regional drainage and flood control problems. Policy LU-15.3: Avoid, to the extent possible, development in floodplain and flood prone areas. Policy 15.4: Retain drainage courses in their natural condition, to the extent possible. Consider smaller-scale drainage improvements to protect the environment and avoid disturbing natural drainage courses; consider detention areas and raised building pads.

Source: City of San Marcos General Plan, 2012

3.3.1 Storm Drainage System

The City of San Marcos is responsible for managing the public storm drain system within the city limits and ensuring that an adequate level of service is provided to protect the public from excessive surface flooding conditions. Stormwater within the Planning Area is primarily tributary to San Marcos Creek, discharging to Lake San Marcos located within the Carlsbad Watershed. Lake San Marcos is privately owned by Pacifica Enterprises, which is a property developer and manager. The overall watershed is comprised of six hydrologic basins: San Marcos Creek – North Basin, San Marcos Creek – East Basin, San Marcos Creek – Main Basin, Las Posas, North Outlying Basin, and South Outlying Basin.

The primary purpose of the public storm drain system is to facilitate the conveyance of drainage water from rainfall events away from urban areas. In addition, the facilities are designed to mitigate the increase in runoff volumes and velocities to downstream areas and drainages to prevent flooding of public and private facilities in urbanized areas. The drainage system includes any roads with drainage infrastructure, catch basins, natural and artificial channels, aqueducts, canyons, stream beds, gullies, curbs, gutters, ditches, natural and artificial channels, and storm drains.

3.3.2 Local Infrastructure

According to the City of San Marcos' draft 2019 Drainage Master Plan (pending adoption), a large portion of critical inventory and associated attributes are missing from their digital records. A surveying study identified critical survey locations and collected data to fill in critical gaps for the City's stormwater model.

3.3.3 Stormwater and Flood Control

As part of the 2019 Drainage Master Plan, hydrologic and hydraulic modeling were performed on 619,271 LF of existing pipes to determine the conveyance capacity of the pipes and to identify deficient entities. The 619,271 LF of existing pipes do not include channels, ditches, or culverts within the FEMA floodplain. Channels and ditches were modeled but were not analyzed for deficiencies. Analysis of deficiencies was focused on storm drain infrastructure and considered the General Plan's land use for the hydrologic modeling parameters.

For a 100-year 24-hour storm event, 188,185 LF of pipeline was identified as deficient. A total of 44,220 LF was found deficient due to upstream surcharging. 50,683 LF of pipeline was identified as deficient due to downstream surcharging. 93,232 LF of pipeline was identified as deficient due to both upstream and downstream surcharging. A total of 1,102 of 5,483 junctions were identified as being surcharged by one foot or more. Channel or ditch confluences were modeled but not considered for this analysis. Based on identified deficiencies, the City of San Marcos identified 13 CIP projects.

The 13 CIP projects aim to increase conveyance efficiency within the drainage system. The projects are inclusive of providing new infrastructure and replacing or realigning existing infrastructure. In addition to the drainage improvement projects, regional improvement projects are suggested to improve water quality and utilize flood storage benefits.

More information on flooding and flooding potential can be found in Section 4.0 (Hazards, Safety, and Noise) of this document.

3.3.4 Stormwater Quality

In general, potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosive forces, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminates in the low flowing stream. Such conditions are most frequent during the Fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, deficient slope and ground surface stabilization, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

303(d) Impaired Water Bodies: Section 303(d) of the Federal Clean Water Act requires states to identify waters that do not meet water quality standards or objectives and, thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a water body and thereby the basis for the states to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

Within the Planning Area are five water bodies listed by the State Water Resources Control Board (SWRCB) as 303(d) impaired Water Bodies: Agua Hedionda Creek; Buena Creek; Drain to central southwest fork of San Marcos Lake; San Marcos Creek, and; South Lake.

Watershed Program

The City of San Marcos owns and operates a Municipal Separate Storm Sewer Systems (MS4 or storm drain system) and is considered a copermittee under the San Diego Regional Water Quality Control Board (SDRWQCB) Order R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100 (MS4 Permit or Municipal Permit), which regulates discharges from Phase I MS4s in the San Diego Region. Provision B of the MS4 Permit requires Responsible Agencies (RA)s, in each of the region's Watershed Management Areas (WMA)s to develop Water Quality Improvement Plans (WQIP)s that identify water quality conditions and strategies to improve water quality within the watershed. Through the WQIP approach, Highest Priority Water Quality Conditions (HPWQC) within the WMA are identified, and strategies are implemented through the RAs' Jurisdictional Runoff Management Programs (JRMP)s to progressively improve water quality. The City of San Marcos is one of eight agencies that is part of the Carlsbad Watershed Management Area (CWMA).

The CWMA WQIP was originally approved by the SDRWQCB in 2016 and subsequent updates have occurred in 2018 and 2021.

The CWMA WQIP categorizes three types of strategies: jurisdictional strategies, optional strategies, and WMA strategies. Planned jurisdictional strategies include core jurisdictional programs to address the requirements of MS4 Permit provisions E.2. through E.7 and are described in more detail in the City's JRMP. The core jurisdictional program strategies include the following:

- Administrative BMPs – review/update inventories, establish minimum BMP requirements, develop BMP design requirements, develop SOPs or equivalent plans, update ordinances, review approval processes, etc.
- Investigations – to identify illegal discharges and illicit connections resulting from public reporting, inspection findings, staff referrals, and/or monitoring results.
- Development and Redevelopment Requirements – development/redevelopment project application review/compliance determination with MS4 regulations/BMP Design Manual.
- Inspections – development planning (post-construction structural BMPs), construction sites, industrial/commercial, municipal areas/activities, and residential areas/activities
- MS4 Inspections/Cleaning
- Street Sweeping
- General Education and Outreach
- Employee Training
- Enforcement – based on investigations and/or inspections at either a construction, municipal, industrial, commercial, and/or residential areas
- Partnership Program(s) – partnerships with entities to achieve overarching water quality improvement objectives.
- Program for Retrofitting Areas of Existing Development
- Program for Stream, Channel and /or Exiting Habitat Rehabilitation in Areas of Exiting Development
- Offsite Alternative Compliance – program allows development project proponents to trade onsite mitigation for water quality impacts for offsite mitigation.

Optional strategies are BMPs, incentives, or programs that may be implemented in response to specific conditions. WMA strategies are optional regional or multi-jurisdictional BMPs, incentives, or programs.

Required monitoring and assessment programs for both the dry and wet weather provides the vehicle for determining whether intended outcomes are being realized or whether RA's programs adaptions are necessary. The collection and evaluation of monitoring data will guide future implementation of the RA's management actions as part of the WQIP process.

Post-Construction Structural Best Management Practices

The City's Post Construction Structural Best Management Practices (BMPs) program element consists of public and privately maintained structural BMPs. Over two thousand structural BMPs reduce pollutants from entering the City's Municipal Separate Storm Sewer System (MS4). These structural BMPs consist of curb inlet drain inserts, bioretention basins, swales, and hydrodynamic separators. Some of the more common pollutants these systems manage include sediments, chemicals, oils and grease, metals, nutrients, erosion, and flooding. Accordingly, all existing, future development, and redevelopment projects must comply with this program element to comply with the 2013 MS4 permit (Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100).

3.3.5 References

California Department of Water Resources, 2019. Final California 2019 Integrated Report (CWA Section 303(d) List / 305(b) Report). Available at: https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml

City of San Marcos, 2012. City of San Marcos General Plan EIR.

State Water Resources Control Board (SWRCB). Order No. R4-2012-0175 as amended by SWRCB Order WQ 2015-0075 NPDES Permit No. CAS004001. Available at: https://www.waterboards.ca.gov/rwqcb4/water_issues/programs/stormwater/municipal/Riverside_ms4/2016/R4-2012-0175-A01.pdf

State Water Resources Control Board (SWRCB). Strategy to Optimize Resource Management of Storm Water (Storm Water Strategy, STORMS). Available at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/

State Water Resources Control Board (SWRCB), 2013. Water Quality Order No. 2013-0001-DWQ. https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/phsii2012_5th/order_final.pdf

West Yost Associates, 2020. Background Report for Infrastructure Analysis for the City of San Marcos General Plan Update. Prepared April 2, 2020.

3.4 SOLID WASTE

The following section describes solid waste disposal contracting and facilities serving the Planning Area. The existing San Marcos General Plan includes the following goals and policies related to solid waste.

Element	Topic Area	Goal	Policy
Safety	Hazardous Materials	Goal S-4: protect life, structures, and the environment from the harmful effects of hazardous materials and waste.	Policy 4.1: Promote and support the proper disposal, handling, transport, delivery, treatment, recovery, recycling, and storage of hazardous materials in accordance with applicable federal, State, and local regulations.
Land Use and Community Design	Solid Waste	Goal LU-16: Solid Waste: Reduce the amount of waste material entering regional landfills with an efficient and innovative waste management program.	Policy 16.1: Work closely with local service providers to ensure adequate solid waste disposal, collection, and recycling services. Policy 16.2: Increase recycling, composting, source reduction, and education efforts throughout the city to reduce the amount of solid waste requiring disposal at landfills.

Source: City of San Marcos General Plan, 2012

3.4.1 Waste Collection Services

EDCO Waste and Recycling (EDCO) is a private franchise hauler that provides solid waste disposal within the Planning Area. With minor exceptions for certain homeowners' associations in the SOI, EDCO handles all residential, commercial, and industrial collections within the Planning Area. Waste collected by EDCO is hauled to the Escondido Resource Recovery Transfer Station where it is then transported to the Sycamore Sanitary Landfill located at 8514 Mast Boulevard at West Hills Parkway, in Santee (CalRecycle 2011).

According to the 2012 San Marcos General Plan EIR, the estimated closure date of the Sycamore Sanitary Landfill is December 31, 2031. The landfill has a maximum permitted capacity of 147,908,000 cubic yards of waste and a remaining capacity of 113,972,637 cubic yards. The total disposal acreage is 349,2000 acres.

3.4.2 Hazardous Waste Disposal

Household hazardous waste is any hazardous waste generated incidental to owning or maintaining a residence, including paints, solvents, varnishes, acids, flammables, acrylics, and resins. The most affordable way for residents in the Planning Area to dispose of these waste products is to take them to one of the following Household Hazardous Waste (HHW) Collection Facilities in nearby communities:

- Vista HHW Collection Facility (1145 E. Taylor Street, City of Vista)
- Poway HHW Collection Facility (12325 Crosthwaite Circle, City of Poway)

Free door-to-door collection services are available to residents 65 or older, or households possessing a registered placard for persons with disabilities.

In addition, sharps can be dropped off for free at EDCO's Buyback Center at 224 S. Las Posas Road, San Marcos. Customers can reach out to EDCO for any waste related inquiries.

3.4.3 Solid Waste Generation Rates and Volumes

The California Department of Resources Recycling and Recovery (CalRecycle) tracks and monitors solid waste generation rates on a per capita basis. Total annual solid waste disposal volumes for the City of San Marcos for the year 2018 (latest available data) was 94,649.04 tons. The per capita solid waste generation rate was 5.4 pounds/person/day. The annual disposal volume for 2018 had increased from the 2017 rate of 89,099.73 tons per year.

The City of San Marcos has complied with State requirements to reduce the volume of solid waste through recycling and reuse of solid waste. The City's per capita disposal target rate in 2018 was 8.9 pounds/person/day. The City's per capita disposal rate in 2018 was 5.4 pounds/person/day, which successfully satisfies the target reduced disposal rate.

3.4.4 References

CalRecycle, 2018. Jurisdiction Disposal by Facility. Disposal during 2018 for San Marcos. https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/DisposalRateCalculator

CalRecycle, 2018. Jurisdiction Per Capita Disposal Trends (2011-2018). Available at: http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=JurisdictionID%3d239%26BeginYear%3d2011%26EndYear%3d2016%26ReportName%3dARDRPopEmpTrendExternal%26ShowParameters%3dfalse%26AllowNullParameters%3dFalse

CalRecycle, 2018. SWIS Facility/Site Search. Available at: http://www.calrecycle.ca.gov/swfacilities/directory/search.aspx

EDCO Waste and Recycling. About EDCO. Accessed March 2020. Available at: http://edcodisposal.com

3.5 ELECTRICITY AND NATURAL GAS

The existing San Marcos General Plan includes the following goals and policies related to Electricity and Natural Gas.

Element	Topic Area	Goal	Policy
Land Use and Community Design Element	Growth Management and Adequate Provision of Urban Services.	Goal LU-8: Ensure that existing and future development is adequately serviced by infrastructure and public services.	Policy 8.1: New development shall pay its fair share of required improvements to public facilities and services. Policy 8.2: Promote development timing that is guided by the adequacy of existing and/or expandable infrastructure, services, and facilities.
		Goal LU-17: Utilities and Communications: Encourage provision of power and communication systems that provide reliable, effective and efficient services for San Marcos.	Policy 17.1: Coordinate with all communications and utility companies (electrical, gas, telephone, cable, satellite and future utilities) in the provision of services throughout the community and the installation and maintenance of facilities in their respective franchise areas. Policy 17.2: Require all new development and redevelopment to provide the technology to support multiple telecommunications facilities and providers such as multi-media products, wire - less technologies, and satellite communications. Policy 17.3: The City shall prohibit above ground utility equipment within any of the pedestrian pathway and street frontage areas. All above ground utilities shall be placed either within; “wet closets” within the buildings, underground vaults, or behind buildings where they are not visible. The developer shall be responsible to contact the applicable utility agencies in advance to coordinate utilities prior to approval of the final street improvement plans for both public and private street frontages and prior to submittal of building permits.

			Policy 17.4: Require utility location to be shown on all site development plans at the time of development/ project application.

Source: City of San Marcos General Plan, 2012

3.5.1 Existing Setting

Electricity and natural gas in the Planning Area are provided by San Diego Gas & Electric (SDG&E), which is owned by Sempra Energy. SDG&E is a regulated public utility that provides energy service to 3.6 million people through 1.4 million electric meters and 873,000 natural gas meters in San Diego and southern Orange counties. The SDG&E service area spans 4,100 square miles.

SDG&E obtains electricity from a variety of sources, including SDG&E-owned facilities and other private and publicly owned facilities that provide electricity through contracts and agreements. Electricity is generated from a variety of energy sources, including coal, natural gas, nuclear, hydroelectric, and a mix of other renewable resources. SDG&E does not directly own any of its own renewable generation resources.

Discovery Valley Utility

Discovery Valley Utility (DVU) is a non-profit municipal utility owned by the City of San Marcos. During the City's charter development in 1994, voters authorized the City to establish the municipal utility, an act which was passed by City Council resolution in 2000. Although the DVU, which is both an electrical and natural gas utility as of 2003, is not yet serving customers, DVU continues to work to establish competition in the electrical and natural gas utility business within San Marcos and is working within a variety of strategic alliances to put a long-term plan in place that will provide competitive electric and natural gas rates to constituents within San Marcos. Chapter 15.04 of the City of San Marcos Municipal Code contains the codifying language for the municipally-owned utility, which is intended to ultimately "be responsible for the planning, development, production, purchase and transmission of all electricity and natural gas and other utility-related services, by the City."

3.5.2 References

California Energy Commission. 2015. California Electric Utility Service Areas. http://www.energy.ca.gov/maps/serviceareas/Electric_Service_Areas_Detail.pdf

San Diego Gas & Electric. Accessed March 2020. http://www.sdge.com/

3.6 PUBLIC SAFETY

This section addresses the provision of public safety services in the Planning Area, including fire protection, law enforcement, and other local safety provisions.

3.6.1 Fire Protection

The City of San Marcos has its own full-service fire department to provide fire protection services to the Planning Area. The existing City of San Marcos General Plan identifies the following goals and policies related to fire protection services:

Element	Topic Area	Goal	Policy
Safety Element	Natural Hazards	Goal 2-3: Minimize injury, loss of life, and damage to property resulting from structural or wildland fire hazards.	Policy 3.1: Require development to be located, designed and constructed to provide adequate defensibility and reduce the risk of structural loss and life resulting from wildland fires. Development will consider hazards relative to terrain, topography, accessibility and proximity to vegetation. One such provision for development to minimize the risk of structural loss and life shall be the inclusion of overhead fire sprinklers. Policy 3.2: Provide sufficient level of fire protection service to reduce risk from urban and wildland fire. Advocate and support regional coordination among fire protection and emergency service providers. Policy 3.3: Require development to provide additional access roads when necessary to provide for safe access of emergency equipment and civilian evacuation concurrently.

			Policy 3.4: Coordinate with fire protection and emergency service providers to assess fire hazards before and after wildfire events to adjust fire prevention and suppression needs, as necessary, commensurate with both short and long term fire prevention needs.
Land Use and Community Design Element	Growth Management and Adequate Provision of Urban Services	Goal LU-10: Fire Protection, Emergency Services, and Law Enforcement: Provide effective high-quality and responsive services.	Policy 10.1: Provide demand-based fire-fighting and emergency medical services infrastructure, equipment, and personnel to provide a high level of fire, emergency medical, and law enforcement service in San Macros to meet existing and future demands. Policy 10.2: Work closely with the County of San Diego Sheriff's Department to determine and meet the community needs for adequate personnel, equipment and state-of-the-art technology to effectively combat crime, and meet existing and projected service demands. Policy 10.3: Continue to conduct Public Outreach and education regarding fire safe.

Source: City of San Marcos General Plan, 2012

Fire Protection Services

The San Marcos Fire Department (SMFD) provides full-service fire protection to the City of San Marcos and the San Marcos Fire Protection District, which covers an area of approximately 33 square miles (including the City and its Sphere of Influence) and a population of approximately 97,000 residents. The Fire Department is rated as an ISO Class 1 department and consists of four

fire stations, four paramedic assessment engine companies, one paramedic assessment truck company, five paramedic transport ambulances, one Shift Battalion Chief, and one On-Call Duty Chief. The Department also cross-staffs three wildland fire engines and a State of California/Office of Emergency Services (Cal OES) wildland fire engine.

The SMFD provides a variety of services to the community, including fire suppression, rescue, emergency medical services, including Advanced Life Support (ALS), 911 response and transportation services, fire prevention, vegetation management, public education, emergency preparedness, and trauma support. In addition, SMFD protects and manages several thousand acres of wildland and wildland urban interface lands.

Fire Department facilities are distributed throughout the City of San Marcos and include Fire Station 1 at 180 W. Mission Road, Fire Station 2 at 1250 S. Rancho Santa Fe Road, Fire Station 3 at 404 Woodland Pkwy, and Fire Station 4 at 204 San Elijo Road. Two additional fire stations are proposed – one targeted for a central location, possibly the San Marcos Creek District, and the other for a location to be determined.

In February 2017, a *Standard of Response Cover Plan* was prepared for the San Marcos Fire Department, which reviewed the adequacy of the current fire station deployment system to support the community's goals. The report found that the City is currently meeting its needs through its own fire response resources and using its neighbors in the regional mutual aid system for assistance on catastrophic emergencies. It also found that the deployment system largely meets the City's current demands, but needs small adjustments to best meet the ongoing needs of the population and for San Marcos to be protected against risks.

Table 3-6 shows how the current fire station deployment system provides unit coverage across a variety of population density/risk areas for emergency medical and fire incident types. According to the *Standard of Response Cover Plan*, the best practices recommendation is for the first-due fire unit to arrive within 7:30 minutes of fire dispatch receiving the call, 90 percent of the time.

Table 3-6: Call to Arrival Response Time (Minutes) – 90% Performance

Station	2013	2014	2015
Department-wide	07:28	07:34	07:31
Station 1	07:54	08:14	07:55
Station 2	06:51	06:53	06:58
Station 3	07:12	07:26	07:16
Station 4	07:39	07:11	07:41

Source: Citygate Assoc., LLC. City of San Marcos, Standards of Response Cover Plan, 2017.

The report concluded that slow travel times in San Marcos are the result of a difficult to serve primary road network along with traffic congestion. However, the two additional fire stations will stabilize the response time performance, and prevent it from decaying further.

Fire Department Programs

The SMFD provides more than traditional fire services and emergency medical services; the SMFD also participates and manages a range of all-risk programs related to health and safety.

Safely Surrendered Baby Program

The San Diego County Board of Supervisors has designated all hospital emergency rooms and select fire stations as the appropriate places to surrender infants safely. All fire departments in San Marcos are Safe Surrender sites.

Project Heart Beat

The SMFD participates in San Diego Project Heart Beat (SDPHB) in order to increase the use of Automated External Defibrillators (AED), which are portable, lightweight devices that analyze a patient's EKG. When appropriate, the AED delivers an electrical pulse through the heart to restore a normal heart rhythm.

Clinical studies estimate that the survival rate from sudden cardiac arrest increases 50-70% when an AED is available and used on a victim within 3-5 minutes from the onset of a cardiac arrest. Now an individual, following clear voice directions from the AED, can increase patient survivability through the push of a button from an AED.

Senior Smoke Detector Program

The SMFD, along with the Burn Institute, offers senior citizens free inspections and assistance with their smoke detectors' maintenance. To qualify for a free inspection, participants must be a citizen of San Marcos, be at least 55 years of age, and need assistance in determining if their smoke detector is in good working condition. If a smoke detector needs to be replaced, one will be provided free of charge.

Public Education

Fire and life safety presentations and events presented by SMFD include Annual Fire Department Open House, fire extinguisher training, business fire safety presentations, fire drills, poolside CPR training, and Mobile Home Park and HOA presentations.

Wildfire Mitigation Program

The SMFD conducts Annual Proactive Inspections in High Fire Zones including all parcels within CAL FIRE's high and very high severity zones annually. SMFD also provides the PACE model program to high risk areas of the community on a biennial basis in a town hall style format.

3.6.2 Law Enforcement

The City of San Marcos does not have its own police department. Instead, the City contracts with the San Diego County Sherriff's Department for its law enforcement services. The San Diego County Sheriff's captain assigned to the San Marcos Station serves as the City's chief of police and is responsible for deploying law enforcement resources that are available via the City's contract. Sheriff's deputies are responsible for general patrol, traffic enforcement, criminal investigations, and other law-enforcement related duties.

The existing City of San Marcos General Plan identifies the following goals and policies related to law enforcement and police protection services.

Element	Topic Area	Goal	Policy
Safety Element	Neighborhood Safety	Goal 2-6: Provide Neighborhood Safety through effective Law Enforcement.	Policy 6.1 Continue to maintain demand-based law enforcement service levels to reduce the risk of criminal activity. Policy 6.2 Continue public education efforts and community outreach programs to promote community involvement in crime and drug prevention. Policy 6.3 Use Crime Prevention through Environmental Design (CPTED) principles in the design or redevelopment of projects and buildings.
Land Use and Community Design Element	Growth Management and Adequate Provision of Urban Services	Goal LU-10: Fire Protection, Emergency Services, and Law Enforcement: Provide effective, high-quality and response services.	Policy 10.1: Provide demand-based fire-fighting and emergency medical services infrastructure, equipment, and personnel to provide a high level of fire, emergency medical, and law enforcement service in San Macros to meet existing and future demands. Policy 10.2: Work closely with the County of San Diego Sheriff's Department

			to determine and meet the community needs for adequate personnel, equipment and state-of-the-art technology to effectively combat crime, and meet existing and projected service demands. Policy 10.3: Continue to conduct Public Outreach and education regarding fire safe.

Source: City of San Marcos General Plan, 2012

Police Protection Services

San Marcos is served by a standalone Sheriff's Station located at 182 Santar Place, which is also part of the larger San Marcos Public Safety Center. The Station provides services to the citizens and visitors of San Marcos and the surrounding unincorporated communities of Lake San Marcos, Elfin Forest, Harmony Grove, Hidden Meadows, Ivy Del, Del Dios, Lake Hodges, and the San Pasqual Valley. The Station has a total service area of approximately 100 square miles of territory including the City and the unincorporated areas around San Marcos and Escondido, serving more than 111,000 residents.

Law enforcement services for the Planning Area include patrol, traffic, community-oriented policing, gang and narcotics details, and detectives. The City does not have an adopted target officer-to-population service ratio. Instead, the City works closely with the Sheriff's Department to determine and meet the community needs for adequate personnel and equipment to effectively combat crime, and meet existing and projected service demands. As of March 2020, there are over 100 sheriff's deputies, volunteers, and professional staff members serving the Planning Area. These officers provide 24 hour per day coverage.

The Sheriff's Department also employs Community Oriented Policing and Problem Solving (COPPS) deputies. COPPS deputies are special-purpose deputies assigned to investigate quality of life issues within the community. These special deputies use the COPPS philosophy to promote quality interaction between law enforcement and neighborhood citizens. COPPS deputies also conduct directed patrols focusing on gangs, persons on parole/probation, persons with outstanding warrants, graffiti, human trafficking, prostitution, habitual offenders, transient camps, and alcohol/tobacco-related crimes. COPPS deputies are also active within the community by attending Neighborhood Watch meetings and providing various presentations to youth groups, community groups, schools, and businesses.

Crimes by Category in San Marcos

Statistics on the number of crimes by category of crime in San Marcos during each year from 2010 to 2018, as reported by the Federal Bureau of Investigation (FBI) Criminal Justice Information Services Division, are shown in Table 3-7 below.

Table 3-7: Crimes by Category, 2010-2018

Category	2010	2011	2012	2013	2014	2015	2016	2017	2018
Violent Crimes	237	233	227	214	196	171	197	195	202
Homicide	1	0	2	0	2	3	0	0	0
Rape	16	19	11	19	9	17	13	25	18
Robbery	70	60	57	62	38	34	42	54	61
Aggravated Assault	150	154	157	133	147	117	142	116	123
Violent Crime Rate Per 100,000 Population	283.3	274.9	264.5	244.0	215.9	179.4	207.7	200.4	205.9
Property Crimes	1,642	1,424	1,502	1,400	1,286	1,516	1,145	1,136	1,052
Burglary	350	358	366	299	242	277	211	202	167
Larceny-theft	1054	908	907	931	854	996	783	784	740
Vehicle Theft	238	158	229	170	190	243	151	150	145
Arson	5	7	3	7	10	2	3	4	5
Property Crime Rate Per 100,000 Population	1,962.4	1,679.9	1,750.4	1,596.1	1,416.3	1,590.5	1,207.3	1,167.6	1,072.5
Population	83,671	84,766	85,810	87,712	90,799	95,314	94,840	97,290	98,088

Source: Federal Bureau of Investigation, Criminal Justice Information Services Division, Offenses Known to Law Enforcement Tables (2010 through 2018).

Emergency Preparedness

The City of San Marcos prepared an all-hazards Emergency Operations Plan (EOP) in 2015 that defines the actions and roles necessary to provide a coordinated response within the Planning Area before, during, and following extraordinary emergencies associated with natural, manmade, and technological disasters. The plan has built-in flexibility to allow use in all emergencies and will facilitate response and short-term recovery activities. It was developed in accordance with the Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). The EOP is also designed to integrate into and support the County of San Diego's Operational Area Emergency Plan for a more seamless multi-jurisdictional response to disasters.

The EOP includes detailed sections related to: Hazard Profiles, Training and Exercises, Assignment of Responsibilities, Mutual Aid, Emergency Operations Center (EOC), Emergency Declarations, Public Information, Finance, and Logistics. Furthermore, the City has an Emergency Operations Center for use, if necessary. In the event of a major emergency, the EOC would be used to coordinate resources, assist in mitigating the emergency, and properly allocate emergency resources and relief aid.

In addition, the City is included in the County of San Diego's Hazard Mitigation Plan. This plan was last revised in 2018 and is currently in the process of a 2023 update. The plan serves as both a countywide plan, as well as a plan for local jurisdictions, that identifies risks posed by natural and human-made disasters before a hazard event occurs. Hazards were assessed and mapped on a regional basis. Hazards identified for the Planning Area include earthquakes, dam failure, flood events, rain-induced landslides, and liquefaction.

3.6.3 References

Citygate Associates, LLC, 2017. City of San Marcos, *Standards of Response Cover Plan*.

City of San Marcos, 2012. City of San Marcos General Plan. Safety Element.

City of San Marcos, 2015. City of San Marcos 2015 Emergency Operations Plan.

City of San Marcos Sheriff Services. Accessed April 10, 2020. Available at: https://www.san-marcos.net/departments/public-safety/sheriff

Federal Bureau of Investigation, Criminal Justice Information Services Division, 2010 through 2018. Table 8, Offenses Known to Law Enforcement, by State by City.

San Diego County Sheriff's Department. Accessed April 10, 2020. Available at: https://www.sdsheriff.net/index.html

3.7 PARKS AND RECREATION

The City of San Marcos has 19 major parks and 20 mini parks. In addition, the City has a 70.4-mile trail network that includes hiking, biking, running, and equestrian facilities.

The San Marcos Parks Master Plan was updated in July 2018. The Parks Master Plan evaluated the City's existing park facilities, programs, and services, and provided recommendations for facility improvements. The City also maintains a Trails Master Plan to serve as San Marcos's active transportation and trails guide. The existing City of San Marcos General Plan identifies the following goals and policies related to parks and recreation.

Element	Topic Area	Goal	Policy
Parks, Recreation, and Community Health	Community Health and Family Enrichment	Goal PR-1: Plan for, acquire, develop, and maintain a system of local parks connected through an integrated network of trails and high quality recreational facilities.	Policy 1.1: Develop and maintain a complete system of public parks and recreational amenities that provide opportunities for passive and active recreation at a minimum standard of 5 acres per 1,000 residents. Parks, trails and recreational facilities will enhance community livability, public health, and safety; should be equitably distributed throughout the City; and be responsive to the needs and interests of residents, employees, and visitors. Policy 1.2: Update and maintain a Master Parks Plan and a Trails Master Plan that implements the City's long term vision for a complete system of parks, trails, and recreation facilities. Policy 1.3: Ensure that the development of parks, trails, and recreation facilities and services keeps pace with development and growth within the City. Policy 1.4: Promote increased access to parks

			and open spaces, pedestrian- and bike-oriented routes to parks and open space, greening of public rights of-way, and a variety of active and passive uses of parks and open space. Policy 1.5: Require new development to be designed and constructed in accordance with the approved Master Trails Plan to meet or exceed the City's parkland standard of 5 acres per 1,000 residents. Policy 1.6: Require new infill development to provide plazas, mini parks, or other civic spaces, as part of their parkland requirement. Policy 1.7: Promote park and facility design that discourages vandalism, deters crime, provides natural surveillance and creates a safe and comfortable environment
		Goal PR-2: Become a leader in building healthy communities by supporting recreation and community service programs that promote wellness, fun, lifelong learning, skill development, personal enrichment, and positive relationships	Policy 2.1: Provide programs at City-owned facilities for people of diverse cultures, backgrounds, ages, gender, interests, languages, lifestyles, abilities, and socioeconomic status. Policy Policy 2.2: Implement the trail network per the Trails Master Plan to increase opportunities for physical activity (e.g., walking,

			biking), healthy lifestyles, and to reduce reliance on cars.

Source: City of San Marcos General Plan, 2012.

3.7.1 Types of Parks

The National Recreation and Parks Association (NRPA) has created a set of standards for classification of park and recreation facilities to help serve as a guide to planning. This classification system is to be used as a boilerplate set of standards to be modified to fit the individual municipality's needs. According to the NRPA classification system, parks are usually categorized according to their service area, size, function, and acres/1,000 population.

Below are descriptions and requirements of the four categories of parks as defined by using the NRPA guidelines to inform City-specific standards.

Mini (Urban) Parks: The mini park is designed to offer green space in those urban locations where yards are limited or in areas not served by any other park. They are established when larger acreage is unavailable, particularly in densely populated, developed areas. The cost of development and maintenance of mini parks is very high relative to the number of people served. As part of the community partnership commitment, they bring development and maintenance endowment dollars as well as sweat-equity to the project. Land most frequently used for such a facility has been vacant lots scattered throughout the inner city, although newer suburban subdivisions are setting land aside for mini parks. Such parks are usually designed for the use by a specific age group (i.e. preschool children, teens, or senior citizens) living within the immediate neighborhood. They also address limited or isolated recreation needs. They may be located where dense residential populations limit the availability of open space. Recreation resources include both active and passive use.

City Standards:

- Size: Mini parks are between 2,500 square feet and one acre in size. However, park areas less than 5 acres would technically be considered a mini park. Anything larger would be considered a neighborhood park.
- Service Area: Several city blocks or less than 1/4 mile in a residential setting.

Neighborhood Parks: Neighborhood parks remain the basic unit of the park system and serve as the recreation and social focus of the neighborhood. They should be developed for both active and passive recreation activities geared specifically for those living in the service area. Accommodating a wide variety of age and user groups, including children, adults, senior citizens, and special populations, is important. Creating a sense of place by bringing together the unique character of the site with that of the neighborhood is vital to successful design. The neighborhood park is designed to provide the types of recreation one would expect to be able to walk to rather than be required to drive to gain access. Neighborhood parks offer small areas of open space and a sampling of park resources to service individual neighborhoods.

City Standards:

- Size: Demographic profiles and population density within the park's service area are determinants of a neighborhood park's size. Generally, 5 acres is accepted as the minimum size necessary to provide space for a variety of recreation activities; 7 to 10 acres is considered optimal.
- Service Area: A neighborhood park is limited by geographical or social limits (maximum 15-20 minutes walking distance). The park primarily serves the local neighborhoods located within a radius of 1/4 to 1/2 mile of the park, without physical or social barriers to the boundaries.

Community Parks: Community parks fall between regional and neighborhood parks in size and scope of services. Their focus is on meeting the recreation needs of several neighborhoods or large sections of the community, as well as preserving unique landscapes and open spaces. They allow for group activities and offer other recreation opportunities not feasible, nor perhaps desirable, at the neighborhood level. As with neighborhood parks, they should be developed for both active and passive recreation activities.

City Standards:

- Size: In addition to minimum size of 10 to 100 acres, a park may be classified as a community park solely on the amenities and programs offered to a particular neighborhood.
- Service Area: The service area should be 0.5 to 3.0 miles in radius. A community park should serve two or more neighborhoods.

Regional Parks: Regional parks offer county residents the opportunity to participate in a variety of park experiences capable of entertaining the entire family for extended time periods. They may provide a natural setting or sense of remoteness from the common urban fabric or enrich participants about the area's cultural heritage. Because regional parks are designed for both active and passive recreation, and are centered on unique terrain, extensive natural areas, scenic views, a lake, river, or cultural features, they typically attract a large number of persons from throughout the county. These parks serve a broader purpose than community parks and are used when community and neighborhood parks are not adequate to serve the needs of the community.

City Standards:

- Size: Minimum of 50 acres with 75 or more acres being optimal.
- Service Area: The normal drive time is 1 hour or less. Depending on the amenities offered, regional parks could draw from San Diego County and Orange County at a minimum.

3.7.2 City Parks

As shown below in Table 3-8, the City of San Marcos has 19 major parks (community parks and neighborhood parks as described in the prior section) and 20 mini parks. In addition, the City has 13 recreational centers (Parks Master Plan, 2018). All parks and recreational centers are within the City limits (i.e., none within the Sphere of Influence), although the Lake San Marcos community does offer other recreational opportunities, including St. Mark Golf Club and San Marcos Lake.

Open space within the Planning Area is characterized by large tracts of agricultural land in the northern portion of the Planning Area, and the foothills north and south of State Route 78. Local and regional trail systems offer additional opportunities for outdoor recreation.

A summary of existing City parks with notable amenities and locations is provided below.

Table 3-8: Existing Park Facilities

Park	Address	Facilities	Acreage
Community Parks			
Bradley Park	1587 Linda Vista Drive	Soccer Fields, Ballfields, Bleachers, Picnic Tables, BBQ Grills, Turf Play, Tot Lot, 3 Restrooms, Picnic Shelters, Horseshoe Courts	34
Discovery Lake/ Lakeview Park	650 Foxhall Drive	Splash Pad, Picnic Tables, Picnic Shelters, Tot Lot, 1 restroom, Trail Connections.	23
Double Peak Park	910 Double Peak Drive	Picnic Tables, Picnic Shelter, Benches, Tot Lot, 1 Restroom, Gazebo, Amphitheater Trail Connections.	10
Walnut Grove Park	Olive and Sycamore Avenue off of Twin Oaks Valley Road	2 Community Buildings, Soccer Fields, Picnic Tables, BBQ Grills, Picnic Shelters, Benches, Turf Play, Tot Lot, 2 Restrooms, Trail Connections, Equestrian Facilities.	39
Woodland Park	Woodland Parkway and Rock Springs Road	2 Community Buildings, Public Pool, Tennis Courts, Pickleball Courts, Picnic Tables, Picnic Shelters, BBQ Grills, Benches, Turf Play, Tot Lot, 1 Restroom, and Community Garden (SMUSD owns the tennis courts and community garden)	14.6
Neighborhood Parks			
Buelow Park	300 Autumn Drive	Splash Pad, Picnic Tables, Picnic Shelter, Benches, 1 Restroom, Tot Lot, Trail Connections, Half Basketball Courts, Amphitheatre	2
Cerro de las Posas Park	1387 W. Borden Road	Soccer Fields, Ballfields, Public Pools, Splash Pad, Tennis Courts, ½ Basketball Court, Picnic Tables, Picnic Shelters, Benches, 1 Restroom, Trail Connections	12
Connors Park	302 W. San Marcos Blvd.	Soccer Field, Basketball Courts, Tennis Courts, Pickleball Courts, Volleyball Courts, Picnic Tables, Picnic Shelters, Benches, Tot Lot, 1 Restroom, Half Basketball Court, Skate Park.	4.7
Hollandia Park	12 Mission Hills Court	Soccer Field, Ballfields, Picnic Tables, BBQ, Picnic Shelters, Benches, Turf Play, Tot Lot, 3 Restrooms, Trail	30

		Connections, Horseshoe Courts, Multi-Purpose Field, Skate Park, Gazebo, Amphitheatre, Dog Park	
Jack's Pond Park	986 La Moree Road	1 Community Building, 1 Kiosk, Picnic Tables, Picnic Shelters, Tot Lot, 1 Restroom, Trail Connections, Nature Center, Corral	21.9
Knob Hill Park	860 Avenida Ricardo	Picnic Tables, Picnic Shelters, Benches, Turf Play, Tot Lots,	3
Mission Sports Park	931 Bailey Court	Ballfields, Picnic Tables, Picnic Shelters, Benches, 2 Restrooms, Tot Lot, Dual Batting Cages, Concession Stands	14
Montiel Park	2290 Montiel Road	Picnic Tables, Benches, Turf Play, Disc Golf, 1T Restroom, Half Basketball Court, Dog Park	10
Mulberry Park	751 Mulberry Drive	Splash Pad, Picnic Tables, Benches, Turf Play, Tot Lot, 1 Restroom, Trail Connections	4
Richmar Park	110 Richmar Avenue	Picnic Tables, Benches, Turf Play, Tot Lot, 1 Restroom, Gazebo	0.95
San Elijo Park	1105 Elfin Forest Road	1 Community Building, Soccer Fields, Ballfields, Splash Pad, Picnic Tables, Picnic Shelters, BBQ, Benches, Tot Lot, 3 Restrooms, Trail Connections, Horseshoe Courts, Gazebo, Concession Stand, Dog Park	21.1
Simmons Family Park	2180 Rocky Point Drive	Basketball Court, Picnic Tables, BBQ, Benches, Turf Play, Tot Lot, 1 Restroom, Trail Connections	6
Sunset Park	909 Puesta del Sol	Soccer Fields, Splash Pad, Picnic Tables, BBQ, Picnic Shelter, Benches, Disc Golf, Tot Lot, 2 Restrooms, Half Basketball Court, Gazebo	18
Mini Parks			
Alder Glenn Park	Shelly Drive	Picnic Tables, Tot Lot, Permanent Restrooms, Trail Connections	0.4
Amigo Park	Camino Magnifico and Avenido Arana	Picnic Tables, Benches, Tot Lot	0.74
Children's Discovery Park	Via Vera Cruz	Picnic Tables, Benches, Tot Lot	0.92
Civic Center Park	3 Civic Center Drive	Basketball Courts, Picnic Tables, Benches, Sand Volleyball, Tot Lots, Trail Connections	0.62
Creek View Park	Corte Encanto	Picnic Tables, Benches, Tot Lot	0.96
Discovery Meadows Park (2 Parks)	Sonoma and Foxhall	Benches, Tot Lot	1.39
Foothills Park	Via Barquero	Picnic Tables, Benches, Turf Play Area, Tot Lot, Trail Connections	1.11

Helen Bougher Memorial Park	1243 Borden Road	Benches, Turf Play Area	1.5
Innovation Park	1151 Armorlite Drives	Pickleball Courts, Dog Park, Tot Lot, Benches, Climbing Rocks, Restroom	0.92
The Laurels Park	Hawthorne Court	Picnic Tables, Benches, Tot Lot	0.79
Optimist Park	Richland and Borden	Picnic Tables, Turf Play Area	0.34
Pebblestone Park	Glendale Avenue	Picnic Tables, BBQ, Horseshoe Court, Sand Volleyball, Benches, Tot Lot	0.77
Quail Hills Park	Avenida Leon	Picnic Tables, Benches, Tot Lot, Trail Connections	1.28
Questhaven Park	Questhaven Road and Hollowbrook Court	Picnic Tables, BBQ, Turf Play, Tot Lot, Trail Connections	2.48
Regency Hills Park	Calle Capistrano	Picnic Tables, Turf Play, Tot Lot, Swing Set	0.95
Ridgeline Trailhead	102 San Elijo Road	Picnic Tables, 1 Permanent Restroom, Trail Connections	1.92
Santa Fe Hills Park	Via Barquero	Picnic Tables, Benches, Tot Lots, Trail Connections	1.01
Senior Center Outdoor Fitness Zone	111 Richmar Avenue	Fitness Equipment, Benches, Picnic Tables	0.24
Summer Hill Park	Borden Road and Bel Esprit	Basketball Courts, Picnic Tables, Benches, Tot Lots, Trail Connections	1
Valley View Park	Corte Loren	Picnic Tables, Benches, Tot Lot	0.93
Park Acreage Totals			282.61

Source: City of San Marcos. Parks Master Plan 2017.

Combined, the Planning Area has at least 340.05 acres of existing parkland, trails, and recreational facilities, based on land designated in the City's existing General Plan. Therefore, with a 2018 population of approximately 96,834, the current distribution of park acreage per 1,000 residents is at least 3.51, which is slightly above the Statewide Park Program standard of 3 acres of parkland per 1,000 residents. However, the City's current official parkland standard is 5 acres per 1,000 residents, which means the existing parkland ratio of approximately 3.51 acres per 1,000 residents is below the adopted City goal for park acreage.

In addition to parkland, through its current General Plan land use map, City has set aside approximately 2,499 acres of dedicated open space and preserve areas within the City to protect the area's natural beauty and contribute to a regional system of hiking, biking, and equestrian trails.

3.7.3 Trails

The San Marcos Trails Master Plan, pending approval, envisions a 108-mile, interconnected trail system, with three main types of trails:

- 28 miles of Urban Trails (10-foot-wide paved trail)
- 54 miles of Multi-Use Trails (10-foot-wide paved and 10-foot-wide D.G. soft-surface trails)
- 26 miles of Soft-Surface Trails (6 to 12-foot wide D.G. soft-surface trails)

The City of San Marcos currently owns and manages 70.4 miles of completed trails. Trails that are planned or under construction will connect key recreational destinations throughout the City, such as San Marcos Creek, Owens Peak, Discovery Park, Twin Oaks Valley Road, Sunset Park, and the Rail Trail. Figure 3-4 illustrates the existing and planned trails within the community.

3.7.4 References

City of San Marcos, 2018. Parks Master Plan.

City of San Marcos, 2020. City of San Marcos Parks & Rec website. Accessed March 2020. Available at: https://www.san-marcos.net/departments/parks-recreation/parks-recreation-facilities

3.8 SCHOOLS, LIBRARIES, AND OTHER PUBLIC FACILITIES

The City of San Marcos prides itself on being the educational hub of North San Diego County. It is home to California State University San Marcos, Palomar College, University of St. Augustine, and many public and private primary education schools. The San Marcos Unified School District serves the Planning Area, providing K-12 instruction. The City and Planning Area are also served by the San Marcos Branch Library, which is part of the San Diego County Library system.

The existing General Plan goals and policies related to schools and public facilities are listed below.

Element	Topic Area	Goal	Policy
Land Use and Community Design	Growth Management and Adequate Provision of Services	Goal LU-11 Schools: Ensure all residents have access to high-quality education.	Policy 11.1: Collaborate with the local public school district (SMUSD), private schools, and institutions of higher learning to ensure a range of traditional and distance-learning educational opportunities are provided in superior, accessible facilities that compliment the surrounding land uses. Policy 11.2: Work with San Marcos Unified School District and developers to ensure adequate school facilities are funded as required by State law and through developer mitigation agreements between the school district and the developer. The City shall require a "will serve" letter substantiating that the developer has paid fees to the satisfaction of the school district prior to issuance of building permits.
		Goal LU-12: Libraries: Provide library resources and services that meet the needs of the community.	Policy 12.1: Provide adequate library facilities and techno - logical access that enhance San Marcos's quality of life and create a civic environment with vast opportunities for

			self-learning and academic enrichment. Policy 12.2: Accommodate technology needs of the community and locate accessible technology in the library.

Source: City of San Marcos General Plan, 2012

3.8.1 Public and Parochial Schools

Primary education (grades kindergarten through 12) in the Planning Area is provided primarily by the San Marcos Unified School District (SMUSD). As shown in Table 3-9, SMUSD includes 12 elementary, three middle, two comprehensive high schools, one alternative high school, and one adult education school. For the 2018-2019 school year, 20,980 students were enrolled in grades kindergarten through 12 in the district. SMUSD also serves portions of the Cities of Carlsbad, Vista, Escondido, and the County of San Diego.

In addition to public schools, there are also several private and religious academic schools located within the Planning Area.

Table 3-9: San Marcos Unified School District Schools Serving the Planning Area

Public Elementary Schools			
Carrillo Elementary	K-5	2875 Poinsettia Lane, Carlsbad	902
Discovery Elementary	K-5	730 Applewilde Drive	574
Double Peak	K-8	111 San Elijo Road	1,286
Joli Ann Leichtag Elementary	K-5	653 Poinsettia Avenue, Vista	752
Knob Hill Elementary	K-5	1825 Knob Hill Road	835
La Costa Meadows Elementary	K-5	6889 El Fuerte Street, Carlsbad	867
La Mirada Academy	K-8	3697 La Mirada Drive	931
Paloma Elementary	K-5	660 Camino Magnifico	873
Richland Elementary	K-5	910 Borden Road	787
San Elijo Elementary	K-5	1615 Schoolhouse Way	1,053
San Marcos Elementary	K-5	1 Tiger Way	772
Twin Oaks Elementary	K-5	1 Cassou Road	651
Public Middle/High Schools			
San Elijo Middle School	6-8	1600 Schoolhouse Way	1,838
San Marcos Middle School	6-8	650 West Mission Road	1,132
Woodland Park Middle School	6-8	1270 Rock Springs Drive	1,381
Foothills High School (Alternative)	9-12	158 Cassou Road	118
Mission Hills High School	9-12	1 Mission Hills Court	2,626

San Marcos High School	9-12	1615 San Marcos Boulevard	3,439
Twin Oaks High School (Adult/Continuing Education)	9-12	158 Cassou Road	163

Source: San Marcos unified school district, 2018-2019 School Accountability report cards.

3.8.2 Higher Education

San Marcos is home to three institutions of higher learning – California State University San Marcos, Palomar College, and the University of St. Augustine – each of which is discussed below.

California State University San Marcos

California State University San Marcos (CSUSM) is part of the California State University system, which operates 23 campuses across California. CSUSM is located at 333 S. Twin Oaks Valley Road on a 304-acre hillside campus overlooking the City. Of the 14,519 students that were enrolled at CSUSM for the Fall 2019 semester (including graduate, part-time, and online learners), 13,879 of them were undergraduate students.

In 1982, CSUSM began as a satellite campus in San Marcos for San Diego State University. Construction of the CSUSM campus began in 1990 and the university experienced a building boom and expansion during the 2000s, gaining an important alternative for transportation to and from campus when the SPRINTER light-rail line began service, complete with a train station on campus. Development of the campus continued throughout the 2010s, capped by the new Extended Learning building, part of a public-private partnership, that included a 135,000-square foot, six-story building, an accompanying 709-space parking garage, and a pedestrian bridge over Barham Drive. The location of CSUSM's campus makes the university and its students an integral part of the success and vitality of the Heart of the City and University District Specific Plan areas.

CSUSM's campus is being developed and updated in accordance with the California State University San Marcos Master Plan. The CSUSM campus originated with 4 main buildings (Craven Hall, Academic Hall, Science Hall I, and Commons) and has now grown to 11 buildings with more underway. Capital Improvement Projects begin with the vision of a new building or project in support of the Campus Academic Master Plan. A campus planning committee works toward meeting the needs of the campus and the utilization requirements of the California State University system. The CSUSM Master Plan is designed to accommodate 25,000 full-time equivalent students on campus with a full build-out anticipated in 2030.

Palomar College

Palomar College is a public, two-year community college enrolling approximately 30,000 full- and part-time students. Palomar College was established in 1946 and has a ubiquitous "P" appearing at the top of a hill behind the college's main San Marcos Campus. The San Marcos Campus is located at 1140 West Mission Road on 200 acres of land and is composed of over 50 major buildings.

Palomar College has five academic divisions: (1) Arts, Media, and Business Administration; (2) Career, Technical, and Extended Education; (3) Languages and Literature; (4) Mathematics and the Natural and Health Sciences; and (5) Social and Behavioral Sciences. The college offers more than 200 credit degree and certificate programs within those five divisions and noncredit courses.

In 2006, voters approved an educational facilities improvement measure (Proposition M), which provided $694 million for an ambitious construction and remodeling campaign for Palomar College. Through Prop. M, the Palomar Community College District has erected new buildings and overhauled facilities across the San Marcos Campus. The expansion of facilities is being guided by the Palomar Community College District Master Plan 2022.

University of St. Augustine

The University of St. Augustine for Health Sciences (USAHS) is a for-profit graduate institution that emphasizes health science education. The USAHS San Marcos Campus, which opened in 2009, provides professional development of health care providers and offers degree programs in physical therapy and occupational therapy. The campus is located at 700 Windy Point Drive and is comprised of three buildings and over 56,000 square feet of office/institutional space.

3.8.3 San Marcos Libraries

The Planning Area is served by the San Diego County Library (SDCL), San Marcos Branch, located at 2 Civic Center Drive. The San Marcos Branch is 15,394 square feet, seats approximately 40 people, contains public access computers, and has a collection of approximately 8,118 materials. Additional library resources are available to the community through CSUSM and Palomar College colleges.

3.8.4 San Marcos Community Center

The San Marcos Community Center is located two blocks north of State Route 78, off Twin Oaks Valley Road. This community center is used for a variety of events including community meetings, business conferences, weddings, theatre productions, concerts, and enrichment classes. The Main Hall and Dining Room within the center are available for rent to the public.

3.8.5 References

California State Legislature, Leroy F. Greene School Facilities Act of 1998 (SB 50).

California State Legislature, The Kindergarten-University Public Education Facilities Bond Act of 2002 (Prop 47).

California State University San Marcos, 2020. Accessed April 10, 2020. Available at: https://www.csusm.edu/

City of San Marcos, 2012. City of San Marcos General Plan. Parks, Recreation, and Community Health Element.

GreatSchools, 2020. Top-rated schools in San Marcos. Accessed April 10, 2020. Available at: https://www.greatschools.org/california/san-marcos/

Palomar College, 2003. Palomar Community College District Master Plan 2022. Available at: http://www2.palomar.edu/pages/strategicplanning/files/2016/04/2003-Facilities-MP-2022.pdf

San Marcos Unified School District, 2020. Accountability Report Cards. Accessed March 10, 2020. Available at: https://www.smusd.org/cms/One.aspx?portalId=157433&pageId=307897

University of St. Augustine, 2020. Accessed April 10, 2020. Available at: https://www.usa.edu/about/our-campuses/san-marcos-ca/

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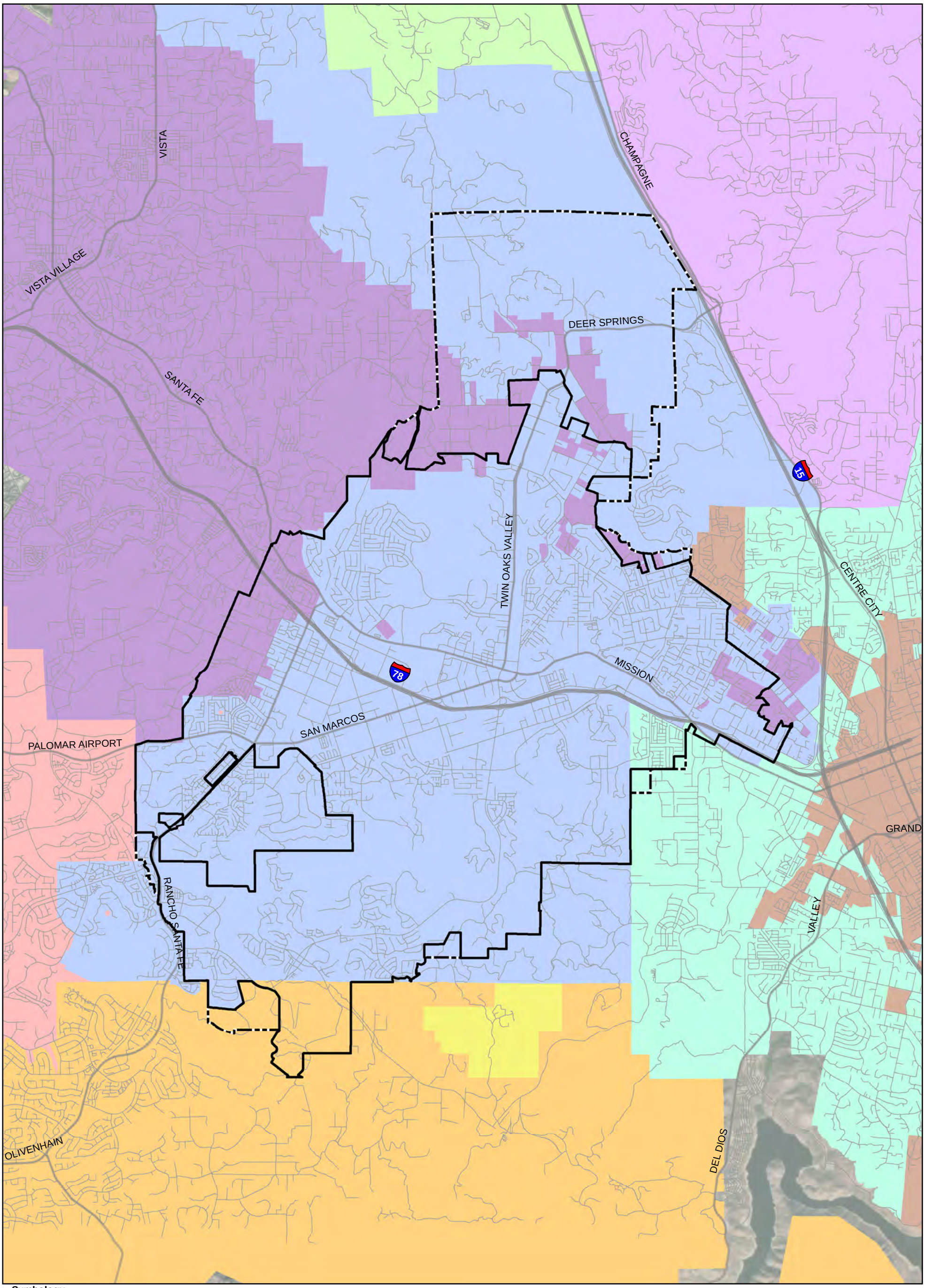

Symbology

Water Agency

- Carlsbad Municipal Water District
- City of Escondido
- Olivehain Municipal Water District
- Questhaven Municipal Water District
- Rainbow Municipal Water District
- Rincon del Diablo Municipal Water District
- Vallecitos Water District
- Valley Center Municipal Water District
- Vista Irrigation District

- San Marcos Boundary
- San Marcos Sphere of Influence
- Freeways
- Highways
- Roads

N

0 3,000 6,000

Scale in Feet

SAN MARCOS GENERAL PLAN UPDATE

WEST YOST ASSOCIATES

Figure 3-1

Water Agency Boundaries

City of San Marcos General Plan Update

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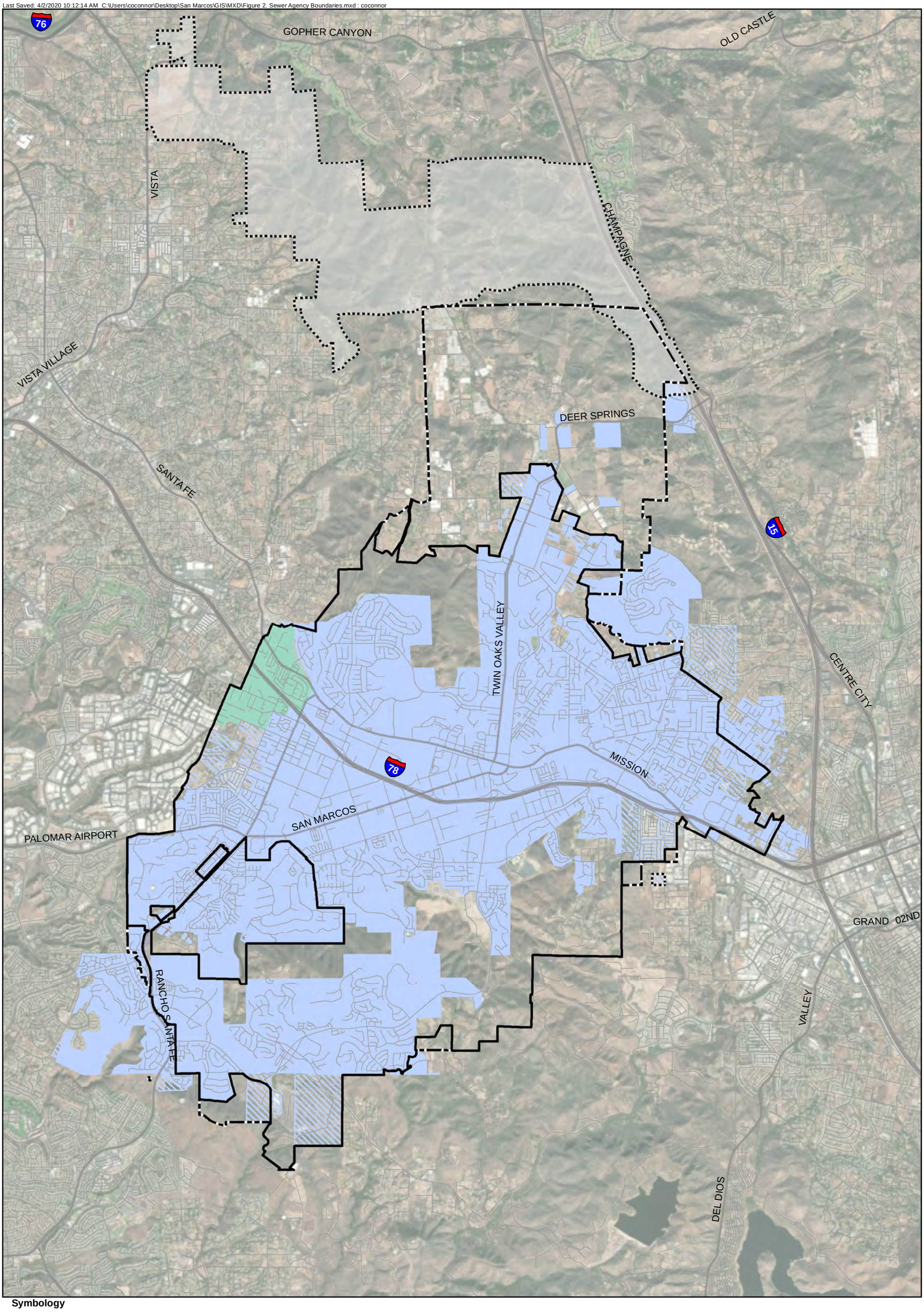
Last Saved: 4/2/2020 10:12:14 AM C:\Users\coconnor\Desktop\San Marcos\GIS\MXD\Figure 2. Sewer Agency Boundaries.mxd : coconnor



Symbology

Sewer Agency

- Vallecitos Water District
- Vallecitos Water District - Improvement District A
- City of Vista
- San Marcos Boundary
- San Marcos Sphere of Influence
- Northern Tributary Area

- Freeways
- Highways
- Roads

N

0 3,000 6,000

Scale in Feet

SAN MARCOS GENERAL PLAN UPDATE

WEST YOST ASSOCIATES

Figure 3-2

Sewer Agency Boundaries

City of San Marcos General Plan Update

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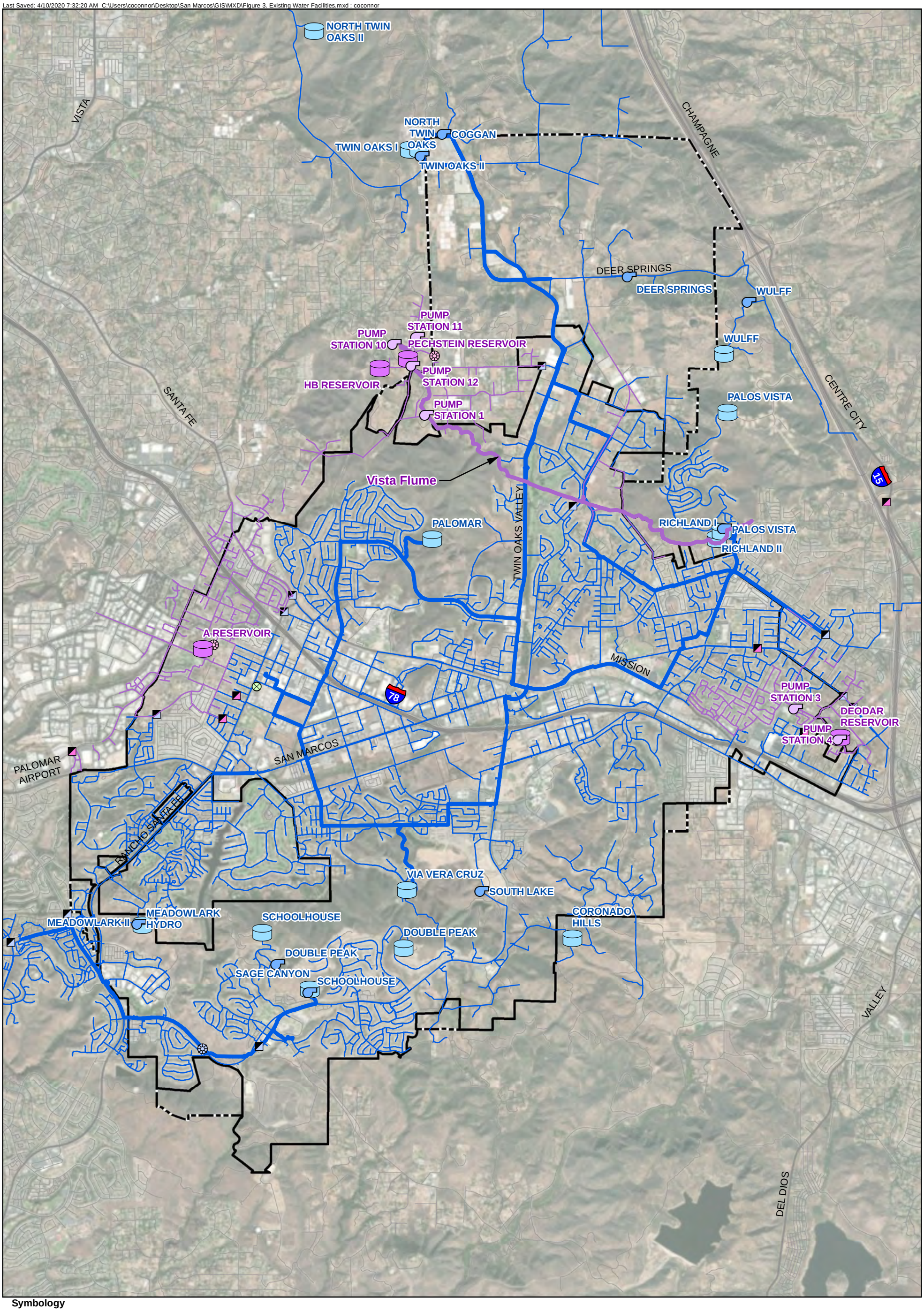
Last Saved: 4/10/2020 7:32:20 AM C:\Users\coconnor\Desktop\San Marcos\GIS\MXD\Figure 3. Existing Water Facilities.mxd : coconnor



Symbology

VWD Water Main
- 4-18 inches
- 20+ inches

Diameter
- 4-18 inches
- 20+ inches

- VWD SDCWA Connection
- VWD Interagency Connection
- VWD Desalination Connection
- VID SDCWA Connection
- VID Interagency Connection
- VWD Reservoir
- VWD Pump Station
- VID Reservoir
- VID Pump Station
- San Marcos Boundary
- San Marcos Sphere of Influence
- Freeways
- Highways
- Roads

N

0 2,500 5,000

Scale in Feet

SAN MARCOS GENERAL PLAN UPDATE

WEST YOST ASSOCIATES

Figure 3-1
Existing Water Facilities

City of San Marcos
General Plan Update

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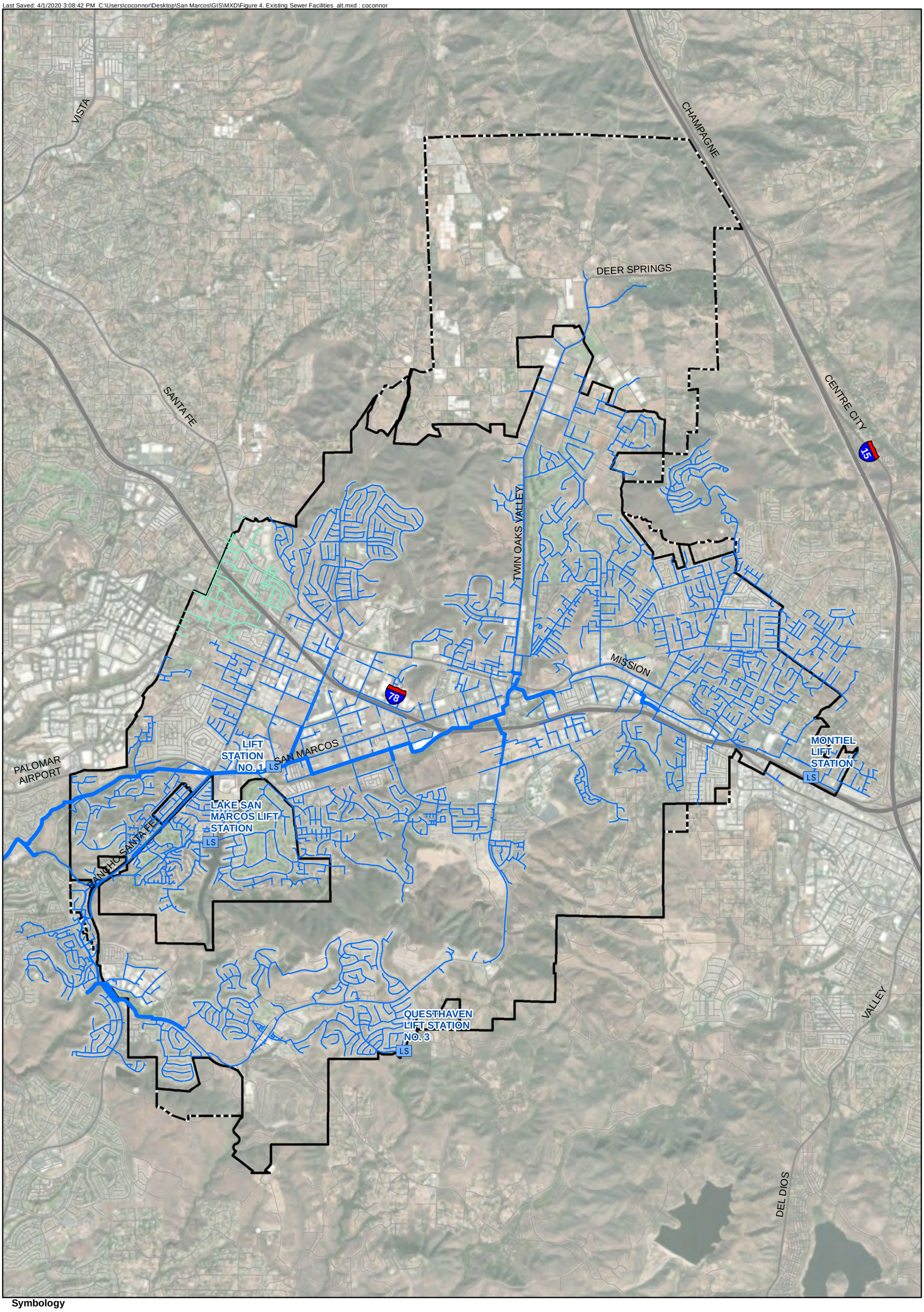

Symbology

VWD Sewer Mains
- 4-18 inches
- 20+ inches

City of Vista Sewer Mains
- 4-18 inches
- 20+ inches

- LS VWD Lift Station
- San Marcos Boundary
- San Marcos Sphere of Influence
- Freeways
- Highways
- Roads

N

0 2,500 5,000

Scale in Feet

SAN MARCOS GENERAL PLAN UPDATE

WEST YOST ASSOCIATES

Figure 3-4
Existing Sewer Facilities

City of San Marcos
General Plan Update

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Figure 3-5: Park Facilities

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Figure 3-6: Trail Network

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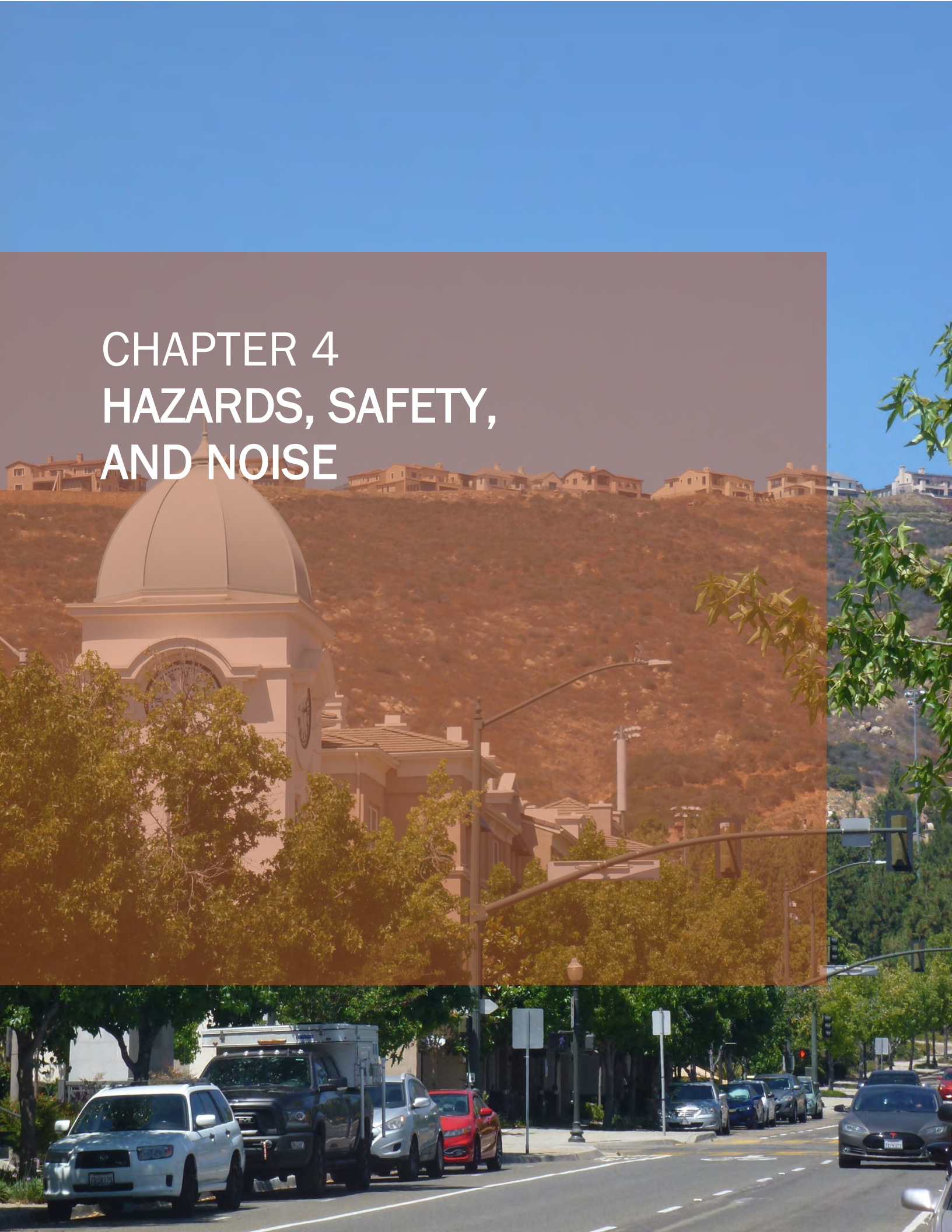
CHAPTER 4
HAZARDS, SAFETY, AND NOISE



4 HAZARDS, SAFETY, AND NOISE

Issues and topics related to hazards, safety, and noise within the Planning Area are addressed in this chapter. Some of the hazards addressed may be naturally induced, such as wildfire hazards. Other health and safety hazards may be the result of natural hazards which are exacerbated by human activity, such as development in areas prone to flooding. Additional hazards are entirely human-made, including airport crash hazards and exposure to hazardous materials.

This chapter includes descriptions of the characteristics of sound and noise and a description of transportation, stationary, and construction noise sources within the Planning Area. A description of the noise monitoring survey results, tabularized noise exposure contours, and an existing conditions noise contour map that reflects traffic and stationary noise sources are included. This section also summarizes current information on ground vibration thresholds and summarizes the existing vibration environment.

Note that seismic hazards are discussed in Section 5.0 (Conservation and Natural Resources) under Geology, Soils, and Seismicity. This chapter includes the following sections:

- 4.1 Hazardous Materials and Waste
- 4.2 Air Traffic
- 4.3 Fire Hazards
- 4.4 Flooding
- 4.5 Climate Change and Resiliency Planning
- 4.6 Wildlife Hazards
- 4.7 Noise

4.1 HAZARDOUS MATERIALS AND WASTE

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, or disposed of. Hazardous materials are mainly present because of industries involving chemical byproducts from manufacturing, petrochemicals, and hazardous building materials.

Hazardous waste is the subset of hazardous materials that have been abandoned, discarded, or recycled and is not properly contained, including contaminated soil or groundwater with concentrations of chemicals, infectious agents, or toxic elements sufficiently high to increase human mortality or to destroy the ecological environment. If a hazardous material is spilled and cannot be effectively picked up and used as a product, it is considered to be hazardous waste. If a hazardous material site is unused, and it is obvious there is no realistic intent to use the material, it is also considered to be a hazardous waste. Examples of hazardous materials include flammable and combustible materials, corrosives, explosives, oxidizers, poisons, materials that react violently with water, radioactive materials, and chemicals. The existing City of San Marcos General Plan identifies the following goals and policies related to hazardous materials and waste.

Element	Topic Area	Goal	Policy
Safety Element	Hazardous Materials	Goal S-4: Protect life, structures, and the environment from the harmful effects of hazardous materials and waste.	Policy S-4.1: Promote and support the proper disposal, handling, transport, delivery, treatment, recovery, recycling, and storage of hazardous materials in accordance with applicable federal, State, and local regulations. Policy S-4.2: Require areas of known or suspected contamination to be assessed prior to reuse or redevelopment. Plan for reuse of contaminated areas in a manner that is compatible with the nature of the contamination and subsequent remediation efforts. Policy S-4.3: Require that land uses using hazardous materials be located and designed to ensure sensitive uses, such as schools, hospitals, day care centers, and residential neighborhoods, are protected. Policy S-4.4: Avoid locating sensitive uses near established hazardous materials users or industrial areas where incompatibilities would result, except in cases where appropriate safeguards have been developed and implemented.

Source: City of San Marcos General Plan, 2012

4.1.1 Environmental Setting

EnviroStor Data Management System

The California Department of Toxic Substances Control (DTSC) maintains the EnviroStor data management system, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information includes: Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation/Investigation Sites. The hazardous waste facilities include: Permitted-Operating, Post-Closure Permitted, and Historical Non-Operating.

There are four active site locations with an address in the Planning Area that are listed in the EnviroStor database:

- San Marcos Landfill located at 1595 Questhaven Road – Facility was referred to RWQCB for further corrective action at the facility as of 3/5/1997. Landfill operations ceased on 3/11/1997; the former 200-acre landfill has been revegetated with native coastal sage scrub and chaparral habitat and is designated as open space.
- 670 San Marcos Boulevard – Site was formerly occupied by an ARCO gas station. All tanks were removed with no contamination from the tanks. Facility was referred to City of San Marcos for evaluation as of 8/24/2000. The site has since been redeveloped as part of a larger retail-commercial development.
- Signet Armorlite Inc. (SAI) located at 1001 Armorlite Drive – The primary operations generated waste streams from the manufacturing of plastic eyeglass lenses, and included the storage of nonchlorinated waste solvents, sodium hydroxide and water, and chlorinated waste solvents. As a treatment facility, SAI utilized two recovery units: one carbon adsorption unit and one distillation unit. The units were used to recover methylene chloride. The facility was formally clean and closed by the U.S. EPA in a letter dated 6/30/1992. Records indicate that in December 1997, the facility was referred to the Regional Water Quality Control Board (RWQCB) – San Diego Region, for further corrective action at the facility.
- BAE Systems Aerospace Inc. located at 1370 San Marcos Boulevard – Facility was referred to RWQCB for further corrective action at the facility as of 1/1/2008.

Cortese List

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. The DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. There are no hazardous materials release sites located in the Planning Area listed on the Cortese List.

GeoTracker

GeoTracker is the California State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Leaking Underground Storage Tank Sites, Department of Defense Sites, Cleanup Program Sites).

Leaking Underground Storage Tanks (LUST)

There are 68 locations within the Planning Area that are listed in the GeoTracker database for Leaking Underground Storage Tanks (LUST). Table 4-1 lists the site name for LUSTs in the Planning Area and the status of each site. As shown in the table, the vast majority of LUST sites in the Planning Area have a status of Completed – Case Closed. However, three locations have open cases – two under Site Assessment and one undergoing Remediation.

Table 4-1: Geotracker Database LUST Sites

Site Name	Status
7-ELEVEN FOOD STORE #18977	Completed - Case Closed
A G WRIGHT EQUIPMENT RENTAL	Completed - Case Closed
ABANDONED GASOLINE STATION (670 W SAN MARCOS BL)	Completed - Case Closed
ABES TOWING	Completed - Case Closed
AIR PRODUCTS & CHEMICALS INC	Completed - Case Closed
AMERICAN FENCE CO	Completed - Case Closed
ARCUS DATA SECURITY, INC	Completed - Case Closed
ARMORLITE INC	Completed - Case Closed
BORGIA ENTERPRISES	Completed - Case Closed
CDF-FORMER SAN MARCOS FOREST FIRE STATION	Completed - Case Closed
CHEVRON	Completed - Case Closed
CIRCLE K STORES DC 36 #2969	Completed - Case Closed
CITY OF SAN MARCOS REDEVELOPMENT - FORMER CHEVRON SITE	Completed - Case Closed
CLARENCE OCHS OIL	Completed - Case Closed
CONOCO PHILLIPS	Completed - Case Closed
CRM AUTOMOTIVE REPAIR	Open - Site Assessment
EDCO WASTE & RECYCLING SERVICE	Completed - Case Closed
FIRST NATIONAL BANK/N COUNTY	Completed - Case Closed
FIVE STAR TEXACO SERVICE CNTR	Completed - Case Closed
FOLLIS MILLWORK	Completed - Case Closed
FOREIGN CAR SPECIALISTS	Completed - Case Closed
FRITO LAY INC	Completed - Case Closed
GLENN YOUNG ARCO #6200	Completed - Case Closed
GOURMET LIQUOR 100944	Completed - Case Closed
GRAND CHANNEL BRIDGE PROJECT - CITY OF SAN MARCOS	Completed - Case Closed
HOLLANDIA DAIRY	Completed - Case Closed
JUAN S CHAVIRA CHEVRON SERVICE	Completed - Case Closed
JUDD WIRE	Completed - Case Closed
LAKE SAN MARCOS COUNTRY CLUB	Completed - Case Closed
LLOYD PEST CONTROL	Completed - Case Closed
LUSARDI CONSTRUCTION CO	Completed - Case Closed
MAR-CON PRODUCTS INC	Completed - Case Closed

MARDEN SUSCO	Completed - Case Closed
MORALLY WHOLESALE INC	Completed - Case Closed
NAPP SYSTEMS	Completed - Case Closed
NATIONSRENT, INC.	Completed - Case Closed
PAC WEST CONSTRUCTION	Completed - Case Closed
PACIFIC HANDRAIL & FENCE CO	Completed - Case Closed
PACIFIC PRIDE	Completed - Case Closed
PACIFIC PRIDE, SKS, SAN MARCOS	Completed - Case Closed
PALM SPRINGS OIL CO (CHEVRON)	Completed - Case Closed
PALOMAR COMMUNITY COLLEGE	Completed - Case Closed
PIONEER MILLS	Completed - Case Closed
RANCHO SANTA FE EXXON	Open - Remediation
ROLLINS LEASING CORP #107-B	Completed - Case Closed
ROOFING WHOLESALE, INC	Completed - Case Closed
SAM COUTTS PLASTERING INC	Completed - Case Closed
SAN DIEGO AUTO CENTER	Completed - Case Closed
SAN DIEGO UNION TRIBUNE	Completed - Case Closed
SAN MARCOS CARWASH	Open - Site Assessment
SAN MARCOS GAS	Completed - Case Closed
SAN MARCOS HDQTRS/DIVISION II	Completed - Case Closed
SAN MARCOS NCRRF	Completed - Case Closed
SAN MARCOS TEXACO	Completed - Case Closed
SCHMID INSULATION CONTRACTORS	Completed - Case Closed
SHELL	Completed - Case Closed
SIX TO SIX EQUIP RENTALS	Completed - Case Closed
SKS, SAN MARCOS	Completed - Case Closed
STAR BUILDER SUPPLY	Completed - Case Closed
TIMOTHY CHATTON	Completed - Case Closed
TLC CARWASH	Completed - Case Closed
TOSCO MKG CO #5965	Completed - Case Closed
TRI-M-CO	Completed - Case Closed
UNOCAL	Completed - Case Closed
US POST OFFICE	Completed - Case Closed
VALLECITOS WATER DISTRICT	Completed - Case Closed
WALTER TRUCKING, INC, R.D.	Completed - Case Closed
WINLAND I LIMITED/TOPMARK INC.	Completed - Case Closed

Source: California State Water Resources Control Board GeoTracker, March 2020.

Solid Waste Information System

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by California's Department of Resources Recycling and Recovery (CalRecycle). The SWIS database identifies

active, planned, and closed sites, including landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites. There are 5 facilities listed in the SWIS database located within the Planning Area. Two of these facilities are landfills located within the City, and they are both closed. EDCO operates a waste and recycling facility at 224 South Los Posas Road, handling mixed municipal waste. The final facility is Benchmark Landscape, located at 145 North Pacific Street, which only hauls green materials although their local office.

Table 4-2: Solid Waste Information System Sites

SWIS Number	Site Name	Type	Status
37-AA-0008	San Marcos Landfill	Solid Waste Landfill	Closed
37-AO-0009	Old San Marcos Landfill	Solid Waste Disposal Site	Closed
37-AA-0953	EDCO CDI Recycling	Medium Vol CDI Debris Proc. Fac.	Active
37-AA-0969	EDCO Waste and Recycling - LVT Op.	Limited Volume Transfer Operation	Active
37-AA-0986	Benchmark Landscape	Limited Volume Transfer Operation	Active

Source: CalRecycle, March 2020.

4.1.2 References

Data and information found in this section primarily came from the following sources:

California Department of Resources Recycling and Recovery (CalRecycle). 2020. https://www2.calrecycle.ca.gov/SWFacilities/Directory/

California Department of Toxic Substances Control. 2020. EnviroStor Database. http://www.envirostor.dtsc.ca.gov/public/

California State Water Resources Control Board. 2020. https://geotracker.waterboards.ca.gov/

City of San Marcos. 2012. City of San Marcos General Plan.

4.2 AIR TRAFFIC

The State Division of Aeronautics has compiled extensive data regarding aircraft accidents around airports in California. This data is much more detailed and specific than data currently available from the FAA and the National Transportation Safety Board (NTSB). According to the California Airport Land Use Planning Handbook (2011), prepared by the State Division of Aeronautics, 18.2% of general aviation accidents occur during takeoff and initial climb and 44.2% of general aviation accidents occur during approach and landing. The State Division of Aeronautics has plotted accidents during these phases at airports across the country and has determined certain theoretical areas of high accident probability. The existing City of San Marcos General Plan identifies one policy related to airport facilities.

Element	Topic Area	Goal	Policy
Safety Element	Emergency Preparedness / Neighborhood Safety	Goal S-7: Comply with the McClellan-Palomar Airport Land Use Compatibility Plan.	Policy S-7.1: Record an overflight notification document in association with the approval of any new residential land use within the AIA overflight notification area consistent with the ALUCP. See Figure 6-5 McClellan-Palomar Airport Influence Area.

Source: City of San Marcos General Plan, 2012

4.2.1 Environmental Setting

City of San Marcos General Plan

The existing City of San Marcos General Plan identifies only one policy related to airport facilities as noted above.

McClellan-Palomar Airport

McClellan-Palomar Airport is located in the City of Carlsbad, approximately 2.5 miles west of the City of San Marcos. It is a general aviation airport owned and operated by the County of San Diego. The McClellan-Palomar Airport Master Plan was adopted by the County of San Diego in October 2018 and sets forth land use compatibility policies that are intended to ensure that future land uses in the surrounding area will be compatible with potential long-range aircraft activities at the airport, and that the public's exposure to safety hazards and noise impacts are minimized.

In December 2011, the San Diego County Airport Land Use Commission (ALUC) adopted the amended McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP) for McClellan-Palomar Airport. The basic function of airport land use compatibility plans is to promote compatibility between airports and the land uses that surround them. The ALUCP policy document establishes policies applicable to land use compatibility planning in the vicinity of McClellan-Palomar Airport.

As described in the ALUCP and shown in Figure 4-1, a majority of the Planning Area is considered to be in the Airport Influence Area (AIA), which is defined as "the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses" (California Business and Professional Code 11010[b][13][b]). The McClellan-Palomar AIA is divided into Review Area 1 and Review Area 2, with only Review Area 2 encompassing

portions of the Planning Area (approximately two-thirds of the Planning Area). Review Area 2 consists of locations beyond Review Area 1, but within the airspace protection and/or overflight notification areas. Limits on the heights of structures, particularity in areas of high terrain, are the only restrictions on land uses within Review Area 2. Proponents of a project containing structures or other objects within Review Area 2 that may exceed the height standards defined by Part 77 of the FAA's Federal Aviation Regulations and depicted on Exhibit III-3 of the ALUCP must submit notification of the proposal to the FAA where required by the provisions of Part 77. For San Marcos, the height threshold increases from west to east ranging from a low of 625 feet above mean sea level (nearest to airport) to 1,526 feet above mean sea level (farthest from airport). The FAA will conduct an "aeronautical study" of the object(s) and determine whether the object(s) would be of a height that would constitute a hazard to air navigation. These requirements apply to all objects including structures, antennas, trees, mobile objects, and temporary objects, such as construction cranes. The recordation of overflight notification documents is also required in locations within Review Area 2 as part of a real estate disclosure intended to inform potential buyers of annoyances or inconveniences associated with proximity to airport operations.

Pat Coyle Memorial Heliport: Pat Coyle Memorial Heliport is a private-use heliport owned and operated by the San Diego County Sheriff's Department. It is located at the City of San Marcos Sheriff's Station at 182 Santar Place.

Major Regional Airport Facilities

San Diego International Airport (SAN): SAN is owned and operated by the San Diego County Regional Airport Authority and is approximately 29 miles away from the City of San Marcos. The airport is located northwest of Downtown San Diego and is the busiest airport serving the San Diego region. It is also the busiest single runway airport in the United States; in 2019, SAN handled over 25 million passengers.

Other Nearby Airport Facilities

Marine Corps Air Station Miramar: Marine Corps Air Station Miramar is a United States Marine Corps installation that is home to the 3rd Marine Aircraft Wing, which is the aviation element of the 1st Marine Expeditionary Force. It is located in Miramar, San Diego, about 14 miles north of Downtown San Diego and approximately 17 miles away from the City of San Marcos.

Camp Pendleton Air Terminal: Camp Pendleton Air Terminal is a United States Marine Corps airfield located within Marine Corps Base Camp Pendleton. It is currently home to Marine Aircraft Group 39. The airfield is also known as Munn Field and is approximately 15 miles away from the City of San Marcos.

Ramona Airport: Ramona Airport is a public airport two miles west of Ramona, in San Diego County. The airport is mostly used for general aviation; however, the California Department of Forestry (CDF) and the United States Forest Service (USFS) jointly operate a fire attack base there. It is approximately 16 miles away from the City of San Marcos.

Oceanside Municipal Airport: Oceanside Municipal Airport (Bob Maxwell Field) is a public airport located in the City of Oceanside. The airport covers 43 acres and has one runway. It is mostly used for general aviation and is operated and managed by Airport Property Ventures. Oceanside Municipal Airport is approximately 11 miles away from the City of San Marcos.

National Transportation Safety Board Aviation Accident Database

The National Transportation Safety Board Aviation Accident Database identifies a total of three historical aircraft accidents in San Marcos. The earliest record for an aircraft accident in San Marcos is from June 7, 1989 (fatal-2). The most recent incident is from February 6, 1995 (fatal-4). Out of the three recorded aircraft accidents in San Marcos, two were fatal accidents causing a total of six deaths (NTSB, 2020). These incidents were small-scale (primarily prop planes and other small planes) that involved three different scenarios, including pilot error (crash), fuel starvation (emergency landing), and weather (crash).

4.2.2 Approach/Landing Accidents

As nearly half of all general aviation accidents occur in the approach and landing phases of flight, considerable work has been done to determine the approximate probability of such accidents. Nearly 77 percent of approach/landing accidents occur during touchdown onto the runway or during the roll-out. These accidents typically consist of hard or long landings, ground loops (where the aircraft spins out on the ground), departures from the runway surface, etc. These types of accidents are rarely fatal and often do not involve other aircraft or structures. Commonly these accidents occur due to loss of control on the part of the pilot and, to some extent, weather conditions (California Division of Aeronautics 2001).

The remaining 23 percent of accidents during the approach and landing phase of flight occur as the aircraft is maneuvered towards the runway for landing, in a portion of the airspace around the airport commonly called the traffic pattern. Common causes of approach accidents include the pilot's misjudging of the rate of descent, poor visibility, unexpected downdrafts, or tall objects beneath the final approach course. Improper use of rudder on an aircraft during the last turn toward the runway can sometimes result in a stall (a cross-control stall) and resultant spin, causing the aircraft to strike the ground directly below the aircraft. The types of events that lead to approach accidents tend to place the accident site fairly close to the extended runway centerline. The probability of accidents increases as the flight path nears the approach end of the runway (California Division of Aeronautics 2001).

According to aircraft accident plotting provided by the State Division of Aeronautics, most accidents that occur during the approach and landing phase of flight occur on the airport surface itself. The remainder of accidents that occur during this phase of flight are generally clustered along the extended centerline of the runway, where the aircraft is flying closest to the ground and with the lowest airspeed (California Division of Aeronautics 2001).

4.2.3 Takeoff/Departure Accidents

According to data collected by the State Division of Aeronautics, nearly 65 percent of all accidents during the takeoff and departure phase of flight occur during the initial climb phase, immediately after takeoff. This data is correlated by two physical constraints of general aviation aircraft:

- The takeoff and initial climb phase are times when the aircraft engine(s) is under maximum stress and is thus more susceptible to mechanical problems than at other phases of flight; and
- Average general aviation runways are not typically long enough to allow an aircraft that experiences a loss of power shortly after takeoff to land again and stop before the end of the runway.

While the majority of approach and landing accidents occur on or near to the centerline of the runway, accidents that occur during initial climb are more dispersed in their location as pilots are not attempting to get to any one specific point (such as a runway). Additionally, aircraft vary widely in payload, engine power, glide ratio, and several other factors that affect glide distance, handling characteristics after engine loss, and general response to engine failure. This further disperses the accident pattern. However, while the pattern is more dispersed than that seen for approach and landing accidents, the departure pattern is still generally localized in the direction of departure and within proximity of the centerline. This is partially due to the fact that pilots are trained to fly straight ahead and avoid turns when experiencing a loss of power or engine failure. Turning flight causes the aircraft to sink faster and flying straight allows for more time to attempt to fix the problem (California Division of Aeronautics 2001).

4.2.4 References

Data and information found in this section primarily came from the following sources:

California Department of Transportation, Division of Aeronautics. California Airport Land Use Planning Handbook. 2011.

City of San Marcos. 2012. City of San Marcos General Plan.

McClellan-Palomar Airport Land Use Compatibility Plan. 2010. San Diego County Regional Airport Authority.

McClellan-Palomar Airport Master Plan Update. October 2018. County of San Diego.

National Transportation Safety Board, 2020. Aviation Accident Database & Synopses. https://www.ntsb.gov/_layouts/ntsb.aviation/Results.aspx?queryId=c28e0f03-3d39-4ffb-85f6-3f3fb10182f9

4.3 FIRE HAZARDS

In May 2014, a swarm of 20 wildfires erupted in San Diego County during severe Santa Ana wind conditions, historic drought conditions, and a heat wave. The Cocos Fire was one such wildfire that ignited on May 14, 2014 in San Marcos, in the hills south of California State University, San Marcos. The Cocos Fire quickly spread into western Escondido and destroyed more than 40 buildings, including a dozen single-family homes. All schools in the San Marcos Unified School District were closed on as a result of the Cocos Fire. Likewise, CSUSM was evacuated on May 14, along with the surrounding neighborhoods, and remained closed for the week, cancelling commencement exercises. Palomar College also closed during this period.

This section addresses the hazards associated with wildfires in the Planning Area. The discussion of fire suppression resources, including fire station locations, is located in Section 3.0 (Utilities and Community Services) of this report. The existing City of San Marcos General Plan identifies the following goals and policies related to fires.

Element	Topic Area	Goal	Policy
Safety Element	Fire Hazards	Goal S-3: Minimize injury, loss of life, and damage to property resulting from structural or wildland fire hazards.	Policy S-3.1: Require development to be located, designed and constructed to provide adequate defensibility and reduce the risk of structural loss and life resulting from wildland fires. Development will consider hazards relative to terrain, topography, accessibility and proximity to vegetation. One such provision for development to minimize the risk of structural loss and life shall be the inclusion of overhead fire sprinklers. Policy S-3.2: Provide sufficient level of fire protection service to reduce risk from urban and wildland fire. Advocate and support regional coordination among fire protection and emergency service providers. Policy S-3.3: Require development to provide additional access roads when necessary to provide for safe access of emergency equipment and civilian evacuation concurrently. Policy S-3.4: Coordinate with fire protection and emergency service providers to assess fire hazards

			before and after wildfire events to adjust fire prevention and suppression needs, as necessary, commensurate with both short and long term fire prevention needs. Policy S-3.5: Support programs and plans, such as Strategic Fire Plans, consistent with state law that require fuel management/modification within established defensible space boundaries and when strategic fuel modification is necessary outside of defensible space, balance fuel management needs to protect structures with the preservation of native vegetation and sensitive habitats. Wildfire Planning Policy S-3.6: Protect communities from unreasonable risk of wildfire within very high fire hazard severity zones. a. Assess site constraints when considering land use designations near wildlands to avoid or minimize wildfire hazards as part of a community plan update or amendment. b. Identify building and site design methods or other methods to minimize damage if new structures are located in very high fire hazard severity zones on undeveloped land and when rebuilding after a fire. c. Require ongoing brush management to minimize the risk of structural damage or loss due to wildfires. d. Provide and maintain water supply systems to supplies for structural fire suppression. e. Provide adequate fire protection.

			Policy S-3.7: Incorporate fire safe design into development within very high fire hazard severity zones (VHFHSZs) to have fire-resistant building and site design, materials, and landscaping as part of the development review process. a. Minimize new residential development in VHFHSZs, and locate future public facilities, including new essential and sensitive facilities, outside of VHFHSZs when possible b. Locate, design and construct development to provide adequate defensibility and minimize the risk of structural loss from wildland fires. b. Design development on hillsides and canyons to reduce the increased risk of fires from topography features (i.e., steep slopes, ridge saddles). c. Minimize flammable vegetation and implement brush management best practices in accordance with the Zoning Ordinance. d. Design and maintain public and private streets for adequate fire apparatus vehicles access (ingress and egress) and install visible street signs and necessary water supply and flow for structural fire suppression. e. Coordinate with the San Marcos Fire Department to provide and maintain adequate fire breaks where feasible or identify other methods to slow the movement of a wildfire in VHFHSZs. Policy S-3.8: Implement brush management along City maintained roads in very high fire hazard severity

			zones adjacent to open space and canyon areas. Policy S-3.9: Maintain access for fire apparatus vehicles along public streets in very high fire hazard severity zones for emergency equipment and evacuation. Policy S-3.10: Provide wildland fire preparedness education for fire safety advance planning. Policy S-3.11: Coordinate with local, state, and federal fire protection agencies with respect to fire suppression, rescue, mitigation, training and education. Policy S-3.12: Coordinate with local, state, and federal agencies to update emergency, evacuation, and hazard mitigation plans, as necessary. Policy S-3.13: Support city-wide emergency and disaster preparedness education programs. Policy S-3.14: Locate, when feasible, new essential public facilities and utilities outside of very high fire hazard severity zones, including but not limited to, hospitals and health care facilities, emergency shelters, emergency command centers, and emergency communication facilities, or identify construction methods or other methods to minimize damage if these facilities are located in very high fire hazard severity zones.

Source: City of San Marcos General Plan, 2012.

4.3.1 Identifying Fire Hazards

Fuel Rank

Fuel rank is a ranking system developed by CalFire that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index.

- The U.S. Forest Service has developed a series of **fuel models**, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior.
- In addition to fuel characteristics, **slope** is an important contributor to fire hazard levels. A surface ranking system has been developed by CalFire, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0-10 percent, 11-25 percent, 26-40 percent, 41-55 percent, 56-75 percent, and greater than 75 percent. The combined fuel model and slope data are organized into three categories, referred to as surface rank. Thus, surface rank is a reflection of the quantity and burn characteristics of the fuels and the topography in a given area.
- The **ladder index** is a reflection of the distance from the ground to the lowest leafy vegetation for tree and plant species.
- The **crown index** is a reflection of the quantity of leafy vegetation present within individual specimens of a given species.

The surface rank, ladder index, and crown index for a given area are combined in order to establish a fuel rank of medium, high, or very high. Fuel rank is used by CalFire to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

The fuel rank data are used by CalFire to delineate fire threat based on a system of ordinal ranking. Thus, the Fire Threat model creates discrete regions, which reflect fire probability and predicted fire behavior. The four classes of fire threat range from moderate to extreme.

4.3.2 Fire Hazard Severity Zones

The State has charged CalFire with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CalFire must recommend draft Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas. The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards. The Planning Area includes both Local Responsibility Areas and State Responsibility Areas (within the Sphere of Influence), with portions of both Local and State Responsibility Areas being designated as Very High Fire Hazard Severity Zones. Figure 4-2 shows Fire Hazard Severity Zones in San Marcos.

Local Responsibility Areas

Local Responsibility Areas (LRA) lie within the city boundaries and CalFire has made recommendations that fall under two categories – Very High Fire Hazard Severity Zone (VHFHSZ) and Non-VHFHSZ. The hillside areas north of SR-78 in the Santa Fe Hills and Twin Oaks Valley Neighborhood, and the hillside areas south of SR-78 in the Barham/Discovery Community and Questhaven/La Costa Meadows Neighborhood, are designated as VHFHSZ that are LRAs. Areas within the Lake San Marcos Neighborhood, which is within the Sphere of Influence (SOI), are also designated as VHFHSZ that are LRAs.

State Responsibility Areas

The State Responsibility Areas (SRA) within the Planning Area are in the SOI in the north part of the City in the Twin Oaks Valley Neighborhood and also in the south east off of country club drive. These areas range in severity from moderate to very high.

Federal Responsibility Areas

There are no Federal Responsibility Areas within the vicinity of San Marcos.

4.3.3 Fire Hazard Planning

Fire hazard and mitigation are an important component to fire safety and enhances the effectiveness of fire protection. The City's General Plan address wildland fire risk reduction and prevention, how to minimize fire hazards resulting from structural fires, and hazard mitigation efforts through policies within the Safety Element as well as the Land Use and Community Design Element, Conservation and Open Space Element, and Mobility Element.

4.3.4 Wildland Fires

Wildland urban interface (WUI) areas have steep slopes, limited precipitation, and plenty of available fuel/combustible plant material. In an effort to reduce the threat posed by wildland fire events, the SMFD completed a comprehensive assessment of WUI fire hazards and prepared a Community Wildfire Protection Plan (CWPP) and Hazard Risk Assessment (HRA) for the San Marcos community and unincorporated areas in the San Marcos Fire Protection District. This assessment and the CWPP/HRA identify areas as WUI study areas to prioritize hazardous fuel removal and reduce overall community fire risks (SMFD 2007).

The SMFD has mapped WUI areas denoting community hazard levels as part of the HRA; see Figure 6-4. Brush management is required to be undertaken in these areas where urban development interfaces with open space so that fire fuel loads and potential fire hazards can be reduced. The CWPP/HRA also identifies actions to protect one or more WUI study area neighborhoods, and identifies training, public education, and local resource needs (SMFD 2007).The CWPP meets the requirements of the federal Healthy Forests Restoration Act (HFRA) of 2003 for community fire planning (SMFD 2007).

In accordance with the CWPP and the Zoning Ordinance, all new development in identified community hazard areas requires a Fuel Management Plan. This includes clearing and maintaining defensible space of 100 to 150 feet around structures, depending on the structure and vegetation type. Safety development and fuel reduction zones will continue to be addressed by developers and SMFD as outlined by the CWPP or applicable City ordinances. Additional SMFD community fire planning efforts include the vegetation management program to reduce the possibility of major wildland fires. Vegetation management programs are administered by program area, assessing a special tax on specific City-owned and private communities to help maintain open space area vegetation within these developments (SMFD 2007).

4.3.5 Urban Fires

Urban fires in the community have the potential to cause significant loss of life and property; however, improvements in architecture, building design, construction materials, and emergency response reduce the likelihood of catastrophic occurrences. For additional information regarding service levels and facilities for fire and emergency services within the City, see Chapter 2, Land Use and Community Design Element, of this document.

4.3.6 References

Data and information found in this section primarily came from the following sources:

California Department of Forestry and Fire Protection. 2020. Fire Hazard Severity Zone Maps https://osfm.fire.ca.gov/media/5970/san_marcos.pdf

California Department of Forestry and Fire Protection and State Board of Forestry and Fire Protection. 2010. 2010 Strategic Fire Plan for California.

City of San Marcos. 2012. City of San Marcos General Plan.

4.4 FLOODING

This section addresses the hazards associated with flooding in the Planning Area. The discussion of storm drainage infrastructure is located in Section 3.0 (Utilities and Community Services) of this report. The discussion of hydrological conditions and water quality is located in Section 5.0 (Conservation and Natural Resources). The existing City of San Marcos General Plan identifies the following goals and policies related to flooding.

Element	Topic Area	Goal	Policy
Safety Element	Flooding Hazards	Goal S-2: Minimize the risk to people, property and the environment due to flooding hazards.	Policy S-2.1: Continue to provide well-maintained regional flood control facilities capable of accommodating, at a minimum, 100-year storm flows consistent with federal requirements. Policy S-2.2: Require existing private development to take responsibility for maintenance and repair of structures to resist flood damage.

Source: City of San Marcos General Plan, 2012

4.4.1 Environmental Setting

Flooding is a temporary increase in water flow that overtops the banks of a river, stream, or drainage channel to inundate adjacent areas not normally covered by water.

San Marcos is made up of both developed and undeveloped areas. The developed areas are largely paved which may reduce infiltration and increase surface runoff, which can increase the risk of localized flooding. The recent use of stormwater requirements, such as minimum standards for Low Impact Development (LID), has helped attenuate flows; however, flooding may still occur, particularly in low spots, where infrastructure is unable to accommodate flows during a storm, or when large releases of water occur in a hazardous event. In most cases, localized flooding dissipates quickly after heavy rain ceases. For additional information on stormwater and drainage infrastructure see Section 3.0 (Utilities and Community Services).

FEMA Flood Zones

The Federal Emergency Management Agency (FEMA) has a database that maps flood potential across the United States. FEMA mapping provides important guidance for the City in planning for flooding events and regulating development within identified flood hazard areas. FEMA's National Flood Insurance Program (NFIP) is intended to encourage state and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, the NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs). The FEMA FIRM for the Planning Area is shown on Figure 4-3.

As shown in Figure 4-3, portions of San Marcos are located within the 100-year FEMA flood zone. The 100-year flood zone indicates areas with a one percent annual chance of flooding. The FEMA-designated 100-year floodplains and floodways are associated with San Marcos Creek and its tributaries such as the north branch in Twin Oaks Valley, the east branch east of City Hall and south of Mission Road, and Lake San Marcos and a smaller drainage west of Palomar Community College, which extends south beyond SR-78. There is also a small portion of San Marcos located within a mapped portion of the 500-year FEMA flood zone. The 500-year flood zone indicates areas with minimal flood hazard. Some areas documented to be subject to 100-year flooding within San Marcos are developed and therefore a significant rain event could cause flooding in the zones identified, potentially resulting in damage to structures.

Dam Inundation

Earthquakes centered close to a dam are typically the most likely cause of dam failure. Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. San Marcos lies generally downstream of dams, reservoirs, and debris basins that ultimately flow toward the City. There are four dams that have the potential to inundate portions of the Planning Area in the event of dam failure. These four dams are located at the following lakes: South Lake, Discovery Lake, Lake San Marcos, and Jack's Pond. Each of these dams are discussed in detail below. Dam inundation areas are shown on Figure 4-4. Inundation hazards can range from high to low with increasing distance away from these water containment structures.

- South Lake is located up gradient from Discovery Lake, and a failure of the upper dam is shown to overwhelm the lower dam. In such an event, flooding would encompass much of the southwest portion of San Marcos Creek Valley upstream of Lake San Marcos. City studies suggest that dam inundation flooding from South Lake/Discovery Lake could involve approximately 73.3 million gallons (about 225 acre-feet) of water (San Marcos Safety Element 2012).
- Discovery Lake is a small (approximately eight acre) lake located in the southern portion of San Marcos and used for conservation and recreation purposes.
- Lake San Marcos is a large artificial pond (approximately 64 acres) currently used for recreational purposes. The community of Lake San Marcos is unincorporated San Diego County within the San Marcos SOI. A failure of Lake San Marcos Dam would flood San Marcos Creek downstream (south) of the dam. Lake San Marcos Dam is under the jurisdiction of the State of California Department of Water Resources, Division of Safety of Dams.
- Jack's Pond is a small water body located in the eastern portion of San Marcos.

These dams do not have a history of dam failure. Monitoring and mitigation of dam failure is constantly occurring at both the federal and state levels.

4.4.2 References

California Dept. of Water Resources. 2019. Dams Within Jurisdiction of the State of California. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/2019-Dams-Within-Jurisdiction-of-the-State-of-California-Alphabetically-by-County_a_y20.pdf

California Dept. of Water Resources. 2020. Best Available Maps (BAM). http://gis.bam.water.ca.gov/bam/

City of San Marcos. 2012. City of San Marcos General Plan.

San Diego County. 2020. SanGIS (Flood Plain layer). March, 2020.

Vallecitos Water District. 2020. http://www.vwd.org/

4.5 CLIMATE CHANGE AND RESILIENCY PLANNING

This section addresses hazards associated with climate change as well as resiliency planning and adaptation strategies. For additional information on climate change and greenhouse gases, see Section 5.0 (Conservation and Natural Resources). Information in this section is primarily from the *Climate Change and Health Profile Report for San Diego County* and the California State Legislature's *Senate Environmental Quality Committee Report on Southern California Regional Adaptation Efforts to Climate Change Impacts*.

4.5.1 Background

Climate change is having global and local impacts that are occurring in response to greenhouse gas (GHG) emissions from human activities, as noted in the Fifth Assessment Report (AR5) by the Intergovernmental Panel on Climate Change (IPCC). These global changes are manifesting in varied environmental health and infrastructure consequences for different countries, regions, and states, necessitating a change in public policy decision making in order to adapt to a new environment.

Over the next century, increasing atmospheric GHG concentrations are expected to cause a variety of changes to global climate conditions, including sea level rise (SLR) and storm surge in coastal areas, increased riverine flooding, and higher temperatures more frequently (leading to extreme heat events and wildfires), particularly in inland areas. Local impacts stemming from climate related conditions range from impacts to water quality and supply, public health, air quality, wildfires, and infrastructure. While weather changes are a normal, short-term change in atmospheric condition, climate change refers to changes in long-term averages in atmospheric condition. Scientists attribute recent climate change trends to human expansion of greenhouse gases into the atmosphere. Climate change can cause extreme weather conditions, including heat waves, more frequent droughts, heavier rainfall, and more powerful hurricanes.

Because local governments largely determine the size and character of development through land use plans, regulations, and implementing decisions, local governments play an important role in developing climate change strategies, including resiliency planning and adaptation, through local land use plans and policies. Many climate adaptation strategies will need to be coordinated as part of a larger regional or statewide strategy requiring cooperation by many local governments and decision-making and regulatory bodies.

4.5.2 Environmental Setting

In 2014, the San Diego Foundation and a collaboration called Climate Education Partners released a report on climate change and its impacts on the San Diego region titled *San Diego, 2050 is Calling. How Will We Answer?* Climate Education Partners – San Diego Region (CEP) is a collaborative team of multidisciplinary experts from the University of San Diego, UC San Diego's Scripps Institution of Oceanography, California State University San Marcos, The San Diego Foundation, and The Steve Alexander Group. This project and report is one of only six National Science Foundation projects funded through the Climate Change Education Partnership (CCEP) program. Key findings from this research include:

- The San Diego region can expect to experience hotter and more humid heat waves and less frequent but more intense rainfall. In the next 40 years, global temperatures could increase twice as fast as they have in the last 40 years; San Diego regional temperature increases are expected to exceed this trend.
- Warming, compounded by less frequent precipitation, will worsen droughts and threaten the region's imported and local water sources. Water demand is expected to increase 46 percent by

2035 due to the region's growing population, rising temperatures, longer intervals without rain, and increased evaporation from the soil and water reservoirs.

- Extreme high tides and winter storms magnified by sea level rise will result in more frequent and widespread coastal flooding. With higher sea levels and occasional heavy winter storms, the region's shoreline communities will be more vulnerable to beach loss and coastal cliff erosion.
- Wildfire seasons may be longer and more extreme, with warming temperatures, drier soils and vegetation, and less frequent rains. A hotter and drier climate, along with less frequent rainfall, will increase the frequency and severity of droughts and could alter fire fuel conditions in ways that promote larger, more catastrophic fires.
- The San Diego region's coastlines and beaches and the region's unique plants and animals, along with the benefits they provide to the people of the region, will be threatened. Rising temperatures and changes in rainfall patterns may occur much faster than plants and wildlife are able to adapt, threatening the survival of some species.
- More extended heat waves and less nighttime cooling will put some residents' health at risk. Extreme high temperatures and extended heat waves have historically caused heat-related illness and death for elderly, children, low-income residents and the chronically ill and may do so more frequently.

Other studies have indicated that a variety of changes to local climate conditions as a result of climate change are expected to occur, leading to several local conditions that may affect the region. For the City of San Marcos, possible future local conditions may include: increased urban flooding, higher temperatures, more frequent heat waves (leading to extreme heat events), increased risk of wildfire, water quality and water supply impacts, impacts to regional air quality, and other public health impacts.

Flooding

Precipitation change is a climate variable that is directly affected by changes in global atmospheric and oceanic temperatures. Projected changes in precipitation include annual trend changes as well as extreme precipitation events.

Riverine and local flooding is influenced by precipitation and local conditions, such as ground cover and soil conditions. Riverine flooding occurs when heavy rainfall causes rivers or creeks to overtop their banks and inundate surrounding areas during extreme weather events. Urban flooding commonly occurs when local stormwater infrastructure is overwhelmed during extreme precipitation events. According to the *Climate Change and Health Profile Report for San Diego County*, written by the California Department of Public Health, annual precipitation will vary by area within the San Diego Region but will decline overall throughout the century. Nonetheless, local model predictions include more extreme precipitation events, which in turn cause flood risks to worsen, increasing the likelihood of damaging infrastructure, increasing erosion and landslides, and overwhelming sewage treatment systems, which may reduce water quality and impact public health.

Water Supply and Quality

According to the *Climate Change and Health Profile Report for San Diego County*, overall mean precipitation amounts are expected to decrease slightly by 2050. It is also expected that climate change will likely impact water demand, water supply, and water quality of both surface and ground water.

The same study notes that for the San Diego Region, low-lying coastal areas will lose up to 2 inches of precipitation by 2050 and 3-5 inches by 2090, while higher elevations will see a drop of 4-5 inches by 2050 and 8-10 inches by 2090. Furthermore, March snowpack in the San Gabriel Mountains will decrease from the 0.7-inch level in 2010 to zero by the end of the century. With resulting decreased stream flows and higher temperatures, impacts could include a reduction of fish habitat, increased surface water temperatures, pollutant levels, and sedimentation, intensified algal growth, and subsequently, more harmful algal blooms. For groundwater, the potential for salt water intrusion into aquifers with sea level rise could be worsened by overpumping. The decreased water quality could further deteriorate as pollutant concentrations increase due to reduced water levels and recharge from drought and lack of snowpack.

Wildfires

Wildfires occur as a result of conditions affected by complex interactions between primary variables (including precipitation and temperature) and other factors (including changes in land cover type). A wildfire is an unplanned fire caused by lightning or other natural causes, by accidental (or arson-caused) human ignitions, or by an escaped prescribed fire. Weather is one of the most significant factors in determining the severity of wildfires; natural fire patterns are driven by conditions such as drought, temperature, precipitation, and wind, and also by changes to vegetation structure and fuel (i.e. biomass) availability. Wildfires pose a great threat to life and property, particularly when they move from forest or rangeland into developed areas.

Climate change is projected to increase the frequency of wildfire events, the extent of burned areas across California, and the duration of wildfire seasons. Wildfire seasons are projected to begin earlier in the spring due to drier and warmer spring conditions on average, potentially requiring longer periods for firefighting services. Greater inter-annual variability in temperature and precipitation may also affect wildfire intensity. For example, multiple wet years can result in larger fuel buildup in landscapes. This may result in increasingly intense and frequent wildfires, if followed by drought years. Wildfire risk will also vary depending on population growth and land use characteristics, including rates of residential expansion and infrastructure into fire prone areas over the next century.

In recent decades, southern California has experienced an increase in the area burned by wildfires. According to the *Southern California Fires Interdisciplinary Project*, the southern California fires in 2003 were widely considered a 100-year event, and the 2007 fires were responsible for billions of dollars in costs from firefighting, property damage, environmental erosion, ecosystem services, and human health impacts. In 2010, approximately 20.1% (620,849 residents) of San Diego County's total population lived in fire hazard zones of moderate to very high severity. By 2050, the region's fire season is projected to last three weeks longer with an increase of 24-124% in the annual amount of area burned (Yue et al. 2013).

Wildfires also contribute to reduced air quality through the elevated levels of particulate matter and ozone pollution, with implications for public health. Wildfire smoke can result in both short-term and long-term health impacts, from minor lung and eye irritation to premature death. Research on health impacts from the 2003 southern California wildfires showed an increase in hospital admissions for respiratory problems during the fires, including asthma attacks, acute bronchitis, and chronic obstructive pulmonary disorder (COPD), with small increases in cardiovascular admissions. The research further suggested that improved prevention measures are needed to reduce illness in vulnerable populations (Finlay et al. 2012).

Extreme Heat

Temperature (near surface) is a climate variable that is directly affected by changes in global atmospheric and oceanic conditions. While trends in average annual temperature are an important indicator of climate change, extreme temperature events have greater impacts on society due to their episodic nature. Therefore, vulnerability and risk assessment tends to specifically focus on extreme heat events and not on average temperature changes. The IPCC defines extreme heat events as a period of abnormally hot weather. While extreme heat events can have various durations, Cal-Adapt defines an extreme heat event as a period of five or more consecutive extreme heat days. Cal-Adapt defines an extreme heat day in a given region as a day in April through October where the maximum temperature exceeds the 98th historical percentile of maximum temperatures for that region based on daily temperature data from 1961 to 1990. The 98th historical percentile of maximum temperatures varies by locality and inland areas tend to be at a greater risk of extreme heat events when compared to areas near the coast.

Increasing numbers of extreme heat days are projected in the coming decades. The *Public Health-Related Impacts of Climate Change in California* report points out that increasing high heat days from climate change have a number of impacts on communities, including direct heat-related mortalities and worsening of chronic health conditions (Drechsler et al. 2006). Southern California already experiences energy shortages, and higher demand from more frequent and intense high heat days could further impact health.

As noted by the California Department of Public Health Report, *Climate Change and Health Profile Report for San Diego County*, extreme heat days can lead to adverse health impacts and worsen many existing medical conditions, including respiratory disease, diabetes, kidney, and heart disease. Some residents in California who will be exposed to extreme heat days are at the greatest risk for related health problems. Reasons for this higher amount of risk include a combination of lack of air conditioning or shaded areas, outdoor work exposure to air pollutants, and preexisting health conditions. The California Department of Public Health Report notes that as of 2010, there were approximately 81,644 outdoor workers in San Diego County whose occupation increased their risk of heat illness and in 2009 approximately 47% of San Diego County households were estimated to lack household air conditioning, thus increasing the risk of heat-related health impacts.

Increased Risk and Spread of Diseases

In addition to the health impacts related to air and water quality, warmer temperatures and drought conditions can contribute to the spread of diseases by aiding development and spread of the vectors that transmit them (Drechsler et al. 2006). A vector-borne disease (VBD) is one caused by a virus, bacteria, or protozoan that spends part of its lifecycle in a host species (e.g., mosquitoes, ticks, fleas, rodents), which subsequently spreads the disease to other animals and people.

Regional research assessments have previously concluded that climate change and variability are highly likely to influence current VBD spread, including both short-term outbreaks and shifts in long-term disease trends. For example, as temperatures rise, mosquito reproductive cycles are shortened, allowing more breeding cycles each season, and viral transmission rates rise sharply (Githeko et al. 2000). Mosquitoes are an increasing vector of concern, particularly those species that have been introduced from other countries because changes in temperature and precipitation conditions can allow exotic species to become established in places where they could not previously survive year-round.

In San Diego County, there are multiple invasive mosquito species including the Aedes aegypti (the yellow fever mosquito), which has been detected in neighboring Escondido. These invasive mosquitoes bite aggressively during the day and can spread a variety of disease, including chikungunya, yellow fever, and dengue, as seen with recent outbreaks in Florida and Texas. Once established, the mosquitoes can reproduce in extremely small amounts of water and are very difficult to control.

The California Department of Public Health further notes three vector-borne diseases that climate change may impact in the state: hantavirus, Lyme disease, and West Nile virus (WNV). As the ecology of vectors changes with climate, exposure to disease in people may increase significantly.

4.5.3 Climate Change and Resiliency Planning Efforts

State Efforts in Climate Adaptation

Key documents that summarize climate impacts in sectors and regions and provide adaptation guidance include the 2014 Safeguarding California report, focused at the state level, and the California Adaptation Planning Guide (2012) to support local governments and regional collaboratives. Additionally, Cal-Adapt was designed to be a web-based climate adaptation planning tool for local planning efforts with downscaled climate change scenarios and research for regions within California.

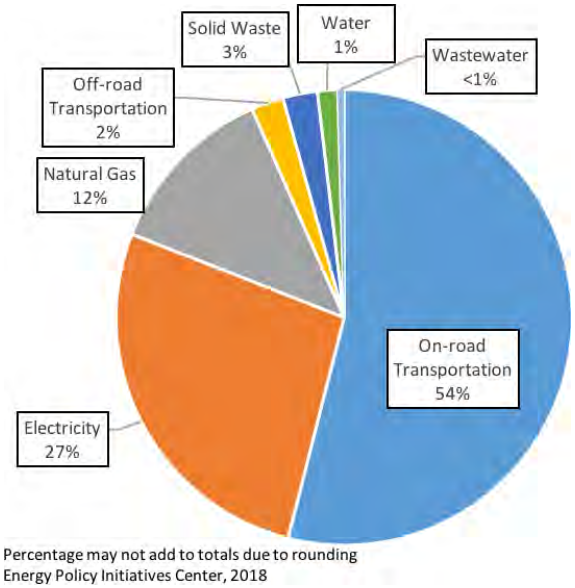
Local and Regional Efforts in Climate Adaptation

In southern California there are a number of regional collaboratives, agencies, academic institutions, and local governments engaged in climate change mitigation, adaptation, and research. A subset of the work from these many stakeholder groups is highlighted here.

The City of San Marcos adopted a Climate Action Plan (CAP) in 2013 in compliance with the adopted policies in the General Plan and consistent with Assembly Bill (AB) 32, known as the Global Warming Solutions Act of 2006. The Climate Action Plan is a long-range plan that outlines strategies to reduce greenhouse gas (GHG) emissions. Support from the SANDAG Roadmap Program enabled the City to then initiate an update to its CAP in 2017. The CAP update was needed to comply with the Senate Bill (SB) 32 requirements to reduce GHG emissions to 40 percent below the 1990 levels by 2030. The main elements of the CAP include: a GHG emissions inventory and projections; GHG reduction targets and measures; a monitoring strategy; and a Development Review Checklist and Implementation Cost Analysis.

The GHG inventory and projections document summarizes emissions from 2012 to 2014 and the business-as-usual projections for 2020, 2030 and 2035. The total GHG emissions from San Marcos in 2012 were estimated at 599,000 metric tons CO_2e (MT CO_2e), distributed into categories as shown in the chart below.

Breakdown of GHG Emissions in San Marcos (2012)



The County of San Diego adopted a Climate Action Plan in 2018 to address resource management, transportation, and energy concerns related to climate change for the unincorporated areas of the county, including the areas with San Marcos's Sphere of Influence. The CAP is a plan that identifies strategies and measures to reduce the County's contribution of greenhouse gas emissions to the atmosphere to meet the State's 2020 and 2030 GHG emissions targets, and to demonstrate progress towards the 2050 GHG reduction goal.

The Alliance of Regional Collaboratives for Climate Adaptation (ARCCA) is a network of regional collaboratives across the state that strives to build regional resilience to climate impacts, and includes two collaboratives in southern California: the Los Angeles Regional Collaborative for Climate Action and Sustainability (LARC) and the San Diego Regional Climate Collaborative (SDRCC).

SDRCC, with support from The Hub at The Nonprofit Institute at The University of San Diego, fosters a network of local and regional decision-makers in the San Diego County region for both climate mitigation and adaptation work across sectors and locally focused research on impacts. Members include groups from academia, cities, San Diego County, regional agencies, nonprofits, and businesses. Part of SDRCC's goals include serving as a convening body to ensure consistency in performance, collaboration, and coordination of climate actions to maximize limited resources. SDRCC also facilitates the exchange of the latest scientific research, best practices for policy development, information systems, and education efforts.

The San Diego Association of Governments (SANDAG) developed a Climate Action Strategy in 2010. The Strategy identifies a range of potential policy measures – "tools in the toolbox" – for consideration as SANDAG updates long-term planning documents like the Regional Transportation Plan and Regional Comprehensive Plan, and as local jurisdictions update their General Plans and other community plans. The Strategy helps SANDAG identify land use, transportation, and related policy measures and investments that could reduce greenhouse gases from passenger cars and light-duty trucks as part of the development of a Sustainable Communities Strategy for the 2050 Regional Transportation Plan in compliance with Senate Bill 375. Potential policy measures also are identified for buildings and energy use, protecting transportation and energy infrastructure from climate impacts, and to help SANDAG and local jurisdictions reduce greenhouse gases from their operations.

Additionally, the State and Regional Water Boards have been working to coordinate climate action planning. The San Diego Regional Water Quality Control Board has been engaging in a dialogue with state and federal colleagues to develop a framework for adaptation within their programs.

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4.6 WILDLIFE HAZARDS

This section contains a brief account of the species of wildlife found in the southern California region that are considered at times to be nuisances or pose a danger to humans and domestic animals.

Southern California is home to a variety of species, many of which are encountered in urban and suburban areas. Some of these species are attracted to human landscapes, as these are artificial sources of food, water, and shelter; additionally, wildlife may find areas of human habitation to be void of predators and competitors. Other environmental and climatic conditions may also be driving wildlife into developed urban and suburban areas including drought, lack of food sources, wildfire, and climate change. The following discussion focuses on several species common in southern California including coyotes, black bears, mountain lions, and rattlesnakes. Information in this section is primarily from the California Wildlife Habitat Relationships System, California Department of Fish and Wildlife (CDFW), and the California Interagency Wildlife Task Group. For additional information on local species see Section 5.0 (Conservation and Natural Resources).

4.6.1 Environmental Setting

In southern California, coyotes, black bears, mountain lions, rattlesnakes, and to a lesser extent, bobcats, represent common species that are considered nuisance species when moving from the wildlands to the urban interface. In many areas of southern California wildlife interactions between human and domestic animals are becoming more prevalent due to environmental conditions such as drought causing reductions in food and water sources, and wildfires limiting foraging areas and driving animals from wildlands, as well as the draw of easy food sources that urban areas provide. Additionally, behavioral changes in many animals who venture into urban areas are also observed and contribute to the increase in animal encounters from the wild animal normalizing these conditions (i.e., becoming used to and unafraid of humans).

Coyotes are medium-sized members of the dog family, larger than foxes but smaller than wolves. Native to western North America, they are extremely adaptable. Coyotes have increased in numbers and have increased their geographical range during the past fifty years, due in part to human modification of the landscape. Coyotes now are found almost everywhere in North America.

Coyotes can live in almost any habitat in California, from arid deserts in the south to wet meadows and foggy coastal regions in the north. They are not as common in densely forested regions or in agricultural environments planted mainly for annual crops because they find few food resources in these situations. In recent decades they have become more numerous in many suburban environments where an ample food supply is available. Some of the highest population densities on record occur in suburban southern California.

Coyotes normally are elusive animals that avoid contact with humans. Most active after dusk and before daylight, they are typically seen only at a distance. This trait may be a response to hunting, trapping, and other efforts to control coyote predation. Coyotes have been harassed and killed ever since settlers first arrived in western North America with their livestock. In most areas of California, coyotes continue to behave in ways that minimize their contact with humans. Within urban and suburban areas in California, however, some coyotes have adapted to residential neighborhoods, parks, and open spaces, and seemingly have lost their fear of humans. This may be a result of behavioral changes that have occurred over several generations of coyotes, in localities where predator control is no longer practiced. Coyotes thrive in such areas because food, water, and shelter are abundant, and coyotes living in these

environments may come to associate humans with food and protection. Once attracted to suburban areas, they prey on the abundant rodents, rabbits, birds, house cats, and small dogs that live in residential habitats. They also will feed on household garbage, pet food, and seeds and fruits of many garden and landscape plants. In some localities this has resulted in the development of local coyote populations that seemingly ignore people, while a few coyotes have become increasingly aggressive toward humans. Coyotes have been implicated in only one human death in U.S. history – that of a 3-year-old girl in Glendale, California in 1981 (Fox, C.H. and C.M. Papouchis, 2005).

Black bears are the largest terrestrial species in the order Carnivora in California. Adults have few predators other than humans. Distribution of black bears in California are widespread, occurring from sea level to high mountain regions. Found in the North Coast Ranges, Cascades, Sierra Nevada, parts of the South Coast Ranges, and in the San Gabriel and San Bernardino Mountains. Black bear sightings in San Diego County are a rarity and it is generally accepted that black bears have not been seen in the county since 2000, although odd reports periodically come in from widely diverse areas in San Diego County.

The drought in California has killed more than 12 million trees in the forests of southern California, and while many small animals that cannot move have died in place as their habitat shrinks, bears and other big game have simply moved rather than compete for food in a cramped forest area. For many of California's 35,000 black bears, that means venturing into residential neighborhoods, searching for food in garbage and trash. Drought conditions have increasingly brought bears into contact with humans in recent years and officials say they expect these interactions to increase as drought conditions continue to reduce forested land.

Wild cats are large felid carnivores that reside in the Planning Area and include the mountain lion (Puma concolor) and the bobcat (Lynx rufus). Problems associated with mountain lions include their predation upon pets and attacks on humans; bobcats have recently been implicated in southern California for a small number of pet predation instances.

The distribution of prevalence of large cats in California is widespread, but uncommon, ranging from sea level to alpine meadows. Large cats are found in nearly all habitats, except xeric regions of the Mojave and Colorado deserts, and are considered most abundant in riparian areas, and brushy stages of most habitats. Recent studies by the California Department of Fish and Wildlife, and others, suggest that 2,500-5,000, or more, mountain lions currently live in California, and the numbers appear to be increasing. Populations of mountain lions are generally associated closely with deer populations (Nowak, 1976). Fragmentation of habitats by human developments and associated roads, power transmission corridors, and other support facilities, restricts movements and increases association with humans. Figure 4-5 shows mapped mountain lion range within the Planning Area. A majority of the City land area and its SOI are considered mountain lion range areas.

The chance of conflict with wild cats may be reduced by addressing the availability of live food sources (pets and natural prey) and habitat (brush to hide in). Reducing the availability of live natural food sources entails landscaping private properties and public spaces in such ways that these animals' prey are not attracted to the area (Department of Fish and Game, 2004).

Rattlesnakes are found throughout southern California, in a variety of habitats. San Marcos is within the habitat area of the Western Rattlesnake, Speckled Rattlesnake, and the Red Diamond Rattlesnake. The rattlesnake is California's only venomous snake. Snakes help to keep the rodent population in check, and are an important part of the ecosystem. The California Kingsnake, which is also endemic to San Marcos, is a non-venomous snake that is a natural predator of the rattlesnake.

While they are often encountered in the foothills, they have been found in a variety of settings including urban areas, along riverbeds, and in parks and golf courses. Although generally not aggressive, rattlesnakes can strike if threatened. They will generally retreat if given room and not deliberately provoked, but if they are startled, they may strike without warning. On rare occasions, rattlesnake bites have caused injury and even death. Most snake bites occur between April and October when both humans and snakes are most active outdoors. However, those occurrences are rare and the risk of being bitten is small compared to the risk of other environmental injuries.

The California Poison Control System (CPCS) reports that approximately 300 snake bites are reported in California annually. Of the estimated 7,000-8,000 people per year that are bitten by poisonous snakes in the United States, the Centers for Disease Control and Prevention (CDC) reports that only about 5 of those people die from their injuries.

Drought, wildfires, and loss of habitat have all contributed to wildlife habitats shrinking. These activities increasingly push wildlife, including rattlesnakes, into areas inhabited by humans and increase the chance of interaction. Property owners can decrease the likelihood of finding rattlesnakes on their property by building a snake proof fence and removing vegetation, piles of rocks, or boards from around their home. While outdoors, residents can decrease snake bites by sticking to sidewalks or trails, avoiding tall grass or heavy underbrush, and stepping on, not over, large rocks or logs.

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4.7 NOISE

This section provides a discussion of the regulatory setting and a general description of existing noise sources in the Planning Area. The analysis in this section was prepared with assistance from MD Acoustics.

4.7.1 Key Terms

Acoustics The science of sound.

Ambient Noise The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.

Attenuation The reduction of noise.

A-Weighting A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.

CNEL Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 p.m. - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.

Decibel or dB Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.

Frequency The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.

Impulsive Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.

L_{dn} Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.

L_{eq} Equivalent or energy-averaged sound level.

L_{max} The highest root-mean-square (RMS) sound level measured over a given period of time.

$L_{(n)}$ The sound level exceeded as a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50 percent of the time during the one-hour period.

Loudness A subjective term for the sensation of the magnitude of sound.

Noise Unwanted sound.

SEL A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

4.7.2 City of San Marcos Noise Regulations

The City of San Marcos outlines noise regulations and standards within the Municipal Code and the Noise Element of the General Plan.

City of San Marcos General Plan

Land use directly affects noise compatibility. Consideration of the sources and recipients of noise early in the land use planning and development process can be an effective way to reduce the impact of noise on the community. Consideration should be given to both reducing noise in severely impacted areas through rehabilitative improvements, through re-use and/or redevelopment, and avoiding potential noise impacts through effective land use planning and design. Future and proposed land uses should be compatible with existing and forecasted future noise levels. Incompatible land use noise generators should incorporate noise attenuation and/or control measures as part of project design to reduce noise levels to an acceptable interior level or lower, as required by state regulations (CCR Title 24) for residential uses.

The Noise Element of the City of San Marcos General Plan includes *Noise and Land Use Compatibility Guidelines for Transportation-Related Noise*. The City's land use compatibility standards shown in Table 4-3, are based first on the General Plan land use designation of the property and secondly on the use of the property. For example, within the Residential land use designation, a multiple-family use exposed to transportation related noise would have an exterior noise standard of 60 dBA CNEL/Ldn. Noise standards for multiple-family and mixed-use land use designations shown in Table 4-4 are higher than those for single-family residential areas reflecting a more urban environment planned for certain areas of the City. The standards shown in Table 4-3 are purposefully general in nature and not every land use type which could be accommodated within each General Plan designation is identified. Application of the noise standards will vary on a case-by-case basis according to location, development type, and associated noise sources.

Applicable goals, policies and implementation measures presented in the Noise Element of the General Plan are presented below:

Goal N-1 Promote a pattern of land uses compatible with current and future noise levels.

- Policy N-1.1: Address the potential for excessive noise levels when making land use planning decisions in accordance with Table 5 Land Use Compatibility Noise Standards.
- Policy N-1.2: Ensure that acceptable noise levels are maintained near noise-sensitive uses.
- Policy N-1.3: Incorporate design features into residential land use projects that can be used to shield residents from excessive noise. Design features may include, but are not limited to: berms, walls, and sound attenuating architectural design and construction methods.
- Policy N-1.4: Require new development projects to provide barriers to reduce noise levels, or provide sufficient spatial buffers to separate excessive noise generating land uses and noise-sensitive land uses.

Table 4-3: Noise Land Use Compatibility Guidelines for Transportation Noise Sources

	Land Use Category	Exterior Noise Level 55 60 65 70 75 80
A	Residential-single family residences, mobile homes, senior/age-restricted housing	
B	Residential-multifamily residences, mixed use (residential/ commercial)	
C	Lodging-hotels, motels	
D2	Schools, churches, hospitals, residential care facility, child care facilities	
E2	Passive recreational parks, nature preserves, contemplative spaces, cemeteries	
F2	Active parks, golf courses, athletic fields, outdoor spectator sports, water recreation	
G2	Office/professional government, medical/dental, commercial, retail, laboratories	
H2	Industrial, manufacturing, utilities, agriculture, mining, stables, ranching, warehouse, maintenance/ repair	
	Acceptable - Specified land use is satisfactory, based upon the assumption that any buildings involved	
	Conditionally Acceptable - New construction or development should be undertaken only after a detailed noise analysis is conducted to determine if noise reduction measures are necessary to achieve acceptable levels for land use. If a project cannot mitigate noise to a level deemed Acceptable, the appropriate City decision maker must determine that mitigation has been provided to the greatest extent practicable or that extraordinary circumstances exist.	
	Unacceptable - New construction or development shall not be undertaken	

Source: City of San Marcos General Plan Noise Element Table 7-3, 2012.

Table 4-4: City of San Marcos Noise Standards

1	The exterior noise level standard for Category A shall be 60 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
2	The exterior noise level standard for Categories B and C shall be 65 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
3	The exterior noise level standard for Categories D and G shall be 65 CNEL and the interior noise level standard shall be 50 dBA Leq (one hour average).
4	For single-family detached dwelling units, "exterior noise level" is defined as the noise level measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum net lot area: (i) for lots less than 4,000 square feet in area, the exterior area shall include 400 square feet, (ii) for lots between 4,000 square feet to 10 acres in area, the exterior area shall include 10 percent of the lot area; (iii) for lots over 10 acres in area, the exterior area shall include 1 acre.
5	For all other residential land uses, "exterior noise level" is defined as noise measured at exterior areas which are provided for private or group usable open space purposes. "Private Usable Open Space" is defined as usable open space intended for use of occupants of one dwelling unit, normally including yards, decks, and balconies. When the noise limit for Private Usable Open Space cannot be met, then a Group Usable Open Space that meets the exterior noise level standard shall be provided. "Group Usable Open Space" is defined as a usable open space intended for common use by occupants of a development, either privately owned and maintained or dedicated to a public agency, normally including swimming pools, recreation courts, patios, open landscaped areas, and greenbelts with pedestrian walkways and equestrian and bicycle trails, but not including off-street parking and loading areas or driveways.
6	For non-residential noise sensitive land uses, exterior noise level is defined as noise measured at the exterior area provided for public use.
7	For noise sensitive land uses where the people normally do not sleep at night, the exterior and interior noise standard may be measured using either CNEL or the one-hour average noise level determined at the loudest hour during the period when the facility is normally occupied.
8	The exterior noise standard does not apply for land uses where no exterior use area is proposed or necessary, such as a library.
9	For Categories E and F the exterior Nosie level standard shall not exceed the limit defined as "Acceptable" by the City, or an equivalent one-hour noise standard.

Source: City of San Marcos General Plan Noise Element Table 7-4, 2012.

- Policy N-1.5: Require an acoustical study for proposed developments in areas where the existing and projected noise level exceeds or would exceed the Normally Acceptable levels identified in Table 4-3.
- Policy N-1.6: Require the design and construction of buildings to reduce the effect of commercial noise within indoor areas of residential components of the mixed-use development.
- Policy N-1.7: Through site planning techniques, noise reduction features, and enforcement, minimize nonresidential noise impacts on residential uses.
- Policy N-1.8: Ensure residents in mixed-use developments located adjacent to commercial or retail related land uses are notified that they could be affected by noise from adjacent uses.

Goal N-2 Control transportation-related noise from traffic, rail, and aviation sources near noise sensitive land uses.

- Policy N-2.1: Encourage only noise-compatible land uses along existing and future roadways, highways, and freeways.
- Policy N-2.2: Promote coordinated site planning and traffic control measures that reduce traffic noise on noise-sensitive land uses.
- Policy N-2.3: Advocate the use of alternative transportation modes such as walking, bicycling, mass transit, and non-combustible engine vehicles to reduce traffic noise.
- Policy N-2.4: Encourage the installation, maintenance, and renovation of freeway and highway rights-of-way buffers and sound walls through continued cooperation with the California Department of Transportation (Caltrans) and SANDAG.
- Policy N-2.5: Examine the applicability and noise reduction capabilities of cost effective alternative roadway surfaces, such as rubberized asphalt.
- Policy N-2.6: Support noise-compatible land uses along rail corridors.
- Policy N-2.7: Require noise-reducing design features as part of any sensitive use proposed near rail corridors.
- Policy N-2.8: Evaluate the use of wayside horns near areas where rail crossings intersect public roads to reduce noise impacts from train horns.
- Policy N-2.9: Provide input to the San Diego County Airport Authority as appropriate to control airport noise.

Goal N-3 Control non-transportation-related noise from commercial, industrial, construction, and other sources on noise sensitive land uses.

- Policy N-3.1: When adjacent to noise sensitive receptors, require developers and contractors to employ noise reduction techniques during construction and maintenance operations.
- Policy N-3.2: Limit the hours of construction and maintenance operations located adjacent to noise-sensitive land uses.
- Policy N-3.3: Limit the allowable hours of operations and deliveries for commercial, mixed-use, and industrial uses located adjacent to residential areas.
- Policy N-3.4: Avoid excessive noise of commercial and industrial land uses through site and building design features.
- Policy N-3.5: Require industrial land uses to locate vehicular traffic and operations away from adjacent residential areas as much as possible.

City of San Marcos Noise Ordinance

The City of San Marcos Municipal Code contains ordinances that are designed to protect people from non-transportation noise sources such as construction activity; commercial, industrial, and agricultural operations; machine and pumps; amplified sound, and air conditioners. Enforcement of the Code ensures that adjacent properties are not exposed to excessive noise from stationary noise sources. Enforcing the Code includes requiring proposed development projects to show compliance with the Code, including operating in accordance with noise levels and hours of operations limits placed on the project site. The City also requires construction activity to comply with established work schedule limits. The Noise Code also establishes allowable interior and exterior noise levels for residential and commercial areas.

Section 20.300.070 – Performance Standards (Noise)

City of San Marcos regulations aim to prohibit unnecessary, excessive, and annoying noises from all sources, as certain noise levels are detrimental to the health and welfare of individuals. The standards of this section and of Chapter 10.24 Noise of the Municipal Code apply to all land uses in all Zones unless otherwise specified.

Specifically, no person shall create or allow the creation of exterior noise that causes the noise level to exceed the noise standards established by Table 7 (Table 20.300-4 in Section 20.300.070 of the City of San Marcos Municipal Code). Increases in allowable noise levels listed in Table 8 may be permitted in accordance with the standards outlined in Table 7.

Section 20.300.070 also prohibits any person from creating noise that causes the interior noise level when measured within a dwelling unit to exceed forty-five (45) dBA at any time, except as permitted by Table 9 Table 20.300-6 of the City of San Marcos Municipal Code).

Table 4-5: Exterior Noise Standards by Zone

Zone	Allowable Noise Level (dBA Leq) Measured from the Property Line	
	7:00 am to 10:00 pm	10:00 pm to 7:00 am
Single-Family Residential (A, R-1, R-2)[1,2]	60 dBA	50 dBA
Multifamily Residential (R-3)[1,2]	65 dBA	55 dBA
Commercial ((C, O-P. SR)[3]	65 dBA	55 dBA
Industrial	65 dBA	60 dBA
Notes:		
1. For single-family detached dwelling units, the “exterior noise level” is defined as the noise level measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum net lot area: (i) for lots less than 4,000 square feet in area, the exterior area shall include 400 square feet, (ii) for lots between 4,000 square feet to 10 acres in area, the exterior area shall include 10 percent of the lot area; (iii) for lots over 10 acres in area, the exterior area shall include 1 acre.		
2. For all other residential land uses, "exterior noise level" is defined as noise measured at exterior areas which are provided for private or group usable open space purposes. "Private Usable Open Space" is defined as usable open space intended for use of occupants of one dwelling unit, normally including yards, decks, and balconies. When the noise limit for Private Usable Open Space cannot be met, then a Group Usable Open Space that meets the exterior noise level standard shall be provided. "Group Usable Open Space" is defined as usable open space intended for common use by occupants of a development, either privately owned and maintained or dedicated to a public agency, normally including swimming pools, recreation courts, patios, open landscaped areas, and greenbelts with pedestrian walkways and equestrian and bicycle trails, but not including off-street parking and loading areas or driveways.		
3. For non-residential noise sensitive land uses, exterior noise level is defined as noise measured at the exterior area provided for public use.		
Source: City of San Marcos Municipal Code Table 20.300-4.		

Table 4-6: Permitted Increase in Exterior Noise Levels

Permitted Increase	Duration (Cumulative Minutes per Hour)
5	15
10	5
15	1
20	Less than 1 minute

SOURCE: CITY OF SAN MARCOS MUNICIPAL CODE TABLE 20.300-5.

Table 4-7: Permitted Increase in Interior Noise Levels

Permitted Increase (dBA)	Duration (Cumulative Minutes Per Hour)
5	1
10	Less than 1 minute

Source: City of San Marcos Municipal Code Table 20.300-5.

Section 20.300.070 – Performance Standards (Vibration)

Vibration may disturb the conduct of certain activities and create discomfort for some individuals. To minimize the disturbance and inconvenience from vibrations, the City has required that no person or use shall create, maintain, or cause ground vibration that is discernible without instruments to a person of normal sensitivity at any point on a property that is adjacent to the property of the vibration source. The ground vibration caused by moving vehicles, trains, aircraft, or temporary construction or demolition is exempted.

Section 10.24.010 – Loud, Annoying, and Unnecessary Noise Prohibited

Section 10.24 of the City of San Marcos Municipal Code prohibits any person from making any loud, annoying or unnecessary noise that injures, impairs or endangers the health, peace or safety of any person of reasonable sensibilities, or that disturbs the peace, quiet, comfort or tranquility of the neighborhood or community, or exceeds the noise limits set forth in Section 20.300.070(F) of this Code. The characteristics and conditions that should be considered in determining whether a violation of the provisions of this section exists, include, but are not limited to, the following:

- The level and intensity of the noise;
- Whether the nature of the noise is usual or unusual;
- Whether the origin of the noise is natural or unnatural;
- The level and intensity of background noise;
- The nature and zoning of the area abutting and within which the noise emanates;
- The time of the day or night the noise occurs; and
- Whether the noise is recurrent, intermittent or constant.

City of San Marcos Code Section 10.24.020 also includes noise restrictions for specific sources and/or activities that are not meant to be exclusive or all-inclusive of noise sources that may be in violation of noise standards, including horns and signaling devices, motor vehicle noises, stereos, televisions, loudspeakers, yelling or shouting, animals and birds, sources that impact schools and churches, hawkers and peddlers, erection or demolition of buildings, and late-night disturbances.

4.7.3 Study Method and Procedure

The following section describes the noise modeling procedures and assumptions used for this assessment.

Noise Measurement Procedure and Criteria

Noise measurements are taken to determine the existing noise levels. A noise receiver or receptor is any location in the noise analysis in which noise might produce an impact. The following criteria are used to select measurement locations and receptors:

- Locations expected to receive the highest noise impacts, such as the first row of houses
- Locations that are acoustically representative and equivalent of the area of concern
- Human land usage
- Sites clear of major obstruction and contamination

MD conducted the sound level measurements in accordance to Federal Highway Transportation (FHWA), Caltrans (TeNS) technical noise specifications and the City's noise ordinance. All measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA). The following gives a brief description of the Caltrans Technical Noise Supplement procedures for sound level measurements:

- Microphones for sound level meters were placed 5-feet above the ground for all measurements
- Sound level meters were calibrated (Larson Davis CAL 200) before and after each measurement
- Following the calibration of equipment, a windscreen was placed over the microphone
- Frequency weighting was set on "A" and slow response
- Results of the long-term noise measurements were recorded on field data sheets
- During any short-term noise measurements, any noise contaminations such as barking dogs, local traffic, lawn mowers, or aircraft flyovers were noted
- Temperature and sky conditions were observed and documented

SoundPLAN Noise Modeling

SoundPLAN (SP) acoustical modeling software was utilized to create existing and future traffic noise level contours for all General Plan designated roadways. Model parameters included average daily traffic volumes, day/evening/nigh split, roadway classification, width, speed and truck mix. Surfaces adjacent to all modeled roadways were assumed to have a "hard site" to predict worst-case, conservative noise levels. A hard site, such as pavement, is highly reflective and does not attenuate noise as quickly as grass or other soft sites. Possible reductions in noise levels due to intervening topography and buildings were not accounted for in this analysis.

The Sprinter rail line, operated by North County Transit District (NTCD) currently operates seven days a week. There are approximately 75 trips per each 24-hour period. Rail noise was calculated utilizing the Create Noise Model and output was entered into the SoundPLAN noise model as a line source.

Table 4-8: Road Segment Modeling Assumptions

Roadway	From	To	Existing ADTs	2019 Speed	Vehicle Mix Auto/Medium Truck/Heavy Truck	Day/Evening/ Night Split
Barham Dr	Twin Valley Oaks Rd	Campus Way	11,710	45	95.2/3.1/1.7	75/10/15
Barham Dr	Campus Way	La Moree Rd	14,053	45	95.2/3.1/1.7	75/10/15
Barham Dr	La Moree (W)	RT 78 Off Ramp	17,071	45	95.2/3.1/1.7	75/10/15
Barham Dr	RT 78 Off Ramp	Woodland Pkwy	21,538	45	95.2/3.1/1.7	75/10/15
Barham Dr	Woodland Pkwy	RT 78 On Ramp	16,958	45	95.2/3.1/1.7	75/10/15
Barham Dr	RT 78 On Ramp	Bennett Ave	123,217	45	95.2/3.1/1.7	75/10/15
Bennett Ave	Rock Springs Rd	Knob Hill Rd	6,602	40	95.2/3.1/1.7	75/10/15
Bennett Ave	Knob Hill Rd	Mission Rd	6,953	40	95.2/3.1/1.7	75/10/15
Bent Ave	Grand Ave	San Marcos Blvd	5,120	35	95.2/3.1/1.7	75/10/15
Bent Ave	San Marcos Blvd	Discovery St	10,305	35	95.2/3.1/1.7	75/10/15
Borden Rd	Las Posas Rd	Comet Circle	9,490	35	95.2/3.1/1.7	75/10/15
Borden Rd	Comet Circle	Twin Oaks Valley Rd	13,881	35	95.2/3.1/1.7	75/10/15
Borden Rd	Twin Oaks Valley Rd	Woodward St	11,821	35	95.2/3.1/1.7	75/10/15
Borden Rd	Woodward St	Vineyard Rd	8,303	35	95.2/3.1/1.7	75/10/15
Borden Rd	Vineyard Rd	Mulberry Dr	10,008	35	95.2/3.1/1.7	75/10/15
Borden Rd	Mulberry Dr	Rose Ranch/Richland	11,921	35	95.2/3.1/1.7	75/10/15
Borden Rd	Rose Ranch/Richland	Woodland Pkwy	13,978	35	95.2/3.1/1.7	75/10/15
Craven Rd	Discovery St	Santa Barbara Dr	18,296	45	95.2/3.1/1.7	75/10/15
Craven Rd	Santa Barbara Dr	Twin Oaks Valley Rd	18,845	45	95.2/3.1/1.7	75/10/15
Deer Spring Rd	Twin Valley Oaks Rd	North City Limit	22,354	45	95.2/3.1/1.7	75/10/15
Discovery St	San Marcos Blvd	320' N/O San Pablo Dr	13,133	35	95.2/3.1/1.7	75/10/15
Discovery St	La Sombra Dr	Via Vera Cruz	12,200	35	95.2/3.1/1.7	75/10/15
Discovery St	Via Vera Cruz	Bent Ave	13,038	35	95.2/3.1/1.7	75/10/15
Discovery St	Rush Ave	Twin Oaks Valley Rd	12,250	35	95.2/3.1/1.7	75/10/15

Grand Ave	Rancho Santa Fe Rd	Pacific St	9,676	40	95/3/2	75/10/15
Grand Ave	Pacific St	Las Posas Rd	12,044	40	95/3/2	75/10/15
Grand Ave	Via Vera Cruz	Bent Ave	10,770	40	95.2/3.1/1.7	75/10/15
Grand Ave	Bent Ave	San Marcos Blvd	11,382	40	95.2/3.1/1.7	75/10/15
Grand Ave	San Marcos Blvd	Creekside Rd	9,301	40	95.2/3.1/1.7	75/10/15
Knoll Rd	Mission Rd	Los Vallecitos Blvd	9,888	40	95.2/3.1/1.7	75/10/15
Knoll Rd	Los Vallecitos Blvd	San Marcos Blvd	14,744	40	95.2/3.1/1.7	75/10/15
N Las Posas Rd	Avenida Leon	Borden Rd	4,629	45	95.2/3.1/1.7	75/10/15
N Las Posas Rd	Borden Rd	Avenida Azul	14,196	45	95.2/3.1/1.7	75/10/15
N Las Posas Rd	Avenida Azul	Mission Rd	22,488	45	95/3/2	75/10/15
N Las Posas Rd	SR-78 WB	Grand Ave	38,306	45	95.2/3.1/1.7	75/10/15
N Las Posas Rd	Grand Ave	Linda Vista Dr	15,886	45	95.2/3.1/1.7	75/10/15
N Las Posas Rd	Linda Vista Dr	San Marcos Blvd	10,951	45	95.2/3.1/1.7	75/10/15
Linda Vista Dr (W)	Poinsetta Ave	Tilley Ln	11,592	40	95.2/3.1/1.7	75/10/15
Linda Vista Dr	Hillhaven Dr	Tilley Ln	11,592	40	95.2/3.1/1.7	75/10/15
Linda Vista Dr	Tilley Ln	Rancho Santa Fe Rd	11,714	40	95.2/3.1/1.7	75/10/15
Linda Vista Dr	Rancho Santa Fe Rd	Pacific St	12,458	40	95/3/2	75/10/15
Linda Vista Dr	Pacific St	Las Posas Rd	9,208	40	95/3/2	75/10/15
Linda Vista Dr	Las Posas Rd	Via Vera Cruz	5,796	40	95.2/3.1/1.7	75/10/15
Linda Vista Dr	Via Vera Cruz	Grand Ave	4,084	40	95.2/3.1/1.7	75/10/15
W Mission Rd	Rancho Santa Fe Rd	Los Posas Rd	12,910	40	95.2/3.1/1.7	75/10/15
W Mission Rd	Las Posas Rd	Knoll Rd	17,843	45	95.2/3.1/1.7	75/10/15
W Mission Rd	Knoll Rd	Pico Ave	17,083	45	95.2/3.1/1.7	75/10/15
W Mission Rd	Pico Ave	Woodward/Sm Blvd	14,080	45	95.2/3.1/1.7	75/10/15
W Mission Rd	Woodward/SM Blvd	Mulberry Dr	24,977	45	95.2/3.1/1.7	75/10/15
W Mission Rd	Mulberry Dr	Woodland Pkwy	19,957	45	95.2/3.1/1.7	75/10/15
W Mission Rd	Woodland Pkwy	Bougher Rd	21,255	45	95.2/3.1/1.7	75/10/15
W Mission Rd	Bougher Rd	Bennett Ave/Rancheros	16,858	45	95.2/3.1/1.7	75/10/15

W Mission Rd	Bennett Ave/Rancheros	Barham Dr	17,568	45	95.2/3.1/1.7	75/10/15
Nordahl Rd	Rock Springs Rd	Knob Hill Rd	9,986	35	95.2/3.1/1.7	75/10/15
Nordahl Rd	Knob Hill Rd	Center Dr	14,832	40	95.2/3.1/1.7	75/10/15
Nordahl Rd	Center Dr	Montiel Rd	19,462	40	95.2/3.1/1.7	75/10/15
Rancho Santa Fe Rd	S Santa Fe Ave	SR-78 EB	8,080	40	95/3/2	75/10/15
Rancho Santa Fe Rd	SR-78 EB	Grand Ave	32,068	40	95/3/2	75/10/15
Rancho Santa Fe Rd	Grand Ave	Linda Vista Dr	30,828	40	95/3/2	75/10/15
Rancho Santa Fe Rd	Linda Vista Dr	Security Pl	30,286	45	95/3/2	75/10/15
Rancho Santa Fe Rd	Security Pl	San Marcos Blvd	26,121	45	95/3/2	75/10/15
Rancho Santa Fe Rd	San Marcos Blvd	Lake San Marcos Dr	33,423	45	95/3/2	75/10/15
Rancho Santa Fe Rd	Lake San Marcos Dr	Island Dr	29,275	45	95/3/2	75/10/15
Rancho Santa Fe Rd	Island Dr	Melrose Dr	30,000	45	95/3/2	75/10/15
Rancho Santa Fe Rd	Melrose Dr	San Elijo Rd	28,106	55	95/3/2	75/10/15
Rock Springs Rd	Richland Rd	Woodland Pkwy	3,286	25	95.2/3.1/1.7	75/10/15
Rock Springs Rd	Woodland Pkwy	Bennett Ave	6,698	35	95.2/3.1/1.7	75/10/15
San Marcos Blvd	Business Park Dr	Viewpoint Dr	34,613	45	95.2/3.1/1.7	75/10/15
San Marcos Blvd	Viewpoint Dr	Rancho Santa Fe Rd	32,937	45	95.2/3.1/1.7	75/10/15
San Marcos Blvd	Rancho Santa Fe Rd	Discovery St	42,183	45	95.2/3.1/1.7	75/10/15
San Marcos Blvd	Discovery St	Las Posas Rd	39,837	45	95.2/3.1/1.7	75/10/15
San Marcos Blvd	Las Posas Rd	S Pacific St	36,340	45	95.2/3.1/1.7	75/10/15
San Marcos Blvd	S Pacific St	Via Vera Cruz	32,216	45	95.2/3.1/1.7	75/10/15
San Marcos Blvd	Via Vera Cruz	Bent Ave	36,537	45	95.2/3.1/1.7	75/10/15
San Marcos Blvd	Bent Ave	Grand Ave	40,662	45	95.2/3.1/1.7	75/10/15
San Marcos Blvd	Grand Ave	SR-78 EB	53,790	45	95.2/3.1/1.7	75/10/15
San Marcos Blvd	SR-78 EB	Knoll Rd	42,476	45	95.2/3.1/1.7	75/10/15
San Marcos Blvd	Knoll Rd	Pico Ave	25,948	45	95.2/3.1/1.7	75/10/15
San Marcos Blvd	Pico Ave	Twin Oaks Valley Rd	25,865	45	95.2/3.1/1.7	75/10/15

San Marcos Blvd	Twin Oaks Valley Rd	Rancheros Dr	23,476	45	95.2/3.1/1.7	75/10/15
San Marcos Blvd	Rancheros Dr	Mission Rd	16,698	45	95.2/3.1/1.7	75/10/15
Twin Oaks Valley Rd	Twin Oaks Valley Rd (N)	Buena Creek Rd	19,928	50	95.2/3.1/1.7	75/10/15
Twin Oaks Valley Rd	Buena Creek Rd	La Cienega Rd	16,241	50	95.2/3.1/1.7	75/10/15
Twin Oaks Valley Rd	La Cienega Rd	Borden Rd	19,237	50	95.2/3.1/1.7	75/10/15
Twin Oaks Valley Rd	Borden Rd	San Marcos Rd	26,499	45	95.2/3.1/1.7	75/10/15
Twin Oaks Valley Rd	San Marcos Blvd	SR-78 WB	41,000	45	95.2/3.1/1.7	75/10/15
Twin Oaks Valley Rd	SR-78 WB TO	Barham Dr	45,143	45	95.2/3.1/1.7	75/10/15
Twin Oaks Valley Rd	Barham Dr	Village Drive S.	22,510	45	95.2/3.1/1.7	75/10/15
Twin Oaks Valley Rd	Village Drive S.	Ledge St	22,437	45	95.2/3.1/1.7	75/10/15
Via Vera Cruz	Grand Ave	San Marcos Blvd	9,654	40	95.2/3.1/1.7	75/10/15
Via Vera Cruz	San Marcos Blvd	Discovery St	4,850	35	95.2/3.1/1.7	75/10/15
Woodland Pkwy	Borden Rd/El Nte Pkwy	Rock Spring Rd	10,280	40	95.2/3.1/1.7	75/10/15
Woodland Pkwy	Rock Springs Rd	Mission Rd	14,761	40	95.2/3.1/1.7	75/10/15
Woodland Pkwy	Mission Rd	Rancheros Dr	18,473	40	95.2/3.1/1.7	75/10/15
Woodland Pkwy	Rancheros Dr	Barham Dr	19,380	40	95.2/3.1/1.7	75/10/15
State Route 78	State Route 15	Melrose Dr	114,000	96.1	96.1/2.7/1.3	75/10/16

Notes: Roadway volumes provided by City of San Marcos Public Works, 2019, Kittleson & Associates March 2020, and Caltrans Operations https://dot.ca.gov/programs/traffic-operations/census

4.7.4 Existing Noise Environment

Noise Sources in the Community

The City of San Marcos is a mix of urbanized and suburban areas, and is subject to numerous noise sources, primarily vehicular traffic on major roadways and rail traffic. The City is also subject to typical urban noise sources such as construction, outdoor business activity, emergency response vehicle sirens, landscaping equipment, trash collection activities, barking dogs, high altitude jet aircraft, and car alarms.

Major noise sources in the City include vehicular traffic on SR-78, and major arterials throughout the City (e.g., Rancho Santa Fe Road, Las Posas Road, Mission Road, San Marcos Boulevard, and Twin Oaks Valley Road). Truck traffic is prevalent on SR-78 and major roadways and generates higher noise levels relative to other vehicle types that travel on local roadways. Train traffic on the North County Transit District Sprinter rail line, which is generally oriented parallel to SR-78, is another major source of noise in the City. Sprinter traffic is limited to daily passenger transit and limited freight traffic.

The nearest airport is the McClellan-Palomar Airport, located approximately 2.1 miles west of the western City limits. The City has a San Diego County Sheriff's Office (SDSO) helipad located on Santar Place at the northern County Sheriff's headquarters. Helicopter operations are minimal and for emergency purposes only. The helipad is located in an industrial/commercial area with no nighttime sensitive receptors located within 1,100 feet. McClellan-Palomar Airport is a general aviation airport located near the intersection of Palomar Airport Road and El Camino Real in the City of Carlsbad. In 2010, McClellan-Palomar Airport adopted and amended their Airport Land Use Compatibility Plan (ALUCP) to provide for the orderly growth of the Airport and promote compatibility with the surrounding land uses.

The City of San Marcos is located entirely outside of the present and future 60 dBA CNEL noise contour for McClellan-Palomar Airport, and therefore, airport operations do not substantially affect the ambient noise environment of San Marcos. However, the City is located in a proposed Noise Impact Notification Area (NINA) for Palomar Airport (SDCRAA 2006). The purpose of the NINA is to establish specific actions and responsibilities of realtors and homeowners to adequately inform prospective home buyers of aviation easement during real estate transactions (SDCRAA 2006).

Palomar Airport currently operates under the Voluntary Noise Abatement Procedures (VNAP) which include voluntary quiet hours for both take-off and landing; quiet hours are 10 PM – 7 AM for jet aircraft, and 12 AM – 6 AM other aircraft (emergency, lifeguard, and law enforcement allowed). Pilots are asked to refrain from taking off and landing during these times. The majority of pilots using the airport adhere to the quiet hours (McClellan-Palomar Airport Noise Fact Sheet). For example, during the month of January 2018:

- There were 13,724 total operations (arrivals or departures for jet and propeller or other aircraft).
- 99.5% of total operations were in voluntary compliance and occurred outside of VNAP quiet hours.
- 0.5% (73 flights) of total operations were not in voluntary compliance and occurred during VNAP quiet hours.

- There were 15 nights without any arrivals and eight nights without any departures during VNAP quiet hours.
- The majority of flights occurring during VNAP quiet hours occurred before 12 AM or after 5 AM
- Between the hours of 12 AM. and 5 AM, there were a total of four departures and nine arrivals.
- All commercial flight departures and arrivals occurred outside of the VNAP quiet hours.

Non-transportation noise sources would include construction projects, industrial areas (primarily located north and south of SR-78), residential and commercial heating, ventilation, and air conditioning (HVAC) systems, loading docks, parking areas, commercial/retail centers, event venues (e.g., sports fields, amphitheaters), and any other miscellaneous sources not associated with transportation.

Noise Measurement Results

Noise monitoring locations were selected based on the nearest sensitive receptors relative to the proposed onsite noise sources. Five long-term 24-hour noise and measurements and 11 short-term noise measurements were conducted at the City to document the existing noise environment. Noise measurement locations are shown in Figure 4-6. A summary of short-term noise measurements is presented in Table 4-9 and a summary of long-term noise measurements is presented in Table 4-10.

Short-Term Noise Measurements

As shown in Table 4-9 ambient noise level ranges between 56.6 dBA Leq to 78.5 dBA Leq throughout the City. Vehicle noise associated with SR-78, the existing rail line and areawide roadways were the primary sources of ambient noise in within the City. Secondary noise sources included typical residential activities and landscaping equipment. A summary of results of is presented in Table 4-9. Table 4-9 also provides estimated CNEL levels for each location based off typical hour-to-hour traffic patterns. Field notes and meter output are provided in Appendix C.

Long-Term Noise Measurements

Long-term noise measurements (24 consecutive hours) were taken in order to document CNEL levels, primarily near SR-78 and the City Hall parking structure. Noise levels ranged between 52.8 dBA CNEL to 73.0 dBA CNEL. Primary noise sources were from vehicle traffic. Table 4-10 also outlines the daytime (7AM to 7PM), evening (7PM to 10PM), and nighttime (10PM to 7AM) Leq levels for each location. These represent the average level over each time period.

Noise Level Contours

Modeled existing noise level contours for General Plan Designated road segments are shown in Figure 4-7; existing noise level contours for SR-78 within the City's Sphere of Influence are shown in Figure 4-8; and existing rail (Sprinter) noise contours are shown in Figure 4-9.

4.7.5 References

MD Acoustics, April 2020. City of San Marcos 2020 General Plan Update Noise Impact Study.

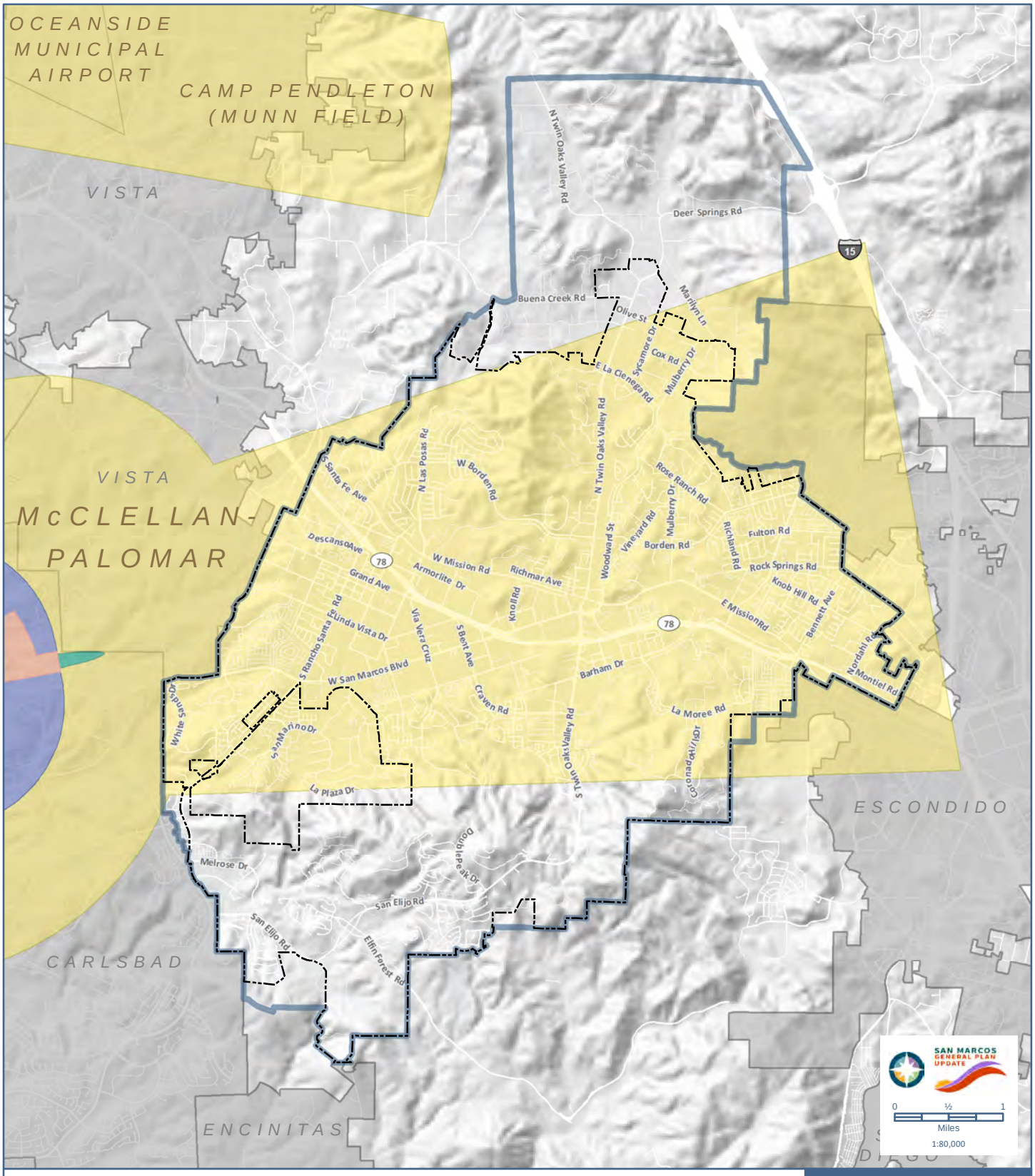
Table 4-9: Short-Term Noise Measurement Summary

Site	Time	Date	Appx Address	Description	A-Weighted Sound Level (dBA)				
					L_{eq}	L_{max}	L_{min}	L_{90}	CNEL
ST1	1:20 PM	2/26/2020	San Elijo Rd & Ledge St	South side of San Elijo Road at Ledge Street	70.9	79.3	55.0	59.8	74.2*
ST2	1:50 PM	2/26/2020	931 Bailey Ct	Mission Sports Park, 75 feet south of Sprinter Line	56.6	67.6	49.4	50.9	59.9*
ST3	3:04 PM	2/26/2020	153 E Carmel St	E. Carmel Street and Campus Way	78.5	87.6	72.2	75.2	80.4*
ST4	3:23 PM	2/26/2020	1566 Grand Ave	Vacant lot next to 1553 Grand Ave., 50 feet south of Grand Ave.	69.0	80.7	55.7	59.6	70.9*
ST5	3:48 PM	2/26/2020	1241 Borden Rd	South side of Borden Road in open space approx. 390 feet east of Amber Drive.	66.8	78.2	54.7	56.0	68.7*
ST6	4:15 PM	2/26/2020	1205 San Marcos Blvd	SW corner of San Marcos Boulevard & Mc Mahr Dr	74.0	89.9	53.7	61.7	74.4*
ST7	4:34 PM	2/26/2020	1306 W Borden Rd	Cerro De Las Posas Park 50 feet west of tennis courts and 50 feet south of Borden Road	67.4	82.5	43.7	48.9	67.8*
ST8	4:59 PM	2/26/2020	Craven & Twin Oaks Valley Rd	Dirt Parking Lot, 50 feet west of Twin Oaks Road	73.9	85.0	55.8	60.4	74.6*
ST9	5:20 PM	2/26/2020	1614 Island Drive	North side of S. Rancho Sante Fe approx. 130 north of Island Drive	72.2	81.0	46.5	54.7	72.9*
ST10	5:54 PM	2/26/2020	906 Nordahl Rd	South side of Nordahl Road, south of Pine Heights Way	68.3	78.4	50.4	55.4	69.0*
ST11	6:12 PM	2/26/2020	Del Roy Dr & Twin Oaks Valley Rd	NE corner of Twin Oaks Valley Road and Del Roy Drive and	73.7	87.8	52.0	55.1	76.2*
Notes:									
** Refers to estimated CNEL*									
dBA = A-weighted decibels									
Leq = equivalent noise level									
Lmax = maximum noise level									
Lmin-minimum noise level									
Ln=noise level exceeded n percent of the measurement period									
ST=Short-Term Noise Measurement (10-Minutes)									
LT=Long-Term Noise Measurement (24-Hours)									

Table 4-10: Long-Term Noise Measurement Summary

Site	Time	Date	Appx Address	Description	A-Weighted Sound Level (dBA)			
					Daytime Leq	Evening Leq	Nighttime Leq	CNEL
LT1	7 AM to 7 AM	2/26-2/27	298 N Rancho Santa Fe Rd	Vacant lot south of Mission Road	46.1	45.6	46.1	52.8
LT2	7 AM to 7 AM	3/12-3/13	750 Furniture Rd	NW corner of SR78 and Vallecitos De Oro	74.5	68.2	62.1	73.6
LT3	7 AM to 7 AM	3/3-3/4	300 Rancheros Dr	Black & Veatch Parking Lot, 100 feet north of SR-78	63.0	60.3	67.4	73.4
LT4	7 AM to 7 AM	2/26-2/27	Mission Rd & Barham Ln	Nordahl Road Rail Station, approx. 100 feet south of Barham Drive	64.1	62.6	61.4	68.6
LT5	10 AM to 10 AM	3/12-3/13	43 Civic Center Dr	Train curve near City Hall parking garage	68.0	62.4	63.5	70.9

Notes:
Leq = Equivalent Noise Level
CNEL = Community Noise Equivalent Level



LEGEND

- City of San Marcos
- Planning Area/Sphere of Influence
- Neighboring City
- Unincorporated San Diego County
- Airport Influence Area 1
- Airport Influence Area 2
- Outer Approach/Departure Zone
- Traffic Pattern Zone

FIGURE 4.1

AIRPORT LAND USE COMPATIBILITY ZONES

Data sources: SANGIS; CalAtlas. Map date: April 14, 2020.

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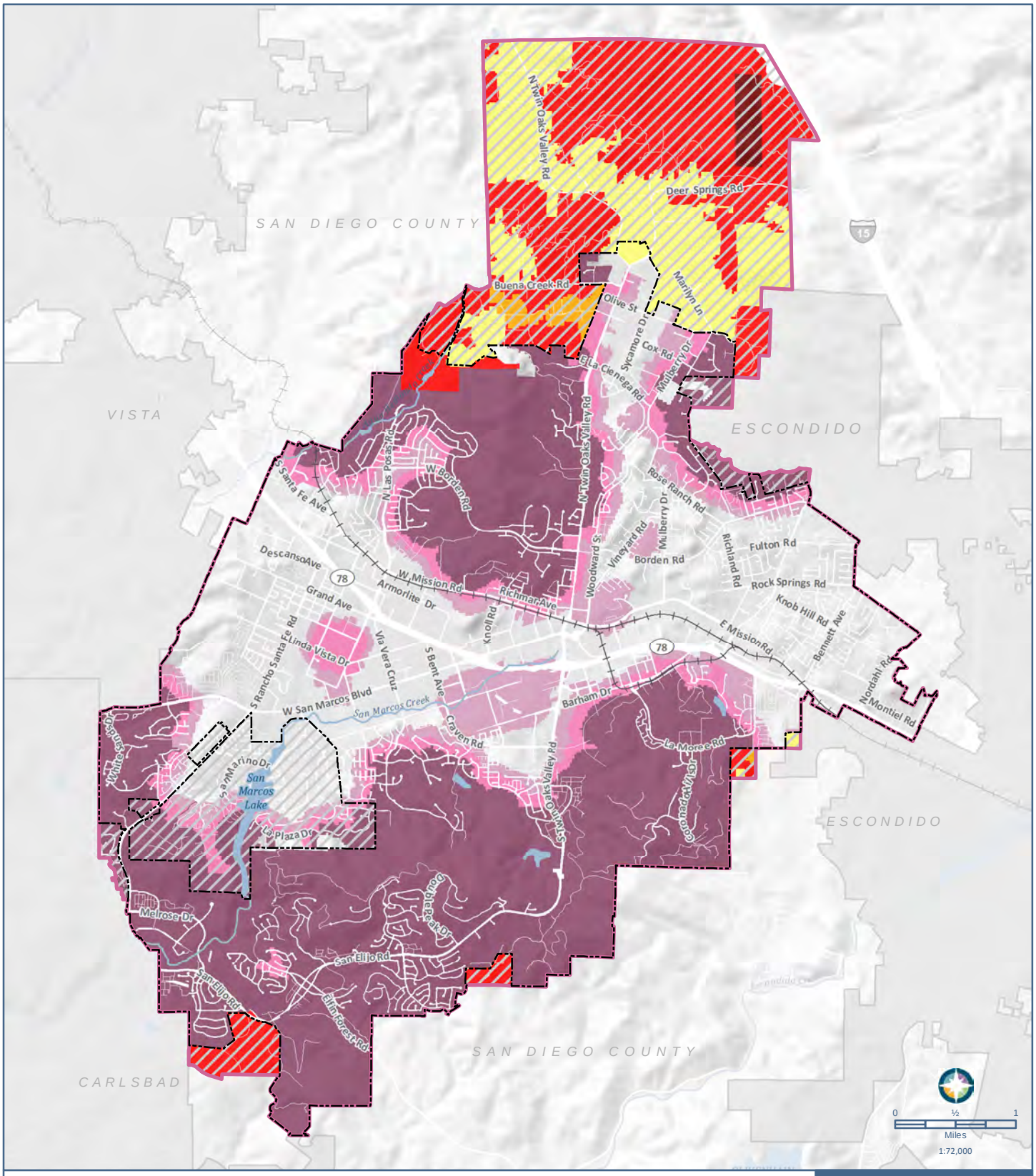

LEGEND

Responsibility Area: Fire Hazard Severity*

- Federal: Very High
- State: Very High
- State: High
- State: Moderate
- Local: Very High
- Local: High
- Local: Moderate

Planning Areas/Jurisdictions

- City of San Marcos
- Sphere of Influence
- Areas within the Sphere of Influence
- Neighboring City

**This dataset does not define the final adopted Very High zones in local responsibility areas. A final adopted version has not yet been published.*

Data sources: FRAP; SANGIS; CalAtlas. Map date: March 11, 2020.

City of San Marcos
General Plan

FIGURE 4.2

FIRE HAZARD SEVERITY ZONES

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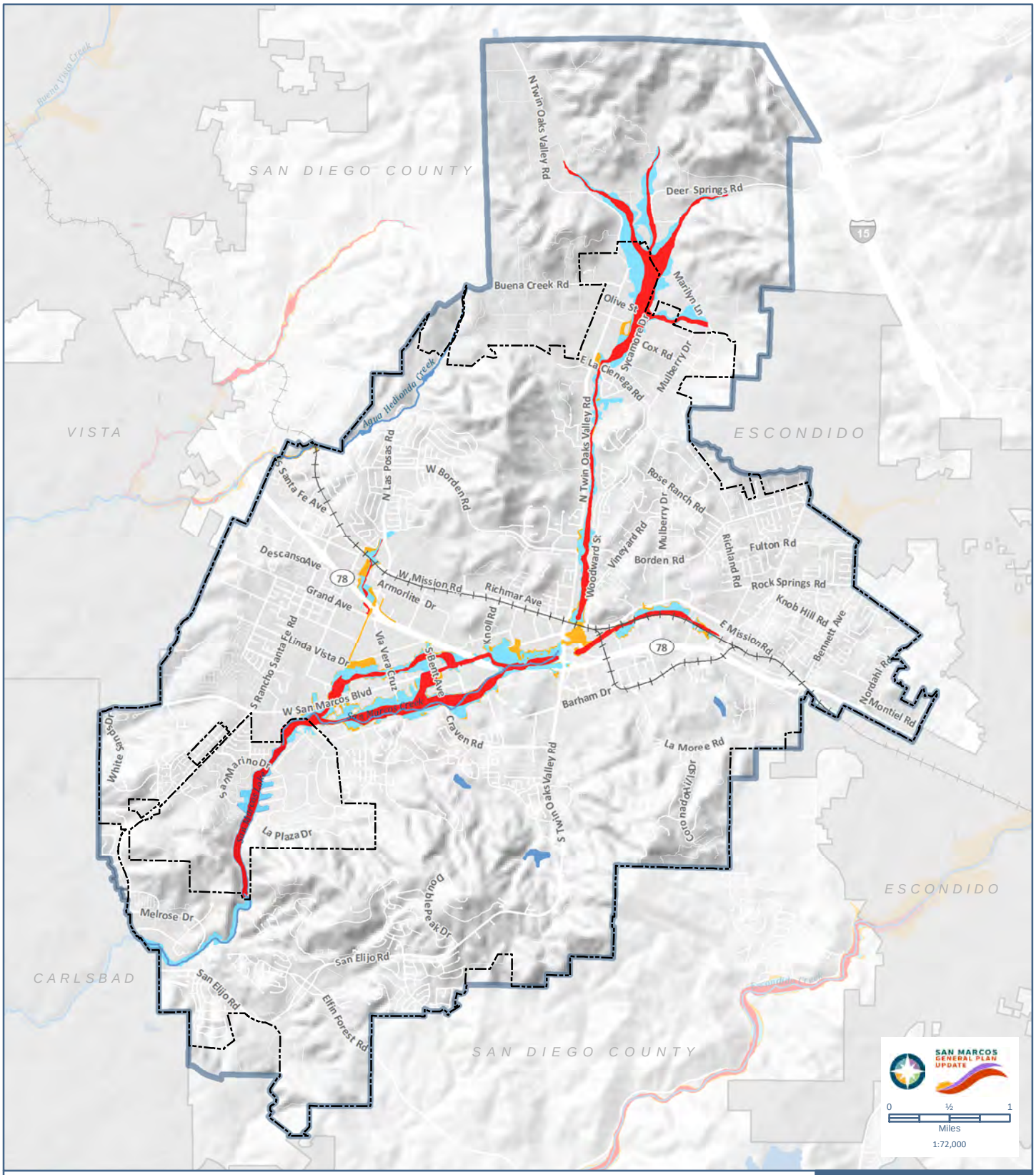

LEGEND

- City of San Marcos
- Planning Area/Sphere of Influence
- Neighboring City
- Unincorporated San Diego County
- Lake or Pond
- Creeks
- Railroad
- 100-yr Flood Zone
- Regulatory Floodway
- 500-yr Flood Zone
- unshaded — Area of Minimal Flood Hazard

FIGURE 4.3.

FEMA FLOOD MAP

Data sources: FEMA NFHL_06073C, latest effective date 12/20/2019; SANGIS; CalAtlas. Map date: April 15, 2020.

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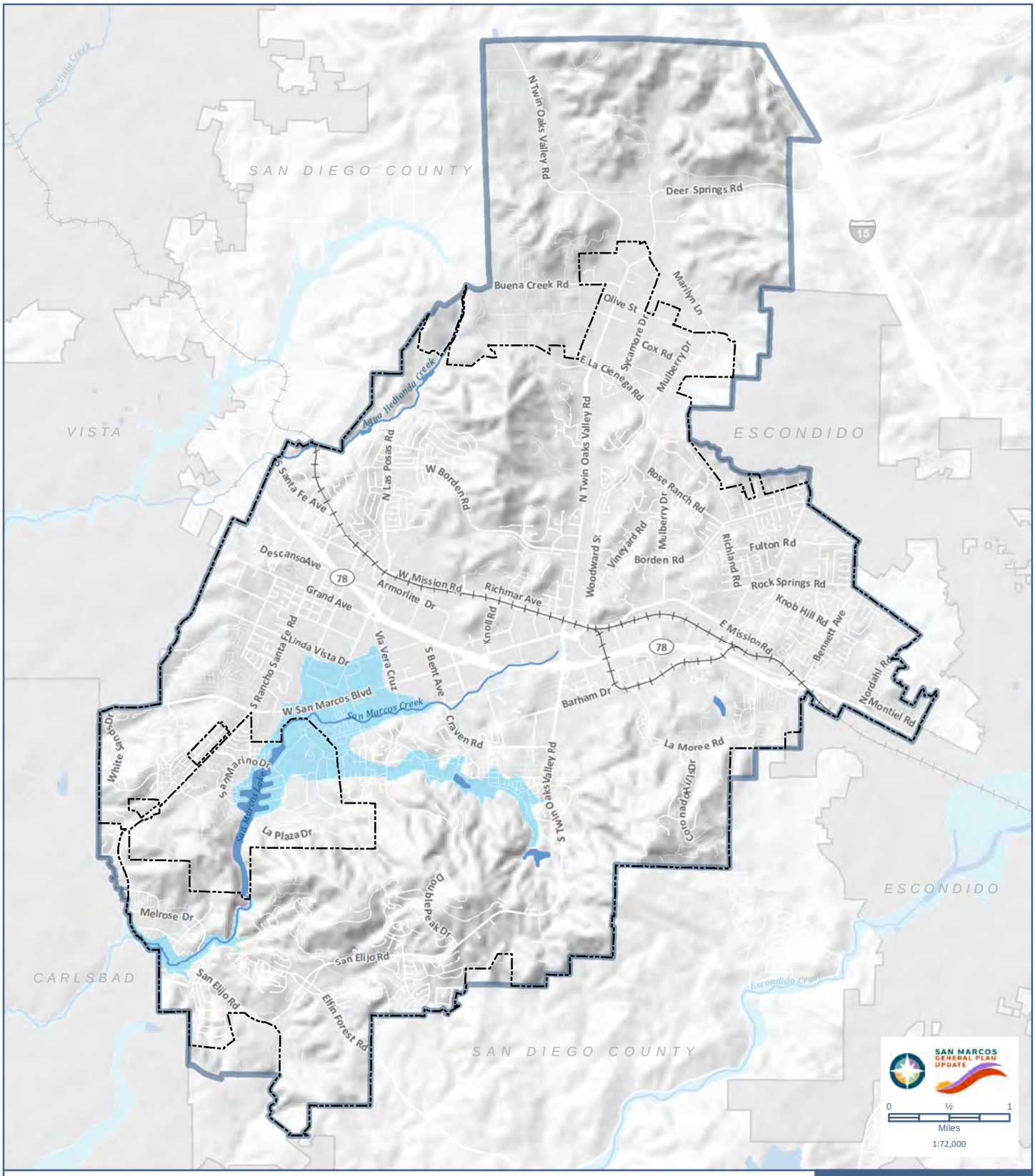

LEGEND

- City of San Marcos
- Planning Area/Sphere of Influence
- Neighboring City
- Unincorporated San Diego County
- Lake or Pond
- Creek
- Railroad
- Dam Inundation Area

FIGURE 4.4.

DAM INUNDATION AREAS

Data sources: oes_services Dam_Inundation map service; SANGIS; CalAtlas. Map date: April 15, 2020.

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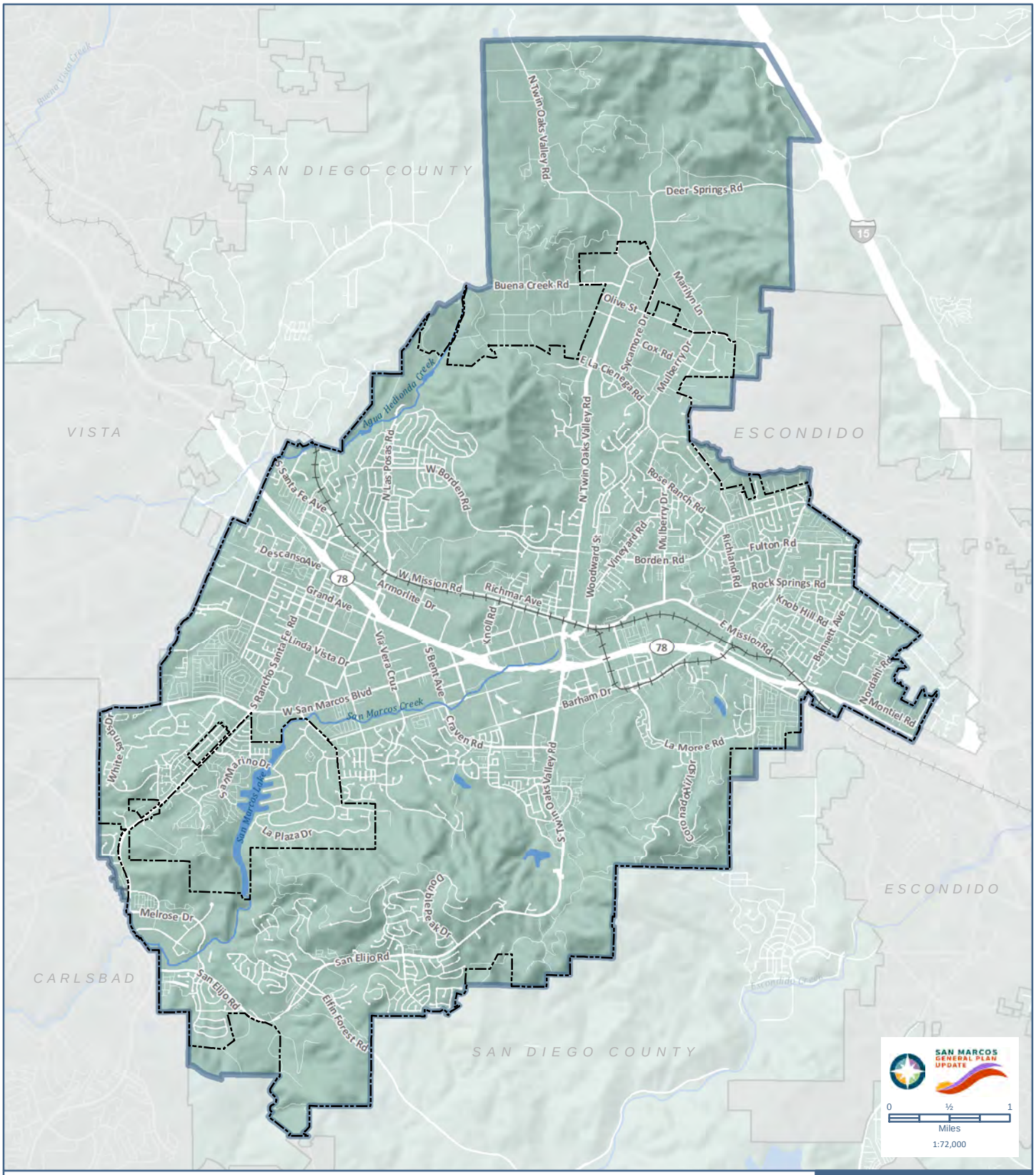

LEGEND

- City of San Marcos
- Planning Area/Sphere of influence
- Neighboring City
- Unincorporated San Diego County
- Lake or Pond
- Creek
- Railroad
- Mountain Lion Range

FIGURE 4.5

MOUNTAIN LION RANGE

Data sources: California Department of Fish and Wildlife, CWHR2014; SANGIS; CalAtlas. Map date: April 14, 2020.

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= City of San Marcos Boundary

= City of San Marcos Sphere of Influence

1 = Long Term measurement (24-Hour)

1 = Short Term measurement (10-Minute)

Figure 4.6.

Location Measurement Location Map

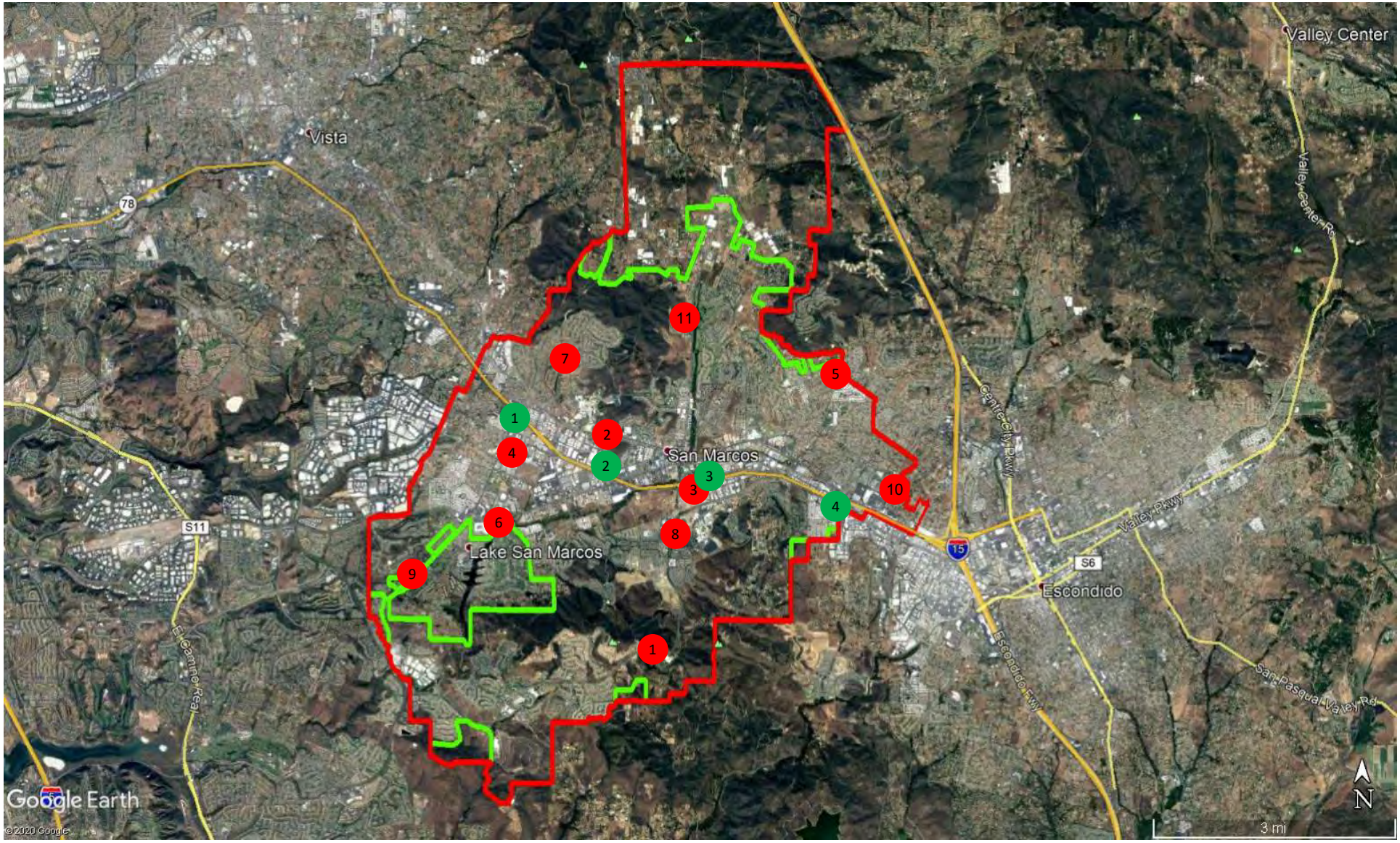

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Figure 4.7.

Existing SR-78 Noise Level Contours – Street Map (CNEL)

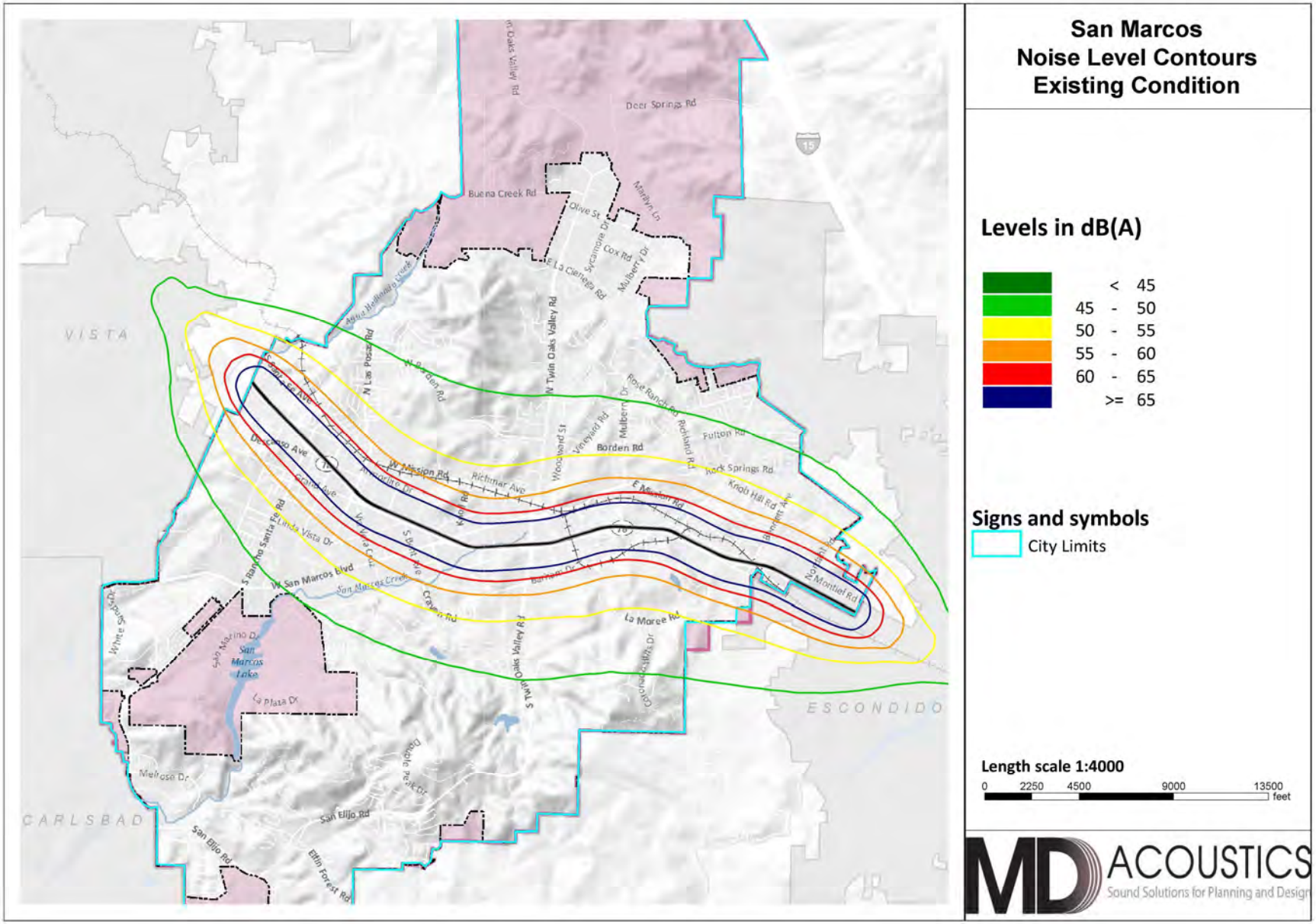

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Figure 4.8.

Existing Roadway Noise Level Contours – Street Map (CNEL)

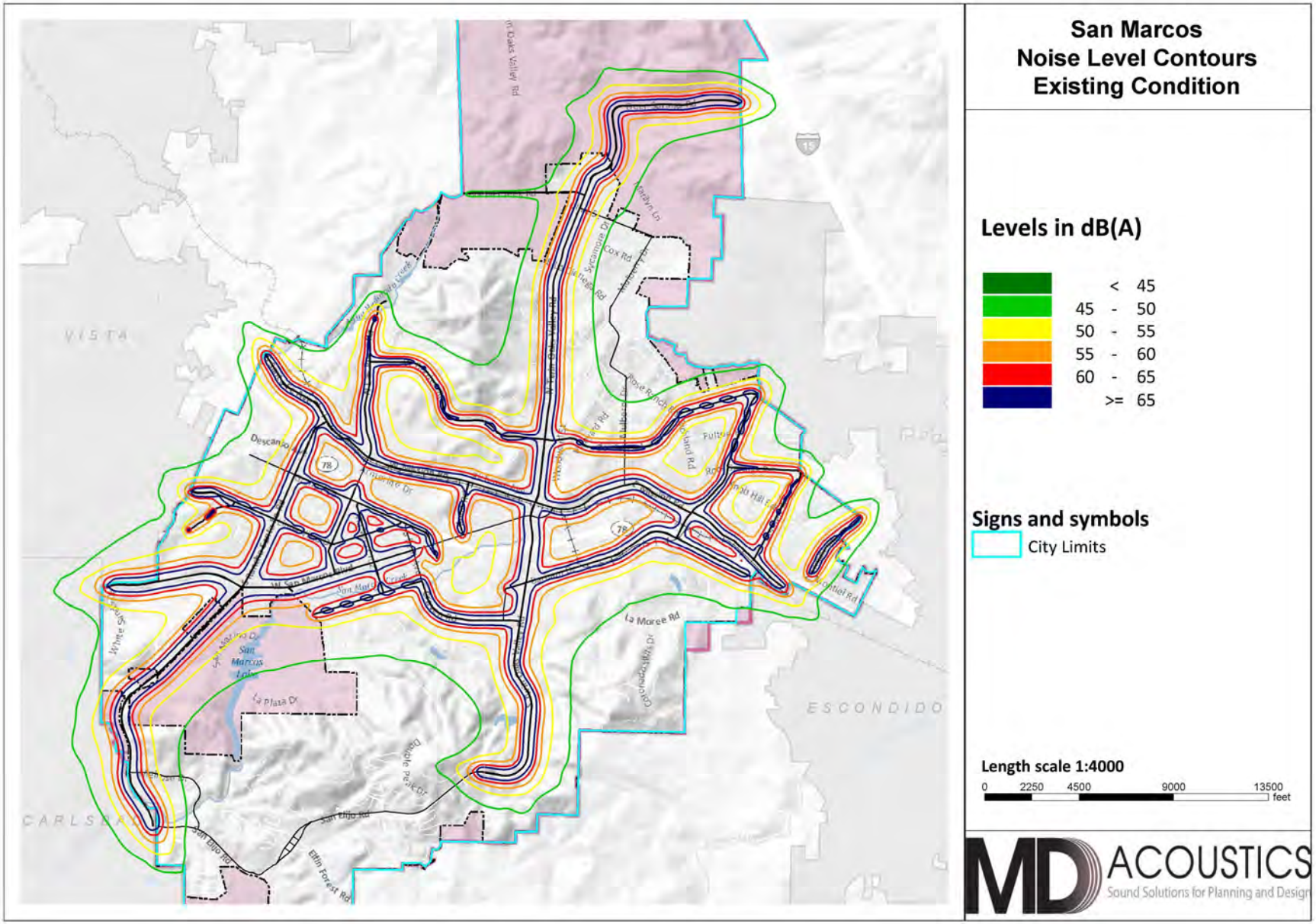

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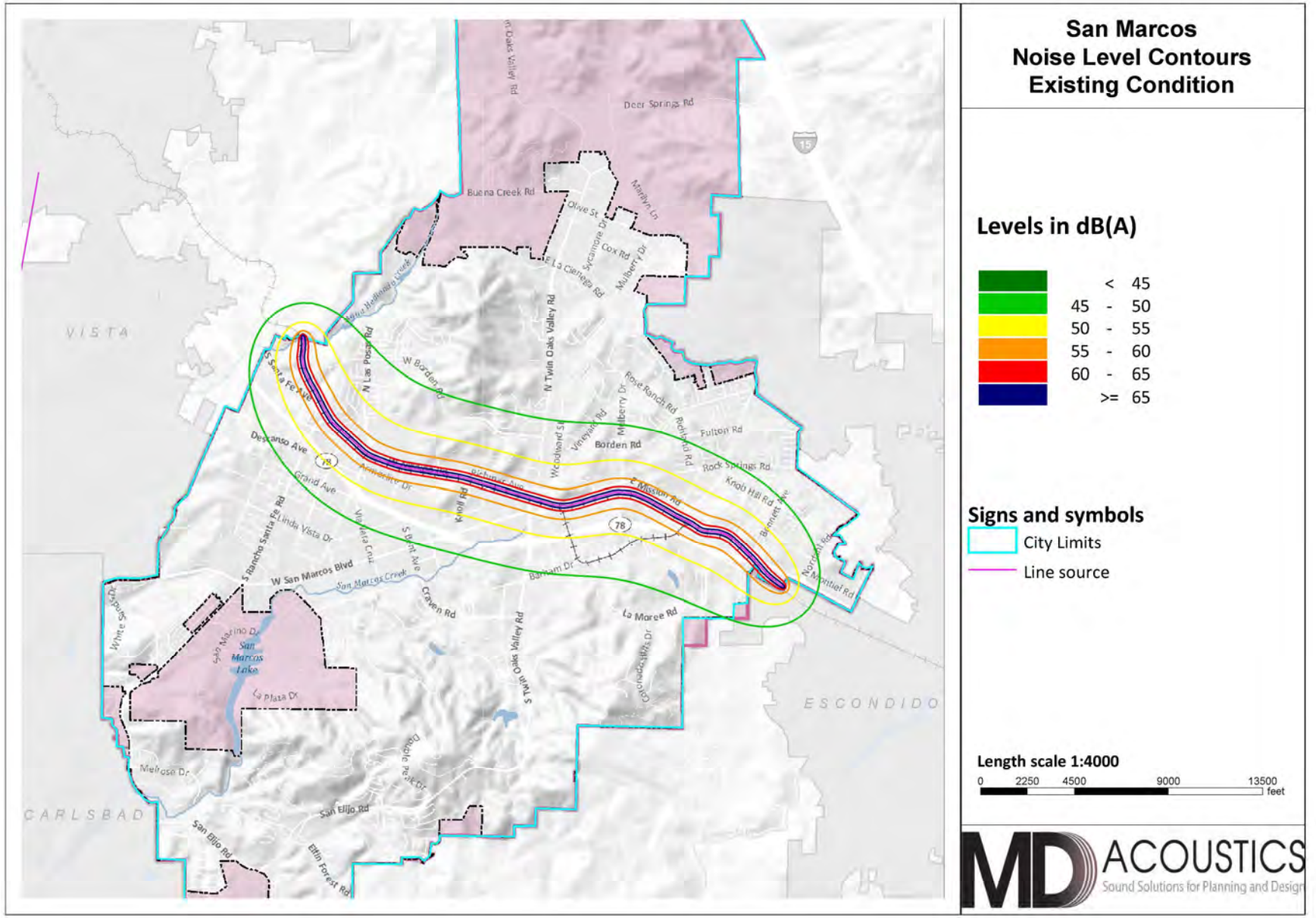
Figure 4.9.

Existing Sprinter Rail Noise Level Contours – Street Map (CNEL)



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