

3.0 ENVIRONMENTAL SETTING

Physical Characteristics of the San Diego Region

Located in the southwest corner of the United States, the San Diego region is composed of more than 4,200 square miles and four general physiographic regions: the coastal plain, the foothills, the mountains, and the desert. The region's borders are both political and geological. To the north, the region is bordered by Orange and Riverside counties, although largely separated from Orange County by Camp Pendleton. To the south of the region is the U.S. border with Mexico. The Pacific Ocean forms a natural border to the west, and the region shares a border with Imperial County to the east. The Island of Coronado lies west of the mainland in the Pacific Ocean and is connected by the Coronado Bridge.

The coastal plain ranges in elevation from sea level to approximately 600 feet above mean sea level (AMSL). Although much of the coastal plain has been developed for commercial, industrial, recreational, and residential uses, the coastal plain contains state parks, beaches, wetlands, and ecological reserves. Marine terraces step up the coastal plain west to east toward the inland foothills. The foothills range in elevation from 600 to 2,000 feet AMSL and are distinguished by hills and mesas with river valleys and narrow canyons. Several rivers run from the mountain area and through the foothills and coastal plain, flowing into intermittent drainages or the Pacific Ocean. Most intensive urban development, including population, housing, and employment within incorporated and unincorporated communities, is found in the coastal and foothill areas of the region where topography and mild coastal climatic conditions are favorable.

Elevations in the mountain region range from 2,000 to 6,000 feet AMSL. The mountains are generally steep and covered with conifer and broadleaf trees, granitic boulders, meadows, and chaparral vegetation. The eastern portion of the San Diego region is the desert region. Elevations range from sea level to 3,000 feet AMSL and the terrain includes mountains, alluvial fans, and desert floor. The mountain and desert regions are sparsely populated in scattered towns as part of the unincorporated area of San Diego County. Much of the desert region is part of the Anza-Borrego State Park, the largest state park in California.

The climate of the San Diego region varies by location. Temperatures are typically moderate on the coastal plain, with an average high temperature of 69.9 degrees Fahrenheit (°F) and an average low temperature of 56.6°F. Average monthly temperatures rarely exceed 80°F. Average precipitation is 10.13 inches. In contrast, the average high temperature of the unincorporated town of Borrego Springs in the desert region is 87.6°F, and the average low is 58.3°F. Average monthly temperatures in the desert region typically exceed 100°F in summer months, which are very dry and see little precipitation. Average precipitation is 5.84 inches (WRCC 2010). Like much of the coast of Southern California, the climate of the San Diego region is influenced by the Pacific Ocean, and coastal fog is common. Hot, dry winds known as "Santa Ana" winds occasionally come through the region (UC Davis 2010).

Rare and Unique Environmental Resources

Due to its diverse topography, geological conditions, and moderate climate, the San Diego region contains several rare and unique ecological and biological resources. The region encompasses a variety of habitats such as coastal sage scrub, chaparral, grassland, riparian, woodlands, forest, and desert. Several habitats and species in the region are considered sensitive by state and federal agencies, local jurisdictions, and conservation organizations. In fact, the San Diego region is considered a biological "hot spot" for biodiversity and species endangerments, as many unique and endangered species are found only in this region.

Along the coast, the Torrey Pines State Natural Reserve is home to the Torrey pine, the rarest pine in North America. Coastal sage scrub is another unique vegetation community. An important habitat for many species, coastal sage scrub is found from the coast to the mountain regions. Nearly 70 percent of its original habitat has been lost to development and agriculture. As a wetland, the riparian vegetation community (scrub, woodland, and forest) found in the region is one of the most sensitive habitats in California. The San Diego Bay is another important natural resource in the region.

Existing Land Use and Development Patterns

Almost all of the urban development in the San Diego region occurs within the western half of the region. Development concentrations are mostly centered along the coast with areas of urbanization branching eastward. This land use pattern is clearly shown in Figure 4.11-1. Of the 2,727,197 acres in the San Diego region, over half (approximately 1,873,133 acres) are currently developed or being used for some type of man-made activity. The majority of developed area in the region is used for parks and military lands, followed by development for single-family residential uses.

Many incorporated cities, both large and small in size and population, are located along the coast and tend to have fairly high density relative to other portions of the region. Historically, development has centered along the coastal areas due to desirability of the location, access to infrastructure and transportation options, and access to employment and commercial centers among other factors. As shown in Figure 4.11-1, land uses in the western portion of the region generally include residential development, commercial and office use, some industrial uses, public and transportation facilities, and interspersed areas of parks and open space. Many of the region's military facilities are also in coastal proximity.

The jurisdictions and portions of the unincorporated county that are situated in more inland and eastern locations tend to have lower-density development and are typically located along major roadways. Historically, many inland locations have focused on maintaining more rural and nonurban characteristics. Land uses in the eastern portion of the region include some centers of urban development, typically along transportation corridors, including SR 78, SR 79, and SR 94 with rural, commercial, and industrial uses. However, the majority of the land remains as undeveloped and open space parks with some agricultural lands throughout.

Throughout the region, approximately 374,908 acres of land are currently vacant but planned for development. Most vacant land planned for development is planned for single-family residential uses. In addition to the available development acreage, approximately 468,016 acres of land throughout the region are constrained and not available for development due to preservation or protection requirements, physical limitations such as steep slopes, or other development restrictions.

Eighteen incorporated cities, 17 tribal reservations, and unincorporated San Diego County form the region's governing land use authorities. Consistency of the 2050 RTP/SCS with these agencies' land use plans is discussed in Section 4.11, Land Use. Consistency of the 2050 RTP/SCS with applicable regional plans prepared for specific resources (e.g., air quality, water quality) is discussed in Section 4 subsections that analyze impacts on those specific resources.

Existing Transportation Network

The San Diego region is supported by an existing network of freeways, expressways, regional arterials, transit corridors, regional bus and rail transit corridors, bikeways, commercial and general aviation facilities, seaport facilities, and ports of entry at the United States-Mexico border (Figures 4.16-1 through 4.16-3). These facilities serve the region's 18 local jurisdictions and the County's unincorporated areas, as well as interregional and international commuting.

The largest proportion of major transportation facilities is located in the western third of the region to best serve the largest and fastest growing population areas. This includes the following major interstate highways, U.S. highways, and state routes:

Interstate 5 (I-5)	State Route 78 (SR 78)
Interstate 8 (I-8)	State Route 79 (SR 79)
Interstate 15 (I-15)	State Route 94 (SR 94)
Interstate 805 (I-805)	State Route 125 (SR 125)
State Route 52 (SR 52)	State Route 163 (SR 163)
State Route 54 (SR 54)	State Route 188 (SR 188)
State Route 56 (SR 56)	State Route 209 (SR 209)
State Route 67 (SR 67)	State Route 282 (SR 282)
State Route 75 (SR 75)	State Route 905 (SR 905)
State Route 76 (SR 76)	

The existing San Diego Trolley network serves the I-5 corridor from the Old Town station, near the intersection of I-8 and I-5 south, through downtown San Diego to the United States/Mexico border. A bayside loop extends easterly around downtown to El Cajon and Santee. In addition, an easterly service line extends from Old Town through the Mission Valley/I-8 corridor to the area near Mission San Diego de Alcalá, just east of the stadium. This service line connects to La Mesa via San Diego State University, creating an east county loop. In North County, NCTD operates the SPRINTER light rail system that travels a 22-mile east-west route between Oceanside and Escondido on a rail line located generally parallel to SR 78.

The region also is served by two passenger railroad operators. Amtrak provides intercity rail services connecting San Diego to the rest of the nationwide system. The NCTD operates a commuter rail called the COASTER, between Oceanside and downtown San Diego. Metrolink is a regional commuter and passenger train system that operates on the LOSSAN rail corridor. The only Metrolink station located with the San Diego region is the Oceanside Station located on the Orange County Line (Metrolink 2010).

There also are two freight operators, the Burlington Northern and Santa Fe (BNSF) and the San Diego and Imperial Valley Railroad (SDIV). The BNSF and the SDIV railroads transport rail freight in the San Diego region. BNSF maintains a freight easement over the 62 miles of coastal mainline and the 20-mile branch line between Escondido and Oceanside. The BNSF also interchanges freight with the SDIV and with the U.S. Navy. The SDIV Railroad is a Class II Carrier or “short-haul” railroad. It has been the freight operator on the San Diego & Arizona Eastern (SD&AE) Railway since 1984. In 2001, Carrizo Gorge Railway took over operations between Tijuana and Tecate, Baja California. Commuter and local bus service is provided throughout the region, including high-volume service to the North County, central, and south bay/border areas. Regional corridor bikeways are primarily aligned in conjunction with major transportation corridors and are supported by an extensive feeder network and local streets.

The movement of goods in the San Diego region involves intermodal systems of air cargo, border crossings, maritime, pipeline, rail, and roadways/truckways. Situated between major production, trade, and population centers, the San Diego region possesses a wide array of transportation and infrastructure assets. The existing transportation system includes interstate highways and state highways, a Class I railroad, a short line railroad, airport cargo systems, the Port of San Diego, and the Otay Mesa and Tecate commercial border crossings. Ocean cargo and cruise ship facilities are located on San Diego Bay, providing facilities necessary for the transfer of goods to and from the region via cargo vessels and for the cruise industry. Maritime commerce is carried out at two marine terminals located on San Diego Bay—

the 10th Avenue Marine Terminal in the City of San Diego and the National City Marine Terminal at 24th Street. Together, the two marine terminals handle approximately 1.1 million tons of cargo annually.

The San Diego region is served by three commercial airports; San Diego International Airport (SDIA), McClellan-Palomar Airport, and Tijuana International Airport. These airports are part of the San Diego County Airport System of 12 public use airports in the San Diego region, along with Tijuana International. SDIA, McClellan-Palomar, and Tijuana International accommodate commercial, general aviation, and corporate services. Airports accommodating only general aviation and corporate services are Brown Field Municipal, Gillespie Field, Montgomery Field, and Ramona. The remaining airports accommodate general aviation only. The San Diego County Regional Airport Authority (SDCRAA) is the regional government entity with jurisdiction over all airport planning. In addition, SDCRAA operates SDIA. SANDAG and SDCRAA work together to address long-term ground access improvements to SDIA.

The existing bicycle network in the San Diego region consists of a combination of standard bicycle facilities, including about 228 miles of Class I bike paths, 213 miles of Class II bike lanes, and 33 miles of Class III bike routes. In addition, the California Coastal Trail (CCT) is made up of a series of trails stretching 1,300 miles up and down the California coastline, 60 miles of which are within the San Diego region spanning from the Orange County boundary to downtown San Diego.

The San Diego region shares a common international border with the municipalities of Tijuana and Tecate in the State of Baja California, Mexico. Three ports of entry serve the region: San Ysidro-Puerta México, Otay Mesa-Mesa de Otay, and Tecate-Tecate. The San Diego region is also home to 17 diverse tribal governments, which are sovereign nations.

Chapter 4 of this Program EIR provides additional, more specific information relating to the existing environmental setting in the San Diego region pertaining to aesthetics and visual resources; agriculture and forest resources; air quality; biological resources; cultural resources and paleontology; environmental justice; geology, soils, and minerals; global climate change and greenhouse gas emissions; hazards and hazardous materials; hydrology and water quality; land use; noise; population and housing; public services, utilities and energy; recreation; transportation and traffic; and water supply.