

Appendix F: Regional Growth Forecast with Sustainable Communities Land Use Pattern

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Regional Growth Forecast with Sustainable Communities Strategy Land Use Pattern

Introduction

Since 1971, SANDAG has produced long-range forecasts of population, housing, and employment that are used as a resource by elected officials, planners, academics, and the public. These forecasts represent the best assessment of the changes we can anticipate for the region and its communities based on the best available information and well-proven, verified computer models. As explained below, they are based on the most recent planning assumptions, considering local general plans and other factors, per Senate Bill 375 (Steinberg, 2008) [see Government Code Section 65080(b)(2)(B)].

The SANDAG forecasts are meant to help policy- and decision-makers prepare for the future and are not an expression for or against growth. The forecasts are developed through a collaborative effort with experts in demography, housing, economics, and other disciplines, and the close cooperation of the local planning directors and their staff.

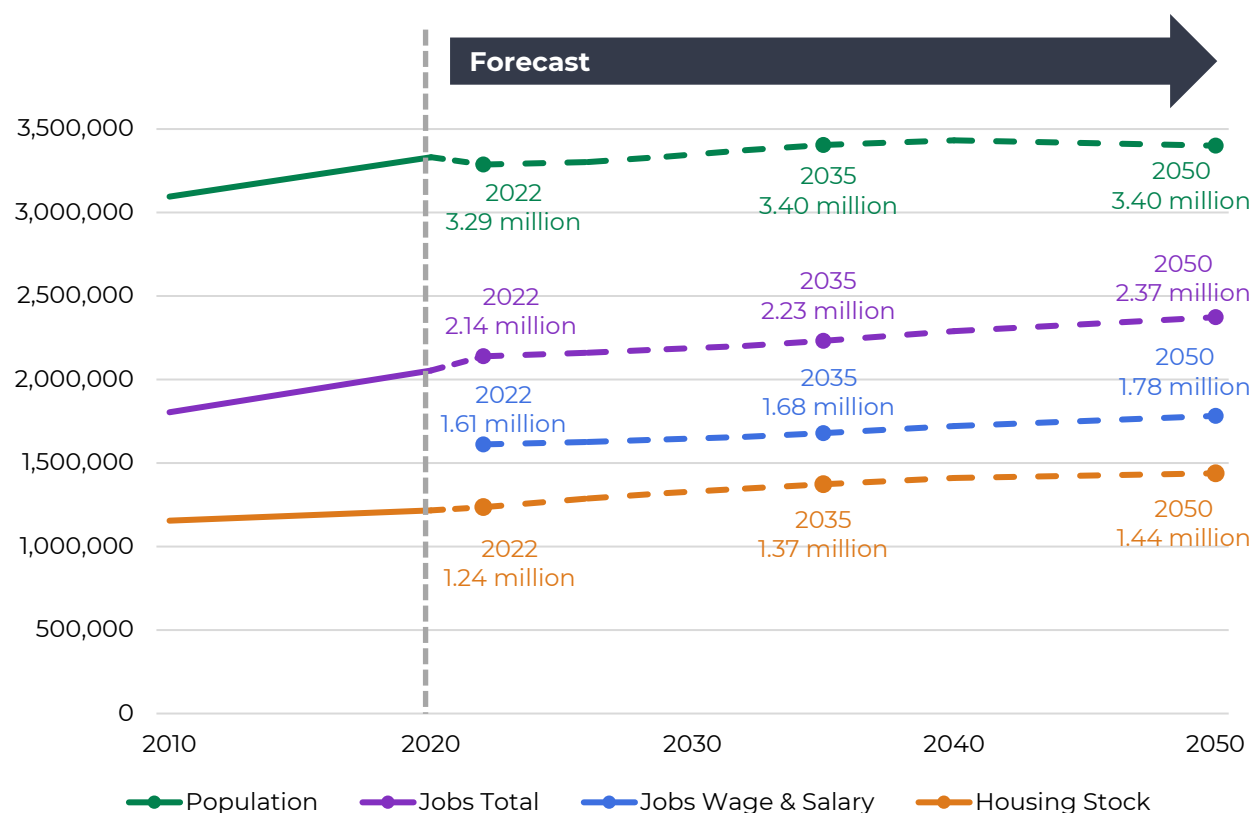
The purpose of this appendix is to explain the data, assumptions, and results of the Series 15 Regional Growth Forecast with Sustainable Communities Strategy (SCS) land use pattern. The Regional Growth Forecast includes population, housing, and employment projections for the San Diego region. These region-level data are then allocated to the subregional areas using the most recent planning assumptions considering local general plans and other factors about housing unit and job capacity. The SCS land use pattern is a subregional allocation that is a vision for land use in the region. It includes data and assumptions that help meet goals for greenhouse gas (GHG) emissions reductions and assess transportation investments in the region. The SCS land use pattern is used for transportation modeling for the 2025 Regional Plan as discussed in [Appendix M: Travel Demand Modeling Tools](#).

Overview of Forecasted Growth

Between 2022 and 2050, the San Diego region is expected to grow by approximately 113,000 people,¹ reflecting slower growth than previous forecasts due to shifts in migration patterns and declining birth rates. Despite this slower population growth, the region's existing housing shortages will continue to drive demand for housing and job opportunities, leading to the addition of approximately 203,000 housing units and about 234,000 jobs by 2050. Figure F.1 provides historical, current, and projected population, housing units, and job counts for the region.

¹ SANDAG Series 15 Regional Growth Forecast with SCS Land Use Pattern

Figure F.1: Population, Jobs, and Housing Forecast, San Diego Region 2010-2050



Source: SANDAG Series 15 Regional Growth Forecast with SCS Land Use Pattern

Forecast Process

The forecast process includes two phases. First, a forecast for the entire region is produced based largely on demographic and economic trends. The second phase allocates the forecasted regional growth down to jurisdictions and smaller geographic areas. The subregional forecast model distributes growth based on a variety of factors including available capacity for housing and accessibility to jobs and transportation; however, it does not allocate growth beyond what is planned for by jurisdictions' general plans. Therefore, the forecast allocation is influenced by local land use and transportation policy decisions (see the [Subregional Projections with SCS Land Use Pattern](#) section).

Regionwide Projections

At the regional level, SANDAG's forecast framework is built around three core components: population, housing, and jobs. During the model development phase, SANDAG held a series of peer review panels (PRPs) comprised of both SANDAG staff and external experts, including demographers and economists. These panels reviewed the forecast model framework, key assumptions, and model outputs. The feedback provided by the PRPs was essential in refining the models and assumptions used in the forecast.

One of the key models influenced by PRPs' feedback was the Cohort Component Model (CCM), which serves as the primary model used to project population changes. The CCM integrates detailed assumptions related to fertility, mortality, and migration, which are the key drivers of population change. Based on PRP's recommendations, the forecast incorporates assumptions that reflect a trend of declining fertility, stable mortality rates, and migration patterns anticipated to align with historical averages over time and taper off near the forecast's horizon year. These adjustments align with national demographic trends and account for the lingering effects of COVID-19, which has slowed population growth in the region. Despite uncertainties posed by COVID-19 and climate change, the PRP supported a stable mortality scenario, noting that advancements in healthcare and healthier lifestyles continue to drive modest gains in life expectancy. Consequently, the forecast projects a slower population growth rate compared to previous forecasts. The population forecast also highlights the shift in the drivers of population growth. Historically, natural change (births minus deaths) was the primary contributor to regional population increases, but this trend has been slowing. As Figure F.2 illustrates, both natural change and net migration (the difference between in-migrants and out-migrants) have been declining since 2010. By 2030, natural change is projected to drop below net migration, meaning that net migration will become the primary driver of population growth. These trends reflect broader national patterns of lower birth rates and aging populations.

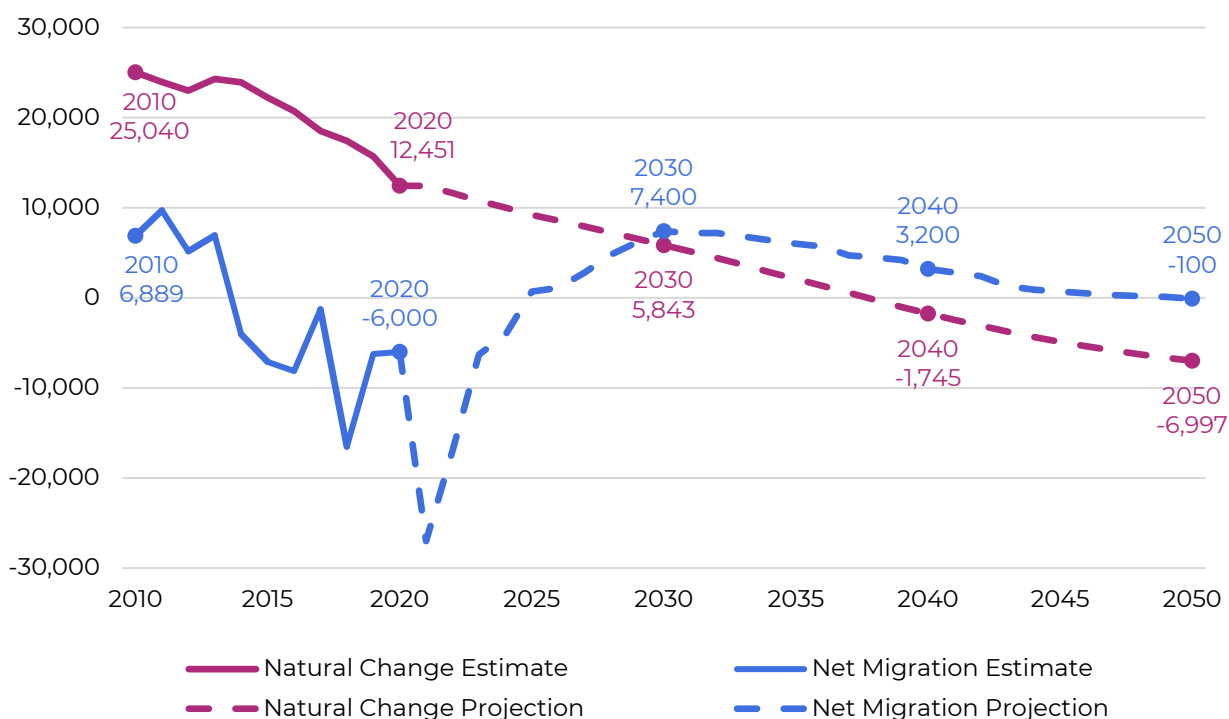
Net migration remains the most volatile component of change. Throughout the peer review process, various migration scenarios were presented, with a recommended approach based on a return to historical averages from 1991-2020. PRPs suggested that factors such as regional job growth, housing vacancy rates, and the State's annual population estimates influence net migration. As regional employment rises, vacancy rates fall, and the State's population increases, net migration for the region is projected to climb through the mid-years of the forecast. Over time, as these trends slow, and with the State's population growth expected to turn negative, net migration is forecasted to decrease, ultimately turning negative by the forecast's horizon.

In summary, the slowing population growth can be attributed to a combination of declining natural growth (births minus deaths) and fluctuating net migration. Although net migration initially increases, it begins to decline around 2030 and cannot fully compensate for the continued decrease in natural growth. As a result, the population forecast reflects a smaller starting population due to pandemic-related losses and aligns with slower-growth expectations in both state and national projections from the California Department of Finance and U.S. Census Bureau, respectively.^{2,3}

² Walters, D. (2023). "After decades of historic growth, California switching to a period of chronic stagnation," CalMatters. <https://calmatters.org/commentary/2023/07/after-growth-california-chronic-stagnation/>.

³ Jarosz, B. (2023). "Could the U.S. Population Shrink?," Population Reference Bureau. <https://www.prb.org/articles/could-the-u-s-population-shrink/>.

Figure F.2: Components of Population Change, San Diego Region 2010–2050

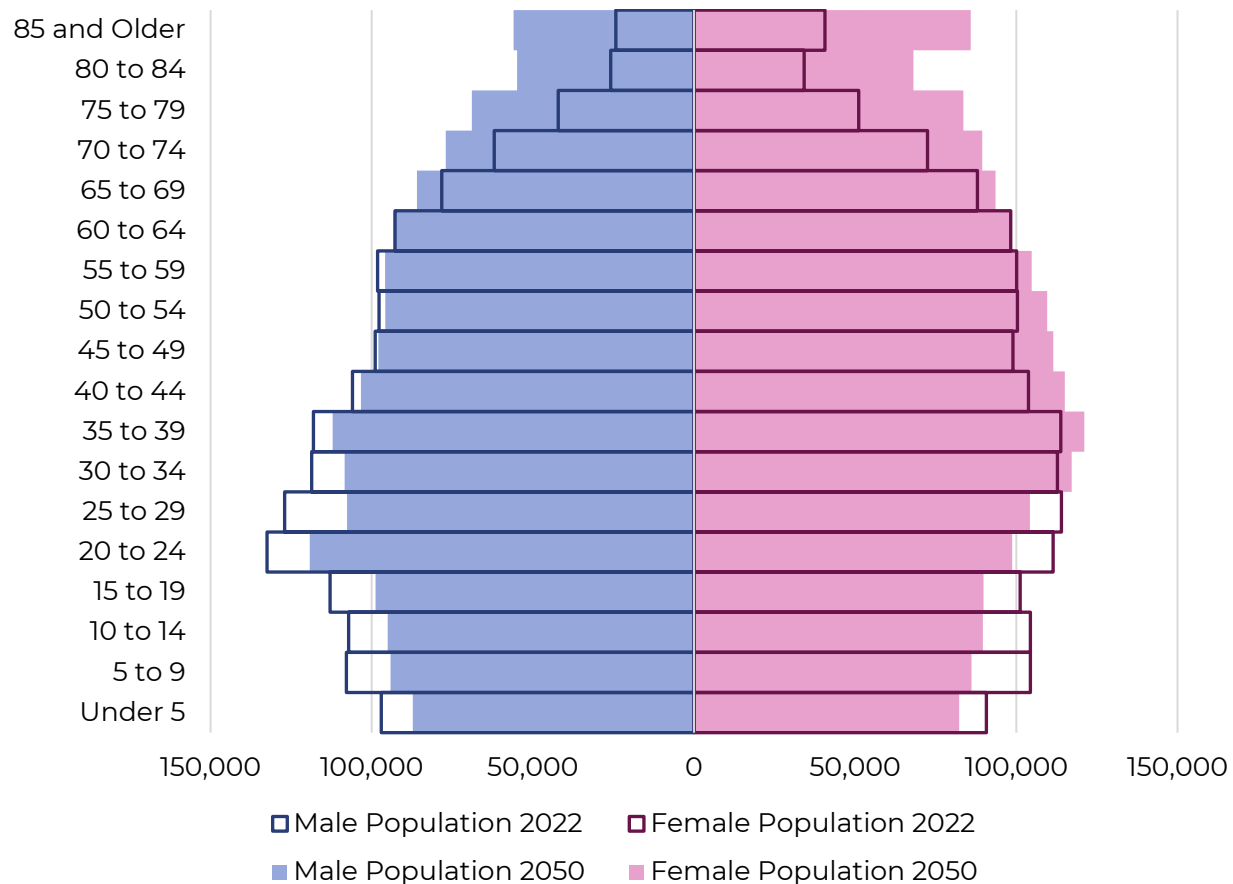


Source: DOF E-2 Population Estimates and Components of Change by Year, 2010-2019; SANDAG Cohort Component Model (CCM) output, 2020-2050

This slower growth trajectory not only affects the overall population size but also contributes to an aging demographic profile. Combined with improvements in life expectancy, these trends indicate that a growing proportion of the population will be aged 65 and older in the future. By 2030, when the last of the baby boomer generation reaches age 65, about one in every six residents in the United States will be of retirement age⁴, a trend reflected in San Diego's projections as well. Figure F.3 depicts how the region's age and sex composition will shift from 2022 to 2050, showing growth in the older adult population (65+), stability in the prime working-age groups (18-64), and a decline in the under-18 population. Life expectancy improvements will lead to higher survival rates among older adults, with women continuing to outnumber men in the oldest age groups.

⁴ "Older People Projected to Outnumber Children for the First Time in U.S. History," U.S. Census Bureau, Press Release Number CB18-41, March 13, 2018, <https://www.census.gov/newsroom/press-releases/2018/cb18-41-population-projections.html>.

Figure F.3: San Diego Region Population by Age and Sex, 2022 and 2050



Source: SANDAG Series 15 Regional Growth Forecast with SCS Land Use Pattern

The housing forecast is developed using a household formation model that applies headship and vacancy rates. The forecast assumes that headship rates will gradually return to historical levels, specifically those observed between 2005 and 2009, by 2050. Vacancy rates are assumed to stabilize at healthy levels, with 5% for renters and 2% for homeowners. These assumptions, which were informed by feedback from the PRPs, lead to a projection of 202,819 additional housing units by 2050, surpassing the 6th cycle Regional Housing Needs Assessment (RHNA) planning requirement of 171,685 units. This faster housing growth relative to population growth is expected to help reduce overcrowding in the region and aligns with housing trends observed in statewide forecasts. Additionally, the forecast assumes smaller household sizes due to shifting demographics and increased housing availability.

The jobs forecast was developed using the Regional Economic Models, Inc. (REMI) framework, which integrates national, state, and local economic trends. One notable update to the jobs model is the inclusion of non-wage and salary jobs, which include gig economy, that have grown in importance over the past several years. These jobs, often outside of traditional employment structures, are becoming a significant part of the region's labor market. The population inputs from the CCM feed directly into the REMI model's job growth projections, illustrating how changes in population size and composition influence employment trends. As a result, the jobs forecast anticipates higher employment growth through 2050 compared to previous forecasts, reflecting both traditional wage employment and the increasing impact of the gig economy.

Finally, the region's racial and ethnic composition is projected to evolve over the forecast horizon⁵. As of 2022, the largest racial and ethnic groups in the region are non-Hispanic whites (43%) and Hispanics (34%). By 2050, the non-Hispanic white population is expected to decline to 37%, while the Hispanic population is projected to remain steady at 34%. The non-Hispanic Asian population is expected to see the largest growth, rising from 13% in 2022 to 17% by 2050. Other racial and ethnic groups, including non-Hispanic Black, two or more races, Native Hawaiian or Pacific Islander, and American Indian or Alaskan Native, will each continue to comprise less than 6% of the total population by 2050.

While the rate of population growth is slowing, the region is still expected to grow, and these projections provide a tool in planning for the region's future housing, employment, and infrastructure needs.

Subregional Projections with SCS Land Use Pattern

The Series 15 Sub-Regional Projections with SCS Land Use Pattern aligns with the requirements of Senate Bill 375 (SB 375). The SCS land use pattern establishes a growth and development pattern that:

- Supports the regional greenhouse gas (GHG) reduction targets by integrating land use and transportation planning,
- Accommodates the Regional Housing Needs Assessment (RHNA) Determination, ensuring sufficient housing capacity, and
- Reflects the most recent planning assumptions, incorporating local land use policies and conditions.

⁵ SANDAG Series 15 Regional Growth Forecast with SCS Land Use Pattern

To generate the sub-regional projections that form the SCS Land Use Pattern, the second phase of the Series 15 Regional Growth Forecast allocates forecasted regional population, housing, and job growth to jurisdictions and smaller geographic areas. This follows the first phase, which establishes regional control totals based on demographic trends, economic factors, and policy assumptions. SANDAG begins by collecting base-year (2022) data through its annual land inventory. The 2022 Land Inventory provided detailed parcel-level data on land use, housing units, and planned land use information based on the jurisdictions' general plans. These general plans incorporate spheres of influence adopted by the Local Agency Formation Commission (LAFCO), which define the probable physical boundaries and service areas of local governments. This approach helps guide future annexations and ensures growth is consistent with city plans, as any territory proposed for annexation to an incorporated city must be within the city's sphere of influence and general plan. By using general plans that include spheres of influence, SANDAG ensures that its process aligns with Government Code Section 65080(b)(2)(G), which requires consideration of LAFCO-adopted spheres in developing the SCS.

In addition to the land inventory, SANDAG maintains the Regional Employment Inventory, which includes employment locations sourced from California's Employment Development Department and the Department of Defense's (DOD) DMDC Active-Duty Military Personnel Master File. This base-year data establishes the baseline capacity for residential and non-residential development, providing a foundation for understanding existing patterns and identifying growth potential. Once the regionwide forecast totals for population, housing, and jobs were developed, SANDAG collaborated with all 19 regional jurisdictions, including the 18 cities and the County of San Diego. This process involved holding a series of meetings to review and verify the parcel-level capacity data. The capacity data reflects development potential and guides the allocation of forecast totals to subregional areas.

During the process of developing the SCS Land Use Pattern, it became clear that adjustments were needed for the cities of Coronado and Solana Beach, where initial housing build-out estimates were below the cities' proposed or adopted Housing Elements. For both cities, the build-out estimate for each city's adopted Housing Element was used to accommodate their 6th Cycle RHNA allocations.

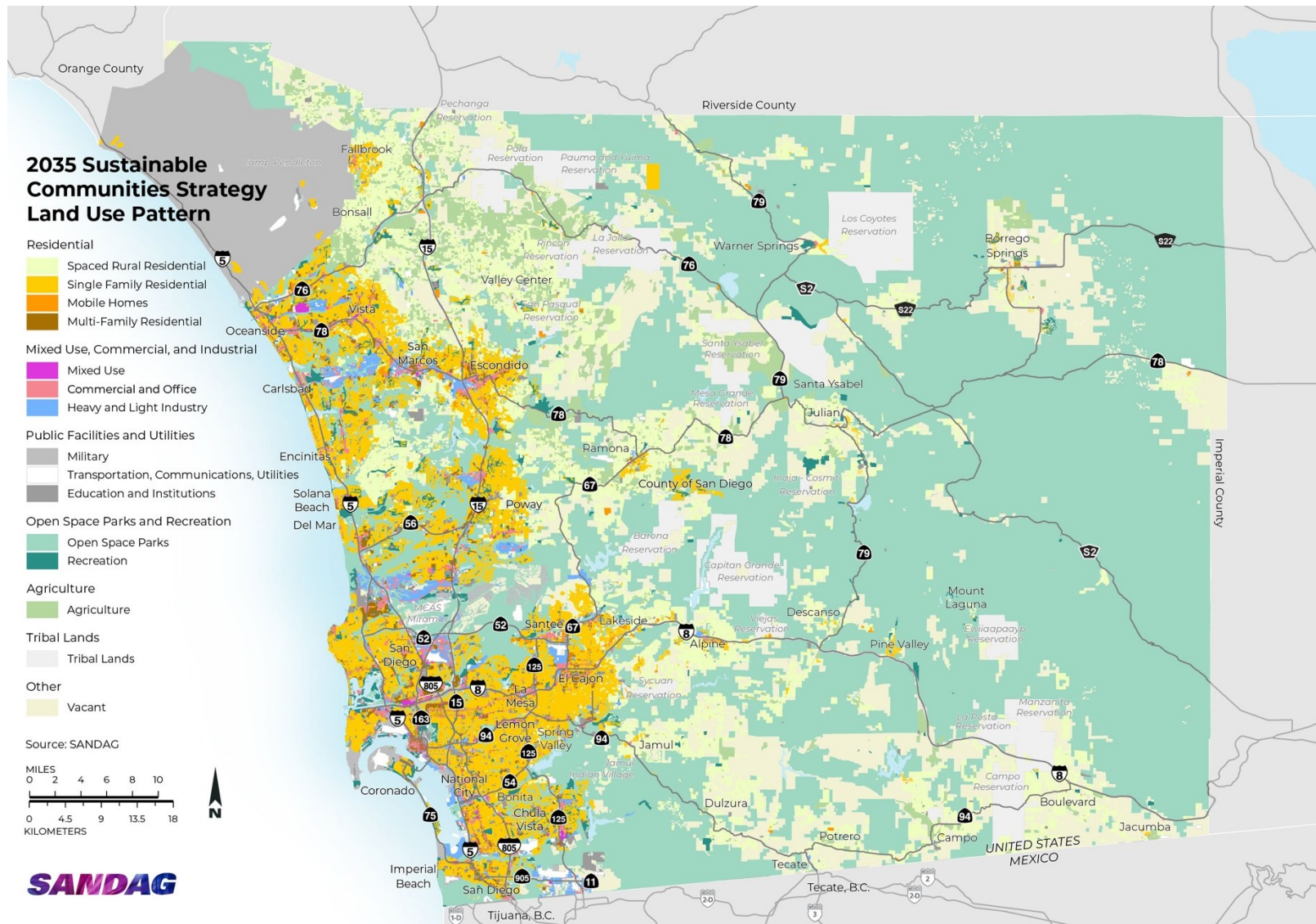
In addition to working with the jurisdictions, SANDAG coordinated with other land use agencies, such as the DOD, tribal governments, and universities, to understand their respective land use plans and policies. This collaborative effort ensured that SANDAG captured relevant local general plans, community plans, specific plans, and development constraints, including floodplains, steep slopes, habitat preserves, and historic districts. Information on permitted projects in the development pipeline was also incorporated.

SANDAG's Urban Development Model (UDM) was then used to allocate the forecasted population, housing, and jobs to specific parcels. The UDM considers a wide range of factors, such as historical growth patterns, redevelopment potential, travel impedances, and residential prices, to predict where future growth is likely to occur at a zonal level. During this process, travel impedances were periodically updated by iterating between the land use and transportation models to refine predictions about where growth will take place. Additionally, the model considers factors like accessibility to employment activities and historical development trends when forecasting future growth patterns.

Evolving Population, Housing, and Employment Patterns in Sub-Regional Growth

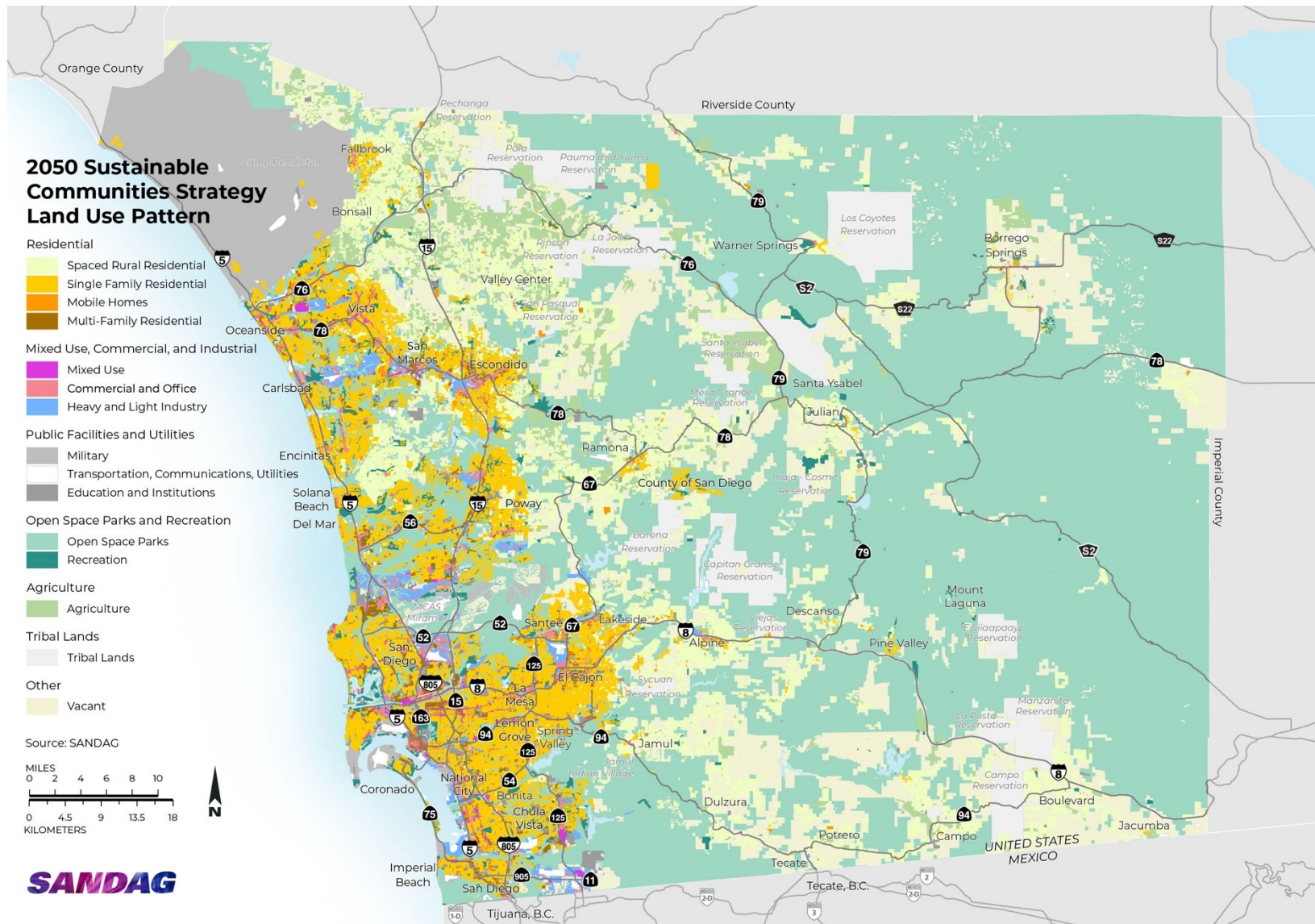
Evolving local plans continue to shape the growth patterns in the San Diego region, focusing on enhancing housing and job opportunities within urbanized areas. Since the early 2000s, over three-quarters of the region's 19 jurisdictions have updated their general plans, emphasizing higher-density, mixed-use developments. The forecast also reflects a move towards more sustainable urban growth models. At the turn of the century, roughly 90% of the region's vacant residential land was slated for single-family homes. However, the Series 15 Forecast anticipates that by 2050, 84% of housing growth consists of multifamily units. The SCS land use pattern shows the growth continues to focus on areas with available multimodal transportation to provide convenient, low-VMT options for moving around the region. This shift supports the broader goals of reducing urban sprawl and promoting efficient land use. Additionally, regional conservation efforts have expanded, with more than 50% of the region preserved as open space, parks, or habitat. Figure F.4 and Figure F.5 show 2035 and 2050 forecasted land uses, respectively.

Figure F.4: 2035 Sustainable Communities Land Use Pattern



Source: SANDAG

Figure F.5: 2050 Sustainable Communities Land Use Pattern



Source: SANDAG

General Intensification of Existing Uses

General intensification of land use is expected because of these evolving plans, leading to denser communities along transportation corridors. For example, Oceanside's Smart and Sustainable Corridors Plan efforts resulted in 13,868 new housing units being projected between 2022 and 2050. These units are concentrated along the city's key transportation corridors, including Mission Avenue and Oceanside Boulevard, and in the downtown area around two Sprinter stations, aligning with regional efforts to promote higher-density housing near transit. San Marcos is projected to experience significant growth between 2022 and 2050, with an addition of projected 10,395 new housing units. This expansion is largely guided by the city's San Marcos Creek District Specific Plan and the University District Specific Plan, which focus on developing mixed-use communities near key areas such as Cal State San Marcos and the SPRINTER rail corridor. The City of San Diego is projected to absorb more than half of the region's housing growth, with Downtown continuing to grow as a key area of development. Mission Valley remains a focal point for new housing as well, leveraging its central location and transit connectivity to accommodate a significant share of the city's housing expansion. These areas, alongside other communities like Uptown, Greater North Park, and Kearny Mesa support the city's overall shift toward higher-density urban living.

Employment growth is expected to remain concentrated in key job centers throughout the region. Downtown, Sorrento Valley, and Kearny Mesa will continue as major employment hubs, maintaining their status as economic drivers in the region. Downtown San Diego remains a vital economic center, with substantial job growth anticipated by 2050, reinforcing its role as a hub for business and cultural activities. The Otay Mesa area is positioned for significant expansion, with a strong increase in employment, further solidifying its role as an economic gateway for the region. Chula Vista is set to see substantial job gains, with over 28,000 new positions expected, driven by developments like the Chula Vista Bayfront, downtown improvements, and new communities in eastern Chula Vista.

These changes highlight the region's ongoing transition towards higher-density, transit-oriented growth, in line with the objectives of local general plans and the 2025 Regional Plan.

Tables F.1, F.2, and F.3 present base year and forecasted population, housing, and employment data for the 19 local jurisdictions, respectively. Figure F.6 and Figure F.7 show the 2035 and 2050 forecasted housing and employment density, respectively, based on the SR 15 Forecast SCS Land Use Pattern.

Further details on the SCS land use pattern and related information can be found in the Regional Plan [Chapter 2: Sustainable Communities Strategy](#).

Table F.1: Total Population by Jurisdiction

Jurisdiction	Actual 2022	Projections 2035	Projections 2050	Change 2022-2050 Number	Change 2022-2050 Percent
Carlsbad	115,585	120,002	116,776	1,191	1.0%
Chula Vista	276,785	307,392	324,927	48,142	17.4%
Coronado	22,277	21,904	21,222	-1,055	-4.7%
Del Mar	3,929	3,835	3,710	-219	-5.6%
El Cajon	105,638	102,051	99,223	-6,415	-6.1%
Encinitas	61,515	61,324	59,822	-1,693	-2.8%
Escondido	150,679	153,717	151,077	398	0.3%
Imperial Beach	26,243	25,688	25,351	-892	-3.4%
La Mesa	60,472	59,628	59,175	-1,297	-2.1%
Lemon Grove	27,242	26,739	26,263	-979	-3.6%
National City	61,471	62,437	61,574	103	0.2%
Oceanside	173,048	185,788	183,389	10,341	6.0%
Poway	48,759	51,059	48,545	-214	-0.4%
San Diego	1,374,790	1,434,871	1,440,765	65,975	4.8%
San Marcos	93,585	112,109	109,891	16,306	17.4%
Santee	59,015	61,513	62,824	3,809	6.5%
Solana Beach	12,812	12,467	12,142	-670	-5.2%
Vista	100,291	101,378	99,000	-1,291	-1.3%
Unincorporated	513,170	500,460	494,574	-18,596	-3.6%
Region Total	3,287,306	3,404,362	3,400,250	112,944	3.4%

Source: SANDAG Series 15 Regional Growth Forecast with SCS Land Use Pattern

Table F.2: Total Housing Units by Jurisdiction

Jurisdiction	Actual 2022	Projections 2035	Projections 2050	Change 2022-2050 Number	Change 2022-2050 Percent
Carlsbad	48,104	53,283	54,228	6,124	12.7%
Chula Vista	88,143	103,242	114,473	26,330	29.9%
Coronado	9,665	9,821	9,969	304	3.1%
Del Mar	2,629	2,738	2,740	111	4.2%
El Cajon	36,590	37,475	38,280	1,690	4.6%
Encinitas	26,665	28,235	28,773	2,108	7.9%
Escondido	49,500	53,764	55,686	6,186	12.5%
Imperial Beach	10,034	10,489	10,877	843	8.4%
La Mesa	26,265	27,229	28,180	1,915	7.3%
Lemon Grove	9,186	9,602	9,939	753	8.2%
National City	17,776	19,414	20,238	2,462	13.9%
Oceanside	67,676	78,381	81,544	13,868	20.5%
Poway	16,782	18,711	18,711	1,929	11.5%
San Diego	553,921	627,668	661,533	107,612	19.4%
San Marcos	32,314	41,439	42,709	10,395	32.2%
Santee	21,427	23,476	25,055	3,628	16.9%
Solana Beach	6,528	6,801	6,897	369	5.7%
Vista	33,663	36,102	37,062	3,399	10.1%
Unincorporated	178,774	185,014	191,567	12,793	7.2%
Region Total	1,235,642	1,372,884	1,438,461	202,819	16.4%

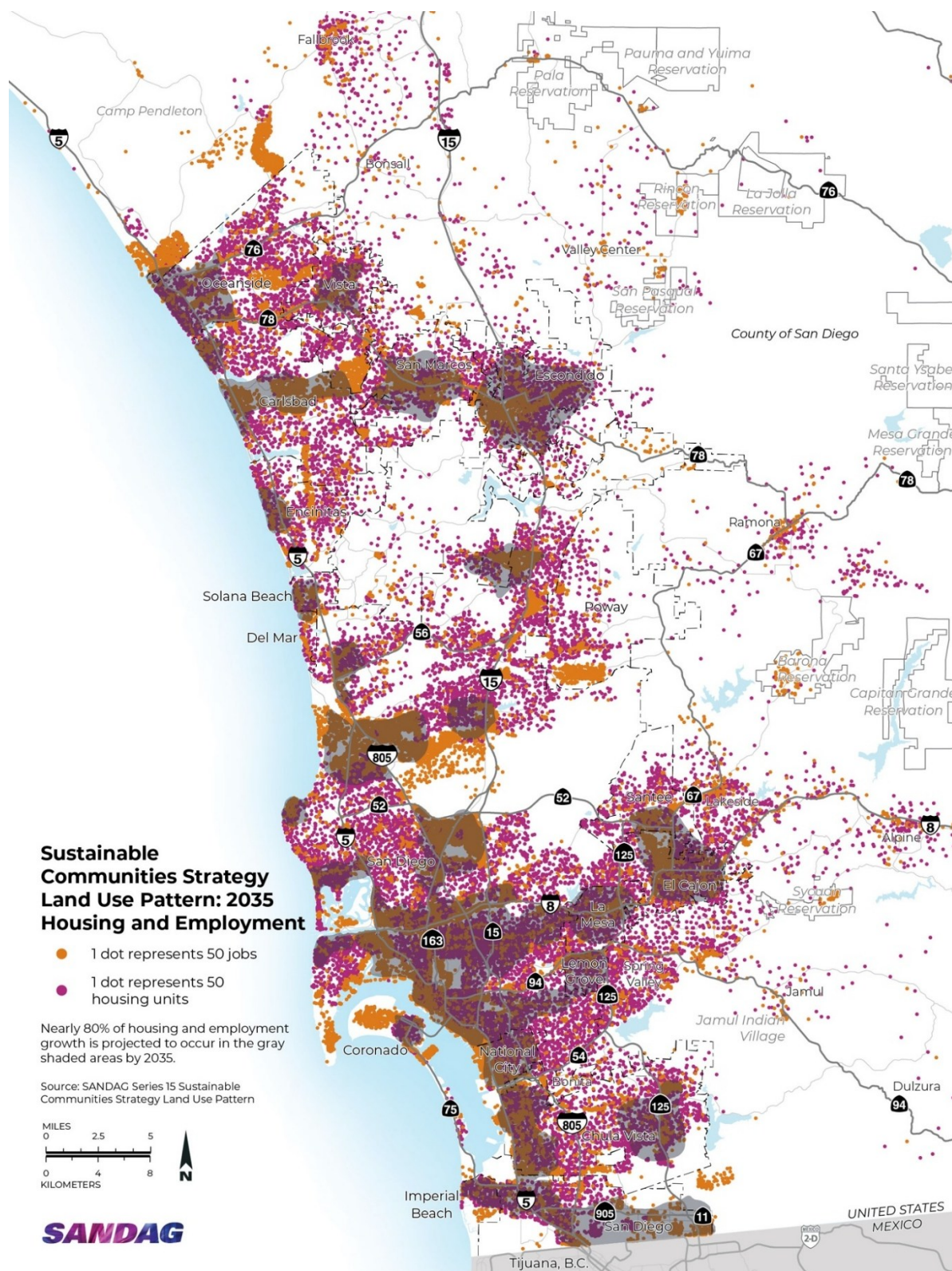
Source: SANDAG Series 15 Regional Growth Forecast with SCS Land Use Pattern

Table F.3: Total Wage and Salary Jobs by Jurisdiction

Jurisdiction	Actual 2022	Projections 2035	Projections 2050	Change 2022-2050 Number	Change 2022-2050 Percent
Carlsbad	79,382	83,490	85,368	5,986	7.5%
Chula Vista	74,728	81,959	103,093	28,365	38.0%
Coronado	31,257	31,316	31,538	281	0.9%
Del Mar	3,799	3,849	3,849	50	1.3%
El Cajon	43,824	44,798	48,274	4,450	10.2%
Encinitas	26,140	26,285	26,986	846	3.2%
Escondido	53,869	55,489	55,971	2,102	3.9%
Imperial Beach	5,074	6,063	7,607	2,533	49.9%
La Mesa	25,250	25,582	27,466	2,216	8.8%
Lemon Grove	7,972	8,294	9,403	1,431	18.0%
National City	38,802	39,474	41,986	3,184	8.2%
Oceanside	48,112	56,098	65,275	17,163	35.7%
Poway	33,786	33,966	34,067	281	0.8%
San Diego	876,977	907,847	944,440	67,463	7.7%
San Marcos	40,133	48,045	52,315	12,182	30.4%
Santee	17,838	18,210	19,312	1,474	8.3%
Solana Beach	9,255	9,300	9,397	142	1.5%
Vista	39,015	39,506	41,650	2,635	6.8%
Unincorporated	156,419	159,358	174,392	17,973	11.5%
Region Total	1,611,632	1,678,929	1,782,389	170,757	10.6%

Source: SANDAG Series 15 Regional Growth Forecast with SCS Land Use Pattern

Figure F.6: SCS Land Use Pattern: 2035 Housing and Employment



Source: SANDAG Series 15 SCS Land Use Pattern

Sustainable Communities Strategy Land Use Pattern: 2050 Housing and Employment

- 1 dot represents 50 jobs
- 1 dot represents 50 housing units

Approximately 80% of housing growth and 70% of employment growth is projected to occur in the gray shaded areas by 2050.

Source: SANDAG Series 15 Sustainable Communities Strategy Land Use Pattern

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UNITED STATES MEXICO

Appendix F: Regional Growth Forecast with Sustainable Communities Strategy Land Use Pattern