CONNECT SOCAL 2024

The 2024–2050 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments

Land Use & Communities

TECHNICAL REPORT

ADOPTED APRIL 4, 2024

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INNOVATING FOR A BETTER TOMORROW

Land Use & Communities

TECHNICAL REPORT

1. EXECUTIVE SUMMARY

The Land Use and Communities Technical Report (Report) provides a vision of how and where the region will grow. The Report summarizes the regulatory framework that drives Connect SoCal 2024 (Connect SoCal 2024 or the Plan) and highlights important SCAG regional priorities that are relevant to the Plan. Grounded in the context of today (existing conditions and issues and challenges), this Report elevates the policies and priorities for how and where the growth will occur.

The Regulatory Framework (Chapter 2) includes the regulatory requirements of the Plan. Senate Bill 375 established that Metropolitan Planning Organizations (MPOs) adopt a Sustainable Communities Strategy (SCS) that aligns future transportation and land use strategies to achieve greenhouse gas (GHG) emission reductions targets as established by the California Air Resources Board (CARB). Specific to this Report, the SCS requires the inclusion of a forecasted development pattern and established environmental streamlining opportunities through the California Environmental Quality Act (CEQA) for Transit Priority Projects and certain residential and mixed-use projects. Beyond SB 375, the following regulatory items are reflected in the SCS, including in this Report:

- Regional Housing Needs Assessment (RHNA), the state-mandated vehicle for identifying and allocating housing need in the state. The SCS is required to identify areas in the region sufficient to meet the projected eight-year housing need in the most recent RHNA projection; and
- California State Wildlife Action Plan (SWAP), a state comprehensive conservation plan. The California Transportation Commission requires that Regional Transportation Plans include a comparison with the SWAP.

Beyond the above regulatory requirements, SCAG has elevated the following areas for consideration in the Report:

- SCAG's Climate Resolution, calls on SCAG to integrate climate adaption and mitigation strategies into Connect SoCal 2024;
- SCAG's Water Action Resolution, calls for region-wide collaboration to respond to water challenges and for Connect SoCal 2024 to include related policies and strategies;
- SCAG's Regional Advance Mitigation Program (RAMP) Policy Framework, fosters collaboration between programs across the region and calls on SCAG to support and/or supplement local implementing agencies' RAMP initiatives; and,
- SCAG's Racial Equity Early Action Plan defined racial equity for SCAG and established a series of goals and strategies for SCAG to advance racial equity in the region. The Racial Equity Early Action Plan has spurred additional racial equity centered work including the convening of the Racial Equity and Regional Planning Subcommittee, which developed a series of recommendations to advance racial equity in the Plan. These recommendations are reflected throughout the Plan.

Chapter 3 describes the tremendous diversity of our communities, land use, and natural and farm lands, and the diversity of existing climate hazards and their impacts.

Chapter 4 summarizes the issues and challenges related to our social, economic, natural, and built environment, and anticipated future climate conditions. These challenges are the framing for the Regional Planning Policies and Implementation Strategies that are discussed in Chapters 5 and 6.

An important element of this Report is to provide a vision for where (Chapter 5) and how (Chapter 6) we can grow sustainably. Where we grow is rooted in our Regional Planning Policies and associated/resulting Forecasted Regional Development Pattern (FRDP) that is shown to achieve our GHG emissions reduction targets when combined with transportation network and Plan strategies. Within the FRDP, Priority Development Areas (PDAs) serve as a guide for future growth as places with important destinations and with access to multiple modes of transportation, resulting in fewer and/or shorter trips. Green Region Resource Areas (GRRAs) consist of ten topic areas focused on the region's natural assets and future risks from climate change. Together, PDAs and GRRAs are important considerations in the Regional Planning Policies and regional growth vision. The Local Data Exchange process informed the FRDP through a series of touchpoints with local jurisdictions where they were presented with information on project growth in their jurisdictions for input to ensure these assumptions were reflected in local plans. This forecast assumes the region is successful in alleviating much of the latent housing demand which has built up in past decades by projecting household growth in excess of the sixth cycle regional housing needs determination of 1,341,827 housing units and also projecting 30 percent higher household growth in the coming decade than the previous Connect SoCal plan. This is crucial for supporting the level of employment growth that is anticipated in Southern California.

The how we can grow sustainably chapter elevates the fundamental need to ensure equitable engagement and decision-making. This chapter also covers climate resilience and natural and farm land preservation and complete communities, including new concepts like 15-minute communities which are places across the region where people can access daily needs near their home by walking, biking, or rolling or places that due to proximity of complementary land uses result in fewer or shorter trips. Critical considerations around how we grow are grounded in supporting complete communities that serve and improve quality of life for the residents of today and tomorrow.

We measure several Plan benefits and impacts through the Scenario Planning Model (SPM) (Chapter 7). SPM is a land use planning tool which evaluates certain impacts of alternative transportation and land use strategies. The SPM compares the Connect SoCal 2024 scenario versus an alternative called the Trend/Baseline forecast which assumes that no growth policy recommendations or interventions will take place. SPM results generally indicate that Connect SoCal 2024 is superior to the Trend/Baseline forecast--with highlights including nearly twice as much net growth in multi-family housing, more household growth in PDAs, and reduced water and energy use in commercial and residential buildings.

2. REGULATORY FRAMEWORK AND SCAG PRIORITIES

SCAG's role in establishing a vision for land use and communities in Southern California flows from its statutory responsibilities. As a joint powers authority, regional transportation planning agency and Metropolitan Planning Organization (MPO), SCAG does not develop or implement land use plans—that is the sole purview of local jurisdictions. SCAG provides regional coordination and assists in implementation to ensure that federal standards, state targets, and additional regional policies can be fulfilled. The growth vision in this Report responds to this regulatory framework and incorporates the mutually reinforcing priorities across the region's built, social, economic, and natural systems.

2.1 SENATE BILL 375

The Sustainable Communities and Climate Protection Act of 2008, or SB 375 (2008, Steinberg), requires that an MPO, such as SCAG, prepare and adopt a Sustainable Communities Strategy (SCS) that aligns future transportation and land use strategies to achieve GHG emission reduction targets established by the California Air Resources Board (CARB). SCAG's SCS, contained within Connect SoCal 2024, contains regional land use policies and implementation strategies for local governments to integrate into their planning processes as they see fit to achieve regional goals.

SB 375 (California Government Code 65080(b)(vii)) is the underpinning of regional land use strategies and requires that SCAG:

> "set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the state board, and (viii) allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506)."

CARB has set a GHG reduction target for the SCAG region of 19 percent below 2005 per capita emissions levels by 2035. Additionally, the federal Clean Air Act standard requires that SCAG's Regional Transportation Plan (RTP) achieve total (as opposed to per capita) targets for criteria air pollutants for the region. Both of these requirements necessitate the development of a long-range forecast of population, household, and employment growth at the regional, community and neighborhood levels to evaluate future impacts on travel and, therefore, air pollution and GHG emissions.

The statutory authority for the Connect SoCal 2024 Regional Growth Forecast is found in the federal Clean Air Act, Section 176(c)(1)(B)(iii):

> "[t]he determination of conformity shall be based on the most recent estimates of emissions and such emissions shall be determined from the most recent population, employment, travel, and congestion estimates as determined by the MPO or other agency authorized to make such estimates."

As such, to fill the region's statutory responsibilities SCAG's land use planning must be ambitious and achievable. It must utilize high-quality data and assumptions and reflect local general plans and input. More detail on the Regional Growth Forecast can be found in the Demographics and Growth Forecast Technical Report and more detail on modeling and plan performance can be found in the Performance Monitoring Technical Report.

While the per-capita GHG emission reduction target is the core metric for assessing MPO land use planning efforts under SB 375, SB 375 also requires that SCAG gather and consider the best practically available scientific information regarding resource areas and farmland in the region. These include the consideration of:

- All publicly owned parks and open space;
- Open space or habitat areas protected by natural community conservation plans, habitat conservation plans, and other adopted natural resource protection plans;
- Lands subject to conservation or agricultural easements for conservation or agricultural purposes by local governments, special districts, or nonprofit 501(c) (3) organizations, areas of the state designated by the State Mining and Geology Board as areas of statewide or regional significance pursuant to Section 2790 of the Public Resources Code, and lands under Williamson Act contracts;
- Areas designated for open-space or agricultural uses in adopted open-space elements or agricultural elements of the local general plan or by local ordinance;
- Areas containing biological resources as described in Appendix G of the CEQA Guidelines that may be significantly affected by the sustainable communities strategy or the alternative planning strategy;
- An area subject to flooding where a development project would not, at the time of development in the judgment of the agency, meet the requirements of the National Flood Insurance Program or where the area is subject to more protective provisions of state law or local ordinance; and
- Farmland that is outside all existing spheres of influence or city limits as of January 1, 2008 and is 1) classified as prime, unique, or farmland of statewide importance, *or* 2) classified by a local agency in its general plan that meets or exceeds the standards for prime, unique, or farmland of statewide importance.

Under SB 375, SCAG's role is to coordinate the development of the Connect SoCal 2024 land use pattern in partnership with local jurisdictions that are ultimately responsible for land use planning and management. Pursuant to California Government Code § 65080 section (K) Neither a sustainable communities strategy nor an alternative planning strategy regulates the use of land, nor, except as provided by subparagraph (J), shall either one be subject to any state approval. A sustainable communities strategy does not supersede the exercise of the land use authority of cities and counties within the region. To facilitate this partnership during the Connect SoCal 2024 process, SCAG developed the Local Data Exchange (LDX) process to engage local partners and get information needed to fulfill SB 375 requirements. This included information on land use, transportation, priority development areas, geographical boundaries, resource areas, and growth that was shared and exchanged through a combination of one-on-one meetings with and data submissions from local jurisdictions.

A listing of statutory requirements required from SB 375 that are satisfied within this Report are identified here, and further described in various sections:

Does the RTP identify the general location of uses, residential densities, and building intensities within the region?	Yes
Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population over the course of the planning period of the	Yes

regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth?	
Does the RTP identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Government Code Section 65584?	Yes
Does the RTP gather and consider the best practically available scientific information regarding resource areas and farmland in the region as defined in subdivisions (a) and (b) of Government Code Section 65080.01?	Yes
Does the RTP utilize the most recent planning assumptions, considering local general plans and other factors?	Yes
Does the RTP set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB?	Yes
Does the RTP provide consistency between the development pattern and allocation of housing units within the region (Government Code 65584.04(i)(1)?	Yes
Did the Metropolitan Planning Organization(MPO)/Regional Transportation Planning Agency (RTPA) who has federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP? (23 CFR 450.316(d))	Yes
Where does the RTP specify that the appropriate State and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation consulted? (23 CFR 450.324(g))	Yes
Did the RTP include a comparison with the California State Wildlife Action Plan and (if available) inventories of natural and historic resources? (23 CFR 450.324(g) (1&2))	Yes

Note: List references the 2018 Regional Transportation Plan Checklist for MPOs.

2.2 CEQA AND THE SCS

In addition to the aforementioned requirements, SB 375 provided certain streamlining opportunities under the California Environmental Quality Act (CEQA) for Transit Priority Projects (TPPs) and certain residential or mixed-use projects. The intent of these provisions is to streamline approvals for projects consistent with an SCS.

Importantly, the SCS provides the basis for determining eligibility for streamlining incentives, but cities and counties (i.e., local jurisdictions) as "lead agencies" under CEQA have full control and discretion in determining a project's consistency with the SCS and whether to use streamlining. This means that the SCS Forecasted Regional Development Pattern reflects the policies, strategies, and processes of the Plan and is not unilaterally reflected in the detailed small area household and employment projections used to

model and evaluate the impacts of growth. Described further below in Section 5.5, the Local Data Exchange provides a linkage between regional targets and local implementation goals.

2.3 REGIONAL HOUSING NEEDS ASSESSMENT

The Regional Housing Needs Assessment (RHNA) is a related process that coordinates local land use plans with state priorities and regional housing need. The RHNA is described in Government Code section 65584 et seq., and the SCS is required to "identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Section 65584." (Government Code 65080(b)(2)(B)(iii))

The RHNA process takes place every eight years, or every other RTP/SCS cycle. No RHNA is being developed alongside Connect SoCal 2024. The most recent (sixth cycle) RHNA allocation was adopted by SCAG's Regional Council in 2021 and relied on input data from Connect SoCal 2020.

State legislative changes beginning in 2017 have changed the relationship between the SCS' Forecasted Regional Development Pattern and the RHNA. Most notably, the state Department of Housing and Community Development (HCD) now includes explicit measures of existing housing needs – specifically overcrowding and cost burden rates – in their determination of the SCAG region's housing need. These measures now comprise the majority of their determination of the SCAG region's total sixth cycle housing need of 1,341,827 units. The RHNA process requires local jurisdictions to identify sites and zoning, pursuant to additional parameters, which can accommodate this number of units region-wide.

Put simply, the emphasis of RHNA in the 6th cycle expanded to a more comprehensive assessment of the need for housing: explicitly addressing the existing need plus the need to house anticipated population growth. In prior cycles it focused on need due to anticipated population growth.

Pursuant to SB 375 requirements, SCAG's Forecasted Regional Development Pattern identifies areas sufficient to accommodate both these sources of housing need over its time horizon while also fulfilling the state and federal requirements to project growth using the most recent planning assumptions and estimates of population and employment.

Owing to the substantially increased sixth cycle regional housing needs determination as well as recent legislation which changed how local jurisdictions must identify sites and zoning to accommodate the need, local land use data will be inherently incomplete for the development of Connect SoCal 2024. Additionally, based on when they achieved compliance, some local jurisdictions are not required to complete rezonings associated with housing element updates until February 2025 and at the time of the LDX conclusion, only 84 of 197 jurisdictions had an adopted and certified housing element. However, the one-on-one nature of the LDX greatly increased the ability to integrate localities' latest land use plans in the SCS, ensuring that the RHNA and SCS are iterative and mutually reinforcing processes. For more detail, see section 4.6 of the Demographics and Growth Forecast Technical Report.

2.4 CALIFORNIA STATE WILDLIFE ACTION PLAN

The California State Wildlife Action Plan (SWAP) is a comprehensive conservation plan that outlines key goals, objectives, and strategies to protect and restore the state's native wildlife species and their habitats. The California Transportation Commission requires Regional Transportation Plans (RTPs) include a

comparison with the SWAP and inventories of natural and historic resources, which is produced by the California Department of Fish and Wildlife (CDFW). The most recent update, adopted in 2015, focuses on balancing conservation goals and resilience to climate change while meeting the needs of a growing population. Connect SoCal 2024 integrates considerations for wildlife corridors and habitat areas as well as sightings of rare, threatened, or endangered plants and animals into the Forecasted Regional Development Pattern, as further described in Section 5.3.

2.5 SCAG SCS LAND USE PRIORITIES

While not regulatory requirements, the following are important considerations that have been raised by the SCAG Regional Council for consideration in Connect SoCal 2024.

2.5.1 SCAG CLIMATE RESOLUTION

In January 2021, SCAG's Regional Council unanimously adopted SCAG's Climate Resolution (Resolution No. 21-628-1) to promote climate adaptation, mitigation and resilience across the region. This includes developing a framework "to help the region plan and prepare for a changing climate as well as potential near- and long-term disruptions to Southern California, such as earthquakes, extreme weather, drought wildfires, pandemics and economic shocks." This Resolution also calls on SCAG to integrate climate adaptation and mitigation strategies into Connect SoCal 2024. Connect SoCal 2024's climate resilience Regional Planning Policies and Implementation Strategies that fulfill this requirement are included in Section 6.2.

2.5.2 SCAG WATER RESOLUTION

In October 2022, SCAG's Regional Council adopted its Water Action Resolution (Resolution No. 22-647-3). The Resolution affirms the drought and water shortage emergency in Southern California and called on local and regional partners to join together, adopt an "all of the above" approach to address the region's water challenges and catalyze opportunities to ensure a clean, safe, affordable, and reliable water supply for the region. To achieve this, the Resolution calls on SCAG and its local partners to support investments and efforts to improve water conservation, reuse, and efficiency; enhance water systems' health and resilience; and pursue and potentially implement new water supply and storage opportunities. The Resolution also called on SCAG to "identify, recommend and integrate into Connect SoCal 2024 policies and strategies to align investments in water infrastructure with housing needs and the adopted growth forecast and development pattern." Connect SoCal 2024's water resilience Regional Planning Policies and Implementation Strategies that fulfill Regional Council's direction are included in Section 6.2.2.

2.5.3 PATHWAYS TO 30X30 STRATEGY

In October 2020, Governor Newsom signed Executive Order N-82-20, which aims to combat the biodiversity and climate crises by conserving at least 30 percent of California's land and coastal waters by the year 2030. This action was subsequently codified into California State Law through SB 337 (Min) in October, 2023. This initiative is part of a greater conservation movement, with multiple countries establishing their own 30x30 commitments. California's 30x30 goals include protecting and restoring biodiversity, expanding access to nature, and mitigating and building resilience to climate change. To meet these goals, the California Natural Resources Agency (CNRA) coordinated with other state agencies

and stakeholders to develop the strategy document, "Pathways to 30x30", which outlines the most effective actions to reach the goals in 30x30 as "Pathways". These include accelerating regionally led conservation, executing strategic land acquisitions, increasing voluntary conservation easements, enhancing conservation of existing public lands and coastal waters, institutionalizing advance mitigation, expanding and accelerating environmental restoration and stewardship, strengthening coordination among governments, aligning investments to maximize conservation benefits, advancing and promoting complementary conservation measures, evaluating conservation outcomes and adaptively managing California's land and coastal waters. Connect SoCal 2024's conservation Regional Planning Policies and Implementation Strategies that help support the 30x30 commitments are further described in Section 6.2.

2.5.4 RACIAL EQUITY RESOLUTION AND EARLY ACTION PLAN

In July 2020, the SCAG Regional Council adopted Resolution No. 20-623-2 affirming that systemic racism is a human rights and public health crisis and reaffirmed its commitment to advancing justice, equity, diversity, and inclusion in Southern California. The resolution resulted in the preparation of SCAG's Racial Equity Early Action Plan, which defined racial equity for SCAG and set forth goals and a series of early actions for SCAG to pursue to advance racial equity. In addition, SCAG convened the Racial Equity and Regional Planning Subcommittee which identified a series of recommendations to embed racial equity in the Plan. These recommendations are found throughout the Plan, including in this Report.

3. EXISTING CONDITIONS

There is significant diversity across the SCAG region's built and natural environments. The existing conditions highlight the community and land use patterns across the region and how they influence access to important essential needs (housing), services, and destinations-all of which are essential to planning for a sustainable and resilient region. In addition, considerations around our natural environment are also important elements of land use and communities.

The SCAG region has incredible natural diversity, containing 94 of earth's 431 types of terrestrial ecosystems, from subtropical deserts to temperate plains to mountain forests. Elevations in the region range from 230 feet below sea level in the Imperial Valley to the 11,503-foot summit of Mt. San Gorgonio. Annual average rainfall ranges from under three inches in parts of Imperial County to nearly 28 inches in parts of San Bernardino. Half of SCAG's counties rank in the nation's top 10 on the U.S. Department of Agriculture's natural amenities scale. The SCAG region is also at high risk for natural hazards, including potential floods, drought, earthquakes, heat waves, landslides and wildfires. All six counties in the SCAG region are ranked in the top two percent for risk in the Federal Emergency Management Agency's (FEMA) National Risk Index, with Los Angeles County being at the highest risk nationally and Orange, Riverside, and San Bernardino counties falling in the top eight at risk for natural hazards.

3.1 COMMUNITY AND LAND USE PATTERNS

Similarly, the SCAG region has incredible diversity in its built environment and land use patterns. This diversity is reflected in how people experience their communities and how that influences overall quality of life. Complete communities are important considerations in land use planning as they are places that meet peoples' essential needs (housing, mobility), the provision of goods and services, recreation and respite, and overall access to opportunity. It is important to evaluate existing conditions around community and land use patterns with a keen eye towards racial equity. Land use patterns are shaped by governmental decision-making and in many cases, the communities of today have been left with the burdens of the past that shape access to opportunities, resources, and the quality of the environment. Issues around housing overcrowding and supply (discussed more fully in the Housing Technical Report), environmental justice, access to healthy food and resources, parks and open spaces, economic and educational opportunity, and safety have critical influence over how people live and thrive in their communities.

Attempts have been made through various federal and state laws and regulations to identify and rectify the impacts of racially discriminatory policies, including the Civil Rights Act of 1964, Title VI, Consideration of Environmental Justice, which discloses the benefits and burdens of proposed projects on minority populations and bars discrimination that is intentional and has unjustified disparate impact (policies that are, at face value, neutral, but discriminate against protected groups). More recent examples include Executive Order 12898 (1994), which requires that every federal agency make environmental justice a part of its mission by identifying and addressing effects of all programs, policies and activities on underrepresented groups and low-income populations; and Senate Bill 115 (1999) which calls for "the fair treatment of people of all races, cultures and income with respect to development, adoption and implementation of environmental laws, regulations and policies" to be included in the development of General Plans.

These summary measures capture only some of the range of experiences of land use in the region's communities. Southern California is often considered either polycentric or dispersed. Many well-defined centers of activity emerged by the early twentieth century including large and small downtowns. The development of the region's highway network in the middle of the century facilitated development on vacant land, generally with auto-accessible single-family housing and commercial uses that also expanded the urbanized area's footprint.

In the early twenty-first century, expansion on the urban fringe has continued in some places, though the region's fragile ecosystems and rugged natural landscape—as well as sheer distances—present substantial limits. As a result, there has been an increase in infill development and a higher share of new housing consisting of multifamily units in existing communities since the Great Recession. Despite this, the underlying historical development pattern has generally resulted in Southern California remaining very automobile dependent—with 67 percent of work commutes in 2022 coming through single-occupant vehicles, 16 percent through working-from-home, and only 17 percent through any other transportation mode.

When SB 375 was passed in 2008, Southern California had already embarked on a path to consider the intersection between land use and transportation more comprehensively to provide more travel options. In 1990, light rail returned to Southern California with the opening of the LA Metro Blue Line (since renamed the A Line), the opening of the Metrolink commuter rail network two years later, and ongoing investments to expand rail, improve bus service, and increase biking, walking, and rolling. As the region continues to see the expansion of the public transportation system, it will be an important consideration in shaping land use planning to support more opportunities for people to opt for multimodal transportation and support the region in achieving the GHG emissions reduction goals.

Additionally, decisions about land use and growth, such as what type of housing, offices or retail gets built and where, rests fundamentally with each local government— sometimes referred to as "local land use authority." A given city or county articulates its land use planning through general plans, specific plans and other documents (such as zoning ordinances or development agreements). These land use decisions can include provisions to incentivize more sustainable development such as infill or mixed uses, as well as strategies for conserving natural lands and farmlands. Decisions made at the local level have an impact on the region's overall pattern of land use, such as when growth takes the form of a new regional employment center in one city and induces new travel from distant areas. Alternatively, when new housing is built close to shopping, job opportunities, schools, and other key destinations it tends to reduce the distance people travel and make transportation options such as transit, biking, walking, and rolling more feasible. The combination of these and other related factors has resulted in the existing unique and diverse land use patterns of the region and its communities and the resulting transportation and GHG emissions that Connect SoCal is intended to address.

3.2 NATURAL AND FARM LANDS

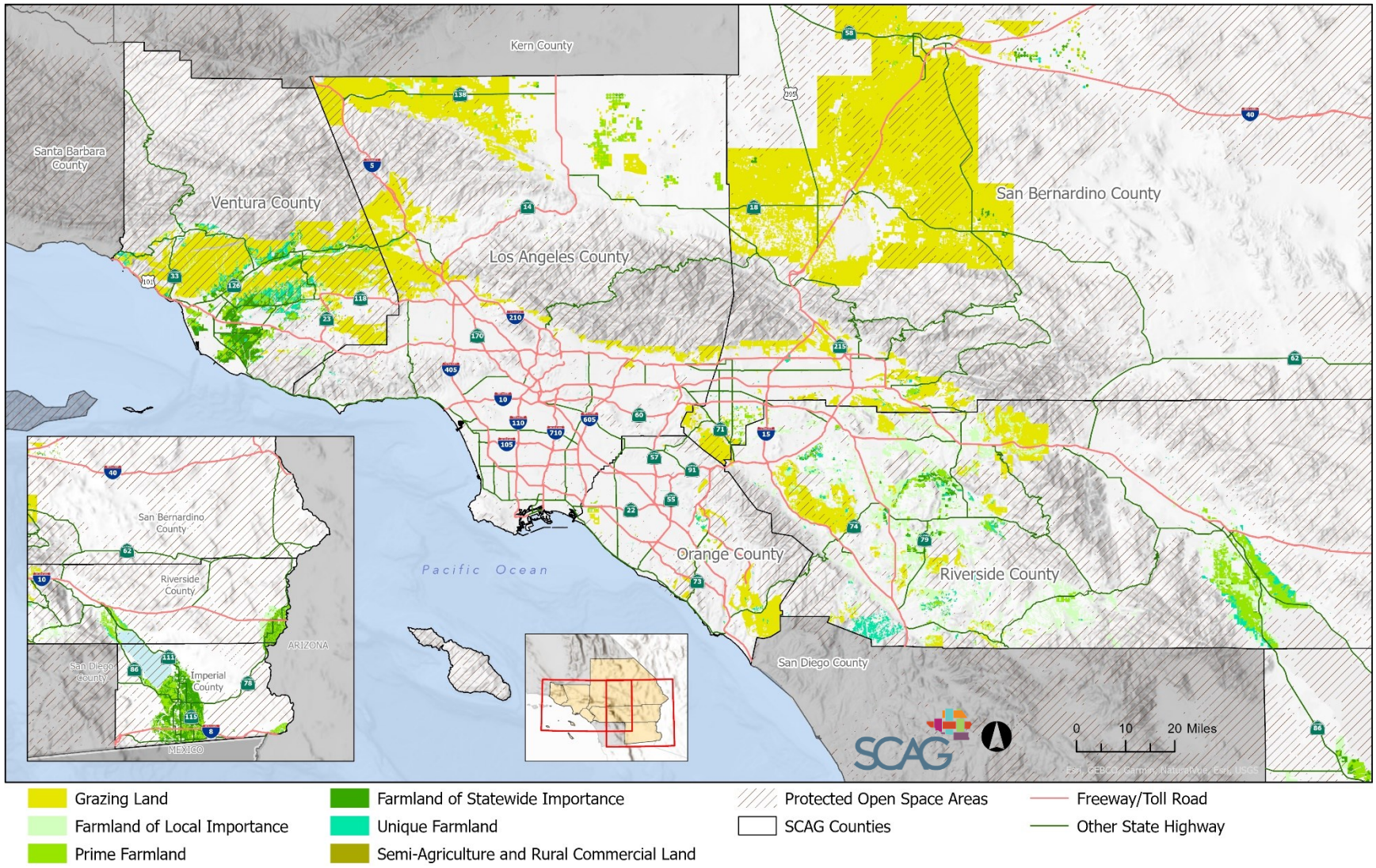
The diverse natural landscapes of Southern California are an invaluable asset to the millions of people that call the SCAG region home. Our parks, open spaces, and wildlife habitats provide us with important environmental services, such as storing and providing clean drinking water, reducing pollution, and helping communities stay cool during hot days and nights, in addition to countless recreation activities they are best known for.

With abundant desert, mountain, and coastal habitats, some of the highest concentrations of native plant and animal species on the planet are found within our region. In fact, Southern California is part of the California Floristic Province, one of the planet's top 25 biodiversity hot spots.[1] From 2012 to 2019, new development throughout the region resulted in the amount of natural lands decreasing by roughly 50,000 acres, or 0.2 percent. Household and employment growth that degrades or eliminates habitats that provide important environmental services negatively affects our regional economy, health, and overall quality of life. Further, the landscape, its ecosystem services that support plants and animals, have intrinsic value that are essential for human existence – such as the need for pollinators to have sufficient and stable habitat to support agricultural production and crop health.

Much of the SCAG region has a rich agricultural history, as well, and crop sales continue to bring billions of dollars each year into our local economy; additionally, irrigation from agricultural uses contributes to groundwater supply. From 2012 to 2018, however, new development in areas with longstanding agricultural resulted in farmland decreasing in Southern California by more than 40,000 acres, or 3.5 percent. Some of this conversion has been facilitated by local jurisdictions where parcels with agricultural uses have been re-zoned to other uses.

Preserving natural and farm lands can strengthen our communities, increase the supply and quality of resources like our water and food supply, protect and enhance biodiversity, and capture greenhouse gases in the soil, plants and trees instead of allowing them to concentrate in the atmosphere. Additionally, development on natural and farm lands often occurs away from existing jobs, schools, retail, health care, and high-quality transit service, leading residents to drive longer distances to access key destinations. This adds more vehicles on the roads and increases greenhouse gas emissions, worsening the negative impacts of climate change for our region.

Map 1. Farmland and Protected Open Space Areas



Source: SCAG 2022, County of Ventura SOAR 2017, California Conservation Easement Database 2021, California Protected Areas Database 2021, California FMMP 2018

3.3 CLIMATE HAZARDS

Southern California is experiencing a climate crisis that is increasingly threatening the health, safety, and prosperity of its people and the continued viability of its diverse ecosystems and abundant natural resources. Across the SCAG region, people and the communities they call home are suffering the impacts of more frequent and intense extreme heat, drought, wildfire, and flood events, as well as those of rising sea levels.

These hazards, which can result in severe impacts on their own, are often interrelated and can worsen impacts on communities when combined. For instance, Southern California's temperatures are increasing faster than other parts of the state[2], resulting in more extreme heat days and severe health impacts. Heat-related events occurring from 2010 to 2019 resulted in more than 53,000 emergency room visits, 7,000 hospitalizations, and 600 deaths in California, and indicators show that the number and intensity of extreme heat-health events will worsen drastically throughout the state by midcentury. Extreme heat causes drier landscapes, which then make wildfires and drought more likely and extreme. In 2020, California experienced a record number of dry heat days due to a changing climate and had over 6,000 fires that burned millions of acres, making that year the largest wildfire season recorded in the state's modern history according to the California Department of Forestry and Fire Protection.[3] Economic costs from wildfires include resources involved in fighting the fires, damage to property, health care bills, costs of disrupted business, lost tax revenue, and decreased property values, and are estimated to sum to $10 billion dollars in 2020.[4]

Larger and more frequent wildfires can inhibit natural lands from absorbing rainfall, which then increases the likelihood of landslide and severe flooding events, especially following heavy storms. Storms in the SCAG region have become more prevalent in the region due to an increase in frequent and severe atmospheric rivers, which result from climate change. This can further threaten communities well beyond those impacted by the initial wildfire. Currently, roughly 3 million people live in moderate, high, and very high fire hazard severity zones, over 550,000 people reside in "100-year"[5] flood hazard areas and over 11 million people live in areas subject to extreme heat health events. Additionally, climate change impacts on our coasts are projected to accelerate. More than 73,000 residents currently live in areas conservatively estimated to be impacted by three feet of sea level rise by 2050. The threats from sea level rise can include coastal erosion, which threatens property and infrastructure along coastlines; saltwater intrusion, which can threaten groundwater supplies; and increased impacts from extreme precipitation and storm events, including more frequent and severe floods and storm surges.

While everyone in the region feels the effects of climate change to some degree, its impacts are not experienced equally across populations. Some communities experience disproportionate impacts stemming from historical patterns of inequity, socioeconomic disparities, and systemic environmental injustices (e.g., redlining). More than one-third of the SCAG region's residents live in areas recognized as disadvantaged communities and are disproportionately vulnerable to shocks and stresses to their resilience, including heightened health risks from worsening air quality and extreme heat, as well as the resulting economic instability from climate hazards, amongst other concerns.

Just as the impacts of climate change are not experienced equally across populations, climate change is felt differently across the many geographic areas of the 38,000 square mile SCAG region. Some places are more vulnerable to climate hazards, such as hillside communities that are at greater risk of wildfires and coastal communities that are at greater risk of sea level rise, and thus experience heightened risks that must be accounted for when planning for future growth.

The degradation of air quality due to climate-related factors compounds the region's health challenges, contributing to a surge in respiratory conditions and the worsening of existing respiratory health issues, which disproportionately affects communities already dealing with greater levels of ambient pollution. Communities facing health challenges stemming from air quality issues are more vulnerable to the impacts of escalating temperatures, and can expect greater incidences of illness, hospitalizations, and deaths resulting from increasingly frequent extreme heat days.

Further, climate hazards like wildfires, floods, and landslides can cause the destruction of vital physical infrastructure, such as roads, powerlines, energy facilities, cell towers, and communication systems, jeopardizing the region's essential functions. Measures to prepare for climate hazards, such as Public Safety Power Shutoffs in preparation for high heat days and the Santa Ana winds, can interrupt the delivery of energy and other critical services. Service interruptions such as these can result in the loss of perishable food, the ability to travel to and from work and school, the ability to stay cool, and even the ability to maintain life support systems for individuals with disabilities who are dependent on life-saving medical equipment.

Beyond the impacts to human health climate hazards pose, the financial costs associated with these impacts can cause or worsen economic instability as wildfires and other climate-related shocks result in job losses, damaged or destroyed property, healthcare expenses, and business disruptions. Many residents of disadvantaged communities are already experiencing economic vulnerability, grappling with housing instability and increases in the cost of living, and thus will be disproportionately impacted by the increased financial strain climate hazards present.

As climate hazards unfold unevenly across populations and geographies in Southern California, it is critical to highlight how social and economic disparities intersect with environmental challenges when developing comprehensive and equitable plans for the future of our region. Without targeted measures to build resilience and reduce the vulnerability of our region's disadvantaged communities, historical inequities, systemic environmental injustices, and the impacts of climate hazards will compound and magnify the challenges these communities face, perpetuating cycles of vulnerability.

4. ISSUES AND CHALLENGES

The issues and challenges facing the region in land use and communities range from factors that affect the social, economic, natural, and built environment, like housing access and affordability, intensifying climate impacts, and resilience shocks and stressors.

4.1 SOCIAL, ECONOMIC, NATURAL, AND BUILT ENVIRONMENT CHALLENGES

Building complete communities is especially challenging given the region's development pattern as described in Section 3.1. Infill development and retrofit of existing places can require difficult site assembly, remediation, infrastructure investment, and legal challenges, for example, which can increase costs simply by delaying projects. Additionally, having access to everyday destinations such as grocery stores, schools, and parks is usually not the result of single project or development decision. Instead, it is the result of a suite of location and policy decisions that generally take place over an extended period of time.

The Forecasted Regional Development Pattern is a guide to reduce growth in high-risk areas and grow sustainably, smartly, and equitably in areas that provide access to opportunity and are efficiently located for transportation needs. This approach supports the development of complete communities that support a more resilient region.

Housing is an important element of complete communities. Housing affordability was cited by 64 percent of respondents to the Connect SoCal 2024 survey as the top regional equity issue, far exceeding air quality, economic opportunity, or any other issue. Housing supply and affordability have also been cited by SCAG's Demographic Panel of Experts as the largest impediment to regional job growth and prosperity. When demand for housing exceeds the supply of housing prices rise and more people experience economic insecurity. This insecurity manifests through more overcrowding, a higher cost burden, an increase in the number of people becoming unhoused, suppression of life cycle ambitions (including, e.g., household formation and homeownership), and out-migration from Southern California. See the Housing Technical Report for additional information.

Communities across the region are grappling with an increase of unhoused neighbors. According to California Continuums of Care (CoCs), the homeless count for CoCs across the SCAG region was 53,729 in 2012 and jumped to almost 85,000 in 2022—an increase of 58 percent. A recent comprehensive study on California homelessness crisis found that the majority (89 percent) of homeless persons lived in California prior to becoming unhoused and the primary factor leading to homelessness were economic or social factors.[6]

Surveys have suggested that an increasing number of Southern California residents are considering leaving the region due to affordability[7]. While the region typically loses more residents to other states and counties than it gains, domestic out-migration increased notably early in the COVID-19 pandemic. While slow or negative growth can reduce projected housing need, a key driver of domestic out-migration is the inability of Southern Californians to afford to stay in the communities they call home. This presents itself as a challenge to fostering resilient social and economic systems within the region's communities.

While additional housing is generally seen as a major part of the solution for increasing access to and reducing the cost of housing, localities often experience pushback against new development and neighborhood change more generally. This has occurred in areas with low-density housing and high socioeconomic status residents, but recent research suggests that opposition to density may be widespread across different demographic subgroups.[8] See the Housing Technical Report for more information.

Investments in transportation infrastructure and services such as frequent and fast transit and complete streets are needed to provide communities a variety of ways to and from these everyday destinations and are especially important for those who cannot afford a car, have disabilities, or are too young or too old to drive. Frequently, however, these options are inadequate. Active transportation infrastructure for example, a component of neighborhood mobility, is often underutilized if it does not sufficiently connect people to key origins and destinations. Strategic local and regional planning policies are needed to help ensure communities have places to live, work, and play as well as the transportation options to access them efficiently and equitably. These complete communities help people thrive and increase resilience.

Overall, new growth in the region can occur in a fashion that also promotes resource conservation. Generally, development of natural and farm lands leads to an increase in driving since most of these lands are outside of core urban areas. As a result, conservation of natural and farm lands is an important strategy to support SB 375 objectives. Conservation also provides important co-benefits, including but not limited to groundwater recharge and food supply resilience. Additionally, strategic conservation is a tool to reduce development in areas that are at risk to hazards such as wildfires and flooding. Given the wide range, uniqueness and sensitivity of the region's natural habitats, many essential development and infrastructure projects will have environmental impacts that require compensatory mitigation under the Clean Water Act, Endangered Species Act, Federal Wild and Scenic Rivers Act, as well as under state regulations such as the CEQA, California Endangered Species Act, California Wild and Scenic Rivers Act, and the Habitat Restoration and Enhancement Act.

Regional advance mitigation, a strategic mitigation program that identifies mitigation solutions for infrastructure projects early in the planning process to prevent project delays and reduce mitigation costs while improving mitigation quality, is one key strategy that allows agencies to use a science-based approach to anticipate the environmental impacts and mitigation needs of infrastructure projects and development early and prioritize and pursue conservation efforts that will have the most ecological benefit, lower project costs, and save time. Types of regional advance mitigation programs include natural community conservation planning, regional conservation investment strategies, conservation and mitigation bank, and wildlife connectivity advance mitigation, amongst others.

Broadly speaking, growing sustainably requires growing partly in places and ways that achieve substantial housing growth within complete communities while reasonably managing growth at the urban fringe and beyond. To a degree, housing of various types can be located in areas that promote location efficiency, good accessibility, and do not result in the utilization of natural lands or risk environmental hazards.

4.2 INTENSIFYING CLIMATE IMPACTS

To maintain the region's quality of life as impacts increase in frequency and severity, communities must adapt to the changing circumstances identified above – both in where we choose to grow and how neighborhoods are designed. Southern California's future depends on the region's ability to accommodate projected growth through sustainable and resilient development, in ways that are

strategically aligned to minimize the impacts of climate change on ecosystems, communities, individuals, and the economy. Climate change presents several challenges for Southern California – both now and into the future as conditions are projected to grow progressively more extreme. According to California's Fourth Climate Change Assessment, Southern California can expect extremes of temperature and precipitation, increased storm frequency and intensity, more wildfires, and rising seas.[9] These primary climate change impacts are expected to result in secondary effects such as more extreme droughts, new disease vectors, and an increase in flood, landslide, and debris flow events.[10]

Extreme heat days and heat waves, or persistent periods of unusually hot days and nights, negatively impact human health. Extreme temperatures, especially when combined with high humidity, lack of shade, and poor air quality, can result in heat related illness, which includes a spectrum of illnesses ranging from heat cramps to severe heat exhaustion and life-threatening heat stroke.[11] Some groups are disproportionately affected by the effects of extreme heat, including but not limited to children, older adults, people experiencing homelessness, people with pre-existing conditions, those who work outdoors, and low-income communities. For example, older adults are more likely to have pre-existing health conditions which limit their ability to regulate body temperature, require life-sustaining devices that may be affected by power outages during heatwaves, or be socially isolated, all of which can increase the likelihood of dangerous heat-related illness. More frequent and intense extreme heat days also makes cities hotter, resulting in an increase in urban heat islands. Extreme heat also leads to higher ground level ozone concentrations,[12]

Urban heat islands are particularly intense in areas where there are few or no trees or green spaces, as paved surfaces absorb and retain heat from the sun, increasing local temperatures and keeping them high into the night. Urban heat island is first and foremost an equity issue, as the majority of areas where the urban heat island effect is most intense are in disadvantaged neighborhoods, resulting from a historic lack of investment in trees, parks, or other green spaces for low-income communities and people of color. Additionally, a continuation of current land use and development patterns that concentrates a substantial portion of the region's new housing and employment growth at inland locations away from the coast, require increased energy for cooling and increasing costs that may be difficult for lower-income households to bear.

Severe storms can cause injuries or deaths, cause damage to buildings and structures, fell trees, block roads and railways with debris, cause coastal and inland flooding and spark fires with lightning strikes. Strong winds, such as the Santa Ana winds that Southern California typically experiences between October and April, are particularly dangerous in combination with dry conditions that are conducive to wildfire outbreaks. In recent years, electric utilities have shut down large portions of their power distribution systems during extremely windy conditions to prevent fires sparked by downed power lines, leading to power outages. These power outages can be particularly dangerous during extreme heat events for populations such as the young, the old, and people with health conditions that depend on air conditioning.

While projected changes in average annual precipitation throughout the region are expected to be small, dry and wet extremes are expected to increase with climate change. Frequency and severity of atmospheric river events (narrow bands of concentrated moisture in the atmosphere that deliver intense precipitation over several days that are responsible for a majority of extreme precipitation events in Southern California) are projected to increase for the region.[13] Also, by the latter part of the century total rainfall on the wettest day of the year is expected to increase across most of the Los Angeles region, with

some locations experiencing a 25-30 percent increase under the business-as-usual emissions scenario (RCP8.5).[14]

More severe storm events are increasingly likely to swell rivers, saturate the ground, and overwhelm urban infrastructure leading to more damage and increased incidences of mudslides with combined sewer overflows and similar events. As an example, the City of Palm Springs had unprecedented flooding in February 2019 when the Coachella Valley experienced more than three inches of rain during the wettest day ever recorded in the area[15]. In coastal communities, sea level rise is increasingly threatening property, residents, and their livelihoods. Property and infrastructure along the Southern California coast is threatened by the erosion of cliffs and beaches, and groundwater supplies can be impacted by saltwater intrusion. When combined with increases in extreme precipitation, sea level rise has the potential to exacerbate flooding. These higher water levels will be further magnified by storm surges and high waves. Tidal flooding, also known as "sunny day flooding," will also increasingly pose challenges to coastal communities. High tide events, such as spring tides and king tides, are already affecting many low-lying coastal communities and will become more frequent in the future, flooding and damaging streets, utilities, and other critical infrastructure, as well as coastal properties.

The SCAG region can expect more intense and extended duration of droughts, putting greater stress on our water supply. Increasing uncertainty in the timing and intensity of precipitation will challenge the operational flexibility of California's water management systems. The SCAG region imports approximately three-quarters of its potable water from outside the region, relying primarily on deliveries from the following conveyance projects: The Department of Water Resource's State Water Project, the Metropolitan Water District's Colorado River Aqueduct, and Los Angeles Department of Water and Power's Los Angeles Aqueduct.[16] Higher temperatures are expected to exacerbate water stress in an already very water-limited region that faces demands from ecological and agricultural systems, as well as from residential and commercial development.

Projections indicate that wildfires may increase in Southern California, but there remains uncertainty in quantifying future changes of burned area over the Los Angeles region. Wildfire in Southern California is influenced by environmental factors such as the dry and warm Mediterranean climate with periodic episodes of Santa Ana winds and droughts, shrub dominated vegetation, and rugged terrain as well as anthropogenic factors such as large wildland-urban interfaces, past fire suppression efforts, and human activity.[17] In addition to physical injury and property loss, wildfires emit substantial amounts of particulate matter and worsen air quality and stripped hills and land that increases its vulnerable to post-fire landslides and flooding.[18] [19]

Climate change impacts on air quality from wildfires and extreme heat can exacerbate breathing problems, aggravate lung diseases such as asthma, emphysema, and chronic bronchitis, and cause chronic obstructive pulmonary disease. Additionally, climate is one of many interacting factors that influences the distribution of diseases borne by animals such as rats, fleas, ticks, and mosquitoes, which spread pathogens that cause illness.[20] [21]

Although these climate hazards affect all communities, they have disproportionate impacts on vulnerable communities, such as communities of color, low-income communities, youth and elderly populations, people with disabilities, and unhoused people. For example, extreme heat has disproportionate impacts on populations such as youth and elderly, people with disabilities, and those who spend a lot of time outside such as unhoused people and outdoor workers. Additionally, low-income and communities of color are oftentimes not included in local disaster preparedness activities nor have the financial means to

recover from loss of property, displacement, or severe health consequences as a result from a flooding, wildfire, or earthquake event. Addressing climate hazards to strengthen regional resilience is an important element of Connect SoCal 2024 and is further discussed in Sections 5 and 6. More detail and analysis on climate hazards' impacts on vulnerable communities can be found in SCAG's Equity Analysis Technical Report.

4.3 RESILIENCE SHOCKS AND STRESSORS

Sudden or acute events that threaten immediate safety and well-being, such as the impacts of climate change discussed above, are commonly referred to as "shocks." Chronic conditions that increase risks for a natural, built, economic or social system are referred to as "stressors." Both can threaten the resilience of the region and cause severe damage to essential systems and loss of life for Southern Californians. SCAG defines resilience as the capacity of the region's built, social, economic and natural systems to anticipate and effectively respond to changing conditions, acute shocks, and chronic stressors by creating multiple opportunities for a sustainable, thriving and equitable future."[22] Improving resilience in the region will involve identifying these potential shocks and stressors, and implementing solutions that can increase the ability to effectively respond to a natural or man-made disaster and strengthen the effectiveness of the region's built, social, economic and natural systems to meet the needs of the region. The following table lists many but, not all, shocks and stressors that occur in Southern California:

Shocks	Stressors
Sudden or acute events that threaten immediate safety and well-being	***Chronic challenges that weaken natural, built, or human resources***
• Avalanche • Drought • Earthquake • Extreme Cold • Extreme Heat • Flood (including tidal flooding) • Hazard Material Release • Infrastructure Failure • Landslide • Wildfire • Non-heat-related Severe Weather	• Lack of Access to Open Space • Aging or Non-Resilient Infrastructure • Maladaptive Infrastructure (infrastructure with unintended negative impacts) • Lack of reliable and/or high quality transportation • Economic Insecurity • Low Educational Attainment • Single Parent Households • Food Insecurity • Imbalance of workers and dependent children/seniors • Linguistic isolation

Connect SoCal 2024 identifies strategies and implementation actions that can improve regional resilience by reducing the impacts of chronic stressors and help communities effectively respond to foreseen and unforeseen shocks. Refer to sections 5 and 6 for additional information on how resilience can be promoted in the context of future household and employment growth.

5. WHERE WE'LL GROW SUSTAINABLY

Growing sustainably requires examining how development can occur and where development should occur to achieve Southern California's greenhouse gas emission reduction targets established by the California Air Resources Board (CARB). This section specifically discusses where the region can grow to support overall sustainability and includes Regional Planning Policies and Implementation Strategies that can be integrated by local jurisdictions in general plans to reduce vehicle trips and conserve natural and farm lands that support resource resilience, including groundwater recharge, clean drinking water and improved air quality. Climate resilience strategies are also included in the Regional Growth Vision that aim to reduce future growth in areas with the highest risks for catastrophic shocks exacerbated by climate change – such as wildfires, floods, and areas anticipated to incur sea level rise by the horizon year of the Plan, 2050.

5.1 BUILDING A REGIONAL GROWTH VISION

SB 375 requires that Connect SoCal 2024 contain a Forecasted Regional Development Pattern (FRDP) —a growth vision—that can be shown to achieve GHG emissions reductions targets when combined with transportation network data and additional Plan strategies. The Connect SoCal 2024 growth visioning process integrated sustainability considerations into a preliminary development pattern. This was then shared with local jurisdictions through the Local Data Exchange (LDX) process, which is described more comprehensively in Section 5.5, for review and feedback and became the FRDP. This is a departure from previous plan where local review occurred much earlier in the plan development process.

The growth visioning process in Connect SoCal 2024 aims to strengthen the relationship between the region's growth vision and local implementation by instead integrating sustainability considerations *before* local review, then assessing the collective effect of local edits on the overall development pattern.

The Regional Growth Forecast, described in detail in the Demographics and Growth Forecast Technical Report, is the starting point for the Connect SoCal 2024 growth vision. This forecast is a balanced, long-term vision for future population, household, and employment growth (Table 1). Within an expert-derived range of future growth, it considers likely outcomes, local conditions, and a pathway to sustainable growth pursuant to SB 375.

Table 1. Regional Growth Forecast

Total Population	1990	*2019*	2050	Growth, 1990-2019	Growth, 2019-2050
Imperial	109,000	*181,000*	210,000	72,000	29,000
Los Angeles	8,863,000	*10,046,000*	10,793,000	1,183,000	747,000
Orange	2,411,000	*3,191,000*	3,439,000	780,000	248,000
Riverside	1,170,000	*2,386,000*	2,992,000	1,216,000	606,000
San Bernardino	1,418,000	*2,175,000*	2,623,000	757,000	448,000
Ventura	669,000	*849,000*	852,000	180,000	3,000
SCAG	14,641,000	*18,827,000*	20,909,000	4,186,000	2,082,000

Total Households	1990	*2019*	2050	Growth, 1990-2019	Growth, 2019-2050
Imperial	33,000	*52,000*	72,000	19,000	20,000
Los Angeles	2,990,000	*3,393,000*	4,155,000	403,000	762,000
Orange	827,000	*1,069,000*	1,253,000	242,000	184,000
Riverside	402,000	*744,000*	1,062,000	342,000	318,000
San Bernardino	465,000	*657,000*	953,000	192,000	296,000
Ventura	217,000	*278,000*	318,000	61,000	40,000
SCAG	4,934,000	*6,193,000*	7,814,000	1,259,000	1,621,000

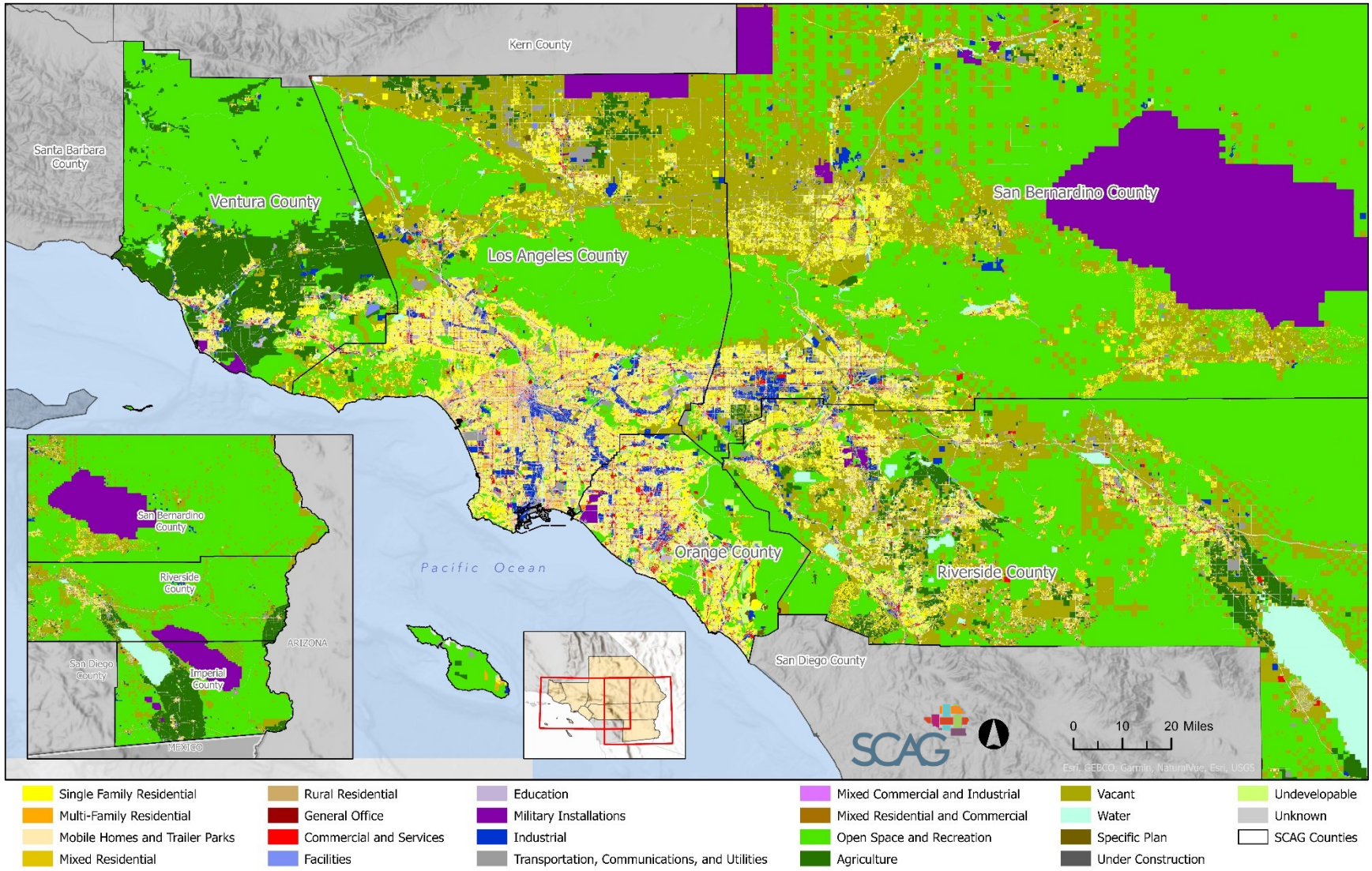
Total Employment	1990	*2019*	2050	Growth, 1990-2019	Growth, 2019-2050
Imperial	49,000	*69,000*	91,000	20,000	22,000
Los Angeles	4,562,000	*5,031,000*	5,461,000	469,000	430,000
Orange	1,288,000	*1,805,000*	2,019,000	517,000	214,000
Riverside	358,000	*847,000*	1,185,000	489,000	338,000
San Bernardino	450,000	*860,000*	1,145,000	410,000	285,000
Ventura	274,000	*363,000*	376,000	89,000	13,000
SCAG	6,980,000	*8,976,000*	10,276,000	1,996,000	1,300,000

This forecast accommodates the region's complete housing need per the sixth cycle RHNA and demonstrates improved jobs-housing relationships by 2050.

The region and county-level projections of total households and total employment are allocated to the jurisdiction and Transportation Analysis Zone (TAZ)-levels using the following major data sources:

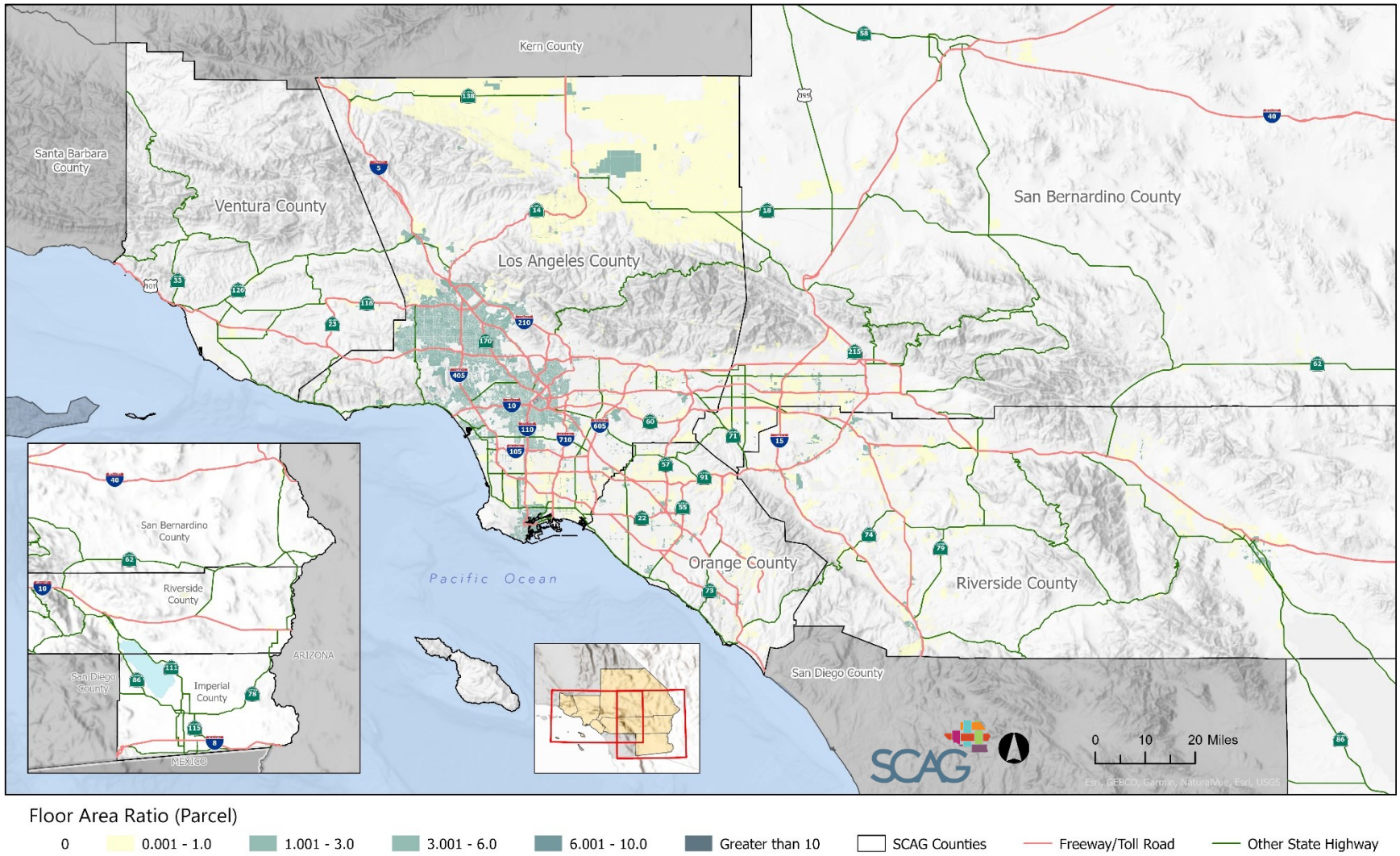
- California Department of Finance (DOF) population and household estimates;
- California Employment Development Department (EDD) jobs report by industry;
- 2019 existing land use and General Plans from local jurisdictions;
- 2020 Decennial Census PL-94 171 Redistricting File;
- American Community survey (2015-2019 5-year sample);
- County assessor parcel databases;
- 2019 business establishment data from InfoGroup;
- SCAG's Connect SoCal 2020 growth forecast;
- Latest available entitlement agreements as articulated by local jurisdictions;
- Sixth cycle housing element update data, if available[23];
- Adopted Connect SoCal 2020 policies and growth vision; and
- Jurisdictional review through the Local Data Exchange (LDX) process.

Map 2. 2019 Existing Land Use (SCAG Land Use Codes)



Source: SCAG 2022. Please note that existing land use data shown in the map represents an approximation of local conditions as of 2019. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For authoritative data on these subjects, please contact the respective local jurisdiction directly. For more information on SCAG's Land Use Codes, please visit the appendix of the Land Use and Communities Technical Report.

Map 3. Building Intensity (MAX Floor-Area Ratio Outputs from Local Jurisdiction's General Plans)



Source: SCAG 2022. FAR data is based on input from local jurisdictions. Please note that existing land use data shown in the map represents an approximation of local conditions as of 2019. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For authoritative data on these subjects, please contact the respective local jurisdiction directly.

The latest jurisdictional existing land use, general plan land use, and other data serve as the basis for future year population and household allocation in that they reflect supply. These measures of remaining capacity are matched with county and regional growth – demand – using a mathematical approach. As such, the projection does not reflect a build-out scenario of all general plans throughout the region. Combining the general plan, existing land use, and 2020 Census data above indicate that in the aggregate, local plans in the SCAG region currently have a remaining physical capacity of roughly 8.2 million housing units. While this statistic assumes that housing unit density could be increased to the maximum allowable level even on existing residential sites, it is several times higher than anticipated household growth. Using this capacity as a starting point, the Regional Growth Vision:

- Increases household growth in **Priority Development Areas (PDAs)** but does not require growth to be entirely in PDAs. PDAs are areas within the SCAG region where future growth can be located in order to help the region reach mobility and environmental goals and support complete communities. Generally, this means that people in these areas have access to multiple modes of transportation or that trip origins and destinations are closer together, allowing for shorter trips (see Section 5.2). Given the existing advantages of these areas for vehicle miles traveled (VMT)-reduction and placemaking, they are good candidates for future growth. Growth in more than one type of PDA is expected to have added advantages. In Connect SoCal 2020, PDAs were referred to as Priority Growth Areas (PGAs).
- Reduces, but does not preclude household growth in **Green Region Resource Areas (GRRAs)**. GRRAs are areas where climate hazard zones, environmental sensitivities, and administrative areas (such as military bases) where growth would generally not advance SB 375 objectives (see Section 5.3). Hazards include fire risk areas, floodplains and areas that will experience sea level rise by 2050, the horizon year of Connect SoCal; environmental sensitivities include open space and parks, sensitive habitat areas, areas with sightings of rare, threatened, or endangered species and plants and natural community and habitat conservation plans; administrative areas include tribal lands, military installations and farmlands. These areas typically reflect the urban-rural fringe where reducing growth has the co-benefits of increasing growth near jobs, destinations, and a variety of transportation options, and strengthening resource resilience, like groundwater recharge, clean air, and food supply security. While it is likely that some growth will occur in GRRAs, areas with multiple overlapping GRRAs are expected to have additional risks and impediments, both natural and financial, which would make new development in these areas less likely to occur. By including GRRAs in SCAG's Regional Growth Vision, Connect SoCal fulfills SB 375's requirements for considering resource areas and farmlands in the development of the SCS and utilizes authoritative information from local, state, and federal agencies for land use, natural resources, environmental protection, and conservation.
- Comprehensive review by jurisdictions through the **Local Data Exchange (LDX)** process. On May 23, 2022, the preliminary jurisdiction and TAZ-level forecasts were released to local jurisdictions for their review and input. This kicked off the LDX process, which invited local jurisdictions to review and provide comment and edits across six categories of data: land use, transportation, priority development areas, geographical boundaries, green region resource areas, and growth over the subsequent seven months. Edits received on growth are often reflective of local general plans, local growth policies, entitled and approved projects, historic preservation, anticipated job growth, amongst several other factors.

Following the LDX, all local edits to total household and employment growth were integrated into the Forecasted Regional Development Pattern. This locally-reviewed development pattern was well within a technically acceptable range of future outcomes, consistent with the sustainability and equity-oriented

objectives of an SCS, and also has a path to implementation due to review and engagement with local jurisdictions.

5.2 PRIORITY DEVELOPMENT AREAS GUIDING THE FORECASTED REGIONAL DEVELOPMENT PATTERN

Priority Development Areas (PDAs) are areas within the SCAG region where future growth can be located in order to help the region reach Plan goals. Generally, this means that people in these areas have access to multiple modes of transportation or that trip origins and destinations are closer together, allowing for shorter trips. PDAs are a technical tool to facilitate plan development and analysis and are used for different purposes in the Plan, such as growth visioning, performance measurement or grant applications. However, as a general principle, being in multiple PDAs indicates a greater alignment with Plan goals. As such, these boundaries reflect a guide, and the location of PDAs used by local jurisdictions or for various programs or grants may differ. PDAs in Connect SoCal 2024 include Neighborhood Mobility Areas (NMAs), Transit Priority Areas (TPAs), Livable Corridors and Spheres of Influence (SOIs) (in unincorporated areas only).

Transit-oriented communities and transit-oriented development are key components of a development pattern that achieves SCAGs VMT/GHG reduction target and melds them into a single inclusive sustainable development pattern.

Given their role in both plan development and plan implementation, PDAs are focal points for three of the Plan's Regional Planning Policies:

- Promote the growth of origins and destinations, with a focus on future housing and population growth, in areas with existing and planned urban infrastructure that includes transit and utilities;
- Promote the growth of origins and destinations in areas with a proclivity toward multimodal options like transit and active transportation, to reduce single occupant vehicle (SOV) dependency and vehicle miles traveled; and
- Seek to realize scale economies, or a critical mass of jobs and destinations in areas across the region that can support non-SOV options and shorter trip distances, combined trips, and reduced vehicle miles traveled

To help realize these Regional Planning Policies in local communities, Connect SoCal 2024 includes companion Implementation Strategies:

- Support local jurisdictions and implementing agencies' strategies to promote plans and projects within PDAs by providing awards, grants and technical assistance; and
- Support the development of housing in areas with existing and planned infrastructure and availability of multimodal options, and where a critical mass of activity can promote location efficiency

While PDAs account for only about 8.2 percent of region's total land area, implementation of the growth vision would result in these areas accommodating 66 percent of the region's household growth and 54 percent of its total job growth from 2019-2050. This more compact form of regional development, if fully realized, can reduce travel distances, increase transportation options, improve access to jobs and other key destinations and conserve the region's resource areas.

From May to December 2022, jurisdictions were tasked with reviewing the PDA layers alongside projected growth to provide a better local understanding of which places exhibit these characteristics.

While additional growth in PDAs has regional benefits, jurisdictions should continue to be sensitive to the possibility of gentrification in PDAs and employ strategies to mitigate negative community impacts. Although the region will see benefits from infill development, communities are encouraged to actively acknowledge and plan for potential impacts including displacement. Production and preservation of permanent affordable housing to complement infill strategies is essential to achieving equitable growth. See Housing Technical Report for community stabilization strategies.

Neighborhood Mobility Areas (NMAs) are areas that focus on creating, improving, restoring and enhancing safe and convenient connections to schools, hospitals, shopping, services, places of worship, parks, greenways and other destinations. SCAG uses four empirical measures in its initial identification of NMAs: 1) Intersection density, 2) Low-speed streets, 3) Land use entropy (mixing), and 4) Accessibility to amenities within 1-mile using street network distances. In order to weight these four measures equally, each was converted to a z-score at the TAZ-level. A z-score of zero indicates that a TAZ is at the regional average for that measure – positive scores reflect above-average TAZs, and negative scores reflect below average TAZs. A composite score was developed for each TAZ by summarizing the z-scores for all four measures. Based on the results of this process, SCAG took the top 25 percent performing TAZs and identified them as NMAs, to reflect the "top one-fourth" of the region for neighborhood mobility. These preliminary NMAs were then provided to local jurisdictions for review and refinement.

Livable Corridors are areas where local jurisdictions may plan and zone for increased density at nodes along key corridors, and to "redevelop" single-story under-performing retail with well-designed, higher density housing and employment centers. Growth at strategic nodes along key corridors, many of which are within High Quality Transit Corridors (HQTCs), will make transit a more convenient and viable option. The Livable Corridors network is developed utilizing select variables from past regional plans like HQTCs and input from local jurisdictions during LDX. Additionally, this strategy is comprised of two components that will encourage context sensitive density, improve retail performance, combat disinvestment, and improve fiscal outcomes for local communities:

- **Transit Improvements:** Some corridors have been identified as candidates for on-street, dedicated lanes or other enhancements (e.g., Transit Signal Priority). Other corridors have the potential to support features that improve the user experience and bus performance, including enhanced bus shelters, real-time travel information, off-bus ticketing, all-door boarding, and longer distances between stops to increase speeds.
- **Active Transportation Improvements:** Increased investments in Complete Streets within Livable Corridors and intersecting arterials are essential to support safe bicycling, walking, and rolling. Investments may include protected lanes to encourage safe bicycling and lower speed mobility, improved pedestrian access, and bicycle and micromobility parking.

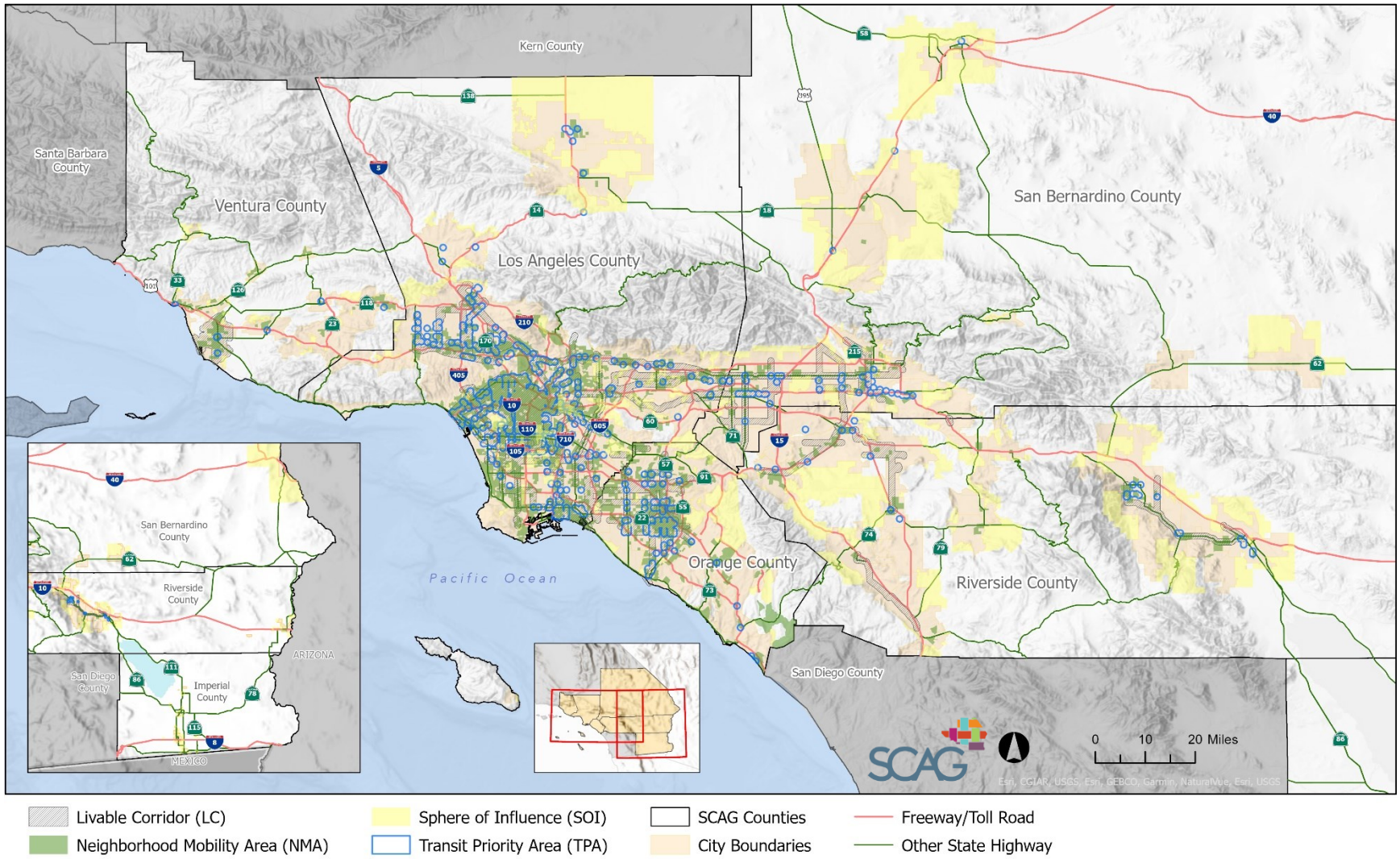
Transit Priority Areas (TPAs) are areas that are within one half mile of existing or planned major transit stops in the region. A major transit stop is defined as a site containing an existing or planned rail or bus rapid transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. TPAs are where transit-oriented development can be realized – where people can live, work and play in higher density, compact communities with ready access to a multitude of safe and convenient transportation alternatives. Focusing regional growth in areas with planned or existing major transit stops is key to achieving equity, economic, and environmental goals.

Infill within TPAs can reinforce the assets of existing communities, efficiently leveraging existing infrastructure and potentially lessening impacts on natural and working lands. Growth within TPAs supports Connect SoCal 2024's strategies for preserving natural lands and farmlands and alleviates development pressure in sensitive resource areas by promoting compact, focused infill development in established communities with access to high-quality transportation. Note that TPAs used for preliminary projections prior to LDX used Connect SoCal 2020-vintage transit information.

Spheres of Influence (SOIs) are existing or planned service areas within the planning boundary outside of an agency's legal boundary; data for these areas was accessed by SCAG from each county's Local Agency Formation Commission (LAFCO) in 2019. The intent of an SOI is to promote the efficient, effective and equitable delivery of local and regional services for existing and future residents and to encourage a collaborative process between agencies. A city will periodically annex parcels in an SOI into the city limits to include new developments or areas with infrastructure needs. Some factors considered in an SOI designation focus on current and future land uses and the need and capacity for services. Unlike the other three PDAs, spheres of influence are exclusively found in the unincorporated areas of SCAG's six counties.

Decisions made by LAFCOs in the SCAG region can support the implementation of the Plan's goals related to infill development, GHG emissions reductions, and climate change resilience. Connect SoCal 2024 encourages future unincorporated county growth be prioritized within existing SOIs to discourage urban sprawl and the premature conversion of agricultural and natural lands, support alignment of policies across jurisdictions, and rehabilitate and utilize existing infrastructure. This strategy promotes growth in an efficient manner that limits sprawl and "leapfrog" development and minimizes costs to taxpayers.

Map 4. Priority Development Areas in the SCAG Region



Source: SCAG 2023

5.3 GREEN REGION RESOURCE AREAS GUIDING THE FORECASTED REGIONAL DEVELOPMENT PATTERN

As the region faces unprecedented challenges in balancing housing and employment growth with resource conservation, it is important to coordinate regional land use and transportation strategies and seize opportunities to improve resilience, protect the SCAG region's natural assets, and reduce future risks from climate change. Green Region Resource Areas (GRRAs) play a key role to address SCAG's responsibility under SB 375 to "gather and consider the best practically available scientific information regarding resource areas and farmland in the region". The GRRAs depict the region's natural assets, areas with acute risks from climate change, and highlight areas where future growth could result in negative environmental impacts if left unaddressed. These areas were considered alongside the above discussed Priority Development Areas in the preparation of SCAG's Regional Forecasted Development Pattern.

GRRAs consist of ten (10) topic areas, including flood areas; coastal inundation (sea level rise); wildfire risk; open space and parks; rare, threatened or endangered species and plants; sensitive habitat areas; natural community and habitat conservation plans; tribal lands; military installations; and farmlands.

Regional Planning Policies related to natural and agricultural lands preservation and climate resilience that address "where" to grow sustainably include (Additionally, complementary Regional Planning Policies and Implementation Strategies on "how" to grow sustainably are included in Sections 6.2 and 6.3):

- Promote sustainable development and best practices that enhance resource conservation, reduce resource consumption and promote resilience;
- Support communities across the region to advance innovative sustainable development practices;
- Recognize and support the diversity of communities across the region by promoting local place-making, planning and development efforts that advance equity, mobility, resilience and sustainability;
- Support conservation of habitats that are prone to hazards exacerbated by climate change, such as wildfires and flooding;
- Encourage the protection and restoration of natural habitat and wildlife corridors;
- Encourage the conservation and viability of agricultural lands to protect the regional and local food supply and ensure the sustainability of local agriculture as a vital part of the region's economy; and,
- Support local and regional climate and hazard planning and implementation efforts for transportation, land use, and other factors

To support the realization of these Regional Planning Policies, SCAG will pursue the following Implementation Strategies:

- Explore opportunities to increase and quantify the carbon sequestration potential and resilience benefits of natural and agricultural lands—and pursue funding for implementation and demonstration projects;
- Continue efforts to support partners to identify priority conservation areas—including habitat, wildlife corridors, and natural and agricultural lands—for permanent protection;

- Monitor and pursue funding opportunities that can foster sustainable and equitable land use and development across the SCAG region. Explore the feasibility of creating a pilot grant program to support local planning and/or implementation;
- Research the availability of resources that can support the development of water and energy-efficient building practices, including green infrastructure; and,
- Provide local and regional partners with resources, education and trainings to identify and protect areas vulnerable to climate effects and other resilience shocks and stressors, particularly for low-income communities and communities of color.

To determine areas most sensitive to growth, SCAG staff identified where in the region these layers overlap to ascertain the frequency and extent of these convergences. For instance, areas at risk for both flood and wildfire would be deemed more sensitive to growth than areas with only wildfire risk. Parcels in the SCAG region were assigned a value of based on how many GRRAs they lie within. The highest value, reflecting the most severely impacted site in the region with the most overlapping sensitivities, received a score of 9. For layers that did not have geographic accuracy down to the parcel level, such as sightings of rare, threatened, or endangered species and plants, this information was included as an informational resource in the LDX for jurisdictions to reference when providing input on future growth.

Since mitigation is often required for projects that fall within GRRAs, areas with multiple convergences of GRRAs will likely be more costly to develop due to more intense mitigation needs. Therefore, SCAG's approach of de-emphasizing growth in areas with the highest number of convergences is responsive to market considerations as well as SB 375 requirements. Further, the preservation and restoration of GRRAs can reduce risks from climate change and promote future resilience in the region.

This data was mapped and functioned as a key informational resource during local review along with the PDAs. As a result of this process growth in overlapping GRRAs has been de-emphasized but not completely eliminated.

Flood areas are areas delineated by FEMA that are subject to inundation by a flood that has a one percent or greater chance of being equaled or exceeded during any given year. This type of flood is commonly referred to as the 100-year flood or base flood. The 100-year flood areas have a 26 percent chance of occurring during a 30-year period, the length of many mortgages. The Flood Area data was obtained from the Digital Flood Insurance Rate Map (DFIRM), obtained from Federal Emergency Management Agency (FEMA) in August 2017. The DFIRM Database is a digital version of the FEMA Flood Insurance Rate Maps (FIRM)4 that is designed for use with digital mapping and analysis software. The FIRM is created by FEMA for the purpose of floodplain management, mitigation, and insurance activities for the National Flood Insurance Program (NFIP). FEMA prepares the flood maps to show the extent of flood hazard in a flood prone community by conducting engineering studies called 'Flood Insurance Studies (FISs).' From the study, FEMA delineates Special Flood Hazard Areas (SFHAs), which are subject to inundation by a flood that has a one percent or greater chance of being equaled or exceeded during any given year.

Coastal inundation (sea level rise) is represented as the potential inundation of coastal areas resulting from a projected three feet rise in sea level above current Mean Higher High Water (MHHW) conditions. The Coastal Inundation data was obtained from the Coastal Storm Modeling System (CoSMoS) for Southern California (v3.0, Phase 2, 2018). CoSMoS is an online mapping viewer that makes detailed predictions over large geographic scales of storm-induced coastal flooding and erosion for current sea level rise (SLR) scenarios. The data included in this book depicts the potential inundation of coastal areas

resulting from a projected one-meter rise in sea level above current Mean Higher High Water (MHHW) conditions. CoSMoS v3.0 for Southern California shows projections for future climate scenarios (sea level rise and storms) to provide emergency responders and coastal planners with critical storm-hazards information that can be used to increase public safety, mitigate physical damages, and more effectively manage and allocate resources within complex coastal settings.

Wildfire risk is illustrated using CAL FIRE data. State law requires CAL FIRE to designate areas, or make recommendations for local agency designation of areas, which are at risk from significant fire hazards based on fuels, terrain, weather, and other relevant factors. These areas at risk of interface fire losses are referred to by law as "Fire Hazard Severity Zone" (FHSZ). Also included are areas along the edge of established communities, called "Wildland-Urban Interface," as well as areas where human habitation are mixed with areas of flammable wildland vegetation (called "Wildland-Urban Intermix" zones).

- Data for FHSZ's were obtained from CAL FIRE Fire Hazard Severity Zones: Local (2008) and State Responsibility (2007) Areas Maps. State law requires CAL FIRE to designate areas, or make recommendations for local agency designation of areas, which are at risk from significant fire hazards based on fuels, terrain, weather, and other relevant factors. The FHSZ maps are developed using a science-based and field-tested model that assigns a hazard score based on the factors that influence fire likelihood and fire behavior. Many factors are considered such as fire history, existing and potential fuel (natural vegetation), predicted flame length, blowing embers, terrain, and typical fire weather for the area. There are three levels of hazard in the Local and State Responsibility Areas: moderate, high and very high. Data utilized for the Local Data Exchange includes only high and very high levels of hazards.
- For Wildland-Urban Interface and Intermix zones, data was utilized from CAL FIRE's Fire and Resource Assessment Program (FRAP), Wildland-Urban Interface (WUI) and Wildland-Urban Intermix (2020). Wildfires resulting in disastrous property loss are referred to as "Wildland-Urban Interface" fires, or "interface fires." These fires may start as small vegetation fires or be part of large brush and forest fires. The Wildland-Urban Interface is distinct from areas of "Wildland-Urban Intermix" zones in which areas of human habitation are mixed with areas of flammable wildland vegetation. Intermix areas may extend from the edge of developed private land into Federal, private, and State jurisdictions. These data describe relative risks to areas of significant population density from wildfire.

Open Space and Parks includes all publicly owned open space, including those with fee ownership, as identified in the California Protected Areas Database (CPAD), the California Conservation Easement Database (CCED), and the County of Ventura Save Our Agricultural Resources (SOAR). SCAG also utilizes parcel-level parks and open space data sourced from local jurisdictions' general plans and specific plans consistent with the base year of Connect SoCal, 2019, to inform the Connect SoCal Regional Growth Vision:

- The CPAD (2021) is a GIS inventory of all publicly owned protected open space lands in the State of California through fee ownership. CPAD is maintained and published by GreenInfo Network and consists of aggregated open space data from state, local, and other agencies.
- The CCED (2021) contains lands protected under conservation easements, which are voluntary agreements with nonprofit land trusts and/or government agencies that allow landowners to limit the type or amount of development on their property while retaining private ownership of the land. CCED is maintained and published by GreenInfo Network with data updates published twice annually.

- SOAR (2017) is a series of voter initiatives that require a majority vote of the people before agricultural land or open space areas can be rezoned for development. The eight voter-approved SOAR initiatives passed by the cities of Camarillo, Fillmore, Moorpark, Oxnard, Santa Paula, Simi Valley, Thousand Oaks and Ventura require voter approval for urban development beyond a City Urban Restriction Boundary (CURB), or, in the case of the City of Ventura, before rezoning agricultural land within the city's sphere of influence.

Rare, Threatened and Endangered Species and Plants data includes an inventory of the status and locations of rare plants and animals in California. SCAG obtained the California Natural Diversity Database (CNDDB) as developed by the California Department of Fish and Wildlife's Biogeographic Data Branch (BDB) (2017). The CNDDB is a library of the location and condition of species of rare and sensitive plants, animals, and natural communities in California. It is updated on a continuous basis to be consistent and current but is not an exhaustive and comprehensive inventory of rare species and natural communities. Field verification for the absence and presence of sensitive species is required by end-users. The dataset shown on the map is based on the combination of the three data fields: element type, accuracy, and element occurrence count. Other fields in CNDDB describe the listing status, ranking, location, site description, and source references, to name a few. The types of elements (ELMTYPE) are specified as four categories of plant, animal, terrestrial community, and aquatic community.

Sensitive Habitat Areas data depicts areas with a high concentration of animals and plant life that are sensitive to growth, such as wetlands, habitat connectivity areas, and areas rich with natural resources to support various species. Sensitive habitat areas consist of the following datasets:

- US Fish and Wildlife Services National Wetlands Inventory Data (2020) is sourced from the US Fish and Wildlife Services Wetlands Inventory (NWI), a publicly available resource that provides detailed information on the abundance, characteristics, and distribution of US wetlands;
- California Department of Fish and Wildlife Areas of Conservation Emphasis (2015) consists of habitat quality data from the CA Department of Fish and Wildlife, recording Areas of Conservation Emphasis (ACEIIv2). ACEIIv2 includes a statewide analysis of biological richness by 2.5 square mile hexagons to represent areas with high species richness, high levels of rarity and irreplaceability, and/or sensitive habitats; and,
- California Department of Fish and Wildlife Habitat Essential Connectivity Project (2010) consists of data on habitat connectivity corridors, which identifies large blocks of intact habitat or natural landscapes with connectivity corridors essential for local wildlife. This dataset benefits from feedback from a selection of federal, state, local, tribal, and non-governmental organizations throughout California, and was made publicly available in 2010. The California Department of Transportation (Caltrans) and California Department of Fish and Game (CDFG) commissioned the California Essential Habitat Connectivity Project because a functional network of connected wildlands is essential to the continued support of California's diverse natural communities in the face of human development and climate change. The Essential Connectivity Map depicts large, relatively natural habitat blocks that support native biodiversity (Natural Landscape Blocks) and areas essential for ecological connectivity between them (Essential Connectivity Areas). This coarse-scale map was based primarily on the concept of ecological integrity, rather than the needs of particular species.

Natural Community and Habitat Conservation Plans data includes Natural Community Conservation Plan (NCCP) and Habitat Conservation Plan (HCP) boundaries in California (2021). NCCPs are California Department of Fish and Wildlife (CDFW) approved plans that take a broad-based approach to protect habitats and species. An NCCP identifies and provides for the regional protection of plants, animals, and

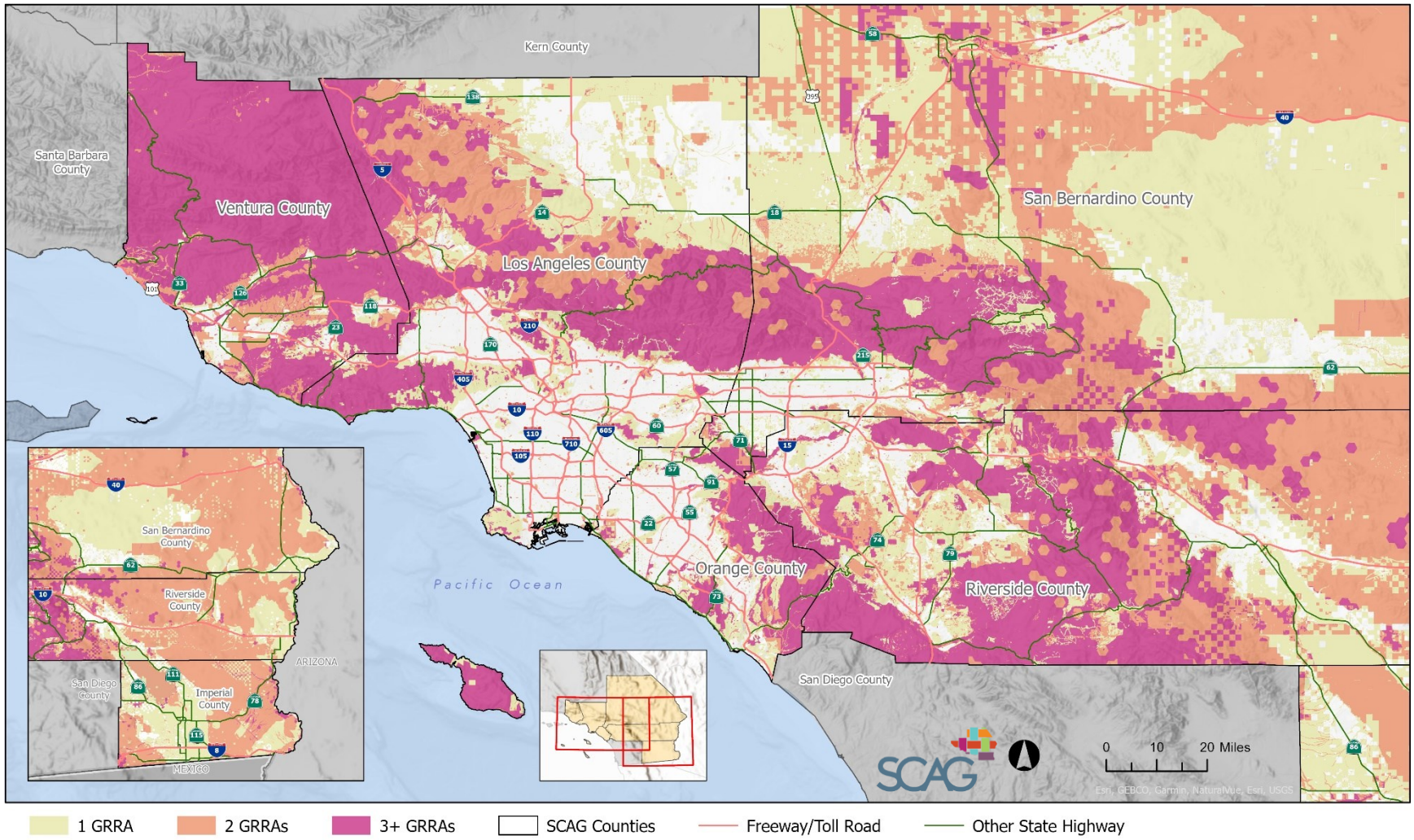
their habitats, while allowing compatible and appropriate economic activity. Working with landowners, environmental organizations, and other interested parties, a local agency oversees the development of an NCCP. CDFW and the US Fish and Wildlife Service provide the necessary support, direction, and guidance to NCCP/HCP participants.

Tribal lands data is depicted for the 16 Federally Recognized Tribal entities in the SCAG region. The American Indian Reservations/ Federally Recognized Tribal Entities dataset (2021) depicts feature location, selected demographics and other associated data for Federally Recognized Tribal entities in the contiguous U.S. and Alaska. Categories included are: American Indian Reservations (AIR), Federally Recognized Tribal Entities (FRTE) and Alaska Native Villages (ANV). This dataset is used to identify tribal lands in the SCAG region. The data was obtained from the California Governor's Office of Emergency Services (CalOES).

Military Installations data displays military lands managed by the US Department of Defense as of 2018.

Farmlands information was obtained from the Farmland Mapping and Monitoring Program (FMMP) in the Division of Land Resource Protection in the California Department of Conservation. Established in 1982, the FMMP provides consistent and impartial data and analysis of agricultural land use and land use changes throughout the State of California. The Farmlands dataset reflects conditions in 2018 and was obtained from the Farmland Mapping and Monitoring Program (FMMP) in the Division of Land Resource Protection in the California Department of Conservation. Established in 1982, the FMMP is to provide consistent and impartial data and analysis of agricultural land use and land use changes throughout the State of California.

Map 5. Green Region Resource Areas



Source: Various, see description of individual data layers in Section 5.3

5.4 DEVELOPMENT OUTSIDE OF PDAS

As mentioned previously, the SCAG region has incredible diversity in its built environment and land use patterns, which has resulted in a unique pattern of communities. A wide variety of land use strategies are therefore needed so that all communities can become more sustainable over time. Through this Plan, SCAG seeks to recognize and support the diversity of communities across the region by promoting local place-making, planning and development efforts that advance equity, mobility, resilience, and sustainability. One concept that that can support communities outside of PDAs is 15-minute communities as outlined in greater detail in Section 6.3.2. This concept encourages development where people have access to the variety of services, goods, and destinations they need for daily life within a short trip. This proximity helps reduce the number of car trips needed daily and/or the distance that needs to be driven, a key goal of Connect SoCal 2024. This strategy also provides individuals with more choices in terms of the types of communities they can choose to reside or work in.

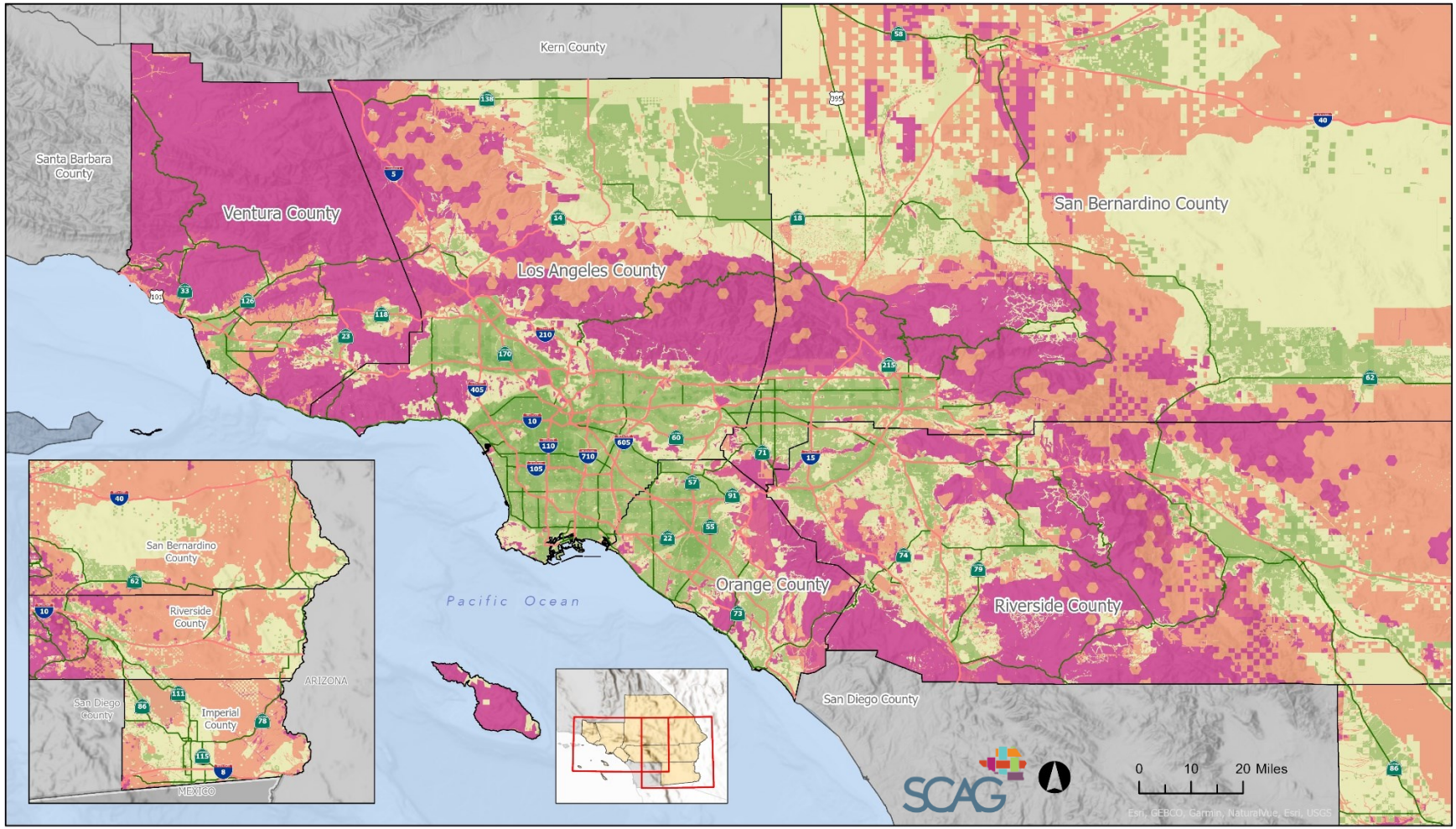
As a concept, 15-minute communities can be adapted broadly across the region and is not limited to urban and suburban areas. In existing rural communities, it can be an approach to provide central areas for goods and services that can eliminate some longer trips and support local job growth.

5.5 GROWTH FORECAST AND LOCAL DATA EXCHANGE

To streamline the review process and increase the likelihood that the Forecasted Regional Development Pattern (FRDP) is implemented, jurisdictions were presented with a vision of TAZ-level growth in their jurisdiction with sustainability objectives already integrated. Local jurisdictions were then engaged for review and feedback that was then incorporated to best reflect local plans and conditions.

Every parcel in the region was identified as being in or out of PDAs and GRRAs. This allowed for remaining housing unit capacity to be assessed along a Growth Prioritization Scale based on how many PDAs or GRRAs it lies in (See Map 6). Areas with overlapping PDAs and no GRRAs are identified as the best locations to encourage growth, whereas areas with no PDAs and multiple GRRAs are areas growth should avoid. This scale provides a rough guide to help compare areas, across a very diverse region, based on their consistency with regional strategies, SB 375 environmental requirements, and achieving state GHG targets.

Map 6. Growth Prioritization Scale



Number of Priority Development Areas	4	3	2	1	0	4	3	2	1	0	4	3	2	1	0	4	3	2	1	0
Number of Green Region Resources Areas	0	0	0	0	0	1	1	1	1	1	2	2	2	2	2	3+	3+	3+	3+	3+
Growth Prioritization Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Source: SCAG 2023

Starting in February 2022 and in collaboration with subregional partners, SCAG embarked on a comprehensive outreach process to the region's 197 local jurisdictions. Data/Map Books containing preliminary growth forecast information as well as additional transportation and geographic boundary information were made available in PDF form online, and credentialed logins were provided to jurisdictions to access and directly edit or comment on data via SCAG's Regional Data Platform (RDP). Between March and November 2022, SCAG staff completed one-on-one meetings with 167 jurisdictions to explain the methods and assumptions behind the growth forecast as well as to provide an opportunity to review, edit and approve the provided maps and the city and TAZ total figures for households and employment in 2019, 2035, and 2050. 132 local jurisdictions provided input on SCAG's draft growth forecast, while 48 percent provided input on other data elements such as GIS maps or surveys. SCAG requested that edits to the preliminary growth forecast be accompanied by a description which indicated a data correction (e.g., general plan capacity or development entitlements) or a local policy, such as a housing element update, which directs growth toward other PDAs or indicates reasons for higher development potential in GRRAs. During early 2023, staff followed up with numerous jurisdictions to clarify input received or ensure sufficient detail was provided. For local jurisdictions not providing input, SCAG's preliminary forecast was integrated into the locally-reviewed forecast, which ultimately became the FRDP.

Additionally, as part of the Local Data Exchange (LDX) process, SCAG conducted a survey to better understand the trends, existing conditions and local planning in the region. The survey was organized into five parts including: Land Use and Housing, Transportation, Environmental, Public Health and Equity and Data. Of the 197 jurisdictions in the SCAG region, 46 percent completed the LDX Survey and provided integral feedback to frame local planning. Key findings include:

LAND USE AND HOUSING

- 45 of the 90 jurisdictions were currently or had recently updated their General Plans.
- The most prevalent SCS strategies included in recently adopted General Plans were Infill and Promoting Diverse Housing Choices.
- Across the region, limited staff capacity and budget limitations were the primary barriers that prevents jurisdictions from updating and implementing General Plan elements, as noted by roughly half of survey respondents.

TRANSPORTATION

- The most common transportation policies and plans adopted by local jurisdictions included: Bicycle Master Plan (50 jurisdictions), Streetscape Standards and Design Guidelines (49 jurisdictions), Truck Route/Truck Prohibit Route Plan (46 jurisdictions).
- 38 jurisdictions have a Complete Streets policy, with most common focus being on active transportation.
- Over half (55 percent) of respondents reported political or community pushback as barriers to implementing parking reforms.

ENVIRONMENTAL

- The most common natural lands conservation strategies used by local jurisdictions are development impact fees (47 jurisdictions), tree planting or other urban heat mitigation (40 jurisdictions), and hillside/steep slope protection (37 jurisdictions).
- Only 12 jurisdictions have approved projects utilizing CEQA streamlining.

PUBLIC HEALTH AND EQUITY

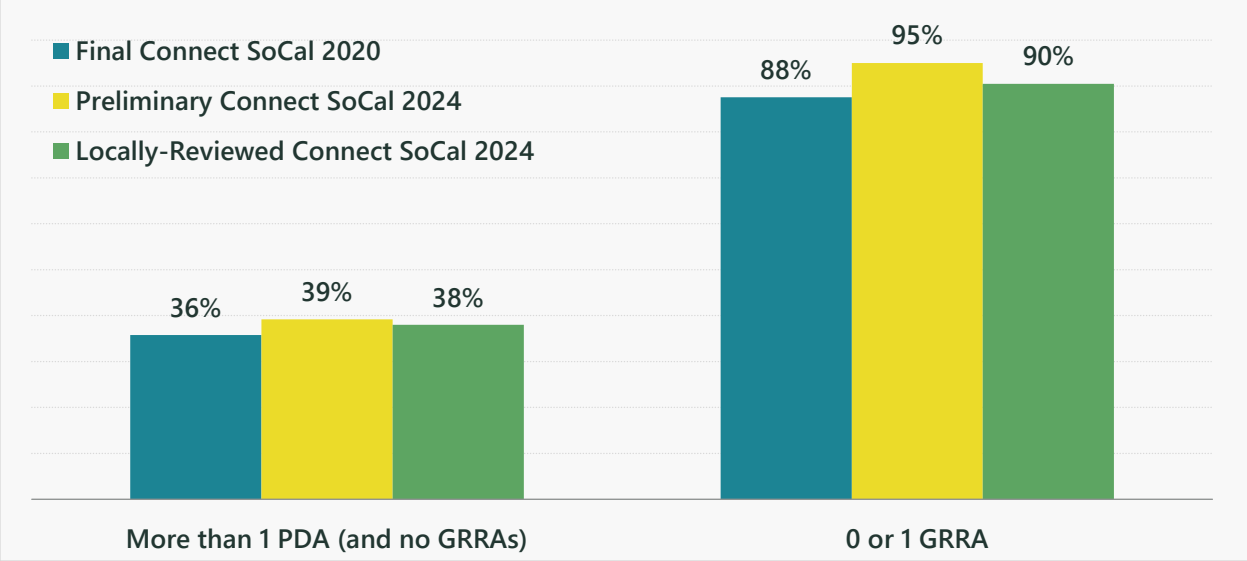
- Only 6 jurisdictions have developed an Equity Action Plan.
- The most common plans to address emergencies caused by natural disasters are Hazard Mitigation Plans (56 jurisdictions), Emergency Response Plan (48 jurisdictions) and Emergency Evacuation Plan (45 jurisdictions)

DATA

- As local data is integral to the regional plan, SCAG asked what types of data are collected by local jurisdictions. The most common are: Local road pavement management and performance data (52 jurisdictions), Collision data (51 jurisdictions) and Pavement Condition Index (49 jurisdictions).

To ensure that the local edits to the development pattern appeared on-track to reach SCS objectives, , SCAG conducted a sketch-planning evaluation with the assistance of the Technical Working Group (TWG), which occurred prior to development of subsequent Connect SoCal 2024 strategies and modeling[24] According to this evaluation, the locally-reviewed FRDP has slightly less growth in the most prioritized areas (steps 1-3 representing areas with more than one PDA and no GRRAs) than the preliminary projection; however, its performance exceeded that of the final, adopted Connect SoCal 2020. Similarly, the share of growth in areas with no more than one GRRA increased from 88 percent to 90 percent compared to the prior plan (Figure 1). Table 3 below, and Table 4 further in this report provides a more detailed summary of growth within Priority Development Areas and Green Region Resource Areas.

Figure 1. Evolution of the Forecasted Regional Development Pattern Across Regional Plans



Source: SCAG
Note: PDA refers to Priority Growth Area and GRRA refers to Green Region Resource Area.

On April 20, 2023, the TWG discussed the FRDP with staff and it was determined to be sufficiently able to further the Plan's statutory objective to proceed with subsequent modeling and regional policy development.

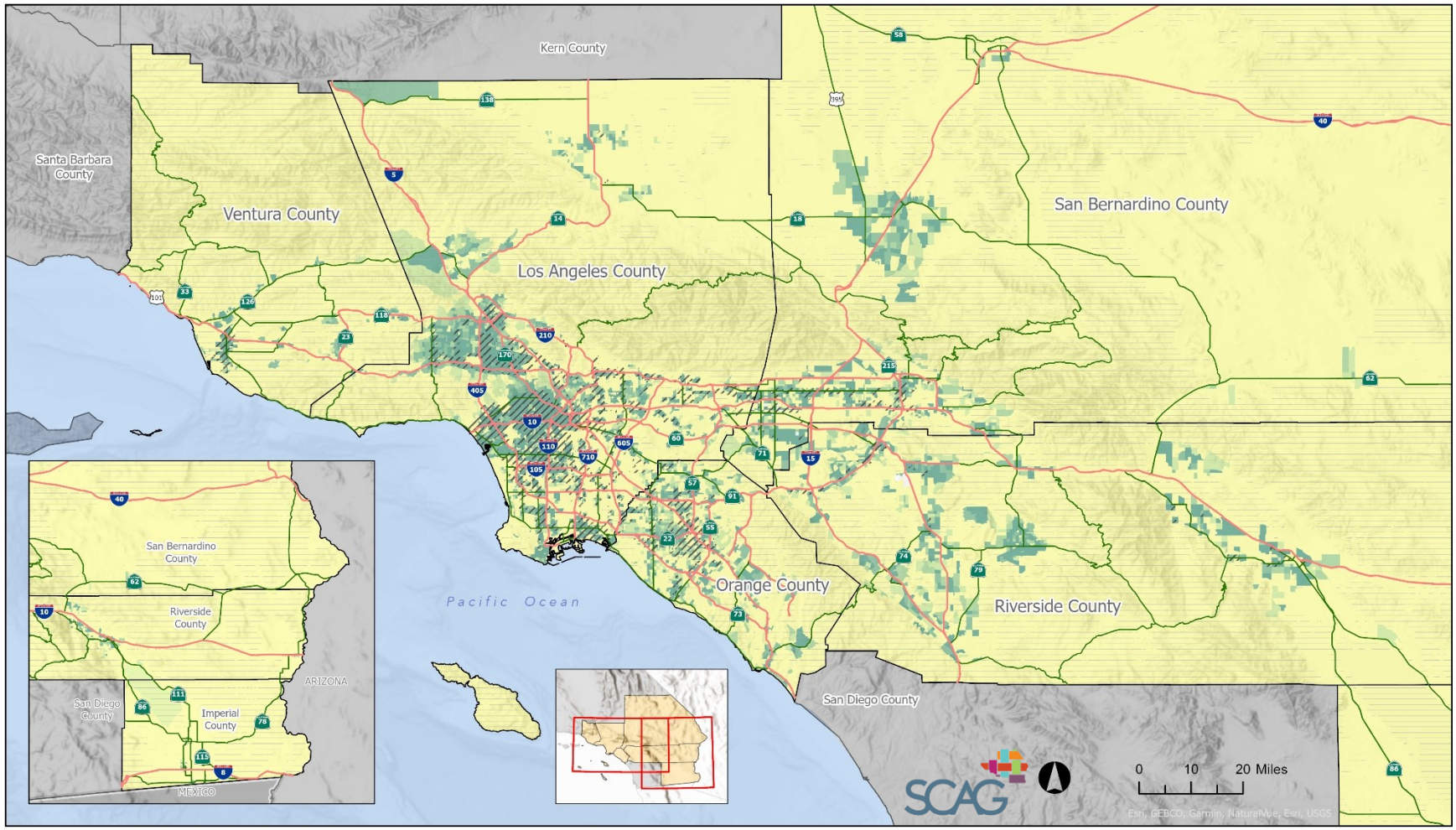
Table 2. Plan Outcomes for Residential Population in Priority Development Areas

	Land Area		Residential Population			Households			Jobs		
	Acres	Percent	2019	Growth	2050	2019	Growth	2050	2019	Growth	2050
SCAG Region Total	25,468,372	-	18,501,000	2,047,000	20,549,000	6,193,000	1,621,000	7,814,000	8,976,000	1,300,000	10,276,000
Livable Corridors (LC)	577,236	2.27%	41.72%	51.93%	42.74%	42.96%	51.08%	44.64%	50.85%	40.21%	49.50%
Neighborhood Mobility Areas (NMA)	453,415	1.78%	36.19%	38.51%	36.42%	38.07%	41.02%	38.68%	36.34%	27.06%	35.17%
Transit Priority Areas (TPA)	224,523	0.88%	16.93%	32.74%	23.66%	18.56%	32.25%	25.96%	25.31%	27.18%	31.57%
Spheres of Influence (SOI)*	1,266,803	4.97%	3.62%	3.27%	3.58%	3.34%	2.96%	3.26%	1.79%	3.97%	2.07%
Any Priority Development Areas (PDA)	2,085,438	8.19%	57.82%	66.74%	59.37%	59.10%	66.03%	61.09%	64.81%	54.06%	64.72%
2 or more PDAs and no GRRAs	320,348	1.26%	28.79%	38.30%	31.59%	30.22%	38.91%	33.65%	33.50%	27.85%	35.45%
0 or only 1 GRRA*	*9,040,199*	35.50%	92.98%	88.84%	92.57%	94.39%	92.67%	94.03%	95.89%	89.96%	95.14%

** Reflects areas in SOI only, excluding any areas overlapping with other PDAs (this subset represents 96.5% of the SOI land area). SOIs exist only in the region's 6 county unincorporated areas. Growth totals for the region's 6 county unincorporated areas can be found in Table 13 of the Demographics and Growth Forecast Technical Report.*

***Total, unweighted.*

Map 7. Forecasted Regional Development Pattern



Source: SCAG 2023. Priority areas refer to an area with more than one Priority Development Area (PDA) and no Green Region Resource Areas (GRRAs). Resource areas refer to two or more GRRAs. Note: The development patterns shown are based on Transportation Analysis Zone (TAZ) level data. Household and employment growth projection data at the jurisdiction level or smaller geography, including TAZ, are utilized (i) to conduct required modeling analysis and (ii) to generally illustrate how regional policies and strategies may be reflected at the neighborhood level. As such these data and maps are advisory and non-binding. More information on TAZs can be found in Section 7.5 of this report.

6. HOW WE'LL GROW SUSTAINABLY

Growing sustainably recognizes that many of the issues and challenges facing our region are due to a legacy of harmful policies and practices, disinvestment in historically marginalized low-income and communities of color, and processes that excluded those most affected. For the region to move in a direction that is more equitable, resilient and sustainable, it is essential that planning efforts are inclusive of those most impacted. In addition, the region can grow sustainably by incorporating climate resilience strategies and promoting and reasonably pursuing natural and farm land conservation, and broad complete communities strategies, including the concept of 15-minute communities.

6.1 EQUITABLE ENGAGEMENT AND DECISION-MAKING

As communities throughout Southern California plan and implement the policies and programs necessary to create a more sustainable future, such decisions must be the result of equitable processes that ensure all people have access to the fundamental physical, health, and social benefits of the region's built environment, economy, and natural systems. Connect SoCal 2024 includes the following Regional Planning Policies that support equitable decision-making:

- Advance community-centered interventions, resources and programming that serve the most disadvantaged communities and people in the region, like Priority Equity Communities, with strategies that can be implemented in the short-to-long-term;
- Promote racial equity that is grounded in the recognition of the past and current harms of systemic racism and one that advances restorative justice; and
- Increase equitable, inclusive, and meaningful representation and participation of people of color and disadvantaged communities in planning processes

To realize these policies in local communities, SCAG will take on a number of Implementation Strategies to promote equitable engagement and decision-making throughout the region:

- Develop an Equity Assessment Tool that can be utilized by SCAG in program development and delivery and develop a complementary tool that can be incorporated into local assistance/subrecipient programming and delivery;
- Develop an agency-wide Community Based Organization (CBO) Partnering Strategy that outlines tools and resources for partnering with CBOs to increase inclusive and equitable engagement opportunities;
- Develop a pilot program that prioritizes comprehensive solutions, capacity building, engagement, planning and investment in the most underserved communities in the region (one in each county during the pilot phase);
- Develop a resource guide and training for equitable and culturally relevant stakeholder engagement for public agencies, including SCAG, which recognizes community contexts and histories, existing community resources and engagement opportunities; and
- Align with appropriate state and federal partners to identify and utilize equity-centered measures to track outcomes, progress and lessons learned on Connect SoCal implementation.

As discussed throughout the Plan, the legacies of discriminatory policies and practices, at every level of government have shaped community landscapes, environmental conditions, including existing and future vulnerabilities to shocks and stressors, and access to opportunities in the region. The above Regional

Planning Policies and Implementation Strategies chart a course to ensure that communities, including those historically underrepresented and/or excluded, are adequately represented in the development of future planning and investment decisions, we can ensure that the needs of all of Southern California's diverse communities are met, which will result in a more equitable, resilient, and prosperous region overall.

The overall goal of engagement efforts should be to reflect the needs and voices of impacted communities as clearly as possible in the plans, policies, and programs developed. In the past, government decisions have had disproportionate negative effects on disadvantaged communities, creating a sense of distrust. To move into a more equitable future, engagement with communities needs to be meaningful, transparent, and centered around the communities being impacted. Throughout the planning process, there are roles for a wide range of stakeholders to contribute to equitable planning and implementation. Government staff has a critical role to increase the community voice in the planning process and ensure that engagement is inclusive and meaningful. This includes connecting with community-based organizations and their constituents where they are, with accessible language and information, and a commitment to listening, reflecting, and respecting their input. One of SCAG's core roles is as a convener bringing together stakeholders to partner and collaborate. When the whole community is involved in the planning process, outcomes are more equitable and desirable for everyone.

6.2 CLIMATE RESILIENCE

Addressing many of the critical issues and challenges presented by climate change requires going beyond the borders of a single city or county. Effective emergency response to large wildfires, for example, requires coordination amongst multiple agencies and local jurisdictions. The effects of climate change on air quality, sea-level, transportation systems, and disease vectors are further examples of hazards that are best and most effectively addressed through regional coordination. As part of SCAG's role as a convening body for agencies to work together to achieve common regional goals, the Regional Council's Climate Action and Water Action Resolutions help guide growth that meets the demand for key needs such as housing while increasing regional resilience.

One of the primary ways that SCAG supports local agencies and stakeholders in these efforts is through assisting with local climate adaptation planning. Climate adaptation planning allows communities to better understand the specific local impacts of climate change they can expect and what the community's vulnerabilities are so that they can establish and implement strategies to proactively address them. Adaptation planning, which local agencies are responsible for under Senate Bill 379 (Jackson, 2015) and Senate Bill 1035 (Jackson, 2018), often takes the form of standalone adaptation plans, local hazard mitigation plans, or as part of general plan safety elements.

Climate-safe infrastructure offers sustainable and adaptive solutions that can improve resilience in the face of shocks and stresses caused by a changing climate and can provide well-paying jobs and workforce training opportunities for local residents since every dollar invested in infrastructure generates more than two dollars in economic output and jobs.[25]

According to SCAG and Climate Resolve's Resilient Landscape Analysis, 45 percent of jurisdictions in the SCAG region (86 out of 193) have adopted a standalone climate, sustainability, and/or resilience plan. On the other hand, 73 percent of jurisdictions (141 out of 193) have adopted a local or multi-jurisdictional hazard mitigation plan. Aside from these efforts from individual jurisdictions, some climate adaptation and action collaborative efforts happening between jurisdictions or county-wide include:

- The Imperial County Air Monitoring Project, which is an air-monitoring network that provides real-time air quality data to residents; and
- Inland Southern California Collaborative, which developed the Resilient IE Toolkit that combines key climate adaptation and action resources in San Bernardino and Riverside Counties (Resilient Landscape Analysis).

Connect SoCal 2024 includes the following Regional Planning Policies and Implementation Strategies to specifically help local agencies address climate hazards and support the region to thrive in changing and uncertain conditions. Notably, these Regional Planning Policies and Implementation Strategies apply to the Subsections 6.2.1 (Nature-Based Solutions), 6.2.2 (Water Resilience), and 6.2.3 (Urban Greening), and address "how" to grow sustainably. Regional Planning Policies and Implementation Strategies addressing "where" to grow sustainably are included in Section 5.3. Regional Planning Policies include:

- Prioritize the most vulnerable populations and communities subject to climate hazards to help the people, places and infrastructure that are most at risk for climate change impacts. In doing so, recognize that disadvantaged communities are often overburdened;
- Support nature-based solutions to increase regional resilience of the natural and built environment; and
- Promote sustainable water use planning, practices and storage that improve regional water security and resilience in a drier environment.

To realize these policies throughout the region, SCAG will employ the following Implementation Strategies:

- Support the integration of nature-based solutions into implementing agency plans to address urban heat, organic waste reduction, protection of wetlands, habitat and wildlife corridor restoration, greenway connectivity and similar efforts;
- Support use of systems-based risk-management methods and tools to help implementation agencies identify and reduce resilience risks for vulnerable communities;
- Develop partnerships and programs to support local and regional climate adaptation, mitigation and resilience initiatives;
- Support implementing agencies' efforts to include climate-ready home-hardening strategies in new construction as well as the retrofitting of existing structures to minimize the potential loss of housing units stemming from climate-related hazards;
- Research existing and potential options to fund the climate resilience efforts of implementation agencies;
- Support integration of climate vulnerability assessments into infrastructure planning and delivery for implementing agencies; and
- Collaborate with partners to foster adoption of systems and technologies that can reduce water demand and/or increase water supply, such as alternative groundwater recharge technologies, stormwater capture systems, urban cooling infrastructure and greywater usage systems.

6.2.1 NATURE-BASED SOLUTIONS

Many of the greatest environmental challenges facing the SCAG region, such as increasingly hot temperatures, poor air-quality, and wildfire can be partially or fully addressed by incorporating natural features or processes into the built environment. Known as "nature-based solutions," these approaches are gaining traction in cities and communities around the world as strategies for adaptation and resilience to climate change, while providing social and economic co-benefits. Executive Order N-82-20, later codified by SB 337 (Min), required the California Natural Resources Agency to develop a Natural and Working Lands Climate Smart Strategy. This strategy works to promote healthy lands that provide multiple benefits including air quality, reliable water supply, thriving communities, and economic sustainability, and aims to accelerate on-the-ground projects that provide climate benefits through nature-based solutions that can be scaled-up over time amongst other priority areas. Examples of nature-based solutions range from anything as simple as conserving existing natural lands, introducing more locally appropriate natural vegetation in cities and communities, integrating climate smart agricultural practices and forest management, as well as expanding urban tree canopy, to complex infrastructure projects such as reconstructing wetlands.

Nature-based solutions are also key to align resource management with the region's housing needs. These strategies are largely driven by SCAG's Regional Council Resolutions on Climate Change Action and Water Action, as well as findings and recommendations made by the Connect SoCal 2024 Special Subcommittee on Resilience and Conservation. The Plan's strategies for nature-based solutions can be broken down into three overarching categories: water resilience, natural and farm lands conservation and urban greening. However, it is important to note that like all natural ecosystems, these are interconnected and could easily fit in or benefit other categories.

6.2.2 WATER RESILIENCE

Since the adoption of Connect SoCal 2020, the SCAG region has endured periods of both record-breaking drought and extreme rainstorms. Absent substantial adaptation and resilience efforts, higher temperatures associated with climate-related extreme heat conditions will continue to increase demand for water use, reduce available water supply and negatively impact drinking water quality. Meanwhile, sea-level rise and severe storm events are likely to result in greater flooding on the region's coasts and inland areas, potentially risking lives and costing the region billions in damage to private property and infrastructure. These "whiplash" conditions show us that we need to be prepared for both water scarcity and flooding.

Local water solutions that can help both water scarcity and flooding include building upon underutilized resources, such as rainwater, grey water, stormwater, and water reuse and efficiency, supporting the conservation and replenishment of water supplies, mitigating future water supply shortages, reducing water-intensive outdoor landscaping for single family homes, and investing in sustainable water infrastructure to support the regional population and economy as it grows.

The following nature-based solutions are encouraged to help communities maintain resilience in the face of both water shortages and extreme precipitation:

- Maintaining and restoring floodplains and wetlands;
- Conserving natural and farm lands to promote groundwater recharge;
- Landscaping with native and drought-tolerant plants; and

- Green stormwater capture infrastructure, including urban greening efforts

Nature-based solutions such as landscaping with native and drought-tolerant plants and including green infrastructure solutions like rain gardens and bioswales in parks and medians can help communities in the SCAG region increase water resilience through capturing stormwater and preventing toxic runoff. Conservation of natural and farm lands can also help capture water from rainstorms to increase groundwater supply. Table 4 provides forecasted impacts from Connect SoCal and compares those impacts to a Trend/Baseline (i.e., "no-build" scenario), which carries forward growth trends from the last two decades within the capacity of existing general plans throughout the region. Topics include Total Water Demand and Net Groundwater Restored. With Connect SoCal, Total Water Demand is 9,660 acre-feet less than the Trend/Baseline. Groundwater impacts are discussed further in Section 6.3.

6.2.3 URBAN GREENING

Because of its numerous benefits for health and the urban environment, urban greening is an important tool to improve community resilience and health equity in a changing climate. Urban greening and appropriate maintenance is especially important in low-income and formerly redlined areas, where urban heat islands are concentrated. Recent studies indicate that historical housing policies are often directly responsible for disproportionate exposure to current heat health events[26]. One study found that land surface temperature in nearly all formerly redlined areas is higher, by as much as 45 degrees Fahrenheit, compared to neighboring non-redlined areas, with differences greatest in western cities[27]. Additionally, a study of 37 metropolitan areas found that areas formerly graded "D - hazardous" under redlining, which were home to mostly people of color, have on average approximately 23 percent tree canopy cover today compared to 43 percent tree canopy cover in areas with a grade of "A - desirable", which were home to mostly white populations[28]. Tree canopy cover is measured by the U.S. Forest Service through the National Land Cover Dataset (NLCD) as the leaves, branches and stems that provide tree coverage of the ground when viewed from above.

Further, residents in urban areas are more likely to depend on walking, biking, or rolling to access public transportation and reach key destinations such as jobs, school, health care, and shopping but often lack trees, open spaces, and parks that can lower urban heat. Research indicates that urban greening can mitigate extreme heat conditions by providing shade and lowering street temperatures, thereby increasing the comfort for people that bike, walk, or roll, r and reinforcing best practices for Complete Streets. . Urban greening has also been shown to reduce vehicle speeds in communities by 5 to 15 miles per hour[29], thereby improving safety for everyday residents on roadways. When residents feel more comfortable and safe to walk, bike, and roll in their communities, we can see increases in the distances that residents travel via active transportation modes resulting in reductions in the frequency and amount of miles driven to reach destinations.[30] Urban trees and vegetation not only improve the likelihood that residents will utilize active transportation modes, but also offer other benefits like reducing air pollution, capturing stormwater that can increase groundwater supply, reducing respiratory illnesses through filtering particulate matter, reducing energy usage for buildings, and improving mental health through lowered stress levels.

With regard to energy use, urban greening reduces the demand for air conditioning in cities due to their shading benefits for buildings. Looking at California's overall electricity and natural gas usage, annual energy savings from street trees translates to over $100 million annually, with an average benefit of $11 per tree. Further, carbon emissions captured by California's street trees equate to taking 120,000 cars off

the road annually.[31] In addition, California's street trees are estimated to capture 26 million cubic meters of rainfall annually, which equates to potable water consumption for over 52,000 households each year.

While urban greening provides many sustainability benefits, here are also costs associated with long term tree maintenance. Since trees in urban areas are most often installed and maintained by jurisdictions, these costs are usually factored into municipal funding considerations for urban greening programs. There are cost benefits to local jurisdictions that help to offset some of the funds needed for planting and maintenance, however, as street trees allow for increased capture of urban runoff and result in a reduction of annual stormwater management costs by nearly $325 million annually – with an annual average benefit of $0.99 in Southern California Coastal communities and $1.87 in the Inland Empire per tree. In terms of supporting water resilience, annual rainfall interception from street trees also translates to additional water supply through groundwater replenishment, at an estimated value of $4.55 annually for each tree. [32]

6.3 NATURAL AND FARM LANDS PRESERVATION

Preserving the region's natural and farm lands will ensure that future generations will be able to enjoy Southern California's unique landscapes as we do, and benefit from the essential resources that natural lands provide. Local parks and other natural lands serve as an economic generator for tourism in Southern California and are important amenities for residents' quality of life. Residents who live near parks have easier access to recreation and other outdoor activities (e.g., walking, biking, hiking, etc.). The SCAG region is diverse in its open space resources and offers a wide variety of public parks as well as national parks, state parks, and numerous county parks. Not all parks are created equal, however, and many neighborhoods do not have access to a variety of public resources. For instance, some neighborhoods have more natural lands, some parks are better maintained, some are built so that those with disabilities can enjoy them, and some parks are safer. SCAG conducted additional analysis on accessibility to parks for Connect SoCal 2024 to gauge how the Plan improves residents' ability to reach parks within a given travel time and within short distances, as described further in the Equity Analysis Technical Report.

Key benefits of conserving these lands include groundwater recharge, improved air and water quality and reduced climate pollution from avoiding emissions and carbon sequestration. Protecting these important resource areas, especially near existing cities, also helps reduce the length of residents' vehicle trips to reach important destinations – like jobs, schools, and retail goods.

Emissions avoidance refers to the climate pollution sequestered by conserving natural and farm lands and not converting those areas into new developments. Carbon sequestration is the natural process by which atmospheric carbon dioxide is captured and stored in natural sinks, such as plants, trees, and soils, preventing it from contributing to climate pollution. Mature forests for example, can store substantial amounts of carbon in the soil and trees as they grow over the course of decades. When natural lands are protected from development, ecosystems like forests, grasslands, and wetlands are able to thrive, ensuring that they continue their role as carbon sinks. While working agricultural lands do emit more climate pollution than they sequester, greenhouse gas emissions from farmlands are nearly 60 times less than urbanized areas.[33] Croplands such as orchards and vineyards also store carbon, and a variety of agricultural practices can improve carbon sequestration in the soil, such as cover cropping and reduced tillage.

Natural and farm lands are also important for the green infrastructure benefits they provide through capturing rainwater to support groundwater recharge, cooling surrounding areas during extreme heat events, and cleaning the air around them of pollutants. When adjacent to coastal areas, natural lands can

absorb increased storm surges and protect coastal property from damage, while also supporting existing ecosystems and filtering pollutants from urban runoff.

Natural lands conservation and urban greening, especially in or near the most impacted communities, improve air quality, help to address extreme heat and provide opportunities for physical recreation and other activities that contribute to a healthy lifestyle. Air pollution is one of Southern California's greatest public health challenges and extreme heat worsens air pollution, threatening to erase some of the gains our region has made to clean the air over the last several decades. Adverse outcomes associated with air pollution such as asthma, cardiovascular disease and cancer disproportionally affect the region's most vulnerable groups: children, the elderly, people of color and low-income communities. Natural lands conservation and urban greening, especially in or near the most impacted communities, improve air quality, help to address extreme heat and provide opportunities for physical recreation and other activities that contribute to a healthy lifestyle.

Connect SoCal projects that some of the existing natural and farm lands in the region will convert to urban uses as the region grows to accommodate 1.6 million additional households. Table 4 compares the projected outcomes of Connect SoCal with the Trend/Baseline scenario, where there are benefits of plan implementation and trade-offs as well.

With the conservation of natural and farm lands throughout the region, implementation of Connect SoCal will preserve 325,786 more metric tons of carbon stock that can sequester climate pollution as compared to the Trend/Baseline (refer to Table 4). Carbon stock is defined as the quantity of carbon held within a pool (a reservoir of carbon or a system that has the capacity to accumulate or release carbon) and includes both above and below ground carbon sequestration. These results stem from the Forecasted Regional Development Pattern (FDRP), which includes towns,' cities,' and counties' anticipated growth at the jurisdictional and neighborhood levels out to the horizon year of 2050, as discussed in Section 5.5. Consistent with this locally informed growth forecast, some areas with significant carbon stock are preserved while others with less carbon stock are converted to other uses.

For natural lands, 25,513 acres are projected to be converted to other uses by 2050 from existing conditions. This represents 35,733 acres less than the Trend/Baseline and is consistent with jurisdictional feedback on locally anticipated growth. With the loss of natural lands, there are resulting impacts to habitat areas where implementation of Connect SoCal will lead to 22,092,679 acres of degraded habitat – 1,762,284 (7.4%) acres less than the Trend/Baseline. Some areas are improved, however, as Connect SoCal will result in a projected 8,244,485 acres of improved habitat – 361,993 acres more than the Trend/Baseline (4.6%). Note that these numbers represent the sum of individual impacts for each subclass of terrestrial vertebrates, and not the overall cumulative acreage, as natural lands host several different types of species simultaneously in a given area.

For agricultural areas, specifically, implementation of Connect SoCal would result in the projected conversion of 13,950 acres to urban uses – 3,715 acres less than the Trend/Baseline. There would be economic impacts due to this loss of farm land, where agricultural production value is anticipated to decline by roughly $71 million through year 2050, whereas the Trend/Baseline anticipates a decline by $106 million. Therefore, Connect SoCal preserves $35 million more of agricultural production value as compared to a business-as-usual scenario. Although Connect SoCal projects a loss of both natural and farm lands, groundwater recharge potential restored shows a net positive with 71,609 acre-feet, which is 22,903 more acre-feet than the Trend/Baseline scenario. This is because Connect SoCal anticipates that

some urban lands will be converted to open space, agriculture, and natural lands to a degree that produces net benefits for potential groundwater recharge.

To encourage preservation of natural and farm lands and their associated benefits, Connect SoCal includes policies and Implementation Strategies to support conservation actions for local communities.

Regional Planning Policies include:

- Prioritize the climate mitigation, adaptation, resilience, and economic benefits of natural and agricultural lands in the region;
- Support regional conservation planning and collaboration across the region; and,
- Encourage policy development of the link between natural and agricultural conservation with public health

Implementation Strategies include:

- Identify and leverage resources for research, policies and programs to conserve and restore natural and agricultural lands; and,
- Work with implementation agencies to support, establish, or supplement voluntary regional advance mitigation programs (RAMP) for regionally significant transportation projects to mitigate environmental impacts, reduce per-capita VMT, and provide mitigation opportunities through the Intergovernmental Review Process

Further, Connect SoCal envisions Regional Advance Mitigation as a key pathway for natural and agricultural lands preservation, which is included as a Regional Strategic Investment that can support conservation as a means of mitigating the environmental impacts of transportation investments. SCAG will continue to provide informational resources for regionally significant programs, plans, and projects as defined by the applicable California Environmental Quality Act (CEQA) provision, which are submitted through SCAG's Intergovernmental Review Program. Informational resources include, for example, Connect SoCal's goals, Regional Planning Policies and Implementation Strategies as well as the jurisdictional-level growth forecast, publicly available data and CEQA mitigation measures contained in the Connect SoCal Program Environmental Impact Report for lead agencies' consideration during project development, as applicable and feasible. California state law allows agencies to establish voluntary advance mitigation programs in selected areas, providing an opportunity for infrastructure project lead agencies (such as County Transportation Commissions) to identify potential impacts early in the planning stages and work with regulatory agencies to reduce permitting costs, improve certainty and expedite project delivery. Regional Advance Mitigation Programs (RAMP) allow state and federal agencies to consider the environmental impacts and mitigation needs of multiple planned infrastructure projects and urban development all at once—and satisfy those mitigation requirements early in the project-planning and environmental-review process. [34]

In addition, SCAG's future work will involve conducting a study to examine the economic and fiscal benefits of natural and agricultural lands preservation to support local jurisdictions' decision making by identifying the tradeoffs of conversion of natural and agricultural lands to urban uses, including loss of groundwater recharge areas and climate pollution sequestration.

6.4 COMPLETE COMMUNITIES

The concept of complete communities is focused on improved quality of life, economic vitality and safe, livable neighborhoods, which reflect, preserve, and enhance the region's unique cultural and historic character; while also promoting informed decision-making which facilitates sustainable development, affordable housing and reinvestment in the community. Complete communities include convenient access to resources, amenities, destinations, housing, and economic centers that that are located in a proximity that allows for reduced travel distances and for more mobility options that support improved quality of life and vitality.

6.4.1 ELEMENTS OF COMPLETE COMMUNITIES

Complete communities include destinations, housing, and economic and social hubs that meet the needs of the people who live, work, and visit them. Creating vibrant, strategic, and connected communities that provide people a variety of high-quality transportation options to get around and reduce reliance on single-occupancy vehicles and reduce GHG emissions is critical for our region. This can result in attractive and functional places for all households to live, work and play and can be implemented and customized for urban, suburban and rural settings.

The concept of complete communities also includes smart locations and linkages; neighborhood patterns and design; and green infrastructure and buildings. Elements of complete communities have been organized into I) Land Uses, II) Development Patterns and Sustainable Infrastructure, and III) Mobility. Elements and include:

LAND USES

- Increased proximity of housing to job centers, goods and services
- Access to civic and public space
- Neighborhood schools
- Access to active and passive recreation facilities, including parks
- Access to important destinations and activity centers
- Historic resource preservation and adaptive reuse
- Local food production opportunities

DEVELOPMENT PATTERNS AND SUSTAINABLE INFRASTRUCTURE

- Short, walkable blocks
- Reduced building setbacks
- Compact development footprint
- Connected and open community design
- Range of housing types and affordability
- Continuous shaded streetscapes and community tree canopies
- Habitat restoration and conservation
- Preservation and utilization of native vegetation
- Heat island reduction
- Outdoor water use conservation design

MOBILITY

- Access to existing or potential quality transit/rail
- Transit/rail supportive facilities and infrastructure
- Mobility hubs that support multimodal transportation options
- Complete Streets
- Reduced and shared parking
- Infrastructure supportive of alternative fuel vehicles

A few tools that can support realization of complete communities include:

- **Economic Development and Value Capture** – Economic development can result in multi-beneficial outcomes including increase tax revenues and workforce development opportunities. In the County of Imperial, the Lithium Valley Specific Plan is a notable example of an effort that is driven by goals of economic development, quality job creation, improved public health, and supporting transition towards renewable energy industry investments. Governor Newsom signed Senate Bill 125 into law in 2022 authorizing the state to support this effort including the preparation of the Lithium Valley Specific Plan and Programmatic Environmental Impact Report.

  Tax increment financing is a tool that can allow local jurisdictions and public agencies to collaborate on achieving infrastructure, mobility, economic development, sustainability, and housing goals by leveraging tax increment to fund multifamily affordable housing, transit/rail capital projects, Transit-Oriented Development, Complete Streets capital projects, parking, parks and open space, and programs to reduce GHG emissions and VMT within TPAs. Tax increment financing captures increases in property tax resulting from the sale or reassessment of properties in a given area that can result from invested dollars in infrastructure and nearby developments. Some examples of Tax Increment Financing includes but is not limited to Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), Climate Resilience Districts (CRDs), Neighborhood Infill Finance and Transit Improvements Districts (NIFTIs), and Affordable Housing Authorities (AHAs). SCAG has supported establishment of several EIFD districts in the region through funding studies and providing technical assistance programs for district establishment.

- **Compact Development** – Compact development typically includes a mix of housing, workplaces, schools, healthcare facilities, retail, parks, and cultural amenities within close proximity. Compactness can also refer to an urban development model that emphasizes higher density, mixed land uses, and efficient use of space. Compact development can occur on a range of scales from a local neighborhood street to an entire neighborhood, all the way up to an entire jurisdictional level. Strategically implementing compact development in a range of areas can help reduce travel distances and all for more non-automobile trips.

- **Form Based Codes** – Emphasis is placed on physical form over traditional zoning standards to regulate and guide development and implementation of a holistic neighborhood vision. Land uses, such as office or commercial, can be adapted based on future demands, and design standards are used instead of rigorous land use requirements. Emphasis is placed on universal design principles for buildings and public spaces that are accessible to people of all ages and abilities, with equity and flexibility in use given priority. This can help create a human-scaled built environment that promotes walkability and more inviting public realm.

- **Transfer of Development Rights** – This is a planning tool to support growth in locally identified "receiving districts" in lieu of growth in identified "sending districts." Receiving districts typically

have the future infrastructure capacity to absorb development, whereas sending districts often contain fragile habitats, productive agricultural lands, or other unique community features that a jurisdiction may seek to preserve.

- **Mobility Hubs** – Mobility hubs are places where transit and other shared mobility services, amenities, and supporting technology converge to offer a seamless travel experience. Mobility Hubs are typically located near major residential, job, and activity centers. Mobility Hubs also integrate with Complete Corridors to ensure walking and biking are safe experiences while prioritizing pooled ride options over driving alone.
- **Urban Heat Island (UHI) Reduction** – Urban heat islands form when natural land cover—e.g., trees, grasslands, wetlands —are replaced with pavement, buildings and infrastructure. Paved surfaces and other non-reflective surfaces absorb heat during the day and release it at night, inflating both daytime and overnight temperatures. Urban areas within the region are likely to experience more frequent, more intense and longer heat waves as temperatures continue to rise due to climate change. UHIs limit mobility by inhibiting human-powered modes of transportation such as walking, biking and rolling; increase energy demands; raise air pollution levels; and cause heat-related illness. Urban greening, urban forestry, reduced impervious surfaces, cool pavement strategies and related investments can help reduce the impacts of UHIs and promote increased walking, biking and rolling and improve the overall health and quality of life in communities.
- **15-Minute Communities** – Strategic placemaking in which people can access most or all of their day-to-day needs, services, and amenities within a 15-minute walk, bike, or roll from their home or as places that result in fewer and shorter trips because of the proximity of complementary land uses. The concept of 15-minute communities is applicable to communities across the SCAG region and is an opportunity for communities, through incremental change over time, to realize complete communities This concept of 15-Minute Communities is discussed in greater detail in the following section.

6.4.2 15-MINUTE COMMUNITIES

15-minute communities can play a key role in achieving complete communities. A 15-minute community is one in which people can access most or all their daily necessities, services, and amenities within a 15-minute walk, bike, or roll (e.g., using a mobility device) or as places that result in fewer and shorter trips because of the proximity of complementary land uses. Because key destinations are located closer together, the length or number of trips that people make is reduced. For SCAG's purposes, the 15-minute community is a broader concept that includes access to daily needs through a range of mobility options that reduce number or length of single occupant vehicle trips. It is an aspirational framework for making our communities more inclusive, accessible, equitable, effective and ultimately, complete and can be applied through incremental change in various community contexts across the region.

The 15-minute community concept has been identified for consideration because it can apply broadly to many types of communities across the SCAG region and touches on a number of land use and policy goals integral to realize the growth vision in Connect SoCal 2024. More specifically, a 15-minute community has a number of positive attributes, including:

- broad applicability across many types of communities (rural, suburban, and urban) in many different settings;
- can be applied through incremental neighborhood changes, slowly over time; and

- includes many health and quality of life benefits such as facilitating aging in place, stronger community ties, improved access to parks, support for main street businesses that meet resident and worker needs, and health benefits from activities such as walking and biking;

In addition, 15-minute communities promote sustainable and active transportation and shorter single-occupant vehicle trips, thereby reducing GHG emissions. They help enable activities and shopping close to housing, jobs, and amenities, such as schools, markets, and parks, which promote local economic development and increase local tax revenues. Robust transit and other mobility options that connect people to 15-minute communities, and in many cases 15-minute communities to each other, can maximize their social, economic, and sustainability benefits.

To implement a 15-minute community concept, local jurisdictions should promote supportive general plans and zoning codes, inclusive economic development strategies, and Complete Streets policies, among others. Other supportive infrastructure is also generally needed, such as street trees and transit/rail services, mobility hubs, and facilities that meet local mobility needs. The 15-minute community is characterized by the ability to walk, bike, or roll for 15 minutes and the condition of the traveler experience. With high quality conditions (e.g.,, sidewalks, traffic calming measures, vegetation, low-stress bikeways, Complete Streets, etc.) and attractive and useful destinations, people are likely to walk, bike, or roll longer distances. Recognizing the diversity of mobility options across the region, the concept of 15-minute communities also aligns with destinations and centers that are accessed by people driving, but because of the proximity of complementary land uses, result in shorter and fewer trips.

There are hundreds of neighborhoods throughout the region that already have many of the needed characteristics of a 15-minute community. This includes many small-town centers, commercial hubs and neighborhoods that were formed as the region grew in population and economic activity over the past century. Examples include Downtown Brawley and the Downtown Opportunity Area of El Centro in Imperial County, the historic Tennis Club neighborhood of Palm Springs and Downtown Riverside in Riverside County, the transit village area of Redlands and Old Town Barstow in San Bernardino County, the Downtown areas of Ventura and Fillmore in Ventura County, the historic districts of Downtown San Juan Capistrano and Downtown Santa Ana in Orange County, and Downtown Long Beach and the area of Old Pasadena in Los Angeles County.

The concept of 15-minute communities is important for responding to the changing work and commute patterns brought on by the COVID-19 pandemic. The pandemic demonstrated that a substantial number of jobs could be done from home some or all of the time. Since the height of the pandemic, many fully remote workers have returned to the office for one or more days per week, but Work from Home (WfH) is here to stay. A focus on implementing 15-minute complete communities will help to ensure that people working from home can meet their daily needs in closer proximity to where they live and provide more efficient, comfortable, and safe transportation options to access them. It also serves the broader residential population in neighborhoods and improves job access for the majority of people that work in jobs that cannot be done remotely. This supports efforts to reduce GHG emissions consistent with SB 375 and helps meet our economic, social and equity goals.

6.4.3 15-MINUTE COMMUNITIES POLICIES

Due to their centrality in achieving many Plan objectives, Connect SoCal 2024 has three Regional Planning Policies related to 15-minute communities:

- Promote 15-minute communities as places with a mix of complementary land uses and accessible mobility options that align with and support the diversity of places (or communities) across the region. These are communities where residents can either access most basic, day-to-day needs within a 15-minute walk, bike ride, or roll from their home or as places that result in fewer and shorter trips because of the proximity of complementary land uses;
- Support communities across the region to realize 15-minute communities through incremental changes that improve equity, quality of life, public health, mobility, sustainability and resilience, and economic vitality; and
- Encourage efforts that elevate innovative approaches to increasing access to neighborhood destinations and amenities through an array of people-centered mobility options.

Connect SoCal 2024 also includes supporting policies that are focused on Complete Streets and Transit and Multimodal Integration, a selection of which are highlighted below:

- Pursue the development of Complete Streets that comprise a safe multimodal network with flexible use of public rights-of-way for people of all ages and abilities using a variety of modes (e.g., people walking, biking, rolling, driving, taking transit)
- Ensure the implementation of Complete Streets that are sensitive to urban, suburban, or rural contexts and improve transportation safety for all, but especially vulnerable road users (e.g., people, especially older adults and children, walking and biking)
- Facilitate the implementation of Complete Streets and curb space management strategies that accommodate and optimize new technologies, micromobility devices and first/last mile connections to transit and last mile delivery
- Encourage and support the implementation of projects, both physical and digital, that facilitate multimodal connectivity, prioritize transit and shared mobility, and result in improved mobility, accessibility and safety
- Encourage residential and employment development in areas surrounding existing and planned transit/rail stations

More details on transportation strategies may be found in the Mobility Technical Report.

As a concept, 15-minute communities can guide development in virtually any community setting while still supporting the goals of Connect SoCal but the form it takes will look different everywhere. In rural areas, 15-minute communities can lead to more concentrated clusters of destinations that better meet daily needs and provide additional job opportunities. This can reduce the length of car trips, save people in rural areas time and money, and support local economic development. While high-capacity transit/rail is generally not feasible or available in rural areas, flexible transit service, Complete Streets, and planning to achieve mixed-use development can result in vibrant small town centers that can serve the surrounding population.

6.4.4 SCAG IMPLEMENTATION AND GHG REDUCTION STRATEGIES

SCAG is advancing a number of strategies to implement 15-minute communities throughout the region broadly and within the identified Priority Development Areas (PDAs). These strategies align with a variety of SCAG's economic, transportation, and sustainability goals and statutory requirements to reduce GHGs and improve air quality. These strategies include:

- Develop technical assistance resources and research that can support 15-minute communities across the various place types in the SCAG region by deploying strategies that include but are not

limited to redeveloping underutilized properties, increasing access to neighborhood amenities, open space and urban greening, job centers, and multimodal mobility options;
- Identify and pursue funding programs and partnerships for local jurisdictions across the region to realize 15-minute communities;
- Support local jurisdictions and implementing agencies' plans and strategies to promote plans and projects within PDAs by providing awards, grants, and technical assistance; and
- Develop housing in areas with existing and planned infrastructure, availability of multimodal options, and where a critical mass of activity can promote location efficiency.

SCAG also proposes and quantifies specific GHG reduction strategies to assist in achieving emissions reduction targets. A complete list can be found in the Performance Measures Technical Report. Strategies related to land use and sustainable growth include:

- **Parking management** - Parking management affects the relative supply, price, and regulation of parking facilities within an area. Efficient parking management can reduce the parking supply needed, allowing an increase in land use intensity, mix of uses, wider sidewalks, and bike networks. Parking management strategies may also reduce vehicle ownership and use. SCAG's specific GHG reduction strategy relates to parking deregulation to reduce parking minimums. AB 2097 (Friedman) provides a good example of parking management through the elimination of minimum automobile parking requirements for residential, commercial, or other development projects within a half mile of transit priority areas. Local policies that preceded this action are exhibited in the City of San Diego and City of Santa Monica, and several other jurisdictions. Since the cost to provide parking is a component of total housing costs, the decrease in parking minimum requirements supports jurisdictions' ability to meet specified housing needs.
- **Improved pedestrian infrastructure** - Pedestrian oriented design can create a more accessible and connected environment to key destinations and activity centers, increase transit ridership, and reduce the number of single-occupant trips. Continuous and cohesive sidewalk networks improve the safety and comfort of streets, enabling people of all ages and abilities to get where they want to go. Improving walkability often means installing new sidewalks, improving the quality of existing sidewalks and including street trees and other amenities. Street trees and other cooling strategies have been demonstrated to reduce the urban heat island effect, enhance the comfort of pedestrians and other active transportation users, and reduce vehicle speeds leading to higher mode usage and a reduction in vehicle miles traveled. In addition, sidewalks have been shown to substantially reduce crash risk for pedestrians, increase rates of physical activity, raise property values and support and enhance local economies.
- **Safe Routes to School** - Safe Routes to School programs and projects support safe and efficient travel to and from schools and the neighborhoods around them. These programs and projects create safer, more Complete Streets to access schools improve the quality of life and health of our communities and reduce congestion.
- **Mobility hubs** - These are locations where there are a range of transportation options that connect and interact with each other. As a part of developing Connect SoCal 2024, SCAG identified a set of mobility hubs across the region. The identified mobility hubs intersect with transit/rail stops and connect to other modes such as active transportation (e.g., bike share, e-scooters, etc.), shared vehicles, and electric vehicle charging stations. They are the infrastructure foundation for multimodal trip planning and promoting mode shift and are considered essential for a safe and convenient transfer between transportation modes. For more information on the regional network of mobility hubs, please see the Mobility Technical Report, Transit/Rail Chapter.

7. MEASURING PLAN IMPACTS AND BENEFITS

In addition to measuring future travel demand using an Activity Based Model (ABM), SCAG uses the Scenario Planning Model (SPM) to evaluate many of the required plan impacts and benefits.

7.1 DEVELOPING INPUTS TO ASSESS

The table below describes the data associated with preparation of the Forecasted Regional Development Pattern.

Table 3. Spatial scales associated with the development of the Forecasted Regional Development Pattern

Spatial Scale	Count	Principal Data Outputs	Review by	Description and purpose
Region	1	• Total population, households, and employment • 5-year intervals from 2019-2050 • Demographic detail • Industries by 2-digit NAICS code	Demographic Panel of Experts	• Use demographic and economic data and insights to provide the most accurate possible balanced projection and growth range.
County	6	• Total population, households, and employment • 5-year intervals from 2019-2050. •	Demographic Panel of Experts	• Same as region, with consideration for economic and demographic differences across counties.
Jurisdiction	197	• Total households and total employment • 2019, 2035, and 2050 only	Jurisdictions, through LDX	• Level at which land use policies and strategies are implemented. • Population and intermediate year data derived by SCAG staff for required modeling.
City/Split Tier2 TAZ ("TAZ")	13,062	• Total households and total employment • 2019, 2035, and 2050 only	Jurisdictions, through LDX	• Understand and communicate how regional strategies **may** be reflected in neighborhoods. • Enables modeling which is required to evaluate plan performance. • Advisory and nonbinding.

In addition to employment, population, and households, SCAG develops additional attribute variables such as population by age, household by income and employment by sector. Individual household and population-based data are specifically designed and developed for the ABM. SCAG uses a population

synthesizer (PopSyn) to generate individual person-level and household-level characteristics. Detailed information at this scale is derived from the ACS' PUMS microsample data. Detail and a complete list of secondary variables can be found in section 4.5 of the Demographics and Growth Forecast Technical Report. For evaluation purposes, SPM relies on secondary variables allocated to an even smaller geography called Scenario Planning Zones (SPZs) which are roughly 1/10th the size of a Tier2 TAZ and are developed by grouping parcels of uniform or compatible land uses while considering built form, roadways, transit and environmental features.

7.2 SPM MODEL DESCRIPTION

SCAG's Scenario Planning Model (SPM) is SCAG's web-based data management, land use planning and modeling tool developed by customizing the open source version of UrbanFootprint (UFv1.5). SPM enables the creation and organization of local and regional data, plan and policies, facilitates scenario creation and editing and estimates a wide range of potential benefits resulting from alternative transportation and land use strategies. In addition, SPM has been used in providing directional and order-of-magnitude regional impacts of local land use and policy decisions that would assist in the development of regional plans and associated scenario analysis. SPM was used to create the Plan Results Comparison in Table 4.

SPM provides a comparison of the Connect SoCal 2024 Forecasted Regional Development Pattern versus an alternative called the Trend/Baseline forecast. The Trend/Baseline forecast assumes that no growth policy intervention will take place, which allows SPM to measure and quantify the benefits resulting from the Plan's land use strategies. For Connect SoCal 2024, the Trend/Baseline maintains the same county-level population, households, and employment as the Plan; however, jurisdiction and TAZ-level growth varies. Rather than the Plan, described above, Trend/Baseline household growth extrapolates historical growth observed over the past 2-3 Census decennials and integrates growth stemming from high-profile entitlements. Trend/Baseline employment growth is projected using the base years of previous RTPs. This approach minimizes policy intervention and reflects as technically straightforward a projection process as possible. It also reduces some of the variation resulting from the Local Data Exchange in which some jurisdictions provided far more input and detail than others.

7.3 UTILIZING SPM

Scenario-based planning with SPM starts with a detailed base of land use data, demographic characteristics and other details of the built environment that provides the foundation for analysis by various model engines. Growth forecasts are assessed for land consumption, land conservation, passenger vehicle travel, greenhouse gas emissions, energy and water use, household costs, public health impacts, risk and resilience and local infrastructure costs.

SPM translates SPZ-level data into a common language of 35 place types representing the complete range of existing and potential development types and patterns in the region. Each place type is comprised of a mix of different building types along with assumptions about characteristics such as the amount of land devoted to streets, parks and civic areas. Place types were assigned using either a density-based approach or a rule-based approach. Density classification utilized dwelling unit, employment, and street intersection density and the proportion of retail employment to assign a given SPZ to a place type. Rule-based place type assignment was used for locations which could not be classified by density, such as parks, civic institutions, universities and military bases.

Place types are:

- Urban Mixed Use
- Urban Residential
- Urban Commercial
- City Mixed Use
- City Commercial
- City Residential
- Town Mixed Use
- Town Residential
- Town Commercial
- Village Mixed Use
- Village Residential
- Village Commercial
- Neighborhood Residential
- Neighborhood Low
- Office Focus
- Mixed Office and R&D
- Office/Industrial
- Industrial Focus
- Low Density Employment Park
- High Intensity Activity Center
- Mid Intensity Activity Center
- Low Intensity Retail-Centered Neighborhood
- Strip Mall/Bix Box Retail
- Industrial/Office/Residential Mixed High
- Industrial/Office/Residential Mixed Low
- Suburban Multifamily
- Suburban Mixed Residential
- Residential Subdivision
- Large Lot Residential
- Rural Residential
- Rural Ranchettes
- Rural Employment
- Campus/University
- Institutional
- Parks and Open Space

Place types are aggregated into three Land Development Categories (LDCs) to describe the general conditions within an area: Urban, Compact and Standard.

- **Urban** areas are often found within and adjacent to higher density urban centers. Virtually all 'Urban' growth would be considered infill or redevelopment. The majority of households are multifamily and townhome, which tend to consume less water and energy. These areas are supported by high levels of transit service, well-connected street networks, and a mix of uses.
- **Compact** areas are less dense than the urban LDC but remain walkable and mixed in use. Compact areas are likely to occur as new growth on the urban fringe or large-scale redevelopments and have a rich mix of housing from multifamily to medium-lot single-family. They are relatively well served by transit but less prevalent around major multimodal hubs. Streets are well-connected and walkable, meaning destinations such as schools, shopping, and entertainment can be reached easily.
- **Standard** areas reflect the auto-oriented development and use-type separation of the American suburban landscape over the past several decades. Densities tend to be lower, land uses are more homogenous, and larger-lot single-family housing comprises the majority of this development form. Standard areas are not typically well served by transit and most trips are made via automobile.

Households are disaggregated into single family, townhome and multifamily—using PopSyn, ACS PUMS, and maintaining local General Plan capacity. Irrigated area was estimated using place type derived per household and per employee by type densities at the SPZ scale.

7.4 SUMMARY OF PLAN IMPACTS AND BENEFITS

Table 4. Plan Impacts and Benefits

Growth Projections
Projections 2019-2050: 11.1% Population Growth, 26.2% Housing Growth, 14.5% Job Growth
2019 Base Year: 18.8 million people, 6.2 million households, 9 million jobs
2019 – 2050 Change: 2.1 million people, 1.6 million households, 1.3 million jobs
2050 End State: 20.9 million people, 7.8 million households, 10.3 million jobs

Household Mix	*Existing*	*Trend/Baseline*		*Connect SoCal*	
	2019 Base Year	2019-50 Net Growth	2050 End State	2019-50 Net Growth	2050 End State
Single Family %	54.23%	57.47%	54.90%	28.70%	48.94%
Townhome %	7.70%	6.50%	7.50%	11.30%	8.40%
Multifamily %	38.10%	35.90%	37.60%	60.20%	43.00%

Development Location	*Existing*	*Trend/Baseline*		*Connect SoCal*	
	2019 Base Year	2019-50 Net Growth	2050 End State	2019-50 Net Growth	2050 End State
Population in Total Priority Development Area (PDA) %	58.84%	36.46%	57.07%	67.82%	60.40%
Households in Total Priority Development Area (PDA) %	59.10%	46.76%	56.92%	66.01%	61.09%
Jobs in Total Priority Development Area (PDA) %	64.82%	51.69%	63.97%	54.00%	64.72%
Population in Total Green Region Resource Area (GRRA) %	20.39%	42.60%	22.61%	26.42%	20.99%
Households in Total Green Region Resource Area (GRRA) %	21.01%	33.81%	23.66%	23.13%	21.44%
Jobs in Total Green Region Resource Area (GRRA) %	14.82%	27.62%	16.44%	29.15%	16.63%
Population in 2 PDAs %	17.14%	8.31%	15.92%	18.30%	16.93%
Households in 2 PDAs %	17.21%	12.21%	15.86%	17.52%	16.93%
Jobs in 2 PDAs %	19.46%	12.23%	18.10%	14.15%	19.59%
Population in 3+ PDAs %	13.51%	10.04%	14.72%	22.67%	16.75%

Development Location	*Existing*	*Trend/Baseline*		*Connect SoCal*	
	2019 Base Year	2019-50 Net Growth	2050 End State	2019-50 Net Growth	2050 End State
Households in 3+ PDAs %	14.52%	12.95%	15.49%	23.32%	18.43%
Jobs in 3+ PDAs %	15.61%	11.62%	16.37%	15.15%	17.55%
Population in 3+ GRRAs %	1.84%	5.43%	2.20%	3.41%	1.99%
Households in 3+ GRRAs %	1.91%	4.13%	2.37%	2.47%	2.02%
Jobs in 3+ GRRAs %	1.44%	3.31%	1.68%	3.08%	1.64%
Population in 2+ PDAs and 0 GRRA %	29.30%	17.10%	29.21%	38.95%	32.14%
Households in 2+ PDAs and 0 GRRA %	30.23%	23.81%	29.79%	38.93%	33.64%
Jobs in 2+ PDAs and 0 GRRA %	33.50%	22.69%	32.93%	27.85%	35.45%

Land Use Pattern Focus	*Existing*	*Trend/Baseline*		*Connect SoCal*	
	2019 Base Year	2019-50 Net Growth	2050 End State	2019-50 Net Growth	2050 End State
% Urban Residential (HH)	1.74%	8.08%	3.06%	14.20%	4.33%
% Compact Residential (HH)	34.26%	51.26%	37.79%	58.02%	39.19%
% Standard Residential (HH)	63.99%	40.65%	59.15%	27.78%	56.48%
% Urban Employment	7.61%	24.15%	9.70%	39.82%	11.69%
% Compact Employment	16.86%	54.69%	21.64%	64.03%	22.83%
% Standard Employment	75.53%	21.15%	68.66%	-3.84%	65.49%

	Trend/Baseline	*Connect SoCal*
Fiscal Impacts (cumulative)	Infrastructure Capital	
	$26.1 bil	$24.1 bil
	Operations and Maintenance	
	$12.1 bil	$11.2 bil
Land Consumption	Greenfield Land	
	79 sq mi	42 sq mi
Building Energy Use (cumulative)	Residential Use	
	358 tril Btu	349 tril Btu
	Commercial Use	

	Trend/Baseline	*Connect SoCal*
	505 tril Btu	498 tril Btu

	Trend/Baseline	*Connect SoCal*
Building Water use (cumulative)	**Residential Use**	
	1,799,927 AF	1,789,034 AF
	Commercial Use	
	1,350,020 AF	1,340,438 AF
Household Costs	**Transportation Costs (Fuel + Auto)**	
	$11,159	$10,463
	Utility Costs (Energy + Water)	
	$1,732	$1,702
Public Health	**Pollution Related Health Costs**	
	$1,054 mil	$989 mil
Land Conservation	**Total Water Demand (Agricultural + Urban)**	
	12,678,528 acre feet	12,668,868 acre feet
	Total Carbon Stock Change from the Base Year*	
	-480,547 metric tons	-154,761 metric tons
	Active Farmland Acreage Change from Base Year	
	-46,992 acres	-36,133 acres
	Natural Lands Acreage Change from Base Year	
	-59,247 acres	-23,513 acres
	Habitat Improved***	
	7,882,492 acres	8,244,485 acres
	Habitat Degraded***	
	23,854,963 acres	22,092,679 acres
	High Species Movement Potential Change**	
	-71,424 acres	-67,789 acres
	Agricultural Areas Converted to Urban	
	17,665 acres	13,950 acres
	Agriculture Production Value Change	
	-$106,854,966	-$71,014,208
	Groundwater Recharge Restored****	
	48,706 acre feet	71,609 acre feet

**Carbon stock is defined as the quantity of carbon held within a pool (a reservoir of carbon or a system which has the capacity to accumulate or release carbon) and includes both above and below ground.*
***Species movement relates to landscape permeability which enables species to move. Changes in landscape type can impact species movement.*

****Sum of acres of habitat degraded or improved for terrestrial vertebrates including amphibians, mammals, birds and others based on the California Wildlife Habitat Relationship system from the California Department of Fish and Wildlife*
***** Groundwater Recharge Restored calculates the difference between groundwater recharge potential lost in locations where natural and agricultural lands are converted to urban uses, and groundwater recharge potential increases due to urban lands being converting to open space, natural, and agricultural lands.*
Sources: SCAG
Note: Agricultural areas are derived from the Farmland Mapping and Monitoring Program (FMMP)

SPM results generally indicate that Connect SoCal performance is superior to the alternative, no-intervention Trend/Baseline forecast considering the objectives of SB 375. Some highlights include (note numbers have been rounded):

- 2019-2050 growth in multifamily housing is higher (60.2 percent versus 35.9 percent) and townhomes is higher (11.3 percent versus 6.5 percent)
- Household growth is higher in PDAs (66.0 percent versus 46.8 percent)
- Household growth in areas with three or more overlapping PDAs—areas with the greatest modal options and destination clustering—is higher (23.3 percent versus 13.0 percent)
- Population growth in two or more overlapping PDAs and in no GRRAs—areas with the greatest alignment with Connect SoCal's conservation and transportation goals—is substantially higher (39.0 percent versus 17.1 percent)
- As a result of this growth pattern, the 2050 end state is affected too: by 2050, 11.7 percent of jobs will be in urban LDCs in Connect SoCal compared to 9.7 percent in the Trend/Baseline forecast
- Far less greenfield land is consumed (42 square miles acres in the Trend/Baseline versus 79 square miles in Connect SoCal)
- 2.85 billion dollars in infrastructure capital, operations, and maintenance costs are saved
- Water and energy use in both commercial and residential buildings is lower

Results from the SPM are derived from growth distributions at the local level that are consistent with local growth assumptions and municipal general plans. Additional plan benefits can be achieved through successful application of the Connect SoCal's Regional Strategic Investments, Regional Planning Policies and Implementation Strategies. Furthermore, such strategies must be the result of equitable processes that ensure all people have access to the fundamental physical, health, and social benefits of Connect SoCal.

7.5 TAZ-LEVEL DATA AND SCS CONSISTENCY

In order to assess the ability of Connect SoCal 2024 to meet federal air quality standards and achieve the state greenhouse gas reduction target, SCAG develops small-area growth projection data for households and employment, which are known as Transportation Analysis Zone (TAZ) data. Although the data reflects all edits provided by local jurisdiction staff during the Connect SoCal 2024 Local Data Exchange (LDX) process between May and December 2022, it represents a snapshot in time and does not reflect subsequently available information or any entitled and pending project information not provided to SCAG during the LDX process (except for follow-up adjustments requested by local jurisdictions, e.g., County of Los Angeles in 2023). Additionally, the TAZ data does not project the full build-out or realization of

localities' general plans and may not fully reflect jurisdictions' most recent housing elements (see Demographics and Growth Forecast TR Section 4.6). As local plans and approvals continue to evolve (driven by market forces influencing potential timing, location, and type of development), the applicable jurisdiction(s) should be contacted for the most up-to-date data.

Projections at the jurisdiction level or smaller geographies, including TAZ, are utilized to conduct required modeling and generally illustrate how regional policies and strategies may be reflected at the neighborhood level. They are advisory and non-binding. No jurisdiction has an obligation to change or conform its land use policies, general plan, housing element, zoning, regulations, or approvals of projects or plans, or consider or require mitigation measures or alternatives based on any numbers within or aggregates of Connect SoCal 2024 projections at any geographic level.

The Forecasted Regional Development Pattern (FRDP) is not solely based on TAZ-level household and employment projections. It is utilized to estimate the overall effect of the many policies, goals, and strategies of Connect SoCal. While TAZ-level projections enable the modeling of future conditions in order to evaluate conformity with federal air quality standards and achievement of the state greenhouse gas emissions reduction target; they do not reflect the only set of growth assumptions that may meet these standards and the target.

Therefore, as far as housing and other laws or grants may require comparisons of projects or plans to Connect SoCal 2024, SCAG's projections that are illustrated in TAZ data and maps—along with any related documents or modeling outputs—may not be used to determine the inconsistency of any plan or project in the region with Connect SoCal 2024. Local jurisdictions and other lead agencies shall have the sole discretion to determine a local project's or plan's consistency and/or alignment with Connect SoCal[35] (except where SCAG is required to make a consistency or alignment finding for grant purposes).

For example, local jurisdictions' plans and approvals may be found to align with Connect SoCal 2024 if they directionally support a number of its objectives, such as by encouraging a mix of housing types that includes more affordable and multi-family housing rather than solely single-family, for-sale housing; providing for more housing located proximate to destinations or vice versa; or encouraging increased use of transit, ridesharing, biking, walking or micro-mobility, or hybrid and remote work to reduce commuting trips (see Chapter 3 for additional examples). Such considerations may constitute an appropriate basis for a local jurisdiction to determine that a plan or project is consistent with Connect SoCal. Connect SoCal 2024 includes dozens of policies, goals, objectives, and measurements, any number of which may not be individually applicable to any given plan, project, or development. Such determinations could be evaluated based on (i) the totality of the goals, policies, and objectives of Connect SoCal 2024 and its associated Program Environmental Impact Report (PEIR), and (ii) the attributes of the local project or plan in overall relation to Connect SoCal. Consistency with Connect SoCal 2024 should not be evaluated in a prescriptive manner by applying SCAG's TAZ-level data, any aggregate thereof, or any particular one or more goals, policies, or objectives of Connect SoCal 2024 and its associated PEIR.

Household or employment growth included in the Connect SoCal 2024 TAZ-level data and maps may assist in determining consistency with the SCS for purposes of determining a project's eligibility for CEQA streamlining under SB 375 (Cal. Govt. Code § 21155(a)). TAZ-level data and maps may not otherwise be used or applied prescriptively to determine that a project is inconsistent with Connect SoCal 2024 for any purpose, given that they do not reflect the only set of growth assumptions that would be consistent with the SCS. Specifically, the TAZ-level data and maps do not supersede or otherwise affect locally approved

housing elements, including those adopted in compliance with the 6th Cycle of the Regional Housing Needs Assessment (RHNA).

8. TYING IT ALL TOGETHER: A SUSTAINABLE COMMUNITIES STRATEGY

Connect SoCal 2024 is a compass that helps the region reach its sustainability goals, including its GHG reduction targets. This Report outlines the importance of an integrated approach to address the needs and challenges across the region now and in the future, including the need for more housing, improving access to opportunity, addressing climate change, and strengthening resilience. This approach is rooted in the regulatory framework of SB 375 and growth that is sustainable, equitable, and improves regional prosperity and quality of life.

APPENDIX

1. SCAG Land Use Codes – Legend

9. ENDNOTES

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[23] At the time of preliminary forecast development (April 2022) only 12 of the region's 197 jurisdictions had 6th cycle housing elements which had been adopted and certified by the state. While local jurisdictions were requested to consider housing element updates in their review of LDX growth data, only 87 had adopted and certified housing elements even by the January 2023, immediately after the deadline for LDX input. Additionally, some local jurisdictions may not be required to complete rezonings associated with housing element updates until February 2025, rendering data on newly available sites inherently incomplete (or unavailable) for the purposes of Connect SoCal 2024.

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[34] Note that the RAMP was previously a mitigation measure in the Connect SoCal 2020 PEIR (SMM BIO-2). In this cycle, the RAMP has been elevated to a plan feature, which reduces impacts. CEQA permits the incorporation of environmental considerations into the project design, thereby reducing environmental impacts and associated mitigation. See e.g., CEQA Guidelines 15070(b)(1) and CEQA Guidelines Appendix F: Energy Conservation. In the case of the adoption of a plan, policy, regulation or other public project, mitigation measures can be incorporated into the plan, policy, regulation or project design (CEQA Guidelines 15126.4(a)(2)).

[35] Note: Consistency and alignment are used interchangeably for the purpose of this document. Neither consistency nor alignment shall be understood to require the analysis of numbers within or aggregates of Connect SoCal 2024 projections at any geographic level.

APPENDIX 1:
SCAG LAND USE CODES - LEGEND

APPENDIX 1: SCAG LAND USE CODES – LEGEND

Legend	Land Use Description
Single Family Residential	1110 Single Family Residential 1111 High Density Single Family Residential (9 or more DUs/ac) 1112 Medium Density Single Family Residential (3-8 DUs/ac) 1113 Low Density Single Family Residential (2 or less DUs/ac)
Multi-Family Residential	1120 Multi-Family Residential 1121 Mixed Multi-Family Residential 1122 Duplexes, Triplexes and 2- or 3-Unit Condominiums and Townhouses 1123 Low-Rise Apartments, Condominiums, and Townhouses 1124 Medium-Rise Apartments and Condominiums 1125 High-Rise Apartments and Condominiums
Mobile Homes and Trailer Parks	1130 Mobile Homes and Trailer Parks 1131 Trailer Parks and Mobile Home Courts, High-Density 1132 Mobile Home Courts and Subdivisions, Low-Density
Mixed Residential	1140 Mixed Residential 1100 Residential
Rural Residential	1150 Rural Residential
General Office	1210 General Office Use 1211 Low- and Medium-Rise Major Office Use 1212 High-Rise Major Office Use 1213 Skyscrapers
Commercial and Services	1200 Commercial and Services 1220 Retail Stores and Commercial Services 1221 Regional Shopping Center 1222 Retail Centers (Non-Strip With Contiguous Interconnected Off-Street Parking) 1223 Retail Strip Development 1230 Other Commercial 1231 Commercial Storage 1232 Commercial Recreation 1233 Hotels and Motels
Facilities	1240 Public Facilities 1241 Government Offices 1242 Police and Sheriff Stations 1243 Fire Stations 1244 Major Medical Health Care Facilities 1245 Religious Facilities 1246 Other Public Facilities 1247 Public Parking Facilities 1250 Special Use Facilities 1251 Correctional Facilities 1252 Special Care Facilities 1253 Other Special Use Facilities
Education	1260 Educational Institutions 1261 Pre-Schools/Day Care Centers 1262 Elementary Schools 1263 Junior or Intermediate High Schools 1264 Senior High Schools 1265 Colleges and Universities 1266 Trade Schools and Professional Training Facilities
Military Installations	1270 Military Installations 1271 Base (Built-up Area) 1272 Vacant Area 1273 Air Field 1274 Former Base (Built-up Area) 1275 Former Base Vacant Area 1276 Former Base Air Field
Industrial	1300 Industrial 1310 Light Industrial 1311 Manufacturing, Assembly, and Industrial Services 1312 Motion Picture and Television Studio Lots 1313 Packing Houses and Grain Elevators 1314 Research and Development

	1320 Heavy Industrial 1321 Manufacturing 1322 Petroleum Refining and Processing 1323 Open Storage 1324 Major Metal Processing 1325 Chemical Processing 1330 Extraction 1331 Mineral Extraction - Other Than Oil and Gas 1332 Mineral Extraction - Oil and Gas 1340 Wholesaling and Warehousing
Transportation, Communications, and Utilities	1400 Transportation, Communications, and Utilities 1410 Transportation 1411 Airports 1412 Railroads 1413 Freeways and Major Roads 1414 Park-and-Ride Lots 1415 Bus Terminals and Yards 1416 Truck Terminals 1417 Harbor Facilities 1418 Navigation Aids 1420 Communication Facilities 1430 Utility Facilities 1431 Electrical Power Facilities 1432 Solid Waste Disposal Facilities 1433 Liquid Waste Disposal Facilities 1434 Water Storage Facilities 1435 Natural Gas and Petroleum Facilities 1436 Water Transfer Facilities 1437 Improved Flood Waterways and Structures 1438 Mixed Utilities 1440 Maintenance Yards 1441 Bus Yards 1442 Rail Yards 1450 Mixed Transportation 1460 Mixed Transportation and Utility
Mixed Commercial and Industrial	1500 Mixed Commercial and Industrial
Mixed Residential and Commercial	1600 Mixed Residential and Commercial 1610 Residential-Oriented Residential/Commercial Mixed Use 1620 Commercial-Oriented Residential/Commercial Mixed Use
Open Space and Recreation	1800 Open Space and Recreation 1810 Golf Courses 1820 Local Parks and Recreation 1830 Regional Parks and Recreation 1840 Cemeteries 1850 Wildlife Preserves and Sanctuaries 1860 Specimen Gardens and Arboreta 1870 Beach Parks 1880 Other Open Space and Recreation 1890 Off-Street Trails
Agriculture	2000 Agriculture 2100 Cropland and Improved Pasture Land 2110 Irrigated Cropland and Improved Pasture Land 2120 Non-Irrigated Cropland and Improved Pasture Land 2200 Orchards and Vineyards 2300 Nurseries 2400 Dairy, Intensive Livestock, and Associated Facilities 2500 Poultry Operations 2600 Other Agriculture 2700 Horse Ranches
Vacant	3000 Vacant 3100 Vacant Undifferentiated 3200 Abandoned Orchards and Vineyards 3300 Vacant With Limited Improvements 3400 Beaches (Vacant) 1900 Urban Vacant
Water	4000 Water 4100 Water, Undifferentiated 4200 Harbor Water Facilities 4300 Marina Water Facilities 4400 Water Within a Military Installation 4500 Area of Inundation (High Water)

Specific Plan	7777 Specific Plan
Under Construction	1700 Under Construction
Undevelopable or Protected Land	8888 Undevelopable or Protected Land
Unknown	9999 Unknown

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