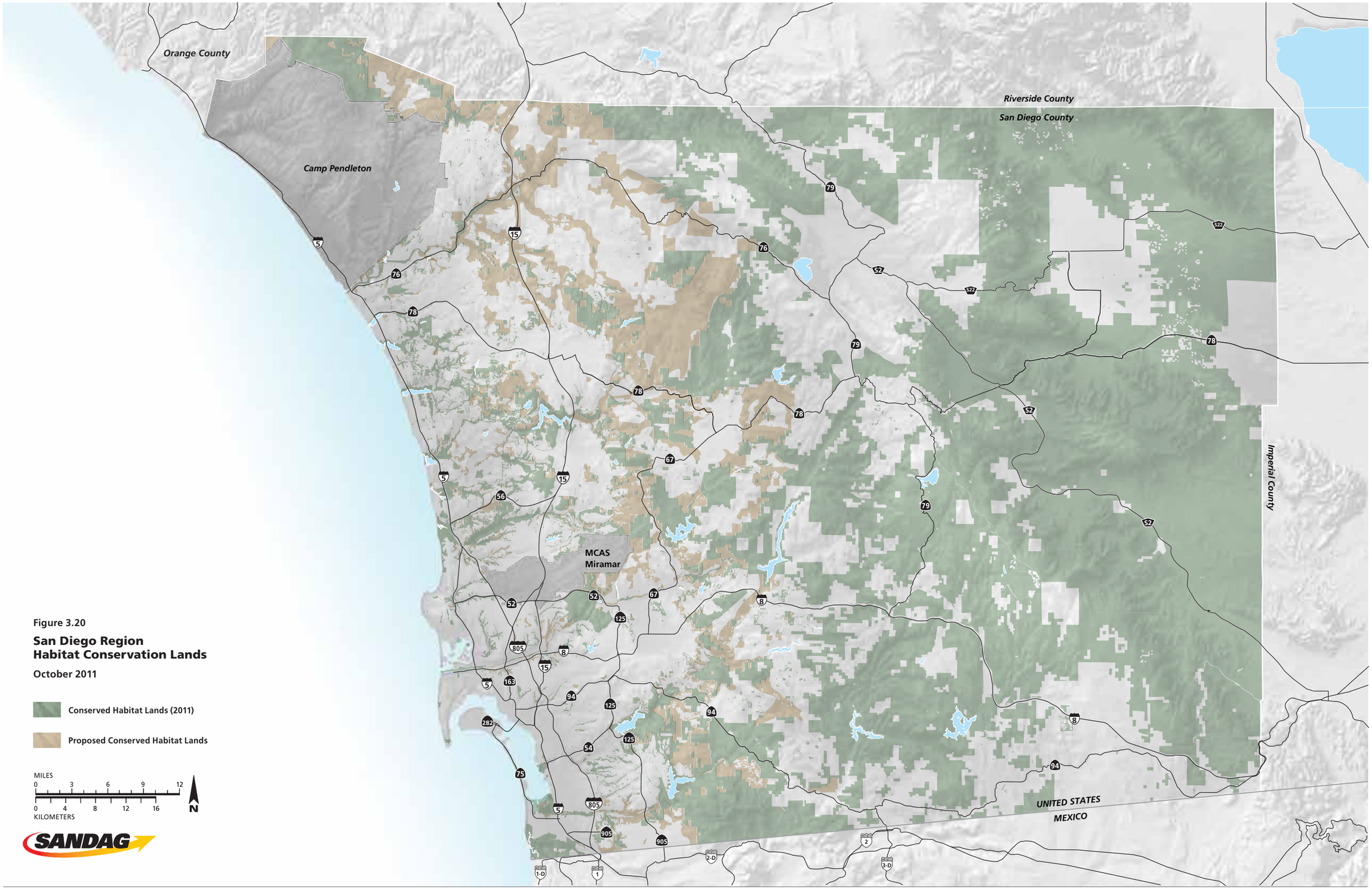


Figure 3.20

San Diego Region
Habitat Conservation Lands

October 2011

Conserved Habitat Lands (2011)

Proposed Conserved Habitat Lands

MILES
0 3 6 9 12
0 4 8 12 16
KILOMETERS
N

SANDAG

Table 3.6 – USDA Important Farmland Acreage

USDA Important Farmland Category	2008 Acreage
Prime Farmland Land with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.	**7,754**
Farmland of Statewide Importance Land similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the last FMMP mapping date.	**10,411**
Unique Farmland Land of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.	**51,975**
Farmland of Local Importance Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee. In San Diego County, this category is defined as land that meets all the characteristics of Prime and Statewide, with the exception of irrigation. They are farmlands not covered by the above categories but are of significant economic importance to the county. They have a history of good production for locally adapted crops. The soils are grouped in types that are suited for truck crops (such as tomatoes, strawberries, cucumbers, potatoes, celery, squash, romaine lettuce, and cauliflower) and soils suited for orchard crops (avocados and citrus).	**153,186**
Important Farmland Total:	**223,326**

Source: U.S. Department of Agriculture

Orange County

Riverside County

San Diego County

Imperial County

UNITED STATES

MEXICO

Figure 3.21

San Diego Region Wetlands

October 2011

Vegetated Wetland (60,767 acres)

Water Bodies (59,956 acres)

MILES 0 2 6 9 12

KILOMETERS 0 4 8 12 16

N

SANDAG

Orange County

Riverside County

San Diego County

Imperial County

UNITED STATES

MEXICO

Figure 3.22

San Diego Region
Important Agricultural Lands

October 2011

USDA Farmland Category

- Agriculture Preserve Land Williamson Act (2007)
- Farmland of Local Importance (153,186 acres)
- Prime Farmland (7,754 acres)
- Farmland of Statewide Importance (10,411 acres)
- Unique Farmland (51,975 acres)

MILES
0 3 6 9 12
0 4 8 12 16
KILOMETERS

N

SANDAG

Investing in a Transportation Network that Provides Residents and Workers with Transportation Options that Reduce Greenhouse Gas Emissions: The 2050 RTP Transportation Network

"Identify a transportation network to service the transportation needs of the region." (Government Code Section 65080(b)(2)(B)(iv))

The 2050 RTP and its SCS are based upon four pillars of transportation planning to serve the transportation needs of our region.

They are a Revenue Constrained Transportation Network (that is, a network funded by financial resources expected between now and 2050); Transportation Demand Management (TDM) measures; Transportation System Management (TSM) measures; and pricing measures. Taken together, these four pillars will provide residents and workers with alternatives to driving alone, and they will help the region meet or exceed its state-mandated targets for reducing GHG emissions. Each of these four components is explained in detail in the following chapters: transportation network (Chapter 6), TDM (Chapter 8), TSM (Chapter 7), and pricing (Chapters 6 and 7).

The GHG emissions reductions per capita shown in Tables 3.1 and 3.7 do not include the use of alternative fuels. Also, they do not consider the benefits of California's low carbon fuel standard program, which calls for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. They also do not consider the benefits due to increases in vehicle efficiency ("Pavley" regulations that reduce GHG emissions in new passenger vehicles). Although SANDAG is not able to take credit for these transportation measures toward meeting the state-mandated GHG emissions targets for the region pursuant to SB 375, SANDAG recognizes the role that regional and local governments can play in accelerating the deployment of alternative fuel vehicles and fueling and recharging stations. Therefore, SANDAG has been active in this area, which in turn helps the state meet its overall reduction target for greenhouse gases.

An important part of the Revenue Constrained Transportation Network, which is described more fully in Chapter 6, Table 6.3, is a significant investment in public transit (rail and bus), as well as facilities that encourage walking and bicycling as forms of active transportation. The aim of these investments is to significantly increase the attractiveness of public transit, walking, and bicycling – particularly in areas that are planned for more compact and mixed-use development. Investments in our local streets and roads, including access to regional airports; goods movement projects; and TDM and TSM projects and programs also are integral to the overall transportation network.

An important part of the Revenue Constrained Transportation Network is a significant investment in public transit (rail and bus), as well as facilities that encourage walking and bicycling as forms of active transportation.

The overarching goal of the public transit investments detailed in the 2050 RTP (Chapter 6) is to create a world-class transit

system for the San Diego region by 2050 that connects our homes to the region's major employment centers and other destinations. Achieving this vision means making public transit a more appealing option for many trips and reducing the impact of vehicle travel on the environment and on public health. Specific goals include:

- Making public transit more time-competitive with automobile travel
- Maximizing the role of public transit within the broader transportation system
- Reducing vehicle miles traveled and lowering greenhouse gas emissions throughout our region

Investments that promote bicycling and walking also are an important part of the Revenue Constrained Transportation Network.

Investments that promote bicycling and walking also are an important part of the Revenue Constrained Transportation Network. A regional bicycle network, estimated to cost about $419 million (in 2010 dollars) is part of the San Diego Regional Bicycle Plan, approved by the SANDAG Board on May 28, 2010. It is included in the 2050 RTP. The Plan can be found in Technical Appendix 13 and at www.sandag.org/bicycle.This Plan provides a vision for a diverse regional bicycle system of interconnected bicycle corridors, support facilities, and programs to make bicycling more practical and desirable to a wider cross-section of people in our region. This vision is intended to guide the development of the regional bicycle system through the year 2050. In addition, funding estimated at $1.789 billion is included in the 2050 RTP for local bicycle and local and regional pedestrian projects. An additional $700 million is included for a Safe Routes to Transit program to ensure safe pedestrian and bicycle access to transit stations. The Active Transportation Program and the nearly $600-million Smart Growth Incentive Program, total nearly $3.1 billion (in 2010 dollars) in the 2050 RTP.

Providing for a range of transportation options in the region's transportation network will be greatly facilitated by adopting a "Complete Streets" approach to the project development. The complete streets approach affords policy makers, planners and engineers with the opportunity to carefully evaluate and accommodate the needs motorists, pedestrians, cyclists, transit vehicles and transit users, the young and old, and the able-bodied and physically challenged through the entire project development process. This ensures that the needs of all users of the public right of way are properly accommodated based on informed decisions about existing and future demand, and that proper accommodations are designed into the project from the outset.

The Complete Streets Act of 2008 requires local jurisdictions in California to plan for the needs of all transportation system users with every major revision to general plan local circulation elements, and the region's *TransNet* Extension Ordinance requires accommodation of bicyclists and pedestrians in most *TransNet* funded projects. Changes to local policies and project development procedures will be necessary to comply with these requirements, and SANDAG can support this process through incentives and technical assistance. In combination with the smart growth development and urban design practices supported by the RTP and RCP, this will make it easier for the public to choose a means of travel that reduces vehicle miles traveled and greenhouse gas emissions.

Considering *TransNet* Projects in the SCS

"Nothing in this section requires projects programmed for funding on or before December 31, 2011, to be subject to the provisions of this paragraph if they (iii) were specifically listed in a ballot measure prior to December 31, 2008, approving a sales tax

increase for transportation projects." (Government Code Section 65080(b)(2)(L))

The *TransNet* Extension Ordinance as it was approved by the voters in November 2004 includes specific transportation projects. Based upon this provision of SB 375, the projects identified in *TransNet* need not be variables in reaching the GHG targets established by CARB. These *TransNet* projects have been identified in the Revenue Constrained Transportation Network detailed in Chapter 6, Table 6.3.

Transportation Demand Management Measures

TDM measures are important in helping the region reduce GHG emissions by improving the efficiency of our transportation system. These measures help reduce or eliminate vehicle trips during peak periods of demand. They typically offer programs and incentives to encourage the use of modes of transportation other than driving alone, or to encourage people to shift their trips to times when demand on the transportation system is low. Examples of current TDM measures are employer-sponsored transportation benefits, regional transit and vanpool subsidies, and carpool and biking incentives.

The TDM measures that complement the 2050 RTP transportation network (see Chapter 8) include:

- Expanded marketing of the SANDAG iCommute program
- Expanded vanpool and carpool incentive programs
- New resources for teleworking
- Expanded bike locker program and new bike stations
- New bike sharing and carsharing programs

- Expanded SchoolPool programs
- New buspool program in coordination with regional military bases

Transportation System Management Measures

TSM measures also help reduce GHG emissions by helping to maximize the efficiency of existing and future transportation facilities. A combination of programs – including signal and ramp metering coordination and optimization; improved performance monitoring; and advanced vehicle and roadside communication platforms – will increase the ability of operators to monitor the performance of the transportation system, manage our system better, and improve efficiency. TSM measures that complement the 2050 RTP transportation network (see Chapter 7) include expanded:

- Traveler information services
- Improvements to the timing of traffic signals
- Ramp metering

- Management of arterials, freeways, and transit/Trolley corridors
- Bottleneck/auxiliary lane projects
- Incident management (e.g., Freeway Service Patrol)

Pricing Measures

Pricing strategies also are used to reduce the demand on our transportation system. The long-established strategy of varying prices within corridors with Managed Lanes, such as the managed or express lanes in the I-15 Corridor, is included in the 2050 RTP. These High Occupancy Toll (HOT) lanes are operated in ways that incentivize the use of public transit and sharing rides, both of which contribute to reducing greenhouse gas emissions.

Meeting Targets for Reducing Greenhouse Gas Emissions

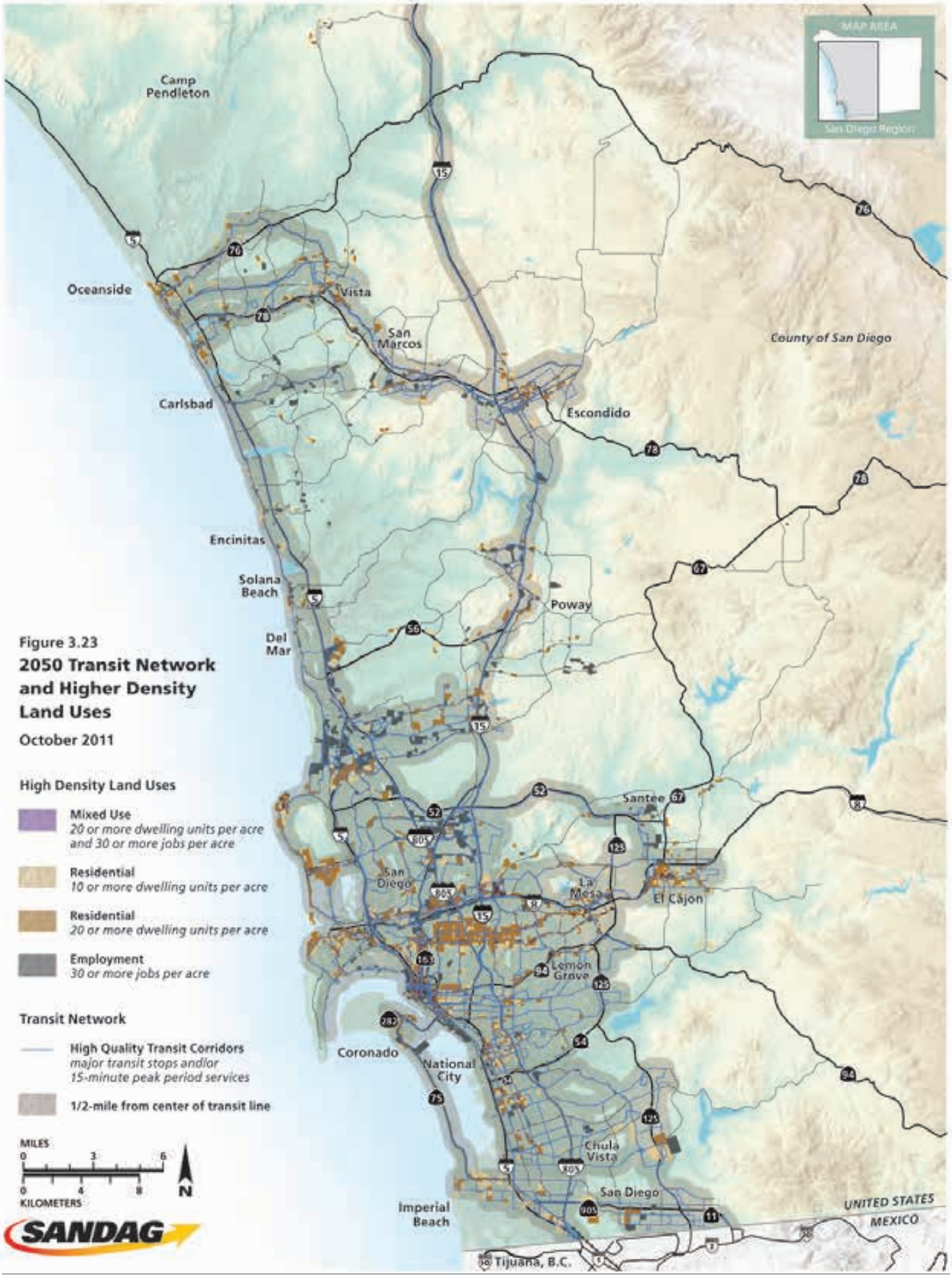
"Set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the state board." (Government Code Section 65080(b)(2)(B)(vi))

On September 23, 2010, CARB set targets for lowering greenhouse gas emissions in the San Diego region. They call for a 7 percent reduction, per capita, in greenhouse gas emissions from passenger vehicles by 2020 (compared with 2005); and a 13 percent reduction by 2035 through land use and transportation planning.

The San Diego region will meet these targets, shown in Table 3.1, by focusing housing and employment growth in urbanized areas; protecting sensitive habitat and open space; and investing in a transportation system that provides residents and workers with transportation options. The determination that SANDAG will meet the CARB GHG reduction target is based upon modeling methodology which is described further below.

The process to develop the plan was based upon modeling and the use of smart growth and sustainable development principles that have been standard planning practice in the region for some time along with an extensive public outreach process.

Figure 3.23, shows the 2050 RTP transit network and the areas of the region with the highest residential, employment and mixed-use densities as well as the planned open space areas. The land use data illustrated on this map were used to identify the most appropriate locations for public transit investments to support the higher density development assumed in the SCS land use pattern. This figure also illustrates that more than half the region's land area remains in open space.


MAP AREA
San Diego Region
Camp Pendleton
Oceanside
Vista
San Marcos
Carlsbad
Escondido
County of San Diego
Encinitas
Solana Beach
Del Mar
Poway
Santee
San Diego
La Mesa
El Cajon
Lemon Grove
Coronado
National City
Chula Vista
Imperial Beach
UNITED STATES
MEXICO
Tijuana, B.C.
Figure 3.23
2050 Transit Network and Higher Density Land Uses
October 2011
High Density Land Uses
Mixed Use
20 or more dwelling units per acre and 30 or more jobs per acre
Residential
10 or more dwelling units per acre
Residential
20 or more dwelling units per acre
Employment
30 or more jobs per acre
Transit Network
High Quality Transit Corridors
major transit stops and/or 15-minute peak period services
1/2-mile from center of transit line
MILES
0 3 6
0 4 8
KILOMETERS
N
SANDAG

In evaluating the performance of the RTP/SCS, SANDAG used an enhanced four-step transportation model. Four-step models have been the standard in transportation modeling since the late 1950s, and they are used by nearly every Metropolitan Planning Organization (MPO) in the United States for the development of transportation plans, corridor studies, Federal Transit Administration New Starts proposals, and air quality analyses. The traditional four steps of this model are:

1. Trip generation
2. Trip distribution
3. Mode choice
4. Traffic (route) assignment

Output from the four-step model includes total vehicle miles traveled in the region and other GHG factors such as vehicle speed and congestion. The model outputs take into account the forecasted land use pattern, the revenue constrained multimodal transportation network, and the implementation of telework programs. These outputs are converted into total GHG emissions in the region using the CARB Emission Factors (EMFAC 2007) model.

The regional transportation model inputs include the land use, motorized network, TSM, and TDM assumptions in the SCS. All of the SCS inputs interact and fuse with one another in the transportation model, which makes it difficult to identify the individual contribution of each component to the overall GHG reductions. For example, modeling each component individually and summing results will yield a different result than modeling the components collectively due to the mutual benefits of the components working together.

SANDAG includes reductions in GHG emissions using off-model factors to account for the following programs: Safe Routes to School; regional vanpool, carpool, and buspool programs; and pedestrian and bicycle network improvements. Unlike the transportation model that combines various factors into one summarized output, the off-model measures are calculated separately.

Each off-model strategy was developed with its own unique calculation methodology based on a review of best practices across the country. Documentation of this methodology is included in Technical Appendix 15. SANDAG also contracted with a consultant to validate the methodology of the off-model calculations.

The off-model GHG reduction benefits are then subtracted from the model GHG outputs to determine the projected GHG emissions for the region. Per capita emissions are calculated using total projected GHG emissions divided by the regional population. For this analysis, and to determine if the SCS achieves the GHG targets pursuant to SB 375, only emissions from four CARB vehicle classifications are included in this calculation. They are: Light Duty Auto, Light Duty Truck 1, Light Duty Truck 2, and Medium Duty Truck.

The SANDAG transportation model also evaluates VMT and CO_2 emissions for all vehicles, which include passenger vehicles covered under SB 375 as well as heavy duty trucks, public buses, and motorcycles. Table 3.7 below provides additional model output information to further explain the emission reductions (tons per capita) for SB 375 vehicle classes and all vehicle classes and for the horizon years of 2020, 2035 and 2050. SB 375 requires that SANDAG demonstrate how emission reduction targets will be met for 2020 and 2035, not 2050.

Table 3.7 – Results of GHG Emissions and VMT Reductions – 2050 SANDAG Regional Transportation Plan

Vehicle Miles Traveled Per Capita						
			Change from 2005		Change from 2008	
	SB 375[1]	All[2]	SB 375[1]	All[2]	SB 375[1]	All[2]
2005	25.4	27.6	-	-	-	-
2008	24.4	25.6	-4%	-7%	-	-
2020	22.3	23.6	-12%	-14%	-9%	-8%
2035	22.8	24.3	-10%	-12%	-7%	-5%
2050	23.6	25.2	-7%	-8%	-3%	-2%
Carbon Dioxide (CO_2) - Tons Per Capita						
			Change from 2005		Change from 2008	
	SB 375[1]	All[2]	SB 375[1]	All[2]	SB 375[1]	All[2]
2005	26.0	31.3	-	-	-	-
2008	24.9	28.0	-4%	-10%	-	-
2020	22.4	25.8	-14%	-18%	-10%	-8%
2035	22.6	26.7	-13%	-15%	-9%	-5%
2050	23.5	27.8	-10%	-11%	-6%	-1%

[1] Cars and light duty trucks only

[2] All vehicles

Source: SANDAG Travel Demand Model

So why do GHG reductions decrease over time? There are several factors that cause this decrease. First, in the early years of the RTP, the region makes significant investments in the transportation network, including major transit investments, during a recessionary economic cycle when fewer people are driving to jobs and more people choose to use other transportation options. As a result, there are higher initial reductions from the 2005 base year. By 2020 and 2035 it is assumed that the economy improves and more residents are driving to jobs. Additionally, in the later years of the plan, after the urbanized areas have been developed according to local general plans, development will gradually move toward more remote areas where fewer transportation options are available. This growth is likely to result in an increased demand for driving.

The results shown for 2050 are best estimates based on historical and current empirical observations in the region and do not reflect attitude changes about transportation. Such changes may occur as a result of significant investments in other transportation options and changes to local land use plans that could result in greater densification of our urban areas.

In addition, the GHG modeling for 2050 uses emission factors for the year 2040 (EMFAC 2007 includes emissions factors through 2040 only) and assumes no technological

The opportunities for affordable housing and access to public transit are intended to reduce housing and transportation cost burdens on lower income individuals and families.

improvements to vehicles or fuels in the final ten years of the plan.

As part of each RTP update (every four years) SANDAG prepares a new regional growth forecast and continues to update modeling tools and assumptions to reflect the latest information available. Should the likely future development pattern change, this would be reflected in the next regional growth forecast and SCS land use pattern. SANDAG also will continue to improve modeling capabilities and update modeling assumptions to reflect the most recent published and accepted data regarding changes in travel behavior and technological advances.

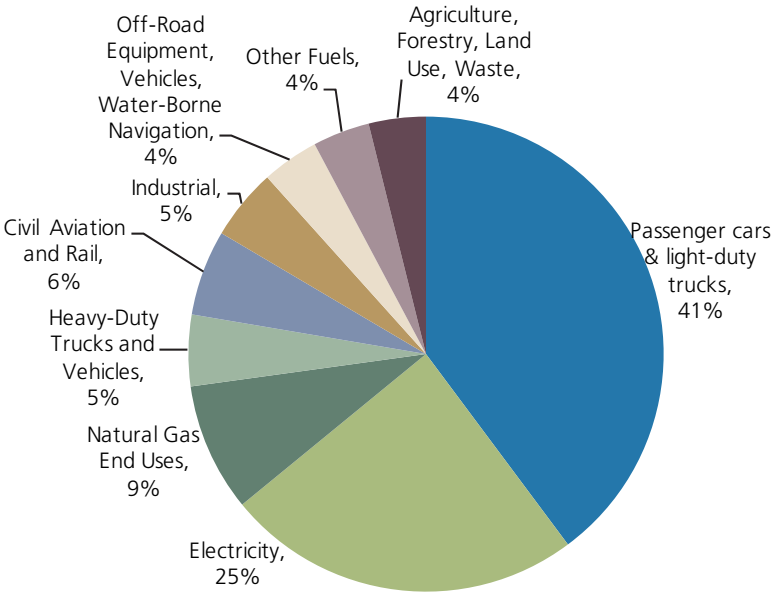
Considering Social Equity in the SCS

Equity is essential to our region's economic sustainability. How our region uses land and organizes its transportation system significantly influences the quality of life for its residents. It is vitally important to plan housing and invest in a transportation network that provides all residents with equal opportunities to live, work, shop, study, be healthy, and play in our region – regardless of their age, race, color, national origin, income, or physical capabilities.

The SCS land use pattern accommodates the estimated 388,000 new homes needed to serve projected growth (1.25 million more people) within our region, including all economic segments of the population, during the RTP planning period. Most of these new housing units are proposed at the higher densities that provide the greatest opportunity for affordable housing to be built. Additionally, a majority of the planned higher density homes are located within one half-mile of existing or planned public transit. Taken together, the opportunities for affordable housing and access to public transit are intended to reduce housing and transportation cost burdens on lower income individuals and families.

More detailed information and analysis of social equity considerations is included in Chapter 4.

Figure 3.24 – San Diego County Greenhouse Gas Emissions by Category (2006)



Source: Energy Policy Initiatives Center (EPIC)

Considering Energy Consumption and Cutting Greenhouse Gas Emissions in the SCS

The transportation of people and goods in cars, trucks, buses, and on motorcycles is the single largest source of greenhouse gas emissions in our region. It accounts for 46 percent of total emissions, with passenger cars and light-duty trucks alone responsible for 41 percent. Heavy-duty trucks and vehicles represent about five percent of greenhouse gas emissions. Civil aviation and rail (passenger and freight) account for 6 percent, and additional emissions result from electricity

that powers the Trolley. Figure 3.24 shows greenhouse gas emissions in the San Diego region by category.

The levels of fuel consumption and greenhouse gas emissions result from our region's reliance on petroleum-based gasoline and diesel fuels, as well as the average fuel efficiency of vehicles. The region's need for gasoline and diesel is projected to decline from about 4.5 million gallons per day in 2008 to about 4.2 million gallons per day by 2050. The projected reduction in fuel consumption is due in large part to state fuel efficiency standards for vehicles and state mandated increases in the supply and use of alternative transportation fuels.

California adopted a low carbon fuel standard that will require a reduction in the carbon intensity of California's transportation fuels by at least ten percent by 2020. This will be achieved by offering a variety of fuel options for personal vehicles that include electricity, natural gas, propane, and biofuels. SANDAG has taken strides to assess what regional infrastructure is needed to accommodate more alternative fuel choices across the region. It also has supported the development of publicly accessible electric charging stations.

In 2009, SANDAG and other regional entities began contributing to the Electric Vehicle (EV) Project for the San Diego region. The EV Project is a nationally-sponsored program to install electric vehicle chargers throughout a handful of major metropolitan areas in the United States. The San Diego region was selected as one of those first markets, so several local governments, universities, SANDAG, the California Center for Sustainable Energy and SDG&E have collaborated with Ecotality on local infrastructure planning and installation considerations. Through the EV Project, more than 1,400 plug-in electric vehicle chargers will have been installed around San Diego by early 2012, as well as about 1,000 home chargers at residences and fleet locations in San Diego County. Supporting alternative fuel efforts are addressed in greater detail in the following SANDAG reports: Regional Energy Strategy; Climate Action Strategy; and

The transportation of people and goods in cars, trucks, buses, and on motorcycles is the single largest source of greenhouse gas emissions in our region.

Regional Alternative Fuels, Vehicles, and Infrastructure Report for the San Diego Region.

Meeting Federal Air Quality Requirements

"Allow the regional transportation plan to comply with the federal Clean Air Act." (Government Code Section 65080(b)(2)(B)(viii))

SANDAG and the U.S. Department of Transportation (DOT) must make a determination that the RTP and the Regional Transportation Improvement Program (RTIP) conform to the state implementation plan (SIP) for air quality. Conformity to the SIP means that transportation activities will not create new air quality violations, worsen existing violations, or delay the attainment of the national ambient air quality standards. Analyses for Carbon Monoxide, and for Reactive Organic Gases and Nitrogen Oxides as precursors to Ozone, were conducted for the 2050 RTP. These analyses demonstrate that the 2050 RTP conforms to the SIP. This process is documented in Appendix B.

Climate Change Impacts and Adaptation

The transportation sector has been identified as a key contributor of greenhouse gases, but also is threatened by the impacts of continued climate change. The climate of the San Diego region is expected to change, even under the most optimistic scenarios for reducing greenhouse gas emissions. Potential impacts include more frequent and intense heat waves, more frequent and intense wildfires, degraded air quality, fresh water shortages, rising sea levels and higher storm surges, the loss of native plant and animal species, and a higher demand for electricity during peak periods. Developing and implementing measures to help the region adapt to these potential changes will be critical in protecting the regional transportation network.

More frequent hot days and prolonged periods of extreme heat would increase the risk of buckling highways and railroad tracks. This could lead to increased and more frequent maintenance costs, premature deterioration, or even the failure of transportation infrastructure. More frequent and severe wildfires that are followed by rainfall would increase the risk of mudslides. This could disrupt major infrastructure such as roadways and rail lines. Rising sea levels and stronger storm surges would likely impact high-density urban areas, ports, airports, and other vital lines of coastal transportation. Existing fortifications may need to be enhanced as sea levels rise and storm surges intensify, and areas not previously considered at risk may need to be protected. Preparing transportation infrastructure for climate change impacts is a new priority as future projects are designed and our current system is maintained.

The tools and methodologies for evaluating and adapting to such impacts are still in the early stages of development and will require ongoing monitoring.

Considering Public Health in the SCS

According to the U.S. Centers for Disease Control and Prevention (CDC), the percentage of Californians that is obese increased from less than 10 percent in 1985 to nearly 25 percent in 2008. The San Diego County Health and Human Services Agency (HHSA) reports that in 2007, 33 percent of county residents were overweight and nearly 22 percent were obese.

Evidence suggests that land use and transportation planning policies affect public health. Epidemiological studies have shown that people who live in compact, mixed-use communities have more opportunities to walk and they are less likely to be obese and hypertensive, compared with people who live in communities in which automobiles are primarily used to get around. Land use patterns in many communities today make driving a necessity, and they discourage walking and bicycling. A decrease in walking and bicycling results in a decrease in daily physically activity. This contributes significantly to the epidemic in obesity, especially among children. Childhood obesity in the U.S. more than tripled during the last 30 years. In our San Diego region, more than one in four children are obese. As with the adults, poor nutrition and a lack of physical activity are cited as the primary causes.

In light of growing evidence that links land use patterns and transportation infrastructure with public health outcomes, community planners and public health practitioners in San Diego and around the country have begun to collaborate to develop strategies that improve health and wellness through smarter development. The SCS land use pattern is moving our San Diego region toward a healthier future by focusing on improving the connection between land use and transportation. The result is more walkable communities, more people bicycling, and more people using public transit.

Strategies related to public health are described in more detail in Social Equity and Environmental Justice (Chapter 4), in Systems Development (Chapter 6), and Demand Management (Chapter 8).

Promoting Sustainability through Incentives and Collaboration: SANDAG Policies and Programs that Support the SCS

"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. Nothing in a sustainable community's strategy shall be interpreted as superseding the exercise of land use authority of cities and counties within the region." (Government Code Section 65080(b)(2)(K))

This SCS does not regulate or supersede the exercise of land use authority of the region's cities or the County of San Diego. SANDAG has adopted a number of policies and programs that support the SCS and provide information and funding to assist local jurisdictions in planning for and monitoring sustainability in their communities.

Policies, programs, and guidelines that SANDAG has adopted over the past few years that support the SCS include:

- Regional Comprehensive Plan: Sets forth a regional strategy for smart growth and sustainable development in the San Diego region
- Smart Growth Concept Map: Identifies existing, planned, and potential smart growth opportunity areas in our region
- *TransNet* Smart Growth Incentive Program: Provides funds to local jurisdictions that are engaged in smart growth planning and smart growth capital investments
- *TransNet* Environmental Mitigation Program: Provides funding for mitigating local and regional transportation projects, as well as additional funding for acquiring, managing, and monitoring natural habitats in ways that support our region's habitat conservation programs
- *TransNet*/Transportation Development Act Active Transportation Program: Provides funding for bicycle, pedestrian, and traffic calming planning and capital improvement projects
- Healthy Works: Provides grant funding from the American Recovery and Reinvestment Act (ARRA) through the Centers for Disease Control (CDC) and County of San Diego to help local jurisdictions and non-profit organizations plan healthy communities by integrating public health considerations into planning efforts and promoting Safe Routes to School programs and strategies
- Supplemental Funding Potential: A collaborative effort led by a Quality of Life Steering Committee and Working Group to identify the needs and possible funding mechanisms for four infrastructure areas: habitat conservation, shoreline preservation, water quality enhancement, and public transit
- Climate Action Strategy: A guide to help policymakers consider climate change as they make decisions to meet the varied needs of our region's growing population, maintain and enhance the region's quality of life, and promote economic stability
- Regional Energy Strategy: An energy policy guide for policymakers and staff of member agencies as the region strives to meet the energy needs of a growing population and expanding housing stock while also enhancing our region's quality of life and economic stability
- Regional Alternative Fuels, Vehicles, and Infrastructure Report for the San Diego Region: A guide to help local governments and other regional stakeholders make informed decisions regarding alternative fuel and vehicle technologies for a variety of fleet applications, and to identify regional and local government actions that can support alternative fuel vehicles
- Smart Growth Design Guidelines: These guidelines address the importance of design in maintaining and enhancing community character and in creating great public places
- Trip Generation for Smart Growth and Parking Strategies for Smart Growth: These studies identify trip generation rates and parking demands associated with smart growth developments
- RCP Performance Monitoring: A mechanism used to track progress in the implementation of the RCP

Consultation with the Local Agency Formation Commission

"In preparing a sustainable communities strategy, the metropolitan planning organization shall consider spheres of influence that have been adopted by the local agency formation commissions within its region." (Government Code Section 65080(b)(2)(G))

SANDAG considered spheres of influence that have been adopted by the Local Agency Formation Commission (LAFCO) within our region during the development of the SCS. A sphere of influence is defined as a plan for the probable physical boundaries and service area of a local government agency, as determined by LAFCO. All territory proposed for annexation to an incorporated city is required to be included in the city's sphere of influence and be located within the city's general plan.

LAFCO is responsible in our region for assisting the state legislature with promoting orderly development and growth while fulfilling many regional priorities. These include: accommodating growth within or through the expansion of local agency boundaries, extending necessary government services, preserving open space and prime agricultural lands, and promoting the provision of housing for residents of all incomes.

LAFCO also is a member of the Regional Planning Technical Working Group, which provides coordination on regional planning issues among member agencies. Members of the working group include the planning or community development director from each of the 18 cities and the County of San Diego, as well as representatives from other single-purpose regional agencies.

In the development of the 2050 Regional Growth Forecast, LAFCO and SANDAG consulted regularly and exchanged written correspondence regarding sphere of influence determinations, impacts of proposed jurisdictional changes, and factors considered in the review of proposals. The 18 incorporated cities and the County of San Diego were asked about sphere of influence issues during the 2050 Regional Growth Forecast land use input process. Adjustments were made to sphere-area land use inputs requested by the local jurisdictions and confirmed by the County of San Diego.

Reducing Government Regulations: Streamlining the Process for the California Environmental Quality Act (CEQA)

Provisions in SB 375 include opportunities for streamlining the CEQA process, when certain conditions are met, as an incentive for implementing projects that are consistent with this SCS. Generally, there are two types of projects for which CEQA requirements can be streamlined, once the MPO adopts an RTP and SCS that meet the greenhouse gas targets established by the California Air Resources Board:

- Residential/mixed use projects streamlining (Public Resources Code Section 21159.28)
- Transit priority projects streamlining (Public Resources Code Sections 21155-21155.3)

SB 375 includes specific requirements for the CEQA streamlining. The discussion below provides a general outline of the requirements.

Residential/Mixed-Use Projects Consistent with the SCS

If a residential or mixed use project is consistent with the land use designation, density, building intensity, and other

applicable policies assumed for the SCS, the lead agency for the project would still be required to conduct an environmental review pursuant to CEQA. But reviews for those projects would not be required to repeat growth inducing impacts analyses or the discussion of how cars and light trucks could increase greenhouse gas emissions, because that discussion was already included in the environmental impact report (EIR) for the 2050 RTP and SCS. Similarly, if an EIR were being prepared for a residential/mixed use project, the alternatives section of that EIR would not be required to include a reduced density alternative to reduce greenhouse gas emissions. For purposes of this provision, a residential/mixed use project is defined as a project in which at least 75 percent of the square footage is devoted to residential uses.

Transit Priority Projects

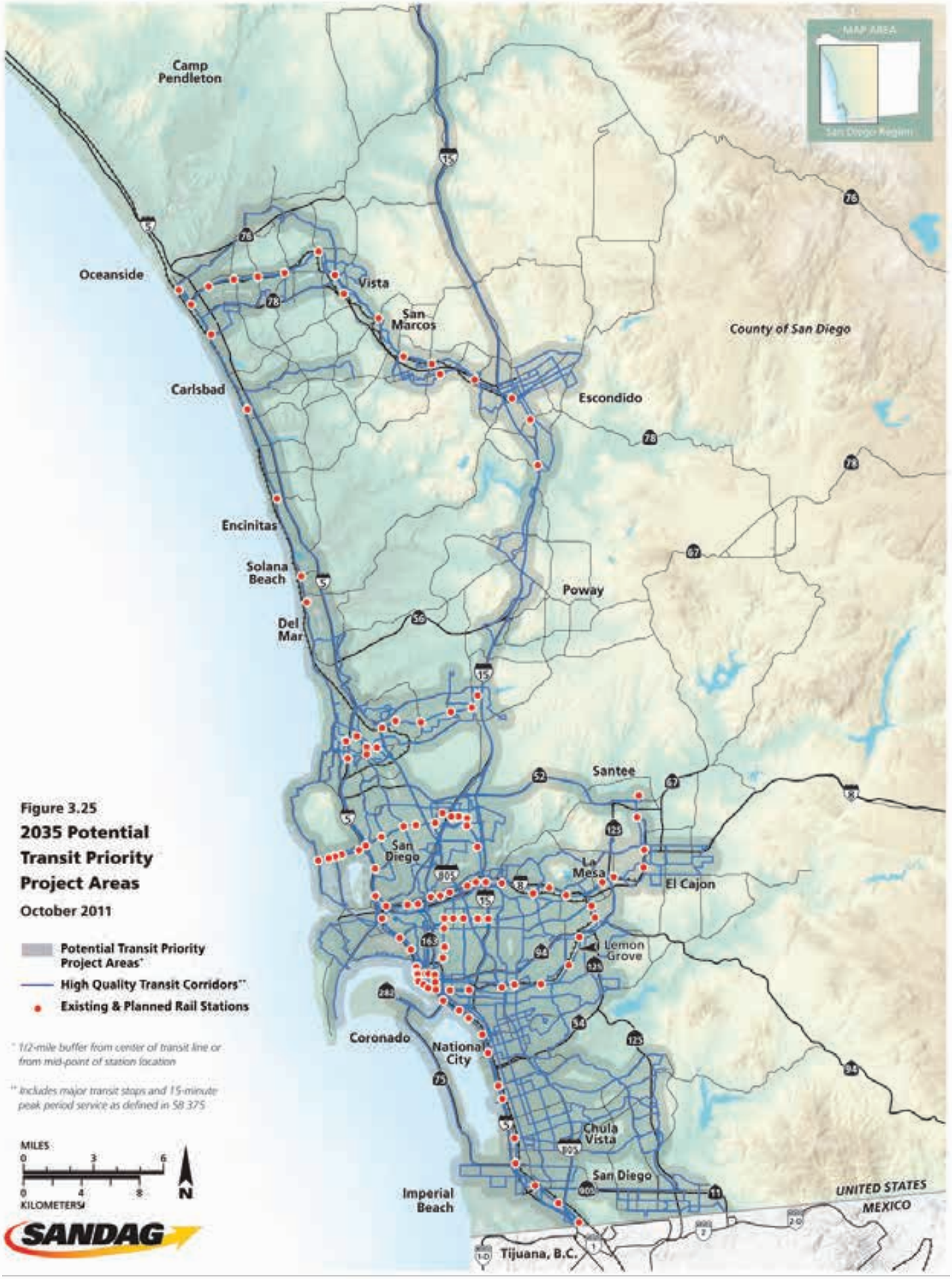
The second type of CEQA streamlining is for Transit Priority Projects. A Transit Priority Project (TPP) is eligible for CEQA streamlining provisions if it meets certain criteria. It would be up to the local agency to determine if a project qualifies as a TPP. For a local jurisdiction to determine that a project is a TPP, the project must be consistent with the general use designation, density, building intensity, and applicable policies identified in an approved SCS. In addition, a TPP that is eligible for CEQA streamlining also must be: 1) 50 percent residential, 2) with a minimum density of 20 dwelling units per acre, and 3) within a half-mile of a major transit stop or high-quality transit corridor (defined as having 15-minute frequencies during peak periods) that is included in the 2050 RTP. Figure 3.25 indicates the areas where CEQA streamlining may be available for Transit Priority Projects if the other two criteria listed above also can be demonstrated for a proposed project.

If a project meets these criteria, it may be analyzed under a new environmental document created by SB 375, called the Sustainable Communities Environmental Assessment (SCEA), or through an EIR for which the content requirements have been reduced as described below:

- The SCEA, which is similar to a Mitigated Negative Declaration (MND), would need to include an analysis of all significant environmental effects, as well as mitigation measures to reduce those impacts to an insignificant level
- If an EIR were prepared for a TPP, the document would not need to include an analysis of cumulative impacts, or of greenhouse gas emissions from cars and light duty trucks. In addition, project alternatives – as required in EIRs – need not address reduced density or off-site location alternatives

If additional criteria can be met, a TPP may be eligible for a new CEQA exemption created with the adoption of SB 375. Projects that meet all the required criteria are known as sustainable communities projects. This new exemption is intended to provide CEQA relief for TPP projects that are consistent with the SCS. A sustainable communities project (as defined in SB 375), must meet the criteria outlined above for TPP projects, and it also must generally comply with an extensive list of conditions in the law. These are detailed in Appendix D.

It is not known how many projects in the San Diego region would meet the criteria to qualify for the CEQA exemption. It would be up to the local agency to determine if a project qualifies for the exemption at the time it is proposed.


Camp Pendleton
Oceanside
Vista
San Marcos
Carlsbad
Escondido
County of San Diego
Encinitas
Solana Beach
Del Mar
Poway
Santee
San Diego
La Mesa
El Cajon
Lemon Grove
Coronado
National City
Chula Vista
Imperial Beach
San Diego
Tijuana, B.C.
UNITED STATES
MEXICO
MAP AREA
San Diego Region
Figure 3.25
2035 Potential Transit Priority Project Areas
October 2011
Potential Transit Priority Project Areas*
High Quality Transit Corridors**
Existing & Planned Rail Stations
* 1/2-mile buffer from center of transit line or from mid-point of station location
** Includes major transit stops and 15-minute peak period service as defined in SB 375
MILES
0 3 6
0 4 8
KILOMETERS
N
SANDAG

It should also be noted that proponents of these types of projects are still required to pay development fees or in-lieu fees, as specified in SB 375. However, another new provision of SB 375/SB 575 enables a local jurisdiction to adopt a uniform set of traffic mitigation measures for transit priority projects (Public Resources Code Section 21155.3). These are detailed in Appendix D.

Conclusion

Achieving sustainability will require living and working in ways that protect and sustain the region's vital social, environmental, and economic resources. The 2050 RTP and its SCS will guide the San Diego region toward a more sustainable future by focusing housing and job growth in urbanized areas, protecting sensitive habitat and open space, and investing in a transportation network that provides residents and workers with transportation options that will help reduce greenhouse gas emissions. Implementing this plan will require close collaboration among and between SANDAG, local jurisdictions, member agencies and regional stakeholders. It is anticipated that with each RTP (every four years) there will be new opportunities to help reduce GHG emissions.

Key achievements of the 2050 RTP/SCS are summarized below:

- Meets state greenhouse gas reduction targets
- $214 billion in transportation investments planned
- $4.4 billion annually in projected regional output
- Creates 35,600 jobs per year in the San Diego region
- Accommodates projected population growth in San Diego County
- Preserves more than half of our land as open space, parkland and habitat
- Provides 156 new miles of trolley service
- New trolley tunnel in downtown San Diego
- Expands and speeds up COASTER service in the North Coast Corridor
- More than double transit service miles, increased transit frequency in key corridors
- 130 miles of managed lanes to facilitate carpools, vanpools, and premium bus service
- $2.7 billion for regional and local bicycle and pedestrian projects and programs
- Creates new carpool and telework incentive programs to reduce solo driving
- Provides housing to meet projected population growth in San Diego County
- 84 percent of new housing units built in San Diego County will be multifamily
- Nearly three-quarters of multifamily housing will be built on redevelopment or infill sites
- Homes and jobs within one-half of a mile of transit nearly doubles
- Calls for equitable distribution of investment throughout the region

The following actions support the Plan's Forging a Path for More Sustainable Living Chapter recommendations:

The actions included in this chapter as well as those throughout the 2050 RTP will implement the SCS.

Actions	Responsible Parties
RCP Update	
1. Incorporate the concepts and recommended actions of the 2050 RTP into the next update of the RCP, including alternative land use scenarios.	SANDAG
2. Prepare a regional Transit Oriented Development strategy as part of the RCP update.	SANDAG
3. Refine indicators that are used to monitor progress toward the implementation of the RCP so they include additional measures that address sustainability, greenhouse gas reductions and public health considerations.	SANDAG
4. Continue to engage lower income and minority communities in regional planning and programming efforts.	SANDAG
5. Update the Smart Growth Concept Map to reflect the changes to local land use plans contained in the 2050 Regional Growth Forecast and to the regional transportation network.	SANDAG and local jurisdictions
6. Expand the smart growth strategy in the RCP to include climate change principles that emphasize petroleum reduction, energy efficiency, water efficiency, and renewable energy.	SANDAG and local jurisdictions
Smart Growth Tools and Model Enhancements	
7. Provide additional guidance on SB 375 CEQA streamlining provisions.	SANDAG and local jurisdictions
8. Use the updated Smart Growth Concept Map as a basis for allocating smart growth incentives, prioritizing transit service enhancements, and seeking additional smart growth funds.	SANDAG, MTS, NCTD and local jurisdictions
9. Refine the selection criteria for the *TransNet* Smart Growth Incentive Program so it reflects the 2050 RTP and its SCS.	SANDAG and local jurisdictions
10. Consider health principles in the evaluation criteria for existing grant programs, such as the Smart Growth Incentive Program and the Bicycle, Pedestrian, and Neighborhood Safety Program.	SANDAG and local jurisdictions
11. Consider greenhouse gas reductions/climate change principles in the evaluation criteria for existing grant programs, such as the Smart Growth Incentive Program.	SANDAG and local jurisdictions
12. Continue to make enhancements to travel demand models to improve GHG and VMT estimates.	SANDAG

Actions	Responsible Parties
Habitat	
13. Coordinate and cooperate throughout the region on the planning and implementation of future transportation infrastructure and habitat preserves.	SANDAG, MTS, NCTD, Caltrans, and local jurisdictions
14. Design future infrastructure projects in a way that protects wildlife corridors and habitat linkages in designated habitat conservation plans. In urban areas, design project to meet the needs of all potential users by following complete street development principles.	SANDAG, MTS, NCTD, Caltrans, and local jurisdictions
15. Continue to secure and distribute regional funding for acquiring habitats, and for ongoing land management and monitoring in accordance with the approved habitat plans.	SANDAG
16. Manage and monitor the *TransNet* Environmental Mitigation Program.	SANDAG and wildlife agencies
Transit Oriented Development	
17. Pursue joint development opportunities to promote the construction of sustainable housing and mixed-use projects at existing and planned transit stations.	SANDAG and local jurisdictions
Active Transportation/Public Health	
18. Continue to collaborate with the region's public health professionals to enhance how SANDAG addresses public health issues in its regional planning, programming, and project development activities.	SANDAG and County Health and Human Services Agency
Energy/Climate Adaptation	
19. Implement the Regional Energy Strategy and the Climate Action Strategy, in coordination with state and local jurisdiction efforts.	SANDAG and local jurisdictions
20. Support the increased use of clean, alternative fuels in SANDAG and local jurisdiction-owned vehicle fleets, and the vehicle and equipment fleets of contractors and funding recipients, such as the vehicle fleet for the SANDAG Vanpool Program or for local jurisdiction waste haulers.	SANDAG and local jurisdictions
21. Support planning and infrastructure development for alternative fueling stations and plug-in electric vehicle (EV) chargers.	SANDAG and local jurisdictions
22. Develop or facilitate a regional approach to long-term planning for alternative fuel infrastructure that includes the continued development of public-private strategic alliances.	SANDAG and local jurisdictions
23. Monitor research and independent assessments of the impact that increasing the use of clean, alternative fuels would have on gas tax revenues.	SANDAG
24. Integrate alternative fuel considerations into the development of the regional transportation network by, for example, integrating infrastructure for electric vehicle charging into regional park-and-ride lots and transit stations.	SANDAG, MTS, and NCTD
25. Work with San Diego Gas & Electric and other stakeholders to mitigate the potential impacts of electric vehicles on the electric grid.	SANDAG and local jurisdictions
26. To the extent possible, address climate adaptation issues in the design of new projects, and when improvements are made to existing infrastructure.	SANDAG, Caltrans, and local jurisdictions
27. Seek funding to develop healthy community or active design guidelines that integrate smart growth, sustainability, walking and bicycling, parking, and street design.	SANDAG

Actions	Responsible Parties
Infrastructure Funding	
28. Continue to refine the Quality of Life Funding Strategy and determine the appropriate time to seek voter approval.	SANDAG
Public Involvement	
29. Evaluate the feasibility of developing preliminary maps that identify transportation infrastructure that could be vulnerable to environmental changes to climate change, including precipitation, heat, and sea level rise.	SANDAG, Caltrans, Port of San Diego, and local jurisdictions
Legislation	
30. Support legislation that provides financial incentives for smart growth projects that provide more affordable housing near transit, and that addresses fiscal reform issues consistent with the SCS and smart growth principles in the RCP.	SANDAG, MTS, and NCTD
31. Through the development review process, continue to provide comments to local jurisdictions that encourage development patterns that promote walking, bicycling, and access to public transit in existing and potential smart growth areas and in or near major public facilities such as colleges and hospitals, and that encourage reconfiguration of the public right of way to create complete streets.	SANDAG, MTS, and NCTD

Chapter 4

Social Equity: Title VI and Environmental Justice

Chapter Contents

Introduction

Roads, freeways, and other transportation infrastructure can have a significant effect on the quality of life for a region's residents by shaping access to housing, jobs, services, and recreational opportunities. Achieving social equity and environmental justice in the development of a comprehensive transportation system is a major regional goal. It requires making investments that provide all residents – regardless of age, race, color, national origin, income, or physical agility – with opportunities to work, shop, study, be healthy, and play.

Promoting social equity and environmental justice in transportation planning requires involvement from a wide variety of communities and stakeholders.

Without proper planning and development, transportation systems can degrade the quality of life in communities. The construction of roads, freeways, and rail transit systems has sometimes placed health burdens on many lower income and minority communities. At times, new transportation projects have physically divided communities, resulting in long-lasting social and economic costs. It is important to understand the impacts of transportation investments on our most vulnerable communities in order to better plan for the future.

Promoting social equity and environmental justice in transportation planning requires involvement from a wide variety of communities and stakeholders. Cities and communities with high concentrations of low income residents and minority populations in the San Diego region and federally recognized tribes have historically been underserved and underrepresented in the planning process.

In an effort to continually improve transportation planning, the San Diego Association of Governments (SANDAG) conducted a significantly more robust, regionwide social equity analysis for the 2050 Regional Transportation Plan (RTP or the Plan). From the beginning, SANDAG engaged affected communities in the planning process. SANDAG incorporated their issues and concerns into the design and decision-making process, as well as in the definition of affected communities and the development of performance measures. The goal of these efforts is for low income and minority (LIM) communities to share in the benefits of the transportation investments without bearing a disproportionate burden from the system.

Legal Framework

Over the last several decades, federal law and guidance have been created to ensure that the spirit and intent of Title VI of the Civil Rights Act are incorporated into the guiding principles and missions of federal, state, and local public agencies. Title VI of the Civil Rights Act states that "no person in the United States, shall, on the grounds of race, color or national origin be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving federal financial assistance."

In 1994, Executive Order 12898 on Environmental Justice was issued, and it expanded social equity principles to cover low income as well as minority groups. Another group to more recently become recognized as a community that agencies such as SANDAG must focus on in order to implement social equity in regional planning is the segment of the population having limited English proficiency (LEP). Federal and state agencies have created guidance and implemented procedures to protect the interests of these various disadvantaged groups. These documents include, but are not limited to: U.S. Department of Transportation Order on Environmental Justice (1998); Federal Highway Administration/Federal Transit Administration (FHWA/FTA) Issue Memoranda on Implementing Title VI Requirements in Metropolitan and Statewide Planning (1999;

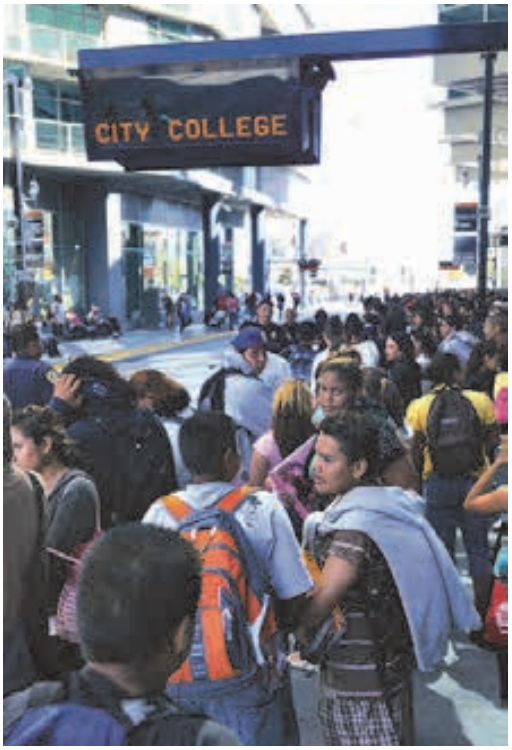
2007); Executive Order 13166 Improving Access to Services for Persons with Limited English Proficiency (2000); FTA Title VI Circular 4220.1A; and California's Environmental Justice Strategy AB 1553 (2001).

While Title VI prohibits discrimination, the concept of implementing environmental justice is discussed in Executive Order 12898 as the process of "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of [an agency's] programs, policies, and activities on minority populations and low income populations." There are many definitions available of the concept of environmental justice and methods of implementation. The U.S. Department of Transportation's Order 5610.2 and FHWA's Order 6640.23 expand on Executive Order 12898 and describe the process for incorporating Environmental Justice into their respective departments' programs, policies, and activities.

California Government Code Section 65040.12(c) defines environmental justice in the context of city and county general plans as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws and policies. In addition, Government Code 11135 states that no state agency or agency funded by the state shall deny full and equal access to benefits of any program or activity on the basis of race, national origin, ethnic group, religion, sex, sexual orientation, or disability.

In the context of transportation planning, the California Department of Transportation (Caltrans) considers environmental justice to be activities taken by a recipient of federal funding to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Fair treatment means that no group of people, including a racial, ethnic, or a socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or from the execution of federal, state, local, and tribal programs and policies.



Meaningful involvement means that: (1) potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health; (2) the public's contribution can influence the regulatory agency's decision; (3) the concerns of all participants involved will be considered in the decision-making process; and (4) the decision-makers seek out and facilitate the involvement of those who are potentially affected.

The transportation system should be designed to provide an equitable level of transportation services for all populations.

SANDAG Board Policy Number 024, which is entitled Public Participation/Involvement Policy, incorporates concepts from federal and state laws, and guidance. The Policy states that social equity and environmental justice are meant to ensure the meaningful involvement of low income, minority, disabled, senior, and other traditionally underrepresented communities and it is a key component of SANDAG public participation activities. The Board Policy also states that social equity means ensuring that all people are treated fairly and are given equal opportunity to participate in the planning and decision-making process, with an emphasis on ensuring that traditionally disadvantaged groups are not left behind. It further provides that environmental justice means ensuring that plans, policies, and actions do not disproportionately affect low income and minority communities.

2050 RTP Goals/Objectives for Social Equity

In developing the RTP, SANDAG has used performance measures and anecdotal evidence to make decisions intended to ensure compliance with Title VI requirements and environmental justice principles. As pointed out by the National Cooperative Highway Research Program, however, "the fact that federal policy mandates consideration of environmental justice should not be the only driving force behind considering it; a more compelling argument is that it makes for good transportation planning" (National Cooperative Highway Research Program (NCHRP), Effective Methods for Environmental Justice Assessment. Report 532. Washington, DC: Transportation Research Board. 2004. pg. 5).

The SANDAG Board discussed the 2050 RTP vision and goals in fall 2009. The Board included the following Social Equity goal and policy objectives, among six goals for the 2050 RTP:

Social Equity Goal

The transportation system should be designed to provide an equitable level of transportation services for all populations.

Social Equity Policy Objectives

- Create equitable transportation opportunities for all populations regardless of age, ability, race, ethnicity, or income
- Ensure access to jobs, services, and recreation for populations with fewer transportation choices

The objectives of the Regional Housing Needs Assessment (RHNA), outlined in the Jobs/Housing "Fit" section of this chapter, complement the 2050 RTP Social Equity goal and policy objectives.

Social Equity in relation to land use is discussed in Chapter 3, Sustainable Communities Strategy (SCS). The SCS land use pattern accommodates the estimated 388,000 new homes needed to serve projected growth (1.25 million more people) within the region, including all economic segments of the population, during the RTP planning period. Most of these new housing units are proposed at higher densities that provide the greatest opportunity for affordable housing to be built. As discussed below, the opportunities for affordable housing and access to public transit are intended to reduce housing and transportation cost burdens on lower income individuals and families.

Process/Outreach

Decision-Making Process

A significant component of the SANDAG mission is a strong commitment to public participation and involvement in decision-

making regarding regional planning and transportation infrastructure. The SANDAG agencywide Public Participation Plan (PPP) describes the process for communicating with and obtaining input from the public concerning agency programs, projects, and program funding. The guidelines and principles outlined in the plan guide the agency's public outreach and involvement efforts for regional transportation projects; transit service and fare changes; smart growth, environmental, and other planning efforts; growth forecasts; RTP; Regional Transportation Improvement Program (RTIP); Regional Comprehensive Plan (RCP); Overall Work Program (OWP); tribal consultation; and other mandated or Board initiatives. The current PPP was adopted by the Board of Directors on December 18, 2009. (The PPP is available at www.sandag.org/ppp.)

The PPP reflects the SANDAG commitment to public participation and involvement to include all residents and stakeholders in the regional planning process. The PPP was developed in accordance with guidelines established by the FHWA for metropolitan transportation planning (23 CFR 450.316), addresses nondiscrimination requirements related to Title VI of the Civil Rights Act, and reflects the principles of social equity and environmental justice. Included in the PPP are procedures, strategies, and outcomes associated with the ten requirements listed in 23 CFR 450.316. The PPP also incorporates FTA's guidance on Public Involvement Techniques for Transportation Decision-Making.

To support the development of the 2050 RTP, a specific Public Involvement Plan (PIP) was created that outlined tactics and strategies to coordinate outreach, input, and communications efforts (See Chapter 9 and Technical Appendix 6). For the development of the 2050 RTP, this PIP included the establishment of a new Regional Planning Stakeholders Working Group (SWG) to provide input on the development of key work elements in the planning process, including the public participation plan itself. Many SANDAG working groups are comprised of representatives from local jurisdictions, appointed in their communities based on their positions (e.g., local planning directors make up the Regional Planning Technical Working Group). Another advisory group critical to this process is the Social Service Transportation Advisory Council (SSTAC), which developed the Coordinated Public Transit – Human Services Transportation Plan that is integrated into the 2050 RTP.

SANDAG placed a particular emphasis on communities that are not traditionally involved in regional planning.

The creation of the SWG for the 2050 RTP provided a unique opportunity for SANDAG to involve citizens with expertise in subjects of regional interest, as well as individuals who reflect the demographics of the region.

The creation of the SWG for the 2050 RTP provided a unique opportunity for SANDAG to involve citizens with expertise in subjects of regional interest, as well as individuals who reflect the demographics of the region. SANDAG placed a particular emphasis on communities that are not traditionally involved in regional planning. SANDAG further involved minority and low income communities in the planning process by tapping into the social capital of community collaboratives in the most vulnerable areas of the region to serve on the SWG. The SWG membership consisted of 27 people in two categories:

At-Large Citizen Representatives (19 members)

At-large citizen representatives with experience in various subjects provided input on a wide variety of areas through their individual experience in multiple types of organizations. These individuals did not represent a specific organization, but rather they offered their civic or professional expertise in subjects relevant to this planning process (e.g., transportation, housing, environmental health, economic prosperity, public health, and urban form). Participants included members who were affiliated with minority organizations that have countywide constituencies. This helped incorporate the issues and concerns of minority communities across the region in the planning process – one of the objectives of federal Title VI and environmental justice guidance.

Individuals from Community-based Networks (8 members)

A community-based network or collaborative is made up of a variety of social institutions, including social service providers, ethnic associations, schools, churches, chambers of commerce, and other community-based organizations within an identified low income/minority community.

SANDAG reached out to communities that met the following threshold for low income and minority. Communities were identified as "minority" if the Trip Distribution Zone (TDZ) population was at least 65 percent non-white. "Low income" communities were TDZs in which at least one-third of the households have income of less than half of the regional median ($30,000).

To engage these communities early in the planning process, SANDAG established a mini-grant program to focus the SWG directly on its concerns in a timely and meaningful way, and to provide resources so community collaboratives could reach out to their constituents throughout the process.

A number of methodologies were implemented by SANDAG to encourage a high diversity among applicants and maximize public participation at the meetings. For example, the SWG meetings were held at the offices of Caltrans District 11, which are situated across the street from a major transit center with access to buses, trolleys, and the COASTER. Another important change was to schedule the meeting time at the end of the work day (4 to 6 p.m.). This allowed people who work traditional hours to get off one hour early and come to meetings, rather than asking for an entire day off to attend them. The Caltrans site also had the advantage of an onsite daycare center, which was made available to participants. The meeting rooms were large and easily accessible by the disabled, and facilities for the hearing impaired were available. Meetings were open to the public. The Chair of the SWG was the first Vice Chairman of the SANDAG Board, who is now Chair of the Board. The purpose of having a member of the Board leadership serve as the Chair of the Working Group was to ensure that the issues and concerns of stakeholders would be heard directly and could be transmitted in a timely and

meaningful manner to the rest of the Board of Directors.

Community-Based Outreach Partnership Grants

To help ensure that all communities were meaningfully involved in the development of the 2050 RTP, including LEP portions of the population, SANDAG developed a partnership program with community collaboratives in vulnerable areas around the region, drawing on their leadership and knowledge of their communities, and providing resources to them to support their collaboration. As noted by the Chula Vista Collaborative, a community collaborative in the southern portion of San Diego County, community collaboratives are critical to empowering communities:

"Working together on a shared vision allows members to make decisions that incorporate the collective wisdom and resources of the group and accurately reflect the needs of the community."

Community collaboratives are critical to the ability of the regional planning agency to reach out to vulnerable communities that otherwise might not become involved in the process. Collaboratives, acting as forums for local institutions of all kinds, provide a culturally relevant structure for developing local protocols, crossing language barriers, and structuring meetings. If members of a collaborative make connections between their local concerns and regional planning efforts, they can begin to understand regional planning in a way that is relevant and meaningful to their communities.

To assess the region's most vulnerable communities, SANDAG developed a map that uses census data for low income and minority populations. The map was overlaid with Community Planning Areas. A competitive Request for Proposals (RFP) process was established, and extensive outreach was conducted to solicit grant applications from all of the areas identified. SANDAG received 13 applications and awarded eight grants. Table 4.1 lists the selected community-based partners and their focus populations. Six of the Community-Based Network Partners were geographically focused, serving a specific community. Two of the grant recipients were countywide, one advocated for the elderly, and the other advocated for people with disabilities. Each partner developed a work plan and outreach strategy pertinent to the needs and characteristics of their community, and served as a resource to their community by being a liaison to the SWG. The community involvement and outreach process progressed in two phases, based on the timeline for the development of the 2050 RTP, as indicated in Table 4.2.

Community collaboratives are critical to the ability of the regional planning agency to reach out to vulnerable communities that otherwise might not become involved in the process.

Table 4.1 – Community-Based Partners/Grantees

Regionwide Partners	
Able-Disabled Advocacy People with disabilities, veterans, and seniors through in-take centers throughout the region.	**Friends Of Adult Day Care Centers** Seniors, through networks of service providers for seniors throughout the region.
Community-Based Collaboratives	
All Congregations Together Low income African Americans, immigrants from the continent of Africa, Hispanic/Latinos, youth/young adults, and people with disabilities.	**El Cajon Collaborative** Seniors, Middle Eastern/Arabic speakers, youth, low income residents
Casa Familiar – San Ysidro/Border Low income Hispanics, immigrants from Latin America, youth.	**Linda Vista Collaborative** Low income seniors, people with disabilities, youth at risk, and immigrant groups (Vietnamese, Hmong, Mixteco, and Latin American)
Chula Vista Community Collaborative Low income communities in western Chula Vista, Latin American immigrants, Latinos, and seniors	**San Ysidro Business Association** Low income Hispanic residents of San Ysidro, small businesses, and members of the San Ysidro Collaborative

Table 4.2 – Phases for 2050 RTP Outreach with Grantee Partners

Phase I (September 2009 – September 2010)	Phase II (October 2010 – September 2011)
▪ An introduction of the RTP and its process	▪ Sustainable Communities Strategy/2050 RTP Revenue Constrained Transportation Network Scenario
▪ Urban Area Transit Strategy	▪ Community input on the Draft 2050 RTP
▪ The Network: Project Evaluation Criteria, Performance Measures, and the Unconstrained Networks	
▪ Sustainable Communities Strategy	
▪ Alternative Revenue Constrained Transportation Network Scenarios	

Demographics: Current and Future Conditions

As of 2008, no single race or ethnic group accounted for more than half of the region's population. Preliminary data from Census 2010, however, indicate that the region has become a "majority minority" county. As the region continues to grow, its ethnic composition will continue to change. Table 4.3 displays the projected regionwide changes in population from 2008 to 2050 for eight racial/ethnic groups: Hispanic, non-Hispanic White, Black, American Indian, Asian, Hawaiian/Pacific Islander, Other, and Two or More Races. Most notably, by 2050 the Hispanic population is expected to double, while the number of non-Hispanic Whites is expected to decline slightly.

By 2050, Hispanics are predicted to account for more than 42 percent of the total population. The percentage of non-Hispanic Whites is expected to decline, from 50 percent in 2008 to about 35 percent in 2050. It is estimated that there will be virtually no change between 2008 and 2050 in the percentage of the following groups: Black, Asian, Hawaiian/Pacific Islander, Other, or Two or More Races.

In addition to racial and ethnic changes, the region's population is forecast to age considerably by 2050 (See Figure 4.1). During the 42-year forecast period, the region's median age is expected to increase by more than 3 years, from 34.9 to 38.6, as the Baby Boom and Generation X generations live longer than previous generations. During the forecast period, the number of residents between 65 and 84 years old is expected to more than double, and the number of residents 85 years old and above is expected to more than triple. Ten percent of the region's population growth between 2008 and 2050 is expected to be in the oldest age group (85 and older). Therefore, by 2050 nearly 19 percent of the region's population will be 65 and older – a higher percentage than is seen today in the retirement-oriented state of Florida.

As the region continues to grow and evolve, transportation plans must adapt to support the needs of the region's changing population.

Identifying San Diego's Communities of Concern

To conduct a social equity analysis, it is necessary to identify people who are vulnerable or disadvantaged. Pursuant to Title VI, Executive Order 12898, and the 1999 Department of Transportation Memorandum "Implementing Title VI Requirements in Metropolitan and State Planning," SANDAG must provide information on the effects of the 2050 RTP on LIM populations. Figure 4.2 shows the projected distribution of LIM populations in the San Diego region in 2050, compared with the rest of the population. As stated above, SANDAG engaged the region's stakeholders from the beginning, working with them throughout the development of the 2050 RTP. SANDAG also engaged representatives from the Regional Planning SWG early on, to identify vulnerable segments of the population that should be considered in its analyses.

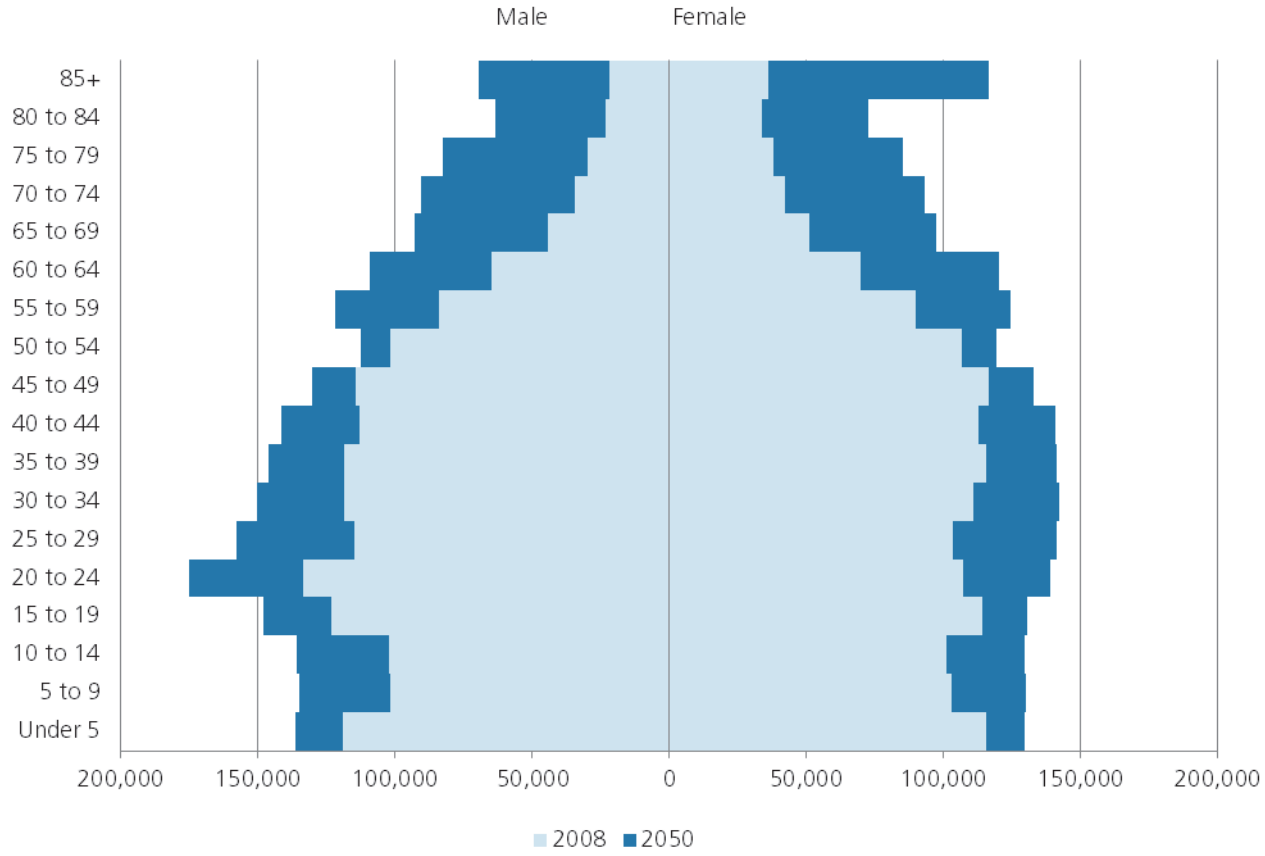
As the region continues to grow and evolve, transportation plans must adapt to support the needs of the region's changing population.

Table 4.3 – The Region's Race and Ethnic Mix Will Change

						Change 2008-2050	
	2008	2020	2030	2040	2050	Numeric	%
Total Population	3,131,552	3,535,000	3,870,000	4,163,688	4,384,867	1,253,315	40%
Hispanic	934,521	1,198,032	1,430,829	1,669,265	1,881,719	947,198	101%
White, non-Hispanic	1,576,085	1,606,817	1,622,176	1,600,571	1,549,069	-27,016	-2%
Black	164,931	191,395	208,693	221,376	229,860	64,929	39%
American Indian	16,218	17,464	17,438	16,866	15,906	-312	-2%
Asian	315,037	375,986	422,596	466,100	502,492	187,455	60%
Hawaiian/Pacific Islander	14,615	18,245	20,658	22,908	24,517	9,902	68%
Other	7,780	9,459	10,992	12,301	13,293	5,513	71%
2 or More Races	102,365	117,602	136,618	154,301	168,011	65,646	64%

Source: SANDAG, 2050 Regional Growth Forecast

Figure 4.1 – Population by Age



Source: SANDAG, 2050 Regional Growth Forecast

Several workshops were held in the beginning of the process to consider what demographic categories of populations would be analyzed, and what performance measures to use. Special workshops on Environmental Justice Analysis for the 2050 RTP were held. They included Session 1 – "Framework and Potential Indicators" on January 26, 2010, and Session 2 – "Selecting Communities of Concern" on March 1, 2010. Both of these were open to the public. The Environmental Justice subcommittee of the SWG met twice on June 25 and July 26, 2010 to provide input on the structure of the Environmental Justice chapter and the policy issues to be discussed for further analysis.

SANDAG worked with members of the SWG, as well as members of the public who were interested in social equity and environmental justice issues. The process resulted in the identification of four types of "Communities of Concern," as described below. Table 4.4 provides details of the definition of each type of community of concern, and the source data used to define the communities.

Low Income Community of Concern: any community in which 33 percent or more of households are low income, and/or 10 percent or more of the households are severely overcrowded, and/or 25 percent or more of the population is in poverty.

Minority Community of Concern: any community in which 65 percent or more of the population is non-White.

Low Mobility Community of Concern: any community in which 25 percent or more of households have no auto available, and/or 25 percent or more of the population is disabled, and/or 20 percent or more of the population is aged 75 or older.

Low Community Engagement Community of Concern: any community in which 20 percent or more of households do not speak English as a primary language and do not speak English well, and/or 20 percent or more of the population aged 25 and older have less than a high school education.

These four community types served as the basis for analyzing the performance of the Alternative Revenue Constrained Transportation Network Scenarios considered in the development of the 2050 RTP. Among other factors, the analysis considered the following forecasts for the year 2050 (these categories are not mutually exclusive):

- About 27 percent (1.2 million) is expected to live in a Low Income Community of Concern
- 51 percent (2.23 million) of the region's projected population (4.38 million) is expected to live in a Minority Community of Concern
- 27 percent (1.2 million) is expected to live in a Low Mobility Community of Concern
- 33 percent (1.45 million) is expected to live in a Low Community Engagement Community of Concern
- LIM populations are expected to make up 54 percent (2.38 million) of the population by 2050

Any one neighborhood may be classified as one or more of the community types. For example, a community may meet the threshold of a Low Income Community of Concern and a Low Mobility Community of Concern. Sixty-five percent of the county's overall population in 2050 (or 2.86 million people) is projected to live within one or more of the Communities of Concern.

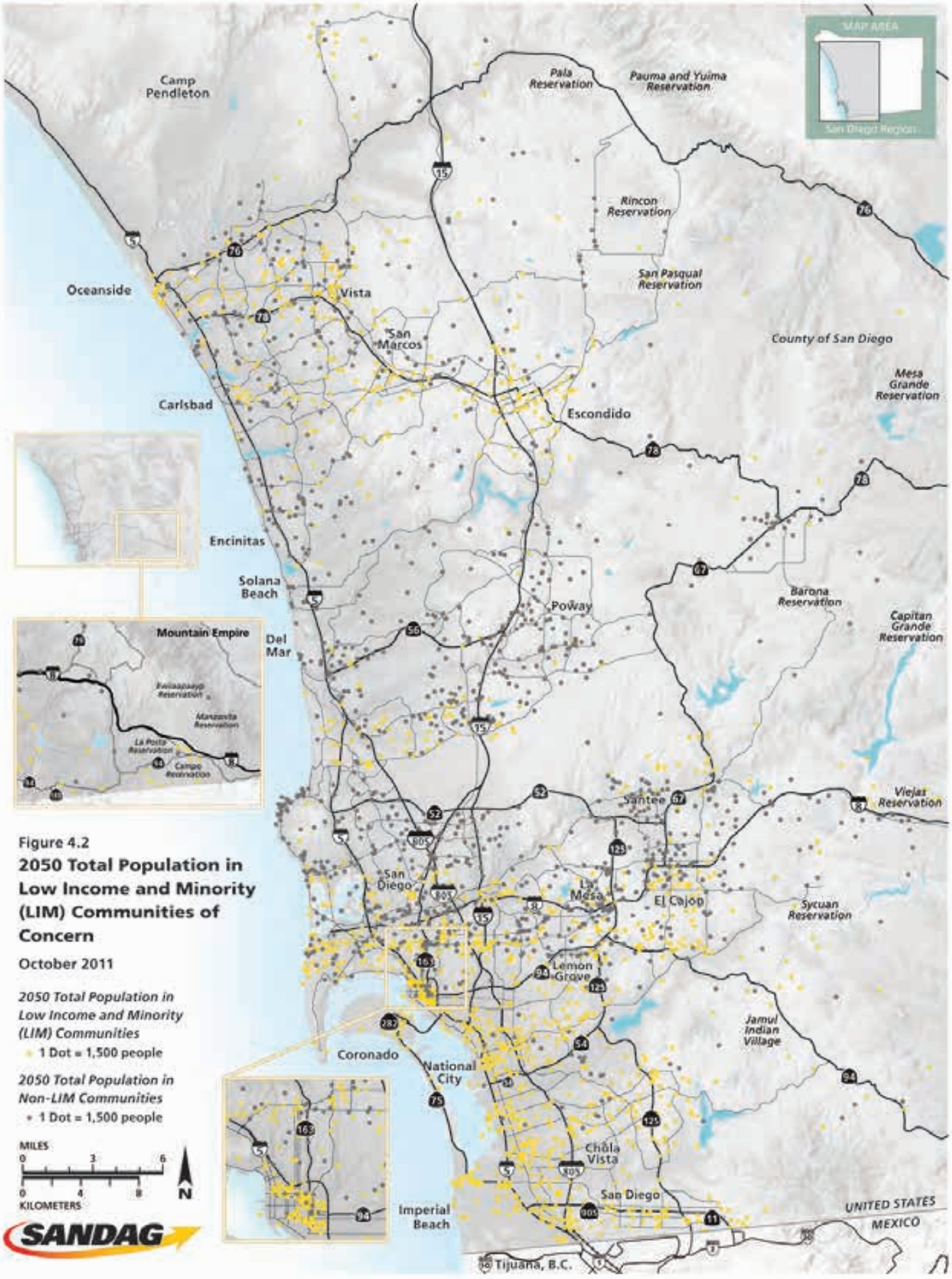


Figure 4.2

2050 Total Population in Low Income and Minority (LIM) Communities of Concern

October 2011

2050 Total Population in Low Income and Minority (LIM) Communities

• 1 Dot = 1,500 people

2050 Total Population in Non-LIM Communities

• 1 Dot = 1,500 people

Table 4.4 – Communities of Concern

Low Income Communities of Concern			
Indicator	**Definition**	**Threshold**	**Source**
Low Income	Household income less than $30,000 per year	33%	2050 Regional Growth Forecast 2008 Current Estimates
Severe Overcrowding	Percentage of households with 2 or more occupants per room	10%	Census 2000
Poverty 100%	Percentage of population living at or below 100% of the poverty level	25%	Census 2000
Minority Communities of Concern			
Minority Population	Communities in which minorities comprise at least 65% of the population	65%	2050 Regional Growth Forecast 2008 Current Estimates
Low Mobility Communities of Concern			
Zero-Car Households	Percentage of households that do not have access to a vehicle	25%	Census 2000
Disabled Population	Percentage of population suffering from one or more types of disability	25%	Census 2000
Population age 75 and over	Percentage of population aged 75+	20%	2050 Regional Growth Forecast 2008 Current Estimates
Low Community Engagement Communities of Concern			
Linguistic Isolation	Percentage of households where English is not the primary language and English is not spoken very well	20%	Census 2000
Educational Attainment	Percentage of population over age 25 that has not earned a high school diploma	20%	Census 2000

Data and Sources

The 2010 Census data, which was published for the San Diego Region at the end of June 2011, was not released in time to be used for the development of the 2050 RTP. Therefore, the information in this report relies upon a variety of sources, including the following:

U.S. Census Bureau

- 2000 Census

SANDAG

- 2008 Current Estimates (demographic/economic)
- 2050 Regional Growth Forecast

Wherever possible, SANDAG uses the smallest level of geographic detail available for analysis and mapping. In many cases, this is a Traffic Analysis Zone (TAZ), which is a geographic unit used for transportation modeling. A TAZ is smaller than a census tract and a Trip Distribution Zone (TDZ), which were the primary units of analysis for the previous 2030 RTP. The San Diego region is covered by 2,000 TDZs. Coverage in the urban areas is denser than in the eastern, rural portions of the region. A TAZ, therefore, provides a finer level of detail for analysis. In future years, this analysis will be much more robust and refined as the agency attains new analytical capacity through the adoption of new modeling programs, in particular the Activity Based Model to be used by SANDAG when the RTP is next updated.

Baseline Mapping

To create a point of reference for analyzing how the distribution of transportation investments detailed in the 2050 RTP may affect LIM populations, a set of baseline maps was created to aid discussions by stakeholders.

2050 RTP: Population Density for Each Community of Concern: In order to see the densities and locations of the Communities of Concern in relation to the rest of the population overlaid with the existing network, several maps were created. Figure 4.3 shows the distribution of population in Low Income Communities of Concern, Figure 4.4 shows the distribution of population in Minority Communities of Concern, Figure 4.5 shows the distribution of population in Low Mobility Communities of Concern, and Figure 4.6 shows the distribution of population in Low Community Engagement Communities of Concern.

2050 RTP: Higher Employment Density: Based on the 2050 Regional Growth Forecast, a map has been prepared to show LIM populations relative to planned higher employment intensity. Figure 4.7 shows the concentration of the employment centers that have 50 or more jobs per acre. The overlay of LIM population data shows how those communities are served by the 2050 RTP transportation network.

2050 RTP Scenario: Figures 4.8, 4.9, 4.10, and 4.11 show each of the Communities of Concern overlayed with the 2050 RTP transportation network. These maps show how the 2050 RTP would serve each Community of Concern. Figure 4.8 shows how the 2050 RTP projects would serve low income populations. Figure 4.9 shows how the 2050 RTP projects would serve minority populations. Figure 4.10 shows how the 2050 RTP projects would serve Low Mobility Communities of Concern. Figure 4.11 shows how the 2050 RTP projects would serve Low Community Engagement Communities of Concern.

Social Equity Analysis

SANDAG prioritized future projects detailed in the Unconstrained Transportation Network by using transportation project evaluation criteria approved by the Board of Directors. Based on revenue projections to 2050, staff developed a set of five alternative Revenue Constrained Transportation Network Scenarios. They showed a range of emphases on different transportation modes, based on possible flexible funding for prioritized projects and other considerations. A social equity analysis, using Board-approved performance measures, was conducted for all scenarios to make sure they were consistent with Title VI of the Civil Rights Act. On December 17, 2010, the Board accepted a Revenue Constrained Scenario from among the five scenarios it considered.

A social equity analysis was conducted for all scenarios to make sure they were consistent with Title VI of the Civil Rights Act.

Definitions of Social Equity Performance Measures

As stated earlier, several workshops were held to help identify performance measures for the 2050 RTP that focus on social equity. Input from affected communities was incorporated into the performance measures that ultimately were recommended to the SANDAG Board. Eight social equity indicators were approved by the SANDAG Board on July 23, 2010. They are defined as follows:

Average Travel Time: Travel time is measured as the average time per person per trip across all modes of transportation (drive alone, carpool, transit, bike/walk) and all types of trips (commuting to work, traveling to school, etc.). Data are reported for overall travel time as well as drive alone/SOV, carpool/vanpool, and transit.

Job Access: The percentage of work trips lasting up to 30 minutes during peak periods by driving alone, riding in a carpool, and taking public transit.

Access to Transit: Access to public transit is measured as the percentage of homes within half a mile of a transit stop, including Trolley and light rail stations, bus stops, etc. This measure shows the density and distribution of transit services throughout the region.

Access to Amenities: Percentage of Population within...

- **30 Minutes of Schools**: This measure of education access focuses on higher education, including universities, colleges, adult education facilities, and job training centers.
- **30 Minutes of the Airport**: Travel times are estimated to the San Diego International Airport.
- **15 Minutes of Healthcare**: Healthcare includes hospitals and community clinics. This definition does not consider emergency response times, but rather it measures access to basic health services.
- **15 Minutes of Parks or Beaches**: Parks and beaches are defined as federal, state, and county parks; beaches; and local parks (including campgrounds, open space areas, picnic areas, recreation centers, etc.), but it excludes small neighborhood parks. The reason for this exclusion is based on feedback from the SWG that, while there may be a neighborhood park in a Community of Concern, the quality and size of the park may be insufficient for the population it serves.

For access to amenities, travel time results show access based on auto and transit travel times. Transit travel assumes that the trip includes the time required to walk to a transit stop, time spent on public transportation vehicles, the time it takes to transfer to other transit, and the time it takes to walk from the transit stop to the destination. Auto time

assumes walking to a vehicle, driving, parking, and walking to the final destination.

Distribution of Proposed RTP Expenditures per Capita: The distribution of proposed RTP expenditures is calculated by assuming that populations within three miles of a highway and major transit infrastructure improvements (e.g., rail, rapid bus, and BRT lines), as well as populations within one mile of local bus improvements, will receive benefits from the investment. To calculate the measure, the estimated costs (in dollars) for a project are distributed per capita to all people living within the specified distance from the project. These investments are then summed up across all neighborhoods, and evaluated between Communities of Concern and other communities. Because there may be more or fewer people in a Community of Concern than in other communities, the results are displayed on a per-capita basis – taking the total amount of dollars planned for a Community of Concern and dividing by the total population in that Community of Concern.

Results for Social Equity Performance Measures

An analysis of the 2050 RTP Revenue Constrained Scenario was conducted to determine whether it would conform with requirements in Title VI of the Civil Rights Act and other applicable social equity laws that require that the benefits and burdens of the projects in the 2050 RTP be equitably distributed between LIM and non-LIM populations.

Tables 4.5 through 4.9 show results for Social Equity indicators for LIM and non-LIM populations. Additional social equity performance measures for Low Mobility and Low Community Engagement populations also are included. The next section provides a detailed description of the impact of each indicator on Communities of Concern, compared with the existing conditions (2008) and the 2050 No Build alternative. The baseline year of comparison used for development of the 2050 RTP is 2008, as this was the latest year that a full range of data was available for use in analyzing alternatives and impacts. Due to economic and other factors discussed more fully in other areas of the 2050 RTP, SANDAG believes significant changes in the data inputs used for modeling did not occur between 2008 and the development of the 2050 RTP.

In addition to analyzing the distribution of RTP expenditures per capita and the impact of the 2050 RTP on the Communities of Concern, maps were produced for each of the four categories of Communities of Concern (Low Income, Minority, Low Mobility, and Low Community Engagement). These maps provide a graphic display of the performance of the Revenue Constrained Scenario with regard to transit access to key amenities. They show the Revenue Constrained Scenario with transit travel time contours for access to schools and health care for each of the four categories of Communities of Concern (Figures 4.12-4.19). The crosshatched areas on the map represent the specified Community of Concern within each TAZ, while the shaded contours represent the varying levels of transit accessibility around a given amenity. Areas on the map that are shown as having better transit accessibility to an amenity are shaded darker than the areas with no accessibility. Shaded areas that also are crosshatched signify that the Community of Concern has access to that given amenity. A crosshatched area with no accessibility shading indicates that the Community of Concern does not have reasonable access to that given amenity. Accessibility contours are based upon average travel times from each TAZ to the closest TAZ where a specific amenity type is located. The TAZ to TAZ travel

times use an optimal route method where the fastest route, including transfers, is used to calculate average travel time.

A critical question, which is discussed further below, is whether the 2050 RTP Revenue Constrained Scenario will improve conditions for LIM populations, relative to the 2050 No Build alternative or existing conditions in 2008.

Investments per capita for LIM populations will more than double with the implementation of the 2050 RTP.

2050 No Build Analysis

The modeling results for the performance indicators referenced above show that the 2050 RTP will maintain or improve conditions for LIM populations, compared with the 2050 No Build alternative. Although referenced in the aggregate as "LIM populations" in some places in this chapter, SANDAG conducted separate analyses of low income and minority populations and modeled the impacts on these populations separately. The discussion in this chapter is merely a summary of the disaggregated data available in the appendices of the 2050 RTP.

LIM populations will have increased mobility and better accessibility to transportation alternatives with the investments proposed. Investments per capita for LIM populations will more than double with the implementation of the 2050 RTP, compared with the 2050 No Build alternative.

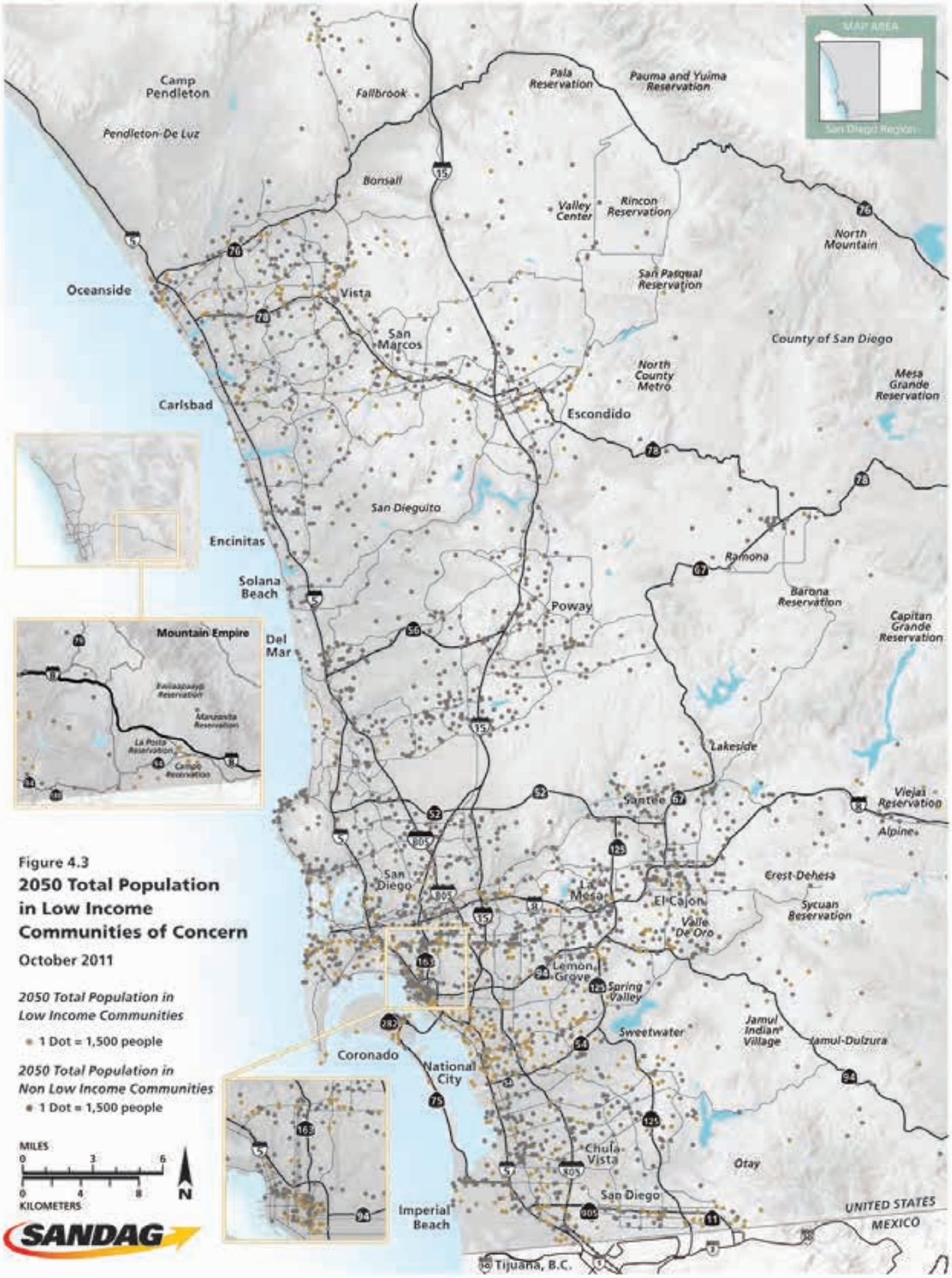


Figure 4.3
2050 Total Population in Low Income Communities of Concern
October 2011

2050 Total Population in Low Income Communities
• 1 Dot = 1,500 people

2050 Total Population in Non Low Income Communities
• 1 Dot = 1,500 people

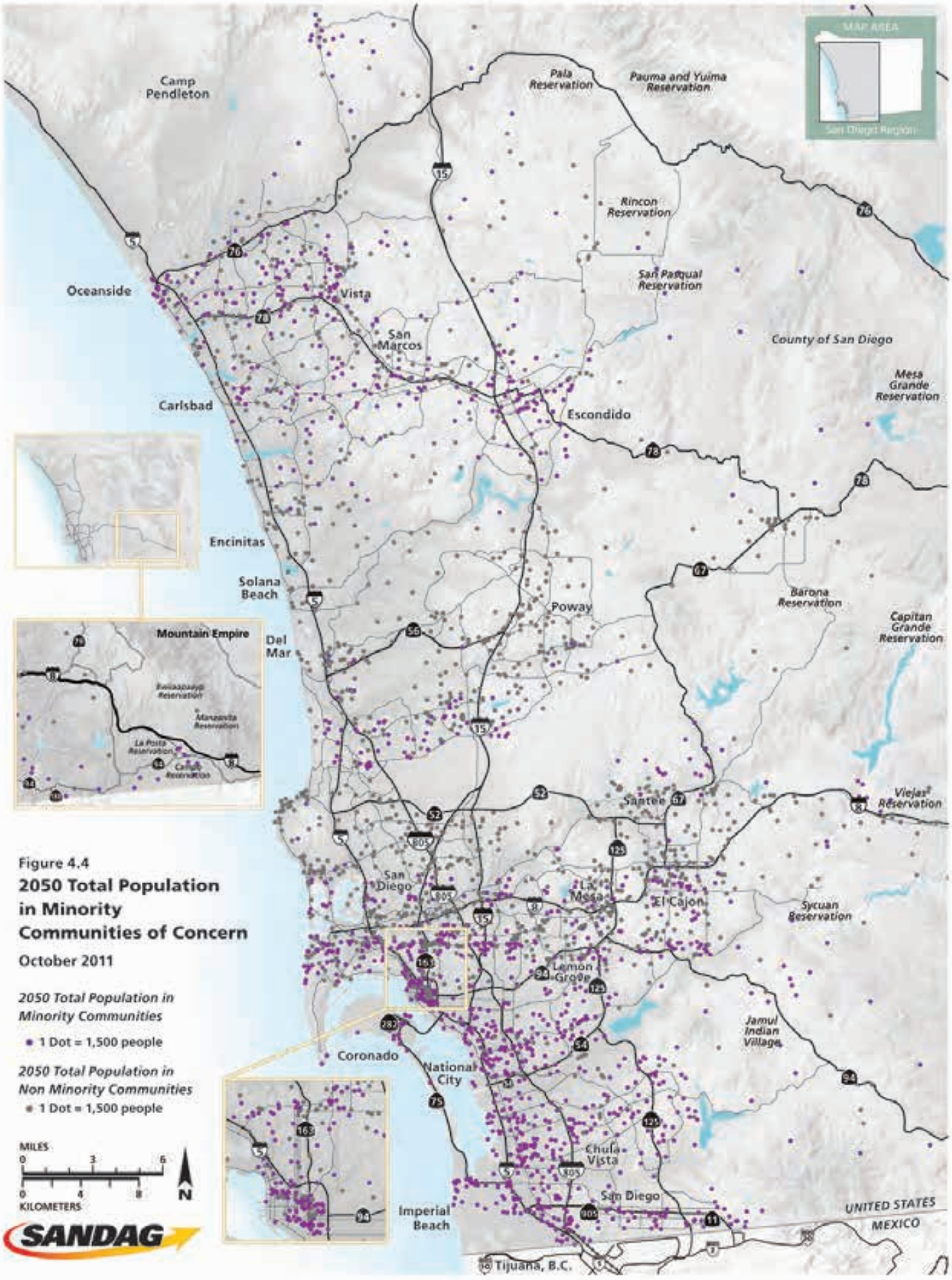


Figure 4.4
2050 Total Population in Minority Communities of Concern
October 2011

2050 Total Population in Minority Communities
• 1 Dot = 1,500 people

2050 Total Population in Non Minority Communities
• 1 Dot = 1,500 people

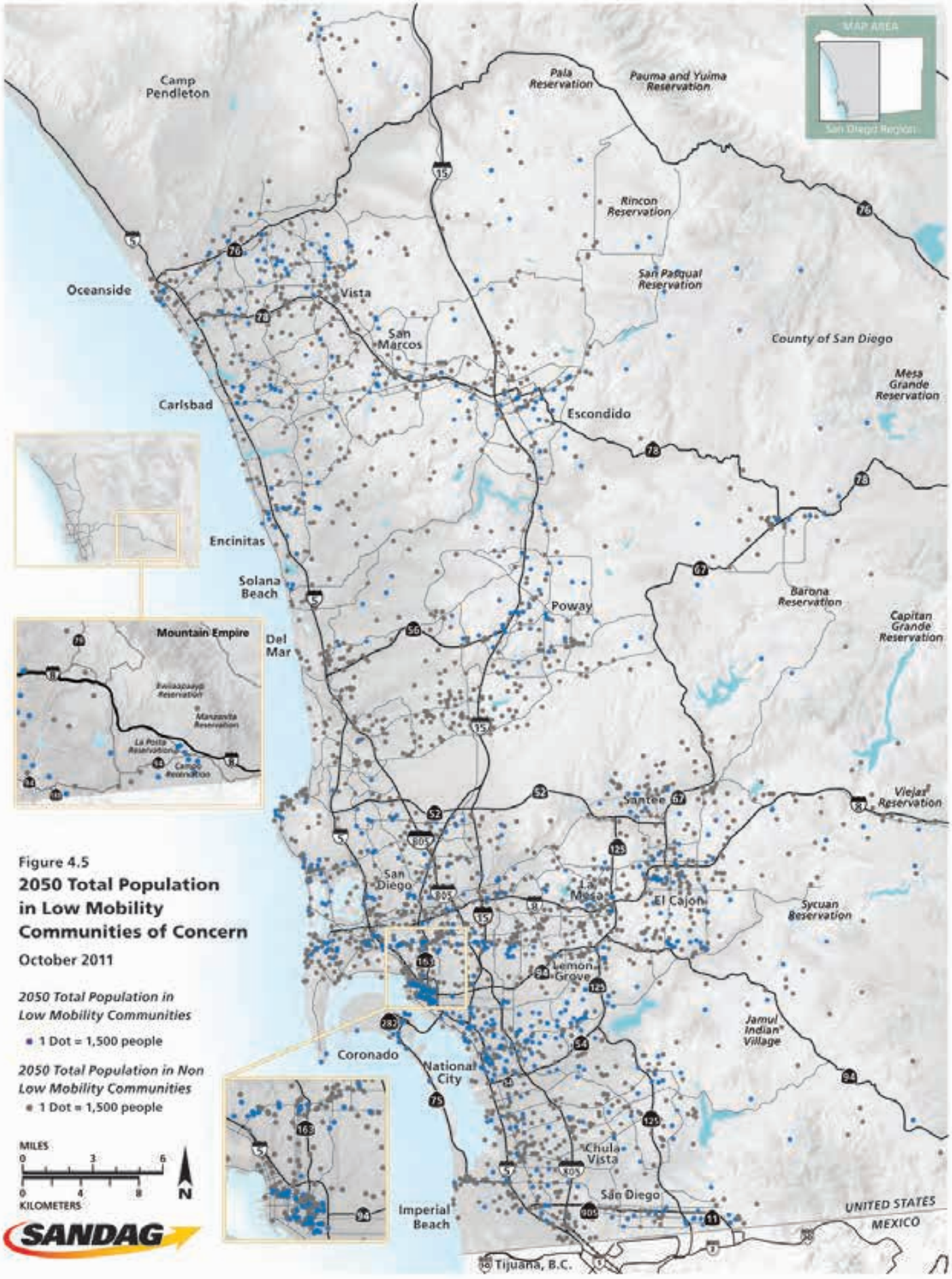


Figure 4.5
2050 Total Population in Low Mobility Communities of Concern
October 2011

2050 Total Population in Low Mobility Communities
• 1 Dot = 1,500 people

2050 Total Population in Non Low Mobility Communities
• 1 Dot = 1,500 people

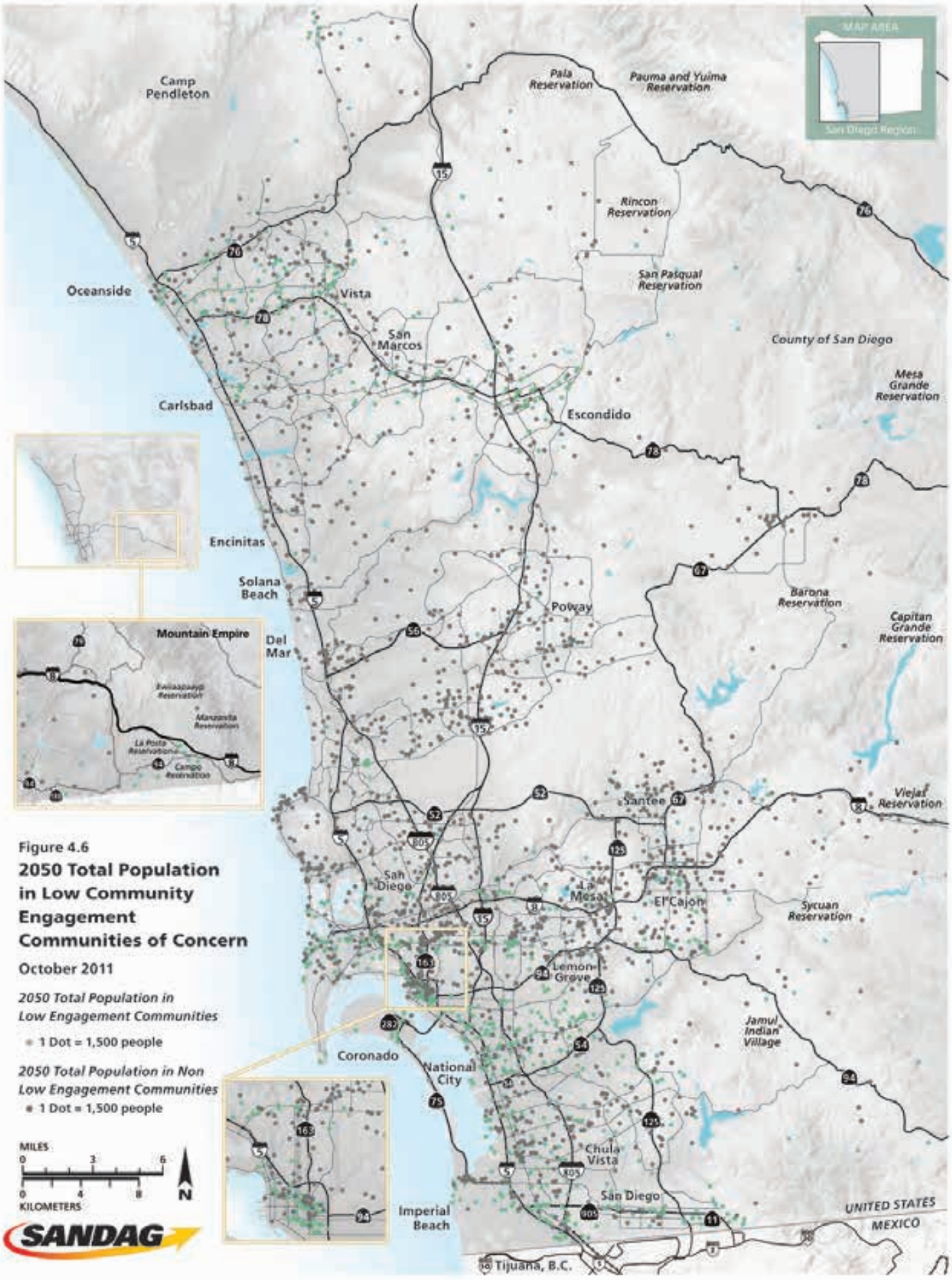


Figure 4.6

2050 Total Population in Low Community Engagement Communities of Concern

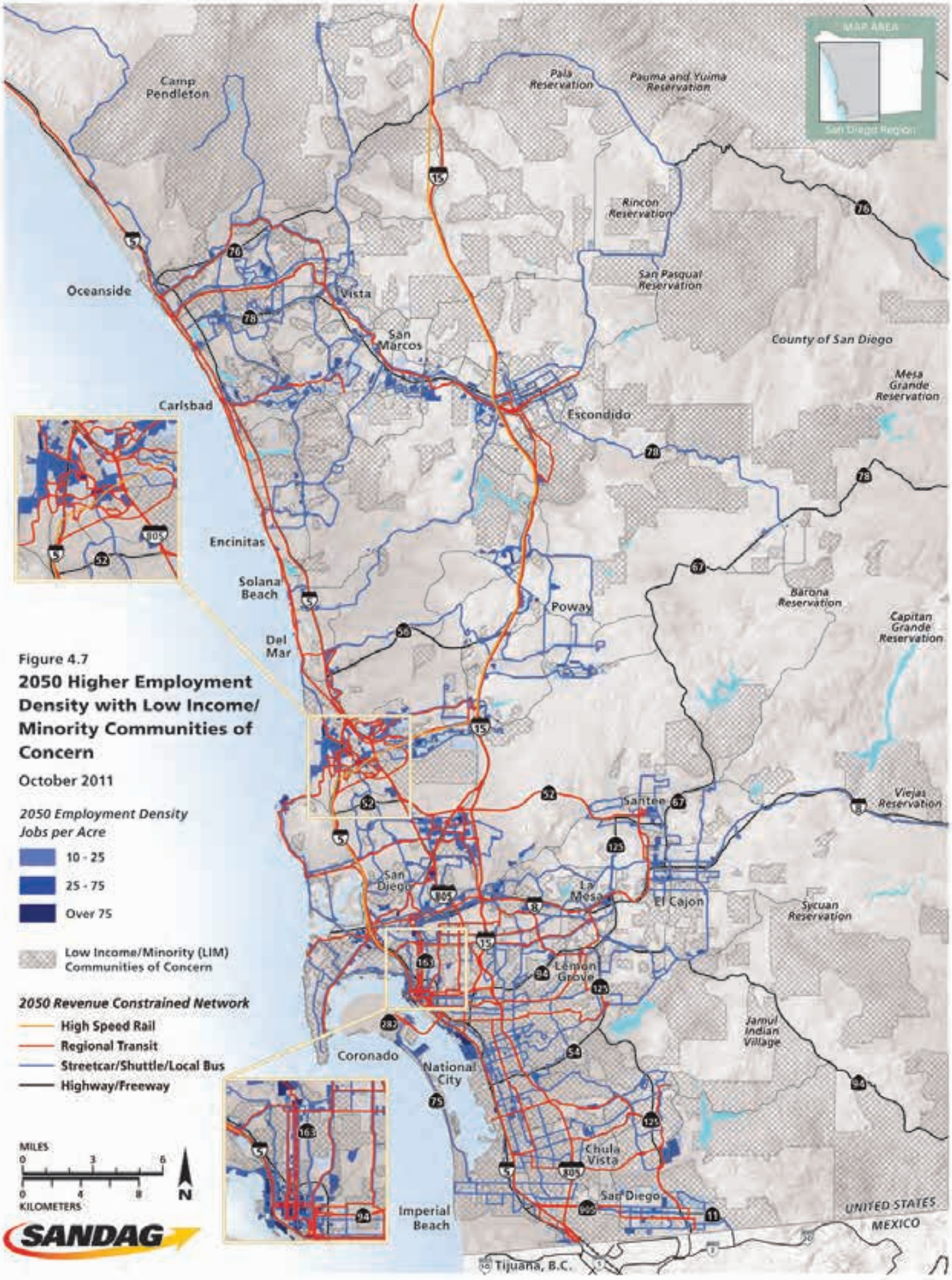
October 2011

2050 Total Population in Low Engagement Communities

1 Dot = 1,500 people

2050 Total Population in Non Low Engagement Communities

1 Dot = 1,500 people


Camp Pendleton
Pala Reservation
Pauma and Yuima Reservation
Rincon Reservation
San Pasqual Reservation
County of San Diego
Mesa Grande Reservation
Barona Reservation
Capitan Grande Reservation
Viejas Reservation
Sycuan Reservation
Jamul Indian Village
Oceanside
Vista
San Marcos
Carlsbad
Escondido
Encinitas
Solana Beach
Del Mar
Poway
Santee
San Diego
La Mesa
El Cajon
Lemon Grove
Coronado
National City
Chula Vista
Imperial Beach
San Diego
Tijuana, B.C.
UNITED STATES
MEXICO
MAP AREA
San Diego Region
Figure 4.7
2050 Higher Employment Density with Low Income/ Minority Communities of Concern
October 2011
2050 Employment Density
Jobs per Acre
10 - 25
25 - 75
Over 75
Low Income/Minority (LIM) Communities of Concern
2050 Revenue Constrained Network
High Speed Rail
Regional Transit
Streetcar/Shuttle/Local Bus
Highway/Freeway
MILES
0 3 6
0 4 8
KILOMETERS
N
SANDAG

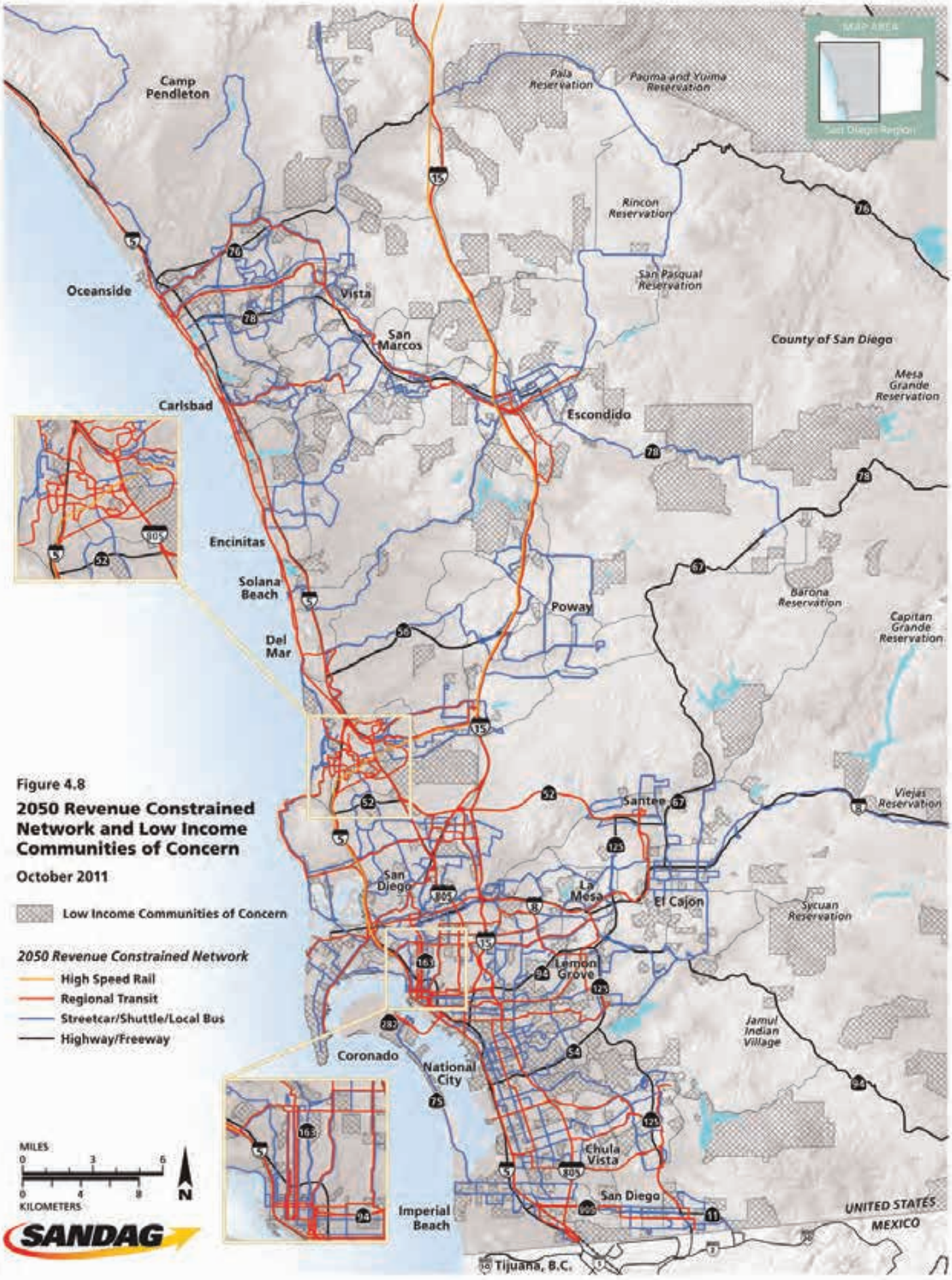


Figure 4.8

2050 Revenue Constrained Network and Low Income Communities of Concern

October 2011