Orange County
Sustainable Communities Strategy (SCS)

Prepared for

Orange County Transportation Authority
Orange County Council of Governments

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ORANGE COUNTY BUSINESS COUNCIL

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Sustainable Communities Strategy
Orange County

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LIST OF ACRONYMS

ADA	Americans with Disabilities Act
APS	Alternative Planning Strategy
ARC	Anaheim Rapid Connection
ARTIC	Anaheim Regional Transportation Intermodal Center
BRT	Bus Rapid Transit
Caltrans	California Department of Transportation
CAP	Capital Action Plan
CARB	California Air Resources Board
CBSP	Commuter Bikeways Strategic Plan
CDFG	California Department of Fish and Game
CDR	Center for Demographic Research
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
County	Orange County
CPAD	California Protected Areas Database
CSMP	Corridor System Management Plan
FEMA	Federal Emergency Management Agency
FMMP	Farmland Monitoring and Mapping Program
GHG	greenhouse gas
HOV	high-occupancy vehicle
I	Interstate
JPA	Joint Powers Authority
LOS	Level of Service
LRTP	Long Range Transportation Plan
m	meter
M2	Measure M2
MATIS	Motorist Aid and Traveler's Information System
MIS	Major Investment Studies
MOU	Memorandum of Understanding
MPAH	Master Plan of Arterial Highways
MRPP	Mitigation and Resource Protection Program
MPO	Metropolitan Planning Organization
MSEP	Metrolink Service Expansion Program
NCCP/HCP	Natural Community Conservation Plan/Habitat Conservation Plan
NFHL	National Flood Hazard Layer
OCCOG	Orange County Council of Governments
OCP-2010	2010 Orange County Projections
OC SCS	Orange County Sustainable Communities Strategy
OCTA	Orange County Transportation Authority
OCTAM	Orange County Transportation Analysis Model
OCTAP	Orange County Taxi Administration Program
PCH	Pacific Coast Highway
PHE	Population, Housing, and Employment
RHNA	Regional Housing Needs Assessment

RTP	Regional Transportation Plan
SB	Senate Bill
SB 375	Senate Bill 375 (Senator Steinberg)
SCAG	Southern California Association of Governments
SCAQMD	Southern California Air Quality Management District
SCRRA	Southern California Regional Rail Authority
SCS	Sustainable Communities Strategy
SR	State Route
TAZ	Traffic Analysis Zone
TDM	Transportation Demand Management
TOD	Transit Oriented Development
TSM	Transportation System Management
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
VMT	vehicle mile(s) traveled

EXECUTIVE SUMMARY

In 2008, California State Senate Bill 375 (SB 375) was enacted to reduce greenhouse gas (GHG) emissions from automobiles and light trucks through integrated transportation, land use, housing and environmental planning. To achieve the goal of reduced GHG emissions, the legislation requires Metropolitan Planning Organizations (MPOs) throughout the state to include a new element in their Regional Transportation Plans (RTPs) called a Sustainable Communities Strategy (SCS).

The Southern California Association of Governments (SCAG) is the MPO encompassing the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. They prepare the RTP for the SCAG region, with input from each of the counties and county transportation commissions. SCAG is also responsible for developing the Sustainable Communities Strategy for the SCAG Region, known as the SCAG Regional SCS.

However, in the SCAG region, SB 375 also allows for a subregional council of governments and county transportation commission to work together to propose a subregional SCS. As one of these subregions, Orange County has availed itself of this opportunity to prepare its own *subregional* SCS (OC SCS). As long as the OC SCS follows the requirements of SB 375, SCAG will incorporate it into the SCAG Regional SCS.

The following document constitutes the OC SCS. It was prepared by the Orange County Council of Governments (OCCOG) and the Orange County Transportation Authority (OCTA), in collaboration with multiple Orange County stakeholders including cities, the County of Orange, County special districts, OCTA, the Center for Demographic Research (CDR), the California Department of Transportation (Caltrans), Transportation Corridor Agencies, and many community organizations and the public.

The OC SCS begins with the setting of current population, housing, and employment in Orange County, and then describes projected long-term trends for these socio-economic variables. The resulting assessment is this: a majority of Orange County's projected growth of population, housing, and employment will occur near existing and future job centers, which will positively impact transportation patterns and therefore be beneficial to GHG emission reductions.

The projected growth in Orange County housing units will be sufficient to house the anticipated population growth in the subregion. Further, Orange County will create housing to accommodate employment growth during this period.

Because there is an indisputable interconnectedness between Orange County's population, housing and employment and the transportation systems that support them, the OC SCS also delineates the foundational transportation systems that currently exist in Orange County. Transportation systems described include freeways, arterial streets and local roads, rail and bus transit, bikeways, and demand responsive services and transportation demand management.

Central to the OC SCS are the strategies identified to reduce GHG emissions. These strategies illustrate that there is already a collective effort by many Orange County jurisdictions, agencies, and groups to link transportation and land uses through a variety of processes and an array of progressive measures. The strategies outlined in the OC SCS and summarized below are collectively called sustainability strategies, and include both land use-related strategies and transportation system improvements.

Sustainability Strategies

✓	Support transit-oriented development.
✓	Support infill housing development and redevelopment.
✓	Support mixed-use development and thereby improve walkabilty of communities.
✓	Increase regional accessibility in order to reduce vehicle miles traveled.
✓	Improve jobs-to-housing ratio.
✓	Promote land use patterns that encourage the use of alternatives to single-occupant automobile use.
✓	Support retention and/or development of affordable housing.
✓	Support natural land restoration and conservation and/or protection offering significant carbon mitigation potential via both sequestration and avoidance of increased emissions due to land conversion.
✓	Eliminate bottlenecks and reduce delay on freeways, toll roads, and arterials.
✓	Apply Transportation System Management and Complete Street practices to arterials and freeways to maximize efficiency.
✓	Improve transit modes through enhanced service, frequency, convenience, and choices.
✓	Expand and enhance Transportation Demand Management practices to reduce barriers to alternative travel modes and attract commuters away from single occupant vehicle travel.
✓	Continue existing, and explore expansion of, highway pricing strategies.
✓	Implement near-term (Transportation Improvement Program and Measure M2 Capital Action Plan) and long-term (LRTP 2035 Preferred Plan) transportation improvements to provide mobility choices and sustainable transportation options.
✓	Acknowledge current sustainability strategies practiced by Orange County jurisdictions and continue to implement strategies that will result in or support the reduction of GHG emissions.

In summary, Orange County is engaged in a collective effort to link transportation and land uses. This effort includes a variety of progressive measures undertaken by Orange County jurisdictions, agencies, and groups that lead to changes in the use of automobiles and light duty trucks, resulting in reductions in GHG. The scope of current and planned strategies is broad and encompasses significant investment by both the public and private sectors to implement them. They include the following:

- Promoting a land use pattern that accommodates future employment and housing needs.
- Using land in ways that make developments more compact and improves linkages among jobs, housing and major activity centers.
- Protecting natural habitats and resource areas.
- Implementing a transportation network of public transit, managed lanes and highways, local streets, bikeways, and walkways built and maintained with available funds.
- Managing demands on the transportation system (TDM) in ways that reduce or eliminate traffic congestion during peak periods of demand.
- Managing the transportation system (TSM) through measures that maximize the efficiency of the transportation network.
- Utilizing innovative pricing policies to reduce vehicle miles traveled and traffic congestion during peak periods of demand.

These strategies and actions are Orange County's contribution to the region's efforts to achieve both 2020 and 2035 GHG thresholds established by CARB.

INTRODUCTION

BACKGROUND

SB 375 was enacted in 2008 to reduce greenhouse gas (GHG) emissions from automobiles and light trucks through integrated transportation, land use, housing and environmental planning. To achieve the goal of reduced GHG emissions, the legislation requires MPOs throughout the state to include a new element in their RTPs called an SCS. Specific to the SCAG region, SB 375 also allows for a subregional council of governments and county transportation commission to work together to propose a subregional SCS.

When SB 375 was enacted, it set in motion several activities related to regional and local planning for transportation and land use. The legislation focused attention on the relationship that land use and transportation have on one another relative to how people choose to move around the region, which in turn affects GHG emissions that result from those choices. SB 375 established new processes and procedures for land use and transportation planning that are intended to ensure that opportunities for the synergy between land use and transportation will result in a reduction of GHG emissions from passenger cars and light duty trucks.

THE REGIONAL TRANSPORTATION PLAN

Each urbanized area in California with a population of 50,000 or more has a designated regional planning organization called an MPO. MPOs prepare and regularly update an RTP, a long-range planning document that details the transportation plans, policies, projects, and related funding necessary to address the transportation needs of the region.

SCAG is the MPO encompassing the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The SCAG region appears in Figure 1. SCAG prepares the RTP for the SCAG region, with input from each of the counties and county transportation commissions. OCTA prepares a county-level Long Range Transportation Plan (LRTP) that offers input into SCAG's RTP. Like the RTP, the LRTP analyzes the trends in Orange County related to population, housing, employment, and transportation, and sets forth a comprehensive plan for transportation projects and programs to meet the

County's transportation needs. SB 375 requires that the RTP for each region include a new planning element, the SCS, to be developed by the region's MPO.

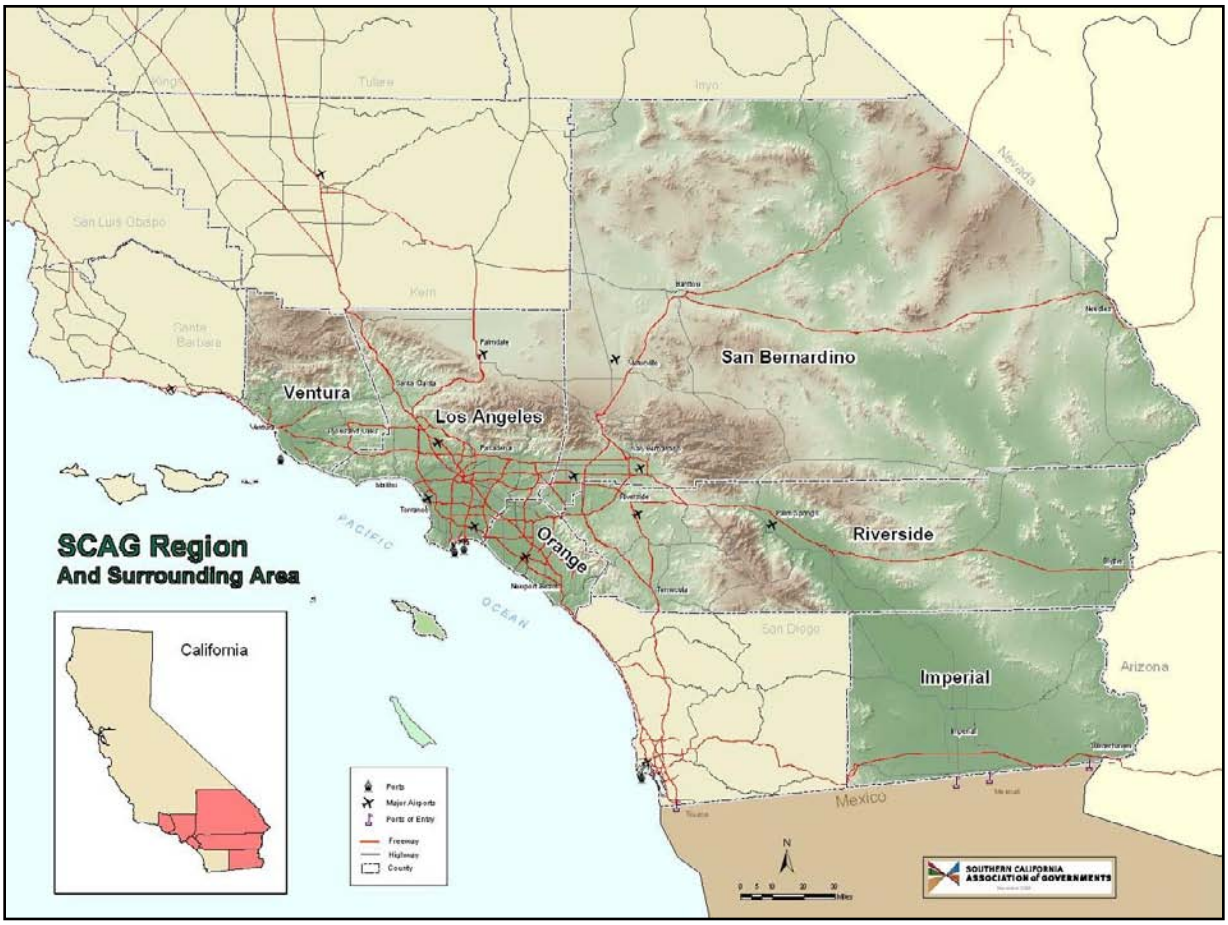


Figure 1: SCAG Region and Surrounding Area

SUSTAINABLE COMMUNITIES STRATEGY

As mentioned earlier, one of the key items established by SB 375 is a new planning element, the SCS, to be developed for inclusion in each region's RTP by its MPO, with input from the counties and county transportation commissions in each region. Each SCS must outline the strategies being undertaken in order to reduce GHG emissions from automobiles and light trucks in the region.

SB 375 outlines the elements that must be included in the SCS document. The SCS must do the following:

- Identify the general location of uses, residential densities, and building intensities within the region
- Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth
- Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to state law (Government Code Section 65584)
- Identify a transportation network to service the transportation needs of the region
- Gather and consider the best practically available scientific information regarding resource areas and farmland in the region as defined in state law (Government Code subdivisions (a) and (b) of Section 65080.01)
- Consider the state housing goals specified in state law (Government Code Sections 65580 and 65581)
- Set forth a forecast development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the state board
- Allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506)

THE REGIONAL SCS

As the MPO for the region, SCAG is tasked with preparing the regional SCS element of the RTP. This element, referred to as the SCAG Regional SCS, includes the strategies proposed to reduce GHG emissions in the SCAG region, along with analysis documenting the amount of reduction that can be achieved through the plans, programs, and projects in the regional SCS.

SB 375 requires the California Air Resources Board (CARB) to provide each affected MPO/region with GHG emission reduction targets for 2020 and 2035. In September 2010, CARB approved the following GHG emissions reductions targets for the SCAG region, expressed as a percentage reduction of per capita GHG emissions produced by cars and light duty trucks, and using 2005 as the baseline:

- 2020—8 percent reduction
- 2035—13 percent reduction, conditioned on discussions with the MPO (See Appendix A for SCAG's letter to CARB dated September 20, 2010, which outlines conditions.)

No subregional GHG emissions reduction targets were set by CARB or SCAG. GHG emissions reduction targets, and the GHG emissions reductions achieved by the regional SCS, are only calculated at the regional level.

Although the base year set by federal agencies for the RTP is 2008, CARB has identified 2005 as the initial year for calculating GHG emissions reduction. In other words, the amount of GHG reduction achieved through the region's collective sustainable communities' strategy will be measured by comparing projected GHG emissions for 2020 and 2035 against GHG emissions that occurred in 2005. All projects, programs, and policies put into place after 2005 to help reduce GHG emissions will be included in the analysis of the region's GHG emissions reductions.

THE SUBREGIONAL SCS

Unique to the SCAG region, SB 375 provides for a subregional council of governments and county transportation commission to work together to propose the SCS for a subregional area. Orange County is one of these subregional areas. As allowed, OCCOG and OCTA have agreed to prepare the OC SCS.

Orange County's subregional effort aims to ensure an accurate reflection of existing and planned local land uses, conditions, and activities. Additionally, the OC SCS demonstrates that the subregion is already undertaking strategies to reduce GHG emissions through existing and planned transportation projects and programs; showcases Orange County's longstanding history of integrating land use and transportation planning; and facilitates and supports the ongoing leadership and innovation occurring in Orange County towards sustainable land use and transportation practices.

To reiterate, no subregional GHG emissions reduction targets were set by CARB or SCAG. GHG emission reduction targets are only calculated at the regional level.

A Memorandum of Understanding (MOU) among SCAG, OCCOG, and OCTA formalized the roles and responsibilities of each party related to the preparation and acceptance of the Orange County subregional SCS as it relates to the SCAG Regional SCS. In summary, SCAG is required to prepare the regional SCS, and OCCOG and OCTA are tasked with preparing the OC SCS consistent with SCAG's adopted Framework and Guidelines. SCAG must include the OC SCS in the SCAG Regional SCS

and RTP as long as the OC SCS meets the requirements set in statute and in SCAG's Subregional SCS Framework and Guidelines. The MOU and SCAG Framework and Guidelines are in Appendix B. The Framework and Guidelines requires documentation of affected jurisdictions' willingness to adopt the necessary General Plan changes if necessary. For this OC SCS, the jurisdictions General Plan policies actively support GHG emissions reduction; therefore, no General Plan changes are necessary. This documentation is provided in Appendix C.

PUBLIC PARTICIPATION IN THE SCS

SCAG is leading the public participation process for the SCAG Regional SCS. As part of their public outreach effort, SCAG will hold informational meetings, workshops, and public hearings on the draft SCS including some in Orange County, in order to solicit input and recommendations. Additionally, the OCCOG will augment the regional public participation effort with local outreach for the OC SCS.

WHO'S WHO IN THE ORANGE COUNTY SUSTAINABLE COMMUNITIES STRATEGY

Multiple organizations and stakeholders are involved in the implementation of SB 375 and the creation of an Orange County Sustainable Communities Strategy: municipal agencies, the County of Orange, County special districts, OCTA, CDR, Caltrans, Transportation Corridor Agencies, and many community organizations.

Orange County Stakeholders: SB 375 mandates public participation in the development of a sustainable communities strategy. SCAG is the lead for public participation in the development of the SCAG Regional SCS, with support from OCCOG in Orange County. OCCOG augmented SCAG's regional public outreach efforts, engaging the public in the SCS development process via a web tool, public meetings, and local workshops. This process allows for revisions and clarifications to ensure stakeholder and public participation in creation of the OC SCS.

Collectively, Orange County local jurisdictions, transportation agencies, interested organizations, and the public participated in identifying ongoing and planned projects, programs and policies for reducing GHG emissions.

Orange County Council of Governments (OCCOG): OCCOG is a Joint Powers Authority whose board is comprised of elected representatives from Orange County public agencies, including local jurisdictions, transportation agencies, and special districts. Non-voting ex officio members represent the business community, private sector, universities, healthcare, and nonprofit housing communities.

In conjunction with the Orange County Transportation Authority, the OCCOG is tasked with preparing the OC SCS. In addition to the Board, the OCCOG has a Technical Advisory Committee that is comprised of technical staff from each of the member agencies. This Committee provides technical review and input for relevant issues taken up by the Board and affecting Orange County agencies, including the OC SCS.

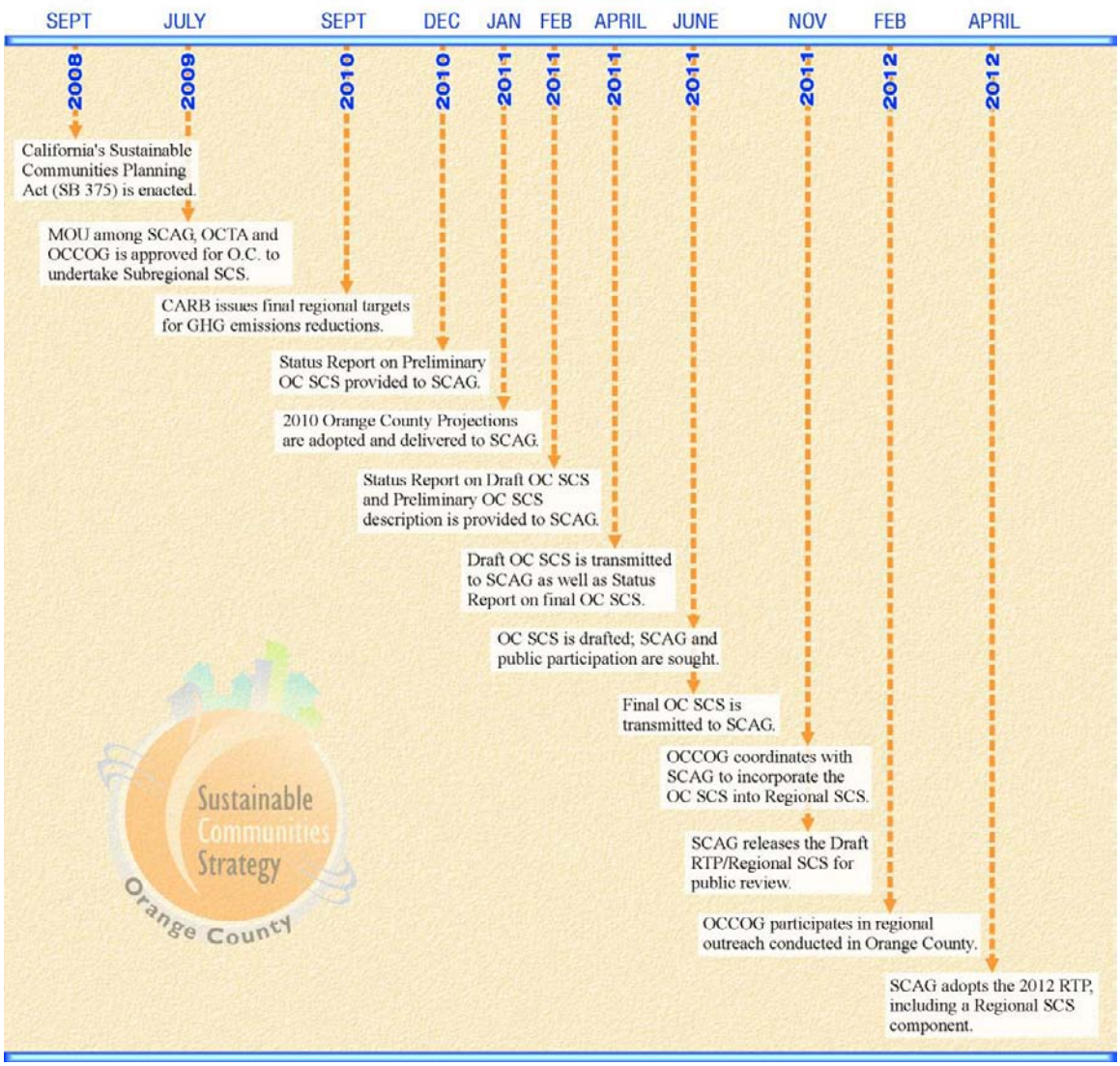
Orange County Transportation Authority (OCTA): OCTA is Orange County's transportation commission. It serves Orange County residents and travelers by providing countywide bus and paratransit service; Metrolink rail service; the SR-91 Express Lanes; freeway, street and road improvement projects; individual and company commuting solutions; motorist aid services; and taxi operation regulation. The Authority is governed by an 18-member Board of Directors consisting of five county supervisors, 10 city members, two public members, and the Director of Caltrans District 12 as a non-voting member. As the Countywide transportation planning agency, OCTA prepares the County-level LRTP that offers input into SCAG's RTP and is incorporated into the OC SCS, which in turn is incorporated into the RTP/Regional SCS. This incorporation ensures consistency among the subregional and regional transportation planning documents.

Center for Demographic Research (CDR): Since 1996, the CDR at California State University, Fullerton, has undertaken a consistent and collaborative effort to collect and compile data, and to generate socio-economic projections that accurately represent all 35 local jurisdictions in Orange County. The CDR maintains a centralized data source of Orange County demographic characteristics, including population, housing, and employment. These data are used by public and private agencies and individuals. Sponsors of the CDR include the County of Orange, Orange County Transportation Authority, Orange County Council of Governments, Orange County Sanitation District, Transportation Corridor Agencies, Municipal Water District of Orange County, Orange County Water District, and the Orange County Local Agency Formation Commission. The socioeconomic data and growth forecasts for the OC SCS process and document were developed through the Orange County Projections process, involving extensive data collection, analysis, outreach, and review directed and managed by the CDR.

Southern California Association of Governments (SCAG): SCAG is the MPO that encompasses the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. As the MPO, SCAG prepares the RTP, setting forth forecast development patterns for the region, the future transportation network, and strategies to reduce greenhouse gas emissions from cars and light duty trucks. Once the SCAG RTP is adopted, SCAG submits the SCS element to the CARB (see below) for review. Included in this submittal is the quantification of GHG emissions reductions achieved by the Regional SCS.

California Air Resources Board (CARB): At the state level, CARB is responsible for setting GHG emissions reduction targets for each region of the State. These targets are scheduled to be updated every eight years. However, CARB has the option to revisit the targets every four years. CARB also comments on the methodology to be used by each MPO for measuring GHG emissions. SCAG submits the adopted Regional SCS to CARB for review. CARB cannot modify the Regional SCS and is limited in its action either to accept or to reject the MPO's determination that the SCS will achieve the targets if implemented.

OC SCS Timeline



CHAPTER 1: POPULATION, HOUSING, AND EMPLOYMENT

INTRODUCTION

This chapter describes the 2008 base year conditions for key socio-economic variables required in the subregional SCS, including Orange County population, housing, and employment. SB 375 designates two future dates for which GHG emissions reductions targets are set: 2020 and 2035. Therefore, this chapter also describes projected conditions for these socio-economic variables and gives a synopsis of countywide trends.

The socio-economic variables of population, housing, and employment are reported for geographic areas known as Traffic Analysis Zones (TAZs), units of geography most commonly used for transportation planning models. In order to be consistent with the regional SCS, SCAG TAZs were used in this analysis. One SCAG TAZ is generally made up of three Orange County TAZs that nest into one SCAG TAZ and covers an average of 767 acres; an OC TAZ, in comparison, covers an average of 294 acres and does not follow jurisdictional boundaries. Thus, any given TAZ can be made up of areas that span one or more jurisdictions and include aggregated socio-economic information from the multiple jurisdictions within it. The TAZs represent the same geographic unit for population, employment and housing; they do not change from variable to variable.

A few important things to note when reviewing the maps in this chapter:

- Not all acreage within each TAZ is slated for development. For example, acreage within any TAZ that is protected open space, forests, land preserve, etc., is not factored for future development. The growth reported by TAZ is only for the developed and developable land within each TAZ. However, due to data limitations, the density analyses require using acreage of the full TAZ.
- The transit networks that are shown on the maps are included for illustrative purposes to highlight the connections current and planned land uses will have to potential high-quality transit corridors. These corridors reflect transit improvements discussed in the OCTA Long-Range Transportation Plan that may take place between 2021 and 2035. Further, these transit improvements are

subject to change based on future action by the OCTA Board of Directors regarding the ongoing Transit System Study.

- There are currently 34 incorporated cities and several unincorporated areas within Orange County (see Figure 2).

The following tables summarize the base year and projected data for population, housing, and employment in Orange County from the approved 2010 Orange County Projections. A description of the demographic data projections and development process conducted by CDR to produce the forecast data is provided in Appendix D.

Table A: 2010 Orange County Projections for Population, Housing, and Employment 2008, 2020 and 2035

	2008	2020	2035
Population	3,123,058	3,430,505	3,582,266
Housing Units	1,035,005	1,100,260	1,174,912
Employment	1,624,061	1,646,437	1,799,477

Table B: 2010 Orange County Projections for Population, Housing, and Employment Growth 2008—2035

	2008-2020 Growth		2020-2035 Growth		2008-2035 Growth	
	Numeric	**Percent**	**Numeric**	**Percent**	**Numeric**	**Percent**
Population	307,447	9.84%	151,761	4.42%	459,208	14.70%
Housing Units	65,255	6.30%	74,652	6.78%	139,907	13.50%
Employment	22,376	1.38%	153,040	9.30%	175,416	10.80%

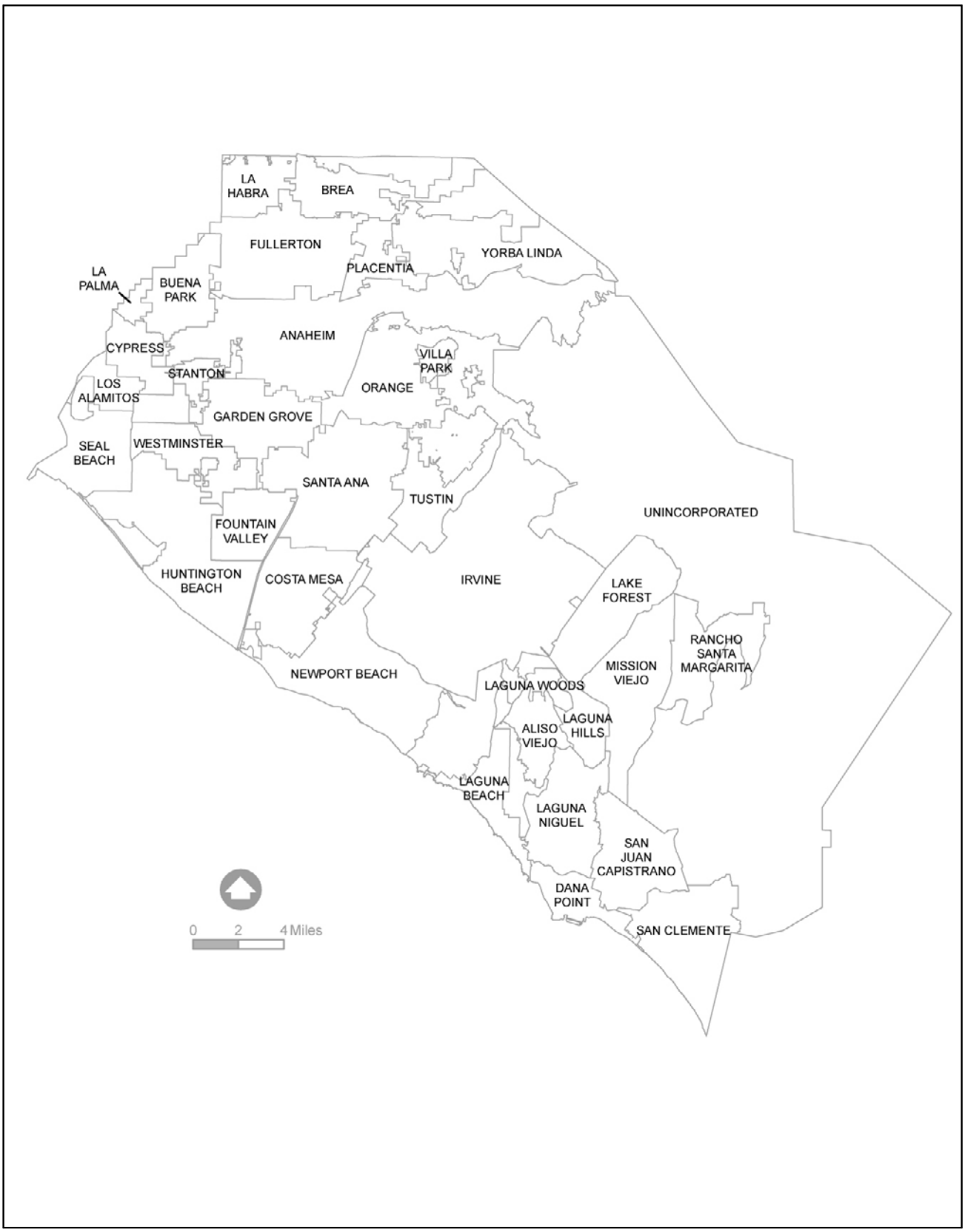


Figure 2 **Orange County Jurisdictional Boundaries**

Orange County Projections and the 2010 Census

The OCP-2010 dataset (population, housing and employment) referenced in the OC SCS was approved by the OCCOG Board on January 27, 2011. OCP-2010 is based on the approved OCP update and revision process which took place during 2009-2010; it does not include the 2010 Census data for California released on March 8, 2011.

SCAG policy committee actions have directed SCAG staff to revise the draft growth forecast dataset for the Regional SCS and RTP to include the 2010 Census data and the 2010 State Employment Development Department (EDD) employment benchmark. The CDR is coordinating with SCAG on this update process, and is evaluating the timeline and process to revise OCP-2010 to include the new data and be consistent with the growth forecast update effort being undertaken by SCAG.

Consistent with SCAG's process, any update to the growth forecast dataset will be to the 2010 totals for population, housing, and employment, and the growth increments from 2010 to 2035 will remain the same and be applied to the revised 2010 totals. If a revision is made to the OCP-2010, this effort will be completed after the June 2011 submittal deadline of the final OC SCS to SCAG. Further, the updated dataset will be provided to SCAG through a data amendment process and the full OC SCS document will not be revised.

POPULATION

In 2008, Orange County's population was 3,123,058 persons (see Figure 3). Though the majority of residents live in the northern regions of the County, the southern region also holds a sizeable portion of the population, with increasingly even population distribution occurring throughout the County. Figure 4 shows that the majority of people are concentrated mostly in the mature, northern and central cities—areas established as bedroom communities for Los Angeles prior to the 1970s. U.S. Census and other demographic information sources reveal that Orange County is no longer a suburb. In fact, it is one of the most densely populated areas in the United States, and according to the 2010 U.S. Census, as Table C shows, Orange County is the most densely populated county in the SCAG region and has the highest residential density per square mile.

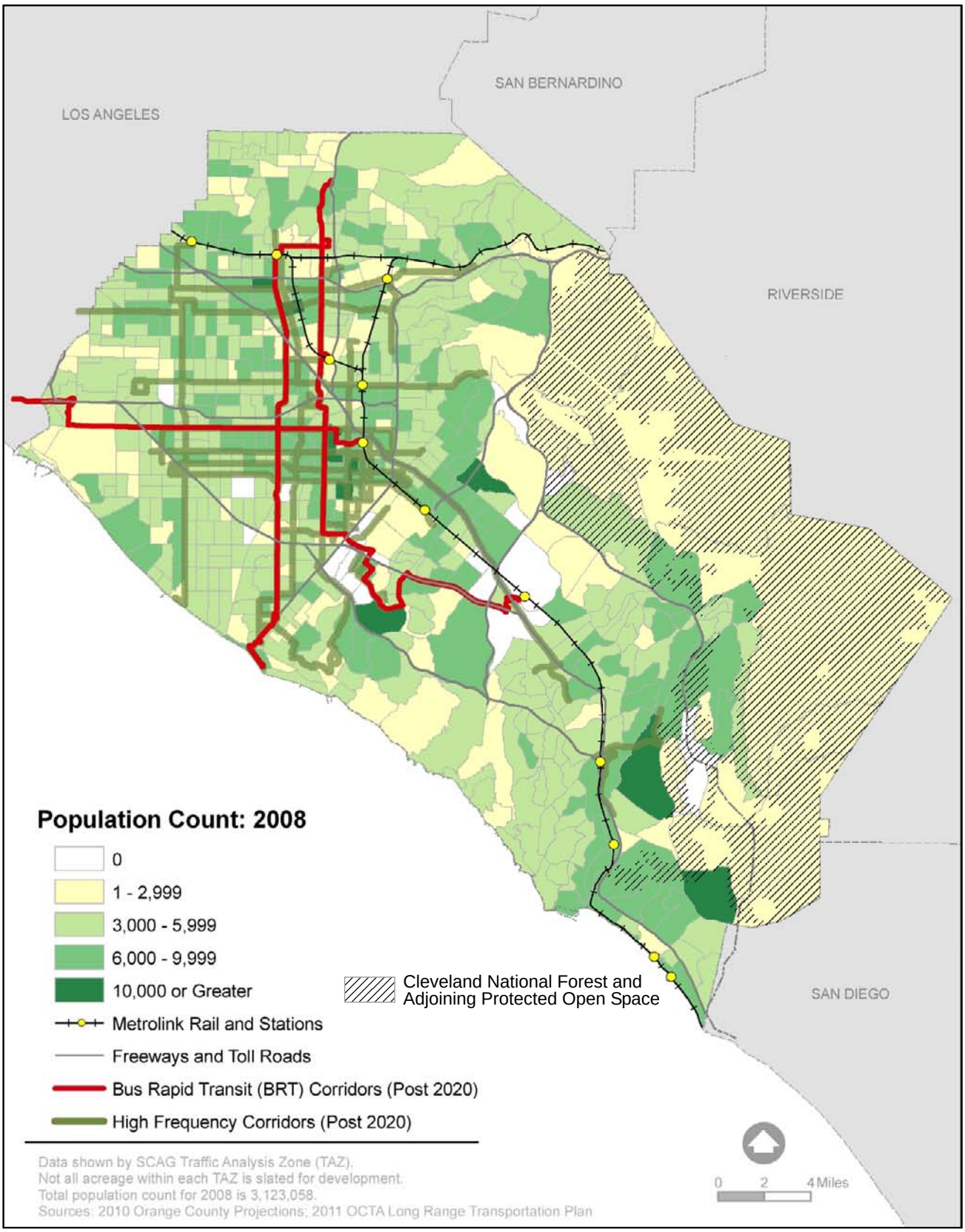


Figure 3 **Existing (2008) Orange County Population**

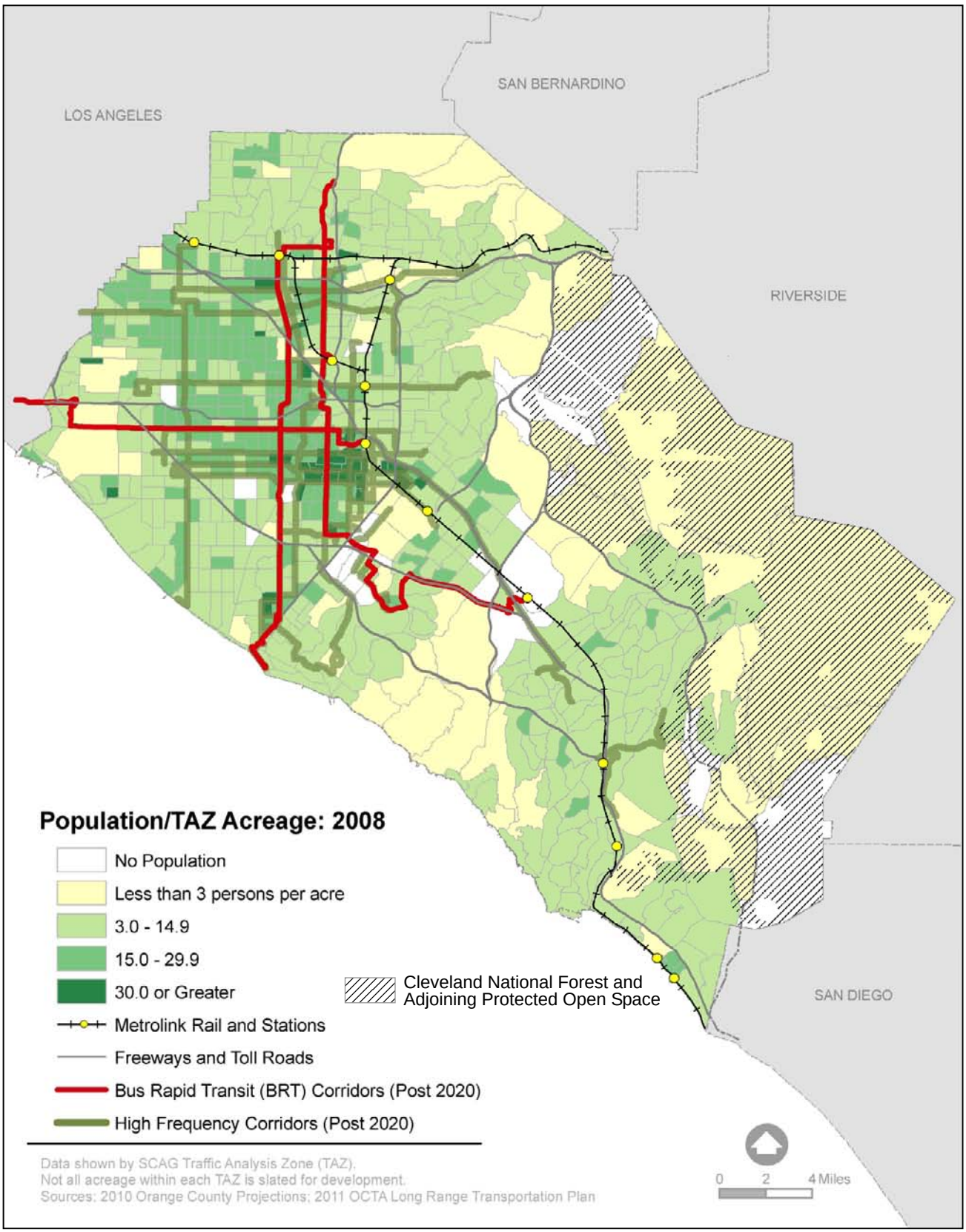


Figure 4

Existing (2008) Orange County Population Density

Table C: Comparative Population Density for Counties within SCAG Region, 2010 Census

County	Population Density per Square Mile	Housing Units per Square Mile
Orange	3,813	1,329
Los Angeles	2,405	848
Ventura	446	153
Riverside	304	111
San Bernardino	101	35
Imperial	42	13

Source: U.S. Census Bureau, 2010 Census.
Note: The above densities reflect total square miles of land, without distinguishing between developable or undevelopable land.

Between 2008 and 2020, Orange County's total population is projected to increase by 307,447 persons to a total of 3,430,505 (Figure 5). The number of sparsely populated TAZs is projected to shrink, along with the number of "zero population TAZs" in the southern portion of the County. Jurisdictions projected to experience the most population growth during this time include Anaheim, Brea, Tustin, Irvine, and areas within the unincorporated County. There is also significant growth in the number of TAZs with populations of 6,000 to 9,999 residents, and 10,000+ residents, occurring in central and south county (Figures 6 and 7).

Orange County's population density in 2020 (Figure 8) is projected to mirror the population changes forecast to occur between 2008 and 2020 (see Figure 9). In short, the County will become more densely populated. While population growth will occur in the remaining vacant areas planned for growth, increased density will also be prevalent in the established urban cores due to infill, reuse, and mixed-use developments. This increased density of development will result in more efficient residential land use. Efficient land use, as discussed in this document, is a land use or pattern of land uses anticipated to reduce regional GHG emissions from automobiles or light duty trucks. The land uses and patterns of use will foster efficient usage of transportation resources and infrastructure such that people will have options other than a single-occupant vehicle for travel. The projected population of Orange County in 2035 totals 3,582,266 (see Figure 10), an increase of 151,761 or 4.4% between 2020 and 2035, and an increase of 459,208 or 14.7% from 2008 to 2035. Figures 11 and 12 demonstrate that population growth will continue throughout the County.

By 2035, Orange County's population density (Figure 13) is projected to have increased along with population totals throughout the County. This increase in density is anticipated to be most prevalent in the urban core of the County, as the result of increased

infill development, reuse of land, and increased creation of mixed-use developments, providing housing, employment, recreational, and leisure opportunities (Figure 14).

POPULATION CONCLUSION

Compared to 2008 conditions, Orange County's population is projected to grow 10% by 2020 and 15% by 2035. A majority of this forecast growth will occur in areas with approved entitlements for large residential developments such as La Floresta and Canyon Crest in Brea, the Great Park in Irvine (formerly Marine Corps Air Station, El Toro), the Platinum Triangle in the City of Anaheim, the East Orange planned community in the City of Orange and unincorporated County, and the Rancho Mission Viejo planned community known as The Ranch Plan, also located in unincorporated County territory. It is important to note that population growth is forecast to occur throughout the County, within the built environment and in areas with new development. This will result in increased infill development in housing and demand for support services (i.e., employment, recreation, education, etc.). The County's population density will increase, most markedly in the established urban core.

Population growth in Orange County will be served by a robust transportation system offering mobility choices other than passenger car travel. The existing and future transportation infrastructure of Orange County includes freeways, arterial highways, a priced transportation network, fixed bus routes, High Frequency Corridors (corridors with 15-minute or better transit headways), and Metrolink rail service.

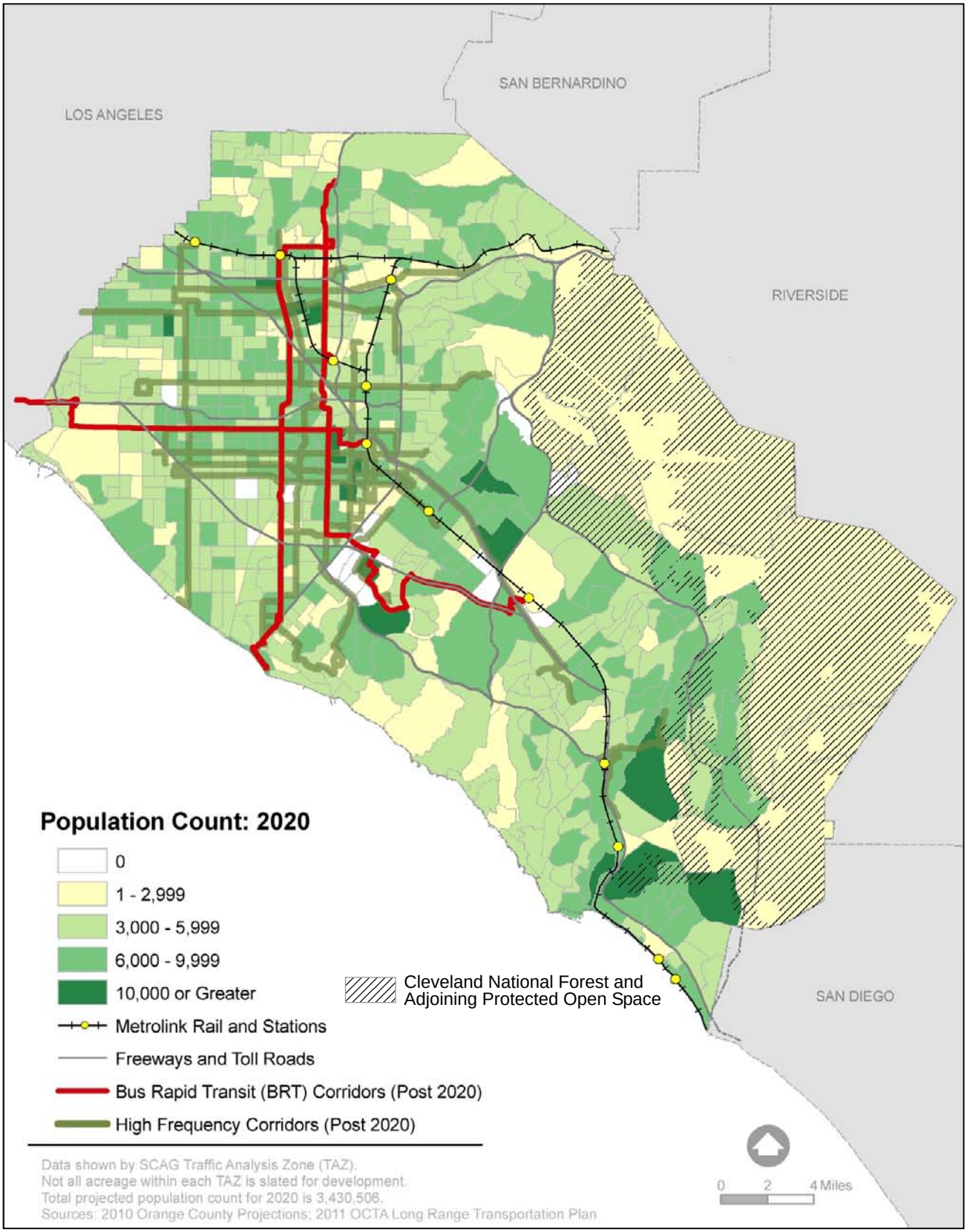


Figure 5 **Year 2020 Orange County Population**

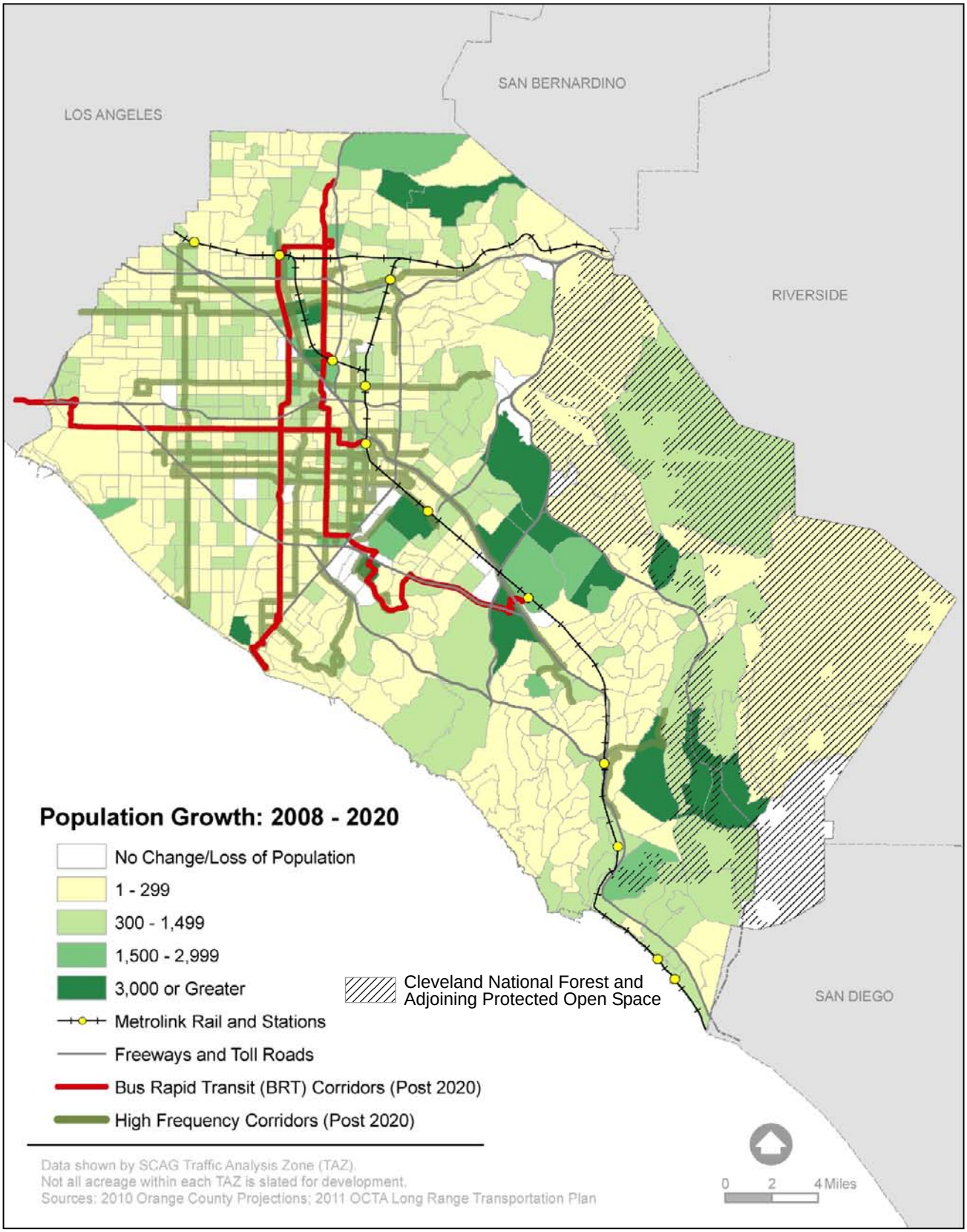


Figure 6

Orange County Population Growth 2008 - 2020

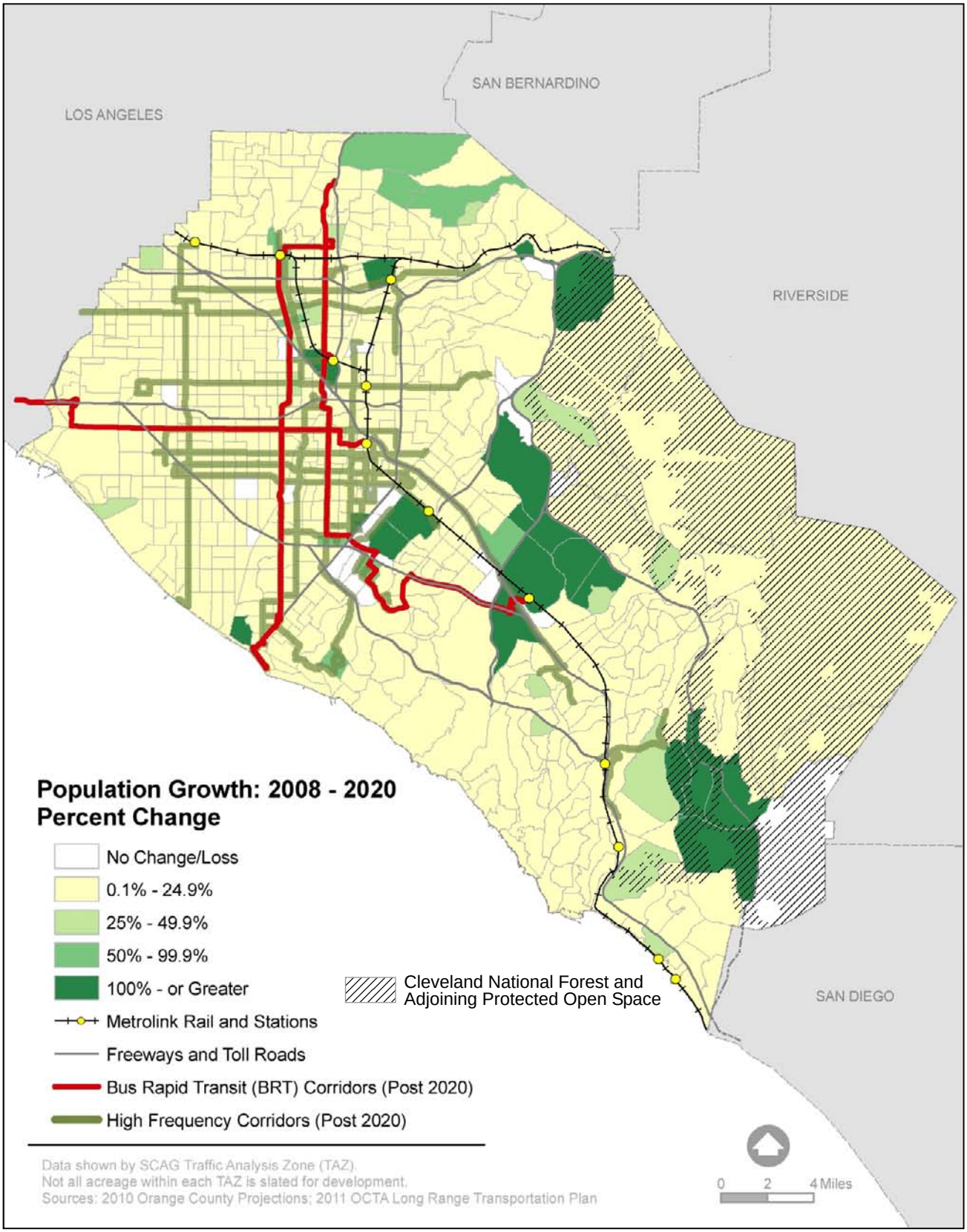


Figure 7

Orange County Percent Change Population Growth 2008 - 2020

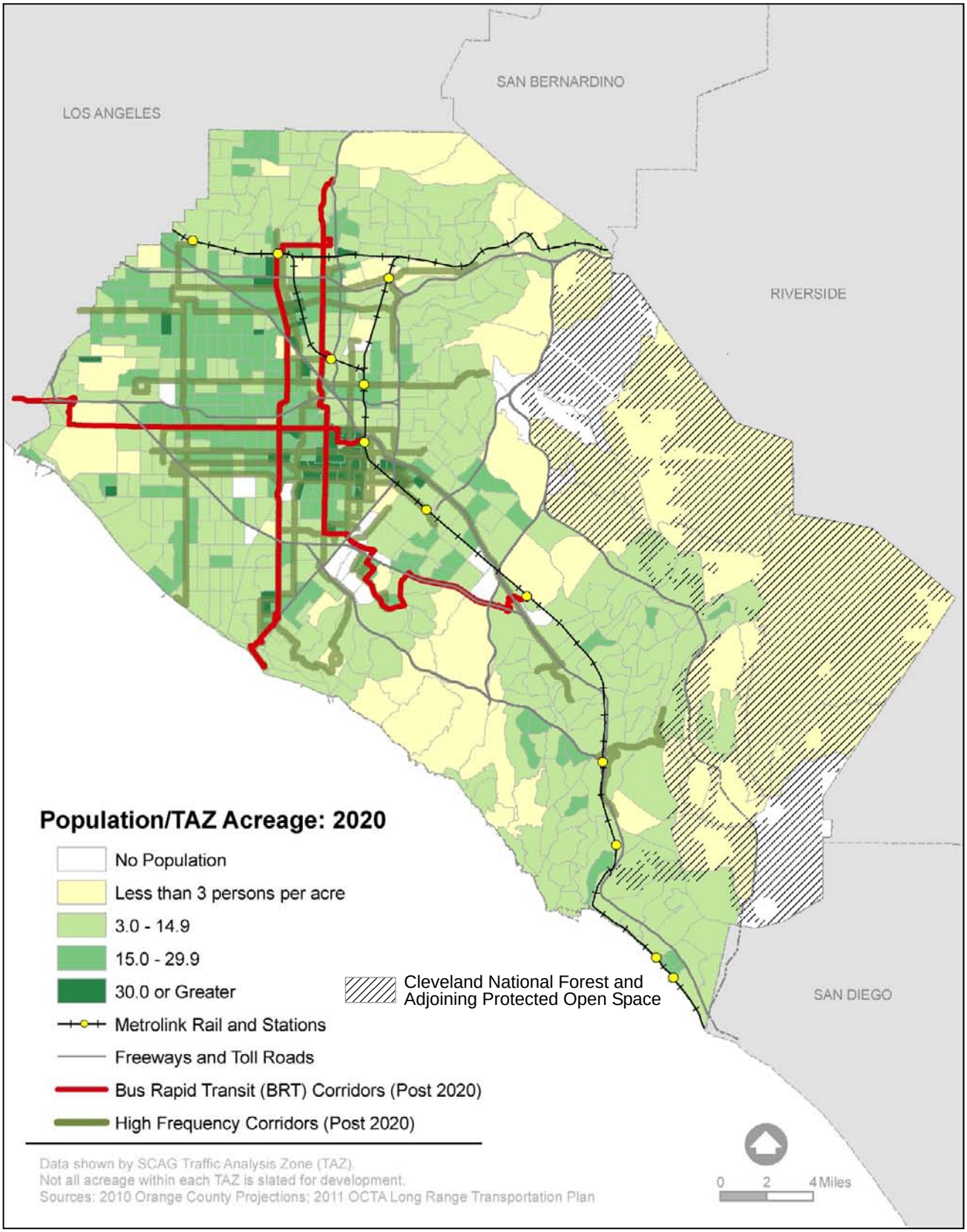


Figure 8

Year 2020 Orange County Population Density

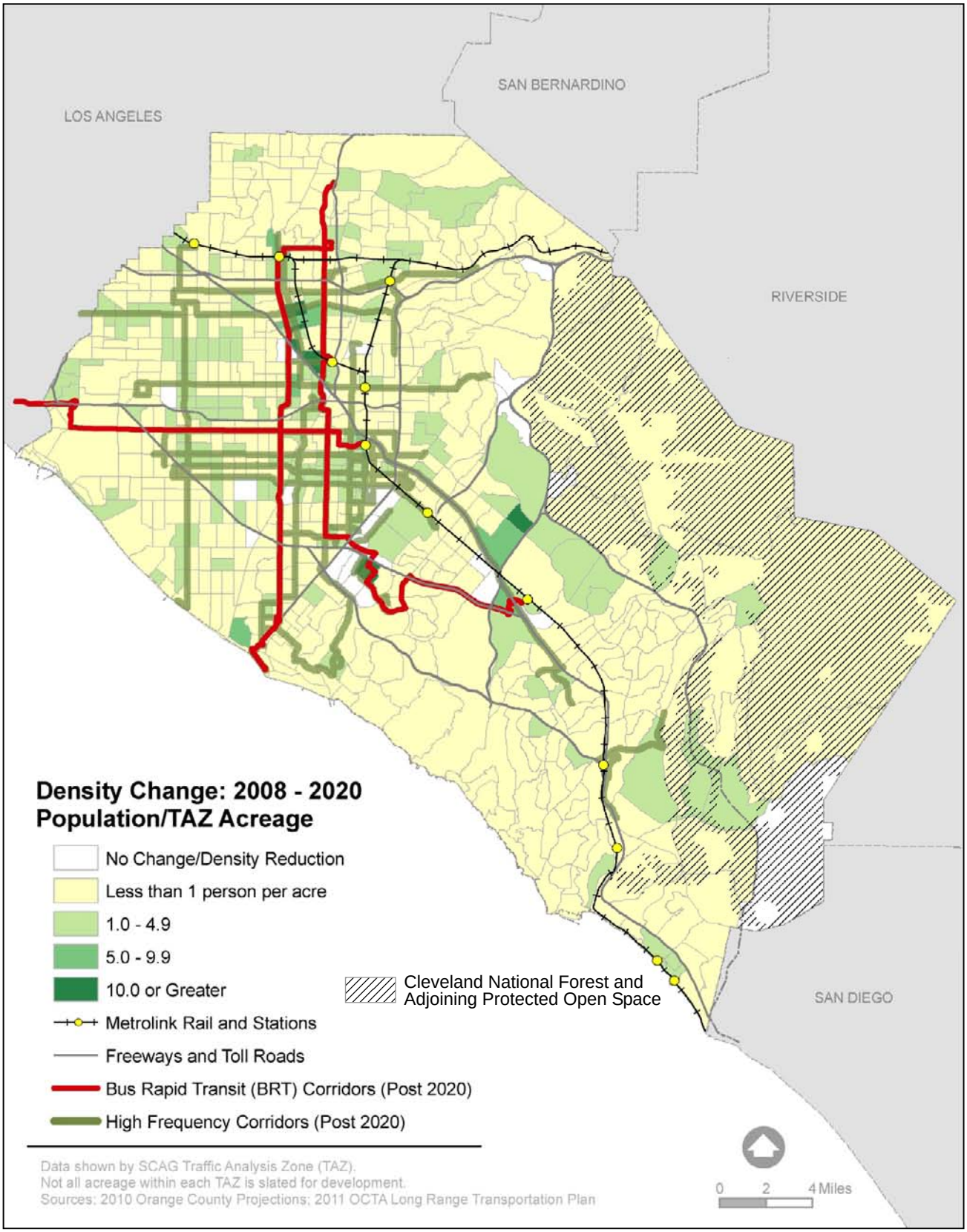


Figure 9

Orange County Population Density Change 2008 - 2020

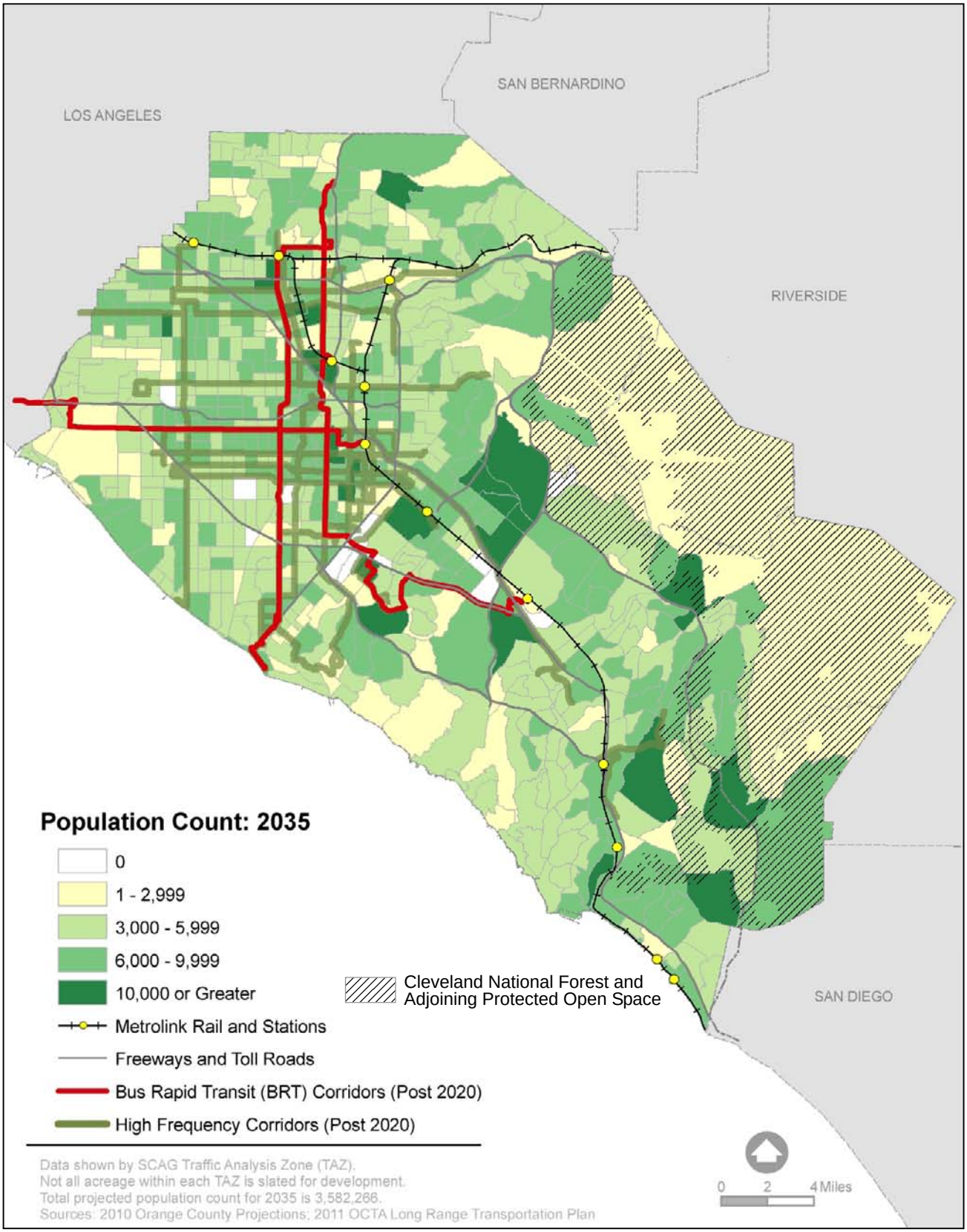


Figure 10 **Year 2035 Orange County Population**

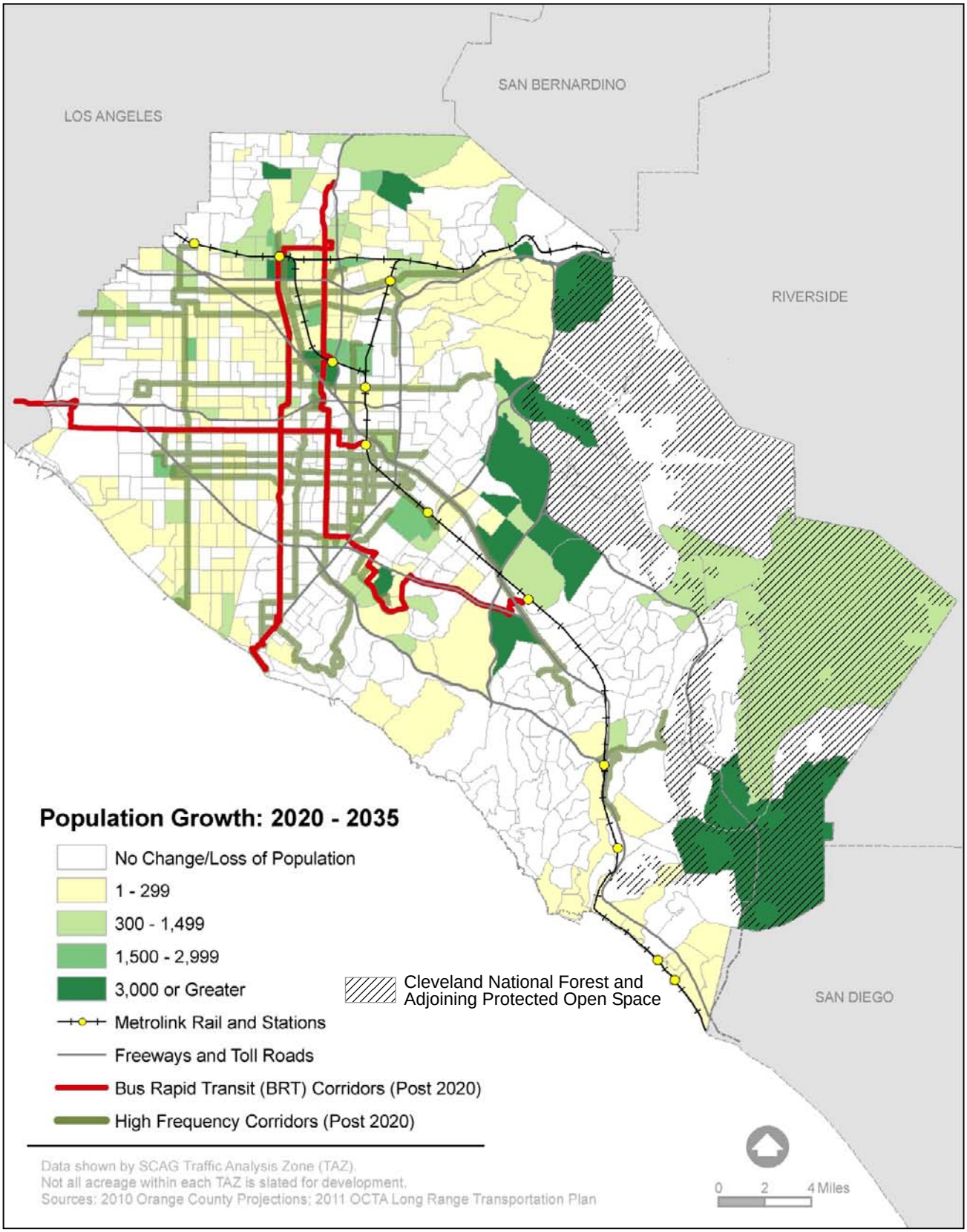


Figure 11

Orange County Population Growth 2020 - 2035

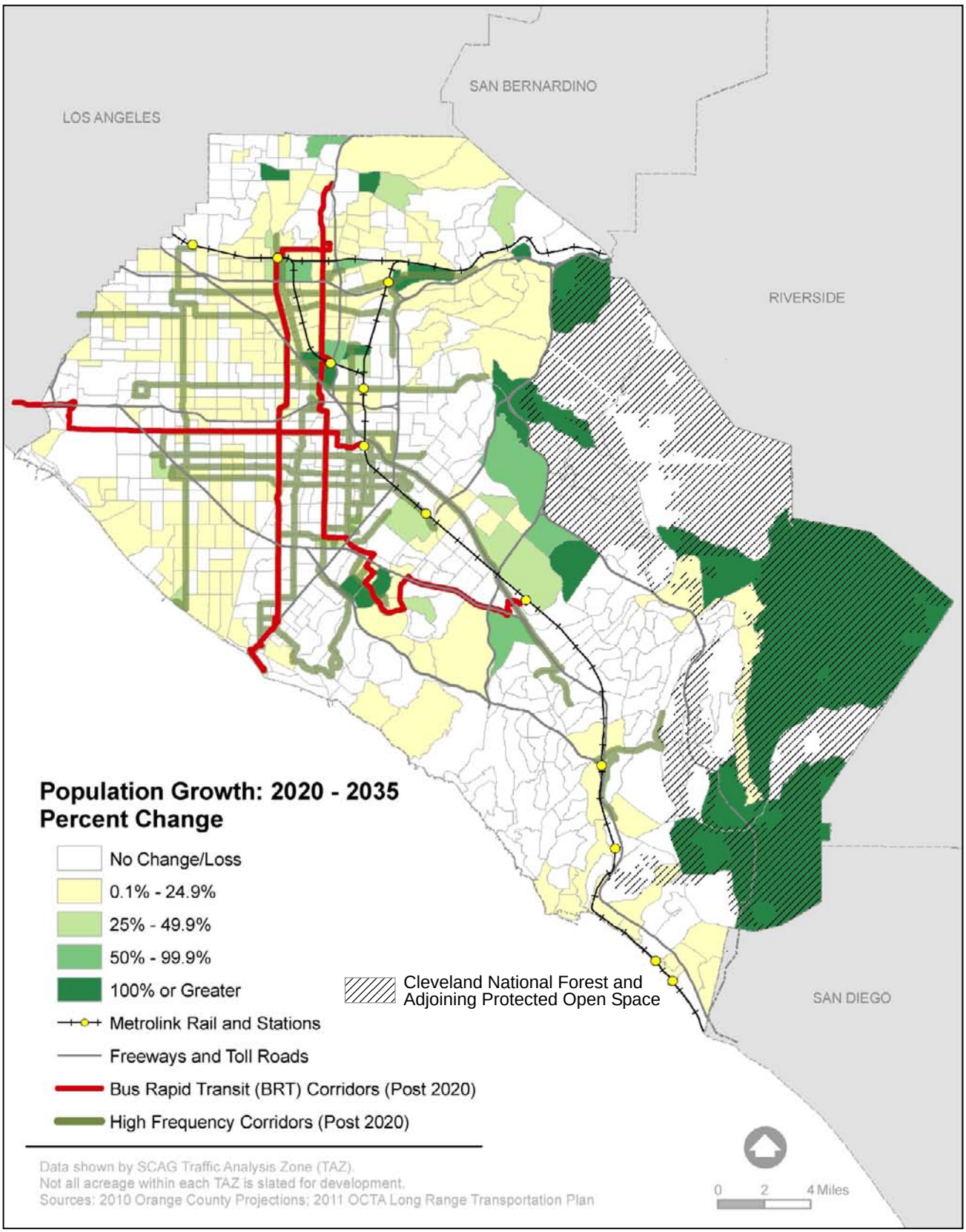


Figure 12

Orange County Percent Change Population Growth 2020 - 2035

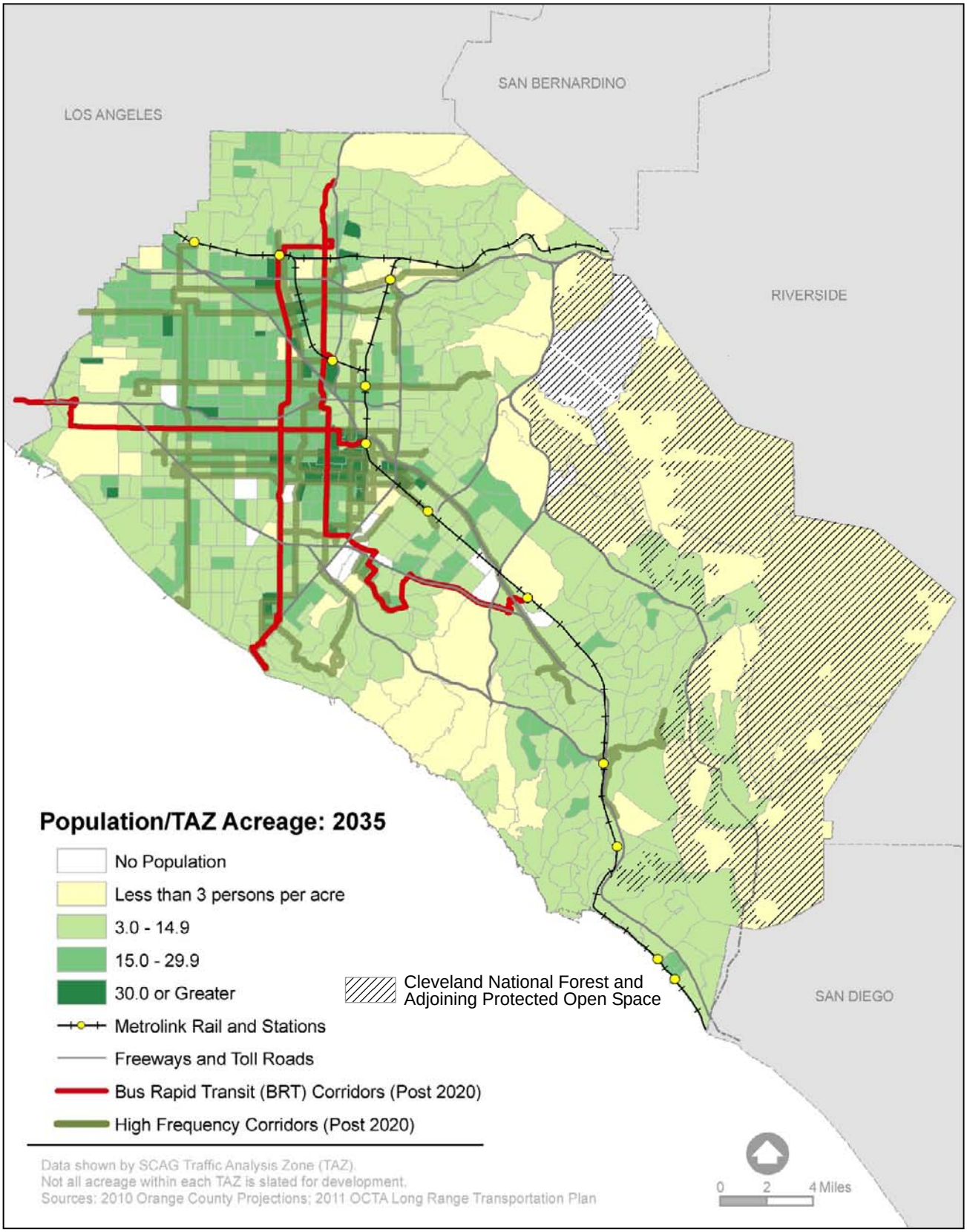


Figure 13

Year 2035 Orange County Population Density

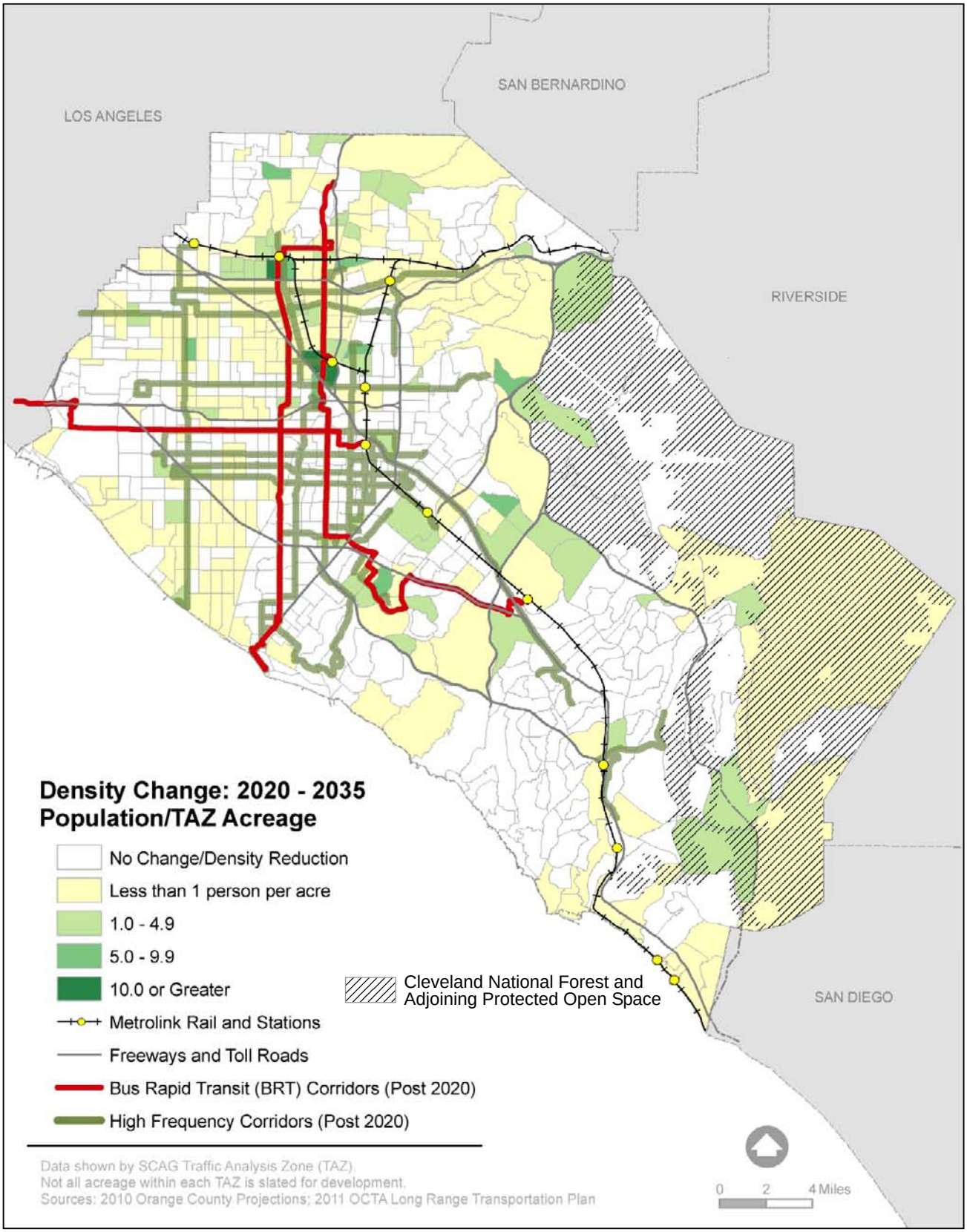


Figure 14

Orange County Population Density Change 2020 - 2035

HOUSING

In 2008, Orange County had 1,035,005 housing units (Figure 15). Taking population and employment into account, this equates to one housing unit per 3.02 Orange County residents, and one housing unit for every 1.57 jobs. Due to the large influx of population from the 1950s to the 1980s, most housing units in Orange County were built during that time. Table D shows housing construction from 1950 to 2005 and later, as reported by the 2008 American Community Survey.

Figure 16 shows that between 2005 and 2008, housing construction clearly outweighed housing demolitions. The largest pockets of housing construction occurred in the coastal and southern regions of Orange County, while the majority of housing demolitions occurred in the mature central and northern portions of the County. This concentration of demolitions may point to the projected transition near the urban cores, tending to increase residential density in these areas.

Table D: 2008 American Community Survey Orange County Homes by Decade

Year Built	Number	Percent
2005 or later	20,677	2%
2000 to 2004	60,876	5.9%
1990 to 1999	112,207	10.8%
1980 to 1989	164,819	15.9%
1970 to 1979	268,535	25.9%
1960 to 1969	213,269	20.6%
1950 to 1959	142,282	13.7%
Before 1950	52,545	5.3%
Total	1,035,210	100.0%

Source: 2008 American Community Survey 1-Year Estimate, Housing Data Profile

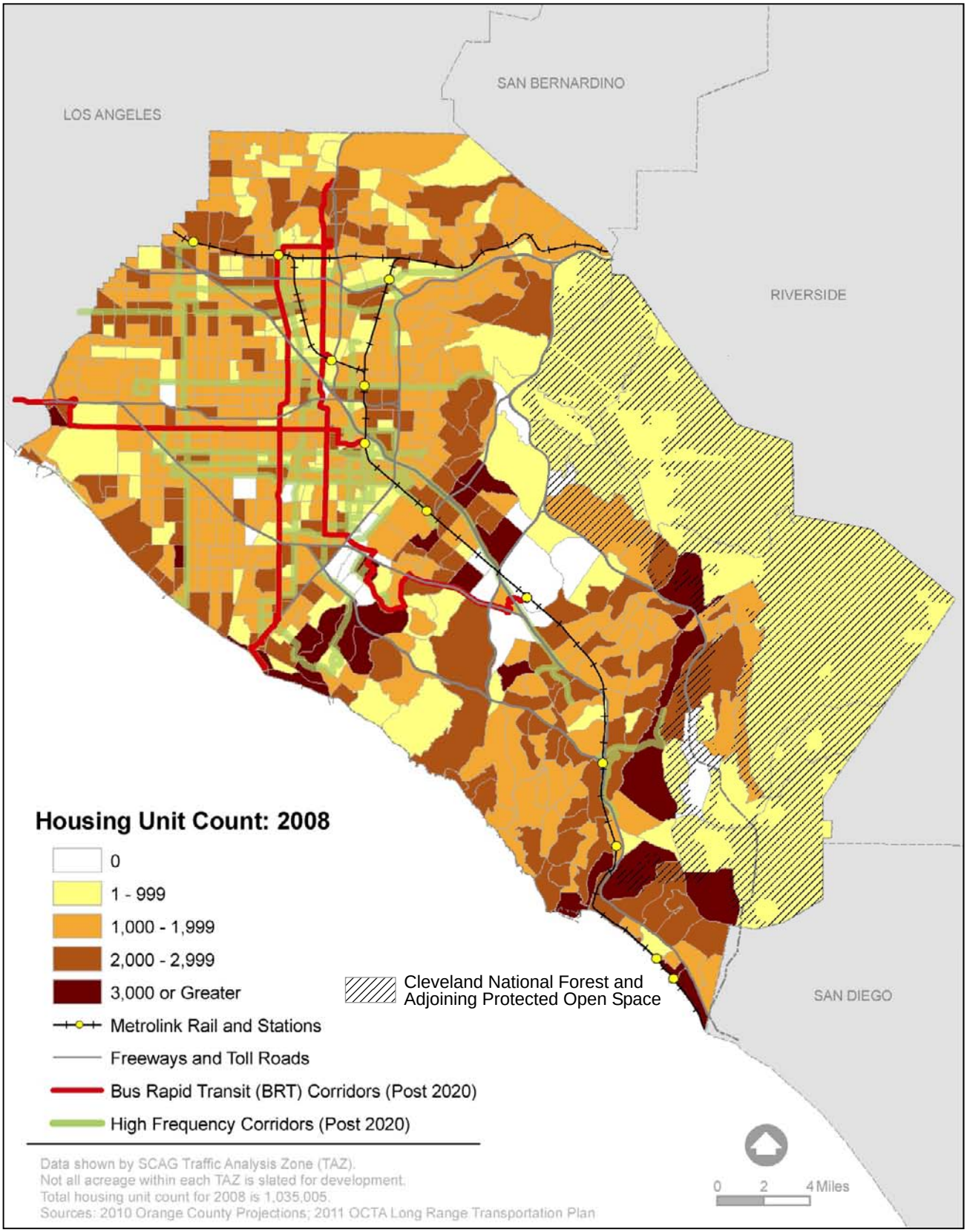


Figure 15

Existing (2008)
Orange County Housing Units

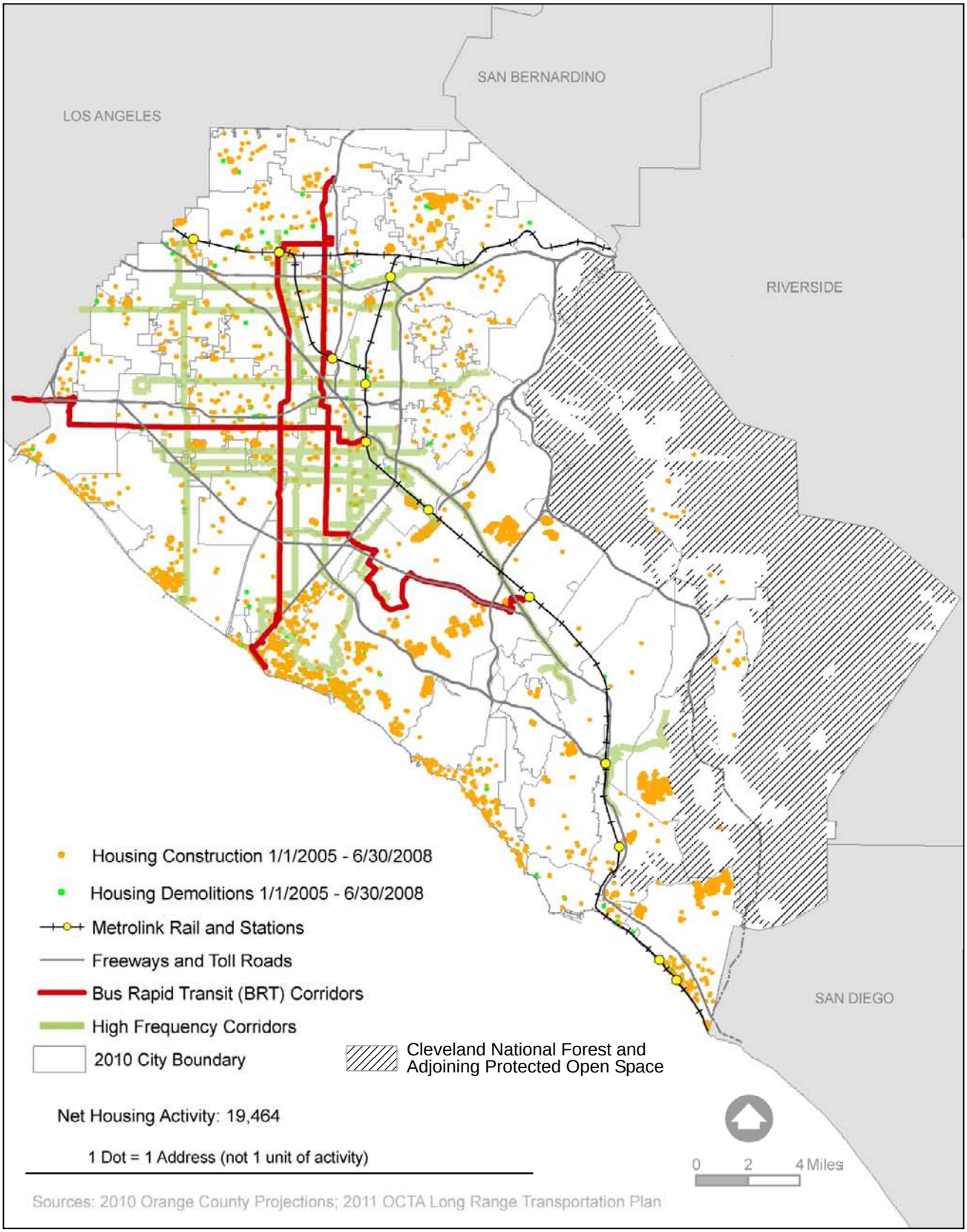


Figure 16 **Orange County Housing Activity 2005 - 2008**

Table E shows that just over half of Orange County's housing (51.6%) is comprised of one-unit, detached structures. The second most common housing is 20-unit or more structures, which make up 12.6% of housing in the County, followed by one-unit, attached housing at 11.7%.

Table E: 2008 American Community Survey Orange County Homes by Type

Type of Structure	Number of Units in Structures	Percent of Total
1-Unit, Detached	533,218	51.6%
1-Unit, Attached	121,432	11.7%
2 Units	16,471	1.6%
3 or 4 Units	73,948	7.1%
5 to 9 Units	69,788	6.7%
10 to 19 Units	56,357	5.4%
20 Units or More	130,209	12.6%
Mobile Home	33,254	3.2%
Boat, RV, Van, Etc.	533	0.1%
Total	1,035,210	100.0%

Source: 2008 American Community Survey 1-Year Estimate, Housing Data Profile

Between 2008 and 2035, Orange County is projected to experience a net gain of 139,907 housing units, based upon the input of the Orange County jurisdictions, with about a third of these units (36.9% or 51,663 housing units) planned on raw land within the hashmarked areas on Figure 17A.[1] Raw land for the purpose of developing Figure 17A was defined as land not previously developed or land that is a decommissioned military base and is not a protected, open space or habitat area. Figure 17B illustrates permanently protected open space areas, consolidated from several categories.[2] The remaining two thirds of projected housing units, (88,244 units or 63.1%), will be infill or redevelopment projects. Of the total, 38,821 (27.7%) are projected to be single-family detached units and 101,086 (72.3%) are projected to be attached units.

[1] Figure 17A was first developed in 2002 by CDR to look at future housing development on raw land in Orange County. This map is updated over time and has been updated with the OCP-2010 housing projections data, which was reviewed and approved by jurisdictions in Orange County. This map first identifies areas not available for development including national forest, land or habitat preserves, major parks and open space, military installations, and landfills. Because of the scale of the map, smaller parks and open space areas are not displayed. The areas identified in red, most prevalent in the eastern and southern portions of the County, have slopes of 30% or greater on which it is typically cost-prohibitive to build. An aerial photo was reviewed to identify large areas in the county that looked vacant. Those areas were bounded and then each jurisdiction with an identified area was contacted about any residential development planned for the area. Although some of the project areas are large, not all of the land within the project areas will be developed for residential or employment uses. Much of the land within those project areas will be left as open space.

[2] Though certain elements of open space are illustrated in Figure 17B, Chapter 5 provides a comprehensive inventory of the resource areas and farmlands located within the County.

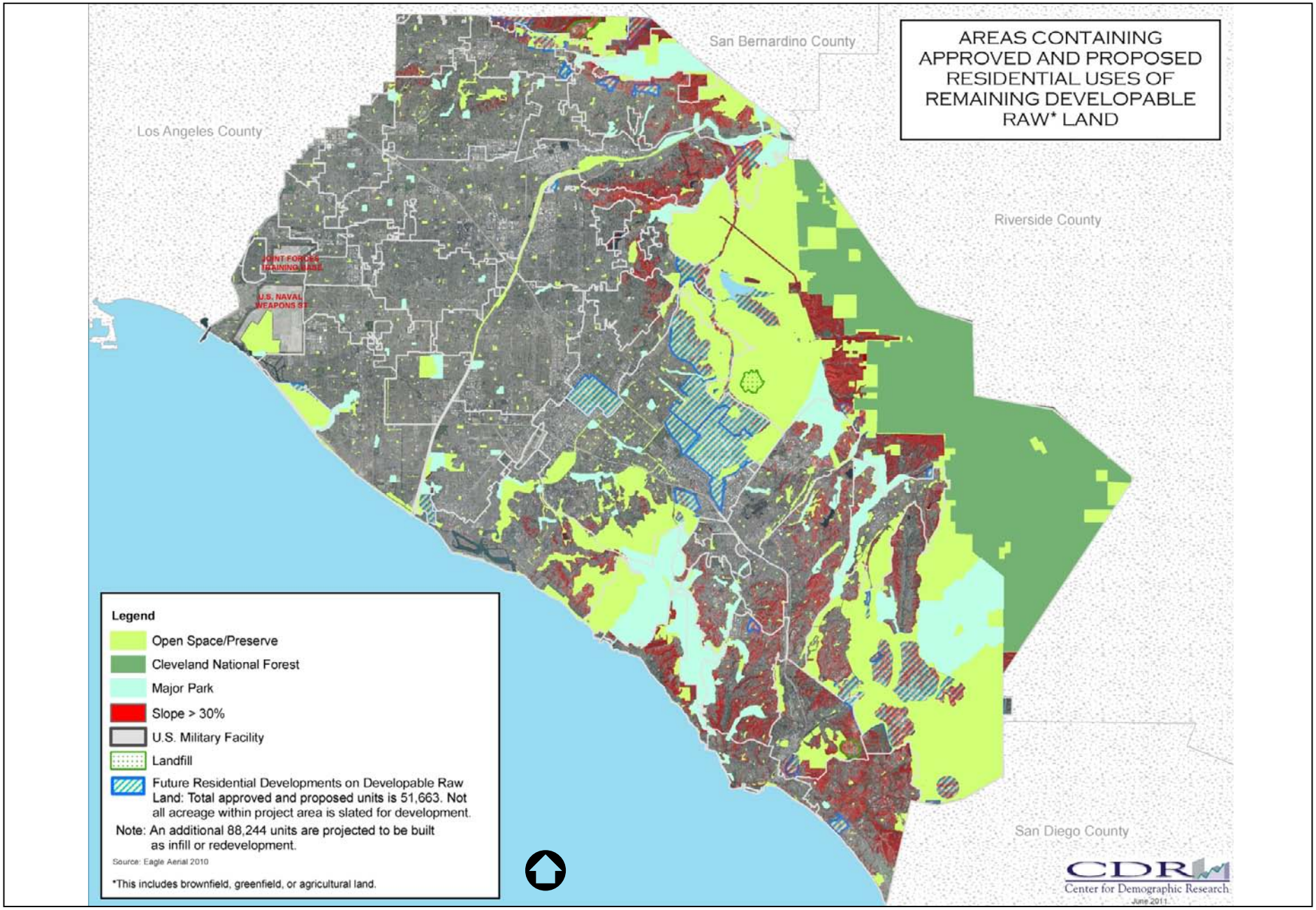


Figure 17A

Areas Containing Approved and Proposed Residential Uses of Developable Raw* Land

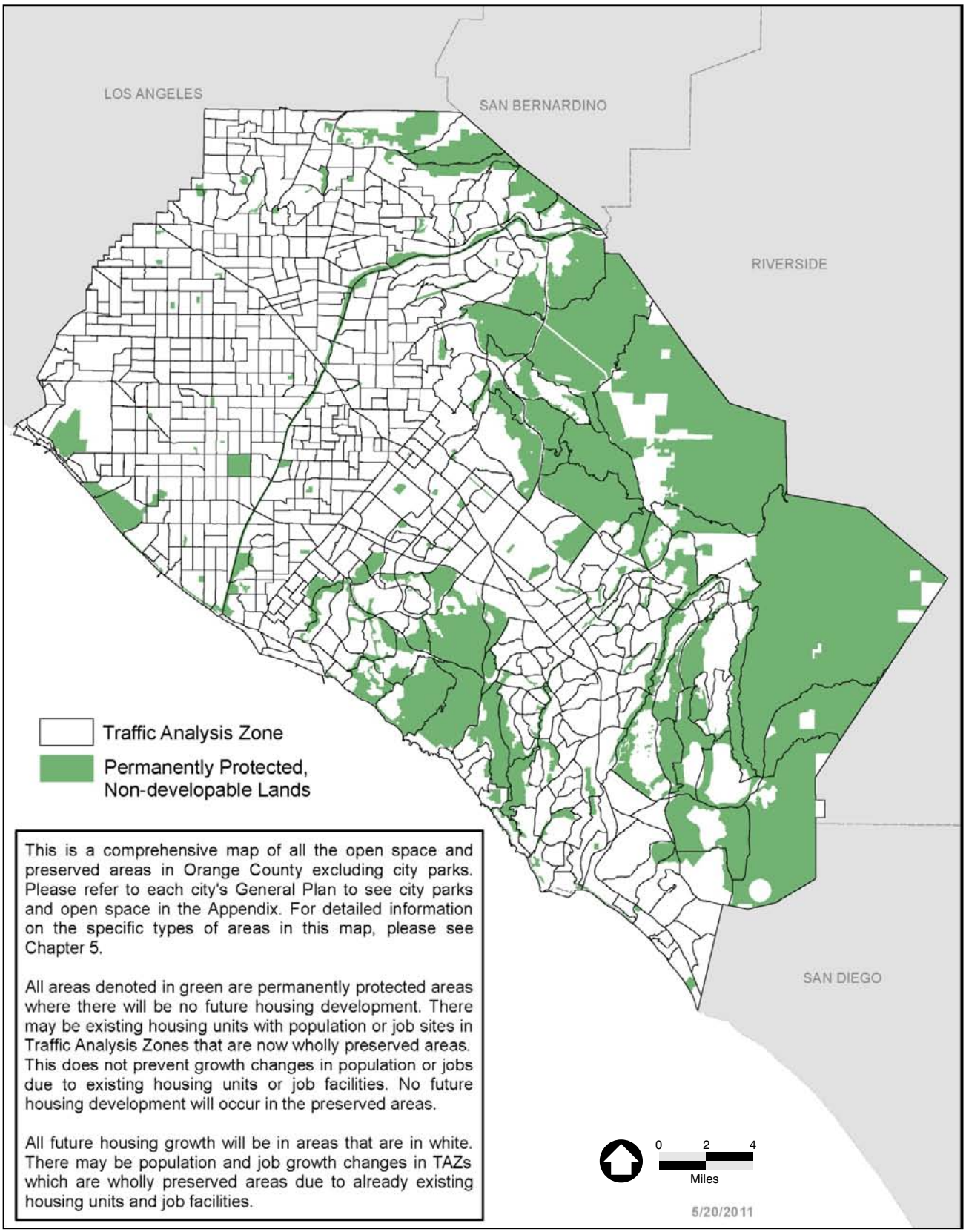


Figure 17B

Orange County Comprehensive Permanently Protected Areas

To summarize, about three of every four units to be built between 2008 and 2035 are projected to be attached residential, such as a condominium, townhome, or apartment.

In 2008, the majority of TAZs in the County have housing densities of one to under five housing units per TAZ acre. The use of the term "housing density" for a TAZ refers to the housing density of the total TAZ acreage, not the density of any specific housing development within the TAZ. The concentration of TAZs with high densities of housing in the central region of the county follows the trend established in the population density analysis. In other words, the urban cores are experiencing increased infill, reuse of land, and increased developments of multi-unit housing structures to support the growing populations in these regions (see Figure 18).

By 2020, the total number of housing units in Orange County is projected to increase by 65,255, from 1,035,005 to 1,100,260 (see Figure 19). A growing population requires approximately one housing unit per 3.28 residents or 1.5 jobs.[3] The projected housing production by 2020 will continue to satisfy the growing population. Given the forecast growth in population, this projected growth in housing is sufficient to house all the population of Orange County by 2020.

This housing growth will occur throughout the County and there will be fewer large areas without housing. The largest concentration of housing growth between 2008 and 2020 will occur in Brea; the middle section of the County straddling the I-5 Freeway in Irvine; Tustin's Legacy development; and Rancho Mission Viejo in unincorporated South County. Additionally, TAZs with 3,000 or greater housing units are expected to grow in numbers, signaling increased densification (see Figure 20).

Overall, the County is projected to experience an even spread of housing unit growth between 2008 and 2020. During this time, the majority of TAZs will experience an increase of between 1-99 housing units. Figure 21 does show many TAZs that will experience no growth or loss of units that can be explained by the fact that much of Orange County's developable land has already been built on and, therefore, is limited in the number of units that can be added. This is especially true where the housing stock is newer and/or within planned communities. Future developments will be more dense to offset the limited land supply. As previously mentioned, 75 percent of the future housing growth will be an attached or some form of attached unit.

[3] Cervero, Robert. 1991. "Jobs/Housing Balance as Public Policy." Urban Land 50, no.10:10-14; Ewing, Reid. 1996. Best Development Practices: Doing the Right Thing and Making Money at the Same Time. Chicago: Planners Press; Weitz, Jerry. 2003. "Jobs-Housing Balance." Planning Advisory Service Report 516. Michigan: American Planning Association.

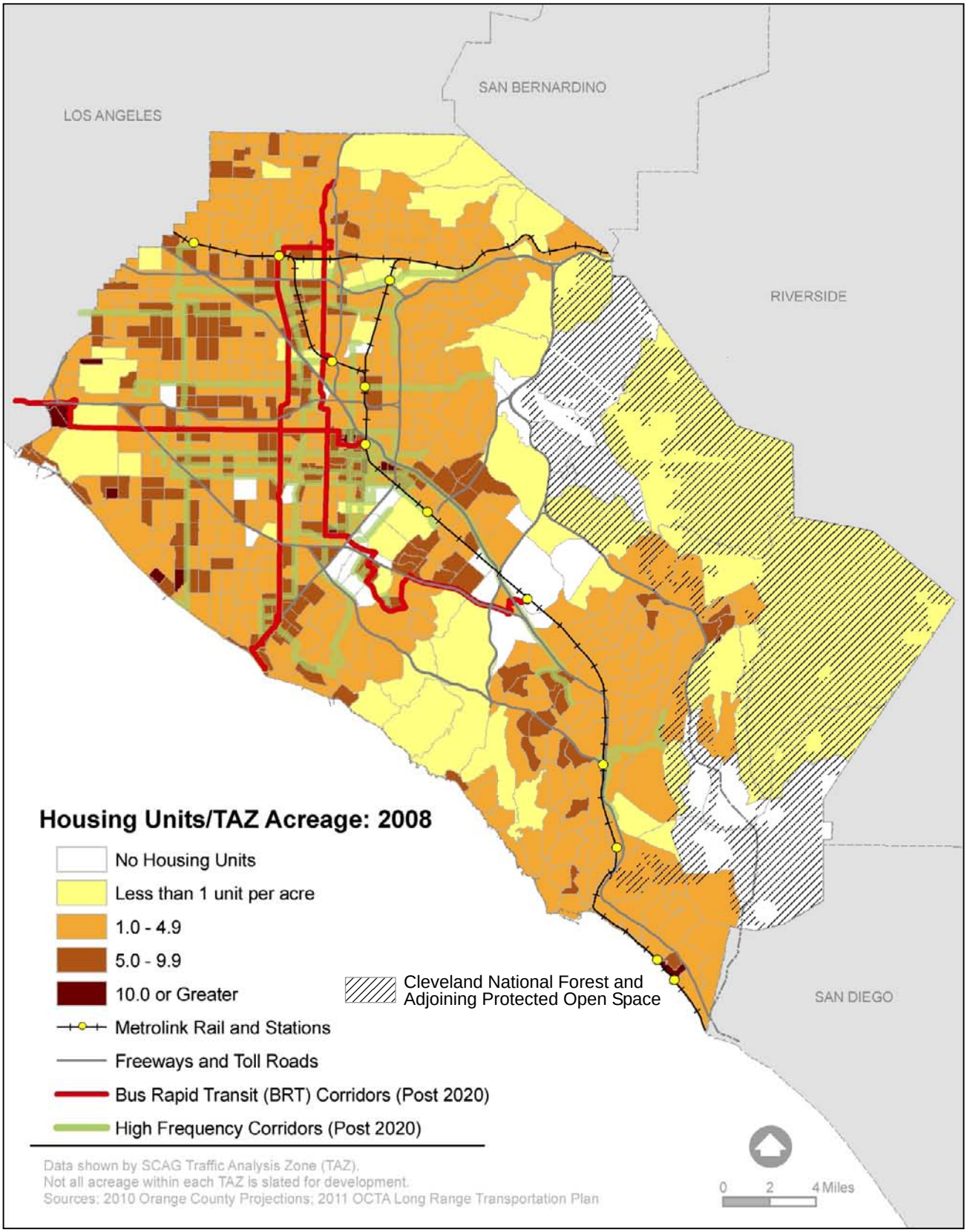


Figure 18

Existing (2008)
Orange County Housing Density

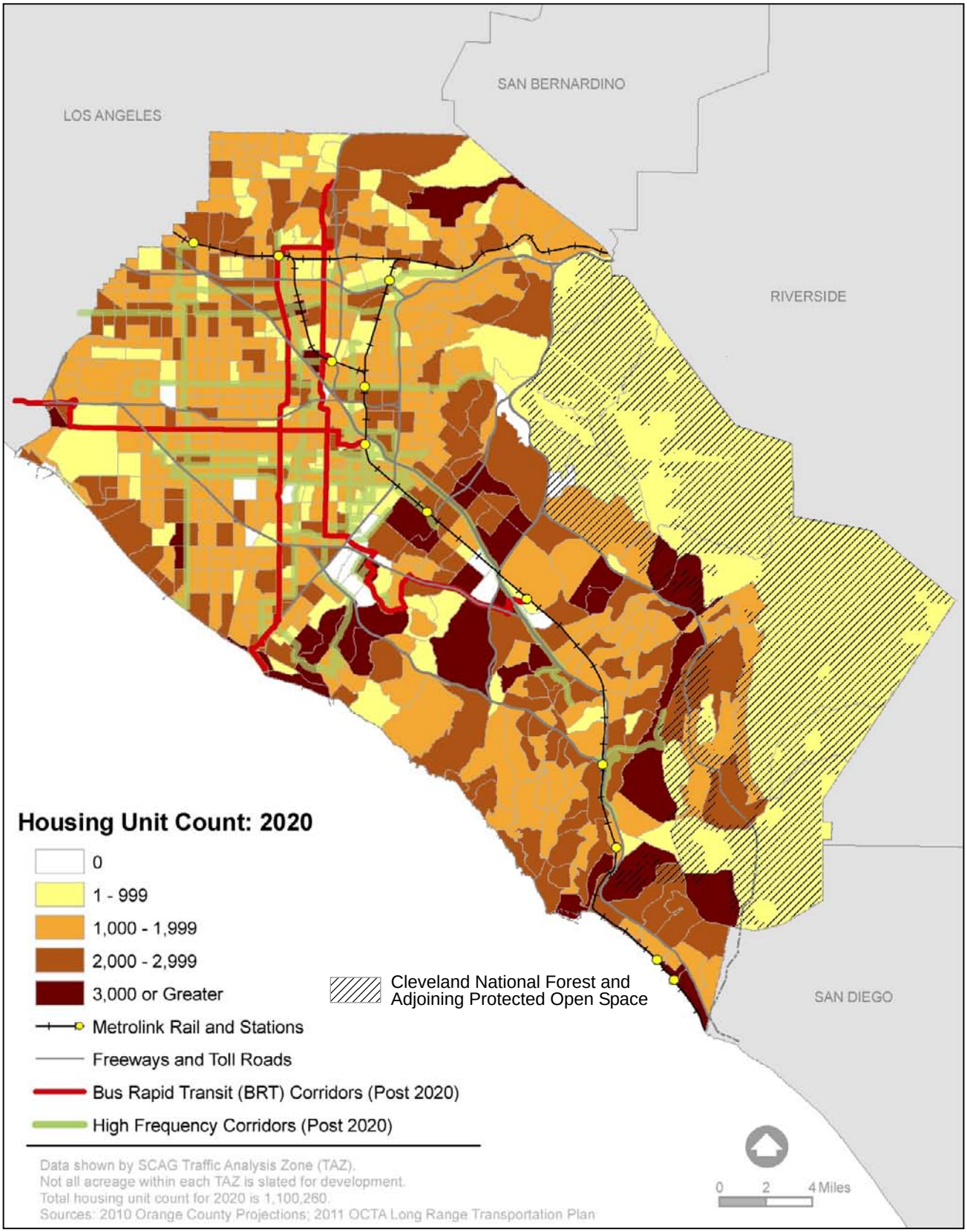


Figure 19

Year 2020
Orange County Housing Units

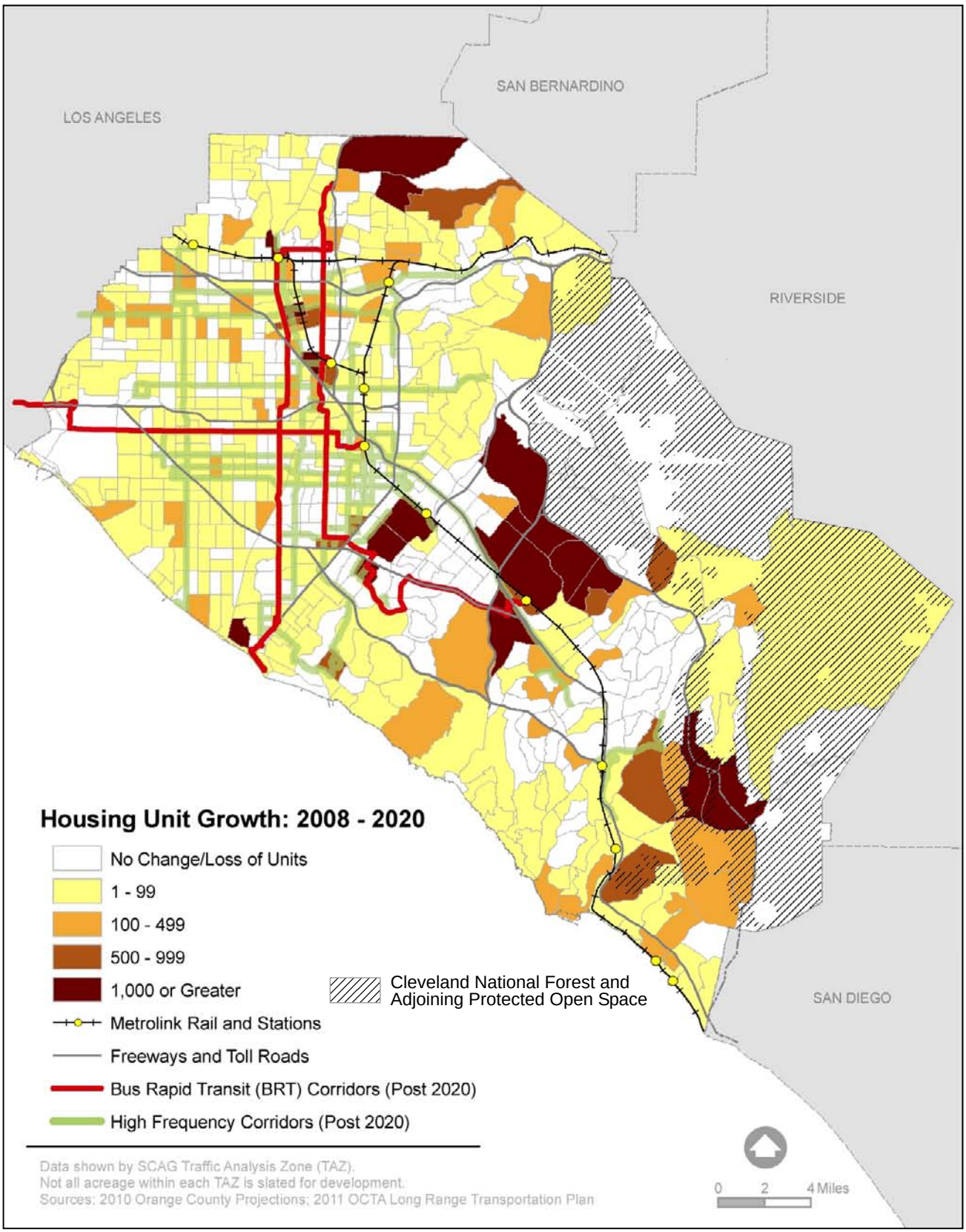


Figure 20

Orange County Housing Growth 2008 - 2020

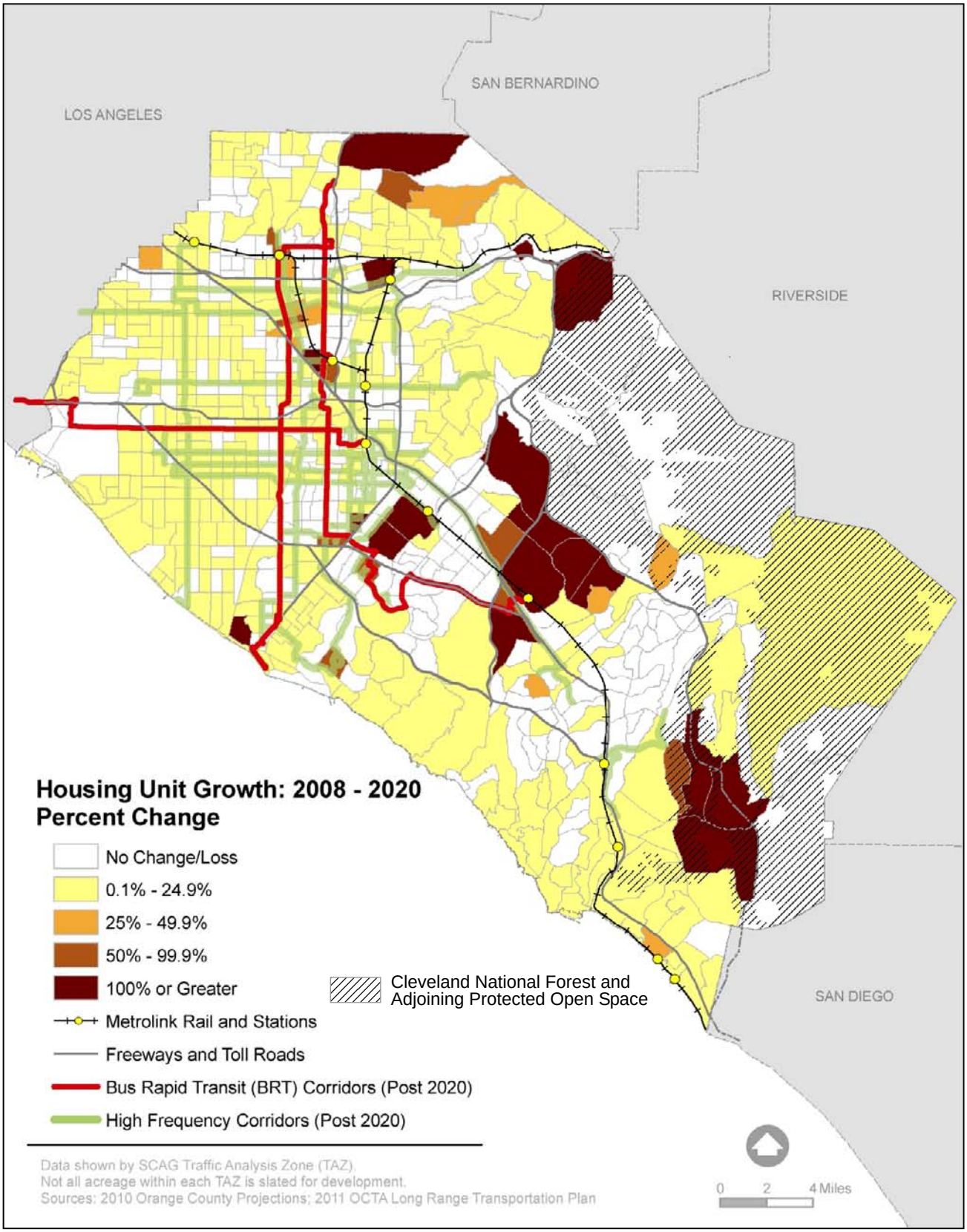


Figure 21

Orange County Percent Change Housing Unit Growth 2008 - 2020

Orange County housing unit density in 2020, measured in units per TAZ acre, shows pockets of increasing densification adjacent to transit options, especially around the Metrolink rail line (see Figures 22 and 23).

By 2035, housing totals in Orange County are projected to grow to 1,174,912. This constitutes an increase of 74,652 units between 2020 and 2035. This equates to one housing unit for every 3.02 Orange County residents and one housing unit for every 1.53 jobs.

In 2035, the only TAZs with no housing units are areas of permanently dedicated open space and parkland. The densest TAZs, holding 3,000 housing units or more, become much more prevalent in 2035 and are most notably found in Brea, Fullerton, Anaheim, Tustin, Irvine, Lake Forest, Newport Beach, San Juan Capistrano, Yorba Linda, and unincorporated south county communities of Ladera Ranch and Rancho Mission Viejo (Figure 24).

As shown in Figures 25 and 26, from 2020 to 2035, the majority of high-growth TAZs that grow by 1,000 units or more, and by 100% or more, effectively double the housing units in those areas. These include TAZs in Anaheim, La Habra, Orange, Fullerton, Irvine, Tustin, and the future Rancho Mission Viejo community in unincorporated South County.

In 2035, the continued trend of housing unit densification is clearly seen. Many of the most housing-dense TAZs are concentrated in the centralized urban cores of Orange County, along the commuter rail lines, and the proposed bus rapid transit and high frequency bus routes (Figures 27 and 28).

In summary, from 2008 to 2035, the County is projected to add 139,907 housing units, an increase of 13.5%, of which 75% will be attached units. The projected evolution of the County is for housing unit growth and housing unit density to increase throughout the County, with growth concentrated in the traditional urban cores. The majority of future residential developments on raw land are projected to occur in the central cities of Irvine and Tustin, and the southern region encompassing Rancho Mission Viejo in the unincorporated portion of the County east of San Clemente.

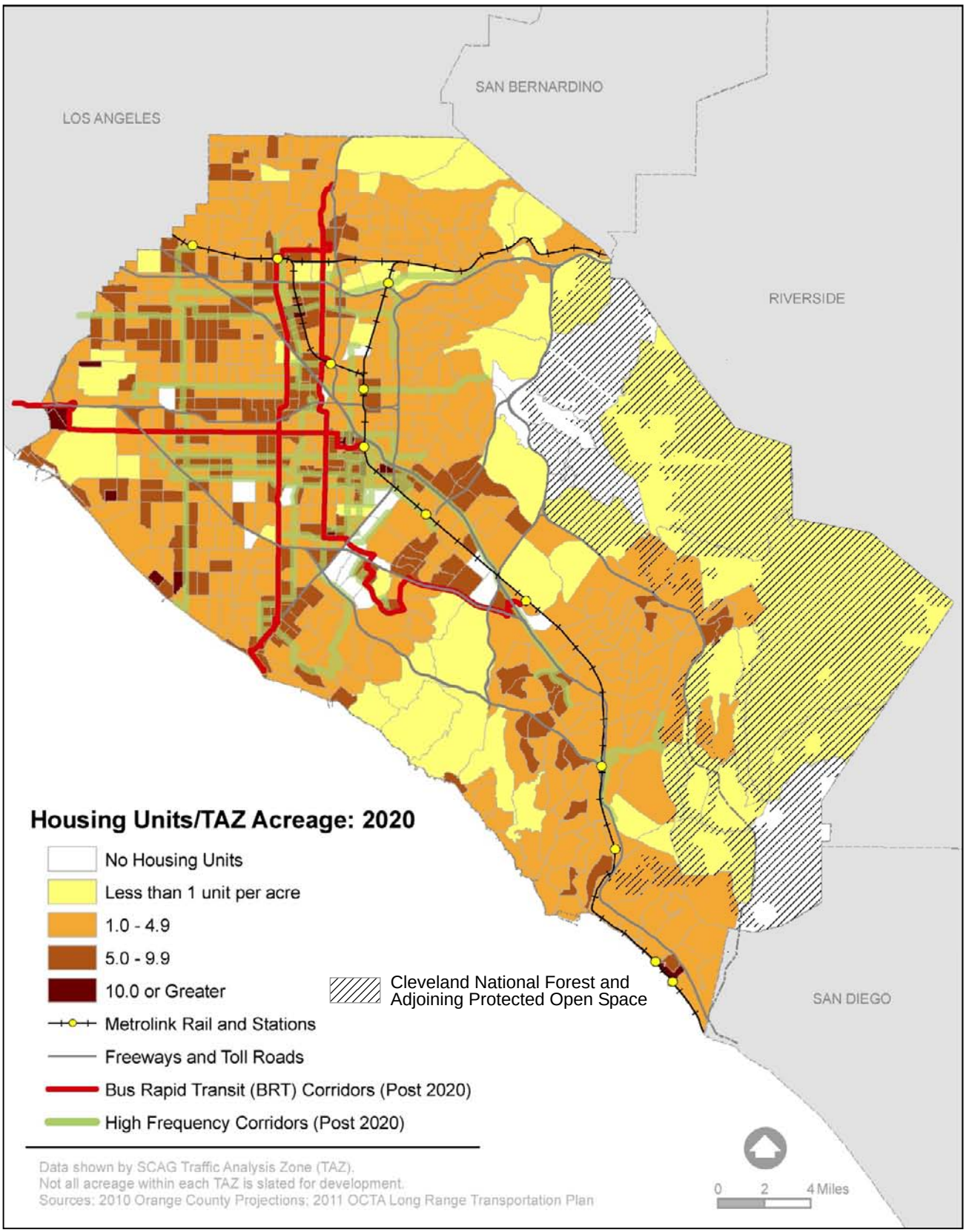


Figure 22

Year 2020
Orange County Housing Density

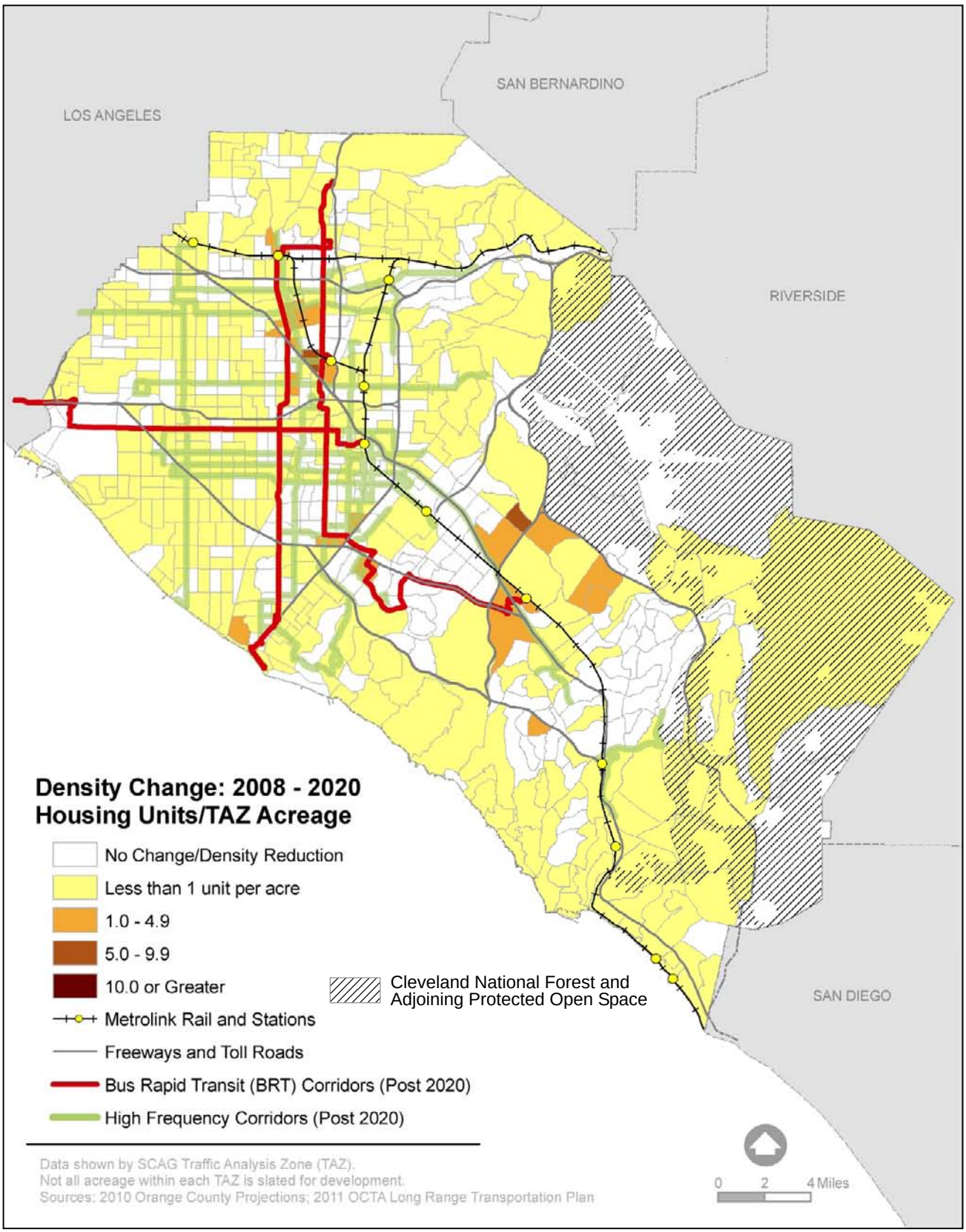


Figure 23

Orange County Housing Density Change 2008 - 2020

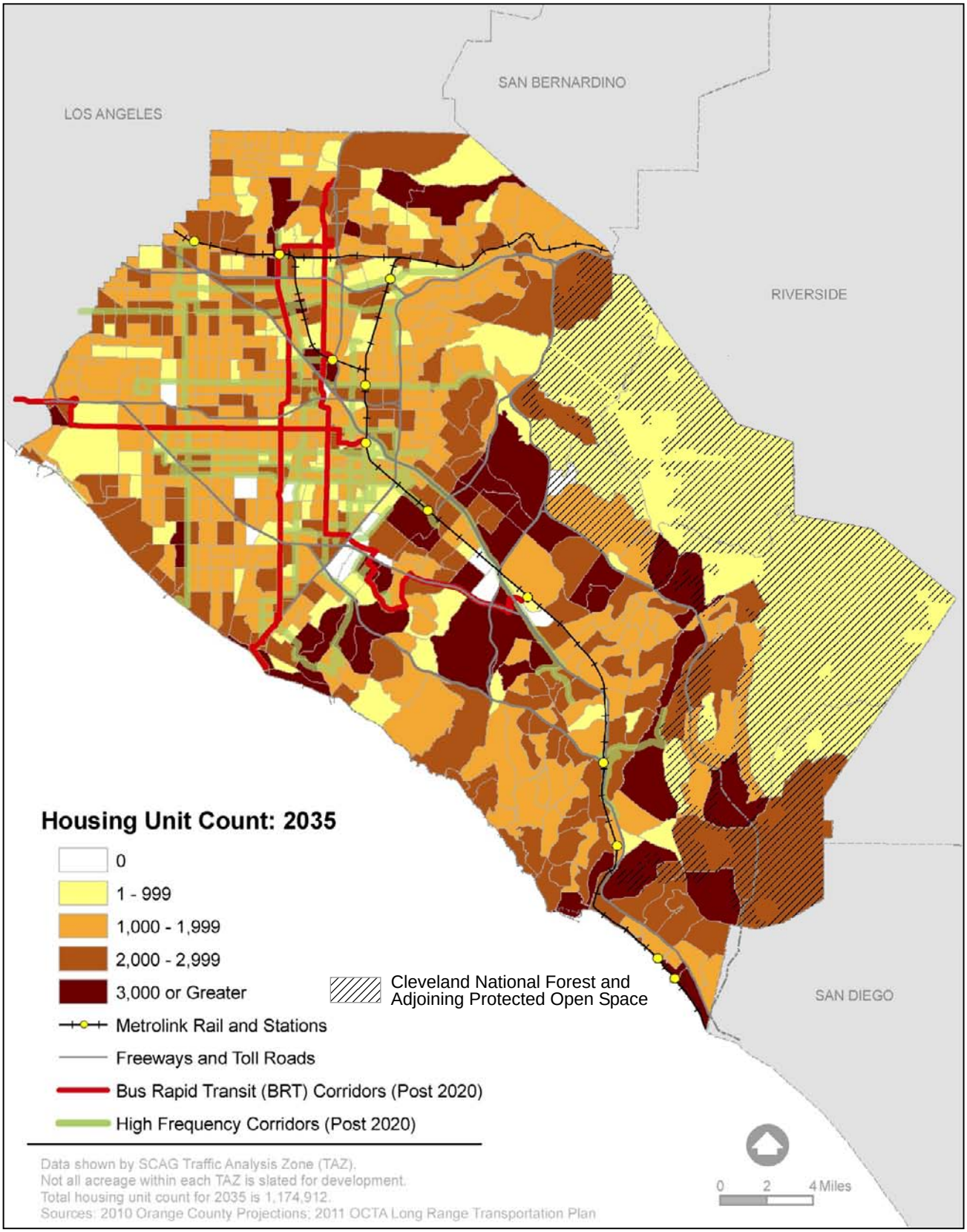


Figure 24

Year 2035
Orange County Housing Units

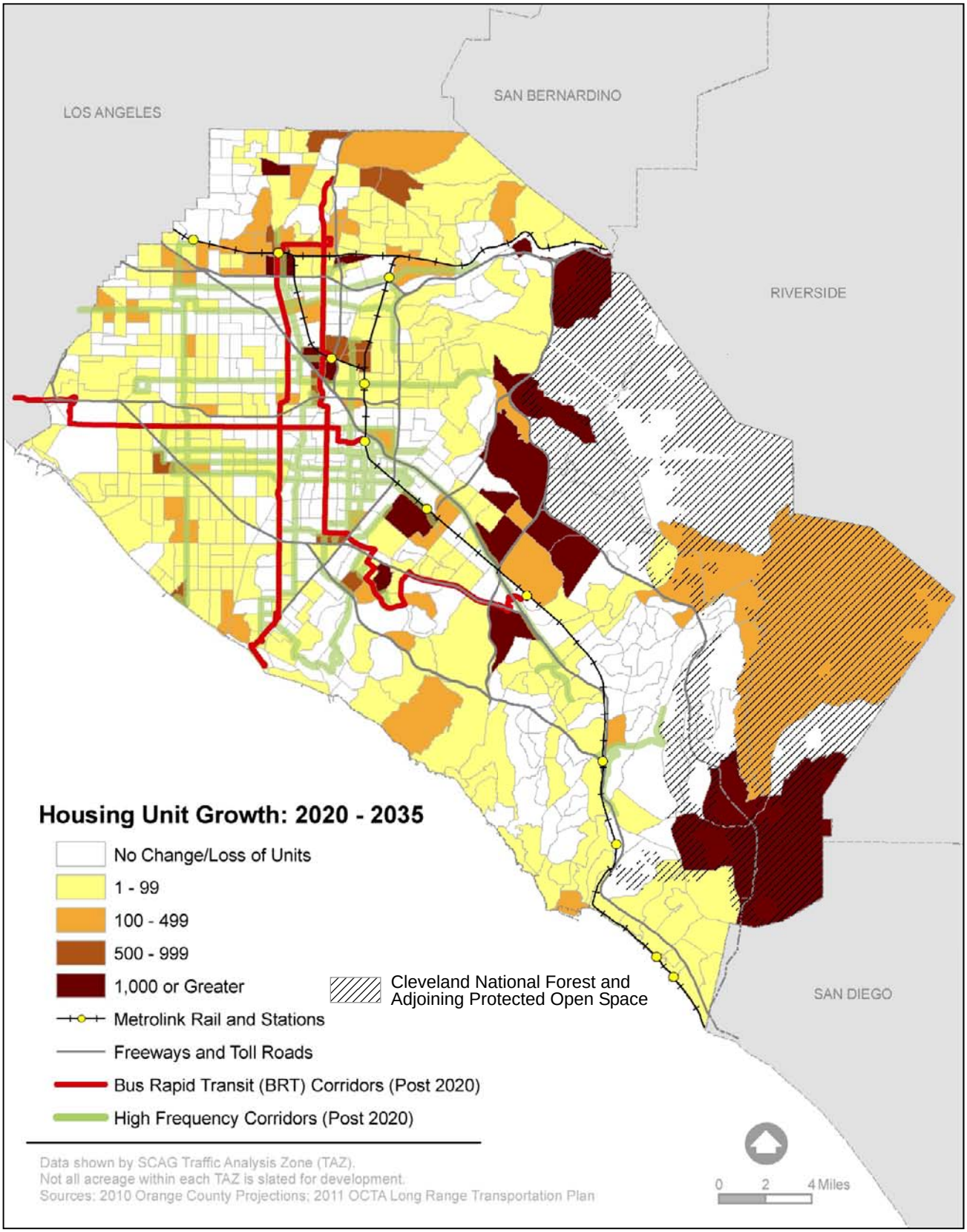


Figure 25

Orange County
Housing Unit Growth 2020 - 2035

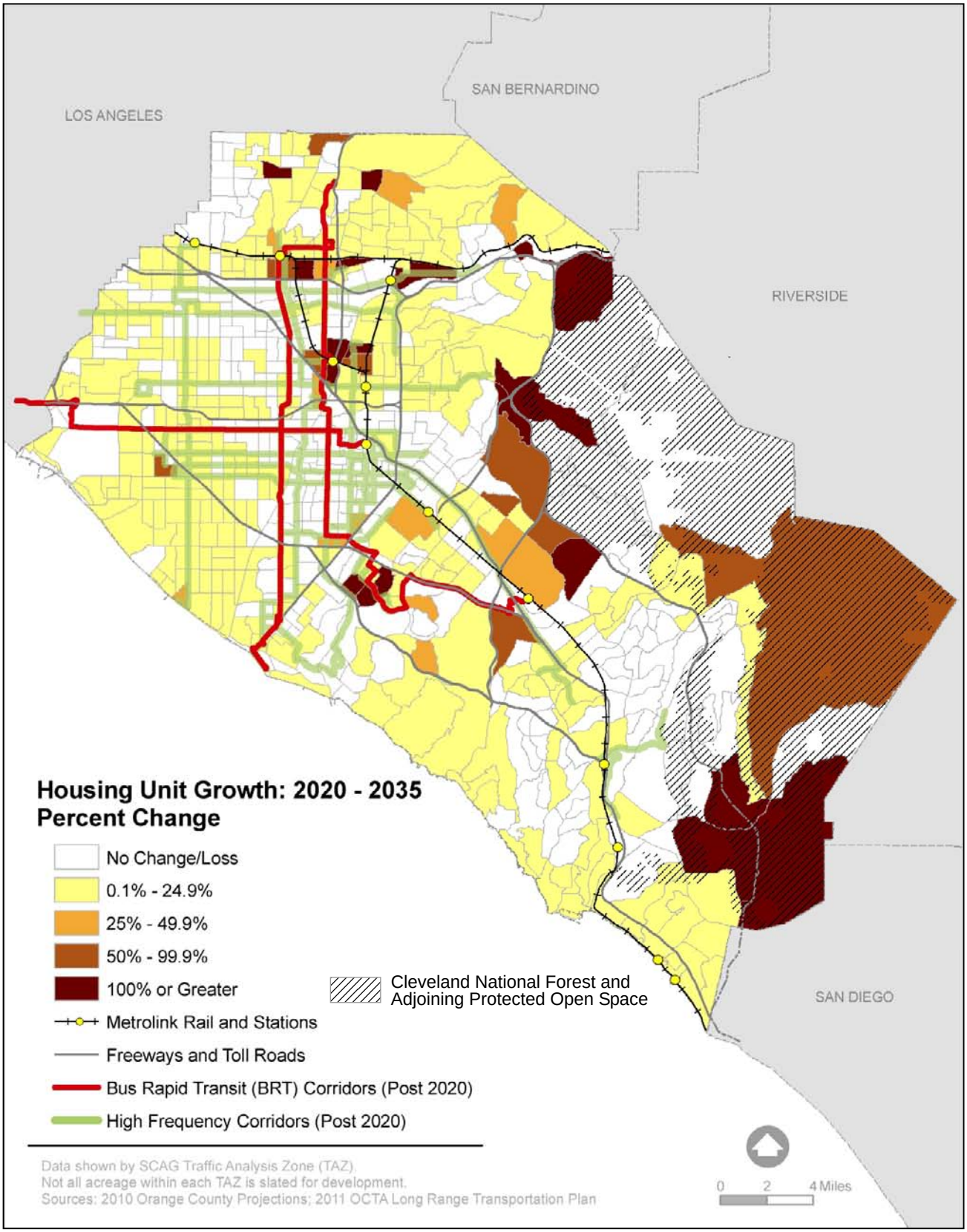


Figure 26

Orange County Percent Change Housing Unit Growth 2020 - 2035

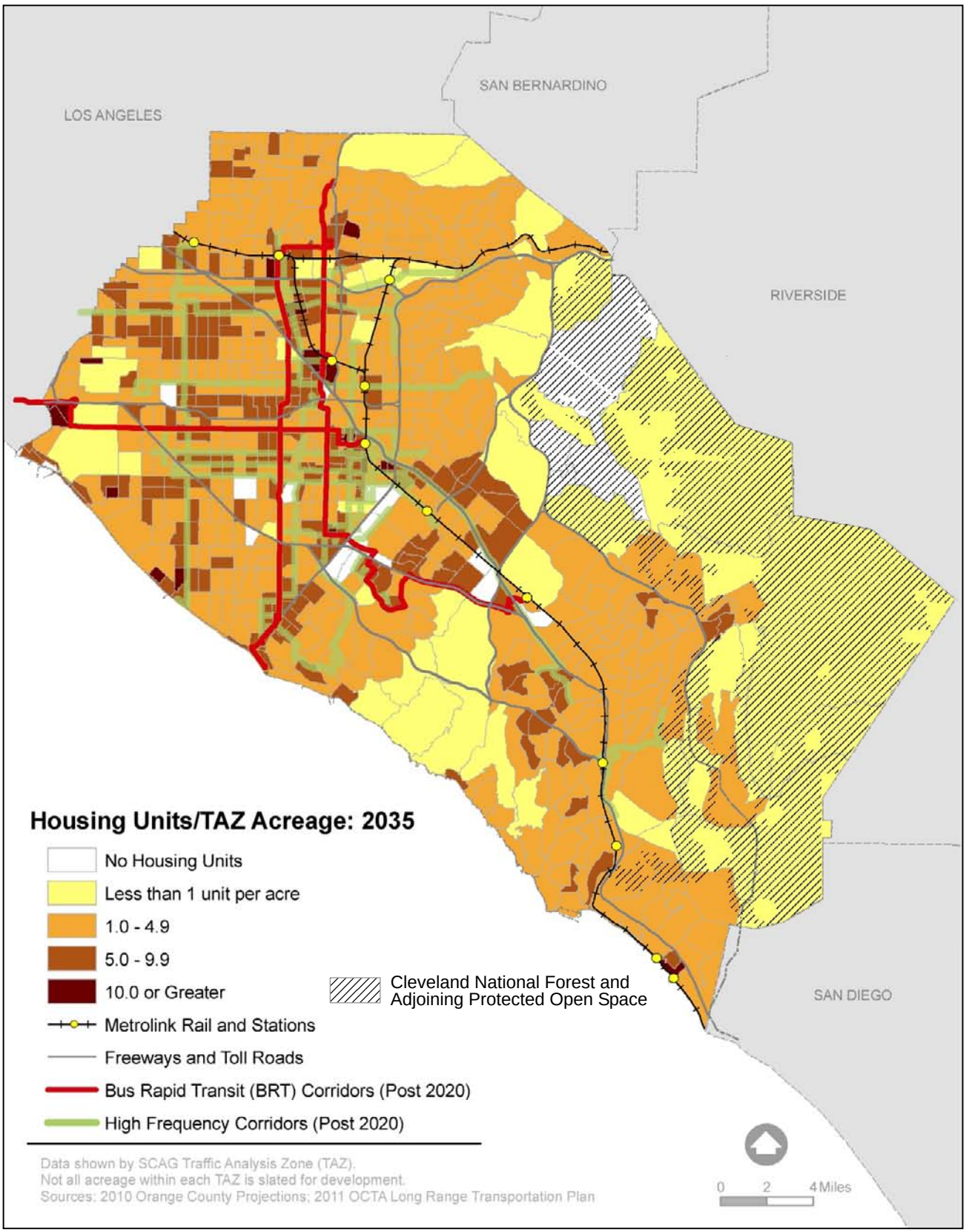


Figure 27

Year 2035
Orange County Housing Density

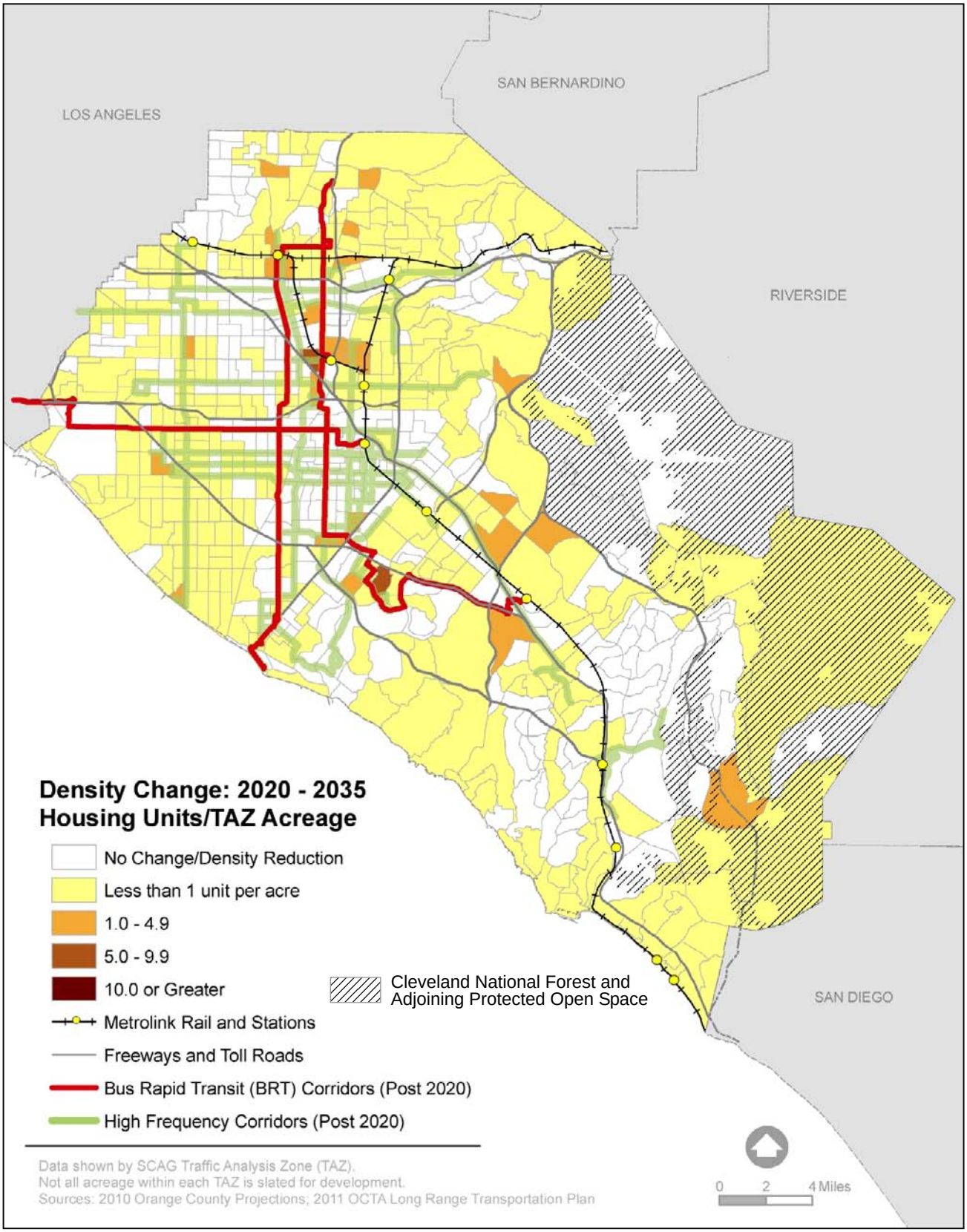


Figure 28

Orange County Housing Density Change 2020 - 2035

HOUSING CONCLUSION

Orange County's existing (2008) housing stock includes a variety of densities, and only about half of the housing inventory is single-family detached structures. Approximately three out of every four housing units projected to be built between 2008 and 2035 will be some type of attached unit. The result will be denser housing developments and a future housing stock whose makeup will have a majority of attached units instead of a housing stock with a majority of single-family detached structures.

The number of new housing units is forecast to grow sufficiently to house all the population of the subregion. By 2020, the total number of housing units in Orange County is projected to increase by 65,255 units, resulting in an average of 3.12 Orange County residents per housing unit by 2020 and one housing unit per 1.50 jobs (one housing unit created for every 0.34 jobs created between 2008 and 2020). Between 2008 and 2035, Orange County is projected to create one housing unit for every 1.25 new jobs and one housing unit for every 3.28 new residents, resulting in a 2035 total of one housing unit for every 3.02 Orange County residents and one housing unit for every 1.53 jobs. The standard "healthy" ratio of jobs to housing is 1.50 jobs to 1.0 housing unit.[4]

Because available land is scarce, housing will grow primarily in terms of density. Increased housing density affords greater variety in housing type (i.e., multi-family, flat, apartment, condominium, high-rise, etc.) and increased supply contributes to housing affordability. Increasing the supply of affordable housing within Orange County may result in workers living closer to their jobs, thereby reducing vehicle miles traveled and urban sprawl. The densification of housing is forecast to accommodate population growth and locate proximate to major transportation routes and the priced transportation network, including the High Frequency Corridors and Metrolink stations.

Housing growth is projected to occur in and adjacent to areas that are forecast for increased employment growth. This adjacency will create opportunities to link housing and jobs at a human scale and afford pedestrian, cycling and transit choices for home/work travel.

Additionally, intensification of both employment and housing will enhance the built environment for mixed uses, transit-oriented and transit-adjacent developments, and multi-use projects along pedestrian and bicycle facilities.

[4] Cervero, Robert. 1991. "Jobs/Housing Balance as Public Policy." *Urban Land* 50, no.10:10-14; Ewing, Reid. 1996. *Best Development Practices: Doing the Right Thing and Making Money at the Same Time*. Chicago: Planners Press; Weitz, Jerry. 2003. "Jobs-Housing Balance." *Planning Advisory Service Report* 516. Michigan: American Planning Association.

EMPLOYMENT

Orange County's estimated total job market was 1,624,061 jobs in 2008 (see Figure 29). The preponderance of TAZs host fewer than 5,000 jobs in 2008. Only three TAZs hold no employment, and these are located in areas comprised predominantly of parkland. TAZs with 5,000-9,999 employed workers are spread throughout the northern, central, and southern portions of the County along major transportation routes, as are TAZs holding 10,000-14,999 workers. The three largest employment TAZs—those holding 15,000-24,999, or 25,000 or more jobs—are located in the Irvine Business Complex, the Canyon industrial and business area north of the 91 Freeway located in Anaheim.

Figure 30 illustrates Orange County's employment density by jobs per acre in 2008. The northern and central portions of the County contain the majority of TAZs with mid- and high-level employment density.

By 2020, Orange County's total job count is projected to increase to 1,646,437, an increase of 22,376 jobs between 2008 and 2020 (see Figure 31). Employment growth between 2008 and 2020 is apparent near the Irvine Spectrum, Irvine Business Complex, Tustin Legacy, and in and around the Orange County Great Park—most likely developments of mixed-use structures and high-rise structures to offset the scarcity of developable land in the area (see Figures 32 and 33).

In 2020, TAZs with less than five jobs per TAZ acre are projected to make up the majority of TAZs in the County. High-density employment will continue in The Canyon, Anaheim Resort, and Irvine Business Complex. This high density of employment will also be expanded to additional areas including the Santa Ana Civic Center, the Irvine Spectrum, and other areas surrounding these locations (see Figures 34 and 35).

Orange County's net job growth from 2008 to 2020 includes the significant job losses incurred during the latest recession, starting in 2006 and lasting through 2009. The large decrease in overall employment, coupled with the slower-than-average past annual job growth, translates to a slow recovery of the County's employment landscape.

Consistent with employment growth trend projections by the UCLA Anderson School, Chapman University, Cal State Fullerton, and Cal State Long Beach, the estimated recovery of Orange County's employment level—back to its prior peak employment—is anticipated sometime between 2016 and 2020.

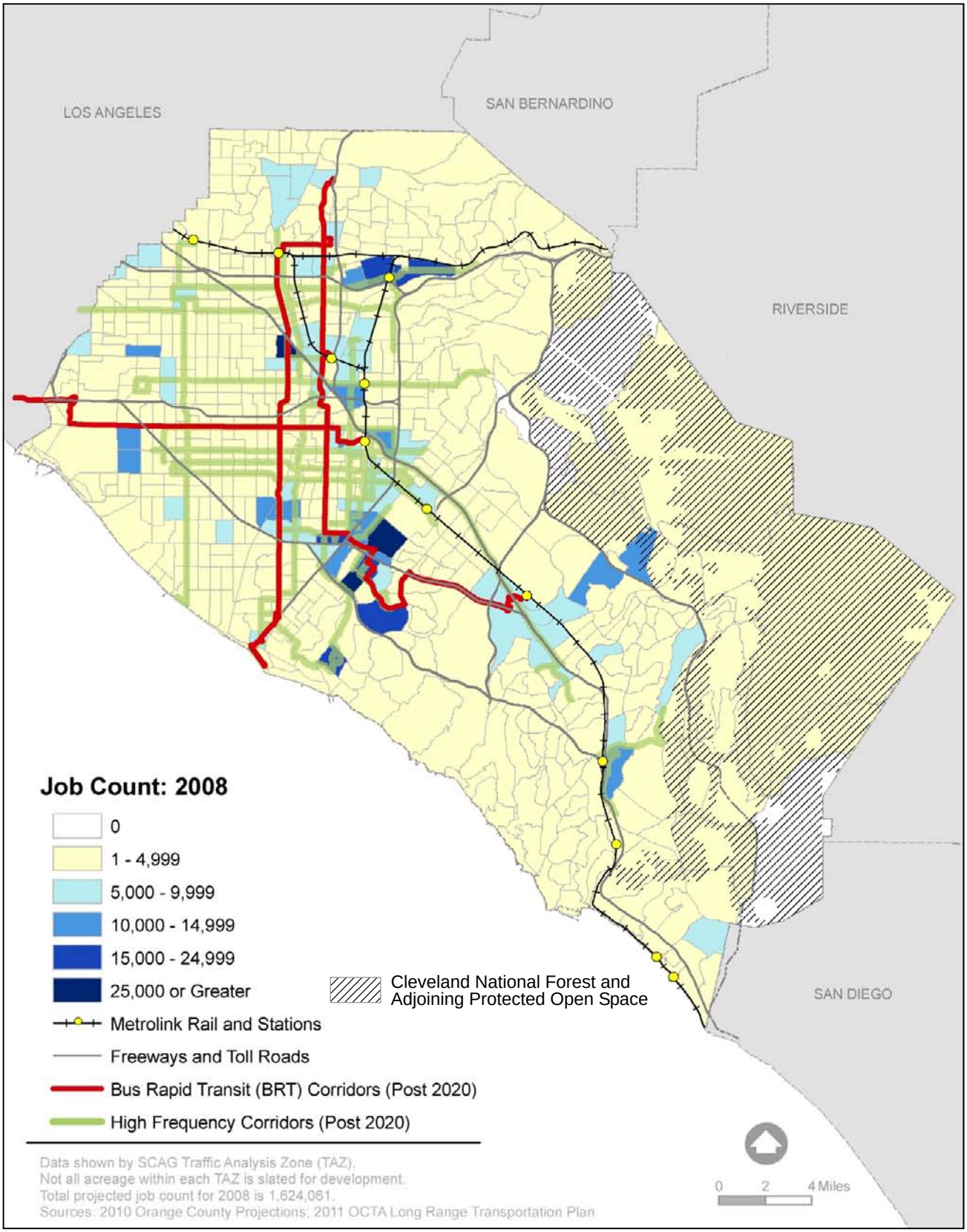


Figure 29

Existing (2008)
Orange County Employment

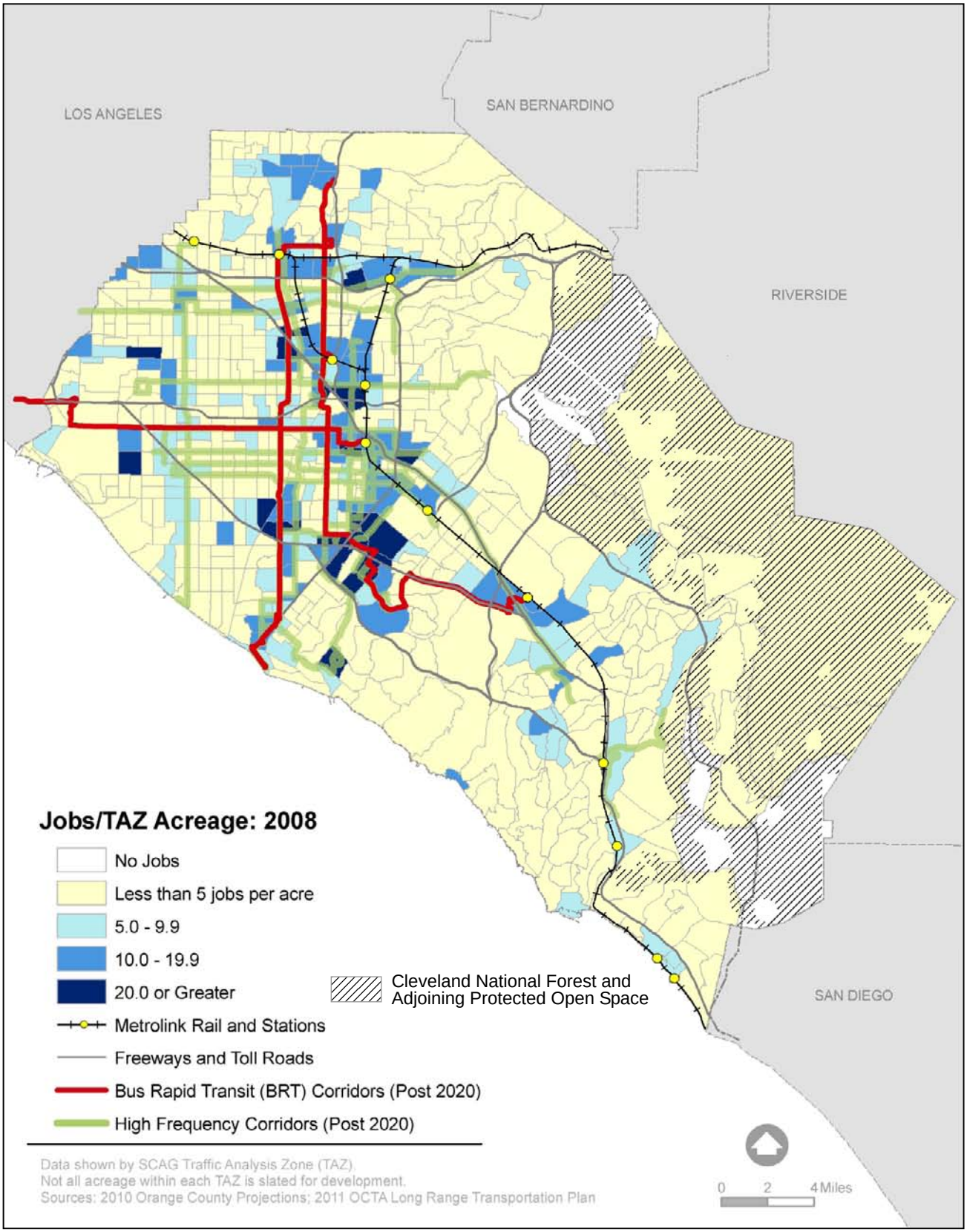


Figure 30

Existing (2008)
Orange County Employment Density

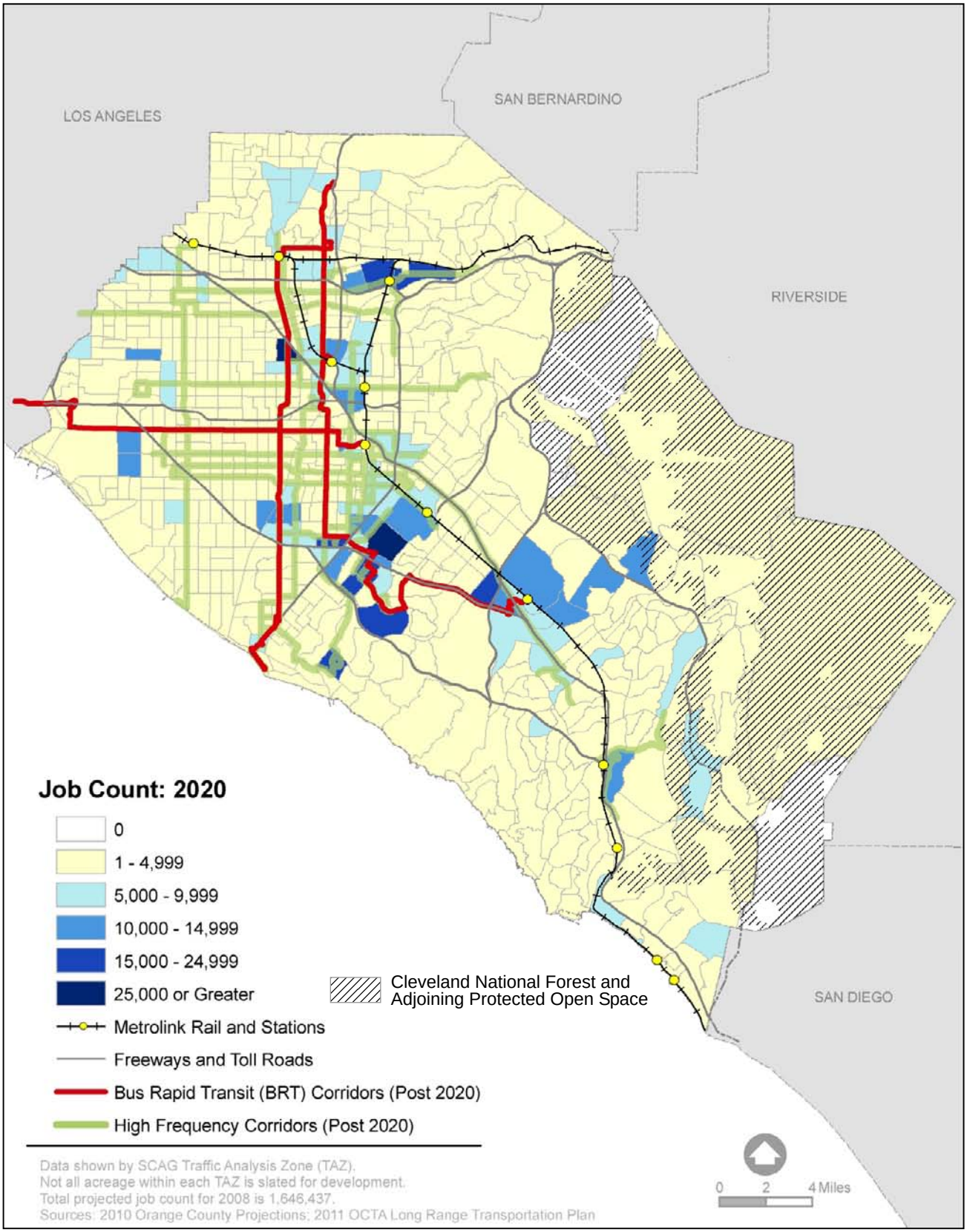


Figure 31

Year 2020
Orange County Employment

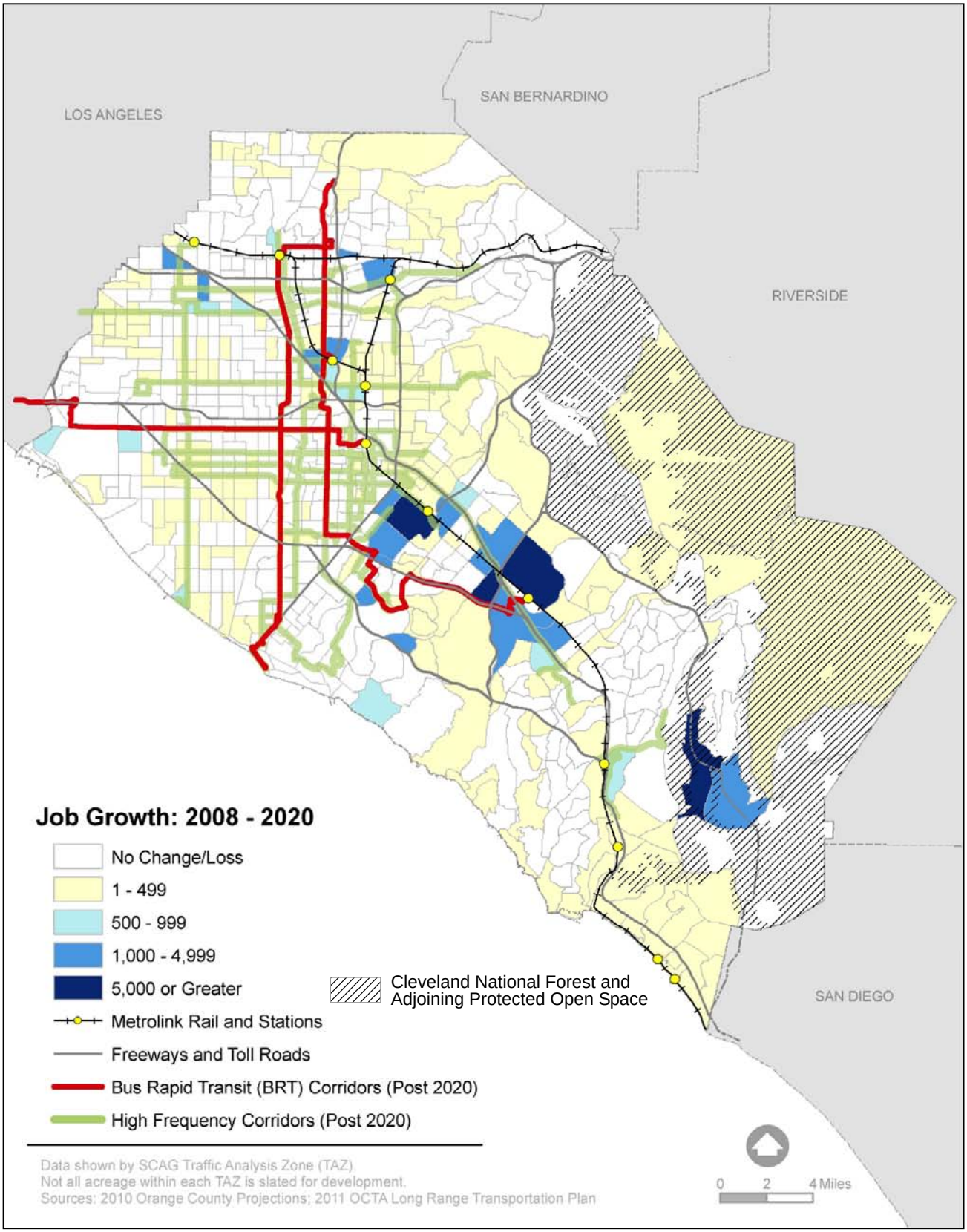


Figure 32

Orange County Employment Growth 2008 - 2020

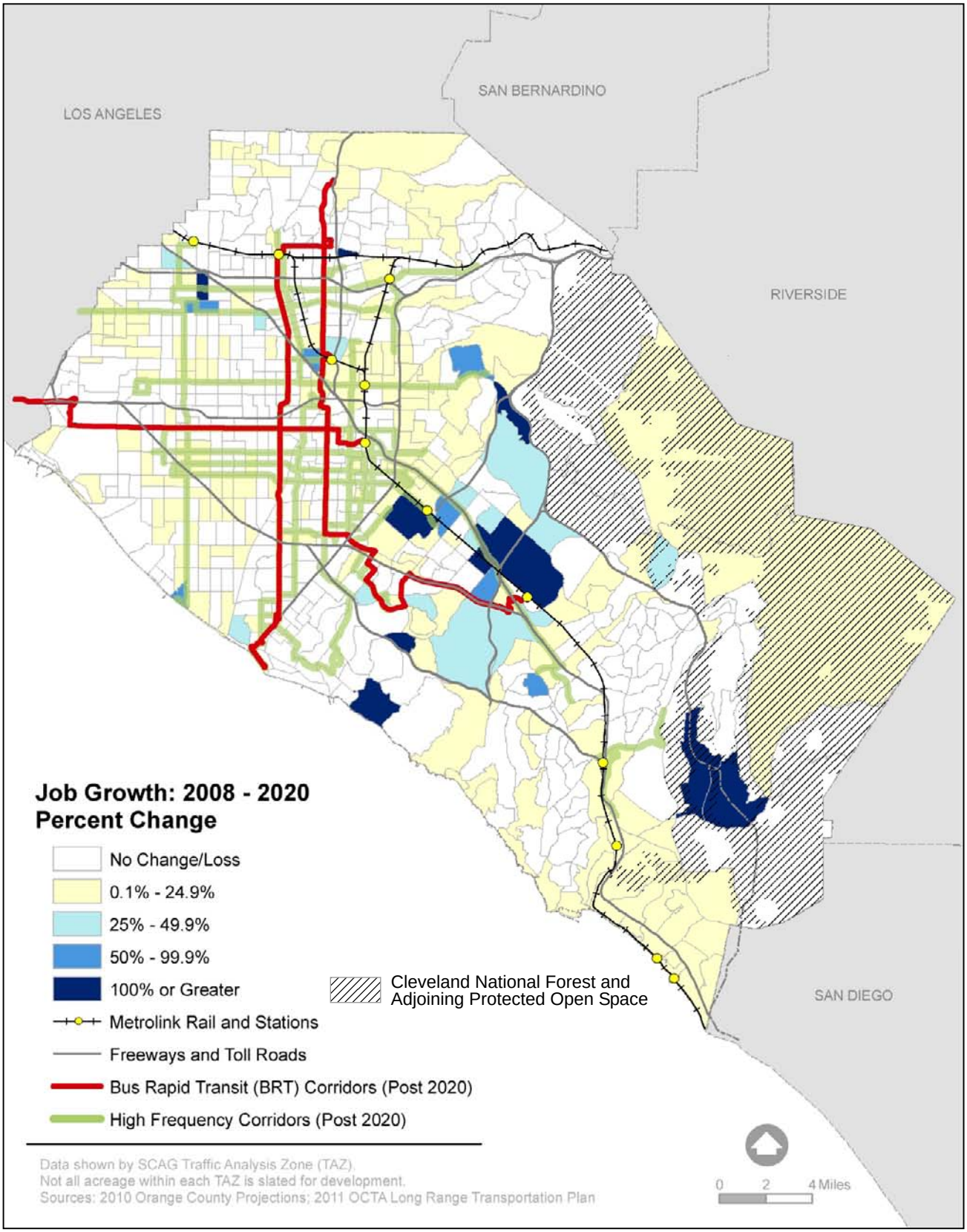


Figure 33

Orange County Percent Change Employment Growth 2008 - 2020

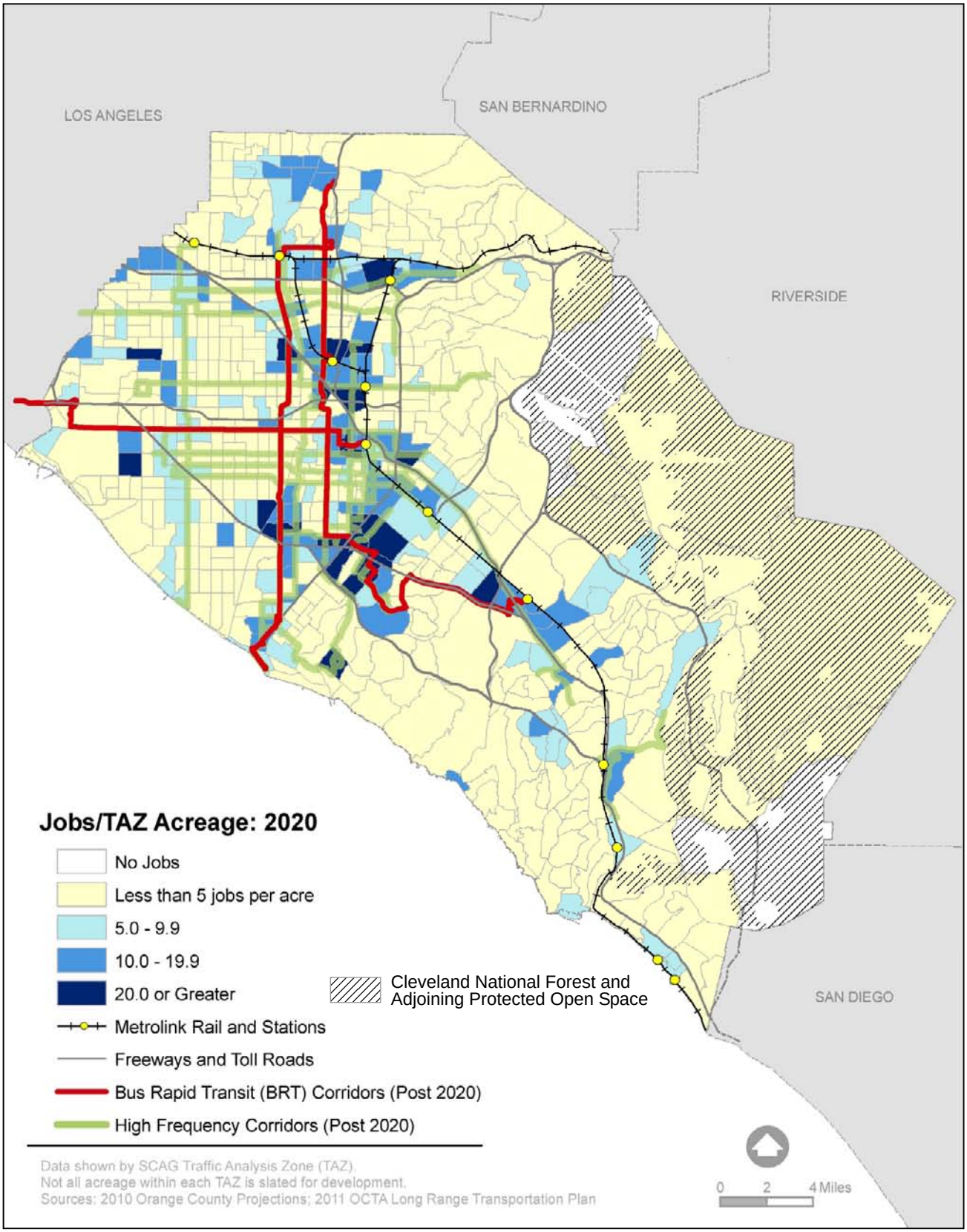


Figure 34

Year 2020
Orange County Employment Density

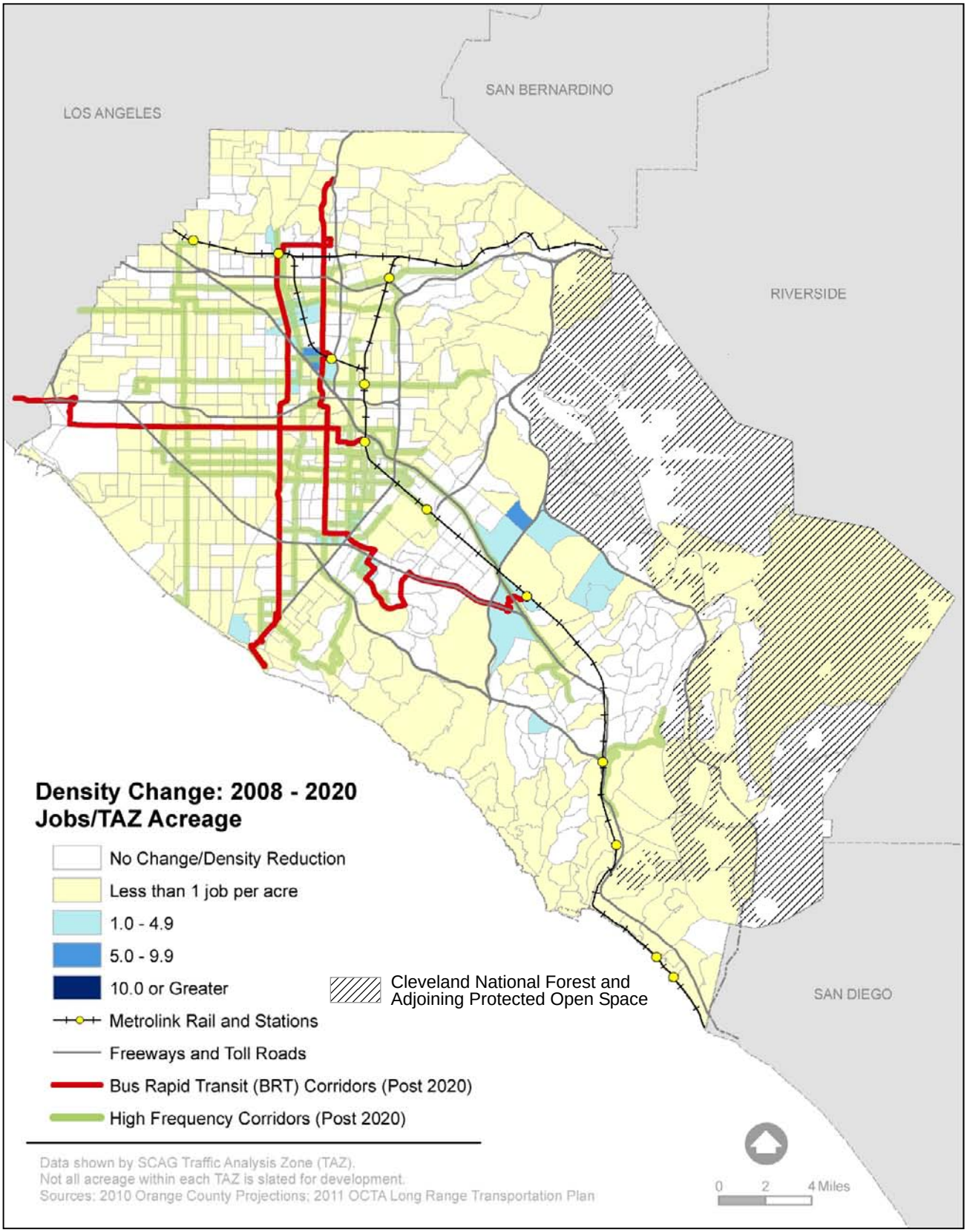


Figure 35

Orange County Employment Density Change 2008 - 2020

By 2035, Orange County is projected to have 1,799,477 jobs, an increase of 153,040 jobs between 2020 and 2035 (see Figure 36). This represents an increase of 9.3% from 2020, and equates to 130,664 jobs or almost seven times more jobs than are projected to be added between 2008 and 2020. The large difference between the numbers of jobs added between these two time periods is attributed to initial job losses in the early phases of the time period and then slow economic recovery leading to sluggish employment growth expected between 2008 and 2020.

The TAZs projected to experience the largest employment growth—additions of 5,000 jobs or more—are primarily located in the cities of Irvine, Anaheim, Tustin, and Orange, all existing employment centers, which are projected to continue to grow as major employment centers (see Figures 37 and 38).

Orange County employment density in 2035 (jobs per acre) is projected to increase throughout the County (see Figure 39). Between 2008 and 2035, Orange County is projected to add 175,416 jobs, the majority of which will be added between 2020 and 2035. While southern regions of Orange County are projected to increase employment and experience employment densification, this will be comparatively small relative to those increases projected to occur in the northern and central regions of the County. Significant employment growth is projected to occur predominantly in the cities of Anaheim and Irvine (see Figure 40). Mixed-use and single-use, higher-density developments will continue to play a large role as population levels increase with employment opportunities.

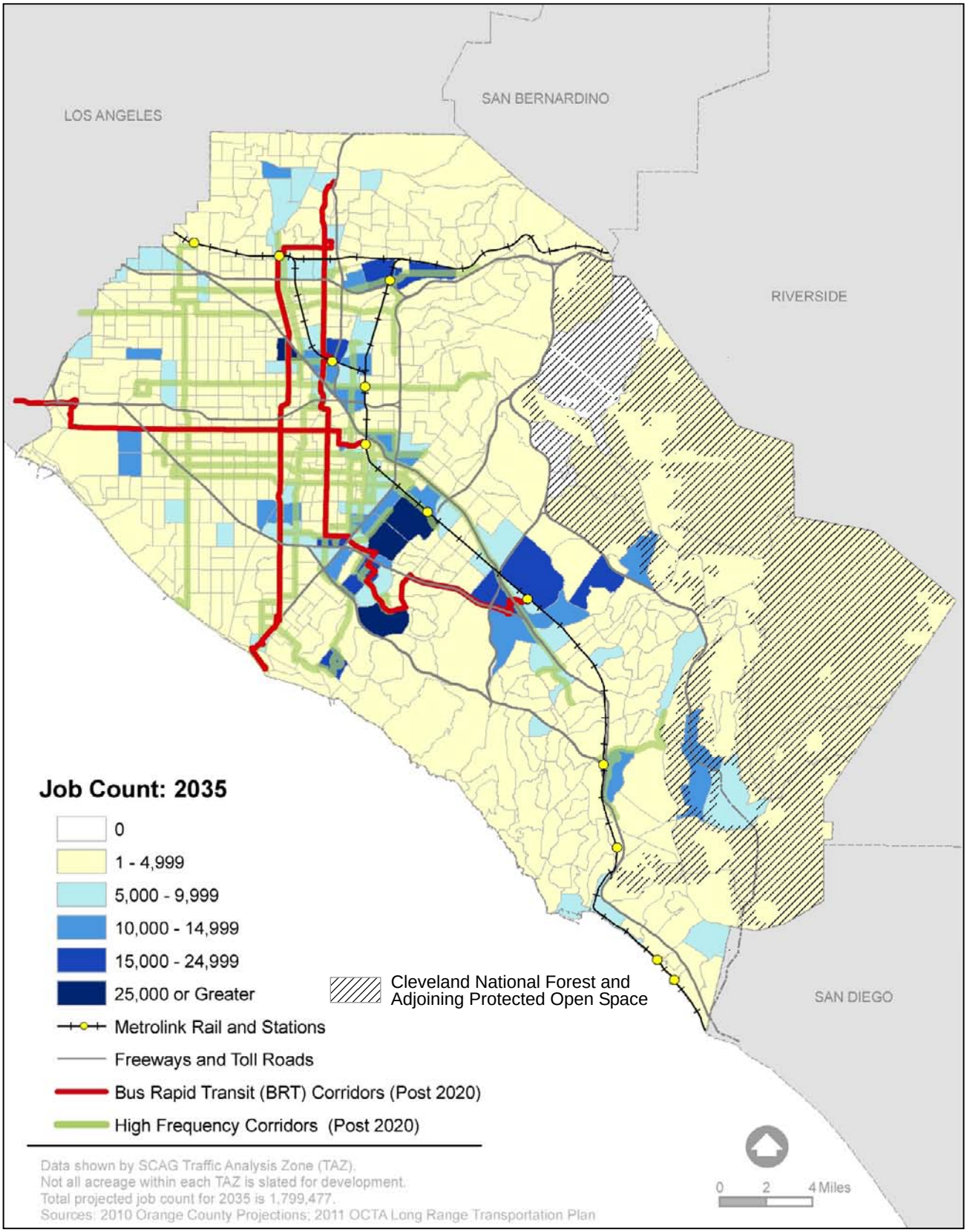


Figure 36

Year 2035
Orange County Employment

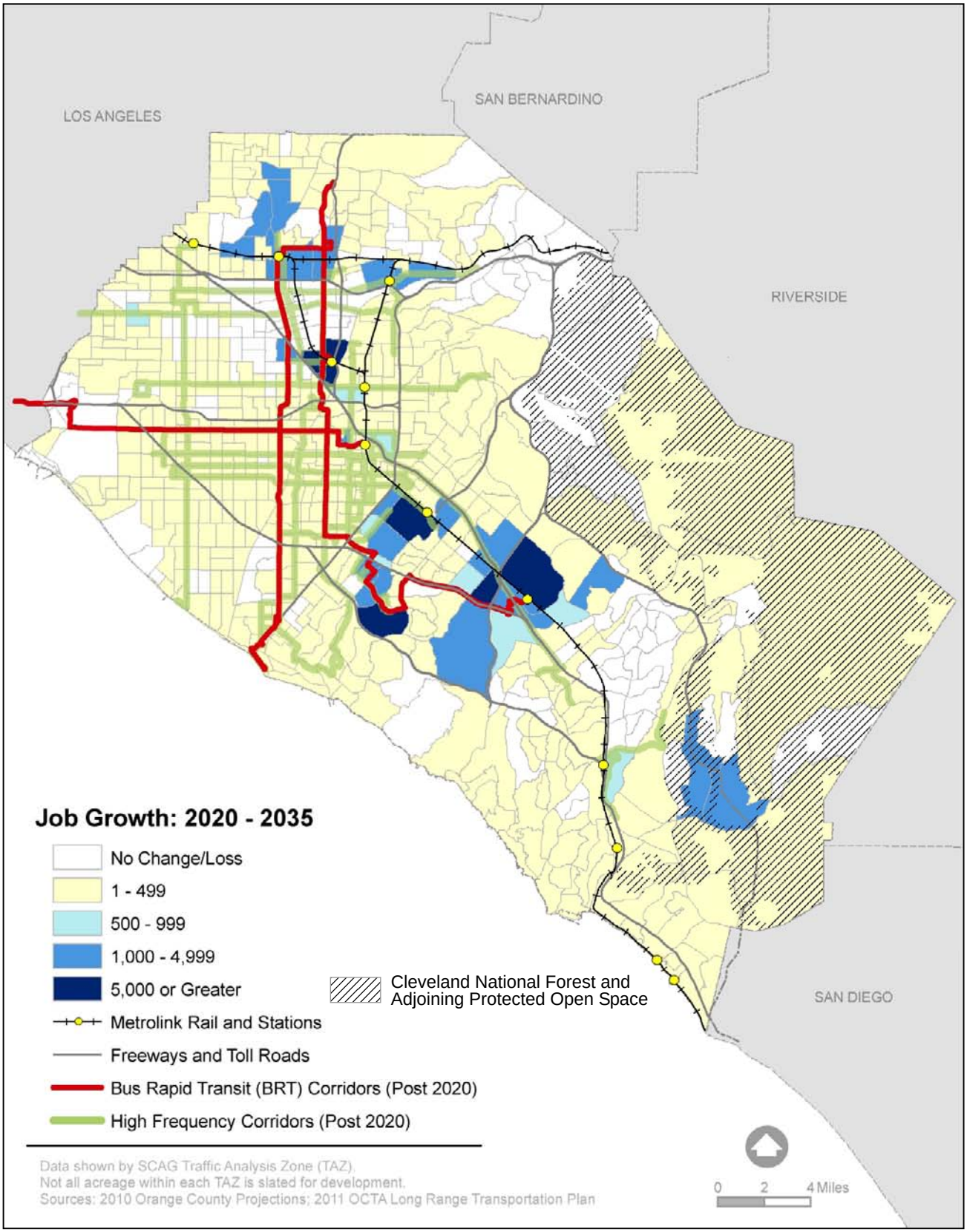


Figure 37

Orange County Employment Growth 2020 - 2035

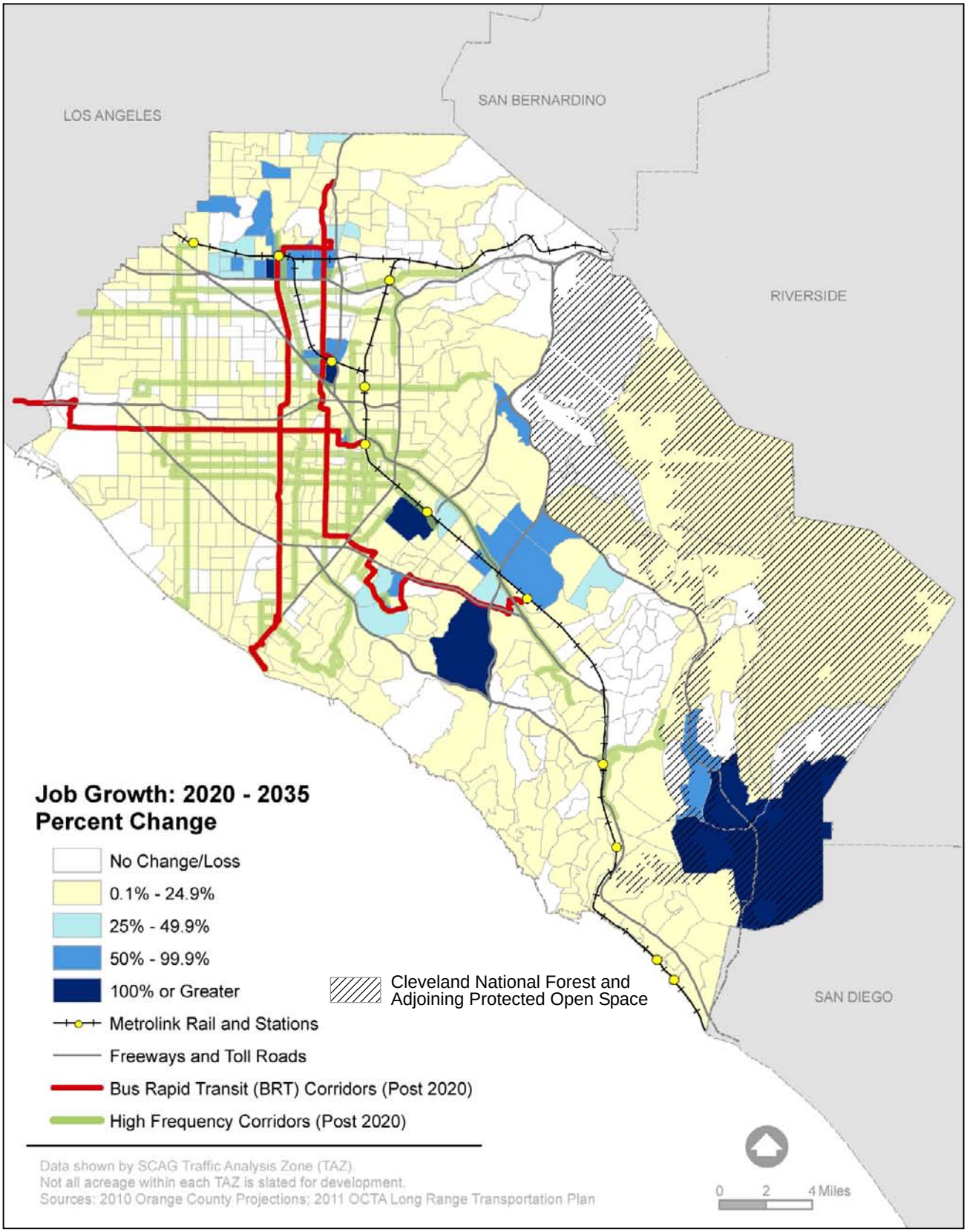


Figure 38

Orange County Percent Change Employment Growth 2020 - 2035

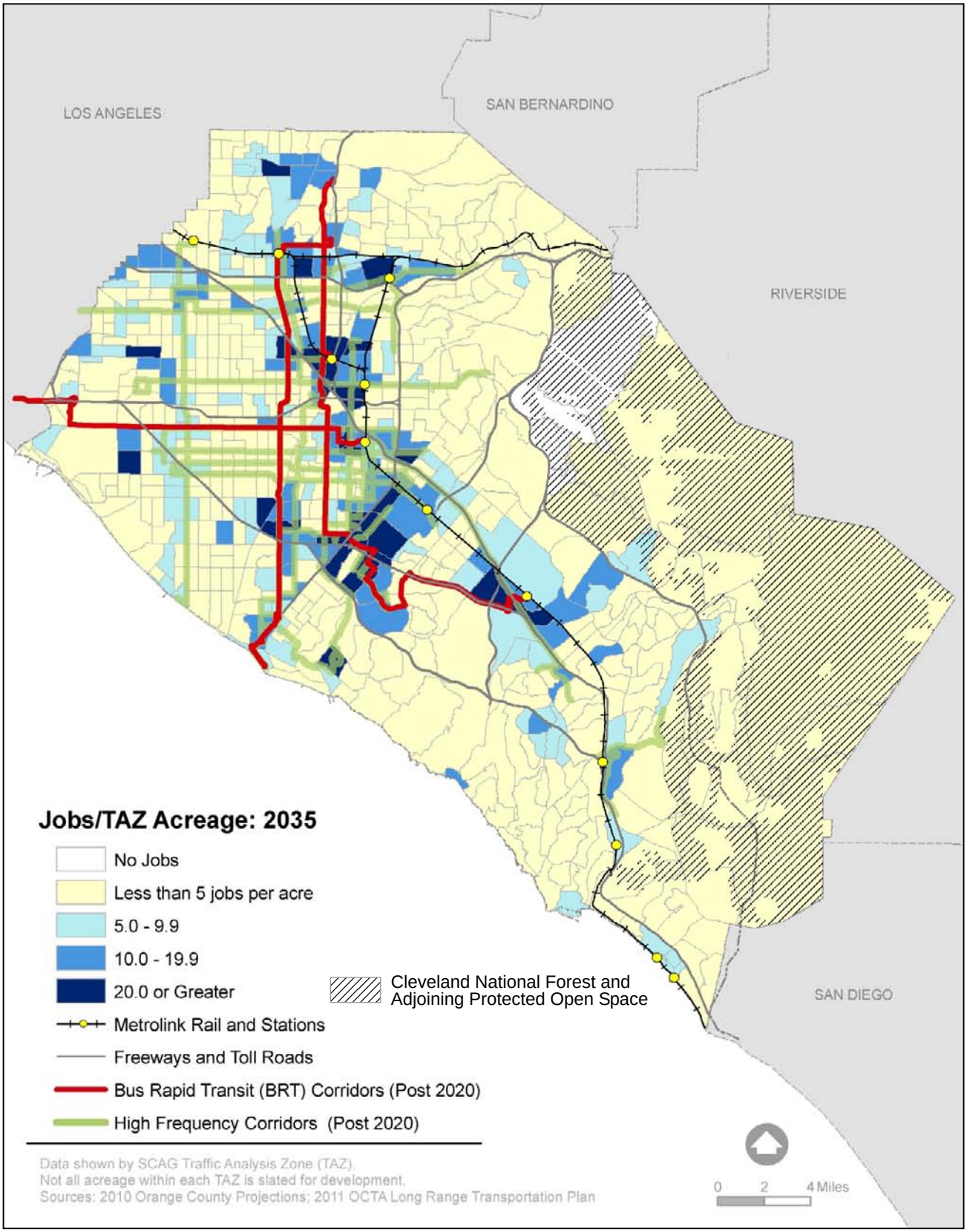


Figure 39

Year 2035
Orange County Employment Density

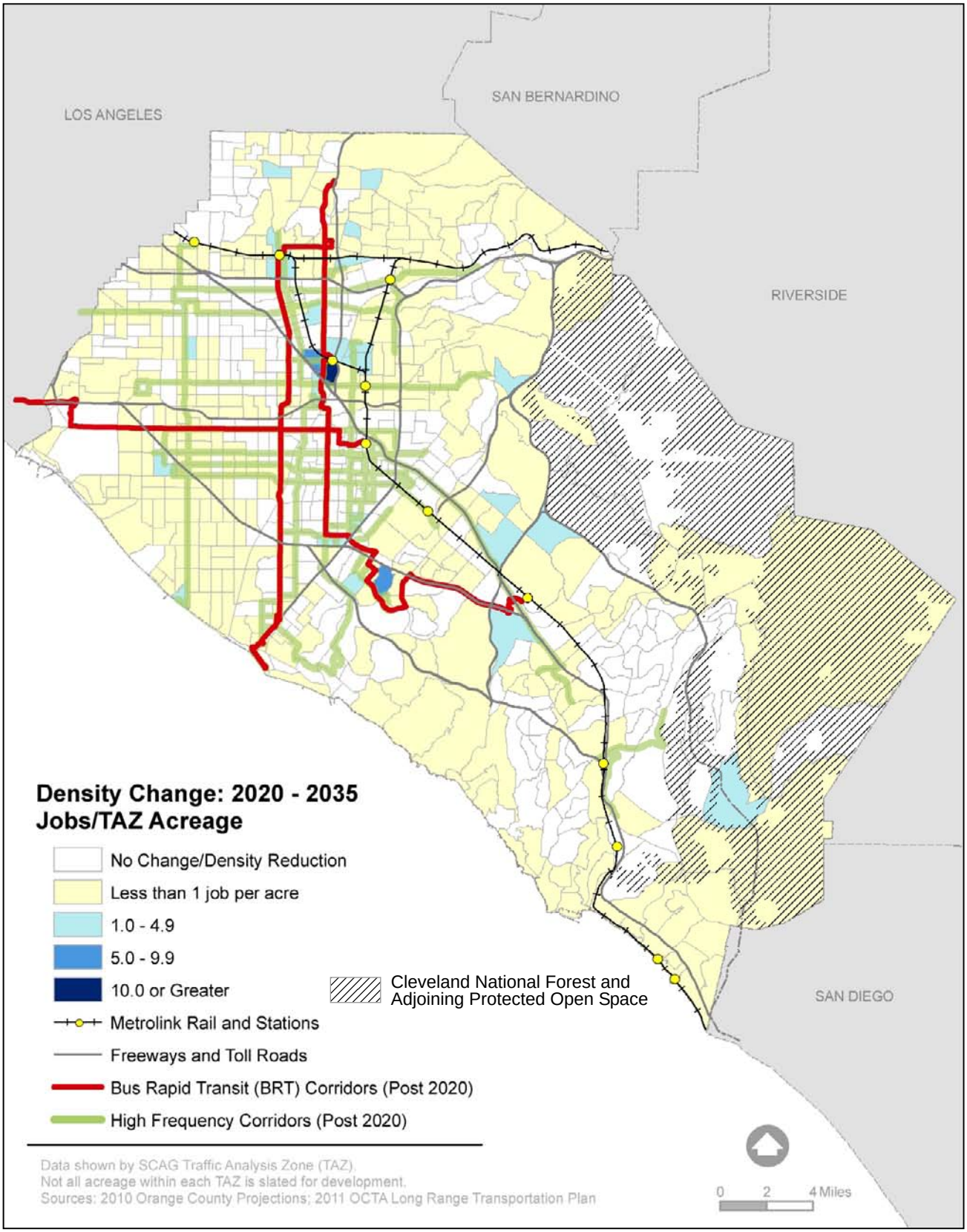


Figure 40

Orange County Employment Density Change 2020 - 2035

EMPLOYMENT CONCLUSION

Existing (2008) employment centers are located near major transportation nodes and routes, as commerce requires transportation infrastructure to thrive. Most Orange County employment is aggregated around the major highways (I-5, I-405, SR-22, SR-55, SR-57, and SR-91 freeways).

In more recent developments, job centers have tended to locate near transit stations or areas served by bus service and other transit options. The same trend is expected to occur for projected developments. Major growth in employment is projected to occur near Fullerton, Buena Park, Tustin, and around the Irvine Spectrum and the Anaheim Canyon, all near Metrolink stations. Toll roads also provide access to and from Anaheim and Irvine, both major receptors of future job growth and workers. Growth in employment will continue in these centers. This intensification will result in more of the working population proximate to High Frequency Corridors for rubber tire transit, as well as the Orange County Metrolink stops.

Intensification of employment centers also means increased density of land uses and the creation of synergies and opportunities to mix uses to satisfy a variety of needs. As mixed uses are developed within intense employment nodes, opportunities for pedestrian scale mobility are enhanced. Social and commercial needs, once satisfied only by passenger car due to distance, will be met by walking, cycling, or transit options.

CONCLUSION

Orange County's current and projected growth of population, housing, and employment near existing and future job centers will influence transportation patterns and therefore have the potential to be beneficial to GHG emission reductions.

Higher density vertical developments are being built in many Orange County jurisdictions, such as Anaheim's Platinum Triangle project. The construction of residential towers in Irvine, Anaheim, and Santa Ana illustrates that Orange County is indeed building "up." Such towers are part of a larger set of new developments built inside existing urban areas and known as infill developments. Infill developments may be anything from single-family homes to high-density residential complexes; the key is that they are built within existing urbanized areas, not on the periphery. Even before the start of these high-rise residential developments, many County jurisdictions experienced substantial increases in population density between 1990 and 2005. Gains in density can be attributed in part to jurisdictions' efforts to increase multi-unit housing, and/or to rezoning for higher and more efficient uses (referring to land uses or patterns that will

reduce regional GHG emissions from automobiles or trucks by fostering efficient usage of transportation resources and infrastructure).

Additionally, many Orange County jurisdictions have already begun the process of more strategic growth, with higher densities and housing development concentrated around employment centers, transportation nodes, and transit options. Of the projected net gain of 139,907 housing units in the County between 2008 and 2035, about two out of every three units to be built will be infill/redevelopment that will use and be supported by existing infrastructure. An estimated 51,663 units are planned to be built on raw land (36.9%), but the remaining 88,244 units (63.1%), will be infill or redevelopment projects, demonstrating Orange County's increasingly strategic growth. Further, 38,821 units (27.7%) of the 2008-2035 new housing total will be single-family detached units, while 101,086 (72.3%) will be attached units which tend to be more affordable to a wider range of the regional income spectrum.

Infill development will likely prove an asset for the already-prominent Orange County economy. Young professionals to retirees alike are turning from suburbs to urban areas to find ease of movement and access to services offered by dense, vibrant mixed-use areas. The County already has most of the infrastructure of an urban metropolis, and as revealed by the OCP-2010 data and analysis, the County also has tremendous potential for providing compact, mixed-use development.

In terms of employment, between 2008 and 2020, Orange County is projected to generate 22,376 jobs. Research by Dr. John Landis, Chair of the City and Regional Planning Department at UC Berkeley, and other housing experts and planners, finds that a healthy ratio of housing to jobs is one housing unit for every 1.5 jobs. This ratio is also affirmed as a benchmark by Workforce Housing Scorecards created for Orange County, San Diego County, and Los Angeles County. Workforce housing is housing supply, type, and affordability sufficient to adequately house the broad spectrum of workforce employed in the region. Orange County is expected to create approximately one new housing unit for every 0.34 jobs, which is greater than the projected employment growth that will be required between 2008 and 2020. Between 2008 and 2035, Orange County is projected to create one housing unit for every 1.25 new jobs, resulting in a 2035 total of one housing unit for every 1.53 jobs, nearly matching the standard healthy ratio of 1.0 housing unit for every 1.5 jobs.

MEETING ORANGE COUNTY'S HOUSING NEEDS

The projected growth in Orange County housing units between 2008 and 2035 is sufficient to house the anticipated population growth in the subregion. In fact, Orange County will create more housing units than employment growth will require: one housing unit per 3.12 Orange County residents by 2020 and one housing unit per 1.50 jobs (one housing unit created for every 0.34 jobs created between 2008 and 2020).

The same is true for housing growth between 2008 and 2035. During this time period, Orange County is projected to create one housing unit for every 1.25 new jobs and one housing unit for every 3.28 new residents, resulting in a 2035 total of one housing unit for every 3.02 Orange County residents and one housing unit for every 1.53 jobs.

Of the new housing units created between 2008 and 2035, fully 63% will be created through infill or redevelopment projects. Further, 72% of the total housing units will be attached units, which tend to be more affordable to a wider range of the regional income spectrum.

Based upon Orange County's projected population and job growth, Orange County's projected housing unit supply growth is more than sufficient to meet the subregion's 8-year projected growth. Additionally, it is anticipated the mix and type of units identified through the OCP process will be ample to meet the needs of all income segments of Orange County's population.

Housing growth envisioned in the OC SCS is intended to be consistent with the SCAG region's Regional Housing Needs Assessment (RHNA). However, because the draft RHNA for the SCAG region will not be released until August 2011, it is not possible to address the RHNA or its context with the State housing goals in the OC SCS that is due to SCAG in June 2011. Therefore, it is anticipated that the RHNA and State housing goals will be addressed in SCAG's Regional SCS.

CHAPTER 2: EXISTING TRANSPORTATION SYSTEMS

INTRODUCTION

Orange County's population, housing, employment, and the transportation systems that support them are intricately connected. This chapter describes the transportation systems in place as of 2008, which are both foundational and influential to the socio-economic trends described in the previous chapter.

SB 375 requires the regional SCS to be included in the RTP. The base year for the 2012 RTP is 2008. For consistency, this year—2008—is also the base year for the subregional and regional SCSs. As outlined in the MOU between SCAG, OCCOG and OCTA, the OC SCS uses OCTA's LRTP to define the 2008 base year transportation system.

FREEWAY SYSTEM

Orange County's (County) travel network is anchored by an extensive freeway system that includes toll roads, express lanes, and the most comprehensive HOV network in the nation. As of 2008, the freeway system consisted of 1,100 lane miles of general-purpose travel lanes and 230 lane miles of HOV lanes. The system also included over 280 lane miles of toll roads and 40 lane miles of express lanes. Over 19 percent of the County's freeway system is comprised of priced facilities, the most sophisticated priced transportation network in California. Figure 41 illustrates the existing 2008 freeway system, which totals approximately 1,650 lane miles. The existing freeway system experiences high levels of congestion and delay during peak hours. According to the Orange County Long Range Transportation Plan, only half of the freeway system operates at the minimum acceptable level of service (LOS D), while the other half operates at or above capacity (14 percent at LOS E and 33 percent at LOS F), where speeds and travel times are highly impacted.

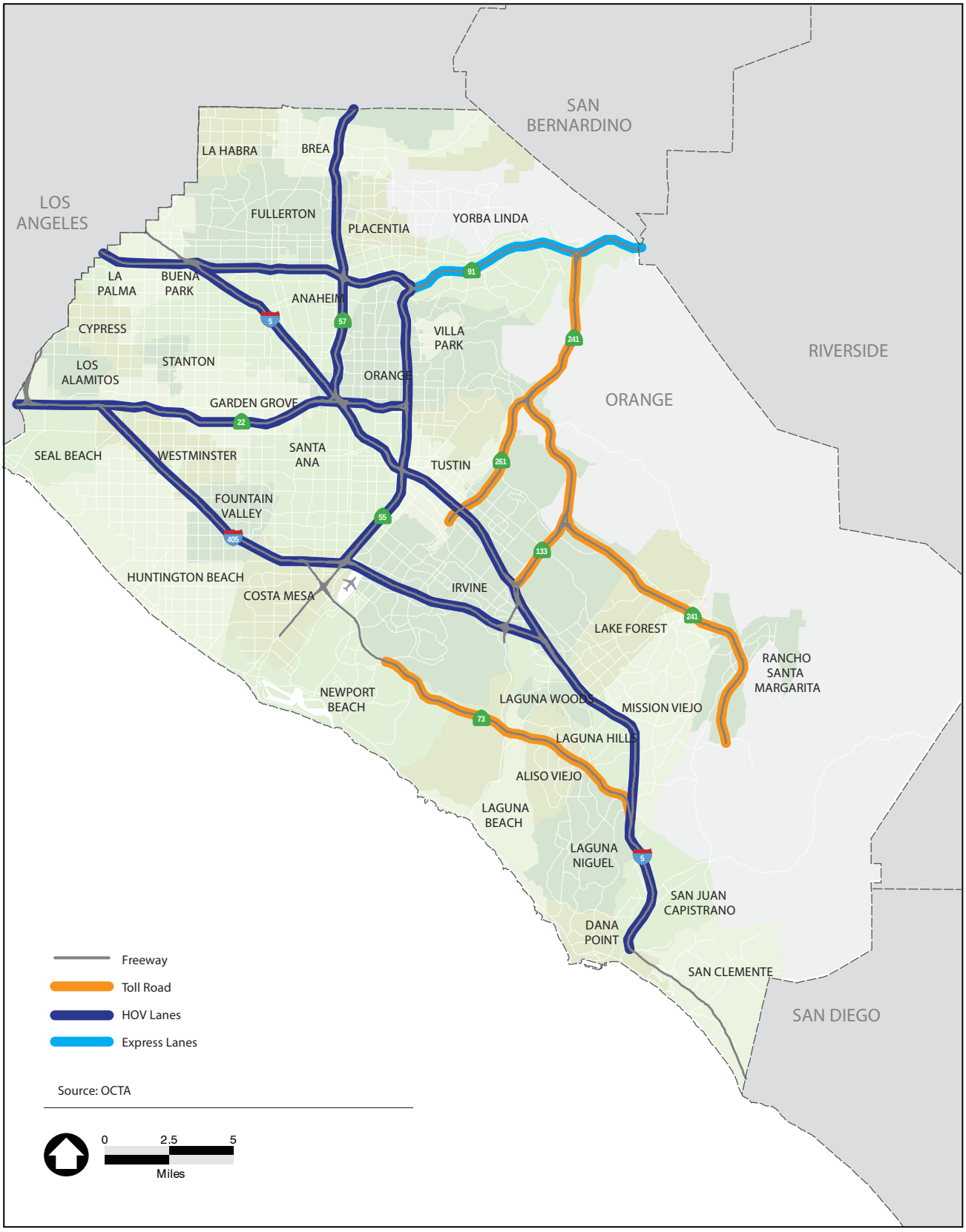


Figure 41 **Existing (2008) Freeway System**

ARTERIALS AND LOCAL ROADS

The freeway system is complemented by an arterial roadway system that serves both regional and local travel. Since 1956, the Orange County Master Plan of Arterial Highways (MPAH) has served as the guiding plan for future roadway improvements. The existing 2008 number of lanes over the MPAH is illustrated in Figures 42A and B. Today, the arterial roadway system carries approximately one-half of the daily vehicle miles traveled in the County.

The arterial roadway system also experiences congestion during peak periods. About 10 percent of the system operates at or near capacity. The performance of the countywide system is also affected by the condition of the streets and roads. Potholes and damaged roadway infrastructure can reduce the operational capacity of roads, slow traffic, and contribute to traffic incidents. Local jurisdictions monitor the pavement conditions through a Pavement Management Plan, which is adopted and updated on a biennial basis.

RAIL AND BUS TRANSIT

The County is served by a commuter rail network (Metrolink) that provides both north-south and east-west service on three routes extending past the County's boundaries (Figure 43). The Southern California Regional Rail Authority (SCRRA) is the regional commuter rail agency for Southern California, and operates Metrolink commuter rail service as a joint powers authority (JPA) comprised of the transportation agencies in Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. Metrolink and Amtrak services connect Orange County to San Diego, Los Angeles, Riverside, Ventura and San Bernardino Counties. Amtrak's Pacific Surfliner inter-city rail service and Thruway Bus also operates in Orange County, serving stations in Fullerton, Anaheim, Orange, Santa Ana, Irvine, Laguna Niguel/Mission Viejo, San Juan Capistrano, and San Clemente, and has instituted limited stop service to improve cross-regional travel time. The California Department of Transportation Division of Rail manages and coordinates the intercity Amtrak rail passenger services in the region.

OCTA and local bus transit providers offer over 80 bus routes serving commuters that begin or end their trip within the County, as well as travelers within the County that need local and express bus services. OCTA operates 40 local fixed routes, 14 community and shuttle routes, five intra-county express routes, 13 StationLink Metrolink rail feeder routes and five inter-county express routes. In some cities, such as Anaheim, Brea, Buena Park, Irvine, Laguna Beach, and Laguna Woods, OCTA bus service is complemented by service provided locally, expanding the transit options available to County residents and commuters. Additionally, private providers of bus service and shared ride shuttles such as Greyhound, Disneyland Resort Express, and Airport Shuttle operate in Orange County. Public transit agencies serving adjacent counties also provide limited service into Orange

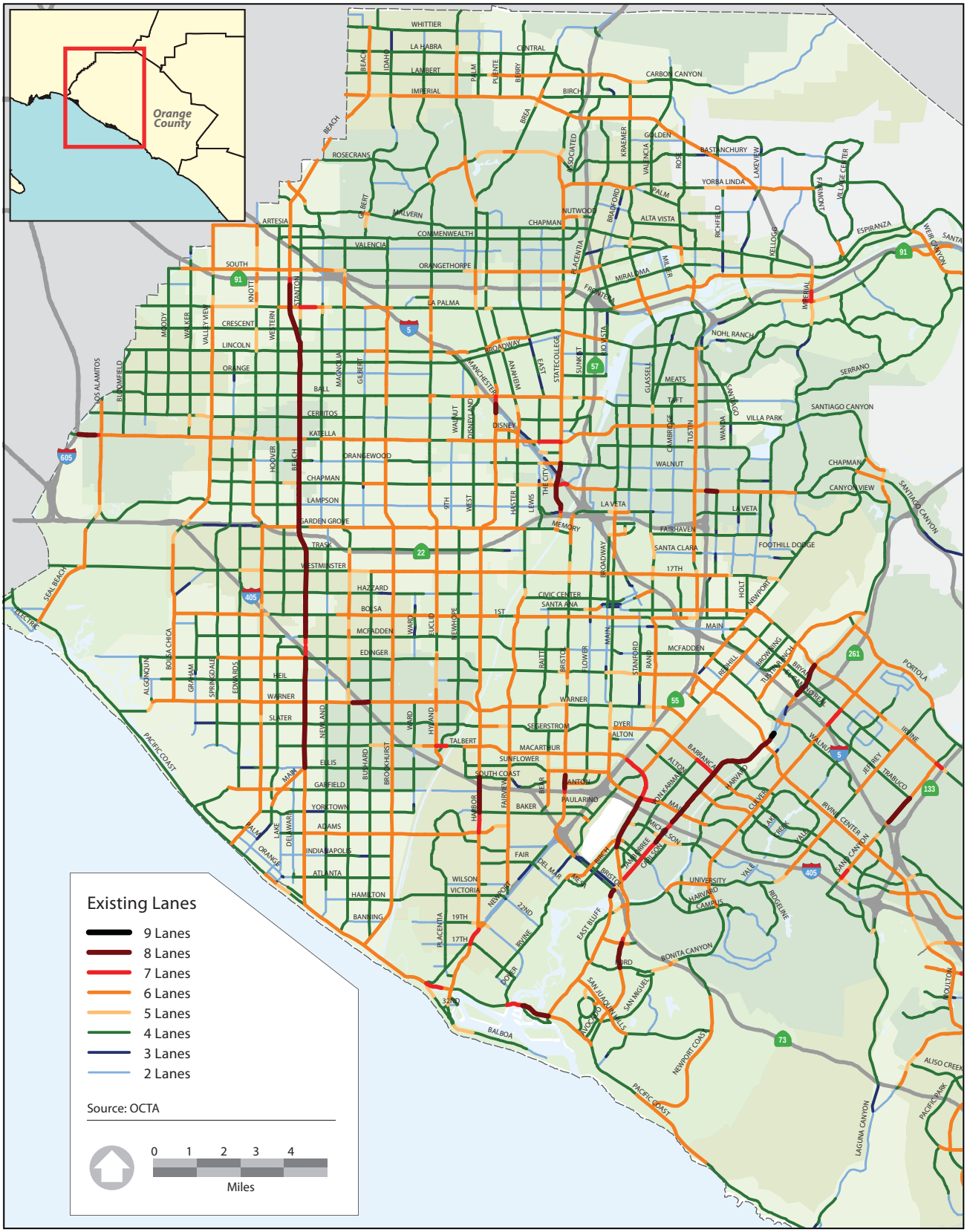


Figure 42A

Existing (2008) Arterial Highways (North County)

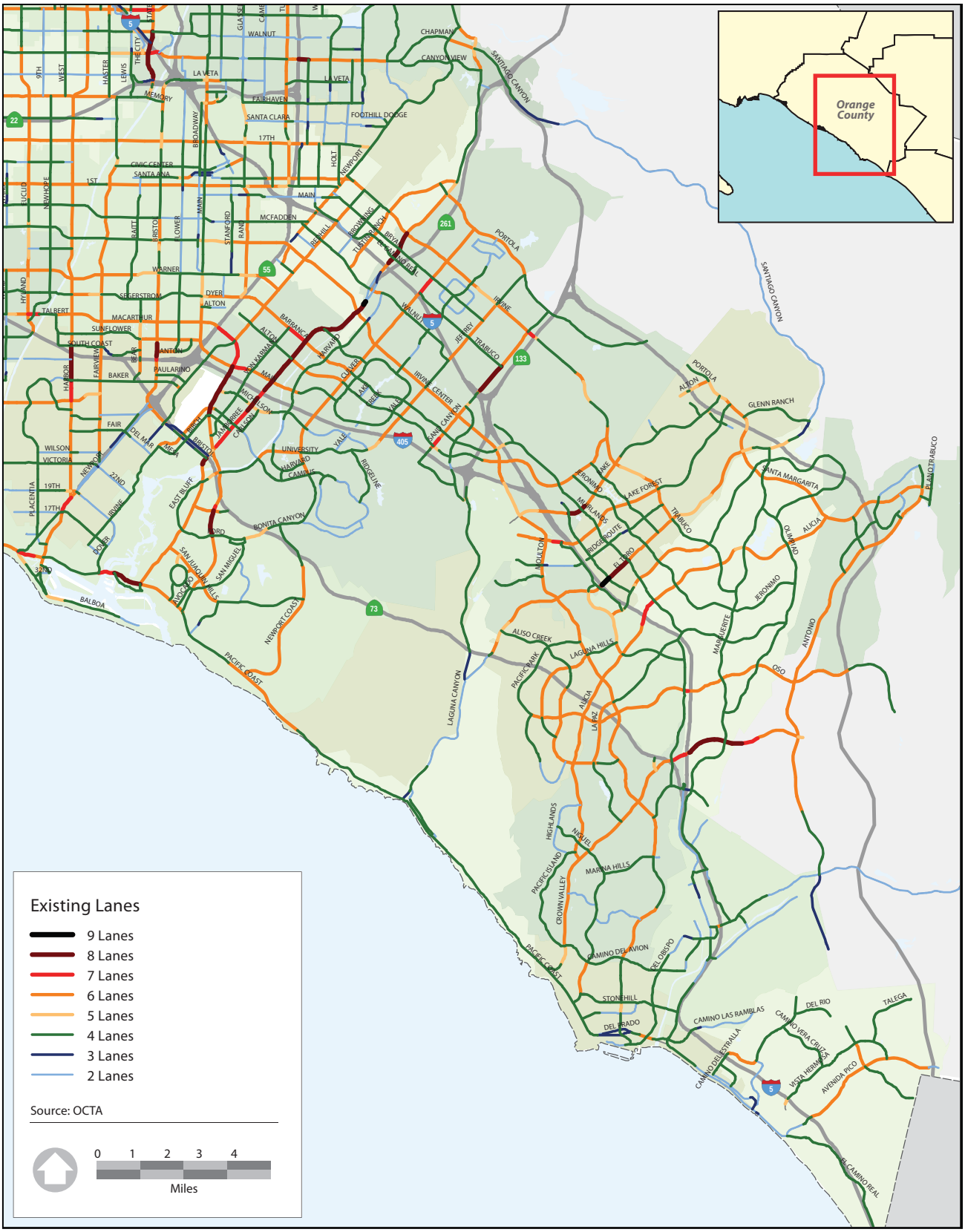


Figure 42B

Existing (2008) Arterial Highways (South County)

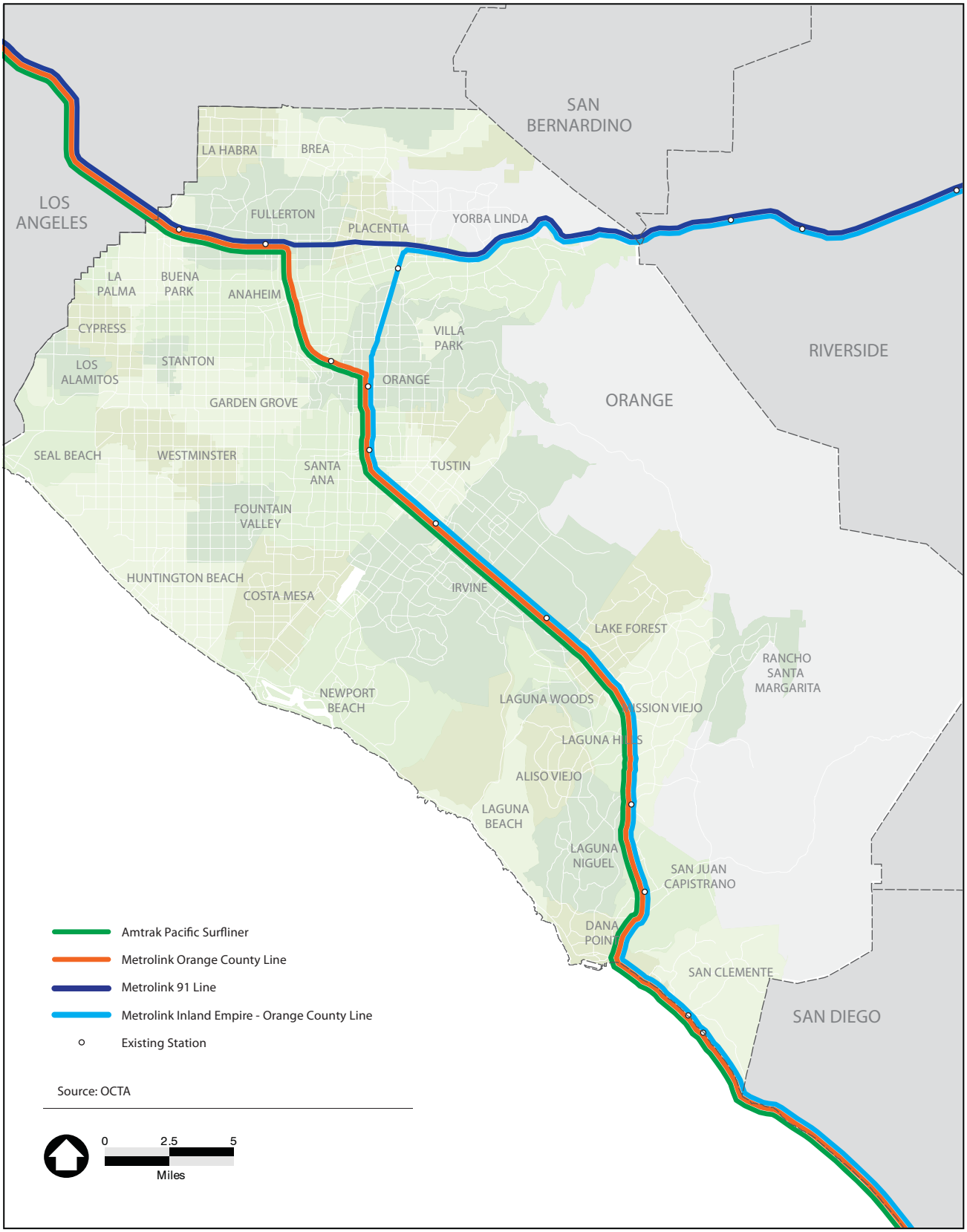


Figure 43

Existing (2008)
Commuter Rail Network

County including Los Angeles Metro, Long Beach Transit, Norwalk Transit System, Foothill Transit, Riverside Transit Agency, and North County Transit District.

While there have been extensive investments in commuter rail and transit bus services within Orange County, ridership on public transit has declined during the recent economic crisis. The losses in sales tax and state funding revenues dedicated to transit operations, when combined with the decrease in fare revenue, created a need to reduce bus service levels by about 20 percent between 2008 and 2010.

BIKEWAYS

Orange County's transportation system includes over 1,000 miles of bikeways linking residential communities to employment and activity centers, and to transfer points to other types of transportation (Figures 44A and B). There are three classes of bikeways with different levels of infrastructure complexity. Class I bikeways are off-street paved bike paths which may be shared with pedestrians. Nine percent of the Orange County bicycle network are Class I bikeways. Class II bike lanes are on-road striped and signed bicycle lanes. Class II bike lanes comprise 65 percent of the Orange County bicycle network. Class III bike routes are on-road signed bicycle routes shared with automobiles. Class III bike routes represent 26 percent of the Orange County bicycle network. The bikeway network is denser in the coastal cities and in South Orange County. Bikeways connect business centers to residential areas in some jurisdictions including Irvine, Costa Mesa, and Newport Beach, and provide several good connections to Metrolink stations south of State Route 55 (SR-55).

All OCTA buses are equipped with bicycle racks, located at the front of the vehicle, with capacity to carry two bicycles at a time, expanding the number of potential destinations that can be reached by bicycle. Additionally, all iShuttle buses – which serve the Tustin Metrolink station - have bike racks. Bicycle lockers at Metrolink stations and bicycle racks on Metrolink trains provide safe and secure storage and transport of bicycles for train riders using a bicycle as an access mode to transit. These amenities encourage bicycle use by commuters.

PEDESTRIAN PROGRAMS

Pedestrian friendly environments improve the efficiency and connectivity of other modes of transportation, such as transit. A safe and attractive walking environment also furthers the goals of environmental sustainability by supporting reduced automobile dependence.

While not all public thoroughfares have sidewalks, there are many miles of sidewalks and walkways throughout Orange County that allow pedestrians to complete their trips without the use of motorized vehicles. Progress is being made in adding sidewalks to

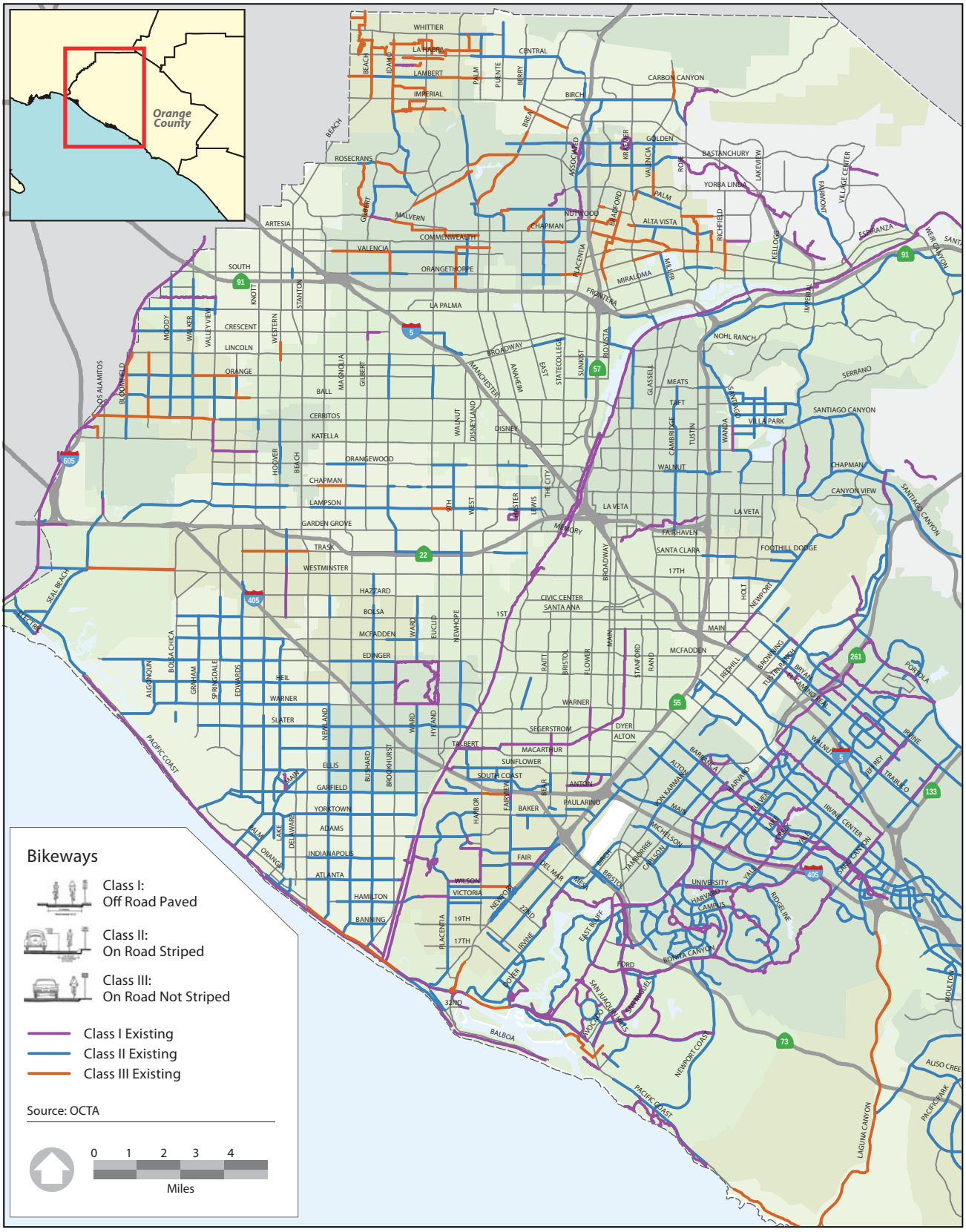


Figure 44A

Existing (2008) Commuter Bikeways (North County)

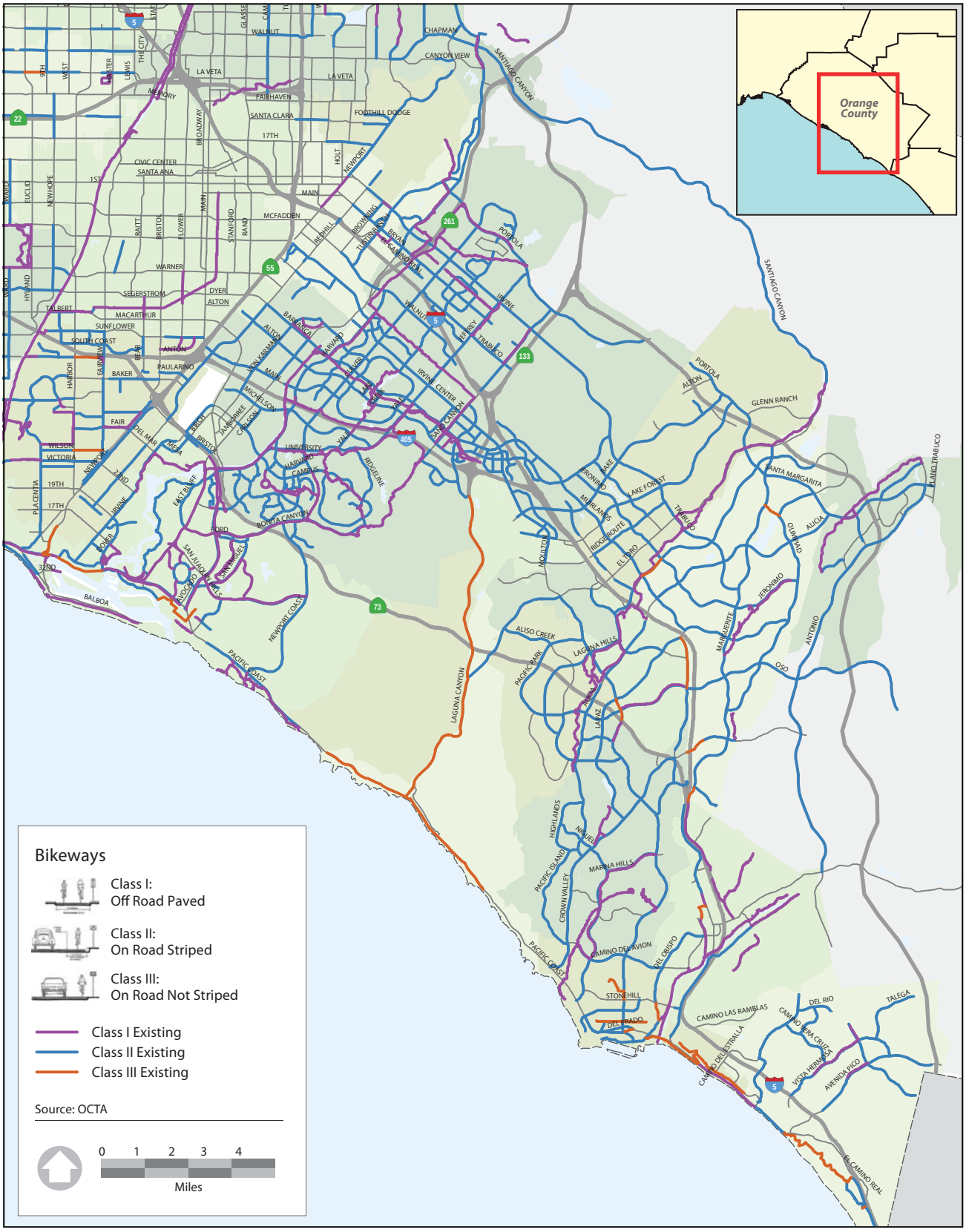


Figure 44B

Existing (2008) Commuter Bikeways (South County)

commercial areas that lack them, and in removing obstacles to pedestrian travel where they exist.

OCTA recently incorporated the requirements of the Complete Streets Act into the MPAH guidelines for roadway design and cross sections. This Act requires that jurisdictions' general plan circulation elements and transportation plans meet the needs of all roadway users, including pedestrians, bicyclists and transit users. These requirements will be reflected in the buildout of the MPAH proposed as part of the LRTP Year 2035 Preferred Plan.

DEMAND-RESPONSIVE SERVICES AND TRANSPORTATION DEMAND MANAGEMENT

The County's multi-modal transportation system includes other transportation-related services and programs that reduce demand for auto travel, increase the efficiency of the system, meet legal requirements, and mitigate impacts of freeways on adjacent communities:

- **Paratransit Service:** Demand-responsive transit services are provided for seniors, disabled, and other populations through ACCESS Services. This includes curb-to-curb service (standard), door-to-door service, and same-day taxi service, and meets the requirements of the Americans with Disabilities Act (ADA).
- **Taxi Operations:** The Orange County Taxi Administration Program (OCTAP) is responsible for issuing permits, controlling the number of providers, performing security checks, and monitoring insurance compliance for taxi companies in Orange County. The countywide system in 2010 consists of 25 companies and over 820 taxicabs.
- **Park-and-Ride Services:** Park-and-ride facilities encourage ridesharing, vanpooling, and transit use by providing transit users with a convenient centralized location to meet and connect with various transportation services. Park-and-ride facilities are located throughout Orange County. Park-and-ride facilities are publicly owned either by Caltrans, OCTA, or a local jurisdiction. Many of these facilities are located adjacent to a transit center or Metrolink station, expanding access to alternative transportation modes. Other sites are located on private property, typically in a parking lot owned by a religious institution or other use with low parking demands on weekdays, and leased by a public agency.
- **Rideshare Services:** OCTA participates in regional programs that provide support for carpools, vanpools, and other services that encourage ridesharing. This includes customer call centers, cross-county databases that link individuals

to carpools and vanpools, and support material (e.g., marketing, promotions, and training). A 2007 vanpool program has resulted in the creation of over 300 vanpools that have served over 230 destinations in the County.

- **Southern California 511 Motorist Aid and Traveler's Information System:** The Southern California 511 Motorist Aid and Traveler's Information System (MATIS) is a free traveler information service and provides traffic, transit, and commuter service information via toll-free number or website. The system was launched in Southern California in June 2010.
- **Freeway Call Boxes/Motorist Aid:** OCTA helps fund a network of freeway services to assist motorists in distress. Its call boxes, situated on freeway shoulders at intervals of a quarter mile, provide stranded motorists with the ability to access emergency services. In addition, OCTA funds a network of freeway service patrol tow trucks that monitor freeways to remove stalled vehicles from freeways and minimize the traffic jams that can severely hamper the functioning of the freeway system.

CHAPTER 3: STRATEGIES TO REDUCE GREENHOUSE GAS EMISSIONS

INTRODUCTION

The OC SCS coordinates transportation and land use planning in order to contribute to the reduction of GHG emissions in the SCAG region. This chapter begins with a brief review of practices already occurring in Orange County that integrate land use and transportation elements, or that are known to reduce or avoid the creation of GHG emissions. This is followed by the proposed strategies, collectively called sustainability strategies, set forth by this OC SCS to reduce GHG emissions.

A HISTORY OF INTEGRATING LAND USE AND TRANSPORTATION AND IMPLEMENTING ACTIVITIES

The integration of land use and transportation is not new to Orange County. Examples of integrated planning and community development efforts in Orange County abound; several are described below. On one hand, significant development-related planning has occurred tying a broad range of infrastructure—including transportation—to development. On the other hand, significant transportation-related planning has also occurred whereby land uses are developed and created to maximize the use of transportation systems, such as transit-oriented development near Metrolink routes and development of housing and employment centers along major arterials.

Planned Communities

A significant portion of Orange County was developed as part of master planned communities, where—on a large-scale basis—specific attention was given to the relationship between the planned land uses and the infrastructure needed to support those uses, from transportation to water and waste, to recreation and open space. Examples of planned communities in Orange County that integrated transportation and land use planning include the City of Aliso Viejo, City of Irvine, City of Mission Viejo, City of Rancho Santa Margarita, and the communities of Anaheim Hills, Coto de Caza, Tustin

Ranch, Talega, and Ladera Ranch. Within these communities the integration of transportation into the overall plan was an explicit planning objective. The linkage of transportation and land use minimizes the effects of vehicle travel within these communities.

Traditional Neighborhoods

Many of the older neighborhoods of Orange County were built before car travel was common. Most Orange County cities with historic downtowns still retain patterns of compact development, grid-pattern streets, live-work mixed uses, pedestrian access to local services and neighborhood grocery stores, and most are served by rail or bus service.

Master Plan of Arterial Highways

The MPAH was established in 1956 and is continuously updated to reflect changing development and traffic patterns throughout the County. The MPAH defines a network of surface roadways, showing both built and planned arterial streets that are necessary to serve existing and planned land uses in the County. OCTA is responsible for administering the MPAH, including the review and approval of amendments requested by local agencies. In order to be eligible to receive Measure M2 (M2) funds, cities and the County must ensure their local circulation elements are consistent with the MPAH.

In response to the State of California's recent passage of the Complete Streets Act, OCTA recently amended the MPAH guidelines to encourage local jurisdictions to consider and evaluate all mobility needs when requesting modifications to the MPAH.

Congestion Management Program

With the passage of the Proposition 111 gas tax increase, in 1990, came the requirement for urbanized areas in California to adopt a Congestion Management Program (CMP). The Orange County CMP is regularly updated every two years by OCTA to address and monitor transportation system performance issues. The CMP includes elements developed in coordination with local jurisdictions, the California Department of Transportation, and the South Coast Air Quality Management District. These elements aim to effectively manage traffic congestion and improve regional mobility and air quality. They include the following:

- Traffic LOS Standards
- Transit Service Performance Measures
- Promotion of Transportation Demand Management
- A Capital Improvement Program

- A Land Use Impact Analysis Program
- Deficiency Plan Procedures

Every two years, OCTA monitors local conformance with the CMP. In 2009, OCTA found that all local jurisdictions were in conformance with the CMP. To ensure consistency among CMPs within the SCAG region, OCTA submits each biennial update to SCAG. As the regional planning agency, SCAG evaluates consistency with the Regional Transportation Plan and with the CMPs of adjoining counties, and incorporates the program into the Federal Transportation Improvement Program, once consistency is determined.

OCTA's Mitigation and Resource Protection Program (MRPP)

M2 includes a comprehensive Environmental Mitigation Program that provides landscape-level mitigation to offset environmental impacts for the 13 freeway improvement projects using five percent of M2 freeway program revenue. OCTA is implementing the mitigation program through a collaborative partnership with CDFG, USFWS, Caltrans, and the environmental community.

The M2 mitigation program was among a handful of projects identified by the OCTA Board of Directors that allowed for early planning, advance funding, and implementation. Approximately $42 million has been authorized for the acquisition and long-term management of natural lands as part of the M2 Environmental Mitigation Program. As of June 2011, OCTA has purchased four properties totaling approximately 900 acres through this program (Saddle Creek South ≈ 84 acres, Hayashi ≈ 296 acres, O'Neill Oaks ≈ 119 acres, and Ferber Ranch ≈ 399 acres).

Additional funds are anticipated to be available in the future; the specific amount of funds available will be dependent on the revenue stream from the sale tax measure. A suite of the most biologically valuable properties and those that most closely align with the freeway impacts are under consideration and/or negotiation. This program is conducted through a voluntary process, similar to private open market transactions. Offers have been made to a number of properties and it is conceivable that the initial funding allocation could yield over a thousand acres of acquired open space properties throughout Orange County. OCTA will receive streamlined permits from the resource agencies for its freeway projects.

These protected open space areas provide GHG emissions reduction benefits, by promoting densification of urban areas and impeding sprawl. More compact development encourages fewer, shorter trips, which also help reduce greenhouse gas emissions associated with passenger vehicles.

TCA's Open Space Mitigation Programs

The TCA has an existing 2,200-acre open space mitigation program that is integral to the development of the 67-mile public toll road network. This open space mitigation program includes the Live Oak Preservation Area, Chiquita Canyon, Bonita Creek and portions of Limestone Canyon.

In 1996, TCA placed a conservation easement over a 1,182 acre area, known as Upper Chiquita Canyon. The conservation area was originally planned for development as a golf course and residential area. The TCA has been actively managing the site since 1996 and increasing its habitat values. In 2005, TCA acquired the Live Oak Preservation Area, a 23.2-acre site that sits east of the 241 Toll Road at El Toro Road and Live Oak Canyon. The Bonita Creek Mitigation Site comprises approximately 40 acres of wetland and coastal sage scrub, and is the main wildlife link from Upper Newport Bay to the San Joaquin Hills. The Cactus Wren Habitat Linkage and Restoration Project includes planting cactus in a habitat corridor used by the federally threatened California gnatcatcher bird along the wildlife linkage area that parallels the 73 Toll Road from Upper Newport Bay south through Bonita Channel to Coyote Canyon.
These protected open space areas provide GHG emissions reduction benefits from carbon sequestration. As described above, extensive protected open space contributes to a more compact development form for Orange County, which encourages infill development and fewer, shorter trips, which also help reduce greenhouse gas emissions associated with passenger vehicles.

SUSTAINABILITY STRATEGIES

Particular to the development of the OC SCS, local jurisdictions throughout Orange County were polled about the strategies and policies employed within their cities or the unincorporated areas of the County of Orange. Collectively, they used over 30 different tiered measures tied to reducing greenhouse gas emissions. Many of these measures relate to reducing vehicle miles traveled, such as approving compact building designs with a mix of uses, improving the accessibility of housing to transit, and increasing housing densities within or adjacent to employment. Other measures promote green building and efficiencies, such as developing model green development and green building laws or enhancing energy efficient code enforcement.

Key sustainability strategies related to land use and transportation employed within Orange County are provided below. A listing of Sustainability Strategies being practiced in Orange County is provided in Appendix F. Existing and planned land uses for all

jurisdictions comprising Orange County are provided in the General Plans for jurisdictions, included as Appendix I.

OC SCS Sustainability Strategy A:
Support Transit-Oriented Development.

Creating development around a transit hub can increase people's access to and use of transit. This may shift trips from cars to transit leading to reduced vehicle trips, vehicle miles traveled and greenhouse gas emissions. Several land use actions can support transit-oriented development, including mixed-use development within walking distance of transit facilities, increasing housing density near transit, increasing employment density near transit, and providing transit-oriented amenities. Further, transit agencies may provide new or increased service to a transit hub, positively compounding the use of transit and reduction in vehicle trips. (Sources: *Draft Policy Brief on the Impacts of Transit Access*, Gil Tal and Susan Handy, UC Davis and Marlon G. Boarnet, UC, Irvine for California Air Resources Board, 2010; and *Driving Change: Reducing Vehicle Miles Traveled in California*, Louise Bedsworth, Ellen Hanak, Jed Koiko, Public Policy Institute of California, 2011.)

The Metrolink Service Expansion Program (MSEP) will increase the frequency of mid-day rail service through the core of Orange County. This program is expected to begin implementation in 2011. The Measure M2 Go Local Program (M2) (described in greater detail below) will address increases in demand induced by the rail improvements through development of feeder services between rail stations and key destinations. OCTA is also undergoing the Transit System Study to determine where and how to increase public transportation service oriented to existing and future land use and maximizing ridership.

In Orange County, seven jurisdictions report having implemented transit-oriented development policies. New development has already occurred adjacent to, and taking advantage of, transit infrastructure in many jurisdictions. Examples include the following:

- Founders Walk in Buena Park
- SoCo Walk in Fullerton
- The Platinum Triangle in Anaheim
- Depot Walk in Orange
- The Transit Zoning Code in Santa Ana

OC SCS Sustainability Strategy B:
Support infill housing development and redevelopment.

Developing new housing in existing urbanized areas—also known as "infill development"—helps to avoid urban sprawl. Because the majority of Orange County is already developed, and there is limited vacant, buildable land, when infill housing development occurs, it creates an overall increase in housing density throughout the County. As recently as 2004, almost 50% of new residential development in Orange County was infill housing, primarily multiple-family dwelling units. This trend is expected to continue in the future, with 63% of housing units projected from infill or redevelopment between 2008 and 2035.

Infill development can help reduce the number of miles residents have to travel between home and work or other activities, which in turn reduces freeway and arterial congestion and related GHG emissions. Increased housing density has been linked to reduced vehicle travel and related GHG. Policies that support increased housing infill development and residential density therefore support reduced vehicle miles traveled (VMT) and reduced GHG.

Jurisdictions may promote higher residential densities through combinations of infrastructure, zoning, or public finance policies that encourage higher densities—for example, relaxing minimum lot size requirements, increasing the density of allowed development, or focusing development around transit stations. (Source: *Draft Policy Brief on the Impacts of Residential Density*, Susan Handy, UC Davis and Marlon G Boarnet, UC, Irvine for California Air Resources Board, 2010)

In Orange County, several jurisdictions have adopted land use policies that support infill development and increased housing densities. Seven jurisdictions have reported General Plan policies to add new housing and jobs within a half mile of existing or planned transit stations. Twelve cities have General Plan policies that allow increased residential or commercial density near transit. And twelve cities have General Plan policies that promote accessibility of housing to transit.

OC SCS Sustainability Strategy C:
Support mixed-use development and thereby improve walkabilty of communities.

Jointly developing different types of land uses together within a building, a set of buildings or a specific area is referred to as "mixed use" development. Locating land

uses such as housing, essential neighborhood-serving retail, and employment together may result in shorter distances between individuals' destinations. This facilitates both lower VMT and the use of non-motorized transportation such as walking and biking. (Source: *Draft Policy Brief on the Impacts of Land Use Mix*, Steve Spears and Marlon G. Boarnet, UC Irvine and Susan Handy, UC, Davis for California Air Resources Board, 2010.)

Nineteen Orange County jurisdictions have developed or planned mixed use communities with housing, employment, retail and recreational facilities co-located. A total of 20 jurisdictions have General Plan policies supporting horizontal or vertical mixed use. Some jurisdictions have created "walkable communities" designed specifically to promote pedestrian use as an alternative to automobile travel. Nineteen jurisdictions have General Plan policies to improve the pedestrian environment through either beautification or facilities construction. Projects to improve the pedestrian environment are ongoing in 25 Orange County jurisdictions.

OC SCS Sustainability Strategy D:
Increase regional accessibility in order to reduce vehicle miles traveled.

Regional accessibility is the ease with which destinations can be reached throughout a region; it encompasses both the proximity of housing to potential destinations like employment, shopping and recreation, and the transportation links to those destinations. Higher regional accessibility results in shorter travel distances on roadways to potential destinations, thereby reducing VMT. When there is higher regional accessibility via a transit system, residents may choose transit or another mode over using an automobile. On the other hand, higher regional accessibility can increase trips, so this may lead to more vehicle miles traveled. In short, the significance of the impact of regional accessibility on VMT depends on the combination of these different effects. (Source: *Draft Policy Brief on the Impacts of Regional Accessibility*, Susan Handy and Gil Tal, UC Davis and Marlon G. Boarnet, UC Irvine for California Air Resources Board, 2010).

An example of regional accessibility is seen in the Coto de Caza General Store. This store, which has been in existence for over 20 years, serves the community as a local grocery store and deli. While this may seem a commonplace element of any number of neighborhoods in Orange County, it illustrates the importance of the proximity of housing (in the neighborhoods close to the general store) to potential destinations (the grocery/eatery) thereby reducing the need for vehicle trips for residents to pick up household essentials. Regional accessibility is influenced by historical land use and

transportation patterns, which may be preserved and enhanced through land use and transportation policies.

OC SCS Sustainability Strategy E:
Improve jobs to housing ratio.

The concept of creating an improved ratio of jobs to housing suggests that when residence and work locations are closer together, people's travel distance to and from work will be reduced. This, in turn, will reduce vehicle-related greenhouse gas emissions. Policies related to an improved jobs-housing ratio are intended to shorten commute distances (this strategy focuses on work travel as opposed to shortening all travel as described in the regional accessibility strategy described above). Fourteen Orange County jurisdictions have General Plan policies to increase housing density near employment areas. Factors influencing jobs-housing ratio include the necessary match between worker skills and type of jobs, as well as other amenities that might attract residents to a specific area. However, studies show an association between an improved ratio of jobs to housing and reduced VMT. (Source: *Draft Policy Brief, Impact of Jobs-Housing Balance on Passenger Vehicle Use*, Marlon G. Boarnet and Hsin-Ping Hsu, UC Irvine and Susan Handy, UC Davis for California Air Resources Board, 2011.)

OC SCS Sustainability Strategy F:
Promote land use patterns that encourage the use of alternatives to single-occupant automobile use.

This strategy covers multiple activities undertaken by local jurisdictions. Strategies range from constructing pedestrian and bicycle facilities and improving linkages between these facilities to implementing site planning and design strategies that promote alternative transportation, to parking preferences for rideshare vehicles to support of transit facilities and amenities.

Because a large number of practices fall within this strategy, a few have been selected to highlight parking strategies and bikeway/pedestrian facilities:

- Expansion of parking facilities at all Metrolink stations as part of Metrolink Service Expansion Program.
- Incentivizing affordable housing projects through reductions in parking requirements in Anaheim.

- Preferential parking for alternative fuel vehicles in Huntington Beach.
- Completion of sidewalk system in the Irvine Business Complex as part of developer fee program.
- Promotion of bicycle sharing project in Garden Grove.
- Development of bicycle facilities plan in Newport Beach.
- Review of Downtown Specific Plan for human scale activity in Fullerton.

OC SCS Sustainability Strategy G:
Support retention and/or development of affordable housing.

Because available land is scarce in Orange County, housing will grow primarily in terms of increasing density. Increased housing density affords greater variety in housing type (i.e., multi-family, flat, apartment, condominium, high-rise, etc.) and increased supply contributes to housing affordability. Increasing the supply of affordable housing within Orange County may result in workers living closer to their jobs, thereby reducing vehicle miles traveled and urban sprawl. The densification of housing is forecast to accommodate population growth and locate residents proximate to employment centers, shopping and recreation opportunities and major transportation routes, including the High Frequency Corridors and Metrolink stations.

One of the sustainability strategies identified for reducing GHG emissions is a land use strategy for local jurisdictions to provide affordable as well as market rate housing. Among the jurisdictions that responded to the survey of sustainability strategies, 12 indicated they have completed projects within Orange County employing this land use strategy, and 18 additional jurisdictions report ongoing projects. There are 14 planned future projects that provide affordable housing and 20 local jurisdictions report General Plan policies that promote this strategy.

OC SCS Sustainability Strategy H:
Support natural land restoration and conservation and/or protection offering significant carbon mitigation potential via both sequestration and avoidance of increased emissions due to land conversion.

Leverage existing regional conservation efforts that lead to reduced carbon emissions. Superior resource management, restoration, and resource land protection are emerging means of emissions avoidance or reductions. This conservation or protection may occur through the purchase of natural resource lands. There are a multitude of

benefits and co-benefits for this strategy including decreased need for future infrastructure in less developed regions of the county; avoidance of construction, household, and infrastructure emissions; and avoidance of VMTs that would have been generated if the land was converted.

The OC SCS, by leveraging existing conservation efforts such as Renewed Measure M's Mitigation Program, can lead the way for strategic open space/resource protection as a means of reducing the County's carbon footprint and meeting the goals of SB 375. Through this strategy, local jurisdictions and other organizations may align their planning priorities and land use decisions together with funds necessary to purchase and preserve natural lands. Jurisdictions and organizations have the option to invest early in this open space strategy which offers both near-term and long-term GHG emissions avoidance benefits.

Another example of protected natural lands is the TCA's open space mitigation program described above, which includes the following protected natural lands:

- Cactus Wren Habitat Linkage and Restoration Project (Completed)
- Bonita Creek Mitigation Site (Completed)
- Chiquita Canyon Conservation Area (Partially Completed)
- Live Oak Preservation Area (Planned)

OC SCS Sustainability Strategy I:
Eliminate bottlenecks and reduce delay on freeways, toll roads, and arterials.

Freeway Vision

The freeway vision provides guidance for prioritizing freeway projects within the financially constrained Preferred Plan for the Orange County LRTP.

In order for the freeway vision to serve its intended purpose, and to make certain it contributes toward meeting the OC SCS goals and objectives, the following guiding elements are identified:

- Deliver committed projects, including M2
- Expand access for high-occupancy vehicles
- Improve freeway system operations
- Consider recent transportation studies
- Promote environmental sustainability
- Seek additional funding opportunities

Deliver Committed Projects, including M2

As of 2008, the Orange County freeway network has about 1,650 lane miles in operation, including HOV lanes and toll facilities. The voter-approved M2 program plans for numerous improvements to Orange County freeways, adding roughly 155 lane miles to the system.

Additionally, a number of freeway projects are not part of M2 but have funding commitments within the Federal Transportation Improvement Program. These committed projects will also enhance freeway accessibility and add about 100 lane miles to existing toll facilities and about 90 lane miles of new toll facilities. These improvements (Figure 45) will benefit every mode of travel on Orange County freeways, from single-occupant commuters to commercial truckers.

Expand Access for High-Occupancy Vehicles (HOV)

The continuous access HOV project on the Garden Grove (SR-22) Freeway opened to the public in May 2007, and was the first of its kind in Southern California. Since then, continuous access was expanded on the portion of the Costa Mesa (SR-55) Freeway, between the Riverside (SR-91) Freeway and the Santa Ana (I-5) Freeway. Figure 46 highlights the expansion of the continuous access HOV program. Additionally, through the committed improvements identified in the LRTP, OCTA plans to expand the HOV network by roughly 20 lane miles.

Priced Transportation Travel Options

The Orange County toll road and express lane network currently consists of the San Joaquin Hills Transportation Corridor (SR-73), portions of the Laguna Freeway (SR-133), the Foothill Transportation Corridor (SR-241), and the Eastern Transportation Corridor (SR-261), managed by the Transportation Corridor Agencies, as well as the OCTA-operated 91 Express Lanes on the Riverside (SR-91) Freeway. These facilities total about 325 lane miles and allow the traveling public the option to pay a fee in order to use a more direct and/or less congested route.

The committed improvements contained in the Orange County LRTP and the OC SCS will expand the toll network to roughly 520 lane miles. To leverage these committed investments, priority was given to projects that enhance connectivity between toll facilities in an effort to provide a seamless free-flowing network throughout the County.

Consider Recent Transportation Studies

In recent years, several major investment studies (MISs) have been completed for some of Orange County's most heavily-traveled corridors. MISs study multimodal corridors, collect input from elected officials and the public, and find consensus on a locally

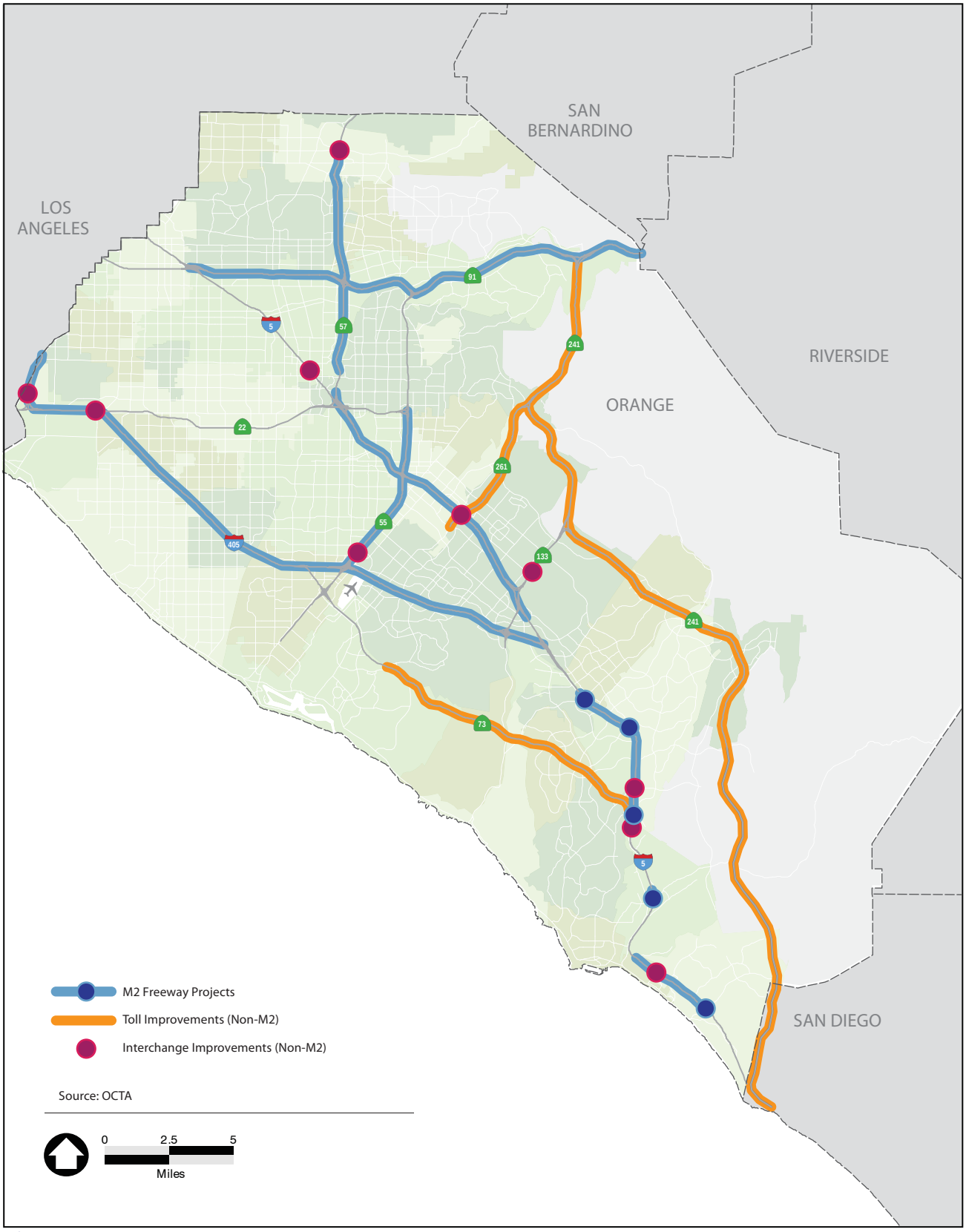


Figure 45

Orange County
Committed Freeway Improvements

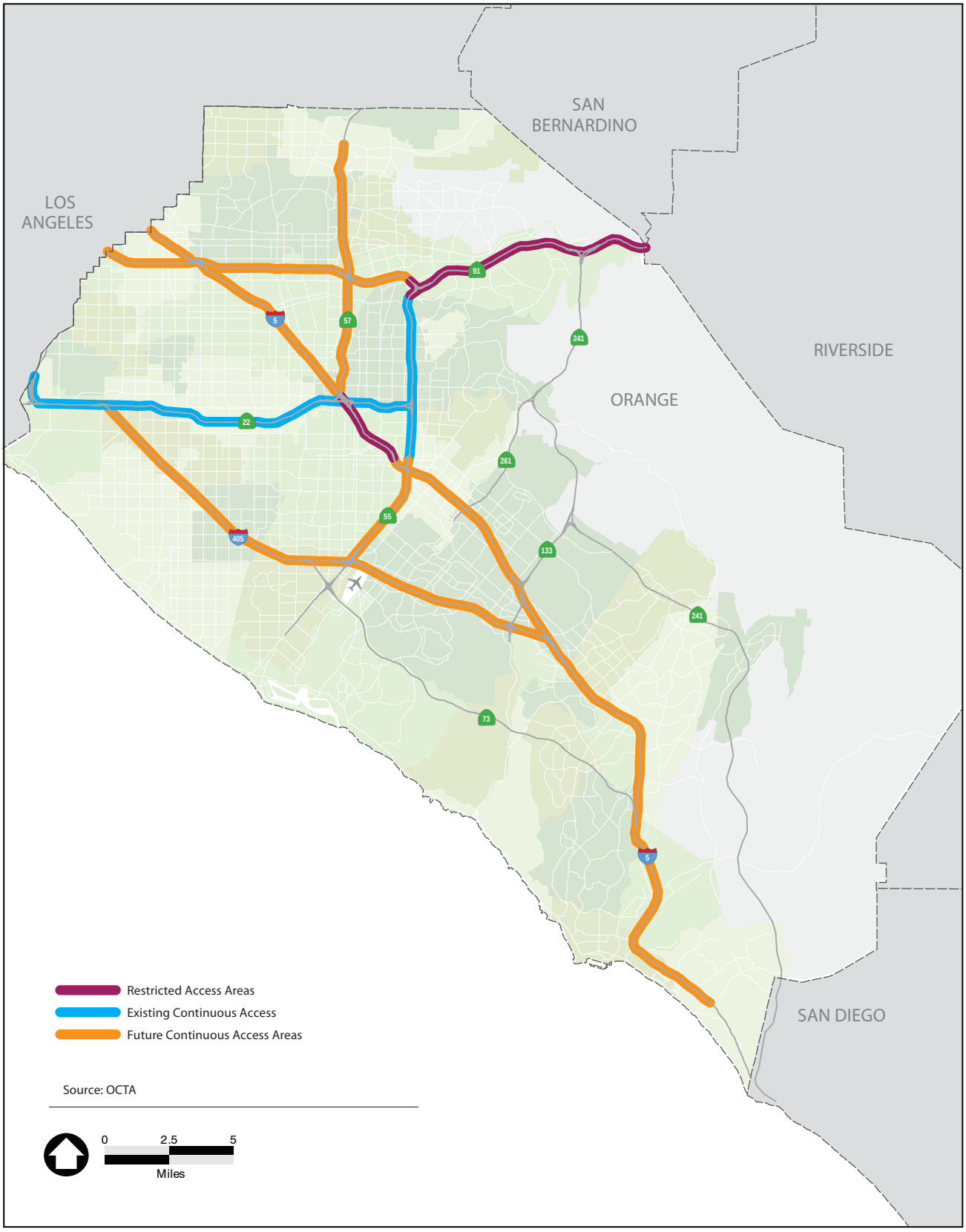


Figure 46

Orange County Continuous Access HOV Program

preferred alternative that identifies the best projects for Orange County. In addition, Caltrans is currently completing a series of Corridor System Management Plans (CSMPs).

As a result of these studies, Caltrans and OCTA are cooperatively considering augmenting many freeway/tollway-related Transportation System Management (TSM)/Transportation Demand Management (TDM) investments. These investments could include, but are not limited to, increased support for park-and-ride lots, directional lanes, enhanced use of electronic message boards, and improved incident and event management strategies. The Orange County LRTP and OC SCS incorporate selected locally preferred alternatives from the OCTA MISs into the preferred and unconstrained plans. OCTA will also coordinate with Caltrans and consider the proposed improvements from the CSMPs.

Promote Environmental Sustainability

New state requirements for greenhouse gas emissions brought on by SB 375, along with previously existing air quality requirements, have brought environmental concerns to the forefront of planning. Pricing and other TDM and TSM methods will need to be looked at more closely in order for Orange County to contribute toward improving air quality. As previously mentioned, the M2 Mitigation and Resource Protection Program is providing for coordinated environmental benefits on a regional scale rather than a piecemeal project-by-project approach. The mitigation program is currently being implemented under an agreement among OCTA and state and federal resource agencies.

OC SCS Sustainability Strategy J:
Apply Transportation System Management and Complete Street practices to arterials and freeways to maximize efficiency.

Arterial Roadways

Streets and roads form the foundation of Orange County's transportation system. This transportation infrastructure provides residents and commuters with access to the County's freeway network, the OCTA bus system, and it connects residential neighborhoods to jobs, schools, and services.

Master Plan of Arterial Highways

The MPAH was established in 1956 to provide a roadmap for the implementation of a countywide network of roadways that follow consistent standards and design guidelines. Recently, OCTA completed the Regional Capacity Needs Assessment study, which

identifies priority street improvement projects that would be eligible for funding under M2 programs. M2, passed by Orange County voters in 2006, ensures the continuation of an important local funding source for the continued implementation of the MPAH.

The current MPAH reflects the existing roadway plans for the 34 Orange County cities and the County of Orange (Figures 47A and B). Implementation of the MPAH is essential to ensuring the mobility of Orange County residents and commuters into the future. Implementation of the MPAH, along with the complementary elements of the County-wide transportation network, results in a system that operates with improved levels of service when compared to 2008 conditions.

Complete Streets

In 2007 the State of California passed the Complete Streets Act. This act requires local jurisdictions to consider and evaluate the needs of all users of the roadway, including pedestrians, bicyclists, users of public transit, motorists, children, the elderly, and the disabled when they update their General Plans. Orange County cities will comply with the state law when updating the Circulation Elements of their General Plans. Some cities such as Santa Ana, Irvine, and Huntington Beach report they have already begun to adopt and implement a complete streets policy. In addition, OCTA recently amended the MPAH Guidelines to encourage local jurisdictions to consider and evaluate all mobility needs when requesting modifications to the MPAH.

Traffic Light Synchronization Master Plan

In the past, the traffic signals on individual roadways could be coordinated within the boundaries of a particular city, but not necessarily across city limits to the neighboring city. OCTA and local jurisdictions have initiated the Traffic Light Synchronization Master Plan, targeting key roadway corridors throughout Orange County for the implementation of a regional traffic signal synchronization program.

OCTA recently conducted two traffic signal synchronization demonstration projects to examine the potential benefits of regional traffic signal synchronization. Oso Parkway in South County and Euclid Avenue in North County were designated as the demonstration corridors for this program. Both projects showed substantial improvements to travel time and congestion levels within the individual corridors. The success of these demonstration projects led to the development of the Traffic Light Synchronization Master Plan and the identification of a County-wide network of synchronized corridors, allowing for more efficient travel across multiple jurisdictions.

Further, all Orange County jurisdictions adopted a local signal synchronization plan identifying traffic signal system routing consistent with the Regional Traffic Signal Synchronization Master Plan. The implementation of this plan begins with 10 regional

corridors. Eventually, signal synchronization will be implemented along 750 miles of roadways and at over 2,000 intersections (Figure 48). Completion of the traffic signal synchronization projects is a key element of the LRTP and these improvements are funded by M2, local match requirement, and Proposition 1B.

Roadway Pavement Management Plan

Ongoing roadway maintenance is an important element to ensuring that roadways operate at peak efficiency and service levels, and that travelers can move safely and conveniently. As a condition for receiving M2 funds, each city and the County must have a certified Pavement Management Plan, which includes an inventory of pavement conditions, identification of needed pavement rehabilitation or replacement, and a budget to complete the required maintenance.

Transportation System Management. While expansion of the transportation system is vital to responding to the growing needs of Orange County, making the existing system operate as efficiently as possible is critical. TSM strategies are designed to maintain and preserve the transportation system and ensure that it functions at an optimal level. OCTA is activity participating in or exploring several TSM strategies.

Caltrans already incorporates TSM and TDM strategies on many of their facilities, such as metered ramps, traffic monitoring technologies, and park and ride lots, which contribute to improved freeway performance. However, if further investments are made cooperatively with OCTA, there is potential to increase the efficiency of Orange County's facilities. These investments could include, but are not limited to, increased support for park and ride lots, directional lanes, enhanced use of electronic message boards, and improved incident and event management strategies. Augmenting these TSM strategies from the LRTP are sustainability strategies employed by jurisdictions in Orange County, such as improving circulation efficiency through signage, and implementing operational improvements to relieve bottlenecks.

ITS. Technology has long played a role in transportation, from communication and scheduling systems for buses and rail services to vehicle detection sensors under the pavement that control traffic signals. More and more agencies are using technology and applying it regionally so that freeways, roadways, and transit vehicles operate more cohesively and carry more people without needing more lanes or transit vehicles. Intelligent Transportation Systems (ITS) are used to improve the operational efficiency, effectiveness, and safety of ground transportation. ITS technology includes ramp metering, bus fleet management and signal priority, and computerized traffic signal systems. Examples of these systems include the following:

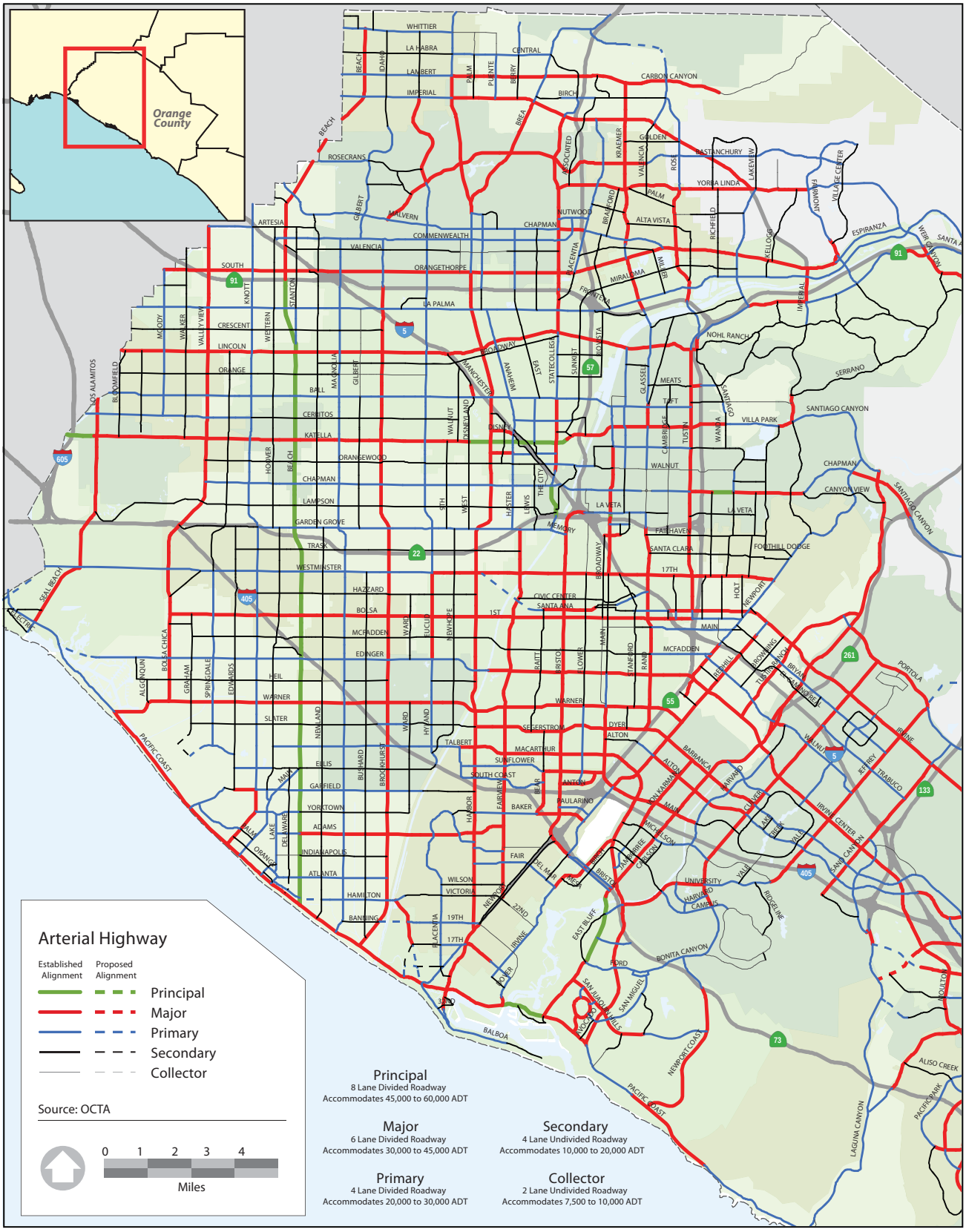


Figure 47A

Orange County Master Plan of Arterial Highways (North County)

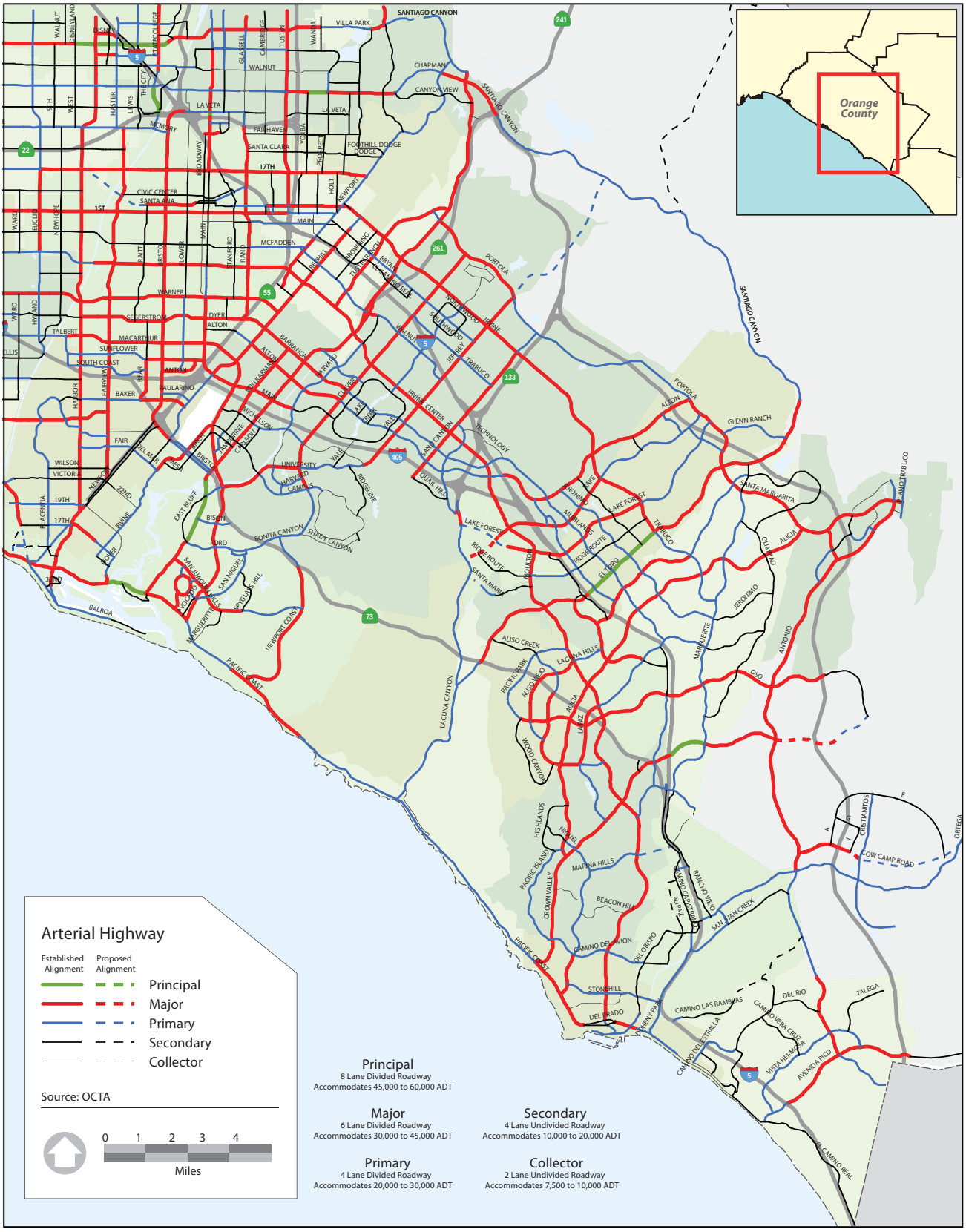


Figure 47B

Orange County Master Plan of Arterial Highways (South County)

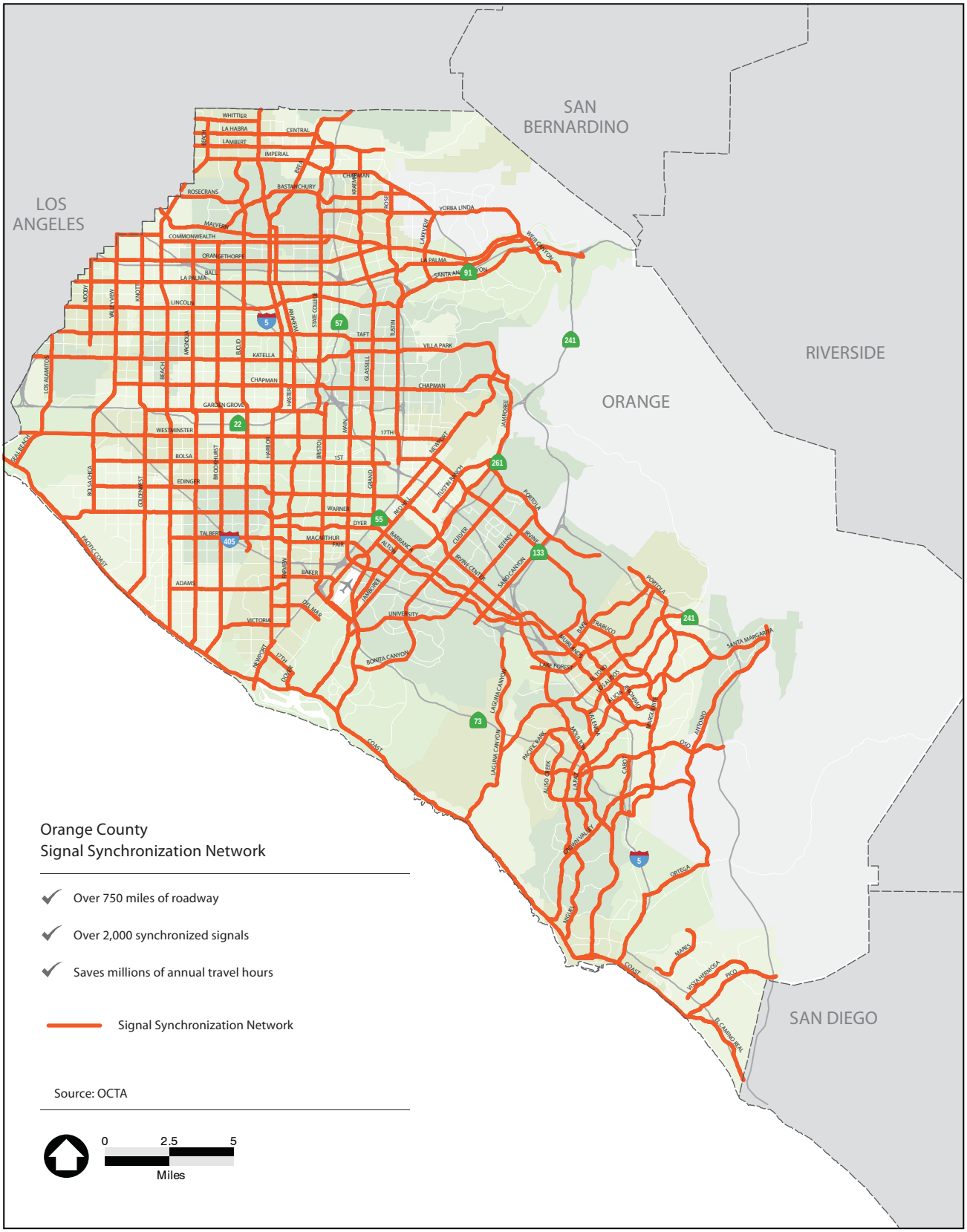


Figure 48

Orange County Signal Synchronization Plan

- Arterial management (traffic control, surveillance, information dissemination, parking management, and travel information systems)
- Freeway management (lane management, ramp control, surveillance, information dissemination, special event management, and travel information)
- Crash prevention and safety (warning systems)
- Transit management (operations and fleet management, information dissemination, transportation demand management, and safety and security management systems)
- Electronic payment and pricing (toll collection, pricing, transit fee, parking fee and multi-use payment systems)
- Commercial vehicle operations (credential administration, safety assurance, electronic screening, carrier operations/fleet management, and security operations systems)
- Intermodal freight (freight tracking, asset tracking, freight terminal processes, drayage operations, international border crossing process, and freight-highway connection systems)

Traffic accidents, stalled vehicles, weather-related congestion, and special events at major attractions are all examples of occurrences that can cause nonrecurring congestion. Because nonrecurring congestion is not always predictable, traditional solutions such as adding lanes are not always effective. ITS solutions can help relieve this type of congestion by identifying the type of incident and developing a response plan, such as dispatching assistance or providing information to motorists.

Orange County has developed a framework for coordinating all future ITS projects, called the Orange County Regional ITS Architecture. OCTA, Caltrans, the Federal Highways Administration, and Orange County jurisdictions have collaborated on this foundational plan, which has a 10-year time frame. Orange County's ITS plan is integrated with the Southern California Regional ITS Architecture, completed by the SCAG. It is part of a nationwide mandate to establish national standards and common or interchangeable technologies for transportation management.

OCTA currently uses ITS technologies for a number of purposes ranging from supervising bus fleets to managing traffic on the Riverside (SR-91) Freeway express lanes. In addition, OCTA is in the process of identifying opportunities to implement ITS projects throughout the County within the Orange County Regional ITS Architecture framework.

OC SCS Sustainability Strategy K:
Improve transit modes through enhanced service, frequency, convenience, and choices.

Public Transit Network

Orange County's existing public transportation network is described in detail in Chapter 2. Orange County is served by Metrolink commuter rail service and Amtrak's Pacific Surfliner intercity rail service connecting Orange County to San Diego, Los Angeles, Riverside, San Bernardino, and Ventura Counties. OCTA operates local fixed route bus service, community shuttle routes, StationLink Metrolink rail feeder routes, and express bus routes both within and outside the County. OCTA bus service is complemented by local transit service in the cities of Anaheim, Buena Park, Irvine, and Laguna Beach. Losses in sales tax and state funding revenues, combined with a decrease in fare revenue during the recent economic crisis created a need to reduce bus service levels by about 20 percent between 2008 and 2010.

The transit strategy identifies broad objectives for prioritizing future transit improvements to meet future demand as effectively and efficiently as possible. These objectives will serve to meet as much of the forecast transit demand as financially feasible and support OCTA's existing transit goals:

- Target high-demand corridors for improvements to fixed-route frequencies and hours of operations
- Initiate bus rapid transit (BRT) services
- Invest in Metrolink and Go Local feeders, and support California high-speed rail
- Explore express bus opportunities
- Improve access to regional bus service and local destinations with community circulators and rideshare programs
- Coordinate service planning with local land-use agencies
- Seek to restore transit funding from state and federal sources, as well as new funding and savings for transit operations

Target High-Demand Corridors and Initiate BRT Service

High-demand transit corridors are identified as corridors that received 15-minute or better peak-period headway service, on aggregate, during OCTA's peak level of service observed in June 2008. It is anticipated that these corridors will continue to show enough future demand to support the 15-minute or better peak-period headway transit service by 2035. These corridors are typically located in close proximity to many Orange County

employment centers and higher density residential areas. Figure 49 highlights potential high-demand corridors for high-frequency transit service, including proposed BRT routes. OCTA will continue periodic evaluation of transit demand and potential high-frequency transit corridors. As financial resources become available over the next 25 years, core service areas such as these will be prioritized for fixed-route bus service expansion.

The first three BRT projects being planned are as follows:

- Westminster Avenue/Westminster Boulevard/17th Street: 22-mile fixed route BRT between Santa Ana and Long Beach including bus shelters and rolling stock
- Harbor Boulevard: 19-mile fixed route BRT between Fullerton and Costa Mesa including bus shelters and rolling stock
- Bristol Street-State College Boulevard: 28-mile fixed BRT from Brea Mall to Irvine Transportation Center includes shelters, and rolling stock

Invest in Metrolink and Go Local Feeders and Support California High-Speed Rail

OCTA is implementing the MSEP that involves the addition of more frequent commuter rail service between Fullerton and Laguna Niguel, and the necessary station and infrastructure improvements to accommodate this service. Additionally, OCTA is coordinating with the State on the California High Speed Rail project. To support these future rail services, regional gateway station improvements such as the Anaheim Regional Transportation Intermodal Center (ARTIC) are underway. These efforts will strengthen the backbone of Orange County's transit system.

The MSEP will increase the number of trains operating between Fullerton and Laguna Niguel and expand service outside typical peak commute periods in the morning and evening to provide more mid-day and off-peak services. These improvements, designed to attract additional riders, will enhance the Metrolink services by offering more frequent services throughout the day, providing up to 30-minute headways (Figure 50). Through M2, OCTA's goal is to extend the enhanced Metrolink service levels to Union Station in Los Angeles.

The M2 Go Local Program is intended to address increases in demand induced by the rail improvements noted above. Go Local provides a competitive opportunity for local jurisdictions to develop feeder services between rail stations and key destinations. Figure 51 displays the coordinated efforts between rail service expansion and feeder service. The California High-Speed Rail corridor and Metrolink service improvements are highlighted, along with the proposed Go Local projects.

Figure 49

Orange County Potential High Frequency Public Transportation Corridors

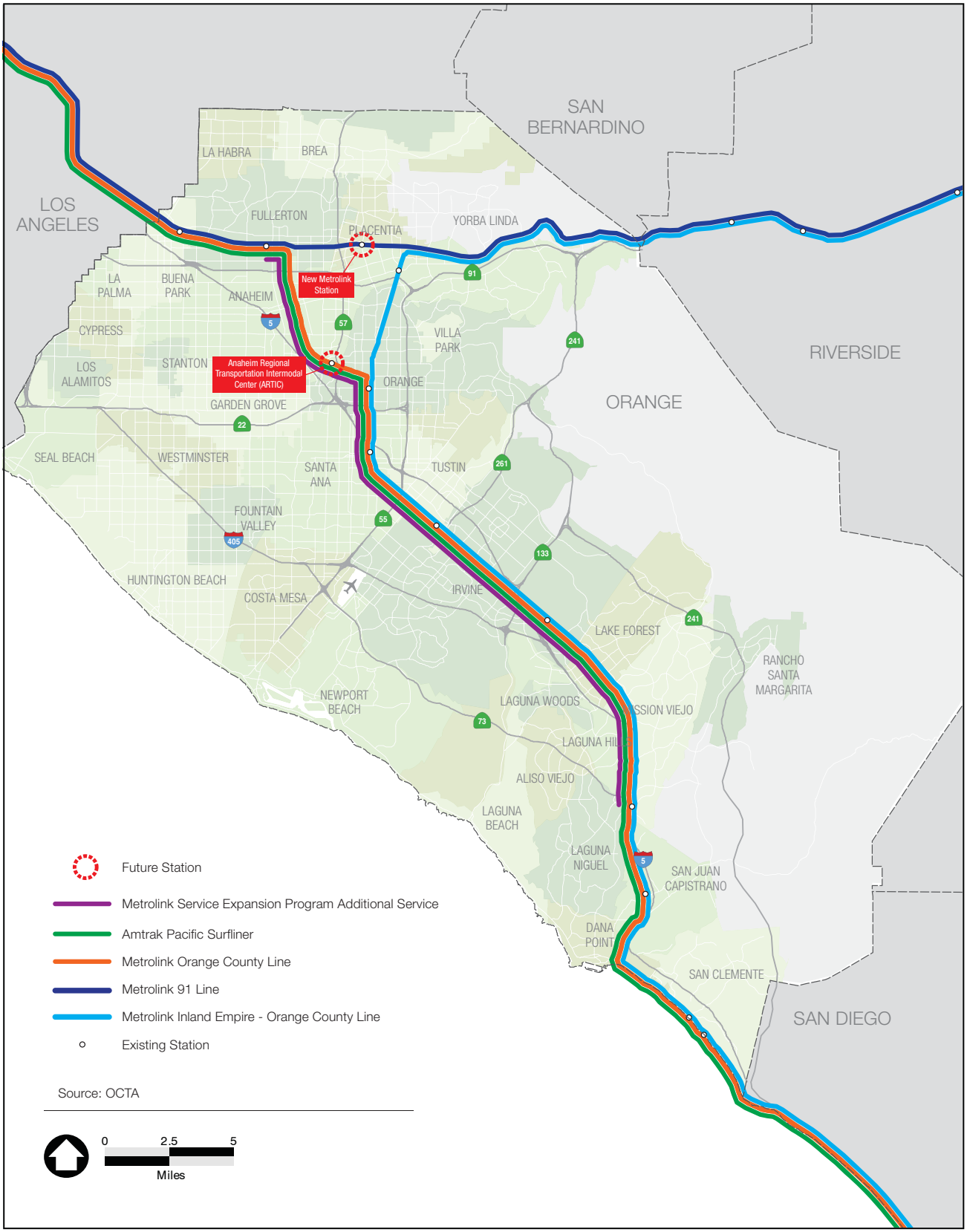


Figure 50

Orange County Metrolink Service Expansion Program

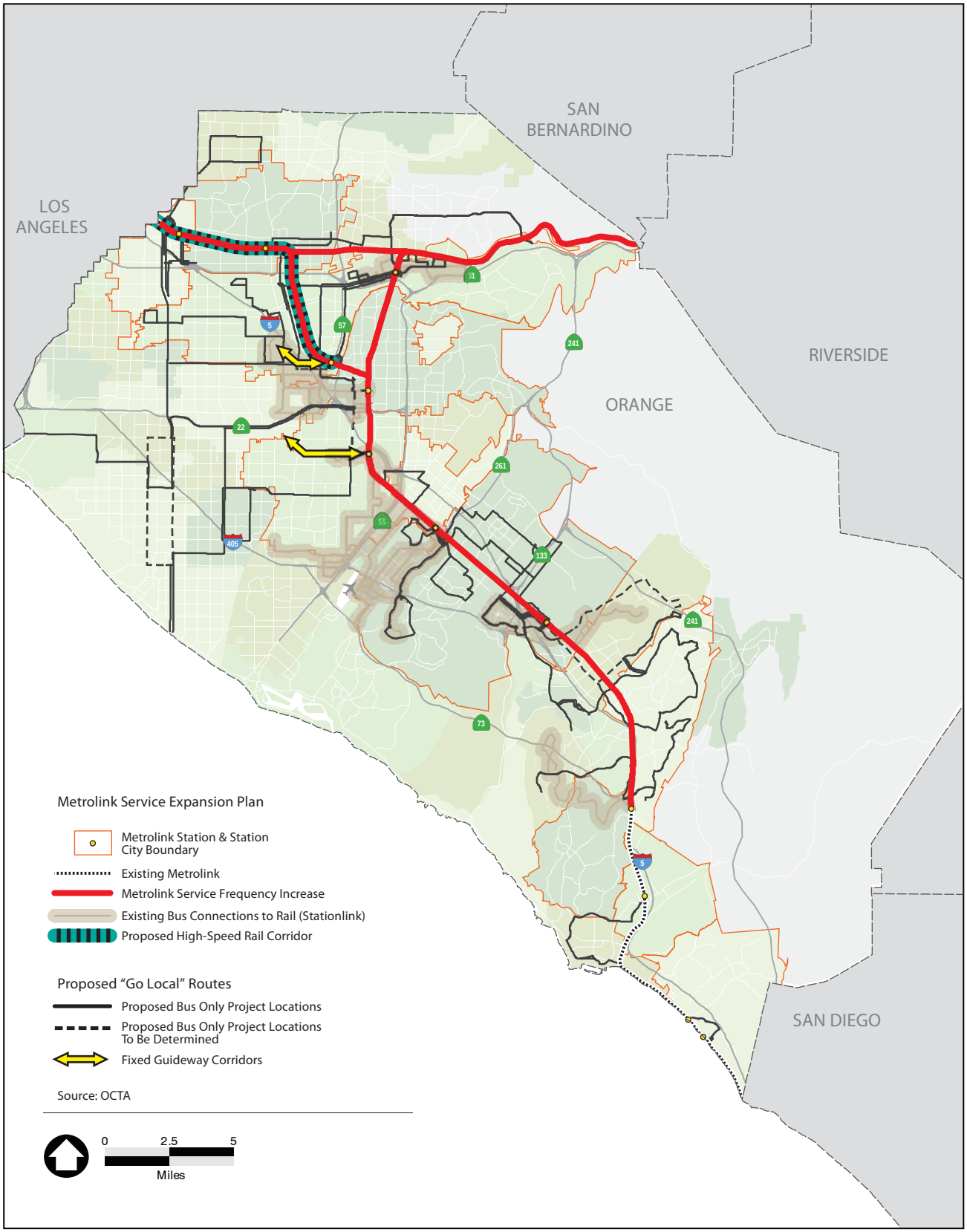


Figure 51 **Orange County Rail Service Expansion and Station Feeder Service Plan**

OCTA also plans to increase StationLink services as needed to coordinate with Metrolink service.

Explore Express Bus Opportunities

Intercounty and intracounty bus services are planned for those corridors that serve major destination areas and improve regional connectivity. Figure 52 identifies selected potential express bus corridors that will be further studied to determine their viability.

Improve Access to Regional Bus Service and Local Destinations

M2 provides another competitive opportunity to local jurisdictions to develop community circulator shuttles that will provide access to and from regional bus service and local destinations. These services could greatly improve the effectiveness of some major regional services such as BRT and express bus.

Other Transit Enhancements

The LRTP also includes safe transit stops and expanded transit convenience and choices for the elderly and handicapped population. Demand-responsive transit services are provided for the elderly, disabled, and other populations through ACCESS Services. This includes curb-to curb service, door-to-door service, and same-day taxi service, all of which meet the requirements of the ADA. The growth rate in demand for ACCESS services is higher than for traditional bus transit service. This is projected to continue throughout the timeframe covered by the LRTP. Between 2010 and 2035, ACCESS costs are projected to increase from 19% of the transit operating budget to 31%. As a result, OCTA is initiating a review of strategies that could continue to meet the requirements of ADA in a more cost-effective manner.

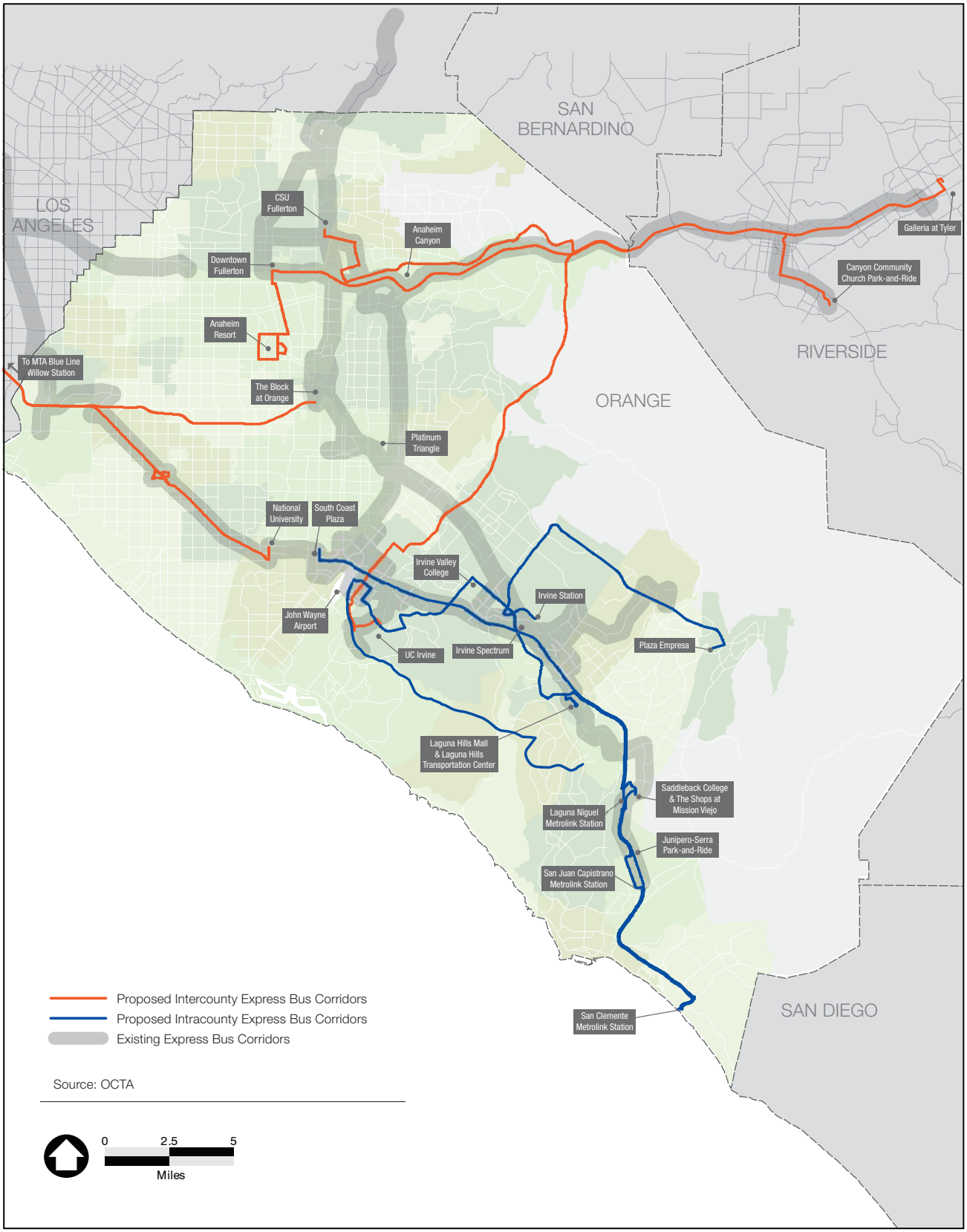


Figure 52

Orange County Potential Express Bus Corridors

OC SCS Sustainability Strategy L:
Expand and enhance Transportation Demand Management practices to reduce barriers to alternative travel modes and attract commuters away from single occupant vehicle travel.

TRANSPORTATION DEMAND MANAGEMENT (TDM)

TDM Ordinances

All jurisdictions in Orange County have adopted TDM ordinances that incorporate provisions consistent with rules adopted by the South Coast Air Quality Management District (SCAQMD). There are many programs administered or supported by OCTA to manage travel demand through the use of alternative transportation modes. These services help to reduce single occupant vehicle travel, reduce congestion, and enhance the quality of life for Orange County residents, commuters, and visitors.

Vanpool and Rideshare Programs

Vanpools and ridesharing provide substantial benefits for reducing congestion and reducing vehicle miles traveled. Vanpools and carpools typically reduce the number of long distance commute trips within a particular region, maximizing the congestion reduction and air quality benefits from each trip removed from the transportation system.

The expansion of vanpool services will focus on two target commute markets. The first commute market consists of expanding the long-distance vanpool services by targeting new or expanded services to employment and activity centers that are not currently well served by existing vanpools. Target employment centers include the Irvine Spectrum area, the Santa Ana Civic Center, the South Coast Metro area, and the Anaheim Canyon employment center along the Riverside (SR-91) Freeway.

The second vanpool strategy would explore the potential for shorter distance vanpools that would originate from Metrolink stations in Orange County and provide connections to employment centers that are not currently well served by OCTA's existing Stationlink and local bus services. These employment destinations could be directly served by the vanpool, reducing travel times from the Metrolink station to the commuter's ultimate destination. These services are beneficial in that the Metrolink commuter rail service can fulfill the long-distance portion of the commute and bring together several commuters from a larger area than a traditional vanpool.

Potential opportunity areas for vanpools for the year 2010 and 2035 within Orange County are depicted on Figure 53. These opportunity areas have an employment density

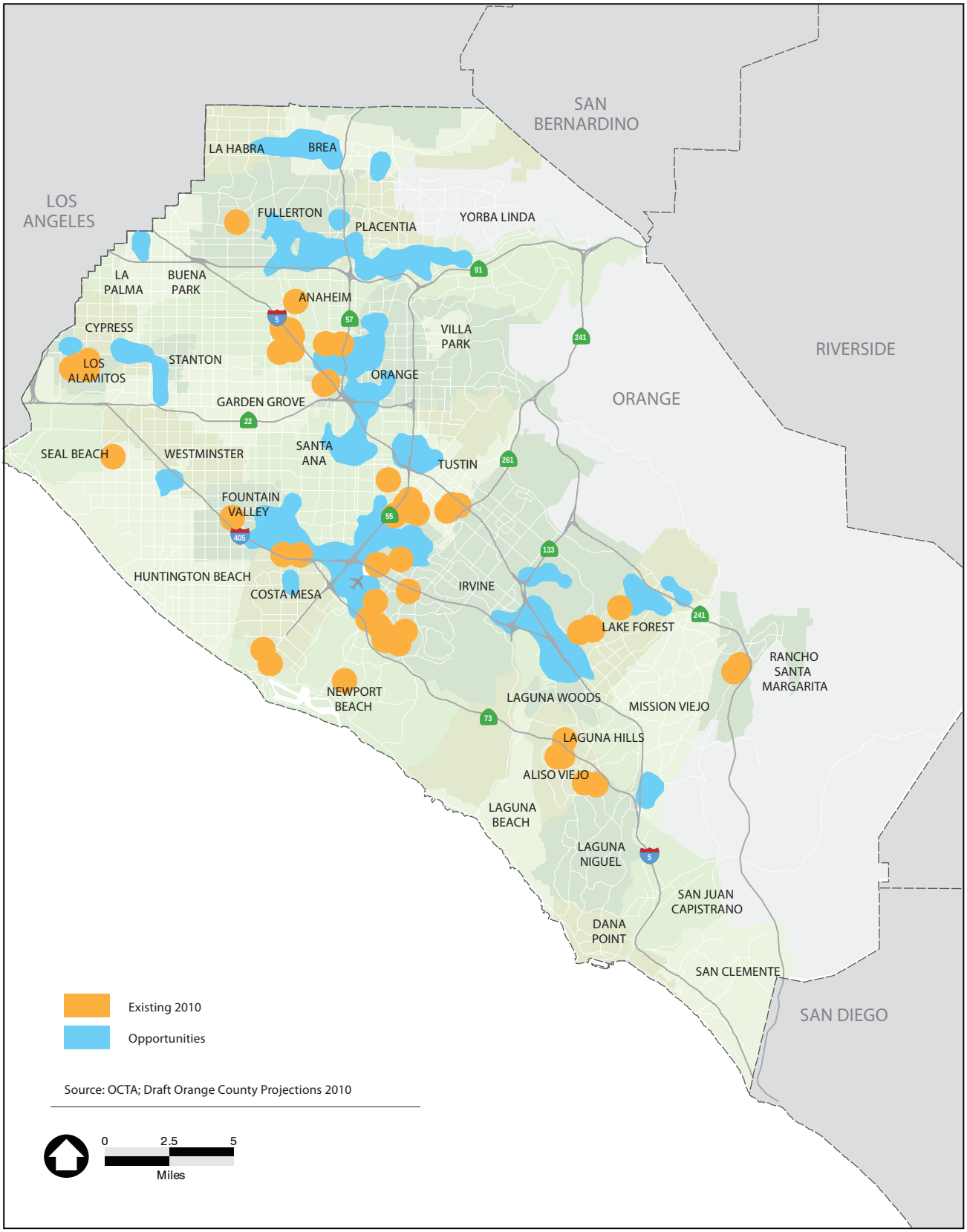


Figure 53 **Orange County Vanpool Opportunities**

of 5,000 jobs per square mile or more and could be served by vanpools developed through either of the strategies described above.

Park-and-Ride

Park-and ride facilities play an important role in increasing commuter access to alternative transportation modes. Orange County will continue to explore opportunities to increase the number of park-and-rides facilities through coordination with Caltrans, local jurisdictions, and private property owners to identify additional suitable park-and-ride sites, and will actively pursue resources to fund the construction and/or lease of new park-and-ride facilities.

Bicycle Programs

Bicycles can be used as the sole mode of transportation or as a complement to bus and rail travel. Bicycles can also play an important role in mitigating the growing challenges imposed by automobile dependence, including congestion and air pollution.

Bikeway planning, implementation, and maintenance efforts are recorded in the Commuter Bikeways Strategic Plan (CBSP). The CBSP was developed through a collaborative process among cities, the County, OCTA, Caltrans, and nonprofit organizations and the general public. The resulting CBSP (shown on Figure 54) includes a compilation of local bikeway plans proposing the addition of a total of 210 miles of Class I bikeways, 480 miles of Class II bikeways, and 95 miles of Class III bikeways. The CBSP also identifies regional bikeway priority locations that include transit stations, major employment centers, and schools. OCTA encourages implementing agencies to give priority to bikeway projects that connect to, or within these locations to improve regional connectivity. OCTA also recommends that projects be prioritized based on CBSP performance criteria that include safety, ease of implementation, and continuity.

Pedestrian Programs

Pedestrian-friendly environments improve the efficiency and connectivity of other modes of transportation, such as transit. A safe and attractive walking environment also furthers the goals of environmental sustainability by supporting reduced automobile dependence. Pedestrian programs and improvements are currently underway in many jurisdictions and will continue to be supported in Orange County.

Other TDM Programs

Multimodal Transportation Hubs. Multimodal transportation hubs are staffed or automated facilities that provide commuters access to multiple transportation modes in order to complete all or a portion of their trip. These facilities are typically located adjacent to a commuter rail station, park-and-ride or transit center and provide access to

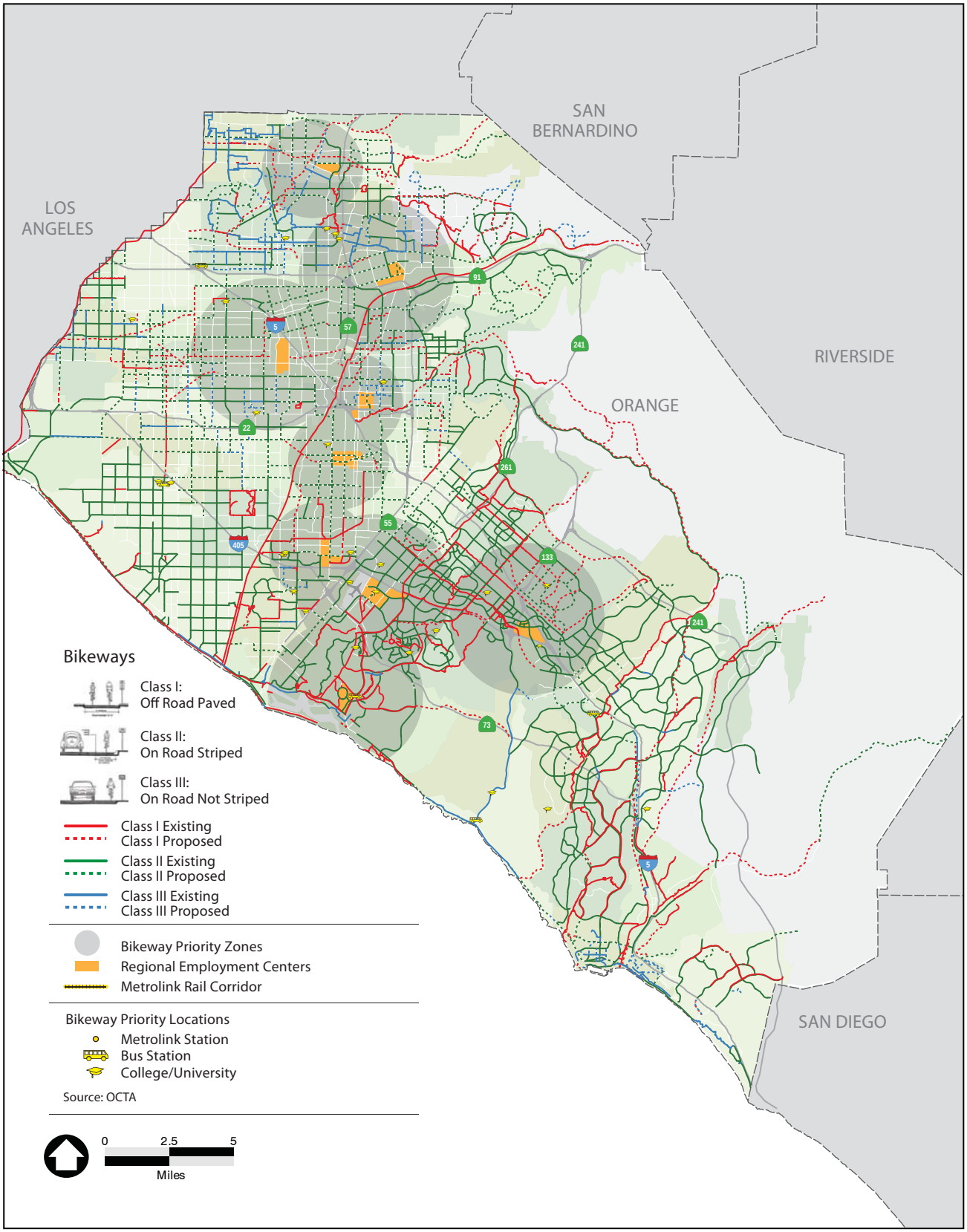


Figure 54

Orange County Commuter Bikeways Strategic Plan

bicycle lockers, bicycle rental, and carshare services. In the future, OCTA will explore the potential for implementing these types of facilities at Metrolink stations and transit centers in Orange County and work to identify potential satellite facilities that would supplement and extend the reach and effectiveness of the facilities placed at commuter rail stations and transit centers.

Commuter Financial Incentives. Commuter financial incentives incorporate a wide range of strategies and incentives that are intended to encourage alternative commute modes. Common incentives include employer-subsidized transit, parking, and rideshare benefits offered to commuters who utilize an alternative mode of transportation for a majority of their commute trips. A program that has been implemented elsewhere in the State offers employers the opportunity to provide their employees with discounted transit passes that are deducted pre-tax from employee paychecks, offering tax benefits for both the employer and the employee. Orange County employers are encouraged to explore the potential viability of this and other commuter incentive programs.

OC SCS Sustainability Strategy M:
Continue existing, and explore expansion of, highway pricing measures.

Priced Transportation Network

Orange County already has a unique resource in its priced transportation network. The OC SCS pricing strategy is designed to complete and optimize the scope and capacity of the County's priced transportation network composed of publicly-owned toll and express lanes. Priced facilities are an especially important tool for providing intra-county, inter-county and interregional capacity, while at the same time contributing to sustainability and emission reduction goals related to SB 375 and other state and federal mandates. The existing priced transportation network serves the locations where major employment and housing growth are projected to occur.

Toll roads and express lanes charge users a fee for travel but typically offer less congested traffic lanes than nearby freeways and roadways. Reduced congestion provides improved and more efficient mobility with fewer air pollutant and greenhouse gas emissions caused by congestion.

The toll road system is designed to interrelate with transit service. The toll roads can accommodate Bus Rapid Transit and express bus service, and toll road medians are sized and reserved to provide the flexibility for future transit, if appropriate.

Existing Priced Network

As of 2008, the County's "freeway" system includes over 280 lane-miles of toll roads and 40 lane-miles of express lanes. The existing toll road and express lane network in Orange County includes the following facilities:

- State Route 91 (SR 91) Express Lanes
- Eastern/Foothill Transportation Corridors (SR 261, SR 241, and SR 133)
- San Joaquin Hills Transportation Corridor (SR 73)

The Eastern, Foothill, and San Joaquin Hills Transportation Corridors are owned by Caltrans and operated by the Transportation Corridor Agencies (TCAs). OCTA owns and operates the SR 91 Express Lanes. The Eastern, Foothill, and San Joaquin Transportation Corridors are operated with variable tolls that are adjusted based on peak and non-peak traffic levels and usage. The pricing for the SR 91 Express Lanes is dynamic, with toll rates directly tied to congestion levels in the express lanes and in the adjacent freeway lanes. Both toll programs serve as potential models for future pricing strategies that could be implemented elsewhere in Orange County and the region. The toll roads and the express lanes use the same FasTrak electronic payment system, providing seamless consumer convenience and flexibility.

Future Pricing Facilities and Related Services

Planned future toll projects in Orange County include the Foothill Transportation Corridor South project and the addition of direct toll-to-toll connectors at the State Route 91/State Route 241 interchange. When completed, the southern portion of State Route 241 would enhance the network by an adding 105 new tolled lane-miles.

In addition, TCA's public toll roads can accommodate and facilitate additional future intra-county and inter-county express bus services. The Toll Roads access major future employment growth concentrations in Irvine, Anaheim, Orange and south Orange County, where express bus service may be viable.

Further, TCA is planning to convert its operations to all-electronic tolling, eliminating any potential congestion at toll booths due to cash transactions. This streamlining program will result in further GHG emission reduction associated with congestion.

OC SCS Sustainability Strategy N:
Implement near-term (Transportation Improvement Program and Measure M2 Capital Action Plan) and long-term (LRTP 2035 Preferred Plan) transportation improvements to provide mobility choices and sustainable transportation options.

MEASURE M2 CAPITAL ACTION PLAN: YEAR 2020 STRATEGIES

Following the approval of M2 by Orange County voters in 2006, OCTA prepared the Measure M2 Capital Action Plan (CAP), which outlines a 5-year plan to advance the implementation of M2 projects through the 2011–2012 fiscal year. The primary objectives of the M2 CAP are the following:

- Objective 1: Complete the first major milestone (conceptual engineering) for every M2 freeway project. This ensures that all projects are eligible for matching funds and are ready to enter environmental review, design, and construction.
- Objective 2: Start construction of five major M2 freeway projects on the Riverside (SR-91), Orange (SR-57), and Santa Ana (I-5) Freeways.
- Objective 3: Enable Orange County local agencies to meet eligibility requirements for M2 funds, including new pavement management and signal synchronization programs.
- Objective 4: Award up to $165 million to cities and the County for signal synchronization and road upgrades.
- Objective 5: Implement high-frequency Metrolink service within Orange County with associated railroad crossing safety and quiet zone improvements completed or under construction. Begin project development for at least five major grade separation projects.
- Objective 6: Award up to $200 million in competitive funding for transit projects.
- Objective 7: Complete development work and allocate funds for transit fare discounts and improved services for seniors and persons with disabilities.
- Objective 8: Complete an agreement between OCTA and resource agencies detailing environmental mitigation of freeway improvements and commitments for project permitting. Begin allocation of funds for mitigation.
- Objective 9: Complete program development for road runoff/water quality improvements. Begin allocation of funds to water quality projects.

Major projects completed, currently underway, and planned within a Year 2020 horizon under the M2 CAP include the following:

- Conceptual engineering for all CAP freeway projects (Figure 55)
- Start construction for these freeway projects:
  - Orange (SR-57) Freeway: Add northbound lane from Orangethorpe Avenue to Lambert Road and from Katella Avenue to Lincoln Avenue
  - Riverside (SR-91) Freeway: Add eastbound lane from Eastern Transportation Corridor (SR-241) to the Corona Expressway (SR-71)
  - Riverside (SR-91) Freeway: Lane additions from Costa Mesa (SR-55) Freeway to Eastern Transportation Corridor (SR-241)
  - San Diego (I-5) Freeway interchange at Ortega Highway (SR-74)\
  - Riverside (SR-91) Freeway: Add westbound lane from Santa Ana (I-5) Freeway to Orange (SR-57 Freeway)
- Approval of the M2 Local Agency Eligibility Procedures Manual
- Award of $8 million in funding for traffic signal synchronization along 10 significant street corridors
- Final design for seven railroad grade separation projects in Fullerton and Placentia

Initiation of rail rolling stock purchases for MSEP

- Initiation of rail grade crossing safety enhancements and quiet zone improvements at 51 grade crossings in Orange County
- Initiation of construction on the Sand Canyon Avenue grade separation project
- Approval of $82.3 million in funds to be used towards the completion of Phase 1 for ARTIC
- Ongoing planning and design work for Go Local fixed-guideway and bus/shuttle projects
- Planning for policies related to transit fare discounts for seniors and persons with disabilities
- Initiation of work on the M2 Freeway Environmental Mitigation Program
- Development of program guidelines for water quality programs is currently underway. Implementation of the M2 CAP projects will provide noticeable benefits for Orange County residents. The construction projects proposed in the CAP will also help the local economy by creating jobs within Orange County.

LRTP YEAR 2035 PREFERRED PLAN

OCTA has developed a detailed program of transportation projects and improvements to address the transportation needs and challenges through the Year 2035. Specific focus is placed on the identification of projects that improve connectivity and mobility throughout the County, improvements that provide benefits for person throughput, travel time, and

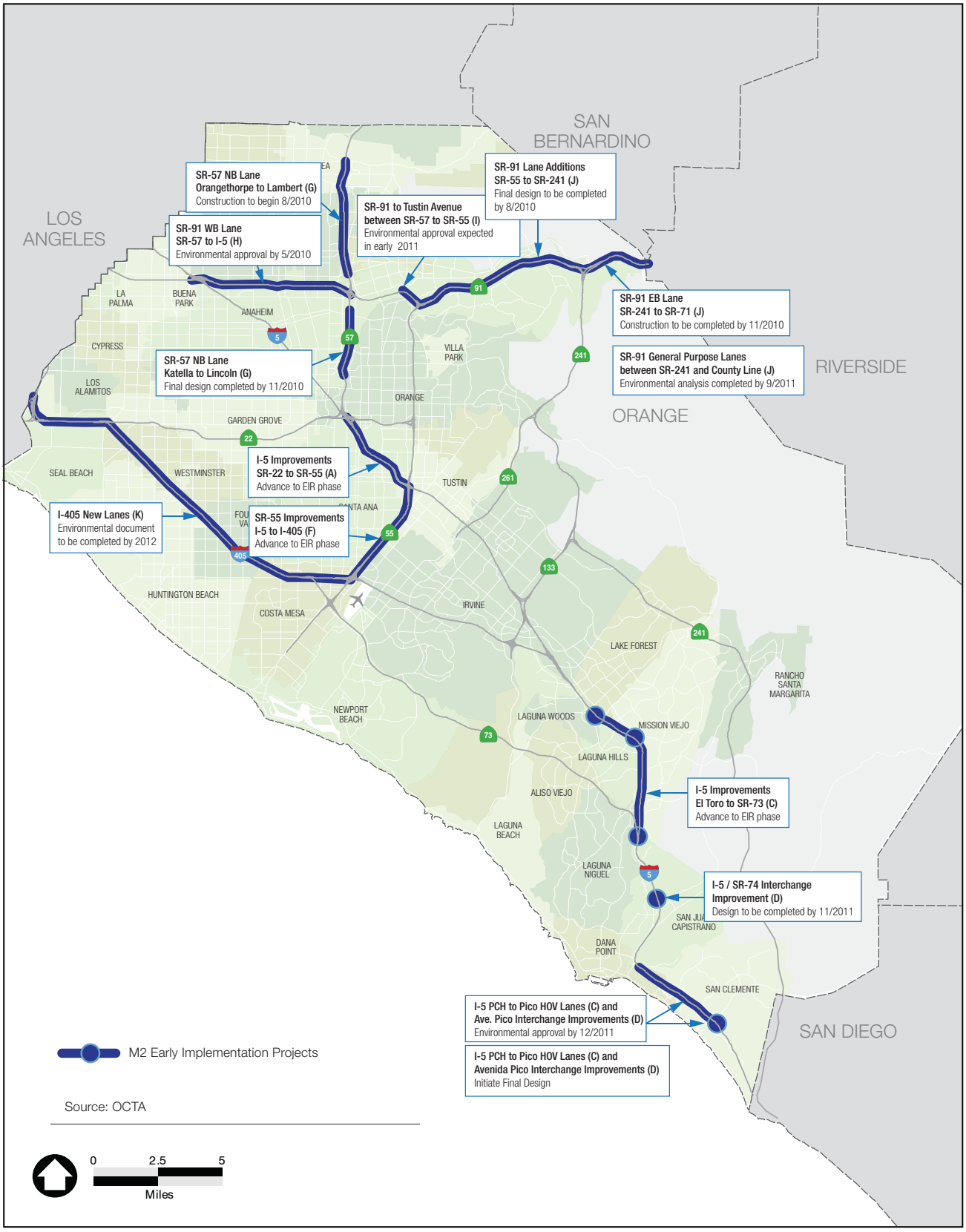


Figure 55

Orange County Measure M2
Capital Action Freeway Projects

level of service, and projects that provide for alternative modes of transportation and/or help to offset and minimize the environmental impact of transportation sources. The Year 2035 Preferred Plan represents the financially constrained plan identified in the Orange County LRTP. The Orange County LRTP also includes an unconstrained plan that will be included as part of the RTP development.

Transit Projects

Transit projects contained in the LRTP Year 2035 Preferred Plan range from improvements to OCTA bus services, to expansions of Metrolink commuter rail service, to the construction of regional transit gateways in Orange County that will improve access to a range of transit, including high-speed rail. A brief overview of transit projects contained in the Year 2035 Preferred Plan is provided below. A full list of transit projects with forecast costs is included in the Year 2035 Preferred Plan is provided in Appendix E.

Bus Service

- Fixed Route Service Expansion: Local bus service expansion, providing both capital and operational funding countywide, but primarily in the high-demand corridors identified in Figure 49. Service expansion will return bus service to 2008 levels, which were in place prior to budget and service cuts.
- Express Bus Service: Intercounty and intracounty express bus service will increase.
- Bus Rapid Transit Projects:
  - Westminster Avenue/Westminster Boulevard/17th Street: 22-mile fixed route BRT between Santa Ana and Long Beach.
  - Harbor Boulevard: 19-mile fixed route BRT between Fullerton and Costa Mesa.
  - Bristol Street–State College Boulevard: 28-mile fixed BRT from Brea Mall to Irvine Transportation Center.
- Go Local Bus/Shuttle: Locally-developed rail feeder bus services that provide connections between Metrolink stations and local destinations.
- StationLink: StationLink services focus on creating linkages and necessary connections to Metrolink stations and employment destinations.

Go Local Fixed-Guideway

- The Anaheim Rapid Connection (ARC): The City of Anaheim's fixed guideway project linking the Platinum Triangle/ARTIC and the Anaheim Resort area.

- Santa Ana-Garden Grove Fixed Guideway: Santa Ana and Garden Grove fixed guideway project proposes a transit service linking the Santa Ana Regional Transportation Center to the Santa Ana Civic Center and Garden Grove.

Rail

- Regional Gateways Program: The Regional Gateways program enhances key Orange County Metrolink stations.
- Metrolink Service Expansions: Increased Metrolink service to Los Angeles is planned by 2035.
- High Speed Rail: The California High-Speed Rail will connect Anaheim to Los Angeles and the Bay Area.

Other

- Safe Transit Stops: Promotes safer transit shelters and transit stops
- Vanpool and Park-and-Ride Program Expansion: Expands rideshare services by over 100 percent over existing 2010 levels.
- Elderly and Disabled Assistance: Expands transit convenience and choices for the elderly and disabled populations.

Freeway Projects

A brief overview of freeway projects contained in the Year 2035 Preferred Plan is provided below. A full list of freeway projects and their costs included in the Year 2035 Preferred Plan is provided in Appendix E.

Transportation System Management Projects

- Interstate 5: On Interstate 5 (I-5), from Avenida Pico to Pacific Coast Highway (PCH), add one HOV lane in each direction and improve the Avenida Pico Interchange. On the I-5, from SR-55 to SR-57, add one HOV lane in each direction. HOV ramp improvements at Barranca Parkway.
- Interstate 405: From the SR-73 to the San Gabriel River Freeway (I-605), add two express lanes each direction, converting existing HOV lanes, and adding one new express lane in each direction.
- State Route 57 Projects: On the Orange (SR-57) Freeway, provide an HOV interchange at Cerritos Avenue. Add a southbound deceleration lane at the Imperial Highway interchange. Add a northbound truck climbing auxiliary lane from Lambert Road to the Los Angeles County line and include a ramp improvement at Lambert Road.
- State Route 73 Projects: Add an HOV lane in each direction from MacArthur to the San Diego (I-405) Freeway. Provide an HOV connector at the I-405.

- State Route 91 Projects: Add an HOV connector at the Foothill Transportation Corridor (SR-241).
- Freeway TDM/TSM: Freeway TDM/ TSM design, implementation and operation.
- All—Freeway Service and Patrol Boxes: Maintain the freeway call box program and invest in motorist aid.

General Purpose Improvements

- Interstate 5: Widen from the Costa Mesa (SR-55) Freeway to the San Diego (I-405) Freeway and from the Orange (SR-57) Freeway to the Riverside (SR-91) Freeway providing a new mixed-flow lane in each direction. From Avery Parkway to Alicia Parkway, add one mixed-flow lane in each direction.
- Interstate 405: Add an auxiliary lane northbound from Jeffrey Road to Culver Drive. From SR-73 to the San Gabriel River (I-605) Freeway, add one mixed-flow lane in each direction. From the Santa Ana (I-5) Freeway to the Costa Mesa (SR-55) Freeway, add lanes and improve merging.
- State Route 55: From I-405 to I-5, add one auxiliary lane and one mixed-flow lane in each direction. From I-5 to SR-22, add one mixed-flow lane in each direction.
- State Route 57: On SR-57, widen to provide an additional mixed-flow northbound lane from Orangewood Avenue to Katella Avenue.
- State Route 91: Add a westbound mixed-flow lane from SR-241 to Gypsum Canyon Road. Add one auxiliary lane in each direction from Green River Road to SR-241 with additional improvements sponsored by Riverside County. Add one mixed-flow lane eastbound from the Orange (SR-57) Freeway to the Costa Mesa (SR-55) Freeway.

Interchange Projects

- Interstate 5: Reconfigure interchanges at Avery Parkway, Avenida Pico, La Paz Road, Los Alisos Boulevard, First Street, and Fourth Street. Add an interchange at Marguerite Parkway, Alicia Parkway, and Stonehill Drive. Improve access ramps.
- Interstate 605: Ramp improvements at Katella Avenue.
- State Route 55: Add interchange at Meats Avenue.
- State Route 57: Interchange improvements at Lambert Road.
- State Route 73 Projects: Interchange improvement at Glenwood Drive/Pacific Park Drive.
- State Route 91: Improve interchange at Costa Mesa Freeway (SR-55) and Lakeview Avenue. Improve access ramps at Gypsum Canyon. Add interchange and overcrossing at Fairmont Boulevard.

- State Route 241: Add interchange at Jeffrey Road.

Street Projects

Street projects contained in the Year 2035 Preferred Plan include expanding and extending arterials, ongoing maintenance, transportation demand management, ITS, and signal synchronization. A brief overview of street projects contained in the Year 2035 Preferred Plan is provided below. A full list of street projects included in the Year 2035 Preferred Plan is provided in Appendix E along with forecast costs.

Transportation Demand Management

- Signal Synchronization Program: Implement traffic signal synchronization over 750 miles of roadways.
- Commuter Bikeways Strategic Plan: Implement the Commuter Bikeways Strategic Plan (Figure 54, above). Responsibility for implementation lies with local jurisdictions.

Capacity & Maintenance

- Local Fare Share Program: Local fair share program funded by M2 is allocated to cities proportionally countywide
- Regional Capacity Program: Add over 800 miles of new capacity on the MPAH network. These projects build on previous efforts from the Original Measure M to complete the MPAH. Figure 56 shows the number of roadway lanes by segment to complete the current MPAH plan. Responsibility for implementation lies with local jurisdictions.
- Arterial Overpasses: Add an overpass over the Costa Mesa (SR-55) Freeway at Alton Parkway.

Achievements of the Transportation Strategies

The Year 2035 Preferred Plan makes investments in Orange County's transportation network using available funding over the next 25 years. The Preferred Plan of projects includes the implementation of the projects and programs contained in the M2 program, as well as numerous other transit, freeway, street, and travel demand management projects located throughout Orange County.

Expand Transportation System Choices

The Year 2035 Preferred Plan would result in substantial expansion of options across transportation modes including transit, driving, bicycling, walking, and ridesharing. On the transit side, approximately 400,000 additional bus service hours (restoring service to 2008 levels) would be added to the system, including Go Local projects. Metrolink

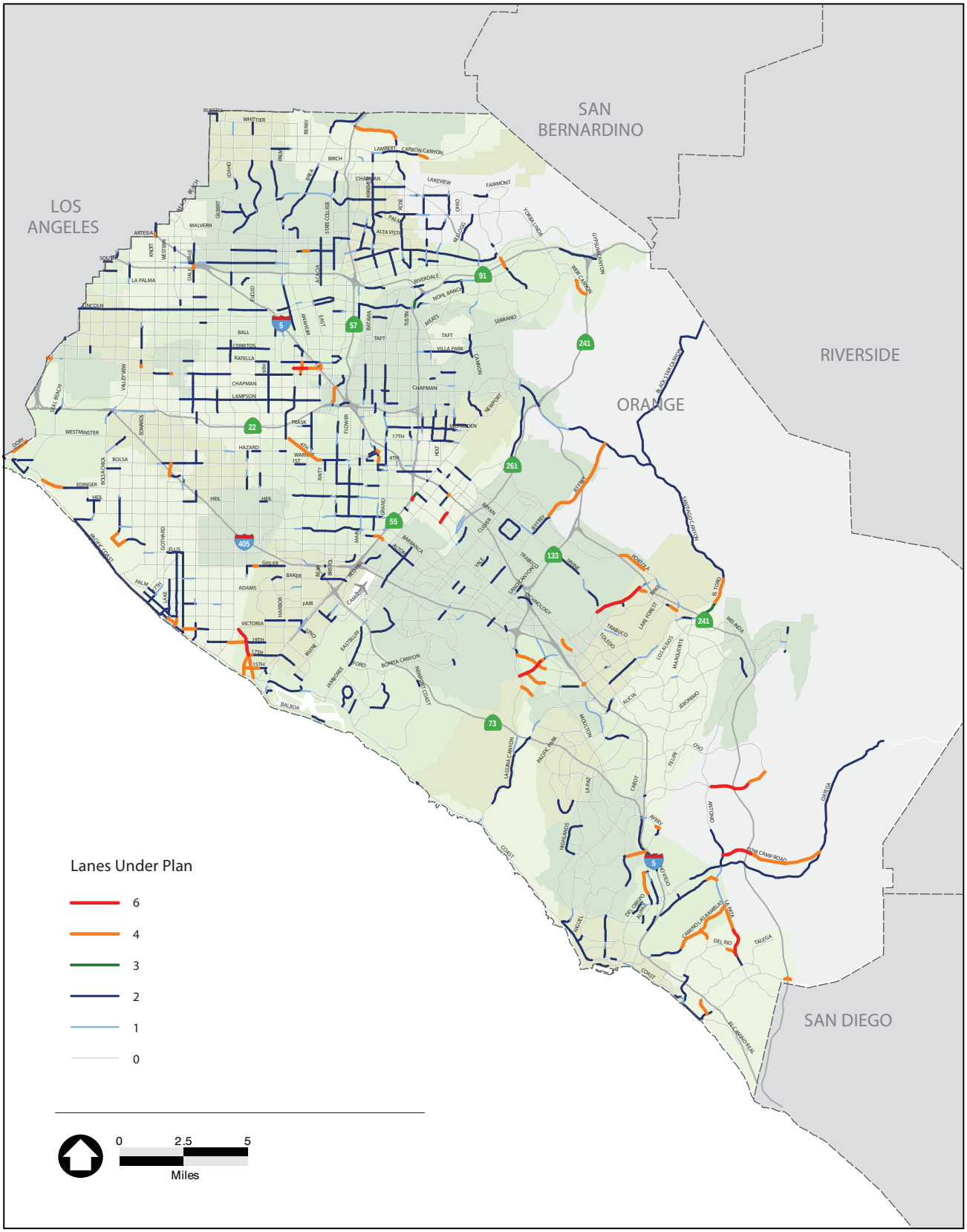


Figure 56 **Roadway Lanes to Complete Orange County Master Plan of Arterial Highways**

service would be expanding, resulting in up to 30-minute headways between Laguna Niguel and Los Angeles.

Connectivity and access to the freeway system would also be improved. The implementation of the continuous access HOV lanes through nearly all of Orange County will improve access to these facilities and smooth traffic flow. The addition of freeway lane miles and targeted interchange improvements help to increase capacity and access to the freeway system from nearby roadways.

The completion of the MPAH Regional Capacity Plan will expand access to arterial roadways throughout Orange County. The Year 2035 Preferred Plan expands access to alternative transportation modes, including vanpool and rideshare services, bicycle facilities, and other transportation demand management strategies.

Improve Transportation System Performance

The performance of the transportation system with the implementation of the projects outlined in the Year 2035 Preferred Plan has been measured in the OC LRTP. Table F, below, summarizes the level of improvement over the Year 2035 Baseline condition in several transportation performance metrics with the implementation of the projects contained in the Year 2035 Preferred Plan.

As Table F and Figure 57 show, the Year 2035 Preferred Plan is forecast to help reduce travel delays and improve travel speeds on freeways and streets throughout Orange County. The projects are also forecast to contribute an increase in transit ridership over the Year 2035 Baseline condition.

The projects contained in this plan also reduce traffic congestion. Severely congested segments of Orange County's freeway network, defined as segments operating above capacity (LOS F), are forecast to be reduced by 35 percent compared to the Year 2035 Baseline. Similarly, a 40 percent decrease is forecast to occur in the number of roadway segments that are severely congested under the Baseline 2035 scenario.

Table F: Preferred Scenario Performance Analysis (Compared to 2035 Baseline)

Performance Measure	2035 Baseline	2035 Preferred Plan
Daily vehicle hours traveled	3.4 million	Reduced by 24%
Daily hours of delay due to congestion	1.5 million	Reduced by 56%
Average peak period freeway speed (AM)	29 miles per hour	Increased by 22%
Average peak period HOV speed (AM)	35 miles per hour	Increased by 24%
Average peak period roadway speed (AM)	13 miles per hour	Increased by 82%
Daily transit trips	144,000	Increased by 11%

Note: Forecasts prepared by the California High-Speed Rail Authority project an additional 10% increase in transit ridership in Orange County with the Phase I High-Speed Rail project.

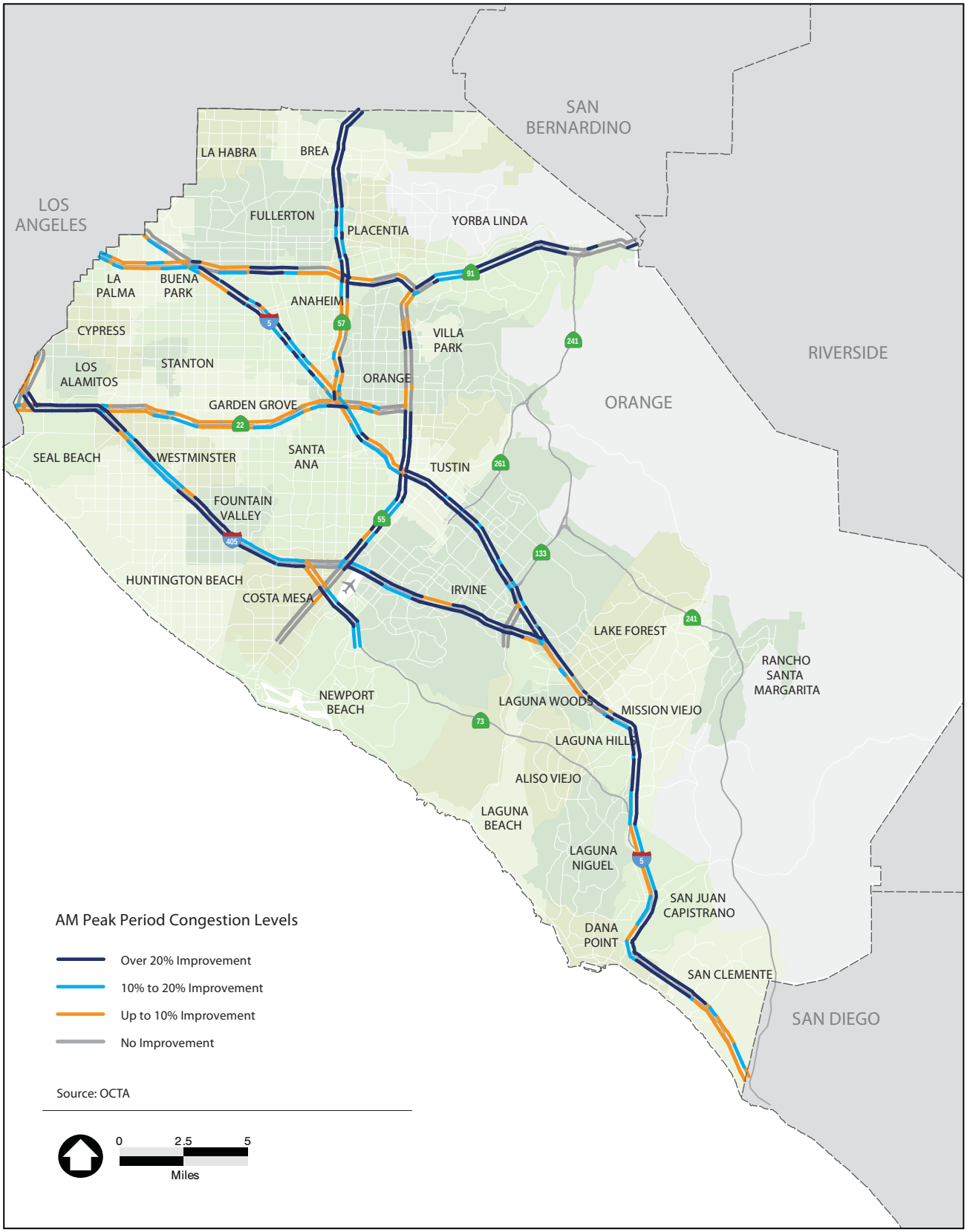


Figure 57 **Performance of Orange County Long Range Transportation Plan**

Ensure Sustainability

The Year 2035 Preferred Plan is forecast to invest over $39.4 billion in transportation improvements over the next 25 years. This investment is allocated in a fiscally sound and responsible manner, timing project implementation to available financial resources. The Plan also includes substantial investments in system maintenance and operations to help ensure that capital investments are maintained and operated at a consistent level for each project's life-cycle.

The environmental and water quality protection programs called for in M2 would be implemented through the Year 2035 Preferred Plan. These measures are designed to help reduce the amount of contaminated water runoff generated on freeways and streets, and to help create and preserve critical habitat in a coordinated fashion, increasing the benefit of these protections. A potential co-benefit of the preservation of these open space lands is the intensification, redevelopment, and infill of existing built environments.

The Preferred Plan includes improvements to transit service and transportation demand management measures. These investments are intended to help address future transit demand and reduce single-occupant vehicle trips to help the performance of the transportation system.

OC SCS Sustainability Strategy O:
Acknowledge current sustainability strategies practiced by Orange County jurisdictions and continue to implement strategies that will result in or support the reduction of GHG emissions.

In the OC SCS, a sustainability strategy is a project or policy that will result in or support the reduction of GHG emissions. For the SCS, an aggregated list of 222 sustainability strategies was created from lists produced by SCAG, CARB, and Orange County agencies. All strategies identified are measures that jurisdictions, agencies, and stakeholders have employed or may employ, and implementation of proposed projects or policies is at their discretion. The resulting list covers a wide range of projects and activities that fall generally within the following categories:

- Alternate Fuel
- Alternate Modes of Transportation
- Alternate Work (telecommuting/flexible work schedules)
- Bicycling
- Co-location of Facilities

- Freight/Goods Movement
- Land Use Policies
- Parking
- Pricing
- Transportation Demand Management (TDM)
- Transportation Infrastructure Investments
- Transportation System Management (TSM)
- Walking
- Other—activities that don't fit cleanly within one of the above

As part of the development process of the OC SCS, all jurisdictions within the County, as well as transportation agencies, stakeholders, and the public, were invited to identify sustainability strategies actively being used, as well as strategies planned for implementation during the SCS growth period from 2008 to 2035. Figure 58 depicts 14 categories of sustainability strategies and the number of Orange County agencies with projects or policies in those areas as of March 2011—a sort of "snapshot in time" of GHG-reducing activities in Orange County.

The list of sustainability strategies should be considered a sampling of measures available to reduce GHG emissions, and not a comprehensive or mandatory list of measures to be applied in any given situation. Some of these policies may be applicable in a general plan or at a regional scale, while others are applicable only to transportation agencies and projects. Still others may be applicable only at a development project level. Others are applicable only to transportation agencies and projects. Still others may be applicable only at a development project level. As such, the list of sustainability strategies should be considered a sampling of measures available to reduce GHG emissions, and not a comprehensive or mandatory list of measures to be applied in any given situation.

Transportation Infrastructure Investment and Transportation System Management

Transportation Infrastructure Investment and Transportation System Management are two of the most common strategies in Orange County. Transportation infrastructure investments are capital expenditures to improve the utility of the transportation system for all users and include strategies such as implementation of smart streets, improving links between travel modes, and providing enhanced bus stops. These are projects identified in addition to conventional municipal Capital Improvement Projects.

Transportation System Management seeks to enhance the performance of transportation infrastructure through better management and operation of the system. These investments demonstrate a commitment by agencies to maximize the utility and efficiency of infrastructure. Examples include traffic signal synchronization, bus fleet management and

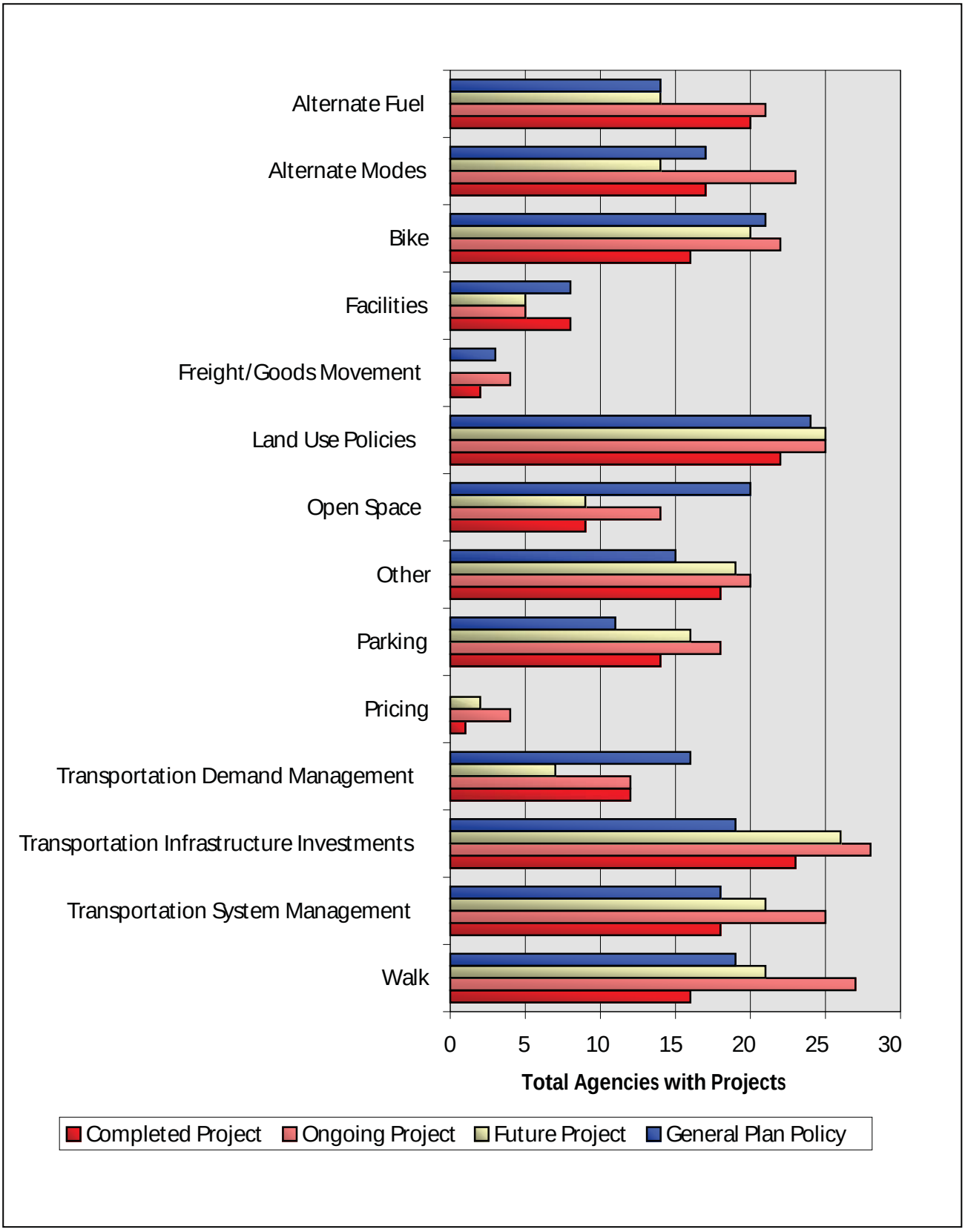


Figure 58

Orange County Sustainability Strategies Participation

signal priority, freeway information dissemination, ramp control, improvement of circulation efficiency through information (i.e. signage), and improvements to reduce or eliminate bottlenecks. Most jurisdictions also have land use policies designed to encourage residential and commercial development near existing transportation infrastructure.

Transportation infrastructure investments are ongoing with at least 26 agencies and Transportation System Management projects are ongoing with at least 23 agencies. Twenty-four agencies report future transportation infrastructure investments, and 20 agencies report future Transportation System Management projects. These include agencies that serve the County as a whole and some of these projects will be implemented countywide. Twenty-four cities have General Plan policies supporting land use related sustainability strategies. Within the 34 categories of land use strategies, Orange County cities report a total of 251 ongoing projects and 217 future actions. Encouraging placement of land uses near transit assets and investing in the utility of the transportation system will affect the mobility choices for residents of Orange County and will reduce vehicle miles traveled.

Orange County agencies are also active in improving bicycle facilities and the pedestrian environment. At least 20 agencies have ongoing projects to improve the bicycle transportation system or otherwise encourage commuting by bicycle. Eighteen agencies report that future projects are planned. Projects to improve the pedestrian experience are ongoing with at least 25 agencies, and 20 agencies report future planned projects. In addition to directly affecting the non-motorized environment, Orange County agencies also seek to encourage the use of alternate modes of transportation through policies such as encouraging large businesses to develop alternative transportation plans and providing for employer incentives. Improved facilities and experiences for non-motorized users coupled with incentives to seek alternatives to commuting by automobile create the potential to affect residents' mobility choices and reduce GHG emissions.

Alternative Fuels/Vehicles

Alternative fuels and Vehicles are emerging strategies being considered and implemented by jurisdictions and institutions in Orange County. Currently, the city of Newport Beach has constructed electric vehicle fuel stations for city vehicles and general public use. Plans for new neighborhoods in unincorporated areas of south Orange County include provision of neighborhood electric vehicles (NEVs) for short trip purposes. The Brea Lofts project, completed in 2008, included the provision of NEVs for each dwelling unit. Major educational institutions such as UC Irvine have developed a full menu of alternative fuel and vehicle strategies for on-campus and local mobility needs.

A complete listing of sustainability strategies submitted by jurisdictions, agencies, stakeholders and the public is included as Appendix F. The sustainability strategies are compiled as completed projects, ongoing projects, future projects, and General Plan policies. Each of these strategies results in outcomes that affect the planning of land use and mobility in Orange County by supporting regional objectives to reduce GHG. These sustainability strategies are offered for inclusion in the overall regional SCS as evidence of real measures resulting in integrated planning and reduced GHG in Orange County and throughout the SCAG region.

SPECIFIC EXAMPLES OF ORANGE COUNTY SUSTAINABILITY STRATEGIES

To highlight the comprehensive nature of sustainability strategies and their geographic distribution throughout the County, several examples of measures being implemented by Orange County jurisdictions follow. In addition to government agencies, the Orange County community is supported by many interests and organizations. Groups specializing in health care delivery, education, the environment, social justice, and affordable housing all have a role in the future of Orange County. These agencies engage in projects and implement plans that have direct and collateral benefits to mobility and the reduction of GHG emissions. A brief description of a small sample of these programs and plans also follows.

IMPACTS OF ORANGE COUNTY SCS SUSTAINABILITY STRATEGIES

What do we know about the potential impact of the different OC SCS strategies on potential GHG reductions? The California Air Resources Board (CARB) hired researchers from the University of California (Irvine and Davis campuses) to summarize the evidence on how different transportation and land use strategies could reduce greenhouse gas emissions.[1]

Summarizing the CARB Policy Briefs

In 2010, the CARB contracted with UC Irvine and UC Davis to develop 15 policy briefs which summarize the academic literature on land use and transportation policies that can reduce vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions. The policy

[1] See http://arb.ca.gov/cc/sb375/policies/policies.htm.

briefs focused on the magnitude of impact, quantifying how GHG would change based on a specific policy.

The information on impact should be combined with local knowledge about the cost of and support for implementing specific policies. It is possible that a relatively low impact policy might be implemented broadly, while a high impact policy might be either expensive or politically difficult to implement. Consequently, one should not conclude that low impact policies or strategies are necessarily unattractive tools.

Appendix G provides a summary of the CARB briefs. These briefs each contain a discussion of GHG emissions in the context of the evidence summarized in each brief, and readers are referred there for more information: http://arb.ca.gov/cc/sb375/policies/policies.htm.

Grouping CARB Policies by Impact

Based on the CARB evidence, policies to reduce GHG emissions were assessed and grouped into impact categories as shown below.[2]

- **High Impact:** Policies that have a 0.1% or larger impact on VMT, driving, or driving emissions for a 1% policy implementation
- **High-Medium Impact:** Policies that have a 0.05 to 0.1% impact on VMT, driving, or driving emissions for a 1% policy implementation
- **Low-Medium Impact:** Policies that have a 0.01 to 0.05% impact on VMT, driving, or driving emissions for a 1% policy implementation
- **Low Impact:** Policies that have less than a 0.01% impact on VMT, driving, or driving emissions for a 1% policy implementation
- **No Impact:** Polices that can be expected to have no impact on VMT.

Linking OC SCS Sustainability Strategies to the CARB Evidence

Each OC SCS strategy is related to a corresponding CARB strategy. For most cases, clear matches and correspondence between the CARB strategies and those in the OC SCS exist, but the language and description of the strategies sometimes differs slightly. The evidence summarized for the CARB was drawn from the academic literature, while the OC SCS strategies are based on a public input process and consultation with jurisdictions

[2] The evidence reviewed for CARB largely focused on VMT. SB 375 targets GHG reduction. To group policies by impact, it was often necessary to use VMT reduction as a proxy for GHG reduction, which abstracts from questions of vehicle fleet composition, vehicle fuel efficiency, and the carbon content of fuels. For a more complete discussion of the relationship between each policy and GHG reduction, see the CARB policy briefs at http://arb.ca.gov/cc/sb375/policies/policies.htm

within Orange County. For that reason, the OC SCS strategies are typically phrased in ways that link more directly to local land use plans and policies while the evidence from the CARB is often phrased in the more abstract mode of the scholarly literature. Yet a crosswalk between the two nomenclatures was easy to develop.

Having developed such a crosswalk between the category descriptions from the CARB and the OC SCS, the OC SCS strategies are then ranked as high, high-medium, low-medium, and low impact. One strategy is ranked as "no impact" based on the academic literature.

Table G: CARB Policies and OC SCS Strategies, Grouped by Impact Category

Policy	Impact Category	Corresponding OC SCS Strategy or Strategies
Road Pricing	High	Toll road options, highway pricing measures. *(Sustainability Strategy M)*
Parking Pricing	High	Parking, Pricing *(Sustainability Strategy O)*
Regional Accessibility to Employment	High	Support infill housing development and redevelopment, and increase regional accessibility. *(Sustainability Strategies B and D)*
Jobs-Housing Balance	High	Improve jobs-housing ratio. *(Sustainability Strategy E)*
Neighborhood Design (combination of density, mixed land use, and street network connectivity)	High	Support transit-oriented development, support infill housing development, support mixed use development *(Sustainability Strategies A, B, C and G)*
Telecommuting	High	Alternate Work: telecommuting/flexible work schedules *(Sustainability Strategy O)*
Reductions in Distance to Transit	High-Medium	Improve transit service, frequency, convenience, and choices. *(Sustainability Strategy K)*
Reductions in Transit Fare	High-Medium	Improve transit service, frequency, convenience, and choices. *(Sustainability Strategy K)*
Increases in Transit Service Hours or Service Miles	High-Medium	Improve transit service, frequency, convenience, and choices. *(Sustainability Strategy K)*
Increases in Transit Service Frequency	High-Medium	Improve transit service, frequency, convenience, and choices. *(Sustainability Strategy K)*
Employer-Based Trip Reduction (implemented at a workplace)	High-Medium	Transportation Demand Management *(Sustainability Strategy L)*
Traffic Incident Clearance Programs	High-Medium	Transportation System Management *(Sustainability Strategy J)*
Pedestrian Strategies	Low-Medium	Promote land use patterns that encourage the use of alternatives to single-occupant automobile use; Transportation Demand Management *(Sustainability Strategy F and L)*

Policy	Impact Category	Corresponding OC SCS Strategy or Strategies
Bicycle Strategies	Low	Promote land use patterns that encourage the use of alternatives to single-occupant automobile use; Transportation Demand Management *(Sustainability Strategy F and L)*
Increases in (Unpriced) Freeway Lane Miles	No Impact	Implement the Transportation Improvement Program and Measure M2 (if unpriced and if does not include HOV or express lane options) *(Sustainability Strategy N)*

Some strategies were not assessed for impact because they are not tied directly to available CARB research described above or are broadly categorized (some but not all of their elements are included in the categories above.) These include: support retention and/or development of affordable housing (G); support natural land restoration and conservation and/or protection offering significant carbon mitigation potential via both sequestration and avoidance of increased emissions due to land conversion (H); implement near-term (Transportation Improvement Programs and Measure M2 Capital Action Plan) and long-term (LRTP 2035 Preferred Plan) transportation improvements to provide mobility choices and sustainable transportation options (N); and acknowledge current sustainability strategies practiced by Orange County jurisdictions and continue to implement strategies that will result in or support the reduction of GHG emissions (O).

Anaheim Platinum Triangle

Project Location	*City of Anaheim*
Sustainability Strategy Category 	**Land Use Policies:** • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment areas • Increasing residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • Making developments transit ready • New housing and jobs within 1/2 mile of existing/planned transit stations **Alternate Modes:** • Increase bike/walk trips with improved streets and facilities
Project Description	Anaheim's Platinum Triangle features high-density housing, millions of square feet of new development opportunities for office and commercial, two national sports teams, an exciting array of dining and entertainment, plus immediate access to and from the rest of Southern California from three freeways and a major transit center. The project includes both vertical and horizontal mixed-use in an infill environment.
Emissions Reductions Benefits	The Platinum Triangle provides pedestrian- and transit-friendly environments both internally and through linkages to regional trails and bikeways, an employment and entertainment destination that encourages transit use to the area, and new energy and water efficient buildings and residences, all of which contribute to a greener future.
Project Status	Project is approved, and construction has begun.

Irvine Business Complex and Vision Plan

Project Location	***City of Irvine***
Sustainability Strategy Category 	**Land Use Policies:** • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment areas • Increasing residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • Making developments transit ready • New housing and jobs within ½ mile of existing/planned transit stations or stops **Alternate Modes:** • Increase bike/walk trips with improved streets and facilities **Transit Infrastructure** • Enhanced bus stops • Improve transit options – including the i shuttle • Targeted infrastructure growth
Project Description 	The 2,800-acre Irvine Business Complex (IBC) is a unique part of the City of Irvine. Dating from the 1970s, the IBC was developed solely as a commercial and industrial center serving Southern California as a regional economic and employment base, including hotel, restaurant, commercial, retail, industrial, and office uses. Over time, the IBC began its transition from a suburban mixed-use commercial and industrial center to a more urban regional mixed-use center. In early 2004, the number of applications for residential units within the IBC increased dramatically. The City of Irvine identified the opportunity for a mixed-use community with a coordinated urban design framework within the IBC while ensuring the continued economic viability of existing and future businesses. The IBC Vision Plan aims to develop a comprehensive strategy and guiding urban design framework for future IBC development. The Vision Plan and Irvine Business Complex Residential Mixed-Use Overlay Zone call for creating sustainable urban neighborhoods within a framework of new streets and open spaces, a newer approach than has traditionally been considered in other residential areas of Irvine. The Vision Plan reflects a long-term view of the IBC as a mixed-use community and reflects the best planning techniques available to assist in the evolution of the IBC. In order to achieve a

	balanced urban environment, the IBC needs walkable neighborhoods where people can work, live, and play; feeling part of an evolving and vibrant cosmopolitan city. This requires a mix of uses and places that are activated both day and night, drawing together diverse community segments. The IBC is served by a system of public transportation bus routes. The Tustin Metrolink train station is 1.5 miles north of the IBC. In 2008, the iShuttle, operated by the City of Irvine and designed for the IBC community, went into service. The shuttle allows residents and employees an alternative way to commute to jobs and other destinations throughout the IBC.
Emissions Reductions Benefits	The IBC Vision Plan will provide enhanced pedestrian- and transit-friendly environments both internally and through linkages to the City's extensive trails and bikeways system. Providing public transportation options such as the i shuttle encourages transit use in the area and increases the use of alternate modes, which contribute to a greener future.
Project Status	IBC Vision Plan is approved and individual projects are under construction.

Tustin Legacy

Project Location	*City of Tustin*
Sustainability Strategy Category	**Land Use Policies:** • Develop "complete communities" • Horizontal or vertical mixed-use • Increase housing densities within/adjacent to employment areas • Improve accessibility of housing to transit • Locate major regional activity centers near existing development • Increase residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • Locate schools in neighborhoods with student populations • Make developments transit ready • New housing and jobs within 1/2 mile of existing/planned transit stations **Alternate Modes:** • Arterial Improvements • Construct Regional Bikeways • Facilitate Increased Biking Opportunities • Improve Pedestrian Environment (E.G., Beautification, Access, Safety) • Improving Bicycle Infrastructure And Facilities (Lockers, Racks, Valets, Safe Bike Parking, Subsidies) • Improving Pedestrian Infrastructure And Facilities E.G. Pedestrian Bridge • Increase Bike/Walk Trips With Improved Streets And Facilities • Sidewalk Construction • Trail Improvement Project • Upgrade Bike Transportation System
Project Description 	Tustin Legacy is being developed on the site of the nearly 1600-acre former Marine Corps Air Station (MCAS) Tustin. To date, construction of the following has been completed at Tustin Legacy: • 1,680+ homes • "The District" Regional Shopping Center • Various educational institutions • Social services facilities • Neighborhood parks • Major roadways and related infrastructure

Project Location	***City of Tustin***
	Future development calls for an additional 2,100 residences, 6-7 million square feet of non-residential space (office, retail, restaurant, entertainment, research and development), educational facilities, new roadways including a major arterial connection, infrastructure and significant parkland and open spaces. One component will be a vibrant "Urban Community Core," a pedestrian-oriented, mixed-use district integrating a variety of uses and activities including retail, restaurant and entertainment uses, hotels, for-sale and apartment homes, and offices.
Emissions Reductions Benefits	Tustin Legacy is a complete community that provides pedestrian and transit friendly environments both internally and through linkages to the Tustin Metrolink Station and regional trails and bikeways. Linking land uses and trip purposes reduces overall vehicle miles traveled.
Project Status	Project is approved and under construction.

Santa Ana Transit Zoning Code

Project Location	*City of Santa Ana*
Sustainability Strategy Category 	**Land Use Policies:** • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment areas • Increasing residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • Making developments transit-ready • New housing and jobs within 1/2 mile of existing/planned transit stations **Alternate Modes:** • Increase bike/walk trips with improved streets and facilities **Transit Infrastructure:** • Enhanced bus stops, improved transit facilities, targeted infrastructure growth
Project Description	The Transit Zoning Code (TZC) is a visionary new land use tool to create a healthier, more livable and more sustainable community. The cornerstone of this policy document is the interconnectedness of zoning and development standards with the creation of walkable communities, which in turn supports the successful creation of new transit opportunities. The 400-acre project area allows for both vertical and horizontal mixed-use in an infill environment. Density /intensity range from 5 to 90 dwelling units per acre, and 0.5 to 5.0 floor area ratio. Buildout potential includes 4,075 new housing units and 260,000 SF of commercial development opportunities.
Emissions Reductions Benefits	The TZC provides the framework for new housing and mixed-use development in a pedestrian and transit friendly environment. The Transit Zoning Code area is in close proximity to Metro East and Downtown/Civic Center employment hubs; as well as the Santa Ana Regional Transportation Center (SARTC) and proposed fixed guideway. Linking complementary land uses with non-motorized and transit travel options reduces overall vehicle miles traveled. . . . Concentration of pedestrian friendly, higher intensity development near transit opportunities promotes use of cleaner alternate modes of travel.
Project Status	The Transit Zoning Code was approved in June 2010. Development proposals are under review for over 140 infill residential units.

Beach and Edinger Corridors Specific Plan

Project Location	***City of Huntington Beach***
Sustainability Strategy Category	**Land Use Policies:** • Horizontal or Vertical Mixed-use • Increasing Housing Densities within/Adjacent to Employment Areas • Increasing Residential/Commercial Density Near Transit • Integrate Affordable and Market Rate Housing • New Housing and Jobs within 1/2 Mile of Existing/Planned Transit Stations **Alternate Modes:** • Increase Bike/Walk Trips with Improved Streets and Facilities **Transit Infrastructure:** • Targeted Infrastructure Growth
Project Description 	The Beach and Edinger Corridors Specific Plan (BECSP) encompasses 459 acres along the City's two major commercial arteries, one a State highway and the other close to the OCTA bus transit station. Both are well-served by bus transit. The BECSP encourages mixed-use development with a focus on improving the pedestrian experience. This is achieved by not having a maximum density cap or floor area ratios, and by requiring public open space and private and public improvements that benefit the pedestrian in all projects. The BECSP requires that all required affordable housing be located within the Plan area.
Emissions Reductions Benefits	The BECSP fosters emission reductions by allowing for over half of the City's anticipated growth within the Plan area, an area well served by existing infrastructure and bus transit, and traversed by an existing rail line that may be used for passenger service in the future. The BECSP standards compel efficient land development, allow for reduced parking standards, and require sustainable building practices in all new development.
Project Status	The BECSP was approved March 2010. Two significant mixed-use projects have been approved and two are in the environmental review stage.

Laguna Niguel Gateway Specific Plan

Project Location	*City of Laguna Niguel*
Sustainability Strategy Category	**Land Use Policies:** • Horizontal or vertical mixed-use opportunities • High density housing opportunities within/adjacent to employment areas • High density residential/commercial density near transit station • New housing and jobs within ½ mile of existing transit station • Housing densities to accommodate both affordable and market rate housing **Alternate Modes:** Increase bike/pedestrian trips with improved bike lane, sidewalk, and trail connectivity throughout Gateway area and to regional systems **Transit Infrastructure:** Improved transit facilities, including expanded station operations and enhanced bus stops
Project Description	Laguna Niguel's Gateway area features high-density housing with as many as 2,994 dwelling units, development opportunities for as much as 2.1 million square feet of office, retail, restaurant or entertainment uses, hotel development opportunities for as many as 350 rooms, opportunities for both vertical and horizontal mixed-use in an infill environment, immediate access to and from the rest of Orange County from both the I-5 and 73 freeways, and a transit station that is the southern terminus of the region's double track system.
Emissions Reductions Benefits	The Gateway Area provides pedestrian- and transit-friendly environments both internally and through linkages to regional trail and bikeway systems; an employment, shopping, and entertainment destination that encourages multi-purpose trips to the area; increased transportation choices increases use of alternate modes, all of which contribute to fewer vehicle-miles traveled and to related emissions reductions.
Project Status	City Council approval of the Specific Plan Project is anticipated in July 2011.

Laguna Hills Urban Village Specific Plan

Project Location	*City of Laguna Hills*
Sustainability Strategy Category	**Land Use Policies:** • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment areas • Increasing residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • Making developments transit ready • New housing and jobs within 1/2 mile of existing/planned transit stations **Alternate Modes:** • Increase Bike/Walk Trips With Improved Streets And Facilities
Project Description	The Laguna Hills Urban Village Specific Plan regulates a 240-acre area in the City for the purpose of developing a community core in which a variety of public, regional commercial, recreational, and high density residential uses work in concert to create an urban village. The Laguna Hills Transportation Center is located within this area, which is served by transit. The plan allows for both vertical and horizontal mixed-use in an infill environment.
Emissions Reductions Benefits	The Urban Village Specific Plan provides the framework for new housing and mixed-use development in a pedestrian- and transit-friendly environment. The Laguna Hills Transportation Center is located within this area. Linking complementary land uses with non-motorized and transit travel options reduces overall vehicle miles traveled. Concentration of pedestrian-friendly, higher-intensity development near transit opportunities promotes use of cleaner alternate modes of travel.
Project Status	The Urban Village Specific Plan was adopted in November 2002 and updated in April 2011. The City is actively working with surrounding owners in the area to encourage redevelopment and new infill development.

South Brea Lofts

Project Location	*City of Brea*
Sustainability Strategy Category 	**Land Use Policies:** • Redevelopment of underutilized, blighted commercial properties downtown • Vertical mixed-use • Compact building design • Encourage new housing units adjacent to employment areas • Increasing residential/commercial density near Downtown Brea • Local workforce housing • Infill in areas with existing infrastructure • Integrate affordable and market rate housing **Alternative Transportation Modes:** • Each dwelling unit was provided a street-ready electric (NEV/Gem) vehicle • Increase bike/walk trips with improved streets and facilities
Project Description 	South Brea Lofts features 47 residential units in a live/work arrangement and 7,500 square feet of commercial uses with access to City Hall Park and Downtown Brea. The project features a vertical mixed-use design on a 2.8-acre infill site. Key elements of the project include workforce housing for moderate income households, dedicated work space with neighborhood commercial uses, activated street due to improved pedestrian access, and a "GEM" electric vehicle with each loft for local trips to school, post office, Brea Mall, community center, senior center, or businesses nearby.
Emissions Reductions Benefits 	The South Brea Lofts provides a pedestrian friendly environment to nearby community destinations. The project has strong internal and external pedestrian linkages to the Brea Boulevard corridor that connects to the employment and entertainment center of Downtown. By linking multiple land uses within this project, the reduction of overall vehicle trips and miles traveled reduces GHG levels for the region. The project provides Loft owners options that improve use of alternative transportation modes – all of which contribute to a sustainable future for Brea.
Project Status	Project was completed and occupied in 2008.

Transportation Corridor Agencies Habitat Preservation and Restoration Projects

Project Location	***SR 73 Toll Road and SR 241 Toll Road, City of Newport Beach and Orange County***
Sustainability Strategy Category	**Open Space:** Preservation of Habitat
Project Description 	Transportation Corridor Agencies (TCA) have set aside 2,200 acres of permanently protected open space. **Cactus Wren Habitat Linkage and Restoration** In partnership, the Nature Reserve of Orange County (NROC), the University of California, Irvine (UCI), and the TCA were awarded a grant in 2010 to enhance and restore habitat for the cactus wren, a small bird declining in the region. The project includes planting cactus in a habitat corridor used by the federally threatened California gnatcatcher bird along the wildlife linkage area that parallels the 73 Toll Road from Upper Newport Bay south through Bonita Channel to Coyote Canyon. Within four months of transplanting the cactus, a new cactus wren pair was observed using the newly transplanted habitat. **Bonita Creek Mitigation Site** The Bonita Creek Mitigation Site is one of 15 locations comprising 2,200 acres in Orange County that TCA conserved to compensate for the effects of constructing the Toll Roads. The approximately 40-acre wetland and coastal sage scrub site is the main wildlife link from Upper Newport Bay to the San Joaquin Hills and was restored in association with construction of the SR 73 Toll Road. The project consisted of restoring a creek from a narrow rip-rap lined ditch to thriving wetland and coastal sage scrub community. Coyote and mountain lion have been recorded using the site. **Live Oak Preservation Area** In 2005 TCA acquired the Live Oak

Project Location	***SR 73 Toll Road and SR 241 Toll Road, City of Newport Beach and Orange County***
	Preservation Area, a 23.2-acre site that sits east of the SR 241 Toll Road at El Toro Road and Live Oak Canyon. The site serves as an important buffer to a national forest and provides habitat for a number of sensitive animal species declining in the region. The site also contains valuable oak woodlands and coastal sage scrub habitat for the California gnatcatcher Riverside fairy shrimp. Protecting the land as open space helps preserve natural wildlife movement corridors in the area. **Upper Chiquita Canyon** In 1996, TCA placed a conservation easement over a 1,182 acre area, known as Upper Chiquita Canyon. The conservation area was originally planned for development as a golf course and residential area. Upper Chiquita provides habitat to the federally threatened California gnatcatcher, as well as the coastal cactus wren and numerous other plants and wildlife. The site serves as an important buffer to regional parks and open space preserves to the south. The TCA has been actively managing the site since 1996 and increasing its habitat values. Protecting the land as open space helps preserve natural wildlife movement corridors in the area.
Emissions Reductions Benefits	Carbon sequestration
Project Status	Completed

Sustainable Transportation at UC Irvine

Project Location	*City of Irvine*
Sustainability Strategy Category	**Alternate Modes:** • Employer incentives for alternative modes • Provide local shuttles • Rideshare programs • Vanpools **Bike:** • Improve bike/walk trips with improved streets and facilities.
Project Description	UC Irvine has 3 full-time and 1 part-time staff committed to implementation of Sustainable Transportation programs including: **Bike Infrastructure:** Extensive bike path network/ Signage/ Bike-Pedestrian bridges. **Bus:** University Pass Program provides annual OCTA access for $95 - an 86% subsidy. **Carpool**: Available for employees; provides reduced-rate parking and preferential parking for participants. **Shuttle**: UCI maintains a shuttle fleet for on-campus and near-campus transportation. **Train**: Provides 20% rebate for 10-day and monthly pass holders. **Vanpool**: UCI has 18 vanpools carrying passengers from various locations to UCI. **Pedestrian Infrastructure:** Extensive pedestrian path network / Signage / Bike-Pedestrian bridges. **ZEV-NET**: Zero-Emission Vehicles stationed at the Irvine Transportation Center for pooling to/from UCI. **Rideshare support** for individuals who do not bring a car to campus: • ZotWheels Bikeshare – The first fully-automated bikeshare program at a U.S. university. • Zipcar Carshare – 11 cars on campus available for hourly or daily use at $7-$8/hour.
Emissions Reductions Benefits	Extensive promotion of non-motorized transportation and alternatives to single-occupant vehicles results in reduced VMT.
Project Status	Programs are in place and ongoing.

Anaheim Resort Transit

Project Location	*City of Anaheim*
Sustainability Strategy Category	**Alternate Modes:** • Convert transit buses to alternative fuels • Provide local shuttles **Transit Infrastructure:** • Improve transit service • Intercity bus transit
Project Description 	The Anaheim Resort Transit (ART) is the transportation system for the residents, employees and guests of the City of Anaheim and the greater Anaheim Resort area, including the cities of Anaheim, Garden Grove and Orange. ART's frequent service with seventeen interchangable routes allow for easy access and convenient connections. The ART runs on alternative fuel which is a clean, comfortable, safe and easy way to access access Disneyland™, Disney California Adventure™, Downtown Disney®, the Anaheim Convention Center, restaurant and shops around The Anaheim Resort™ area. All buses are accessible to persons with disabilities. A unique, stable funding source was established and implemented to provide resources for 17 transit routes in a highly congested area.
Emissions Reductions Benefits	Combined resources have reduced the need for increased taxi service and individual shuttles formerly operated by the lodging establishments.
Project Status	Project is operating successfully and service levels have not been reduced due to economic conditions.

Beach Boulevard Signal Synchronization

Project Location	***Project spans the cities of Anaheim, Buena Park, Fullerton, Huntington Beach, La Habra, Stanton and Westminster.***
Sustainability Strategy Category	**TSM:** Implement Traffic Signal Coordination
Project Description	A study conducted to evaluate the benefits of traffic synchronization along Beach Boulevard (SR-39) resulted in the following improvements: • Travel times improved between 10 percent and 16 percent • Reduced number of stops between 20 percent and 38 percent • Increased average speeds between 11 percent and 19 percent The project synchronized more than 70 intersections along Beach Boulevard.
Emissions Reductions Benefits	Traffic light synchronization allows a series of lights along a street to turn green as traffic approaches during peak traffic hours. The resulting outcome is reduced congestion. Daily traffic along Beach Boulevard near Warner Avenue and the San Diego Freeway (I-405) ranges between 17,000 and 84,000 vehicles. Traffic engineers estimate that during a three-year period the traffic light synchronization along this area will save commuters approximately 2.2 million gallons of fuel.
Project Status	Completed 

FasTrak Tolling/Interoperability Technology

Project Location	*SR 73, 241, 133 and 261 Toll Roads, Orange County*
Sustainability Strategy Category	**TSM:** Implement effective pricing.
Project Description	TCA developed and licenses FasTrak, the technology that enables interoperability on all priced facilities in the region and the state. For example, all priced facilities in Orange and San Diego Counties currently use the FasTrak transponder technology, making the system flow more smoothly with less congestion-related GHG emissions. This technology also provides interoperability on tolled facilities statewide; OCTA's 91 Express Lanes as well as priced lanes in San Diego County and in the Bay Area also employ FasTrak.
Emissions Reductions Benefits	FasTrak is essential to uncongested operation of a broader regional priced transportation network in the future.
Project Status	Electronic tolling via the FasTrak technology is available on 460 lane miles of SR 241, SR 261, SR 133, SR 73 and SR 91. FasTrak will expand to 105 lane miles of SR241 when the facility is completed to the Orange/San Diego County line.

Robinson Ranch Road Traffic Calming Project

Project Location	***City of Rancho Santa Margarita***
Sustainability Strategy Category	**Transportation Infrastructure Investments:** • Traffic calming measures • Develop traffic calming systems
Project Description	The traffic calming project will construct four curb extensions along the north side of Robinson Rancho Road between Briarwood Lane and Morningside Drive, thereby reducing downhill vehicle speeds, and creating added protection for pedestrian crossings at the intersections. In addition, the curb extensions will improve sight distance for motorists exiting residential neighborhoods adjacent to Robinson Ranch Road.
Emissions Reductions Benefits	Traffic calming reduces speeds and volumes on specific roads. Typical strategies include traffic circles at intersections, raised crosswalks, and partial street closures to discourage short-cut traffic through residential neighborhoods. This reduces car use, increases road safety and creates a more pedestrian- and bicycle-friendly environment.
Project Status	Project is included in the City's Seven-Year Capital Improvement Program, and was recently awarded a Highway Safety Improvement Program project grant from the State.

Ladera Ranch and the Ranch Plan Planned Communities

Project Location	*Southeasterly Unincorporated County of Orange*
Sustainability Strategy Category	**Land Use Policies:** • Compact building design with a mix of uses • Develop "complete communities" • Water-wise and ecologically friendly landscape plans • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment Areas • Local housing for local workforce • Preservation of habitat **Alternate Modes:** • Use of neighborhood electric vehicles. • Construct regional bikeways. • Upgrade bike transportation system. • Improve pedestrian infrastructure and facilities (Crown Valley pedestrian bridge).
Project Description 	**Ladera Ranch Planned Community:** In 2006, the prestigious Urban Land Institute chose Ladera Ranch as the winner of its Award of Excellence as the best planned community in the Americas. Begun in 1998 and substantially completed in 2006, Ladera Ranch set a new standard for the development of walkable master planned communities in Southern California. Its final-phase villages of Terramor and Covenant Hills have created a model for sustainable community practices; convincing many national production builders to apply green-building techniques used for the first time in Ladera Ranch to other projects around the country. **Ranch Plan Planned Community:** The Ranch Plan is a long-term land use plan approved in 2004, and likely to be developed over the next two decades. One of the corner-stone principles of the Ranch Plan is to create a community where all residents may easily and safely walk or bike to jobs, shopping, schools, parks and regional open spaces.
Emissions Reductions Benefits	**Ladera Ranch Planned Community:** • Emissions have been reduced through the creation of a Complete Community where homes, schools, shops, restaurants, offices, places of worship, child-care centers, and parks

Project Location	*Southeasterly Unincorporated County of Orange*
	all easily accessible via a short auto trip, or via the system of walking and bicycle trails. • The 1,260 home Terramor village land plan in particular emphasized walkability through the creation of a central Arroyo/Paseo trail network that doubled as a Biofiltration Treatment system. **Ranch Plan Planned Community:** • Builds upon the Ladera Ranch Complete Community model by integrating up to 5.2 million square feet of non-residential uses in addition to the 14,000 homes, including vertically integrated home-based businesses. • Incorporates an extensive system of regional and community level bikeways, hiking and walking trails that will provide linkages within and between each of the future neighborhoods and villages and to surrounding cities, nearby beaches, Caspers Regional Park and the Cleveland National Forest. • The land plan is based on the recognition that neighborhood streets are not just corridors for moving traffic, but should serve as Complete Streets; allowing social interaction, walking, biking and other transportation modes, including neighborhood electric vehicles. • Six villages have been entitled, each to be surrounded by natural open space and ranch/agriculture lands. Three quarters of the 22,815 acre Ranch Plan area will be dedicated to a conservancy to be preserved and privately managed as open space for habitat preservation (including the protection of seven threatened or endangered species, in addition to 25 sensitive species)
Project Status	**Ladera Ranch Planned Community:** • The 8,100 dwelling unit Ladera Ranch community is 99% built-out, implemented primarily between 1999 and 2006. **Ranch Plan Planned Community:** • Construction of Phase One of the Ranch Plan planned community has begun, with home sales beginning in 2013, and office and commercial uses to be built soon thereafter.

City of Aliso Viejo Green City Initiative

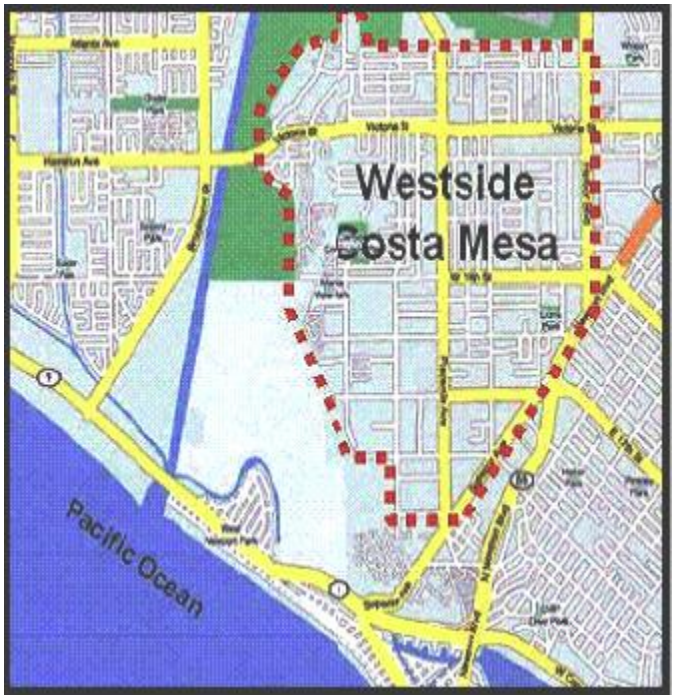
Project Location	*City of Aliso Viejo*
Sustainability Strategy Category	**Land Use Policies:** • Compact building design • Water-efficient landscape • Downtown revitalization • Enhanced energy efficiency codes • Land use and building code reform • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment areas • Increasing residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • Making developments transit ready • New housing and jobs within 1/2 mile of existing/planned transit stations • Provide recognition programs • Provide regulatory relief • Zoning reform • City educational programs • Reduce vehicle miles traveled • Adopt complete streets policy **Alternate Modes:** • Promote cleaner modes of transport • Trail improvement project • Improve connectivity of streets with pedestrian network • Improve pedestrian environment • Improve pedestrian infrastructure and facilities • Increase bike/balk trips with improved streets and facilities **Transit/Transportation Infrastructure:** • Enhanced bus stops • Improve transit service • Intercity bus transit • Traffic calming measures • Implement traffic signal coordination
Project Description	The Green City Initiative (GCI) will establish goals, policies and implementation actions related to energy conservation, water conservation, vehicle management,

Project Location	***City of Aliso Viejo***
	transportation, air quality, recycling, land use and adaptation to climate change, and will include requirements for a greenhouse gas emissions reduction monitoring program. Furthermore, a GCI Website has been created that posts a variety of information related to the GCI. Together with a new Facebook page, the Website will provide additional important venues for public participation in the Green City Initiative process. Finally, the City will establish a "Green Award Program" to recognize individuals and businesses who take steps to reduce their greenhouse gas emissions footprint.
Emissions Reductions Benefits	Though the impetus to GCI is in response to State legislative requirements, GCI is equally dedicated to creating a more sustainable, livable Aliso Viejo as well as about reducing GHG emissions. Furthermore, the GCI also is intended to enhance Aliso Viejo's ability to promote a healthy economic environment for residents and businesses in the City. The belief is that an enhanced "green" residential and business environment will attract and retain additional investment money and business income into Aliso Viejo – all of which contribute to a greener future.
Project Status	Project is in process, with expected completion date of December 2011.

Costa Mesa Urban Plans

Project Location	*City of Costa Mesa*
Sustainability Strategy Category 	**Land Use Policies:** • Compact building design • Horizontal or vertical mixed-use • Improve accessibility of housing to transit • Increasing residential density near transit • Infill in areas with existing infrastructure • Support revitalization of older, densely settled urban areas. • Zoning reform measures • Shared parking **Alternate Modes:** • Facilitate increased biking opportunities • Improve bicycle infrastructure and facilities **Transit Infrastructure:** • Enhanced bus stops and improve transit facilities.
Project Description 	In 2006, three Urban Plans were developed to establish overlay zones in specific areas of the westside of Costa Mesa: (1) 19 West Urban Plan, (2) Mesa West Bluffs Urban Plan, and (3) Mesa West Residential Ownership Urban Plan. West Costa Mesa is currently developed with mostly marginal commercial and light industrial uses in a great geographical location. The three main purposes of the urban plans are to do the following: • **Encourage Commercial/Residential mixed-use development** that combines residential and nonresidential uses in a single building (vertical mixed-use development) or in proximity on the same site (horizontal mixed-use development). This type of development could include office, retail, business services, personal services, public spaces and uses, and other community amenities to revitalize the area without exceeding the development capacity of the General Plan transportation system. • **Encourage adaptive reuse** of existing industrial or commercial structures, which would result in rehabilitated buildings with

	unique architecture and a wider array of complementary uses. • **Meet demand for a new housing type** from artists, designers, craftspeople, professionals and small-business entrepreneurs.
Emissions Reductions Benefits	The urban plans provide for new housing and mixed-use development. Concentrating and intensifying development within half to one mile of the Harbor Boulevard transit corridor will encourage alternative transportation modes, reduce vehicle miles traveled and generally contribute to greener development.
Project Status	The Urban Plans were approved in 2006. Several projects for mixed-use and live-work units have been approved. One is currently under construction.



Orange 2010 General Plan Update

Project Location	*City of Orange*
Sustainability Strategy Category	**Land Use Policies:** • Horizontal or vertical mixed-use • Increasing housing densities within/adjacent to employment areas • Increasing residential/commercial density near transit • Integrate affordable and market rate housing • Local housing for local workforce • New housing and jobs within 1/2 mile of existing/planned transit stations **Alternate Modes:** • Increase bike/walk trips with improved streets and f acilities **Transit Infrastructure:** • Enhanced bus stops • Improve transit facilities
Project Description	The Plan locates mixed-use districts around major employment and activity hubs including three regional medical centers, County justice facilities, shopping, entertainment, a university, the historic downtown Plaza, and major sports venues. Existing multi-modal transit in these areas are planned for expansion.
Emissions Reductions Benefits	The Plan's Land Use and Circulation and Mobility Elements improve efficiencies between land use and circulation, and encourage pedestrian and multi-modal linkage between neighborhoods, employment, goods, services, and recreation.
Project Status	The Plan was approved in 2010 and is under implementation through development of new mixed-use zoning standards, a transit-oriented specific plan around the Orange Transportation Center, and private development projects.

LAND USE, TRANSPORTATION, AND SUSTAINABILITY STRATEGY CONCLUSION

Orange County is engaged in a collective effort to link transportation and land uses through a wide spectrum of processes and organizations working together. This effort includes a variety of progressive measures undertaken by Orange County jurisdictions, agencies, and groups that lead to changes in the use of automobiles and light duty trucks, resulting in reductions in greenhouse gas emissions.

The scope of current and planned strategies is broad and encompasses significant investment by both the public and private sectors to implement them. They include the following:

- Promoting a land use pattern that accommodates future employment and housing needs.
- Using land in ways that make developments more compact and better links jobs, housing and major activity centers.
- Protecting natural habitats and resource areas.
- Implementing a transportation network of public transit, managed lanes and highways, local streets, bikeways, and walkways built and maintained with available funds.
- Managing demands on the transportation system (TDM) in ways that reduce or eliminate traffic congestion during peak periods of demand.
- Managing the transportation system (TSM) through measures that maximize the efficiency of the transportation network.
- Utilizing innovative pricing policies to reduce vehicle miles traveled and traffic congestion during peak periods of demand.

These strategies are Orange County's contribution to regional strategies to achieve both 2020 and 2035 GHG thresholds established by CARB.

CHAPTER 4: COMPLYING WITH THE CLEAN AIR ACT

INTRODUCTION

SB 375 requires the SCS to allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506). This chapter describes how the strategies outlined in the OC SCS help to achieve this compliance by reducing air pollution.

AIR POLLUTION REDUCTIONS

While GHG emissions reduction is a significant goal of SB 375, the legislation recognizes that automobiles and light trucks account for 50% of air pollution in California and 70% of petroleum consumption. Established modeling methodology has shown that changes in land use and transportation policy can reduce air pollution.

The SCS strategies help to achieve the SB 375 objective of allowing the RTP to comply with the federal Clean Air Act by accomplishing one or more of the following goals:

- A reduction of Vehicle Miles Traveled (i.e., vehicles travel shorter distances from their origin to destination, by placing residential uses near work and shopping areas);
- A reduction of Vehicle Hours Traveled (i.e., vehicles spend less time on the roadways; they may travel the same distance as before, but reduced congestion and stop-and-start activity improves travel time); and,
- Minimizing the use of gasoline-powered vehicles by increasing the use of non-motorized travel, alternative fuel vehicle use, or shared rides.

Many of the strategies to reduce GHG emissions outlined in the OC SCS, including the sustainability strategies detailed in Appendix F, also will achieve at least one of the above actions. Air pollution can be reduced by avoiding extra miles, reducing traffic congestion, and reducing the number of gasoline-powered vehicles with single occupants. In doing so, they will help meet the federal air pollutant concentration standards, and provide significant assistance to California's goals of implementing the federal and state Clean Air Acts and reducing its dependence on petroleum.

Additionally, OC SCS strategies help to reduce smog-forming and other emissions that pose health risks. Further, many of the strategies provide increased opportunities for people to be physically active which can improve people's general health, potentially reduce costs of transportation by offering alternative choices, and increase social benefits by providing increased mobility for people who do not have the option of using a passenger vehicle (e.g., disabled, economically disadvantaged, etc.).

CLEAN AIR ACT CONCLUSION

Implementation of the strategies outlined in the OC SCS is expected to result in decreased air pollution, allowing the RTP and OC SCS to comply with the federal Clean Air Act.

CHAPTER 5: RESOURCE AREAS AND FARMLAND

INTRODUCTION

SB 375 requires the SCS to gather and consider the best practically available scientific information regarding resource areas and farmland in the region. This chapter provides a summary of the resource areas and farmlands located within Orange County. These lands are considered unavailable for development, thus focusing future development in more dense cores and along major transportation infrastructure.

California Department of Fish and Game: California Natural Diversity Database (CNDDB)

The CNDDB is a "natural heritage program" under the auspices of CDFG and is part of a nationwide network of similar programs, all of which provide location and natural history information on special status plants, animals, and natural communities to the public, other agencies, and conservation organizations. The data help drive conservation decisions, aid in the environmental review of projects and land use changes, and provide baseline data helpful in recovering endangered species and research projects. The CNDDB used here (Figure 59) has been pared down further, to highlight only those species considered rare, threatened, or endangered according to the State of California or the United States government. Sightings that were considered less accurate (greater than an 80m [meter] area) were also omitted.

The CNDDB is updated monthly and contains information that has been mapped at the parcel level to about 1:24,000 scale. The November 2010 CNDDB is used in this document, which is applicable to County-level maps.

National Flood Hazard Layer

The National Flood Hazard Layer (NFHL) created and maintained by Federal Emergency Management Agency (FEMA) is a compilation of effective flood insurance rate maps and Letter of Map Change. In its basic form, NFHL shows areas within the 100-year

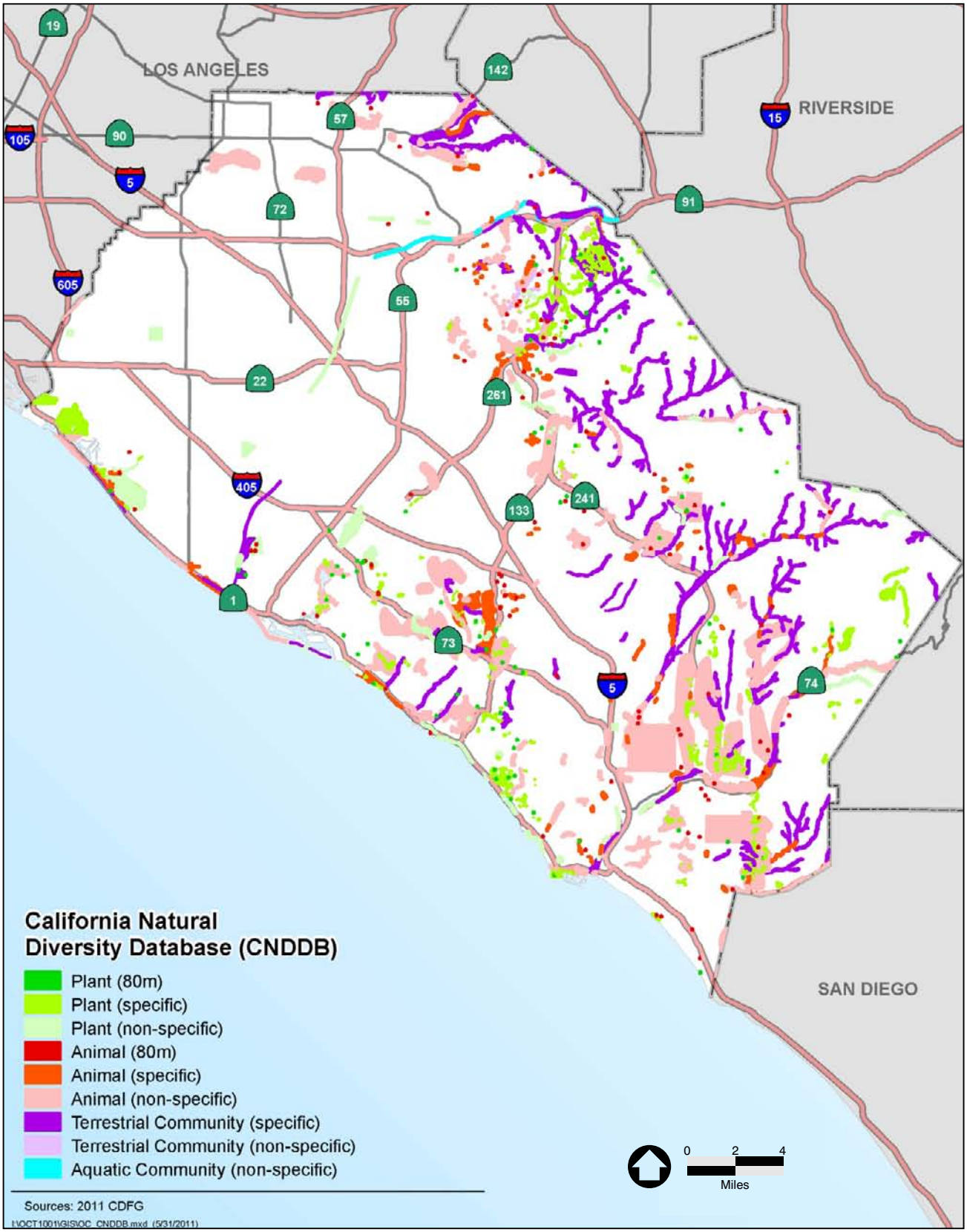


Figure 59 **California Natural Diversity Database**

floodplain at risk of flood damage during such an event. The NFHL on Figure 60 has been mapped at a scale of 1:6,000 or better (i.e., a larger scale) and is applicable for County-level maps. The information is updated approximately quarterly; September 2010 is the date of the information used here.

Natural Community Conservation Planning (NCCP)

In 1991, the California legislature passed the NCCP Act to encourage a collaborative process for regional planning. As a result, natural open space reserves have been set aside in the coastal and central portions of Orange County.

The NCCP is administered by the U. S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and the County of Orange and is designed to protect open space associated with species preservation. Within each NCCP boundary, set areas are open space reserves and natural corridor linkages that allow for animals to move from one to another. Any potential changes from the existing open space land use to another type of land use must be reviewed thoroughly by USFWS, CDFG, and the County, and be consistent with the goals of the NCCP.

The reserves for the central and coastal NCCP have been established, but the reserve for the southern NCCP has not been fully approved and is still awaiting CDFG approval. That being said, the southern NCCP reserve will not be modified significantly upon CDFG approval and should be viewed as an area where land use changes are discouraged.

For the most part, the NCCP depicted on Figure 61 has been mapped at the parcel level and is applicable for County level maps. The dates for the datasets used in the mapping are as follows:

- NCCP, Central & Coastal: August, 2010
- NCCP, Southern: 2006

California Protected Areas Database (CPAD)

The California Protected Areas Database (CPAD) is a GIS inventory of all lands owned by agencies whose general mission is to continue the open space uses on them. The database contains lands held in fee ownership by public agencies and non-profits; it does not contain data on private conservation and other similar public agency easements. This information is collected and compiled by GreenInfo Networks on an as-needed basis, which usually runs about once a year. The CPAD database highlights public lands owned or managed by the federal government, State of California, Orange County, or local city or non-governmental agency.

Figure 60 **Flood Hazard Layer**

Figure 61 **Natural Community Conservation Plan**

The CPAD version used for Figure 62 is version 1.5 (June 2010). The data was compiled by GreenInfo Networks. The scale of mapping is done at 1:24,000 (or larger) and is applicable to County level maps.

Farmland Mapping Provided by the USDA Farmland Monitoring and Mapping Program (FMMP)

The FMMP was established in 1982 in response to a critical need for assessing the location, quality, and quantity of agricultural lands, and conversion of these lands over time. FMMP is a non-regulatory program and provides a consistent and impartial analysis of agricultural land use and land use changes throughout California.

Specific farmland was identified using the FMMP dataset created for Orange County in 2008 by the U. S. Department of Agriculture. Of all of the categories of farmland, only Prime Farmland, Farmland of Statewide Importance, and Unique Farmland were identified and used in our mapping. While the conversion of agricultural land to nonagricultural uses represents an important environmental concern which requires appropriate discussion in environmental documents prepared pursuant to the California Environmental Quality Act (CEQA), development of such land is not prohibited by law.

Farmland mapping through the FMMP occurs biennially (depending on governmental funding levels), the most current year for Orange County being 2008. The scale of mapping for Figure 63 is 1:24,000 and is applicable to County level maps.

Williamson Act parcels (separate from the FMMP but part of the overall conservation effort of farmlands) do not exist within Orange County. The last Williamson Act parcels were located in Rancho Mission Viejo in the southern part of Orange County and expired by 2008.

USFWS Critical Habitat

The USFWS creates and manages critical habitat for a variety of species deemed to be endangered or threatened due to habitat loss. These critical habitat areas are identified by the USFWS as areas critical to the species survival and success. Each critical habitat is unique to the species it covers.

The various critical habitats are all mapped on Figure 64 at a scale of 1:24,000 or greater and are applicable to County-level maps. Following are the dates of the various critical habitats mapped in our mapping:

- Arroyo Toad: 2/11/2011
- Braunton’s Milk-vetch: 12/14/2006
- Coastal California Gnatcatcher: 12/19/2007

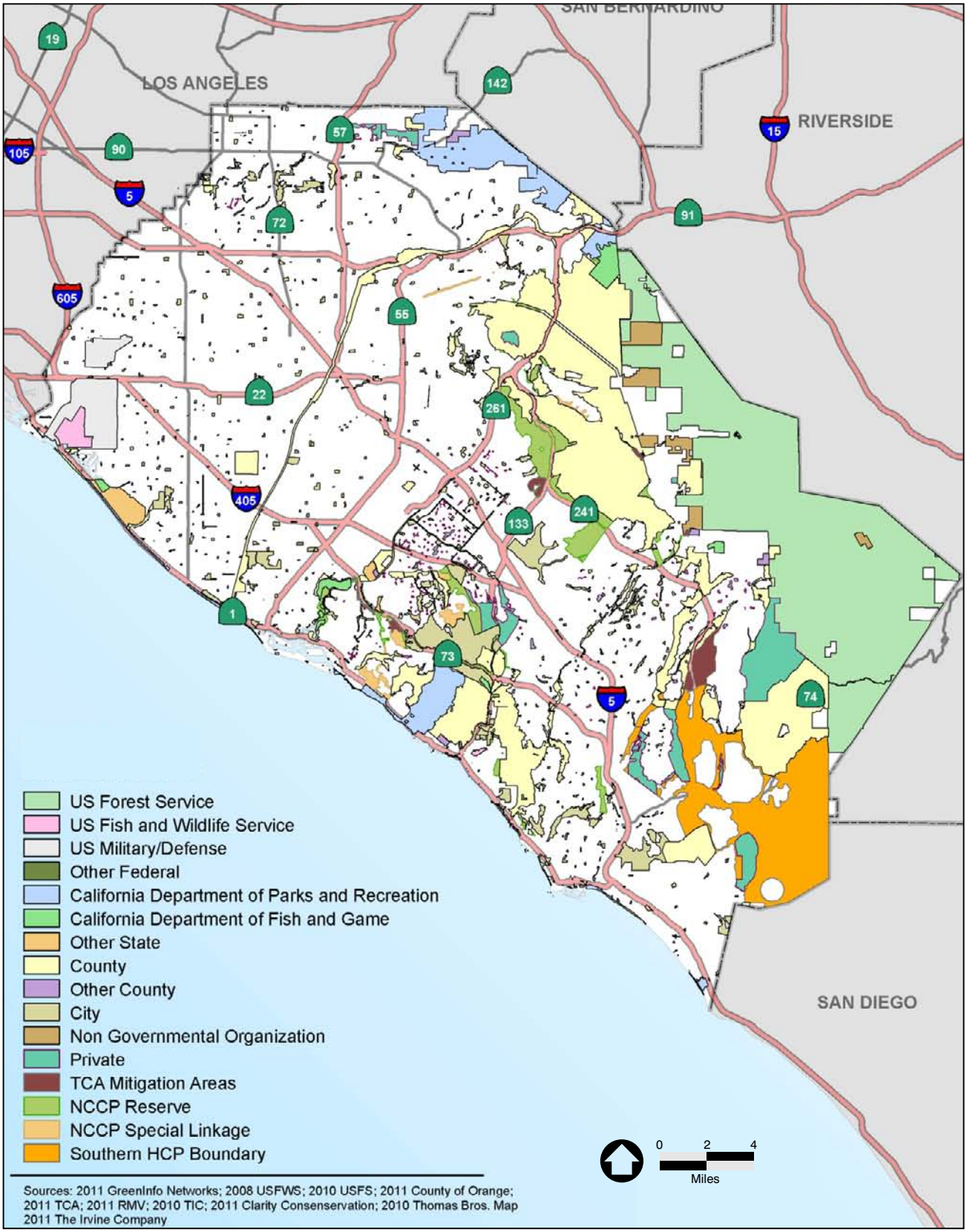


Figure 62 **California Protected Areas Database**

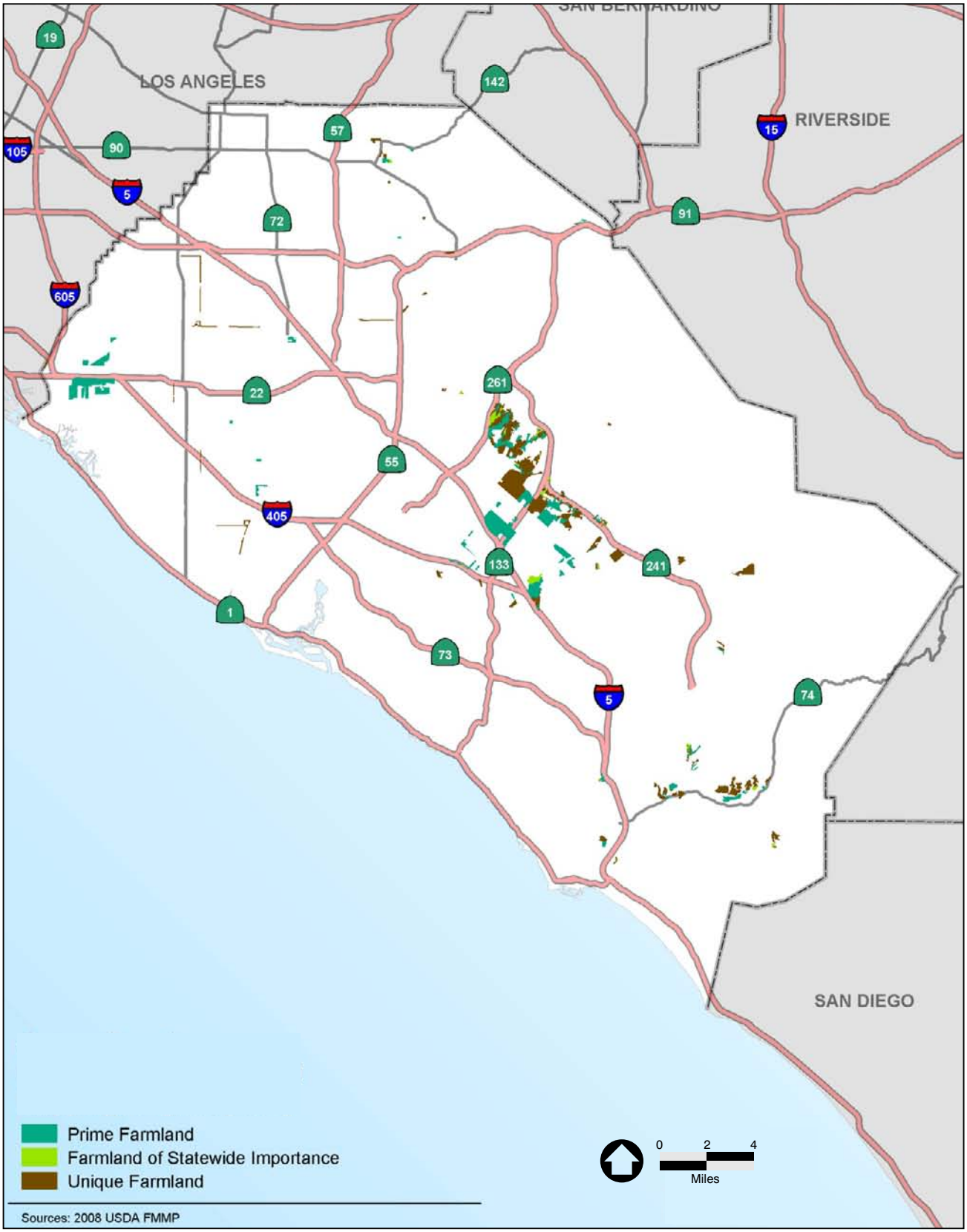


Figure 63

Farmland Monitoring and Mapping Program

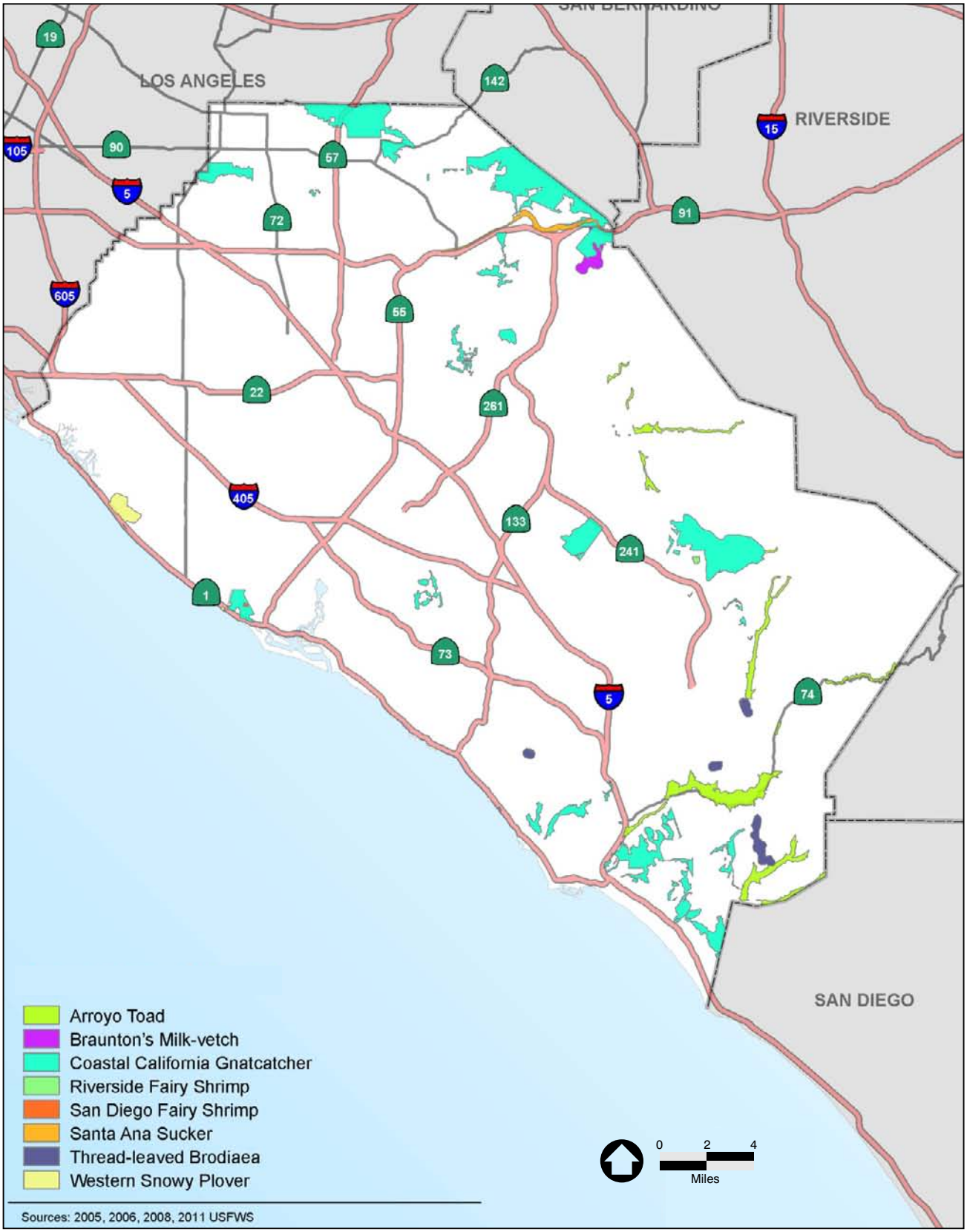


Figure 64

U. S. Fish and Wildlife Service Critical Habitat

- Riverside Fairy Shrimp: 5/12/2005
- San Diego Fairy Shrimp: 1/11/2008
- Santa Ana Sucker: 1/13/2011
- Thread-leaved Brodiaea: 2/11/2011
- Western Snowy Plover: 10/31/2005

Measure M2 Mitigation Program

M2 includes a comprehensive Environmental Mitigation Program that provides landscape-level mitigation to offset environmental impacts for the 13 freeway improvement projects using five percent of M2 freeway program revenue. OCTA is implementing the mitigation program through a collaborative partnership with CDFG, USFWS, Caltrans, and the environmental community.

The M2 mitigation program was among a handful of projects identified by the OCTA Board of Directors that allowed for early planning, advance funding, and implementation. In late 2010, the Board of Directors authorized expenditure of approximately $42 million for acquisition of natural lands (inclusive of long-term management costs) as part of the M2 Environmental Mitigation Program. Additional funds are anticipated to be available in the future; the specific amount of funds available will be dependent on the revenue stream from the sales tax measure. A suite of the most biologically valuable properties and those that most closely align with the freeway impacts are under consideration and/or negotiation. This program is conducted through a voluntary process, similar to private open market transactions. Offers have been made to a number of properties and it is conceivable that the initial funding allocation could yield over a thousand acres of acquired open space properties throughout Orange County. OCTA will receive streamlined permits from the resource agencies for its freeway projects.

RESOURCE AND FARMLAND CONCLUSION

Following is a summary of the resource areas and farmland described above:

Areas that fall within a category of the CNDDB would most likely be protected as a natural resource or habitat, so they would not support residential development under SB 375.

SB 375 excludes areas where it has been "determined that the flood management infrastructure designed to protect that land is not adequate to avoid the risk of flooding."

NCCP reserves and/or special linkages (central, coastal, and southern NCCP) do not support residential development under SB 375 and are protected open space areas.

The public lands or open-space lands identified in the CPAD do not support residential development under SB 375. The CPAD areas should be considered as protected open space areas.

Development of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland often constitutes a significant impact under CEQA. Critical habitat represents land that has been preserved for existing natural resources and is therefore not suitable for residential development under SB 375.

Approximately $42 million has been authorized for the acquisition and long-term management of natural lands as part of the M2 Environmental Mitigation Program. Additional funds are anticipated to be available in the future; the specific amount of funds available will be dependent on the revenue stream from the sale tax measure.

APPENDICES

APPENDIX A

SCAG LETTER TO CARB CONDITIONING GHG EMISSIONS REDUCTIONS

SOUTHERN CALIFORNIA
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September 20, 2010

Ms. Mary Nichols
Chair,
California Air Resources Board
PO Box 2815
Sacramento, CA 95812

Dear Chairwoman Nichols:

This letter is to transmit the Regional Council action of September 2, 2010 regarding the upcoming Air Resources Board (ARB) meeting to consider establishing greenhouse gas emission reduction targets for 2020 and 2035 in accordance with SB 375 (Steinberg).

The Regional Council at its September meeting approved the following motion:

"SCAG recommends to ARB the following targets for GHG reductions: in 2020, 6%, and in 2035, 8%. And, if ARB accepts the 11 recommendations or the 11 items that we have (see attached report), including adding in fully funding the redevelopment funds and adding the self-help projects/counties, then SCAG would sit down with ARB as a partner and renegotiate the higher numbers."

Thank you for your consideration of this recommendation. As you may be aware, the recommendation came after a long discussion and hearing public input from numerous stakeholders in our region.

SCAG Regional Council looks forward to working with the ARB to successfully implementing SB 375 requirements. Please feel free to contact Mr. Hasan Ikhrata, SCAG Executive Director or me at 213-236-1800 should you have any questions or comments.

Sincerely,

Larry McCallon
SCAG President
Councilmember, City of Highland

CC: James Goldstein
Lynn Terry
Terry Roberts
Regional Council

REPORT

DATE: September 2, 2010

TO: Regional Council (RC)
Community, Economic, and Human Development Committee (CEHD)
Energy and Environment Committee (EEC)
Transportation Committee (TC)

FROM: Hasan Ikhrata, Executive Director, (213) 236-1844, ikhrata@scag.ca.gov

SUBJECT: SB 375 Final Draft Regional Targets

EXECUTIVE DIRECTOR'S APPROVAL:

RECOMMENDED ACTION:
Support the California Air Resources Board's (ARB) staff recommended SB 375 final draft greenhouse gas (GHG) emission reduction targets of 8% for 2020 and 13% for 2035. This support for the final draft targets are conditioned upon a combination of the following actions or alternative equivalent measures:

- Restoration of previous levels of State funding for transportation, transit in particular.
- Continued leadership by the regional partners to increase availability of State funds for the region.
- Continued partnership by the state and regional partners to increase availability of state funding for the region.
- Continuing partnership and commitment from each County Transportation Commission (CTC) to support the SCS development process, including a focus on non-motorized transportation solutions.
- Continued leadership by the regional leaders to increase availability of federal funding through the next transportation authorization and through climate change legislation.
- ARB will commit to working with MPOs, local governments, state agencies and the Legislature to identify, pursue and secure adequate incentives and sustainable sources of funding for local and regional planning and other activities related to the implementation of SB 375.
- Targeted increase in funding commitments for Transportation Demand Management, non-motorized transportation (walk and bike), transit, transportation, redevelopment and other necessary funding from Federal, State and local agencies.
- Timely implementation of the "30-10" proposed acceleration for Measure R projects in Los Angeles County.
- Improvements in land use planning in cooperation with local governments, mostly at the neighborhood scale.
- Expanded funding for Compass Blueprint demonstration projects, a voluntary city/county grant program directed to sustainable planning objectives (as discussed at the SCAG General Assembly).
- Implementation of Green Cities voluntary recognition and awards program (as discussed at the General Assembly).

EXECUTIVE SUMMARY:
On August 9, 2010, the ARB released a staff report recommending final draft GHG targets for each region pursuant to SB 375. This report summarizes activity leading up to this stage, and recommends action for the Regional Council in response to ARB's staff recommendation. This report contains (A) a

description of what is required for the region to succeed in meeting targets, (B) a rationale supporting the staff's recommendation, (C) an update and chronology of events leading up to the release of the final draft targets, and (D) identification of anticipated next steps.

STRATEGIC PLAN:

1. Improve Regional Decision Making by Providing Leadership and Consensus Building on Key Plans and Policies
   a. Create and facilitate a collaborative and cooperative environment to produce forward thinking regional plans.

2. Obtain Regional Transportation Infrastructure Funding and Promote Legislative Solutions for Regional Planning Priorities

BACKGROUND:

Since SB 375 went into effect in January 2009, SCAG has worked to ensure this region's successful implementation of this important legislation. The long term importance of this legislation and the efforts and dialogue it has thus far generated, a statewide policy discussion has occurred as to how to best implement SB 375 that ensures California's future regarding the key issues of land use, transportation and emissions reduction.

One of the keys in achieving a successful outcome of SB 375 includes obtaining from the ARB appropriate per capita GHG reduction targets for 2020 and 2035. The appropriate targets for SCAG are those that can be achieved with a sound Sustainable Communities Strategy (SCS) in the Regional Transportation Plan (RTP), while still challenging the region to submit a SCS plan in 2012 that successfully achieved the targets established by the ARB.

ARB has sole discretion to adopt regional targets under SB 375, but has engaged in a collaborative process to enable stakeholder input and collaboration of the MPOs as well as other stakeholders as a part of their final decision-making process. After considerable additional analysis and discussion, both with stakeholders in over 100 outreach meetings within the SCAG region as well as with our major MPO partners throughout California, SCAG staff recommends support of the targets proposed by ARB staff in their August 9 staff report of 8% in 2020 and 13% in 2035, based on the ambitious principal.

In making this recommendation, it is acknowledged that these targets will not be easily achieved and cannot be met by adopting a "business as usual" approach. Successful implementation is predicated on several key assumptions outlined below where SCAG, in partnership with cities, counties, the business community, and county transportation commission's, must work together in the next year to develop and submit a SCS plan that achieves the goals set by ARB. This report outlines certain areas of change that appear to be achievable based on current data, the final and more specific analysis of how these goals can best be met will occur as part of the next phase of the implementation process as we prepare and then complete a SCS for the SCAG region.

These final draft targets for SCAG are on par with those currently proposed by the other three major MPOs in the State (Bay Area, Sacramento and San Diego) and, while certainly challenging for Southern California, they are possibly achievable based on updated assumptions and analysis of the options and resources

available to SCAG for the 2012 RTP/SCS. Staff recommends that working together with the Federal and State governments, this region needs to make the effort to do all that it reasonably can to meet these targets. Such an effort will allow this region to be successful both in developing a SCS as required by SB 375 and, more importantly, positioning our region to create opportunities for a substantially improved quality of life for our residents and businesses in the areas of public health, congestion relief, air quality and land use.

A. Path Forward

In March 2009, the Regional Council and policy committees set broad goals for the implementation of SB 375 in the SCAG region. These goals included a strong preference for achieving the GHG target with the SCS contained within the RTP, and not resorting to the optional, unconstrained Alternative Planning Strategy (APS). SCAG has been actively involved in the target setting process, including developing five scenarios for input to ARB. Those initial scenarios demonstrated achievability of targets of 7-8% for 2020 and 5-6% for 2035. Since that time, the three other large MPOs in the State developed scenarios that were more aggressive, achieving up to 19% per capita reductions in 2035. Consequently, SCAG staff performed additional sensitivity testing of 2035 scenarios that considered additional Transportation Demand Management (TDM) and non-motorized measures (equivalent to SANDAG's 2035 scenario), refined forecasting analysis of local socioeconomic input, revised modeling parameters, and off-model analyses. The tests indicate that a 13% or more per capita reduction target in 2035 is very ambitious, but possibly achievable, assuming successful implementation of projected regional projects (including 30-10 plan in Los Angeles County) and commitments from the State and Federal governments as outlined in the staff recommendation. The specific revised analysis to demonstrate achievability of these targets is described further below, under "Rationale and Outcomes."

SCAG has placed a high degree of importance on input and involvement from key partners and stakeholders throughout the target setting process and will continue to do so during the development of the SCS. As part of SCAG's review of ARB's final draft targets, staff has provided briefings to the Plans and Programs Technical Advisory Committee, County Transportation Commission's Executive Officers, Southern California Leadership Council (SCLC), Greater Land Use Economic Council (GLUE), AQMD, individual business meetings, individual and group environmental stakeholders meetings, and others. The staff recommendation reflects input from these groups.

Input from the key regional stakeholders has been summarized below:

- Environmental Groups: Staff conducted several meetings with representatives from the environmental community (including the National Resources Defense Council (NRDC), Environmental Defense Fund (EDF), Climateplan, Clean Air Coalition, and Move LA) During these meetings, staff responded to extensive questioning about the SCAG submitted target setting methodology, modeling assumptions, and whether the proposed seven scenarios considered in setting a target range for 2020 and 2035 GHG reduction were sufficiently ambitious. The general consensus received from these discussions was that SCAG could do more GHG reduction by 2035 than SCAG staff is recommending to the SCAG Board. Further, these environmental groups indicated they intended to transmit correspondence to the Regional Council and ARB. Members requested SCAG staff provide another option which clarifies what it would take (i.e., funding and other actions) to do more than 13% GHG goal proposed by ARB staff. Staff indicated they would continue to consider all relevant information as part of the upcoming development of the SCS Plan.

- Business Groups: Staff met several times with business leaders (including the SCLC, GLUE, Building Industry Association of Southern California (BIA), and the Irvine Company, including representatives from Orange County Business Council (OCBC), Orange County Transportation Authority (OCTA) and Orange County Council of Governments (OCCOG) to discuss the SCAG staff recommendation supporting the ARB staff recommendation with the conditions outlined above to achieve the proposed 2020 and 2035 GHG reduction targets. There was general consensus from the meetings, given the state of the California economy, that there is significant risk to the region to support a higher GHG goal than originally submitted to ARB without an ARB Board funding commitment to partner with SCAG. They indicated that it is imperative that ARB Board commit to a funding partnership with SCAG to achieve the 2035 GHG reduction goals by providing incentive funding for activities such as expanded compass program for cities/counties who want to voluntary implement the ARB goals. In addition, the SCLC has transmitted a letter to ARB addressing other actions the Board could take to reduce GHG and at the same time improve the economy.

- Regional Transportation Agencies Executive Officers: Staff has regularly sought input from the Chief Executive Officers (CEOs) of the County Transportation Commissions as the ARB target setting process has preceded. Staff met with the CEOs on August 20 and provided an update on staff's recommendation to support the ARB staff GHG target recommendations pending Regional Council support on September 2. Full partnership with the Commissions is essential to the successful development of a SCS in 2012 and accepted by ARB. Meaningful GHG reduction in the transportation sector can only be accomplished with the support of the Commissions. The Commissions are mandated to fulfill the voter approved local sales tax transportation programs. In addition, program State and Federal transportation funds that will support clean fuel alternatives, provide increased modal alternatives to single occupancy vehicles, reduce congestion chokeholds, increase bikeway program investments, and increase transportation demand management options (such as HOV lane expansion, congestion pricing, signal synchronization, etc.). The overall consensus of the discussion at the CEOs meeting was to support SCAG staff recommendation with the understanding of the need to clarify in writing that ARB will be a full funding partner with the region to implement SB 375 GHG goals. At the point of this report being prepared no Board actions of the CTCs have yet taken place.

A key component of the anticipated path forward is SCAG's commitment to an expanded Compass Blueprint program and the development of a new Green Cities Initiative. The Compass Blueprint program has created a successful collaboration with local government for 84 demonstration projects throughout the SCAG region to implement strategies consistent with the goals of SB 375. These strategies include in-fill development, transit oriented development, mixed use, and neighborhood design to encourage walking and biking. SCAG's new Green Cites Initiative, announced at the General Assembly is anticipated to provide voluntary tools and tracking capacity for local government in preparing sustainability plans. Further, the program will allow local governments to compete for awards and recognition for the communities doing the most to reduce GHG emissions. As part of the staff recommendation included in this report, SCAG will be seeking a commitment from ARB to assist in pursuing and securing further funding for these programs.

B. Rationale and Outcomes

As mentioned, ARB has the sole discretion to determine regional targets. That said, it is important for SCAG to participate in the process of determining targets in order to ensure the appropriate planning is done

to best position this region's ability to achieve these targets and to remain competitive with the rest of the State.

The proposed final GHG targets, particularly those for 2035, would be challenging for the SCAG region, in that it would be necessary to move substantially beyond status quo commitments in a number of areas. Nevertheless, staff believes it is important for SCAG, as the largest region in the State, to continue to establish a responsible leadership role in the implementation of SB 375. The targets as currently proposed are in approximate parity with each of the major regions in California, as shown below under "Chronology." This approximate parity with other regions is important, especially if any future State funding opportunities or criteria were to be based on these targets. Each of the other three large MPOs at this point has formally recommended a GHG target as reflected in the ARB staff report.

As noted, SCAG has prepared further scenario analysis that demonstrates that a 13% target, or more, can be attainable with significant funding from State, Federal and regional sources in 2035 assuming certain adjustments to both policy measures and technical assumptions. Specifically, SCAG tested a scenario with the following assumptions beyond those included in the 2008 RTP and the analysis that was performed earlier this year for the initial SCAG draft targets:

a) In conjunction with the Compass Blueprint program already included in the analysis, recent local input on an improved jobs/housing balance was analyzed.

b) A 1% reduction in home-based work trips, 174% increase in vanpools, 144% increase in carpools, and 20% increase in walk/bike to school (e.g., "safe routes to school"), which is similar to the TDM levels assumed by SANDAG in their 2035 scenario;

c) A 2.5 % reduction in VMT associated with non-motorized transportation;

d) Additional auto operating cost increase of $0.02/mile to a total of $0.24/mile (e.g., increases in fuel costs, repairs, maintenance, tires, and accessories); and

e) Capturing on-going local land use and community design improvement through off-model analysis, beyond that which has already been accounted for within the Compass Blueprint program.

As outlined by the conditions that are a part of staff's recommendation, in order to demonstrate achievement of a 13% target through the SCS, SCAG , its partners and the State and Federal governments would need to show commitment to implement and fund the underlying measures, or measures that achieve equivalent results. While the analysis shows the potential for such a target to be met, it should not be interpreted to mean that the region could do so without significant challenge and additional resources.

While the current focus is on target setting, it needs to be recognized that this entire effort and the overall intent behind SB 375 is to encourage regions throughout California to engage in a concerted, but reasonable effort, to put the State on a path toward a more sustainable future. In this light, as compared to the performance of the existing 2008 RTP, achieving the 13% per capita GHG reduction target in 2035 would be expected to result in the following estimated outcomes:

- 1.7 million hours reduction in daily vehicle delays, equivalent to $7.7 billion annual cost savings (in 2009 dollars) due to congestion relief
- 3.4 million gallons daily reduction in light and medium vehicle fuel consumption
- 3.2 tons daily reduction in NOx and 2.9 tons daily reduction in PM10

Beyond these important outcomes for increasing the region's livability for 19 million residents, the region would accrue related benefits in public health due to reduced emissions exposure and illness, increased productivity, and economic activity due to reduced congestion and transportation cost.

At present, our current capacity to more specifically measure benefits and outcomes is limited both by time and by the availability of proper data and tools. As a function of the on-going MPO consultation efforts, regions are working to develop a set of performance measures that could be applied to the SCS statewide. Additionally, SCAG is continually working to improve our technical tools, including those made available to the local government members for their own planning processes.

C. Chronology

The chronology leading to ARB's determination of final regional targets includes:

- SCAG region outreach and dialogue among members and stakeholders – on-going, beginning November 2008 (more than 100 meetings to date)
- Completion of statewide Regional Targets Advisory Committee (RTAC) report, establishing parameters and process for target setting – September 2009
- Regional Workshop to review the RTAC report (Ontario) – November 18, 2009
- Consultation with other Metropolitan Planning Organizations (MPOs) on scenario development and other issues – September 2009 to present
- Development of five "sketch" scenarios to establish range of "ambitious/achievable" targets for the SCAG region – January 2010 to May 2010
- Regional Council authorization for SCAG staff to submit target information and recommendation to ARB – April 2, 2010
- General Assembly and Regional Conference (La Quinta) featuring review and discussion on target scenario – May 5-6, 2010
- Formal submittal of target scenarios in coordination with other large MPOs – May 18, 2010
- ARB release of preliminary draft GHG targets – June 30, 2010, as follows:
    - SCAG - 5-10% for 2020, 3-12% for 2035
    - SANDAG - 5-10% for 2020, 5-19% for 2035
    - MTC - 5-10% for 2020, 3-12% for 2035
    - SACOG - 5-10% for 2020, 13-17% for 2035
- Additional analysis testing scenarios assumptions and measures – May 18, 2010 to present
- ARB release of final draft GHG targets – August 9, 2010, as follows:
    - SCAG - 8% for 2020, 13% for 2035
    - SANDAG - 7% for 2020, 13% for 2035
    - MTC - 7% for 2020, 15% for 2035
    - SACOG - 7% for 2020, 16% for 2035
- Comments due to ARB on the final draft targets – September 22, 2010
- Scheduled ARB hearing to adopt targets – September 23, 2010

Staff has reported extensively to the Regional Council and policy committees at critical stages of the targets setting process. Background information on target setting, including the RTAC report, SCAG and other regional scenarios, and ARB's staff report on proposed final targets are available on ARB's website - http://www.arb.ca.gov/cc/sb375/sb375.htm, and on SCAG's website, www.scag.ca.gov/sb375.

D. Next Steps

Pending direction from the Regional Council, SCAG will participate in the conclusion of the target setting process, including providing written comments and testimony at the September 23 ARB hearing. Subsequently, the focus will shift to the development of the 2012 RTP/SCS and the process to seek and define commitment to the steps and options as described above.

Of note for SCAG region local jurisdictions, staff is developing a round of workshops that will engage local governments, CTCs, and regional stakeholders (including the business community and environmental community) on the development of the SCS. Finally, SCAG staff continues to take steps to implement the expansion of Compass Blueprint and the Green Cities award and recognition program discussed at the General Assembly. Future staff reports to the Regional Council will request input and discussion on these new initiatives.

Staff has prepared a draft comment letter to ARB in response to their August 9 staff report. The comment letter includes the recommendations contained in this staff report and associated comments. The draft letter is attached to this report.

Staff has attached the correspondence received to date. Subsequently received correspondence received related to this matter will be distributed at the meeting.

FISCAL IMPACT:
SCAG staff work to implement SB 375 is included in the 2010-2011 Overall Work Program 020.SCG0599.

ATTACHMENTS

1) Target scenario and analysis matrix
2) Draft comment letter to ARB
3) Correspondence received as of August 27th

Reviewed by:

Department Director

Reviewed by:

Chief Financial Officer

APPENDIX B

SCAG/OCCOG/OCTA MOU
SCAG Framework and Guidelines

OC SCS: THE PROCESS

Public Participation

SCAG is leading the regional public participation process for the SCAG Regional SCS. In December 2009, SCAG approved a Public Participation Plan that includes public involvement in the development of the Regional SCS, as follows:

- Hold at least two informational meetings in each county for members of the Board of Supervisors and/or City Councils in order to present a draft of the SCS and to solicit and consider their input and recommendations.
- Hold at least three iterative public workshops per county (with the exception of Imperial County, where only one is required) in order to provide the public with the information and tools necessary to provide a clear understanding of SCS related issues and policy choices.
- Hold at least three public hearings on the draft SCS in the RTP, in different parts of the region, in order to maximize the opportunity for public participation throughout the region.

In addition to the SCAG outreach described above, the OCCOG Board directed staff to augment the regional effort with local outreach. The following is a brief description of the enhanced public outreach conducted in Orange County by OCCOG.

Local Jurisdictions

Orange County is made up of 34 cities and the County of Orange, which represents the unincorporated communities. Representatives from each of these 35 local jurisdictions participated in the creation of the OC SCS through a variety of means including the following:

- Development and approval of OCP-2010
- Providing input on the OC SCS outline and draft document
- Contributing strategic counsel regarding the approach to creating an OC SCS

Local jurisdictions participated in the development of the OC SCS by providing important background and setting information, incorporation of critical sustainability strategies, including transportation and land use strategies, and opportunities and ramifications for OC SCS implementation.

Public Meetings

All of the OCCOG Board and TAC meetings and meetings of the joint OCTA/OCCOG Sustainable Communities Strategy Joint Working Committee—created to guide and oversee the development of the OC SCS—were open to the public. At various milestones

in the development of the OC SCS (e.g., the project schedule, approval of the OCP-2010 data, the draft outline, and the draft SCS), items were brought to these policy and technical groups for review, discussion and input. Public comments were solicited at each meeting.

Stakeholder Roundtables

OCCOG hosted a series of roundtables with Orange County nonprofit organizations representing housing, health care, environment, transportation, and education. At these roundtables, staff introduced the OC SCS process, provided status reports on the OC SCS, and gathered feedback throughout the development of the OC SCS.

Web Tool

A web tool was created for the OC SCS to facilitate and document public engagement in the local SCS process (www.oc-scs.org). The web tool provided general information about SB 375, the regional and local SCS, and the various organizations involved in the development of the SCS. The web tool also was used for distribution of key OC SCS documents including a draft outline for the OC SCS, and draft and final draft versions of the complete text and maps of the proposed OC SCS. Comments on these documents were compiled and became part of the comprehensive record of public participation in the OC SCS (to be provided as an Appendix to the final document).

Documentation

Clearly outlined in the SCAG/OCCOG/OCTA MOU is a requirement to deliver to SCAG comprehensive documentation of the OC SCS process and public participation, including meeting notices, agendas, minutes, comments and responses to comments, handouts and presentations. This documentation has been compiled and will be included as an Appendix to the final version of the OC SCS.

MEMORANDUM OF UNDERSTANDING NO. C-0-1712

BY AND BETWEEN

ORANGE COUNTY TRANSPORTATION AUTHORITY

AND

ORANGE COUNTY COUNCIL OF GOVERNMENTS

AND

THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

FOR ORANGE COUNTY SUSTAINABLE COMMUNITIES STRATEGY

THIS MEMORANDUM OF UNDERSTANDING (hereinafter referred to as "MOU") is entered by and between the Orange County Transportation Authority, (hereinafter referred to as "AUTHORITY"), the Orange County Council of Governments, (hereinafter referred to as "OCCOG"), and the Southern California Association of Governments, (hereinafter referred to as "SCAG"), collectively referred to as the "Parties."

RECITALS:

WHEREAS, Senate Bill 375 (Chapter 728, laws of 2008, "SB 375") requires SCAG to prepare a regional Sustainable Communities Strategy (hereinafter referred to as "SCS" or "Regional SCS") as part of SCAG's Regional Transportation Plan (RTP) to achieve goals for the reduction of greenhouse gas emissions from automobiles and light trucks in the SCAG region which comprises the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura;

WHEREAS, SB 375 allows AUTHORITY, as the county transportation commission for Orange County, and OCCOG, as a subregional council of governments for Orange County, to develop and submit to SCAG a subregional SCS for Orange County (hereinafter referred to as "Orange County SCS");

WHEREAS, as part of its implementation of SB 375, SCAG has developed and adopted a certain "Framework and Guidelines for the Subregional Sustainable Communities Strategy" (hereinafter

referred to as "Framework and Guidelines"), attached hereto as Exhibit "A" and incorporated herein by this reference.

WHEREAS, SCAG is required by SB 375 to include a subregional SCS in the regional SCS, to the extent consistent with state and federal law, including the SCS conducted by Orange County; and

WHEREAS, AUTHORITY, OCCOG and SCAG desire to enter into this MOU to demonstrate mutual commitments to prepare the Orange County SCS.

NOW, THEREFORE, the Parties enter into the following MOU with respect to the matters set forth herein:

1. This MOU establishes the roles, responsibilities, and requirements for AUTHORITY, OCCOG, and SCAG that are necessary to develop an Orange County SCS that shall be included in the regional SCS prepared by SCAG.

2. AUTHORITY and OCCOG shall prepare the Orange County SCS consistent with SCAG's adopted Framework and Guidelines, as attached hereto, to ensure that the region can successfully incorporate strategies within the Orange County SCS into the Regional SCS, and not inhibit the region from complying with SB 375.

3. AUTHORITY and OCCOG agree to comply with the Milestones Schedule, attached hereto as Exhibit "B" and incorporated by this reference, and work with SCAG and the other subregions to ensure the successful delivery of a regional SCS by using the Deliverables Template, attached hereto as Exhibit "C" and incorporated herein by this reference as the primary template for developing a subregional SCS workplan. The Deliverables Template may be subject to change, based on direction from the SCAG Regional Council or Community, Economic and Human Development Policy Committee, and approval by OCCOG.

4. AUTHORITY shall prepare the transportation element of the Orange County SCS through AUTHORITY'S Long-Range Transportation Plan (LRTP). Such transportation element shall, at a minimum, identify a transportation network (i.e., list of transportation projects) to service the

transportation needs of Orange County, and describe transportation policies (e.g., Transportation Demand Management and Transportation System Management strategies).

5. OCCOG shall prepare the Orange County SCS, and use AUTHORITY'S LRTP as the transportation element of the Orange County SCS.

6. OCCOG and AUTHORITY are encouraged by SCAG to conduct a public participation process in developing the Orange County SCS, above and beyond the process required for the regional SCS required under Section 65080(b)(2)(D)-(E) of the California Government Code. Further, SCAG encourages OCCOG to develop a public participation plan, similar to SCAG's Public Participation Plan adopted in December 2009, for such purposes.

7. OCCOG and AUTHORITY agree to participate in all publicly noticed meetings, workshops, hearings, and other outreach activities organized in Orange County by SCAG at which the regional SCS or Orange County SCS is included on the agenda. All parties shall coordinate with one another during implementation of SCAG's public participation process in order to ensure broad public and stakeholder participation, and to avoid duplication of effort.

8. OCCOG and AUTHORITY shall retain and deliver to SCAG all documentation pertaining to the Orange County SCS from publicly noticed meetings, workshops, and hearings at which the Orange County SCS is included on the agenda. Such documentation shall include but is not limited to meeting notices, agendas, minutes, comments and responses to comments, sign-up sheets, handouts, and copies of power point presentations.

9. AUTHORITY, OCCOG, and SCAG acknowledge that population, housing, and employment estimates are being prepared by the Center for Demographic Research at California State University Fullerton through the Orange County Projection process and the 2012 RTP growth forecasting process (hereinafter referred to as the "OCP dataset"). SCAG agrees to use the OCP dataset as reviewed and approved by OCCOG, for the Regional SCS and the 2012 RTP; provided, that SCAG, in consultation with OCCOG, may make adjustments to the OCP dataset in order to ensure consistency with SCAG's 2012 RTP growth forecast.

10. AUTHORITY and Orange County local agencies shall provide SCAG with population, employment, and housing estimates in transportation analysis zone (TAZ) format consistent with the Orange County Transportation Analysis Model (OCTAM).

11. AUTHORITY agrees to incorporate new land use-transportation interactions into OCTAM, and these shall include, at a minimum, net residential and employment densities, jobs/housing diversity, design characteristics, and destination accessibility.

12. The Parties agree and acknowledge that population, housing, and employment data submitted to SCAG by OCCOG and AUTHORITY shall be accurately reflected in all documentation produced by SCAG that relates to the Orange County SCS and Regional SCS.

13. The Parties agree and acknowledge that RHNA responsibilities shall remain with SCAG, and neither AUTHORITY nor OCCOG shall assume delegation responsibility for RHNA as part of the Orange County SCS development. However, neither AUTHORITY nor OCCOG is precluded by this MOU from assuming delegation responsibility for RHNA as part of a subsequent, separate agreement.

14. SCAG agrees to accept AUTHORITY's LRTP as Orange County's program of transportation projects as input for the 2012 Regional Transportation Plan.

15. SCAG agrees to acknowledge that the Renewed Measure M program is exempt from SB 375 requirements, to the extent consistent with SB 375 and the final, adopted California Transportation Commission RTP guidelines.

16. SCAG agrees that in addition to preparation of the Orange County SCS developed under this MOU, development of an Alternative Planning Strategy (APS) by AUTHORITY and OCCOG is optional. This understanding shall not preclude SCAG from preparing a regional APS pursuant to SB 375.

17. SCAG shall not develop SCS related targets that are attributable to the subregions.

18. SCAG agrees that it will not impose a penalty on the Orange County subregion if the greenhouse gas targets, as established by the California Air Resources Board, are not met by the Regional SCS.

19. SCAG shall accept the Orange County SCS prepared in accordance with this MOU, as the Orange County subregion's input into the Regional SCS prepared by SCAG.

20. AUTHORITY, OCCOG, and SCAG shall separately amend this MOU in writing or develop a separate, mutual funding agreement addressing Orange County SCS costs should state or federal funding become available that can be applied toward preparation of the Orange County SCS.

21. AUTHORITY, OCCOG, and SCAG agree to work closely together throughout the regional SCS process and Orange County SCS process to provide technical input, applicable planning data, and constructive feedback with respect to all documents, products and deliverables developed and associated with the Orange County SCS.

22. The AUTHORITY, OCCOG, and SCAG agree to work together in good faith, using reasonable efforts to resolve any unforeseen issues and disputes arising out of the performance of this MOU.

23. The Parties agree in good faith to provide the resources necessary to implement the provisions of the MOU.

24. AUTHORITY, OCCOG, and SCAG agree to defend, indemnify and hold harmless the other parties, their Officers, agents, elected officials, and employees, from all liability, claims, losses and demands, including defense costs and reasonable attorneys' fees, whether resulting from court action or otherwise, arising out of the acts or omissions of the defending party, its officers, agents, or employees, in the performance of the MOU. When acts or omissions of one party are directed by another party, the party directing the acts or omission shall owe this defense and indemnity obligation to the agencies following the directions. The provisions of this paragraph shall survive termination of this MOU.

25. This MOU shall be governed by all applicable federal, state, and local laws. The signatories warrant that in the performance of this MOU, each shall comply with all applicable federal, state and local laws, statutes and ordinances and all lawful orders, rules and regulations promulgated there under.

26. This MOU may only be modified or amended upon written mutual consent of all signatories. All modifications, amendments, changes and revisions of this MOU in whole or part, and from time to time, shall be binding upon the parties, so long as the same shall be in writing and executed by the signatories.

27. This MOU, including all exhibits and documents incorporated herein and made applicable by reference, constitutes the complete and exclusive statement of the term(s) and condition(s) of the agreement between the parties and it supersedes all prior representations, understandings and communications. The invalidity in whole or part of any term or condition of this MOU shall not affect the validity of the other term(s) or condition(s).

28. Any party may withdraw from this MOU upon 30 days written notice to the other, until the due date set forth in Exhibit "B" for submittal to SCAG of the preliminary Orange County SCS. After such due date, any party may withdraw from this MOU only upon mutual written agreement by all Parties.

29. Each signatory shall be excused from performing its obligations under this MOU during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control, including but not limited to: any incident of fire, flood; acts of God; commandeering of material, produces, plants or facilities by federal, state or local government; national fuel shortage; or a material act or omission by any other party; when satisfactory evidence of such cause is presented to the other parties, and provided further such nonperformance is unforeseeable, beyond the control and is not due to the fault or negligence of the party not performing.

30. Any notice sent by first class mail, postage paid, to the address and addressee, shall be deemed to have been given when in the ordinary course it would be delivered. The representatives of the parties who are primarily responsible for the administration of this MOU, and to whom notices, demands and communications shall be given are as detailed in Exhibit "D". If there are any changes in the names and/or addresses listed in Exhibit "D", the party desiring to make such changes shall give a written notice to the other respective parties within five (5) days of such change.

31. This MOU shall continue in full force and effect from the Effective Date up to and until the date that the Regional SCS is adopted by SCAG's Regional Council, unless otherwise terminated earlier in accordance with section 28 of this MOU. The Effective Date of this MOU shall mean the date (last date indicated below) that all parties have fully executed this MOU.

[Signature Page to follow.]

IN WITNESS WHEREOF, the Parties hereto have caused this MOU No. C-0-1712 to be executed by their duly authorized representatives.

ORANGE COUNTY TRANSPORTATION AUTHORITY ("Authority")

By _____ Date: 9/21/10
Will Kempton, Chief Executive Officer

ORANGE COUNTY COUNCIL OF GOVERNMENTS ("OCCOG")

By _____ Date: 9/20/10
Kristine Murray, Executive Director

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS ("SCAG")

By _____ Date: 9/15/2010
Hasan Ikhrata, Executive Director

Exhibit A: SCAG's Adopted Framework and Guidelines

Southern California Association of Governments

(Approved by Regional Council - April 1, 2010)

FRAMEWORK AND GUIDELINES
for
SUBREGIONAL SUSTAINABLE COMMUNITIES STRATEGY

I. INTRODUCTION

SB 375 (Steinberg), also known as California's Sustainable Communities Strategy and Climate Protection Act, is a new state law which became effective January 1, 2009. SB 375 calls for the integration of transportation, land use, and housing planning, and also establishes the reduction of greenhouse gas (GHG) emissions as one of the main goals for regional planning. SCAG, working with the individual County Transportation Commissions (CTCs) and the subregional organizations within the SCAG region, is responsible for implementing SB 375 in the Southern California region. Success in this endeavor is dependent on collaboration with a range of public and private partners throughout the region.

Briefly summarized here, SB 375 requires SCAG as the Metropolitan Planning Organization to:

- Prepare a Sustainable Communities Strategy (SCS) as part of the 2012 Regional Transportation Plan (RTP). The SCS will meet a State-determined regional GHG emission reduction target, if it is feasible to do so.
- Prepare an Alternative Planning Strategy (APS) that is not part of the RTP if the SCS is unable to meet the regional target.
- Integrate SCAG planning processes, in particular assuring that the Regional Housing Needs Assessment (RHNA) is consistent with the SCS, at the jurisdiction level.
- Specific to SCAG only, allow for subregional SCS/APS development.
- Develop a substantial public participation process involving all stakeholders.

Unique to the SCAG region, SB 375 provides that "a subregional council of governments and the county transportation commission may work together to propose the sustainable communities strategy and an alternative planning strategy . . . for that subregional area." Govt. Code §65080(b)(2)(C). In addition, SB 375 authorizes that SCAG "may adopt a framework for a subregional SCS or a subregional APS to address the intraregional land use, transportation, economic, air quality, and climate policy relationships." *Id.* Finally, SB 375 requires SCAG to "develop overall guidelines, create public participation plans, ensure coordination, resolve conflicts, make sure that the overall plan complies with applicable legal requirements, and adopt the plan for the region." *Id.*

The intent of this Framework and Guidelines for Subregional Sustainable Communities Strategy (also referred to herein as the "Framework and Guidelines" or the "Subregional Framework and Guidelines") is to offer the SCAG region's subregional agencies the highest degree of autonomy,

flexibility and responsibility in developing a program and set of implementation strategies for their subregional areas. This will allow the subregional strategies to better reflect the issues, concerns, and future vision of the region's collective jurisdictions with the input of the fullest range of stakeholders. In order to achieve these objectives, it is necessary for SCAG to develop measures that assure equity, consistency and coordination, such that SCAG can incorporate the subregional SCSs in its regional SCS which will be adopted as part of the 2012 RTP pursuant to SB 375. For that reason, this Framework and Guidelines establishes standards for the subregion's work in preparing and submitting subregional strategies, while also laying out SCAG's role in facilitating and supporting the subregional effort with data, tools, and other assistance.

While the Framework and Guidelines are intended to facilitate the specific subregional option to develop the SCS (and APS if necessary) as described in SB 375, SCAG encourages the fullest possible participation from all subregional organizations. As SCAG undertakes implementation of SB 375 for the first time, SCAG has also designed a "collaborative" process, in cooperation with the subregions, that allows for robust subregional participation for subregions that choose not to exercise their statutory option.

II. ELIGIBILITY AND PARTICIPATION

SB 375 allows for subregional councils of governments in the SCAG region to have the option to develop the SCS (and the APS if necessary) for their area. SCAG interprets this option as being available to any subregional organization recognized by SCAG, regardless of whether the organization is formally established as a "subregional council of governments."

County Transportation Commissions (CTCs) play an important and necessary role in the development of a subregional SCS. Any subregion that chooses to develop a subregional strategy will need to work closely with the respective CTC in its subregional area in order to identify and integrate transportation projects and policies. Beyond working with CTCs, SCAG encourages partnership efforts in the development of subregional strategies, including partnerships between and among subregions.

Subregional agencies must formally indicate to SCAG, in writing, by December 31, 2009 if they intend to exercise this option to develop their own SCS. Subregions that choose to develop an SCS for their area must do so in a manner consistent with this Framework and Guidelines. The subregion's intent to exercise its statutory option to prepare the strategy for their area must be decided and communicated through formal action of the subregional agency's governing board. Subsequent to receipt of any subregion's intent to develop and adopt an SCS, SCAG will convene discussions regarding a formal written agreement between SCAG and the subregion, which may be revised if necessary, as the SCS process is implemented.

III. FRAMEWORK

The Framework portion of this document covers regional objectives and policy considerations, and provides general direction to the subregions in preparing their own SCS, and APS if necessary.

A. SCAG's preliminary goals for implementing SB 375 are as follows:

- Achieve the regional GHG emission reduction target for cars and light trucks through an SCS.
- Fully integrate SCAG's planning processes for transportation, growth, intergovernmental review, land use, housing, and the environment.
- Seek areas of cooperation that go beyond the procedural statutory requirements, but that also result in regional plans and strategies that are mutually supportive of a range of goals.
- Build trust by providing an interactive, participatory and collaborative process for all stakeholders. Provide, in particular, for the robust participation of local jurisdictions, subregions and CTCs in the development of the SCAG regional SCS and implementation of the subregional provisions of the law.
- Assure that the SCS adopted by SCAG and submitted to California Air Resources Board (ARB) is a reflection of the region's collective growth strategy and vision for the future.
- Develop strategies that incorporate and are respectful of local and subregional priorities, plans, and projects.

B. Flexibility

Subregions may develop any appropriate strategy to address the region's greenhouse gas reduction goals and the intent of SB 375. While subregions will be provided with SCAG data, and with a conceptual or preliminary scenario to use as a helpful starting point, they may employ any combination of land use policy change, transportation policy, and transportation investment, within the specific parameters described in the Guidelines.

C. Outreach Effort and Principles

Subregions are required to conduct an open and participatory process that includes the fullest possible range of stakeholders. As further discussed within the Guidelines, SCAG amended its existing Public Participation Plan (PPP) to describes SCAG's responsibilities in complying with the outreach requirements of SB 375 and other applicable laws and regulations. SCAG will fulfill its outreach requirements for the regional SCS/APS which will include outreach activities regarding the subregional SCS/APS. Subregions are also encouraged to design their own outreach process that meets each subregion's own needs and reinforces the spirit of openness and full participation. To the extent that subregions do establish their own outreach process, this process should be coordinated with SCAG's outreach process.

D. Communication and Coordination

Subregions developing their own SCS are strongly encouraged to maintain regular communication with SCAG staff, the respective CTC, their jurisdictions and other stakeholders, and other subregions if necessary, to review issues as they arise and to assure close coordination. Mechanisms for on-going communication should be established in the early phases of strategy development.

E. Planning Concepts

SCAG, its subregions, and member cities have established a successful track record on a range of land use and transportation planning approaches through the on-going SCAG Compass Blueprint Program, including approximately 60 local demonstration projects completed to date. Subregions are

encouraged to capture, further develop and build off the concepts and approaches of the Compass Blueprint program. In brief, these include developing transit-oriented, mixed use, and walkable communities, and providing for a mix of housing and jobs.

IV. GUIDELINES

These Guidelines describe specific parameters for the subregional SCS/APS effort under SB 375, including process, deliverables, data, documentation, and timelines. As described above, the Guidelines are created to ensure that the region can successfully incorporate strategies developed by the subregions into the regional SCS, and that the region can comply with its own requirements under SB 375. Failure to proceed in a manner consistent with the Guidelines will result in SCAG not accepting a subregion's submitted strategy.

A. Subregional Process

(1) Subregional Sustainable Communities Strategy

Subregions that choose to exercise their optional role under SB 375 will develop and adopt a subregional Sustainable Communities Strategy. That strategy must contain all of the required elements, and follow all procedures, as described in SB 375. Subregions may choose to further develop an Alternative Planning Strategy (APS), according to the procedures and requirements described in SB 375. If subregions prepare an APS, they must prepare a Sustainable Communities Strategy first, in accordance with SB 375. A subregional APS is not "in lieu of" a subregional SCS, but in addition to the subregional SCS. In part, an APS must identify the principal impediments to achieving the targets within the SCS. The APS must show how the GHG emission targets would be achieved through alternative development patterns, infrastructure, and additional transportation measures or policies. SCAG encourages subregions to focus on feasible strategies that can be included in the SCS.

The subregional SCS must include all components of a regional SCS as described in SB 375, and outlined below:

(i.) identify the general location of uses, residential densities, and building intensities within the subregion;
(ii.) identify areas within the subregion sufficient to house all the population of the subregion, including all economic segments of the population, over the course of the planning period of the RTP taking into account net migration into the region, population growth, household formation and employment growth;
(iii.) identify areas within the subregion sufficient to house an eight-year projection of the regional housing need for the subregion pursuant to Section 65584;
(iv.) identify a transportation network to service the transportation needs of the subregion;
(v.) gather and consider the best practically available scientific information regarding resource areas and farmland in the subregion as defined in subdivisions (a) and (b) of Section 65080.01;
(vi.) consider the state housing goals specified in Sections 65580 and 65581;
(vii.) set forth a forecasted development pattern for the subregion, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB; and

(viii.) allow the RTP to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506). See, Government Code §65080(b)(2)(B).

In preparing the subregional SCS, the subregion will consider feasible strategies, including local land use policies, transportation infrastructure investment (e.g., transportation projects), and other transportation policies such as Transportation Demand Management (TDM) strategies (which includes pricing), and Transportation System Management (TSM) strategies. Technological measures may be included if they exceed measures captured in other state and federal requirements (e.g., AB32).

As discussed further below (under "Documentation"), subregions need not constrain land use strategies considered for the SCS to current General Plans. In other words, the adopted strategy need not be fully consistent with local General Plans currently in place. However, should the adopted subregional strategy deviate from General Plans, subregions will need to demonstrate the feasibility of the strategy by documenting any affected jurisdictions' willingness to adopt the necessary General Plan changes.

The regional SCS shall be part of the 2012 RTP. Therefore, for transportation investments included in a subregional SCS to be valid, they must also be included in the 2012 RTP. Further, such projects need to be scheduled in the RTIP for construction completion by the target years (2020 and 2035) in order to demonstrate any benefits as part of the SCS. As such, subregions will need to collaborate with the respective CTC in their area to coordinate the subregional SCS with future transportation investments. It should also be noted that the California Transportation Commission is updating their RTP Guidelines. This topic is likely to be part of further discussion through the SCS process as well.

SCAG will accept and incorporate the subregional SCS, unless (a) it does not comply with SB 375, (b) it is does not comply with federal law, or (c) it is does not comply with SCAG's Subregional Framework and Guidelines. In the event that a compiled regional SCS, including subregional submissions, does not achieve the regional target, SCAG will initiate a process to develop and consider additional GHG emission reduction measures region-wide. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process. Furthermore, SCAG will compile and disseminate performance information on the preliminary regional SCS and its components in order to facilitate regional dialogue. The development of a subregional SCS does not exempt any subregion from further GHG emission reduction measures being included in the regional SCS. Further, all regional measures needed to meet the regional target will be subject to adoption by the Regional Council, and any additional subregional measures beyond the SCS submittal from subregions accepting delegation needed to meet the regional target must also be adopted by the subregional governing body.

(2) <u>Subregional Alternative Planning Strategy (APS)</u>

Subregions are encouraged to focus their efforts on feasible measures that can be included in an SCS. In the event that a subregion chooses to prepare an APS, the content of a subregional APS should be consistent with what is required by SB 375 (*see*, Government Code §65080(b)(2)(H)), as follows:

(i.) Shall identify the principal impediments to achieving the subregional SCS.

(ii.) May include an alternative development pattern for the subregion pursuant to subparagraphs (B) to (F), inclusive.
(iii.) Shall describe how the alternative planning strategy would contribute to the regional greenhouse gas emission reduction target, and why the development pattern, measures, and policies in the alternative planning strategy are the most practicable choices for the subregion.
(iv.) An alternative development pattern set forth in the alternative planning strategy shall comply with Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, except to the extent that compliance will prevent achievement of the regional greenhouse gas emission reduction targets approved by the ARB.
(v.) For purposes of the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code), an alternative planning strategy shall not constitute a land use plan, policy, or regulation, and the inconsistency of a project with an alternative planning strategy shall not be a consideration in determining whether a project may have an environmental effect.

Any precise timing or submission requirements for a subregional APS will be determined based on further discussions with subregional partners. As previously noted, a subregional APS is in addition to a subregional SCS.

(3) Outreach and Process

SCAG will fulfill all of its outreach requirements under SB 375 for the regional SCS/APS, which will include outreach regarding any subregional SCS/APS. SCAG staff has revised its Public Participation Plan to incorporate the outreach requirements of SB 375, and integrate the SB 375 process with the 2012 RTP development as part of SCAG's Public Participation Plan Amendment No. 2, adopted by SCAG's Regional Council on December 3, 2009. Subsequent to the adoption of the PPP Amendment No. 2, SCAG will continue to discuss with subregions and stakeholders the Subregional Framework & Guidelines, which further describe the Public Participation elements of SB 375.

Subregions that elect to prepare their own SCS or APS are encouraged to present their subregional SCS or APS, in coordination with SCAG, at all meetings, workshops and hearings held by SCAG in their respective counties. Additionally, the subregions would be asked to either provide SCAG with their mailing lists so that public notices and outreach materials may also be posted and sent out by SCAG, or SCAG will provide notices and outreach materials to the subregions for their distribution to stakeholders. The SCAG PPP Amendment No. 2 provides that additional outreach may be performed by subregions. Subregions are strongly encouraged to design and adopt their own outreach processes that mimic the specific requirements imposed on the region under SB 375. Subregional outreach processes should reinforce the regional goal of full and open participation, and engagement of the broadest possible range of stakeholders.

(4) Subregional SCS Approval

It is recommended that the governing board of the subregional agency approve the subregional SCS prior to submission to SCAG. While the exact format is still subject to further discussion, SCAG recommends that there be a resolution from the governing board of the subregion with a finding that the land use strategies included in the subregional SCS are feasible and based upon consultation with the local jurisdictions in the respective subregion. Subregion should consult with their legal counsel as to compliance with the California Environmental Quality Act (CEQA). In SCAG's view, the

subregional SCS is not a "project" for the purposes of CEQA; rather, the 2012 RTP which will include the regional SCS is the actual "project" which will be reviewed for environmental impacts pursuant to CEQA. As such, the regional SCS, which will include the subregional SCSs, will undergo a thorough CEQA review. Nevertheless, subregions approving subregional SCSs should consider issuing a notice of exemption under CEQA to notify the public of their "no project" determination and/or to invoke the "common sense" exemption pursuant to CEQA Guidelines § 15061(b)(3).

Finally, in accordance with SB 375, subregions are strongly encouraged to work in partnership with the CTC in their area. SCAG can facilitate these arrangements if needed.

(5) Data Standards

SCAG is currently assessing the precise data standards anticipated for the regional and subregional SCS. In particular, SCAG is reviewing the potential use of parcel data and development types currently used for regional planning. At present, the following describes the anticipated data requirements for a subregional SCS.

1. Types of Variables
   Variables are categorized into socio-economic variables and land use variables. The socio-economic variables include population, households, housing units, and employment. The land use variables include land uses, residential densities, building intensities, etc, as described in SB 375.

2. Geographical Levels
   SCAG is considering the collection and adoption of the data at a small-area level as optional for local agencies in order to make accessible the CEQA streamlining provisions under SB 375. The housing unit, employment, and the land use variables can be collected at a small-area level for those areas which under SB 375 qualify as containing a "transit priority project" (i.e. within half-mile of a major transit stop or high-quality transit corridor) for purposes of allowing jurisdictions to take advantage of the CEQA streamlining incentives in SB 375.

   For all other areas in the region, SCAG staff will collect the population, household, employment, and land use variables at the Census tract or Traffic Analysis Zone (TAZ) level.

3. Base Year and Forecast Years
   The socio-economic and land use variables will be required for the base year of 2008, and the target years of 2020 and 2035.

(6) Documentation

Subregions are expected to maintain full and complete records related to the development of the subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board.

(7) Timing

An overview schedule of the major milestones of the subregional process and its relationship to the regional SCS/RTP is included below. Subregions must submit the subregional SCS to SCAG by the date prescribed. Further, SCAG will need a preliminary SCS from subregions for the purpose of preparing a project description for the 2012 RTP Program Environmental Impact Report. The precise content of this preliminary submission will be determined based on further discussions. The anticipated timing of this preliminary product is approximately February 2011.

(8) Relationship to Regional Housing Needs Assessment (RHNA) and Housing Element

Although SB 375 calls for an integrated process, subregions are not automatically required to take on RHNA delegation as described in State law if they prepare an SCS/APS. However, SCAG encourages subregions to undertake both processes due to their inherent connections.

SB 375 requires that the RHNA allocated housing units be consistent with the development pattern included in the SCS. *See*, Government Code §65584.04(i). Population and housing demand must also be proportional to employment growth. At the same time, in addition to the requirement that the RHNA be consistent with the development pattern in the SCS, the SCS must also identify areas that are sufficient to house the regional population by income group through the RTP planning period, and must identify areas to accommodate the region's housing need for the next local Housing Element eight year planning period update. The requirements of the statute are being further interpreted through the RTP guidelines process. Staff intends to monitor and participate in the guideline process, inform stakeholders regarding various material on these issues, and amend, if necessary, these Framework and Guidelines, pending its adoption.

SCAG will be adopting the RHNA and applying it to local jurisdictions at the jurisdiction boundary level. SCAG staff believes that consistency between the RHNA and the SCS may still be accomplished by aggregating the housing units contained in the smaller geographic levels noted in the SCS and including such as part of the total jurisdictional number for RHNA purpose. SCAG staff has concluded that there is no consistency requirement for RHNA purposes at sub-jurisdictional level, even though the SCS is adopted at the smaller geographic level for the opportunity areas.

The option to develop a subregional SCS is separate from the option for subregions to adopt a RHNA distribution, and subject to separate statutory requirements. Nevertheless, subregions that develop and adopt a subregional SCS should be aware that the SCS will form the basis for the allocation of housing need as part of the RHNA process. Further, SCS development requires integration of elements of the RHNA process, including assuring that areas are identified to accommodate the 8 year need for housing, and that housing not be constrained by certain types of local growth controls as described in State law.

SCAG will provide further guidance for subregions and a separate process description for the RHNA.

B. COUNTY TRANSPORTATION COMMISSIONS' ROLES AND RESPONSIBLITIES

Subregions that develop a subregional SCS will need to work closely with the CTCs in their area in order to coordinate and integrate transportation projects and policies as part of the subregional SCS. As discussed above (under "Subregional Sustainable Communities Strategy"), any transportation

projects identified in the subregional SCS must also be included in the 2012 RTP in order to be considered as a feasible strategy. SCAG can help to facilitate communication between subregions and CTCs.

C. SCAG ROLES AND RESPONSIBLITIES

SCAG's roles in supporting the subregional SCS development process are in the following areas:

(1) Preparing and adopting the Framework and Guidelines

SCAG will adopt these Framework and Guidelines in order to assure regional consistency and the region's compliance with law.

(2) Public Participation Plan

SCAG will assist the subregions by developing, adopting and implementing a Public Participation Plan and outreach process with stakeholders. This process includes consultation with congestion management agencies, transportation agencies, and transportation commissions; and SCAG will hold public workshops and hearings. SCAG will also conduct informational meetings in each county within the region for local elected officials (members of the board of supervisors and city councils), to present the draft SCS, and APS if necessary, and solicit and consider input and recommendations.

(3) Methodology

As required by SB 375, SCAG will adopt a methodology for measuring greenhouse gas emission reductions associated with the strategy.

(4) Incorporation/Modification

SCAG will accept and incorporate the subregional SCS unless it does not comply with SB 375, federal law, or the Subregional Framework and Guidelines. As SCAG intends the entire SCS development process to be iterative, SCAG will not amend a locally-submitted SCS. SCAG may provide additional guidance to subregions so that subregions may make amendments to its subregional SCS as part of the iterative process, or request a subregion to prepare an APS if necessary. Further, SCAG can propose additional regional strategies if feasible and necessary to achieve the regional emission reduction target with the regional SCS. SCAG will develop a written agreement with each subregional organization to define a process and timeline whereby subregions would submit a draft subregional SCS for review and comments to SCAG, so that any inconsistencies may be identified and resolved early in the process.

(5) Modeling

SCAG currently uses a Trip-Based Regional Transportation Demand Model and ARB's EMFAC model for emissions purposes. In addition to regional modeling, SCAG is developing tools to evaluate the effects of strategies that are not fully accounted for in the regional model. SCAG is also developing two additional tools – a Land Use Model and an Activity Based Model – to assist in strategy development and measurement of outcomes under SB 375.

In addition to modeling tools which are used to measure results of completed scenarios, SCAG is developing a scenario planning tool for use in workshop settings as scenarios are being created with jurisdictions and stakeholders. The tool will be made available to subregions and local governments for their use in subregional strategy development.

(6) Adoption/Submission to State

After the incorporation of subregional strategies, SCAG will finalize and adopt the regional SCS as part of the 2012 RTP. SCAG will submit the SCS to ARB for review as required in SB 375.

(7) Conflict Resolution

While SB 375 requires SCAG to develop a process for resolving conflicts, it is unclear at this time the nature or purpose of a conflict resolution process as SCAG does not intend to amend a locally-submitted SCS. As noted above, SCAG will accept the subregional SCS unless it is inconsistent with SB 375, federal law, or the Subregional Framework and Guidelines. SCAG will also request that a subregion prepare an APS if necessary. It is SCAG's intent that the process be iterative and that there be coordination among SCAG, subregions and their respective jurisdictions and CTCs. SCAG is open to further discussion on issues which may generate a need to establish a conflict resolution process as part of the written agreement between SCAG and the subregional organization.

(8) Funding

Funding for subregional activities is not available at this time, and any specific parameters for future funding are speculative. Should funding become available, SCAG anticipates providing a share of available resources to subregions. While there are no requirements associated with potential future funding at this time, it is advisable for subregions to track and record their expenses and activities associated with these efforts.

(9) Preliminary Scenario Planning

SCAG will work with each subregion to collect information and prompt dialogue with each local jurisdiction prior to the start of formal SCS development. This phase of the process is identified as "preliminary scenario planning" in the schedule below. The purpose of this process is to create a base of information to inform SCAG's recommendation of a regional target to ARB prior to June 2010. All subregions are encouraged to assist SCAG in facilitating this process.

(10) Data

SCAG is currently developing, and will provide each subregion with datasets for the following:

(1) 2008 Base year;
(2) General Plan/Growth projection & distribution;
(3) Trend Baseline; and
(4) Policy Forecast/SCS.

While the Trend Baseline is a technical projection that provides a best estimate of future growth based on past trends and assumes no general plan land use policy changes, the Policy Forecast/ SCS is derived using local input through a bottom-up process, reflecting regional policies including transportation investments. Local input is collected from counties, subregions, and local jurisdictions.

Data/GIS maps will be provided to subregions and local jurisdiction for their review. This data and maps include the 2008 base year socioeconomic estimates and 2020 and 2035 socioeconomic forecast. Other GIS maps including the existing land use, the general plan land use, the resource areas, and other important areas identified in SB 375. It should be noted that none of the data/ maps provided were endorsed or adopted by SCAG's Community, Economic and Human Development Committee (CEHD). All data/maps provided are for the purpose of collecting input and comments from subregions and local jurisdictions. This is to initiate dialogue among stakeholders to address the requirements of SB 375 and its implementation.

The list of data/GIS maps include:

1. Existing land use
2. Zoning
3. General plan land use
4. Resource areas include:
   (a.) all publicly owned parks and open space;
   (b.) open space or habitat areas protected by natural community conservation plans, habitat conservation plans, and other adopted natural resource protection plans;
   (c.) habitat for species identified as candidate, fully protected, sensitive, or species of special status by local, state, or federal agencies or protected by the federal Endangered Species Act (1973), the California Endangered Species Act, or Native Plant Protection Act;
   (d.) lands subject to conservation or agricultural easements for conservation or agricultural purposes by local governments, special districts, or nonprofit 501(c)(3) organizations, areas of the state designated by the State Mining and Geology Board as areas of statewide or regional significance pursuant to Section 2790 of the Public Resources Code, and lands under Williamson Act contracts;
   (e.) areas designated for open-space or agricultural uses in adopted open-space elements or agricultural elements of the local general plan or by local ordinance;
   (f.) areas containing biological resources as described in Appendix G of the CEQA Guidelines that may be significantly affected by the sustainable communities strategy or the alternative planning strategy; and
   (g.) an area subject to flooding where a development project would not, at the time of development in the judgment of the agency, meet the requirements of the National Flood Insurance Program or where the area is subject to more protective provisions of state law or local ordinance.
5. Farmland
6. Sphere of influence
7. Transit priority areas
8. City/Census tract boundary with ID
9. City/TAZ boundary with ID

(11) Tools

SCAG is developing a Local Sustainability Planning Model (LSPM) for subregions/local jurisdictions to analyze land use impact. The use of this tool is not mandatory and is at the discretion of the Subregion. The LSPM is a web-based tool that can be used to analyze, visualize and calculate the impact of land use changes on auto ownership, mode use, vehicle miles of travel (VMT), and greenhouse gas emissions in real time. Users will be able to estimate transportation and emissions impacts by modifying land use designations within their community.

Other tools currently maintained by SCAG may be useful to the subregional SCS development effort, including the web-based CaLOTS application. SCAG will consider providing guidance and training on additional tools based on further discussions with subregional partners.

(12) Resources and technical assistance

SCAG will assist the subregions by making available technical tools for scenario development as described above. Further, SCAG will assign a staff liaison to each subregion, regardless of whether the subregion exercises its statutory option to prepare an SCS. SCAG staff can participate in subregional workshops, meetings, and other processes at the request of the subregion, and pending funding and availability. SCAG's legal staff will be available to assist with questions related to SB 375 or SCAG's implementation of SB 375. Further, SCAG will prepare materials for its own process in developing the regional SCS, and will make these materials available to subregions**.**

D. MILESTONES/SCHEDULE

- CARB issues Final Regional Targets – September 2010
- SCS development (preliminary scenario, draft, etc) – through early 2011
- Release Draft RTP/regional SCS for public review – November 2011
- Regional Council adopts RTP/SCS – April 2012

If other milestones are needed, they will be incorporated into the written agreement between SCAG and the Subregion.

Exhibit B: Milestones Schedule

The key milestones and related schedule required as part of the development of the Orange County Subregional SCS are as follows:

1. Status report on Preliminary Subregional SCS – Dec 2010
2. Adopted OCP 2010/Delivery to SCAG – Jan 2011
3. Preliminary SCS / for purposes of preparing PEIR project description (intended to be narrative only project description that describes intended strategies or strategy options that are likely to be incorporated into the final Subregional SCS.) –Feb 2011
4. Status report on Draft Subregional SCS – Feb 2011
5. Draft Subregional SCS (containing all components described above) to be incorporated into draft Regional SCS – April 2011
6. Status report on final Subregional SCS – April 2011
7. Final Subregional SCS for incorporation into Regional SCS – June 2011
8. Iterative process, if necessary to meet target – June to November 2011
9. OCCOG to participate in regional outreach conducted in Orange County – June 2011 to February 2012
10. Regional SCS adoption – April 2012

Exhibit C: Deliverables Template

The Orange County Subregional SCS will consist of the following components:

1. Database (OCP dataset) that allocates population, housing, household, and employment to areas of the county. Geographic area should be the smallest level practicable for the COG to produce, preferably at the parcel level. The database must reflect the base year 2008 and each variable in the two GHG target years (2020 and 2035), in accordance with the Data Standards set forth below.
2. A map or series of maps that illustrates the growth distribution described above, and that further delineates uses, intensities, and residential densities, in accordance with the Data Standards set forth below.
3. A listing of transportation projects that are incorporated in the subregional SCS.
4. A listing and description of transportation policies (e.g. TDM, TSM and others) to be employed.
5. Documentation that establishes the process, including the public participation and outreach process used to develop the SCS, and demonstrates the affected jurisdictions willingness to consider general plan changes.
6. A narrative description of the strategies employed to reduce greenhouse gas emissions. A further description of any other strategies that were considered and not ultimately included.

DATA STANDARDS

The following data standards will be used in the development of a subregional SCS:

1. Types of Variables

Variables are categorized into socio-economic variables and land use variables. The socio-economic variables include population, households, housing units, and employment. The land use variables may include land uses designations, building densities, building intensities, and applicable policies.

2. Geographical Levels

Socio-economic and land-use variables should be provided to SCAG at the smallest geographical level practicable for OCCOG to produce, preferably at the parcel level. At a minimum, such variables will be provided at the Census tract or Traffic Analysis Zone (TAZ) level.

3. Base Year and Forecast Years

The socio-economic data and land use variables will be required for the base year of 2008, and as feasible, for the target years of 2020 and 2035.

DOCUMENTATION

Subregions are expected to maintain full and complete records related to the development of the Subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by

the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board. Subregions shall include information regarding the status of the documentation as part of the required status reports to SCAG, and copies of the actual documentation shall be submitted to SCAG as part the final Subregional SCS.

Exhibit D: Notices

Notices, demands and communications between the Parties related to this MOU shall be provided to the following persons:

To Authority/OCCOG:

Kris L. Murray
Executive Director, Government Relations Orange County Transportation Authority
Executive Director Orange County Council of Governments
550 S. Main Street
Orange, CA 92863
Tel: 714-560-5908
Fax: 714-560-5796
Email: kmurray@octa.net

To SCAG:

Huasha Liu
Director, Land Use & Environmental Planning
Southern California Association of Governments
818 W. 7th St., 12th Fl.
Los Angeles, CA 90017
Tel: (213) 236-1836
Fax: (213) 236-9689
Email: Liu@scag.ca.gov

APPENDIX C

REQUIRED DOCUMENTATION

- Correspondence regarding consistency of General Plans
- Electronic copies of Transportation Demand Management Ordinances
- Electronic copies of individual jurisdictions' response to sustainability strategies

OCCOG

MEMORANDUM

DATE: June 13, 2011

TO: Southern California Association of Governments

FROM: Dave Simpson, Executive Director Orange County Council of Governments

SUBJECT: OC SCS Documentation

The Orange County Council of Governments (OCCOG) has reviewed the Southern California Association of Governments (SCAG) Framework and Guidelines for references to required documentation in the Orange County Sustainable Communities Strategy (OC SCS). Two paragraphs in the SCAG Framework and Guidelines describe subregions' obligations for documentation. Both are provided below:

> "As discussed further below (under "Documentation"), subregions need not constrain land use strategies considered for the SCS to current General Plans. In other words, the adopted strategy need not be fully consistent with local General Plans currently in place. However, should the adopted subregional strategy deviate from General Plans, subregions will need to demonstrate the feasibility of the strategy by documenting any affected jurisdictions' willingness to adopt the necessary General Plan changes."
>
> **Documentation**
> "Subregions are expected to maintain full and complete records related to the development of the subregional SCS, including utilizing the most recent planning assumptions considering local general plans and other factors. In particular, subregions must document the feasibility of the subregional strategy by demonstrating the willingness of local agencies to consider and adopt land use changes necessitated by the SCS. The format for this documentation may include adopted resolutions from local jurisdictions and/or the subregion's governing board."

OCCOG interprets these requirements to state that the OC SCS must include agendas, action minutes, and resolutions and declarations related to land use strategies that would require local General Plan Amendments. Land use strategies within the Draft OC SCS are consistent with all Orange County jurisdictions. No actions to General Plans will be necessitated as a result of this OC SCS process or document. Therefore, no documentation of willingness to make these changes is included.

Orange County Council of Governments
550 South Main Street / P.O. Box 14184 / Orange / California 92863-1584 / (714) 560-6282

APPENDIX D

ORANGE COUNTY PROJECTIONS DATA DEVELOPMENT PROCESS

ORANGE COUNTY PROJECTIONS DATA DEVELOPMENT PROCESS

INTRODUCTION

The socioeconomic data and growth forecasts for the OC SCS process and document was developed through the Orange County Projections process, involving extensive data collection, analysis, outreach, and review directed and managed by the Center for Demographic Research (CDR) at Cal State Fullerton.

Orange County Projections (OCP)

The OCP series was developed by the County of Orange in the 1970s to provide County departments and agencies with a consistent set of projections of population, housing, and employment for use in their operations and planning activities. The uses and applications have expanded over time, and numerous private and public agencies use the OCP to serve Orange County in the future. Some of these applications include forecasting traffic, sewer, and water demands; public service needs such as fire, police, social, and health; pollution from mobile sources; and revenues.

In addition, all the requirements of local and regional planning efforts (including transportation and infrastructure planning, congestion management, air quality management, integrated waste management and growth management) have emphasized the importance of an accurate and uniform set of projections for use by all jurisdictions, agencies and programs. For example, as the uniform dataset used in Orange County planning, the OCP is incorporated into each of SCAG's RTP growth forecasts, which are used in environmental impact reports and transportation plans.

The OCP series is updated every three to four years. Over time, the update process has expanded to increase the level of countywide coordination, commitment, and review. The OCP contains population, housing, and employment projections at the County level for a 25-30 year horizon, as well as a variety of other geographic areas including the general government jurisdictions (34 cities and the unincorporated county area); the County's 70 Community Analysis Areas (CAAs) and 10 Regional Statistical Areas (RSAs); and the 577 census tracts in the County. These additional geographic distributions of the data have been made available for programmatic applications and information purposes.

Small Area Projections

A major step in developing the 2010 Orange County Projections was the collection of data from each jurisdiction in Orange County. Initially, jurisdictions were asked to respond to draft projections for themselves and for the smaller statistical sub-areas within them. These preliminary numbers were evaluated in the light of jurisdictional policies,

significant trends or anticipated policy changes, or projections the jurisdictions themselves may have developed. Standard supportive documentation citation such as the General Plan and its housing and land use elements, annexation plans, and development phasing schedules also was solicited. The small area projections went through several iterations with the jurisdictions' feedback incorporated into the draft projections until a consensus was achieved. In this way, a large amount of information was collected for small geographic areas across the County.

Data for the OC SCS

In order to provide the most accurate picture possible of the Orange County subregion, and to preserve the detail and integrity of the data submitted by local jurisdictions, the OCP-2010 data set was used for the development of the OC SCS.

In fall 2009, CDR sent out 2008 estimates for jurisdictions to review and provide feedback. Corrections were incorporated. In March 2010, the CDR met with all 35 jurisdictions and distributed the draft projections data. Once again, jurisdictional feedback was incorporated. The final draft projections data were distributed in fall 2010, and final comments and changes incorporated into the final dataset. The OCP-2010 was approved by the CDR TAC and CDR MOC in December 2010. The OCCOG TAC and OCCOG Board approved the OCP-2010 in January 2011.

OCP 2010 Development and Process Schedule

Develop Base Year Estimates	Summer 2009
Develop Population, Housing, and Employment (PHE) Assumptions	September 2009
Review and Approval by CDR Technical Advisory Committee	October 2009
Project Countywide PHE (control totals)	October-November 2009
Approval by CDR Technical Advisory Committee (TAC) & Management Oversight Committee	December 2009
OCCOG Approval of Countywide PHE	January-March 2010
Allocate Countywide PHE to Split Traffic Analysis Zones (TAZ)	Winter 2010
Jurisdictional Review/Adjustment of PHE/Jurisdictional Approval	March-October 2010
Approval by CDR TAC & MOC	December 2010
OCCOG Technical Advisory Committee Approval	January 2011
OCCOG Board of Directors Approval	January 2011

As part of the revision and update process to the Orange County Projections, once the OCP data is approved by the OCCOG Board, the data is then transmitted to SCAG by CDR on behalf of OCCOG and Orange County. During the development process of the OC SCS and SCAG's Regional SCS and RTP, draft and OCP data is provided to SCAG to incorporate into the draft and final versions of the integrated growth forecast.

The OCP-2010 dataset (population, housing and employment) referenced in the OC SCS was approved by the OCCOG Board on January 27, 2011. OCP-2010 is based on the approved OCP update and revision process which took place during 2009-2010; it does not include the 2010 Census data for California released on March 8, 2011.

It is acknowledged that SCAG policy committee actions have directed SCAG staff to revise the draft growth forecast dataset for the Regional SCS and RTP to include the 2010 Census data and the 2010 State EDD employment benchmark. The CDR is coordinating with SCAG on this update process, and is evaluating the timeline and process to revise OCP-2010 to include the new data and be consistent with the growth forecast update effort being undertaken by SCAG.

Consistent with SCAG's process, any update to the growth forecast dataset will be to the 2010 totals for population, housing, and employment, and the growth increments from 2010 to 2035 will remain the same and be applied to the revised 2010 totals. If a revision is made to the OCP-2010, this effort will be completed after the June 2011 submittal deadline of the final OC SCS to SCAG. Further, the updated dataset will be provided to SCAG through a data amendment process and the full OC SCS document will not be revised.

APPENDIX E

2010 LONG RANGE TRANSPORTATION PLAN

Available at

www.octa.net/lrtp

APPENDIX F

SUSTAINABILITY STRATEGIES

Sustainability Strategy List for Orange County Sustainable Communities Strategy Development

#	CDR #	CARB #	SCAG #	Item	Completed Project	Ongoing Project	Future Project	General Plan Policy	Category
1	23		68,70	Alternative Fuel Infrastructure	Ana, CM, LB, LHb, MV, NB, SA	Ana, F, LW, LHb, MV	Ana, BP	AV, Ana, HB, MV, RSM, SA	Alternate Fuel
2			192	Convert Street Sweeping And Refuse Vehicles To Alternative Fuels	Ana, C, F, Irv, LW, MV, O, RSM, SC, SA, S, T	BP, CM, F, Irv, LB, LHb, MV, T	Irv, B, F	B, HB, MV, SA, T	Alternate Fuel
3			194	Convert Transit Buses To Alternative Fuels		LB, OCTA	LW		Alternate Fuel
4			191	Develop Alternative Fuel Stations	Irv, MV, SA	Ana, B, Irv, F, MV, OC, SB	BP, CM, F, LW, SC	AV, B, MV, RSM, SA	Alternate Fuel
5			190	Expand Use Of Alternative Fuels	LP, MV, SA, T	Ana, CM, F, LW, LHb, LP, MV, SA, T	BP, F, LB, LHb, LP	AV, B, LH, MV, RSM, SA, S, T, W	Alternate Fuel
6			195	Replace Gasoline Powered Mowers With Electric Mowers		Ana	B, LW	B, NB, SA	Alternate Fuel
7			193	Replace Local Government Fleets With Alternative Fuel Vehicles	C, DP, Irv, LF, LP, MV, SA, S	Ana, CM, C, DP, F, HB, Irv, LP, MV, OC, SA, S, TCA	B, BP, C, F, LB, LP, MV, SC	B, C, HB, MV, O, SA, T, W	Alternate Fuel
8			196	Require Zero Emission Forklifts	B, C		B	B, MV, SA	Alternate Fuel
9			111	Adopt Best Work Places For Commuters Policies		Ana	LW	SA	Alternate Modes
10			117	Commuter Choice Programs Bundle	SA	SA	HB, SA		Alternate Modes
11			124	Dial-A-Ride	SA	B, CM, LW, MV, SA	SA	AV, B, MV	Alternate Modes
12		65		Eco Driver Education	GG	GG	GG, LW	GG	Alternate Modes
13	37			Employer Incentives For Alternative Modes	Irv, SA, S	Ana, BP, HB, Irv, NB, OC, SA, S	LW	HB, LF, MV	Alternate Modes
14			178, 179	Encourage Alternative Transportation - Public And Private	MV, SA	Ana, BP, C, F, Irv, LB, LW, MV, OC, SA, W	F, MV, SA	AV, Ana, B, C, F, HB, LB, LH, LF, MV, O, RSM, SA, S, T, W	Alternate Modes
15			182	Encourage Large Businesses To Develop Alternative Transportation Plans	OCTA	Ana, C, MV, OCTA	LW	Ana, C, MV, O	Alternate Modes
16		39, 67	108, 109, 110, 115, 116, 119, 122	Implement/Promote Telecommuting And Flexible/Alternative Work Schedules	Irv, LH, SC, SA	Ana, B, BP, CM, C, HB, Irv, MV, NB, OC, SA	LW, SA	B, C, HB, LH, MV, W	Alternate Work
17			138	Expand And Improve Rideshare Program	GG, OCTA	GG, MV, O, OCTA	GG, LW	C, GG, LF, MV	Alternate Modes
18	28	52, 40	58, 132	Expand Regional Park And Ride Facilities, Park And Ride Lots	Irv, LH, MV, SA, T	Ana, B, CM, Irv, LB, SA, T	HB, LW, T	Ana, B, HB, LF, MV, RSM, SA, T, W	Alternate Modes
19	35		112	Guaranteed Ride Programs (Provides On-Call Transportation For Employees Using Alternative Transportation Who Miss Their Ride, Need A Ride For An Emergency, Etc…)	SA	Ana, HB, OC, SA	F, LW	MV	Alternate Modes
20	29, 30	40, 42	134, 135, 137	Implement/Promote Vehicle Sharing Programs (E.G., Van Sharing, Car Sharing)	SA	Ana, HB, Irv, OC, SA	HB, LW	Ana, B, C, HB, LH, MV	Alternate Modes
21			141	Issue Free Bus Passes To Downtown Workers, Students, And Retirees		LB	LW	MV	Alternate Modes
22	18		42	Non-Motorized Zones	NB, SA	SA	LW, SC, SA		Alternate Modes
23			140	Promote Rideshare Marketing Strategies	GG, OCTA	GG, OCTA	GG, LW	GG, MV	Alternate Modes
24	34	40		Promotion Of Alternative Modes (Rideshare Week, Dump The Pump, Bike To Work Week, Etc…)	LP, OCTA	Ana, LP, MV, NB, O, OCTA	LW, LP, MV	Ana, MV	Alternate Modes
25		43		Provide Local Shuttles	LHb, MV, SA	Ana, B, BP, HB, Irv, LB, LW, LHb, OC, SA, W	DP, F, Irv, LF, MV, SC, SA	B, MV, SA	Alternate Modes
26			145	Public Transit Coordination Bundle	MV, SA	Ana, B, MV, SA	LF, MV, SA	Ana, B, MV, SA	Alternate Modes
27	26	40	123	Rideshare Programs	GG, OCTA	Ana, GG, O, OCTA	GG, LW	Ana, GG, LF, MV, W	Alternate Modes
28			180	Tap Funding Sources For Alternative Transportation	Irv, MV, O, RSM, SA	Ana, CM, C, Irv, MV, O, SA	Irv, O, SA	B, HB, LF, MV, RSM, SA	Alternate Modes
29				Teleconferencing Technologies	MV, RSM, SA	Ana, CM, Irv, LW, MV, OC, SC		MV	Alternate Modes
30			142	Transit Pricing Incentives Bundle					Alternate Modes
31	25		70	Use Of Neighborhood Electric Vehicles For Circulator Transit	Ana, B	Ana, B, LW, NB	Ana, F, OC, SC	Ana, B	Alternate Modes
32	27	40	58, 62, 136, 139	Vanpools	C, OCTA	Ana, C, MV, OCTA	LW	Ana, C, MV	Alternate Modes
33	31	40	101, 151	Implement/Promote Bike Sharing	CM, GG	CM, GG, Irv	Ana, CM, F, GG, LW	CM, GG	Bike
34			41	City Bicycle Plan Amendments	DP, Irv	CM, F, HB, Irv, MV, NB, SA, SB, W	AV, Ana, Irv, LW, OC, SC, SA,	Ana, GG, MV, RSM, SA, S	Bike
35			45	Construct Regional Bikeways	Ana, B, DP, HB, Irv, LHb, MV, NB, O, SA, T, W	Ana, B, F, Irv, LW, LHb, MV, O, OC, SA, TCA	B, CM, F, Irv, LHb, MV, O, OC, SC, SA, TCA, T	B, GG, Irv, LH, LHb, LF, MV, O, RSM, SC, SA, T	Bike
36			48	Create Signature Bike Projects/Programs	DP, Irv, MV, SA	HB, Irv, MV, NB, SA	AV, Irv, LW, MV, SA	GG, Irv, MV, SA	Bike
37			102	Educational Outreach To Promote Safety Among Cyclists		Ana, HB, Irv, MV, NB, SA, S, W	F, HB, LW, MV	F, GG, MV, O, SA	Bike
38			49	Facilitate Increased Biking Opportunities	B, DP, MV, RSM, T	Ana, CM, C, LW, MV, NB, OC, SA, TCA, T	B, F, Irv, MV, OC, SC, SA, S, TCA, T	AV, B, C, F, GG, HB, Irv, LH, LF, MV, O, RSM, SA, S, T	Bike
39		30, 31		Improve Cyclist Environment (E.G., Safety, Access)	Ana, B, DP, Irv, LP, RSM, SA	Ana, B, C, CM, Irv, LW, LP, MV, NB, SA	Ana, F, Irv, LP, SC, SA, S, T	AV, Ana, B, C, F, GG, HB, Irv, LH, LP, MV, O, RSM, SC, SA, S, T, W	Bike
40	16	29, 53	35, 43, 44, 107, 155, 152	Improving Bicycle Infrastructure And Facilities (Lockers, Racks, Valets, Safe Bike Parking, Subsidies)	Ana, HB, MV, RSM, SA, T	Ana, B, CM, LW, MV, NB, O, OC, SA, T	Ana, B, F, HB, Irv, MV, SC, SA, T	AV, Ana, B, C, CM, F, GG, HB, LH, MV, RSM, SC, SA, S, T	Bike
41			153	Increase Bike/Walk Trips With Improved Streets And Facilities	Ana, DP, HB, LP, MV, RSM, SA	Ana, CM, C, LW, LP, MV, NB, O, SC, SA, W	AV, B, F, HB, Irv, LP, MV, OC, SA, TCA, T, W	B, C, F, GG, HB, Irv, LH, LF, LP, MV, O, RSM, SA, T	Bike
42			103	Promote Health Through Bicycle Programs By Partnering With Local Health Groups	SA	Ana, NB, SC, SA	F, LW, SA	F, GG, SA	Bike
43			47	Upgrade Bike Transportation System	HB, MV, SA, W	Ana, CM, C, Irv, LW, MV, NB, O, SA, S, W	Ana, B, F, MV, OC, SC, SA, S, TCA, T	Ana, B, C, F, GG, HB, LH, LF, MV, O, RSM, SC, SA, T	Bike
44	13	68		Co-Location/On-Site Facilities E.G. Day Care, Cafeteria…	Ana, C, HB, Irv, SA	Ana, MV, SA	Ana, LW	Ana, C, F, MV, SA	Facilities
45	12	17		Locate Schools In Neighborhoods With Student Populations	Ana, HB, Irv, LP, MV, SC, SA	Irv, SA	Irv, SA, T	C, F, HB, Irv, RSM, SA	Facilities

Sustainability Strategy List for Orange County Sustainable Communities Strategy Development

#	CDR #	CARB #	SCAG #	Item	Completed Project	Ongoing Project	Future Project	General Plan Policy	Category
46			165	Allow Increased Size And Weight Of Trucks		C, HB			Freight/Goods Movement
47			56	Designated Truck Lanes	W	W		AV, SA, W	Freight/Goods Movement
48			163	Encourage Cold Ironing At Ports					Freight/Goods Movement
49			164	Facilitate Freight Logistics Improvements					Freight/Goods Movement
50			166	Facilitate Pre-Clearance At Scale Houses					Freight/Goods Movement
51			53	Feeder Barge Container Services					Freight/Goods Movement
52			54	Increase Rail Capacity And Address Rail Freight System Bottlenecks	OCTA	OCTA			Freight/Goods Movement
53			52	Intermodal Freight Initiatives					Freight/Goods Movement
54			167	Promote Freight Villages/Consolidation Centers					Freight/Goods Movement
55			162	Reduce Locomotive Fuel					Freight/Goods Movement
56			55	Shift Freight Movements From Truck To Rail					Freight/Goods Movement
57			12	"Fix- It First" And Location Efficient Funding Strategies		SA		SA	Land Use Policies
58	7	4		Compact Building Design (With A Mix Of Uses)	Ana, B, CM, C, F, GG, Irv, LP, O, SA, S	Ana, B, CM, C, F, GG, Irv, LP, O, SA	Ana, B, CM, C, F, GG, Irv, LW, LP, SA	AV, Ana, B, CM, C, F, GG, Irv, LP, NB, O, SA, S	Land Use Policies
59	8	8	63	Develop "Complete Communities"	F, Irv, MV, SA	F, Irv, LF, MV, SA	CM, F, Irv, LW, SA, T	Ana, C, F, GG, Irv, MV, O, SA, T	Land Use Policies
60			32	Develop A Species List Of Water Wise And Ecologically Friendly Plants For Use In New Development And Other Landscape Projects	Ana, B, GG, HB, Irv, MV, SC, SA, S	B, CM, GG, Irv, LW, NB, SA, S	B, BP, CM, GG	AV, B, GG, HB, MV, SC, SA, S	Land Use Policies
61			21	Develop Model Green Development And Green Building Laws For Local Governments To Adapt And Adopt	Ana, Irv, LB, LHb, RSM, SA	CM, Irv, MV, NB, SA	Ana, BP, CM, SC	NB, O, SA	Land Use Policies
62			5	Downtown Revitalization	Ana, B, CM, C, DP, F, HB, Irv, SA, T	Ana, B, CM, C, DP, F, HB, Irv, SC, SA, S, T	AV, B, BP, CM, C, DP, F, HB, Irv, SA, S, T	Ana, B, CM, C, DP, F, GG, HB, Irv, O, SC, SA, T	Land Use Policies
63			18	Emphasize Local Authority To Require Low Impact Development	C, DP, Irv, RSM, SA	BP, C, OC, SC, SA	C, SA, W	C, GG, LH, SA	Land Use Policies
64			23	Enhance Energy Efficiency Code Enforcement And Development	B, DP, HB, Irv	B, BP, HB, Irv, LW, MV, NB, OC,	B, CM	AV, B, GG, Irv, NB, SA, S	Land Use Policies
65			25	Ensure Local Enforcement Of The State Energy Code	B, DP, Irv, LB, RSM, SA	Ana, B, BP, CM, DP, F, HB, Irv, LF, LW, NB, OC, SC, SA, SB, S, T	B, CM, Irv, T	AV, B, GG, Irv, OC, SA	Land Use Policies
66	6	5	8,9	Horizontal Or Vertical Mixed Use	Ana, B, C, DP, F, HB, Irv, NB, SC, SA, S, T	Ana, B, CM, C, DP, F, Irv, LW, LP, MV, OC, SA	AV, Ana, B, BP, CM, C, DP, F, HB, Irv, LF, LP, NB, SA, T	Ana, B, CM, C, DP, F, GG, HB, Irv, LB, LH, LP, NB, O, OC, SC, SA, S, T, W	Land Use Policies
67		18		Implement Other Location-Related Policies		Ana	AV, BP, LW	Ana, HB, O, SA	Land Use Policies
68		13		Improve Accessibility Of Housing To Transit	Ana, F, HB, MV, SA, T	Ana, CM, F, LW, MV, OC, T	AV, Ana, B, BP, CM, F, HB, Irv, MV, SA, T	Ana, B, C, F, GG, HB, MV, NB, O, OC, SA, T	Land Use Policies
69		2	3	Increase Opportunities For Redevelopment/Reuse (E.G., Brownfields)	Ana, CM, HB, LP, T	Ana, BP, CM, Irv, LF, LP, OC, S, T	Ana, CM, F, Irv, LP, T	Ana, CM, C, F, GG, LP, O, OC, T	Land Use Policies
70	4		8	Increasing Housing Densities Within/Adjacent To Employment Areas	Ana, B, C, HB, Irv, LH, SA, T	Ana, B, C, Irv, OC, SA, T	AV, Ana, B, BP, C, F, Irv, NB, SA, S, T	Ana, B, C, F, GG, HB, Irv, NB, O, OC, SC, SA, S, T	Land Use Policies
71	3	3,9		Increasing Residential/Commercial Density Near Transit	Ana, B, C, LH, SA, T	Ana, B, C, GG, HB, LW, OC, SA, T	Ana, B, BP, C, DP, F, GG, HB, SA, S, T	Ana, B, C, DP, F, GG, NB, O, OC, SA, S, T	Land Use Policies
72	1	1	1	Infill In Areas With Existing Infrastructure	Ana, B, CM, C, DP, HB, Irv, NB, RSM, SC, SA, T	Ana, B, BP, CM, C, GG, HB, Irv, LW, LF, MV, NB, OC, SA, S, T	AV, Ana, B, CM, C, DP, F, GG, HB, Irv, LH, NB, RSM, SA, SC, T	Ana, B, CM, C, DP, F, GG, HB, LH, NB, O, OC, RSM, SA	Land Use Policies
73	11	12		Integrate Affordable And Market Rate Housing	Ana, B, C, GG, HB, Irv, LB, LP, O, RSM, SA, T	Ana, B, BP, CM, C, GG, HB, Irv, LW, LHb, LF, LP, MV, NB, OC, SC, SA, S	AV, Ana, B, C, DP, F, GG, HB, Irv, LHb, LP, SC, SA, T	Ana, B, CM, C, DP, F, GG, HB, Irv, LB, LF, LP, NB, O, OC, RSM, SC, SA, S, T	Land Use Policies
74			13	Land Use And Building Code Reform	DP, Irv, LB, LP, NB, SA	AV, BP, CM, HB, Irv, LW, LHb, LP, NB, O, OC, SC, SA, SB, S	AV, C, Irv, LP, SA	GG, O, SA	Land Use Policies
75	10	11		Local Housing For Local Workforce	Ana, B, C	Ana, B, BP, CM, C, LW, OC, SA	Ana, B, C, F, SA	AV, Ana, B, CM, C, F, GG, Irv, LF, MV, NB, O, OC, RSM, SC	Land Use Policies
76	5	16	6	Locate Major Regional Activity Centers Near Existing Development	Ana, B, CM, HB, Irv, SA, T	Ana, B, BP, CM, HB, Irv, LW, LF, OC, SA	Ana, B, HB, Irv, SC, SA, T	AV, Ana, B, HB, Irv, OC, SA, T	Land Use Policies
77	15	10	2	Making Developments Transit Ready	Ana, C, HB, MV, SA	Ana, BP, C, HB, LW, LF, MV, OC, SC, SA	Ana, C, F, HB, MV, SA, S	AV, Ana, C, F, HB, LF, MV, OC, SC, SA, S	Land Use Policies
78	2	6	2,4	New Housing And Jobs Within 1/2 Mile Of Existing/Planned Transit Stations	Ana, CM, HB, Irv, NB, SA	Ana, CM, F, Irv, LW, T	Ana, B, BP, CM, F, HB, Irv, LH, NB, SA, S, T	Ana, B, CM, F, LH, O, SA	Land Use Policies
79	9			Plan For A Changing Demand In Types Of Housing	Ana, DP, HB, Irv, SC	Ana, B, CM, Irv, SC	Ana, B, BP, DP, F, LW, NB	Ana, B, CM, C, DP, F, LF, NB, O, OC, SC	Land Use Policies
80			24	Prepare Model Components To Add To Plans Regarding Transit Station Area Plans And Energy Conservation		Irv, MV, SA	LW, SA	AV, SA	Land Use Policies
81			26	Prepare Model Energy Code Enhancement Provisions For Local Adoption	Irv	CM, Irv	AV, LW, SA	SA	Land Use Policies
82		19	33	Provide Financial Incentives (E.G., Grants, Tax Credits) For Non-Transportation Investments Like Housing, Parks, And Storm Water Management	HB, LP, SA, T	CM, HB, LP, MV, SA, T	HB, LW, LP, SA, T	HB, MV, NB, SA, T	Land Use Policies
83		21	30	Provide Recognition Programs	B, Irv	B, CM, HB, LW, RSM, SA	AV, B, O, SA	B, CM	Land Use Policies
84		20	28	Provide Regulatory Relief (E.G., Expedited Permit Processing)	DP, LP, T	Ana, B, CM, DP, HB, Irv, LW, LF, LP, MV, O, RSM, SA, T	AV, B, DP, Irv, LP, NB, T	AV, B, CM, DP, Irv, OC, RSM, T	Land Use Policies
85			10	Smart Growth Planning, Modeling, And Tools	B, HB, T	Ana, B, CM, LW, SA, T	B, SA, T	Ana, B, CM, LH, O, SA, T	Land Use Policies
86			7	Support Revitalization Of Older, Densely Settled Urban Areas	Ana, B, CM, C, HB, SA, T	Ana, B, CM, HB, LW, OC, SA, S, T	AV, Ana, B, CM, C, HB, SA, T	Ana, B, CM, C, HB, NB, O, OC, SA, S, T	Land Use Policies

Sustainability Strategy List for Orange County Sustainable Communities Strategy Development

#	CDR #	CARB #	SCAG #	Item	Completed Project	Ongoing Project	Future Project	General Plan Policy	Category
87			15	Targeted Infrastructure Investment Section Toward Priority Growth Centers	Ana, C, Irv	Ana, C, Irv, LW, SA	Ana, Irv, SA	Ana, C, Irv, NB, SA	Land Use Policies
88			27	Transferable Development Rights (Tdrs)	CM, Irv	CM, Irv	F, Irv, O	B, F, NB, O	Land Use Policies
89			31	Use Plants From Local Gene Pool In City Projects Adjacent To Natural Open Spaces	O, OC, TCA	MV, SA	AV, LF, SA		Land Use Policies
90			16	Zoning Reform Measures	GG, HB, Irv, LP	CM, GG, Irv, LP, O, OC, SC, SA, SB	AV, BP, F, GG, Irv, LP, O, SA	CM, GG, Irv, O, OC, S	Land Use Policies
91	14	14, 15	11, 17, 29	Ensure Adequate Access To Open Space And Preservation Of Habitat	Ana, C, GG, HB, Irv, LB, MV, SC, T	Ana, BP, CM, C, GG, HB, Irv, LW, MV, OC, RSM, SC, SA	AV, Ana, C, F, GG, Irv, SC, T	AV, Ana, B, CM, C, F, GG, HB, Irv, LB, LH, LF, MV, NB, O, OC, RSM, SC, SA, T	Open Space
92				Additional City Technologies	LP, MV, SA, T	LW, LP, MV, SC, SA, T	F, LP, T	F, LP, MV	Other
93				City Educational Programs	DP, Irv, LB, MV	Ana, B, CM, DP, Irv, LW, LF, MV,	B, F, Irv, MV	AV, B, F, Irv, O	Other
94				City Wi-Fi Access To The Internet	BP, Irv, LB, MV, NB	B, DP, F, Irv, LW, LF, OC	B, F, Irv, SA	F, MV	Other
95				Installation Of Artificial Turf	Ana, GG, Irv, NB, O, SC, SA, S	Ana, B, DP, F, Irv, LW, LHb, LF, SA	B, CM, GG, Irv, LHb, LF, MV, O, SC, T	Ana, GG	Other
96			14	Location-Efficient Mortgage		LW			Other
97	32			Online Permitting	B, C, Irv, LH, MV, O, SC, T	Ana, B, C, F, Irv, LB, MV, NB, OC, SC, S, T	AV, B, BP, CM, C, F, HB, Irv, LW, LF, NB, SA, T	B, MV	Other
98				Reduce The Amount Of Evaporative Emissions From City Gasoline Fueling Site	BP, Irv, SA	Ana		SA	Other
99				Reduce The Number Of City Operational Vehicle Miles Traveled		Ana, S	DP	Ana	Other
100				Reduce The Number Of Commuter Vehicle Miles Traveled And The Associated Greenhouse Gas Emissions.	Irv, NB	Ana, Irv, MV, OC, SA	AV, DP, Irv, MV, SC, SA	AV, Ana, HB, Irv, MV, OC, SA, S, T	Other
101	33			Webcasts Of City Council Or Planning Commission Meetings	B, BP, DP, HB, Irv, LB, SC	Ana, B, CM, F, Irv, MV, NB, OC, SA, T	AV, B, Irv, LW, T	B, CM	Other
102	21	37	59, 130	Altering/Reducing Parking Requirements And Supply	Ana, CM, HB, Irv, SC, SA, T	Ana, CM, F, LW, MV, SA	AV, Ana, BP, C, F, O, OC, RSM, S	Ana, CM, DP, F	Parking
103	45			Higher Tax On Free Private Parking					Parking
104			201	Implement Parking Pricing, Excise Tax And/Or Supply Restrictions			T	F	Parking
105	38	41	125	Improve Parking Management (E.G., Employee Parking “Cash Out”, Unbundling Parking Cost From Property Cost)			LW	F	Parking
106	19			Managed Parking	Ana, DP, GG	Ana, CM, DP, GG, HB, NB, SC, SA	Ana, CM, GG, O	Ana, DP, GG, SA	Parking
107	22			On-Street Parking	Ana, C, DP, HB, MV, NB, T	Ana, BP, CM, DP, MV, SA, T, W	Ana, MV, T	Ana, MV	Parking
108			133	Parking Pricing		NB, SA		DP	Parking
109			128	Parking Regulation In Suburban Areas	GG	BP, GG, SA	GG	GG	Parking
110			131	Require Village Employees To Park In Perimeter Lots		LB, SA	LW		Parking
111	24		126, 127, 129	Preferred/Reserved Parking For Alternate Fuel , High Occupancy Vehicles And Car Share Programs	Ana, HB, Irv	Ana, LW, MV, OC, SA	AV, Ana, BP, CM, O	Ana, CM, GG, MV	Parking
112	20			Shared Parking	Ana, B, C, GG, HB, Irv, LP, MV, NB, SA, T	Ana, B, BP, CM, GG, LW, LP, MV, SC, SA, T, W	AV, Ana, B, GG, SA, T	Ana, B, CM, C, GG, LH, SA, T	Parking
113		50		Fuel Tax					Pricing
114		46		Implement Congestion Pricing	OCTA		LB		Pricing
115		44		Implement Metered Pricing		LB, NB, SA	F		Pricing
116	43	47	149, 147	Additional Pricing Options: Congestion Pricing, Hot Lane Pricing, Etc. On Major Routes		Ana	MV		TDM
117			114	E-Commerce Incentives					TDM
118			120	Encourage The Use Of Vehicle Navigation Systems	Irv, MV	MV, SA			TDM
119			143	Expand Affordable Public Transportation Coverage	MV	Ana, LB, LW, MV	MV, OCTA	Ana, MV	TDM
120		49	147	Implement Distance-Based (VMT) Pricing					TDM
121			148	Increased Fuel Tax (With Targeted Use Of Revenue Toward Travel Alternatives)					TDM
122			118	On-Site Day Care Programs	Ana, C, Irv, SA	Ana, SA		Ana, HB, LF, MV, OC, SA	TDM
123		69	113, 202	Pay-As-You-Drive Insurance					TDM
124			104	Promote Cleaner Modes Of Transport With Additional Way Finding Signs And Maps	Ana, HB, Irv, MV, SA	Irv, LW, SA, W	AV, F, Irv, SA	F, HB, SA, S	TDM
125			121	Promote Safety Program		HB, LW, MV, OC, SA, TCA	AV	GG, HB, MV, O, SA	TDM
126			106, 154	Promote Transportation Alternative By Third Parties	HB, Irv	Ana, Irv, LW, OC	Irv	Ana, HB, MV, OC	TDM
127			144	Reduced Transit Pricing		Ana			TDM
128			150	Study/Develop Pricing Policies And Structures To Discourage Car Travel Bundle					TDM
129			146	Transportation Demand Management Ordinance	C, HB, Irv, LB, LHb, MV, NB, O, SC, SA, T	Ana, B, Irv, LW, LHb, SA, W	AV, Irv, RSM	AV, Ana, B, C, HB, LF, MV, RSM, SA, T, W	TDM
130			51	Adopt And Implement Complete Streets Policy	Irv	HB, Irv, SA	AV, Ana, B, Irv, RSM, T	C, F, HB, Irv, O, SA	TII
131			75	Arterial Improvements	Ana, B, CM, C, DP, HB, Irv, LH, LHb, LP, MV, OC, SA, TCA, T, W	Ana, B, BP, CM, C, HB, Irv, LH, LW, LHb, LF, LP, MV, NB, O, OC, RSM, SA, S, TCA, T, W	AV, B, CM, C, DP, F, HB, Irv, LH, LHb, LP, MV, OC, SA, TCA, T, W	AV, Ana, B, CM, C, DP, F, HB, Irv, LH, LP, MV, O, RSM, T	TII
132			86	Bus Fleet Measures	GG	LB			TII

Sustainability Strategy List for Orange County Sustainable Communities Strategy Development

#	CDR #	CARB #	SCAG #	Item	Completed Project	Ongoing Project	Future Project	General Plan Policy	Category
133			82	Bus Rapid Transit	GG	W	Ana, OCTA, W	Ana	TII
134			80	Commuter Transit	BP, GG, OCTA	LB, LF, W	MV, W	Ana, LF, MV	TII
135			91	Converting Car Beaches To Mixed Use Development	Ana	Ana	GG, SA	Ana, GG	TII
136			84	Create Regional Multimodal Transportation Centers	BP, Irv, O, SA, T	Ana, Irv, SA	Ana, F, GG, Irv, SA	Ana, F, Irv, MV, O, SA	TII
137			64	Energy Efficient Lighting Along Transportation Corridors	Ana, C, HB, LP, O	Ana, C, LW, LP, MV, NB, SA	AV, C, LP, O, SC	LP, SA, S	TII
138			95	Enhance Bus Stops	Ana, C, HB, Irv, LP, MV, RSM, SA, T, W	Ana, C, Irv, LW, LHb, LF, LP, MV, SA, W	C, LHb, LP, MV, T	AV, LH, LP, MV, O, SA, T	TII
139		54	61, 74	Expand High Occupancy Toll (Hot Lanes) System				MV	TII
140	40	22	60, 79	Expand Transit Network And Improve Transit Facilities	MV	Ana, LB, MV, OCTA, W	MV	Ana, MV	TII
141			66	Feeder And Distributor Systems – Orbital Routes	OCTA	OCTA, W	LB		TII
142			90	Feeder-Distributor Services	OCTA	OCTA, W	LB		TII
143			76	High Speed Regional Transport System			Ana	Ana, MV	TII
144			57	Highway-Rail Grade Separations	Ana, Irv, T	Ana, Irv, T	Irv, SA, T	Ana, Irv, SA, T	TII
145			71	Implement Automated Speed Enforcement	LF, T	DP, SA, T	LW, T		TII
146	41	32	37, 46	Improve Linkages Between Travel Modes	Ana, Irv, SA, T	Ana, CM, Irv, LW, MV, SA, T	CM, F, MV, T	Ana, F, LH, LF, MV, O, SA, T	TII
147		23		Improve Transit Facilities (E.G., Safety)	Ana, BP, Irv, MV, O	Ana, LF, MV, SA, T	SA, T	Ana, SA	TII
148			99	Improve Transit Service (Frequency, Convenience, And Quality)		Ana, LB, MV, W	AV, Ana, OCTA	Ana, MV	TII
149			81	Intercity Bus Transit	GG, OCTA	GG, LB, OCTA, W	AV, GG	Ana, GG, MV	TII
150			83	Light Rail Transit				MV	TII
151			69	Major Co2/Vmt Reduction Strategies			Irv	S	TII
152			73	Mixed-Flow Lanes	OCTA	OCTA	OCTA		TII
153	42			OCTA Go Local Projects	RSM	LB, LW, LF, MV, OCTA, W	Ana, MV, O, RSM	Ana, GG, MV	TII
154			65	Pavement Management	C, LHb, LP, MV, OCTA	Ana, BP, C, LB, LW, LHb, LF, LP, MV, NB, O, OCTA, RSM	C, LHb, LP, MV	Ana, C, GG, LP, MV, O, RSM	TII
155			98	Public Transport – Coordination Of Routes	OCTA	LB, MV, NB, OCTA		GG, LF, MV	TII
156			96	Public Transport – Hours Of Service	OCTA	LB, MV, OCTA		GG, MV	TII
157			97	Public Transport – Route Structure	OCTA	LB, MV, OCTA		GG, MV	TII
158		59	72	Ramp Metering	Irv				TII
159			92	Reactivation And Use Of Unused Or Lightly Used Rail Row	B, Irv	B, SA	Ana, B, F, HB, Irv, O, SA	B, F, SA	TII
160		34		Rehabilitate And Maintain Pavement	B, C, Irv, LP, MV, OC, TCA, T	B, BP, C, Irv, LW, LF, LP, MV, O, OC, RSM, SC, SA, SB, S, TCA, T	B, C, Irv, LP, MV, OC, SA, TCA, T	B, C, Irv, LH, LP, MV, O, RSM, SA	TII
161			87	Replacement Of Bus Fleets	OCTA	LB, OCTA			TII
162			67	Smart Streets	Ana, B, C, HB, Irv, LHb, OC, S, TCA, T	B, BP, C, HB, Irv, LW, OC, S, TCA, T	AV, B, Irv, OC, SA, TCA, T	Ana, B, C, SA, T	TII
163			88	Statewide Policies On Replacement Of Transit Equipment					TII
164			89	Station Cars		Ana			TII
165			93	Support Extension Of Rail Line	SA	Ana, LW	F	F, HB, MV	TII
166			85	Targeted Infrastructure Growth	Ana, Irv	Ana, Irv, LP, SA	C, Irv, SA	Ana, C, GG, HB, Irv, LP	TII
167			50	Traffic Calming Measures	Ana, B, DP, Irv, LHb, MV, OC, SA, TCA, T, W	Ana, B, BP, CM, DP, LHb, LF, LP, MV, NB, OC, RSM, SC, SA, TCA, T, W	AV, B, DP, LHb, OC, SA, TCA, T, W	AV, Ana, B, CM, C, DP, GG, LH, LP, MV, O, RSM, SA, T	TII
168			78	Transit Marketing, Promotion, And Pricing Incentives	MV, OCTA	Ana, LW, OCTA		Ana, GG, MV	TII
169			100	Transit Oriented Infrastructure Development In Infill Corridors	Ana, DP, MV	Ana, DP, LW, MV, SA	Ana, DP, F, SA, S	Ana, DP, F, GG, MV, SA	TII
170			94	Village Trolley – Trial Basis	Irv	Ana	DP, F, Irv, SC	B	TII
171		25		Adopt Competitive Fare Structure					TSM
172			198	Adopt Emission Based Tolls					TSM
173				Alternatively-Fueled, Heavy Duty Vehicles	Irv, MV	Irv, LW, LP, MV	Irv, SC		TSM
174		62	158, 159	Anti-Idling Traffic Codes For Commercial Vehicles		BP			TSM
175			19	Assess Climate Impacts Of Development	F, LF, O	Ana, CM, HB, Irv, LW, LF, O, OC, SC	AV, LF, O	AV, Ana, CM, LH, O	TSM
176			22	Assessment Of Regional Impact Development Projects For Climate Mitigation	Ana	Ana, Irv, OC	Ana	Ana	TSM
177	44	48	197	Cordon Pricing (E.G. London, Fee For Vehicle Access To Roads Within Specified Area)					TSM
178			203	Convert Existing Roads To Toll Roads					TSM
179			175	Develop Traffic Calming Systems	Ana, DP, Irv, LB, MV, SA	Ana, B, DP, CM, LF, LP, MV, NB, SA, W	AV, B, DP, LF, SA	B, CM, DP, LB, LP, MV	TSM
180			157	Distribute Educational Information	MV	B, BP, CM, DP, LF, MV, SA, W	AV, B, LF, MV, SA	B, SA	TSM
181		51		Eliminate Or Reduce Highway And Arterial Projects That Result In Additional "General Purpose" Lane Miles		LB, LW			TSM
182			172	Encourage Bus Tracking Systems And Information Sharing		LW	LB		TSM
183			187	Encourage Intermodal Travel	MV, OCTA	Ana, LB, LW, MV, OCTA	AV, MV	Ana, MV	TSM
184			189	Encourage Old Vehicle And Equipment Retirement For Construction Vehicles		LP, OC, TCA	AV		TSM
185			188	Encourage Old Vehicle And Equipment Retirement For General Public		Ana, SA	AV		TSM

Sustainability Strategy List for Orange County Sustainable Communities Strategy Development

#	CDR #	CARB #	SCAG #	Item	Completed Project	Ongoing Project	Future Project	General Plan Policy	Category
186			185	Encourage Regional Transit Programs	OCTA	LB, LW, LP, MV, OCTA, W		Ana, LF, MV	TSM
187			160	Encourage Truck Stop Electrification					TSM
188		63		Enhance Vehicle Inspection And Maintenance Programs		B, LP, SA	SA	LP	TSM
189			183	Expand Transit Services		LB, MV, W	OCTA	Ana, LF, MV	TSM
190			186	Facilitate Intermodal Travel	MV, OCTA	LB, MV, OCTA, W	MV	Ana, LF, MV, O	TSM
191		61		Freeway Travelers Information System	Irv				TSM
192			169	Help Establish Baselines/Guidelines To Create Green Transportation Standards		SA, W	AV, SA		TSM
193		36		Implement Effective Pricing		SA			TSM
194		55		Implement Traffic Signal Coordination	Ana, B, DP, HB, Irv, MV, O, OC, TCA, T, W	AV, Ana, B, BP, CM, DP, HB, Irv, LW, LF, LP, MV, NB, OC, SC, SA, S, TCA, T, W	AV, B, DP, HB, Irv, MV, OC, SA, S, TCA, T, W	AV, Ana, B, DP, HB, Irv, LH, LP, MV, T	TSM
195			199	Implement Urban And Intercity Road Tolls	Ana				TSM
196		38		Improve Circulation Efficiency Through Information (E.G., Signage)	Ana, HB, Irv, SA, T, W	AV, Ana, BP, CM, HB, Irv, LW, LF, LP, SC, SA, T, W	AV, Irv, O, SC, SA, S, T, W	AV, Ana, CM, LP, S	TSM
197			184	Improve Transit Stops And Stations	Ana, MV, O, OCTA, W	Ana, LB, LW, LF, MV, O, OCTA, W	MV, OCTA	Ana, LF, MV, O	TSM
198		60		Incident Management System	OCTA, W	LB, OCTA, W			TSM
199			176	Increase Use Of HOV, Hot And Dedicated BRT Lanes		MV		MV	TSM
200			174	Lower And/Or Enforce Speed Limits	Ana, Irv, T, W	AV, Ana, B, BP, CM, HB, Irv, LW, LF, LP, NB, O, RSM, SA, T, W	Irv, SA, T, W	LP, RSM, SA, T	TSM
201		64		Operation Improvements To Relieve Bottlenecks	Ana, HB, Irv, W	Ana, B, CM, HB, Irv, LW, SA, W	AV, HB	AV, B, HB, SA	TSM
202				Other Reduced VMT	Ana, LF	LF	LF	Ana	TSM
203			156	Promote Maintenance And Driver Training	Ana	Ana, LP, SA			TSM
204			161	Promote Truck Refrigeration Units					TSM
205		56		Queue Jumps/Bus Priority At Intersections			SA		TSM
206	36	57	170, 173	Real-Time Transit Information	DP	Ana, DP, LW	DP, LB, OCTA, W	DP	TSM
207				Reduce Particulate Matter (Pm) Emissions From On-Road Diesel-Powered Heavy-Duty Vehicles.	MV	Ana, MV, SA	BP, SA	SA	TSM
208		24		Reduce Passenger Travel Time (E.G., More Frequent Headways)		LB, W	OCTA	Ana	TSM
209		58		Speed Limit Reductions To 55 Mph	RSM				TSM
210			20	Streamlining Development Projects That Reduce VMT, Energy Consumption, Transportation Impact.	Ana, HB	Ana, LP	O		TSM
211			168	Support Procurement Of An Efficient Heavy-Duty Vehicle Fleet	Irv, MV	Irv, LP, MV, SA	Ana, Irv	SA	TSM
212			181	Support School Bus Use		CM, HB		AV	TSM
213			200	Use Toll Revenue To Fund Alternative Fuel Vehicles					TSM
214		35		Use Transportation System Management (E.G., Congestion Management)	B, MV, SA, T	B, CM, C, LP, MV, SA, T	AV, B, MV, T	AV, B, C, LH, LF, MV, SA, T	TSM
215	39	33	77, 171, 177	Using Intelligent Transportation System Technologies, Signal Synchronization, Prioritization For Buses	C, MV, OCTA, W	Ana, CM, C, LP, MV, NB, OCTA, RSM, W	C, MV, OCTA, W	Ana, C, MV, RSM	TSM
216		7		Improve Connectivity Of Streets And Pedestrian Network (E.G., Through Streets)	B, C, HB, Irv, MV, SA, T, W	Ana, B, CM, C, Irv, LB, LP, MV, NB, RSM, SA, W	B, C, F, GG, HB, Irv, MV, SC, SA, T, W	AV, Ana, B, C, F, GG, HB, Irv, MV, LH, LF, LP, O, RSM, SA, T	Walk
217		27, 28	34	Improve Pedestrian Environment (E.G., Beautification, Access, Safety)	Ana, B, C, GG, HB, Irv, MV, OC, SA, TCA, T, W	Ana, B, BP, CM, C, GG, Irv, LB, LW, LF, LP, MV, O, OC, RSM, SC, SA, SB, TCA, T, W	AV, Ana, B, C, F, GG, HB, Irv, LF, MV, OC, SC, SA, S, TCA, W	AV, Ana, B, C, F, GG, HB, Irv, LH, LF, LP, MV, O, RSM, SA, S, T	Walk
218	17	26	35, 38	Improving Pedestrian Infrastructure And Facilities E.G. Pedestrian Bridge	Ana, DP, HB, Irv, LF, MV, SA, T, W	Ana, CM, Irv, LB, LF, LW, MV, NB, O, RSM, SC, SA, T, W	Ana, BP, CM, HB, Irv, LF, SA, S, T, W	AV, Ana, GG, HB, Irv, LH, LF, MV, O, RSM, SA, T	Walk
219			105	Increase Bike/Walk Trips With Improved Streets And Facilities	Ana, B, C, DP, HB, Irv, MV, SA, T, W	B, CM, C, DP, Irv, LW, LP, MV, NB, RSM, SC, SA, T, W	AV, B, C, DP, F, HB, Irv, LF, MV, SA, S, T, W	AV, Ana, B, C, DP, F, GG, HB, Irv, LH, LF, MV, O, RSM, SA, T	Walk
220			39	Sidewalk Construction	B, C, DP, Irv, LHb, LF, MV, OC, SA, TCA, T, W	B, BP, CM, DP, F, HB, Irv, LB, LW, LHb, LF, LP, MV, NB, O, OC, RSM, SC, SA, S, TCA, T, W	Ana, B, DP, F, GG, Irv, LHb, LF, MV, OC, SA, TCA, T, W	Ana, B, C, DP, F, GG, Irv, LH, MV, RSM, SA, T	Walk
221			36	Statewide Walkable And Bike Policy	Irv	Irv, LP, W	AV, Irv	GG, Irv	Walk
222			40	Trail Improvement Project	Ana, B, DP, Irv, MV, NB, SA, T, W	Ana, B, CM, DP, F, Irv, LW, MV, O, RSM, SA, W	AV, Ana, B, DP, F, GG, Irv, LHb, LF, MV, SA, T	AV, Ana, B, DP, F, GG, HB, Irv, LHb, MV, RSM, SA, T	Walk

Notes:

CDR	Center for Demographic Research
CARB	California Air Resources Board
SCAG	Southern California Association of Governments
TDM	Transportation Demand Management
TII	Transportation Infrastructure Investments
TSM	Transportation System Management

AV	Aliso Viejo
Ana	Anaheim
B	Brea
BP	Buena Park
CM	Costa Mesa
C	Cypress

DP	Dana Point
F	Fullerton
GG	Garden Grove
HB	Huntington Beach
Irv	Irvine
LB	Laguna Beach

LH	Laguna Hills
LW	Laguna Woods
LHb	La Habra
LF	Lake Forest
LP	La Palma
MV	Mission Viejo

NB	Newport Beach
O	Orange
RSM	Rancho Santa Margarita
SC	San Clemente
SA	Santa Ana
SB	Seal Beach

S	Stanton
T	Tustin
W	Westminster
TCA	Transportation Corridor Agencies
OC	County of Orange
OCTA	OCTA

San Joaquin Hills
Corridor Agency

Chairman:
Bert Hack
Laguna Woods

Transportation Corridor Agencies

Foothill/Eastern
Corridor Agency

Chairman:
Peter Herzog
Lake Forest

February 10, 2011

Scott Martin
Center for Demographic Research
PO Box 6850
2600 Nutwood Ave., Ste 750
Fullerton, CA 92831

Subject: Toll Road-Related Best Management Practices for the Orange County Sustainable Community Strategy

Dear Mr. Martin:

At present, the proposed Orange County Sustainable Community Strategy (SCS) Best Management Practices (BMP) list contains seven toll-related BMPs. We offer the following status update on the Transportation Corridor Agencies (TCA) BMP implementation and recommendations for expanding the list to better reflect actual planned enhancements to TCA's toll-related BMPs.

SR 73, the San Joaquin Hills Transportation Corridor; SR 241, the Foothill Transportation Corridor; and SR 241/261/133, the Eastern Transportation Corridor comprise 51 miles of toll roads, roughly 27% of Orange County's freeway network. The addition of 40 miles of SR 91 express lanes operated by OCTA increases that total.

TCA toll facilities are all variably priced (higher tolls during peak hours) to incentivize free-flow traffic conditions that reduce GHG emissions that would otherwise occur under more congested conditions. Toll road pricing also incentivizes higher average vehicle occupancy, which reduces overall trips and associated GHG emissions in the region.

Many researchers, including Dr. Marlon Boarnet of UCI, have identified pricing as the most powerful mitigation/BMP for alleviating GHG emissions. Orange County is the only subregion with a priced transportation network at this time, and will be the only one with such a large portion of the total network subject to pricing in the future.

The BMP list contains the following transportation pricing BMPs related to TCA's toll roads:

> Additional Pricing Options: Congestion Pricing, Hot Lane Pricing, etc. on major routes;

Ensure Adequate Access to Open Space And Preservation Of Habitat [Note that TCA toll roads provide access to beach destinations, as well as recreational areas adjacent to the Cleveland National Forest and HCP/NCCP open space; this access will further expand when the 241 completion project is constructed];

Use Toll Revenue to Fund Alternative Fuel Vehicles [Note that this BMP will not apply to TCA's toll roads, as the bond covenants require all toll revenues collected on TCA facilities to be used to repay existing construction bonds];

Expand High Occupancy Toll (Hot Lanes) System [Note that TCA toll roads are all general purpose lanes, so this BMP would not apply];

Adopt Emission Based Tolls;

Convert Existing Roads to Toll Roads; and

Implement Urban and Intercity Road Tolls.

RECOMMENDATIONS

In light of their potential GHG reduction importance, we suggest that these and all transportation other pricing related BMPs (such as cordon pricing) be grouped together to better convey the full range existing pricing implementation and future options. At present, they are identified as a mix of TDM, TSM and pricing measures. Grouping them will also better correspond to SCAG's SCS guidelines calling for pricing strategies.

We also recommend that the seven tolling related BMPs be expanded to capture the full range of pricing actions and future options being pursued by the TCA on its public toll road system. The following additional measures are either being currently implemented and/or are being considered for future implementation by the TCA. All of them have a high degree of feasibility:

1) Implement Inter-County and Inter-Regional Toll Facilities.

In contrast to the existing BMP that focuses on urban and intercity tolls, this new BMP addresses the type of facility exemplified by the TCA toll corridors that provide intra-county, inter-county and inter-regional access.

Existing Implementation: TCA has constructed and currently operates 460 lanes miles of toll road that serve intra-county, inter-county, and inter-regional trips.

Future Implementation: TCA will add 105 new tolled lanes between 2012 and 2035 to meet intra-county, inter-county and inter-regional travel demand.

2) Reduce congestion and associated GHG emissions through variable toll pricing.

Existing Implementation: TCA currently implements variable peak hour pricing on 460 lane miles of FTC, ETC and SJHTC toll roads.

Future Implementation: TCA will continue to implement variable peak hour pricing on 460 lane miles FTC, ETC and SJHTC toll roads, and will expand this by 105 additional lane miles of variably priced roads by 2030.

3) Reduce congestion and associated GHG emissions through dynamic toll pricing.

Future Implementation: Although TCA tolls do not vary continuously throughout the day in response to congestion at this time, this technique is available for use when and if appropriate on The Toll Roads.

4) **Reduce vehicle trips and associated GHGs by providing express bus transit on toll lanes.**

Existing Implementation: TCA and OCTA currently have in place agreements allowing such routes.

Future Implementation: TCA, OCTA and other providers could expand express/rapid bus service on toll lanes.

5) **Reduce vehicle trips and associated GHGs by providing transit in the dedicated median of existing toll corridors.**

TCA has reserved right of way for future mass transit in the median of its corridors.

6) **Reduce congestion and associated GHGs with a common, transferrable tolling technology for priced facilities.**

Existing Implementation: All priced facilities in Orange and San Diego Counties currently use the FasTrak transponder technology, making the system flow more smoothly with less congestion-related GHG emissions. Electronic tolling via the FasTrak technology is available on 460 lane miles of SR 241, SR 261, SR 133, SR 73 and SR 91. This technology also provides interoperability on tolled facilities statewide; OCTA's 91 Express Lanes as well as priced lanes in San Diego County and in the Bay Area also employ FasTrak.

Future Implementation: Expansions of the priced transportation network should use the same technology to avoid duplication and user confusion. For example, the completion of SR 241, the Foothill Transportation Corridor South, will employ FasTrak technology on 105 additional lane miles. This BMP should also be employed in the SCAG regional SCS to maintain regional and statewide interoperability.

7) **Reduce congestion and associated GHGs with cashless full electronic tolling.**

Future Implementation: TCA is planning to implement cashless, full electronic tolling on 460 existing lane miles of SR 241, SR 261, SR 133 and SR 73 between 2012 and 2020. This total will grow to 565 lane miles when the southern portion of 241 is fully built out by 2030.

8) **Reduce vehicle trip and development-related GHG emissions through toll road open space mitigation.**

Existing Implementation: The San Joaquin Hills, Eastern and Foothill Transportation Corridor toll roads have provided approximately 2,200 acres of dedicated open space as environmental mitigation. This acreage will remain undeveloped in perpetuity despite significant future pressure for urban development to accommodate a growing population and economy in Orange County. In doing so, the dedicated open space will contribute to higher densities and more compact development elsewhere in the Orange County subregion, which is beneficial for GHG reduction. In addition, the dedicated open space provides permanent carbon sequestration benefits that the SCS should capture.

Future Implementation: Any additional toll road open space dedications will expand on the benefits described above.

Thank you for the opportunity to comment on the draft BMP list. I am available to discuss any questions or comments you have on the requested additions above. You can reach me at (949) 754-3475 or vmcfall@thetollroads.com.

Sincerely,

Valarie McFall
Deputy Director
Environmental Planning

cc: Tony Petros, LSA Associates

OC SCS Questions	ACSD	AUHSD	BOUSD	BPSD	CUSD	CESD	CYSD	FVSD	FJUHSD	FSD	GGUSD	HBCSD	HBUHSD	IUSD	LHCSD	LBUSD	LAUSD	LJSD	MSD	NMUSD	OCDE	OUSD	PYLUSD	Saddleback College	SVUSD	SAUSD	So. Community College	TUSD	WSD
Does your district have any plans to improve parking or access from arterials on campuses?			N	N		N			N		Y	N		Y							N			Y	N	Y	N		
GGUSD- Yes/Maybe. We are hoping to obtain approval for State modernization funding through the School Facilities Program to modernize 66 sites. Parking and access will be improved through these efforts.																													
HBCSD- Last summer we expanded and improved parking lots and access at Huntington Seacliff and Smith Elementary Schools. No further plans.																													
FJUHSD - No, we did that in the last 3 years.																													
CESD - No immediate plans.																													
SOCCD - Not in the immediate future. There are proposals but they appear to be twenty plus years out.																													
IUSD - Parking improvements, such as circulation upgrades/enhancements and increased parking capacity occur at sites being modernized when funding/budget allows																													
SAUSD - We have around 15 parking lot improvement projects. We also are adding parking lots at two schools that do not currently have parking.																													
Walk or bike to school programs/incentives for students/parents/staff?			N	N		N			N		N	N		Y							N			N	N	Y	N		
OCDE - Alternative Ed. Program students are not allowed to drive themselves to school. Our Green Committee encourages green practices.																													
SAUSD - A limited number of District Safety Officers will be deployed at their respective school sites on bicycles to augment patrol and crime prevention coverage. All District Safety Officers were allowed the opportunity to express an interest in this strategy that augments other primary methods of patrol, i.e., foot patrol and golf carts.																													
IUSD -The City of Irvine offers a grant program in coordination with Irvine Unified School District to promote pedestrian travel to schools.																													

OC SCS Questions	ACSD	AUHSD	BOUSD	BPSD	CUSD	CESD	CYSD	FVSD	FJUHSD	FSD	GGUSD	HBCSD	HBUHSD	IUSD	LHCSD	LBUSD	LAUSD	LJSD	MSD	NMUSD	OCDE	OUSD	PYLUSD	Saddleback College	SVUSD	SAUSD	So. Community College	TUSD	WSD
Any new bike accommodations planned? (trail connections, bike lockers)			N	N		N			N		N	N		Y							N			N	N		N		
GGUSD- No funding.																													
HBCSD - No plans. One middle school intends to add skateboard racks in the bike area.																													
IUSD - The City of Irvine's Master Plan incorporates numerous walking and biking trails that connect many of the existing and planned communities to																													
OCDE - We have bike racks at our new school - Harbor Learning Center.																													
Any telecommuting or similar programs ongoing?			N	N		N			N		Y	N		N							N			N	N	N	Y		
GGUSD- As much as possible. The instructional staff (teachers) have access for many of our web-based computer programs (Student system-entering grades at home, viewing test scores of data assessment system, e-mail….)																													
OCDE - We have teleconferencing and videoconferencing capabilities.																													
SAUSD - Just conference calls for the district office and consultants to reduce travel costs.																													
Online courses offered?			N	N		N			Y		Y	N		N							Y			Y	Y	Y	Y		
GGUSD- We have had several on-line courses for high school students, and looking into on-line Independent Study.																													
FJUHSD - Not yet we are starting independent study on line and will be expanding…surprisingly the union is not in support.																													
SVUSD - Health, Civics, Economics, Calculus BC																													
BOUSD - Not at this time, but will in the future.																													
OCDE - At our Pacific Coast High School and at teacher trainings.																													
SOCCD - Including a plan for increase in same																													
SAUSD - Online courses are being currently offered at Century and Valley for credit recovery. Web conferencing and online learning is beginning to be used for professional development. Web conferencing is extensively used for admin planning.																													

OC SCS Questions	ACSD	AUHSD	BOUSD	BPSD	CUSD	CESD	CYSD	FVSD	FJUHSD	FSD	GGUSD	HBCSD	HBUHSD	IUSD	LHCSD	LBUSD	LAUSD	LJSD	MSD	NMUSD	OCDE	OUSD	PYLUSD	Saddleback College	SVUSD	SAUSD	So. Community College	TUSD	WSD
Staggered start times for schools?			Y	Y		N			Y		Y	Y									N			N	Y	N	Y		
GGUSD- We have a few schools with staggered starts – which were negotiated many years ago (decades). Staggered starts are problematic for some as they can extend meal schedules but more efficient for bus transportation (less bus drivers needed.) However, staggered starts complicate employee contractual issues. Many teachers unions have negotiated 'collaboration' time on a specific day each week, and staggered starts make it more difficult to implement collaboration programs among teachers (they like to do this all at the same time – just like taking lunch at the same time each day).																													
HBCSD-Slightly staggered start times(8:05-8:40) to accommodate district bus services.																													
TUSD - Some of our schools in Tustin Ranch and West Irvine have staggered start times but only by 15 min. At these sites kindergarten starts school at say 8:00 a.m. and the others (grades 1-5) start at 8:15 a.m.																													
CESD - No, school start times were standardized this year.																													
IUSD - Some of the elementary schools have staggered start times. In addition, the middle and high schools rely on differentiated schedules through the use of block scheduling, late start, and implementation of zero period.																													
SAUSD - We have suggested adjusting the bell schedules before and likely will again. At the time, it was not a priority and had a large impact on parents and students.																													
Daycare offered on campus? (limits trips)			Y	Y		N			Y		N	Y						Y			N			Y	Y		Y		
GGUSD- We have preschool programs for community students, but not day care for employees and their offspring.																													
HBCSD- Before/after school care to accommodate parent needs for childcare.																													
FJUHSD - Just completed a new facility for 80 students at one location and about 20 employees at another.																													
LJUSD - We offer onsite daycare at a few of our elementary sites.																													
SOCCD - Yes there are daycare services on both campuses. Not sure what you mean by quantify campus utilization in a number if you are asking can we evaluate the number or percentage of students that are served, then yes.																													
SVUSD - We offer daycare before and after school for school aged students for elementary only. Not an all day program.																													

IUSD -Yes, all elementary and K-8 campuses have daycare services offered through the City of Irvine.

SAUSD - We do not have ES student daycare, with the exception of Think together, which houses our afterschool program. We have a cal-safe program that allows parenting teens to bring their kids to school. Not all parenting teens are given a space. Additional information breakdown of schools available upon request.

OC SCS Questions	ACSD	AUHSD	BOUSD	BPSD	CUSD	CESD	CYSD	FVSD	FJUHSD	FSD	GGUSD	HBCSD	HBUHSD	IUSD	LHCSD	LBUSD	LAUSD	LJSD	MSD	NMUSD	OCDE	OUSD	PYLUSD	Saddleback College	SVUSD	SAUSD	So. Community College	TUSD	WSD
Can they quantify campus utilization in a number?			Y			N																		Y			Y?		

FJUHSD - 100 trips each way?

BPSD - Not sure.

GGUSD - ???

SOCCD - Not sure what you mean by quantify campus utilization in a number if you are asking can we evaluate the number or percentage of students that are served, then yes.

Question not answered or understood by most participants

Bus transit offered?			Y	Y		N			Y		N	N		Y							Y			Y	Y	Y	Y		

GGUSD- Not available for employees, but we sure do offer bus passes for the 'homeless' students.

FJUHSD - No home to school but we do sell OCTA bus passes at student rates

SOCCD - Yes, there are bus stop locations at both campuses

SVUSD - Yes for six sites.

OCDE - All Special Ed students are bussed; no bussing for other programs

IUSD - Limited to a few schools.

SAUSD - We do not have any plans to provide transit shuttle services. We only have 3 bus routes for our 54,000+ students, outside of SDC.

Alternative fuel vehicles used?			N	Y		N			Y		Y	N		N							N			N	N	N			

GGUSD- Yes – we have 27 CNG busses, and due to replace another 13 diesel busses in the near future with CNG (110 busses in fleet).

BPSD - CNG
FJUHSD - 13 CNG
OUSD - Since we are in the South Coast Air Quality Management District (SCAQMD), school District must comply with SCAQMD rule 1195. This means we cannot purchase Diesel powered engines. For our white fleet (maintenance & other), we purchase gasoline powered engines. We also purchase the smaller school buses with gasoline powered engines. When we purchase or receive a grant for our larger school buses, we purchase Compressed Natural Gas (CNG) powered engines. currently have six (6) school buses that are powered by CNG. We also have retrofitted most of our Diesel engines with a Particular Trap. This trap replaces the muffler and doesn't allow the particulate matter to get into the air. We also installed a CNG fuelling station at our bus yard.
SOCCD - Electric carts are used in some instances for on campus deliveries and services.

Subject: FW: UCI Information

Attachments: Survey Spreadsheet for Employers 2011.xls; 2010 AQMD Filing Document - Final.pdf

From: Michael Davis [mailto:msdavis@pts.uci.edu]
Sent: Thursday, March 24, 2011 10:11 AM
To: Les Card
Subject: UCI Information

Les:

Sorry this is so slow in coming. Here is a brief description of what we're doing for Sustainable Transportation here at UCI.

STAFF –

UC Irvine has **3 full-time employees**, **1 part-time** dedicated to Sustainable Transportation efforts:

- Mike Davis, Interim Manager
- Antoinette Saenz, Employee Transportation Coordinator
- Ramon Zavala, Employee Transportation Coordinator
- Ken Ezell, Employee Transportation Coordinator (part-time); Charter Services Coordinator

WEB PRESENCE –

www.parking.uci.edu/AT

PROGRAMS –

- Bike – Bike infrastructure: Extensive bike path network / Signage/ Bike-Pedestrian bridges. Safety & Training: B.E.E.P. program. Information: www.bike.uci.edu
- Bus – University Pass Program: Membership provides annual OCTA access for just $95 (next year $155). Presently represent an 86% subsidy (next year 77%). Information: www.parking.uci.edu/AT/modes/OCTA.cfm
- Carpool – Available for employees. Provides reduced-rate parking and preferential parking for participants. Information: www.parking.uci.edu/AT/modes/carpool.cfm
- Shuttle – UCI maintains a shuttle fleet for on-campus and near-campus transportation. The fleet has real-time tracking. Information: www.shuttle.uci.edu
- Train - Provides 20% rebate for 10-day and monthly pass holders. Information: www.parking.uci.edu/AT/modes/train.cfm
- Vanpool – UCI presently has 18 vanpools carrying passengers from various locations to UCI. These vanpools come in during morning rush hour; return at evening rush hour. Information: www.parking.uci.edu/AT/modes/vanpool.cfm
- Walk – Infrastructure: Extensive pedestrian path network / Signage / Bike-Pedestrian bridges. Information: www.parking.uci.edu/AT/modes/walkorbike.cfm
- ZEV-NET – Zero-Emission Vehicles stationed at the Irvine Transportation Center for pooling to/from UCI. Information: www.parking.uci.edu/AT/documents/zevnetflyer.pdf

INCENTIVES – [Complimentary "rainy day" parking permits given to employees for each month in the program.]

- Bike – 5 complimentary "rainy day" parking permits for each month in the program

- Bus – 2 complimentary "rainy day" parking permits
- Carpool – 2 complimentary "rainy day" parking permits
- Shuttle – 2 complimentary "rainy day" parking permits
- Train - 2 complimentary "rainy day" parking permits
- Vanpool - 4 complimentary "rainy day" parking permits
- Walk - 5 complimentary "rainy day" parking permits

"RIDESHARE" SUPPORT – [These give mobility options to those who don't bring a car to campus]

- ZotWheels Bikeshare – The first fully-automated bikeshare program at a U.S. university; the only bikeshare program in the Western U.S. Information: www.parking.uci.edu/zotwheels/main.cfm
- Zipcar Carshare – 11 cars on campus available for hourly or daily use at $7-$8/hour. Gas, insurance, and 180 miles included. Information: www.zipcar.com/uci/
- Zimride – Ride matching site for the UCI campus. Allows people to post or request a ride. Links with Facebook. Information: www.zimride.com/uci
- Holiday Shuttle - Provides complimentary shuttle service for the UCI community to John Wayne Airport and the Irvine Transporation Center before and after the Thanksgiving, Winter, and Spring breaks. Information: www.parking.uci.edu/public/holidayshuttle.cfm
- Pre-Tax Benefit: UCI provides a pre-tax benefit through payroll deduction for those who involved in the Bus, Carpool, and Vanpool Programs.

SAVINGS FROM UCI SUSTAINABLE TRANSPORTATION–

- Financial: $14.5 million saved annually ($12 million in fuel, vehicle, & parking costs for participants; $2.5 million for UCI community via reduction of need for parking construction & maintenance).
- Emissions: More than 23,000,000 Vehicle Miles Traveled (VMT) saved annually through all UCI sustainable programs. This equates to nearly 10,800 metric tons in GHG emissions saved each year.

AWARDS –

- 2011 League of American Bicyclists' "Certified Bicycle Friendly University" - Silver Designation
- 2010 Best Workplaces for Commuters' Race to Excellence - Gold Award
- 2010 Parking Program of the Year Award – California Public Parking Association (CPPA)
- 2010 Best Workplaces for Commuters designation – National Center for Transit Research / U.S. EPA
- 2010 Innovative Achievement in Auxiliary Services Award- National Association of College Auxiliary Services (NACAS)
- 2010 Rideshare Diamond Award – presented by the OCTA, VCTC & MTA
- 2010 Employee Transportation Coordinator (ETC) Champion Award – Mike Davis - Association for Commuter Transportation
- 2010 Honoree - Spirit of Volunteerism Award – Volunteer Center of Orange County (VCOC renamed OneOC)
- 2010 Bright Idea Award – Zotwheels Automated Bikeshare - Harvard University's Ash Center for Democratic Governance and Innovation
- 2010 Innovators Award – Student Systems and Services Category - Campus Technology
- 2010 Leadership Award – Transportation Category - Green California / California EPA
- 2009 Best Workplaces for Commuters Race to Excellence Silver Award
- 2009 OCTA Share the Ride Challenge Award
- 2009 Perfect 10 - Transportation Category - Sierra Club
- 2009 Environmental Achievement Award - US EPA Region IX
- 2009 Rideshare Diamond Award - presented by the OCTA, VCTC & MTA
- 2009 Best Work Places for Commuters - US EPA National Transit Research Center

- 2008 Governor's Environmental and Economic Leadership Award (GEELA) - Climate Change - State of California
- 2008 Clean Air Award - Innovative Transportation Program - SCAQMD
- 2008 Award - Innovation and Collaboration from the McHenry County Economic Development Corporation's Business Accelerator Program - ZotWheels Design
- 2008 Best Practice Award - TDM Category – UC / CSU / CCC Sustainability (Project Greenlight)
- 2007 Best Practice Award - TDM Category – UC / CSU / CCC Sustainability (Strategic Mobility Program)
- 2007 Best Practice Award - Fleet Category – UC / CSU / CCC Sustainability (Biofuel conversion)

Also attached is a form we completed for SCAG, our last AQMD survey (showing our Average Vehicle Ridership and describing our programs).

Let me know if you have any questions.

Mike

Michael Davis
Interim Manager,
Sustainable Transportation
UCI Parking & Transportation Services
200 Public Services Bldg, Irvine, CA 92697 - Zot: 4525

Phone: 949.824.5060 Fax: 949.824.2387
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APPENDIX G

CARB POLICY BRIEF RANKING ANALYSIS

Summarizing the ARB briefs leads to the rankings of policies based on impact shown in the table below.

Table H: Summary of ARB Policy Briefs

Policy	Change in Policy	Reduction in VMT or change in other policy variable when noted	Impact Category	ARB policy brief
Road Pricing	1% increase in toll or price	0.1 to 0.45% reduction in traffic volumes	High	Road user pricing
Parking Pricing	Offering employees parking cash out[a]	12% reduction for employees accepting cash out	High	Parking pricing
Regional Accessibility to Employment	1% increase in access to employment [b]	0.13 to 0.25% reduction in VMT	High	Regional Accessibility
Jobs-Housing Balance	1% improvement in jobs-housing balance	0.29 to 0.35% reduction in VMT	High	Jobs-Housing balance
Neighborhood Design	Changes in density, mixed use, and street connectivity simultaneously	0.25% reduction in VMT [f]	High	
Residential Density	1% increase in neighborhood residential density [c]	0.05 to 0.12% reduction in VMT		Residential Density
Mixed Land Use	1% increase in land use mix [d]	0.02 to 0.11% reduction in VMT		Land Use Mix
Street Network Connectivity	1% increase in connectivity [e]	0.06 to 0.12% reduction in VMT		Network Connectivity
Telecommuting	Per individual telecommuter	17% VMT reduction on average weekday [g]	High	Telecommuting
Transit				
Distance from transit station	1 mile reduction in distance to nearest station	1.3% to 5.8% reduction in VMT	High-Medium	Distance to Transit (Transit Access)
Fare	1% reduction in fare	0.4% increase in transit ridership [i]	High-Medium	Transit Service
Service hours or service miles	1% increase in service hours or miles	0.7% increase in transit ridership [i]	High-Medium	Transit Service
Service frequency	1% increase in service frequency	0.5% increase in transit ridership [i]	High-Medium	Transit Service
Employer-Based Trip Reduction	Implementation of program at a worksite	4% to 6% reduction in commute VMT for employees at work site	High-Medium	Employer-Based Trip Reduction

Policy	Change in Policy	Reduction in VMT or change in other policy variable when noted	Impact Category	ARB policy brief
Traffic Incident Clearance Programs	Regional implementation of a freeway incident clearance program	Approximate 1% reduction in two criteria pollutants, CO and NOx	High-Medium [h]	Traffic Incident Clearance Programs
Pedestrian Strategies	1% increase in sidewalk coverage, length, or width	0.09 to 0.27% increase in walking [i]	Low-Medium	Pedestrian Strategies
Bicycle Strategies	1% increase in either bicycle lane density (miles of lane per square mile of land) or spending share of federal transportation funds on bicycle infrastructure (per capita)	0.32% increase in bicycle commute mode share [i]	Low	Bicycle Strategies

Notes:

[a] Parking cash-out offers employees income equal to the value of free parking at work, and then charges employees for parking.

[b] Access to employment is measured by a distance-weighted gravity variable that sums all jobs in region or metropolitan area, inversely weighting jobs by a function of the distance from a residence to the job location.

[c] Neighborhoods were typically census tracts or transportation analysis zones, or approximately ¼ to ½ mile distances around residences.

[d] In the academic literature, land use mix is often measured by entropy or dissimilarity indices. See http://arb.ca.gov/cc/sb375/policies/mix/landusemix_bkgd.pdf.

[e] Measured as percent of street intersections that are four-way or by average block size.

[f] From National Research Council (2009) based on Bento et al. (2005). See http://www.arb.ca.gov/cc/sb375/policies/density/density_brief.pdf.

[g] Includes both telecommute and non-telecommute days. (Adjusts for the fact that telecommuters typically telecommute some but not all days per week.)

[h] Classification as "high-medium" is based on fact that regional impact (approximate 1% reduction in two criteria pollutants) is of same magnitude as regional VMT reduction from regional implementation of employer-based trip reduction programs, where region is a metropolitan area.

[i] Increases in walking, bicycling, and transit ridership will not lead to one-for-one reductions in driving, as low market shares for walking, bicycling, and transit imply that large percentage increases in walk, bicycle, or transit mode share will be associated with smaller decreases in driving share. Paulley et al. (2006), cited in the ARB transit service policy brief, gives evidence that changes in transit service are associated with about $1/10^{th}$ of the impact on driving as on transit service, and a factor of 1/10 is used to scale the impacts for walking, bicycling, and transit ridership in Table 1 when organizing the policies into impact categories in Table 2.

References

Bento, Antonio M., Maureen L. Cropper, Ahmed Mushfiq Mobarak, and Katja Vinha. 2005. The Effects of Urban Spatial Structure on Travel Demand in the United States. *The Review of Economics and Statistics* 87,3: 466-478.

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National Research Council, Committee on Relationships Among Development Patterns, Vehicle Miles Traveled, and Energy Consumption. 2009. *Driving and the Built Environment: The Effects of Compact Development on Motorized Travel, Energy Use, and CO2 Emissions*. Washington, D.C.: National Academies Press.

Paulley, N., Balcombe, R., Mackett, R., Titheridge, H., Preston, J., Wardman, M., Shires, J., White, P. (2006). The demand for public transport: The effects of fares, quality of service, income and car ownership. *Transport Policy* 12: 295-306.

APPENDIX H

CEQA STREAMLINING: EXISTING LAND USE, DENSITY, AND BUILDING INTENSITY DATA

CEQA Streamlining: Existing Land Use, Density, and Building Intensity Data

SB 375 provides incentives in the form of CEQA streamlining to support community designs that help reduce GHG emissions. To take advantage of these CEQA streamlining provisions in SB 375, projects must prequalify based on two criteria:

- A project must be consistent with the land use designation, density, building intensity, and applicable policies in an approved SCS or Alternative Planning Strategy.[1]
- A project must be considered a Transit Priority Project (TPP) or a Residential/ Mixed Use Residential Project (as defined in SB 375).

To help OCCOG jurisdictions take advantage of the CEQA streamlining provisions in SB 375, SCAG will include maps in the regional 2012 RTP/SCS in order to show the uses, densities, intensities and locations for future development, and in order to facilitate subsequent project consistency findings. These maps will use the Orange County Projection dataset as reviewed and approved by OCCOG. SCAG, in consultation with OCCOG and OCCOG jurisdictions, may provide more detail in order to allow interested jurisdictions to take advantage of the CEQA streamlining provisions in SB 375. SCAG will only show more land use detail where a jurisdiction has acknowledged that the land use information is based on their input and approved of its being displayed in the adopted plan.

To facilitate SB 375 CEQA Streamlining, individual Orange County jurisdictions are asked to provide detailed land use information (uses, densities, intensities at a defined geographic level) to SCAG. These data are called out in the SCAG Framework and Guidelines and the legislation specific to the streamlining provisions. Additionally, or in lieu of detailed land use information, jurisdictions may work with SCAG in designating the appropriate regional "development type" in locations for potential future projects. Jurisdictions themselves will determine whether a particular project meets the CEQA streamlining qualifications, including making the consistency finding. If a jurisdiction does not participate in the SCS data collection effort for existing land use, density, and building intensity, there is no direct adverse consequence due to not providing input.

In order to provide the most accurate data possible for the Orange County subregion, and to preserve individual jurisdictions' general plan and existing data accuracy, detail, and integrity, and to meet the requirements under SB 375 for purposes of CEQA

[1] CARB will review the regional SCS to accept or reject SCAG's determination whether or not the implementation of the SCS would achieve the GHG emission reduction targets for the region. If the regional targets cannot be achieved by the regional SCS, then SCAG must prepare an Alternative Planning Strategy (APS). An APS is a separate document from the RTP and describes how the targets could be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

streamlining, SCAG prepared and provided Orange County local jurisdictions with a set of data/ GIS maps of detailed land use information, including General Plan, zoning, and existing general land use designation, density and building intensity data and maps, all for the jurisdictions' review and comment. Data/Maps Guides and Review Packets were provided by SCAG in electronic and hard copy format to OCCOG on February 11, 2011, for individual Orange County jurisdiction's review by April 29, 2011.

The information contained in the data packets document was developed and/or collected by the staff in the Data and GIS group in the Department of Research, Analysis, and Information Services (RAIS) under the Land Use and Environmental Planning (LUEP) Division at SCAG. The SCAG Data/Map Guide included information on the sources, methodologies, and contents of each dataset. These data/ GIS maps are identified in SB 375 as required to be considered in the SCS development to address the requirements of SB 375 and its implementation for purposes of CEQA streamlining. Comments and corrections from subregions and local jurisdictions are due to SCAG by April 29, 2011.

The list of data/GIS maps included in the SCAG map and data packets, along with the review requested of Orange County jurisdictions, appears as Table F, below.

Table F: Contents of the SCAG Map and Data Packets, with Review of Orange County Jurisdictions

Category	Action	GIS Shapefile available?
Land Use		
General Plan	review & comment	Yes
Zoning	review & comment	Yes
Existing Land Use as of 2008	review & comment	Yes
Geographical boundaries		
Jurisdiction Boundary & Sphere of Influence	review & comment	Yes
Census Tract Boundary	None	Yes
TAZ Boundary	None	Yes
Transit Priority Projects		
Major Stops & High Quality Transit Corridors	review & comment	Yes
Resource Areas & Farmland		
Endangered Species and Plants	review & comment	Yes
Flood areas	review & comment	Yes
Natural Habitat	review & comment	Yes
Open Space and Parks	review & comment	Yes
Farmland	review & comment	Yes

BACKGROUND: EXISTING LAND USE, DENSITY, AND BUILDING INTENSITY

In 2008 and early 2009, SCAG began to collect the general plan and zoning information from local jurisdictions, with year adopted ranging from 1971 to 2009 by jurisdiction. The general plan and zoning documents, maps, and/or GIS shapefiles collected were coded into GIS shapefiles at parcel level. Parcel data were acquired from Digital Map Product for Orange County. Beginning in July 2009, SCAG communicated with local jurisdictions, and revised the general plan and zoning data based on the results of the local review. Through a process of collecting general plan and zoning documents and receiving comments from local jurisdictions, information included in the data packets reflected the local inputs received by January 31, 2010. SCAG continues to receive local input, and will incorporate them into the database. General Plan data are shown at a parcel level; in many areas, they depict a local agency's adopted documents accurately. However, the data shown in some areas may be generalized or inaccurate for many reasons, a primary reason because the parcel level database representing general plan does not support multiple uses or designations on a single parcel (either splitting the parcel or representing overlays). Additionally, data on building size, existing use, and other specific parcel-related information that SCAG collected from other original data sources such as the Orange County Assessor's Office may have been in error and/or not up to date. Due to these inaccuracies and limitations, if site specific data is necessary, users should always reference a local agency's adopted documents or field surveys to determine actual land use designations.

At the jurisdiction level, both general plan land use and zoning maps are prepared with the land use or zoning codes used in each local jurisdiction. General Plan land use maps are also available at larger geographic levels, such as subregion, county, or the entire SCAG region with SCAG's standardized General Plan codes. For detailed information on the standardized codes, please refer to SCAG's General Plan Code Table.

SCAG prepared three sets of land use maps (General Plan Land Use, Zoning and 2008 Existing Land Use) at parcel level. The three land use maps were originally provided to local jurisdictions in September/October 2009. Based on one-on-one meetings and communication with local jurisdictions throughout the 1st round outreach (July 2009-January 2010) the Data/Map packets of existing land use, density, and building intensity data transmitted to Orange County jurisdictions in February 2011 reflect the local inputs received by January 31, 2010. Data was also incorporated for the cities of Irvine, San Clemente and San Juan Capistrano that was received after January 31st. The City of Costa Mesa is continuing to work with SCAG to correct the existing land use map for their jurisdiction.

Orange County Jurisdiction Review Process

OCCOG distributed the electronic files and hard copies to Orange County cities and the County of Orange for review. They were asked to review and submit updates and comments for purposes of SB 375 CEQA streamlining, a description of which is attached. All Orange County jurisdictions received the SCAG datasets in both electronic and hard copy format. Most but not all OC jurisdictions reviewed for purposes of SB 375 CEQA Streamlining.

SCAG staff presented a data orientation and review session to the OCCOG TAC on March 1, 2011 and additionally at a broader meeting of SCS stakeholders on March 9, 2011. Additionally, SCAG staff was available and conducted meetings at CDR during the last week of March 2011 to provide technical data and GIS assistance to Orange County jurisdictions with limited data/GIS capability that needed assistance in the Data/Map review.

Based upon parcel level data originally provided by SCAG, Orange County jurisdictions reviewed the data to various degrees for purposes of CEQA streamlining.

Results

The results of that process are attached as data elements and appendices to this document. General Plan, zoning, and existing land use (density and building intensity) data are identified and provided at the parcel level in attached Excel files by Orange County jurisdiction.

In Appendix I, individual jurisdiction General Plans are presented along with web address links to individual jurisdictions' General Plans. Individual jurisdiction General Plans are always considered the final and ultimate authority on land use and zoning, especially for those jurisdictions that opted not to review the SCAG data.

For those jurisdictions that did not fully review, there are some limitations, conditions, and caveats to the existing land use, density, and building intensity data. Data provided by SCAG on land use is in some areas inaccurate and/or generalized. Because the parcel level database representing existing land use, general plan, and zoning data does not support multiple uses or designations on a single parcel (either splitting the parcel or representing overlays, such as zoning overlays), the data ultimately shown may generalize the data and thus not accurately depict a local government's adopted general plan or zoning or the existing land use on the site (including land use designated through a development or other legal agreement).

Due to these caveats and limitation, if site-specific data is necessary, users should always reference and rely on individual City and County of Orange general plans as the final authority. A local agency's adopted documents are always the final say on allowable land

use designations and zoning, and actual site visits or field surveys to determine densities and building intensities should be undertaken.

APPENDIX I

JURISDICTION GENERAL PLANS