DESTINATION 2035

Moving Toward a Greener Tomorrow

OCTA

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Executive Summary

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- Public Involvement Plan
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- Options for Orange County
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Executive Summary

This 2010 Long Range Transportation Plan (LRTP) outlines a vision for multi-modal transportation improvements throughout Orange County. These projects, programs, and improvements are designed to address the transportation needs of Orange County residents, commuters and visitors for the next 25 years. The Orange County Transportation Authority (OCTA) prepares the LRTP every four years to account for new planning efforts, as well as changes in demographics, economic conditions, and available sources of transportation funding.

The LRTP is OCTA's input to the Regional Transportation Plan (RTP) prepared by the Southern California Association of Governements (SCAG). The plans, programs, and projects contained within this LRTP will be modeled and analyzed by SCAG together with additional transportation programs and projects proposed throughout the SCAG region. SCAG will lead the preparation of the appropriate environmental document for the RTP to comply with California Environmental Quality Act (CEQA) requirements.

"Multi-modal transportation improvements are planned through the LRTP."

Goals and Objectives

The program of projects and vision for transportation improvements set forth in this LRTP are based on three goals established by OCTA. These goals are:

1 **Expand Transportation System Choices:** Expand access to travel options across all travel modes, improve connectivity to major destinations, and improve integration between transportation modes.

2 **Improve Transportation System Performance:** Improvements to travel speeds, travel times, person throughput, and roadway and transit service levels.

3 **Ensure Sustainability:** Timely maintenance of transportation infrastructure, implementation of environmental protection strategies, and use of innovative project delivery methods to reduce taxpayer costs.

The planned and funded transportation projects and programs outlined in this LRTP's Year 2035 Preferred Plan fulfill these goals, while providing an expanded range of transportation choices for Orange County residents, commuters, and visitors. This LRTP is just the beginning of the project development process. Following the completion of the plan, OCTA will continue to advance and monitor the progress of the projects and programs included in this plan.

Public Involvement Plan

The LRTP public outreach effort is an integral part of the development of the plan. This outreach effort complements the technical analyses and helps shape the content of the plan. The primary elements of the public outreach effort include discussions with the Citizens Advisory Committee (CAC) and the Orange County Council of Governments (OCCOG) Technical Advisory Committee, meetings and briefings with City staff, updates and surveys posted to the OCTA website, and public meetings offering opportunities for residents to view the contents of the plan, ask questions and provide feedback to OCTA.

The development of the LRTP is also coordinated in concert with other government agencies that have a stake in the transportation future of Orange County, including the California Department of Transportation (Caltrans), the Southern California Association of Governments (SCAG), the Transportation Corridor Agencies (TCA), local jurisdictions, neighboring counties, and others.

"In the Year 2035 Baseline Condition, about 50 percent of Orange County's freeways will operate under congested conditions in peak hours."

The Transportation System

Orange County is a regional metropolitan center that serves as a major economic engine for Southern California. The transportation network that supports Orange County is an integral part of the region's development and economic future. Orange County is a leader in developing and implementing innovative transportation projects, with one of the most extensive high occupancy vehicle (HOV) lane and toll road networks in the State, a master plan of arterial roadways that outlines a county-wide plan for improving mobility, and an extensive bus and rail transit system. This LRTP seeks to continue Orange County's transportation leadership, outlining the transportation improvements necessary to keep Orange County moving and thriving, economically and environmentally, for the next 25 years.

With the sunset of the original Measure M in 2011, OCTA is charged with the implementation of a new program of projects and improvements contained in Measure M2, which was approved by Orange County voters in 2006. The continuation of this important local transportation funding source helps

to ensure that the transportation improvements outlined in this LRTP can be implemented in a timely fashion. The Measure M2 Early Implementation Projects advance the scheduled implementation year for many projects so that Orange County can realize the project benefits sooner.

Orange County's transportation system is a multi-modal network comprised of freeways, streets, bus lines, rail corridors, and bicycle and pedestrian facilities that allow residents, commuters and visitors to travel between destinations conveniently and efficiently on a daily basis. Orange County's travel network is anchored by an extensive freeway system that includes both toll roads, express lanes, and the most comprehensive carpool lane network in the nation. The freeway system is complemented by an arterial roadway system that serves both regional and local travel. Orange County is also served by an extensive commuter rail network (Metrolink) and OCTA and local bus transit providers offering over 80 bus routes. In addition, Orange County's transportation system includes over 1,000 miles of bikeways. These elements are combined with other transportation programs (vanpools, taxi services, paratransit services) to provide an integrated transportation system.

Future Challenges

Travel patterns within Orange County are continuously evolving and changing with population and employment growth, new development, and the emergence of new destinations and activity centers. The transportation network must also grow and evolve to continue to effectively and efficiently meet Orange County's travel needs. Over the next 25 years, Orange County will continue to grow, both in terms of population and employment. Travel demand and person trips are also forecast to increase. Improvements to the transportation system are necessary to keep pace with this anticipated growth to ensure continued economic prosperity in Orange County and to maintain the region's quality of life.

Over the next 25 years, the population in Orange County is forecast to increase by 14 percent. Employment will increase by over 10 percent during the same period. Combined with a forecasted 12 percent increase in daily person trips, these changes will place additional demands on the transportation system. By 2035, daily vehicle miles traveled (VMT) are expected to increase by 30 percent over the Year 2008 figure. The increase in VMT leads to slower average travel speeds, with the system-wide average speed dropping 34 percent from 2008 to 2035.

Future travel patterns and trip volumes are anticipated to worsen freeway and roadway congestion levels when compared to those experienced today. It is forecast that by 2035, about 50 percent of Orange County's freeways and about 20 percent of Orange County's roadways will operate under congested conditions during peak hours.

The increased number of vehicles traveling on Orange County's freeways and roadways challenges the transportation system in several ways. On top of the increases in congestion levels and travel times, the increased traffic levels intensify the need for and cost of maintenance. Regular maintenance is necessary for all roadways and freeways. As Orange County's transportation system ages and serves increasing travel volumes, the maintenance frequency will increase and require more financial resources. Appropriate maintenance levels help to avoid pavement deterioration and greater maintenance expenses down the road.

Financial Forecasts

Forecast revenues for the next 25 years for transportation projects in Orange County come from a variety of sources, including local, State, and Federal funding programs. About $39.4 billion in transportation funding is forecast to be available for Orange County projects through 2035. Local funding sources, including Measure M2, are anticipated to comprise nearly 70 percent of this amount. State and Federal funding programs and grants will supplement local dollars and help to complete the funding picture.

"OCTA provides a range of transit services to serve different travel markets."

Options for Orange County

The 25-year transportation plan outlined in this LRTP is based on a vision for a sustainable transportation system that offers long-term mobility and supports a desirable quality of life for Orange County. The Goals and Objectives developed for this LRTP are used in the identification of specific strategies and visions for transportation improvements across all travel modes. These are outlined below:

Transit Strategy

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 land-uses; and,
- Seek funding and savings for transit operations.

Freeway Vision

The freeway vision provides guidance for prioritizing freeway projects within the financially preferred plan for the LRTP. The objective of the

freeway vision is to ensure that the traveling public will have access to a well-performing freeway network that meets future travel demand, supports a variety of travel modes, such as express bus service and vanpools, and is sustainable for future generations. The vision includes the following guiding elements:

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

Streets and Roads Vision

Streets and roads form the foundation of Orange County's transportation system, supporting multiple transportation modes, including buses, automobiles, pedestrians, and bicyclists. The vision for improving the street and roads network within Orange County is based on three primary components:

- Completion of the Master Plan of Arterial Highways (MPAH)
- Implementation of the Traffic Light Synchronization Master Plan
- Continuation of the Roadway Pavement Management Plan

Transportation System Management/ Transportation Demand Management

Transportation System Management (TSM) and Transportation Demand Management (TDM) measures are effective tools and programs designed to have the existing transportation network operate more efficiency and effectively. OCTA is planning several improvements under these programs, from intelligent transportation system upgrades, to increased vanpool and rideshare opportunities, to implementation of projects contained in the Commuter Bikeways Strategic Plan. Together, these improvements will expand the travel choices available to Orange County residents, commuters, and visitors, and allow the future transportation network to operate more efficiently than would otherwise be possible.

Orange County Tomorrow

This LRTP proposes a program of transportation improvements that can be achieved within the financial constraints faced by OCTA. This plan seeks to improve access to the transportation system and the performance of the system, using a sustainable and efficient approach that maximizes available project resources.

The Year 2035 Preferred Plan of projects outlines a menu of transportation improvements designed to help meet the transportation needs of Orange County for the next 25 years. The program of projects contained in this plan would result in increases to bus and rail transit services, additional freeway capacity, improved traffic flow on major arterial streets and roads, and an increased range of alternative transportation options.

The primary achievements of the Year 2035 Preferred Plan of projects include:

- Expanding Metrolink commuter rail service within Orange County up to 76 trains per day, and to neighboring counties
- Expanding access to Metrolink stations for a greater number of Orange County residents and commuters
- Increasing OCTA fixed route bus service levels with the objective of adding about 400,000 annual service hours by 2035 to restore service hours to 2008 levels

- Coordinating traffic signals along 750 miles of roadways and at over 2,000 intersections to improve regional traffic flow
- Fixing bottlenecks and increasing capacity on freeways and toll facilities by adding over 250 lane miles to the system
- Converting nearly 90 percent of the high occupancy vehicle lane network to continuous access
- Improving safety and traffic operations by constructing 10 new rail crossing grade separations
- Expanding access to rideshare and vanpool services by more than doubling Year 2010 vanpool service levels by 2035
- Planning to increase bicycle facility miles to over 75 percent above 2008 levels

The performance of the transportation system with the implementation of the projects outlined in the Year 2035 Preferred Plan is compared to the Year 2035 Baseline condition in order to measure the level of improvement achieved and to measure the plan's performance against the goals and objectives established for the plan (Figure E-1).

These forecasted improvements correspond well with the goals and objectives identified for this LRTP, which include improving access to the transportation system, improving the performance of the transportation system, and ensuring the sustainability of the system for the next 25 years.

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%*

Figure E-1: Preferred Plan Performance Analysis (compared to 2035 Baseline)

* 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.

Source: Orange County Transportation Analysis Model (OCTAM) Version 3.3

"The Year 2035 Preferred Plan of projects will expand transportation choices in Orange County."

Introduction

- Why Does OCTA Prepare a LRTP?
- Parallel Planning Efforts
- Changes Since the 2006 LRTP
- Developing Destination 2035
- Public Involvement Process

Introduction

The Orange County Transportation Authority (OCTA) prepares the Long Range Transportation Plan (LRTP) to set a path for the maintenance and improvement of Orange County's transportation system, and to define a long-term, sustainable plan for keeping Orange County's residents, workers, and visitors moving in the future. This LRTP highlights Orange County's vision for implementing transportation improvements and increasing the interconnectivity of the transportation system for the next 25 years.

"This Long-Range Transportation Plan identifies transportation improvements for the next 25 years."

WHAT OCTA DOES

OCTA allocates federal, state, and local funds to support the maintenance and preservation of the transportation system, as well as the strategic expansion of the system to address current and projected deficiencies. These efforts include:

Freeways

- Maximizing the efficiency of the freeway system
- Expanding the freeway system
- Operating the 91 Express Lanes
- Providing freeway service patrols and other motorist aid services

Roads

- Providing funding for local jurisdictions to maintain and improve local arterials and roads
- Maintaining the continuity of the Master Plan of Arterial Highways

Transit

- Providing fixed route bus services
- Providing paratransit service
- Supporting Metrolink commuter rail service

Transportation Demand Management/ Non-Motorized Transportation

- Implementing rideshare and other demand management programs
- Providing funding for local jurisdictions to implement and expand bicycle facilities and infrastructure
- Regulating taxi operations

Why Does OCTA Prepare a LRTP?

In its role as a transportation planning agency, OCTA prepares the LRTP to set a transportation vision for Orange County for the next 25 years. The LRTP builds off the vision of the voter-approved Measures M1 and M2, the one-half percent (0.5%) sales tax that allocates revenues to Orange County transportation improvement projects and programs. OCTA prepares the LRTP every four years to reflect updated demographic projections, economic conditions, new regulations, and other issues that may affect how to address current and future transportation challenges. As such, the LRTP develops appropriate multi-modal strategies that aim to tackle the challenges of the future while honoring past commitments.

The California Government Code Section 65080 states that "each transportation planning agency shall adopt and submit, every four years, an updated regional transportation plan to the California Transportation Commission and the Department of Transportation." This LRTP is OCTA's input to the RTP prepared by SCAG to satisfy this requirement. The plans, programs, and projects contained within this LRTP will be modeled and analyzed by SCAG together with additional programs and projects proposed throughout the SCAG region. SCAG is also responsible for preparing the appropriate environmental document for the RTP to comply with California Environmental Quality Act (CEQA) requirements.

"The LRTP is updated every four years to keep pace with the needs of Orange County residents."

Parallel Planning Efforts

This LRTP is part of much larger planning processes underway in Southern California, statewide, and nationally. These efforts include regional plans such as the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP); state plans such as the California Transportation Plan and California Interregional Blueprint; and the Federal Transportation Improvement Program (FTIP) (Figure 1-1).

Regional Transportation Plan

Every four years, SCAG adopts the RTP to address the transportation needs and challenges of the region based on current and projected socioeconomic factors. The SCAG region includes Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. The RTP provides a long-term transportation framework and ensures that the socioeconomic information presented provides accurate forecasts for the plan's horizon year (currently 2035).

The RTP is developed through collaboration with the region's county transportation commissions (OCTA, Los Angeles County Metropolitan Transportation Authority, Riverside County Transportation Commission, Imperial County Transportation Commission, Ventura County Transportation Commission, and San Bernardino Association of Governments), subregions, local governments, state and federal agencies, and many other stakeholders. The RTP provides long-range regional strategies that address the mobility challenges faced by the SCAG region while conforming to federal air quality requirements set forth in the federal Clean Air Act (CAA), state air quality requirements defined by the California Air Resources Board (CARB), as well as to fiscal constraints related to the funding of these improvements.

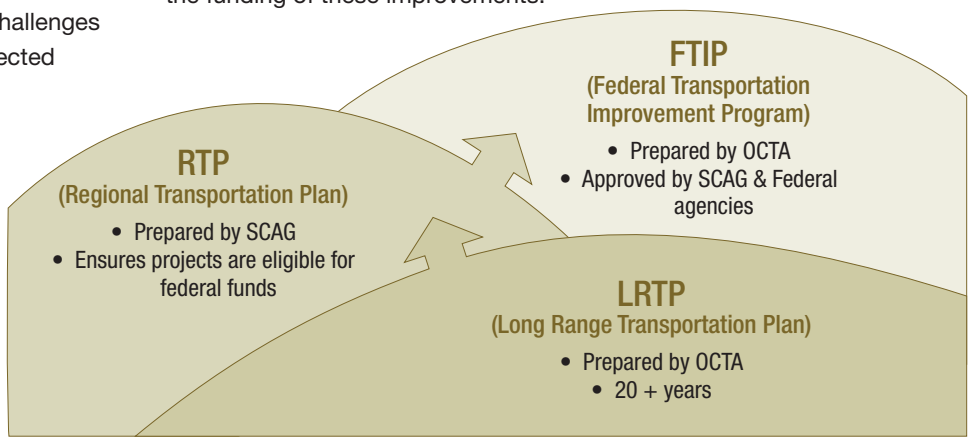


Figure 1-1: LRTP Inputs into Other Transportation Plans

The LRTP identifies Orange County's transportation projects and programs for inclusion in the SCAG RTP, which allows Orange County projects to be eligible for state and federal funding. This ensures that near-term projects can be programmed for funding in regional and state budgets developed through the FTIP, which includes all transportation-related projects requiring state and federal funding or other approval by state and federal transportation agencies.

Climate Change Legislation

The Global Warming Solutions Act of 2006 (Assembly Bill 32) requires the reduction of statewide greenhouse gas emissions to year 1990 levels by the year 2020. Enacted in 2008, Senate Bill (SB) 375 requires the California Air Resources Board (CARB) to adopt GHG reduction targets for emissions associated with cars and light trucks. It further requires that a Sustainable Communities Strategy (SCS) element be included in each Metropolitan Planning Organization's (MPO) long-range plan.

"Fiscal and environmental sustainability are key objectives for the LRTP."

The SCS must include these components:

1. Land use
2. Resource and farmland protection
3. Demonstration of how development patterns and the transportation network can work together to reduce GHG emissions

Although SCAG is the MPO for this region, Orange County has elected to prepare its own SCS for incorporation into SCAG's RTP. OCTA and Orange County Council of Governments (OCCOG) are collaborating to develop the SCS. The transportation elements of this SCS are highlighted in the Climate Protection section of this LRTP.

Other Efforts

The California Transportation Plan (CTP) is a statewide, long-range transportation plan for meeting our future mobility needs. The CTP defines goals, policies, and strategies to achieve our collective vision for California's future transportation system. This plan, with a minimum 20-year planning horizon, is prepared in response to federal and State requirements and is updated every five years.

The California Interregional Blueprint (CIB) integrates regional land use planning efforts with Caltrans' goal to plan an interregional multi-modal transportation system in the most effective and efficient way possible. The CIB is the foundation for the next update of the State's transportation plan, the California Transportation Plan 2040.

Changes since the 2006 LRTP

Since the adoption of the 2006 LRTP, several changes have occurred that are reflected in this plan:

1 Approval of Measure M2.

Measure M1, the one-half percent (0.5%) sales tax measure approved by Orange County voters in 1990, is set to expire in 2011 and has funded congestion-relief projects ranging from freeway improvements, to implementation of commuter rail service, and local street improvement projects. In November 2006, voters overwhelmingly approved a 30-year extension of the one-half percent (0.5%) sales tax measure (Measure M2) that will provide $13.85 billion in additional locally-controlled funds for transportation priorities through 2041.

2 Passage of Proposition 1B.

The November 2006 passage of Proposition 1B by California voters provided $19.9 billion for transportation infrastructure investment statewide. Over $760 million was allocated to Orange County, and the programs funded through the bond measure include freeway projects, grade separations, intercity rail, local transit, traffic signals, highway maintenance, and other projects.

3 Environmental legislation.

Following adoption of California's landmark legislation Assembly Bill 32: Global Warming Solutions Act of 2006 (AB 32), the State Legislature passed Senate Bill 375 (SB 375) in 2008, requiring that regional transportation plans include strategies to reduce greenhouse gas emissions from automobiles and light trucks.

4 Complete Streets Act.

The Complete Streets Act legislation was passed by the State of California in 2007 to ensure that the transportation plans for California communities meet the need of all users of the roadway, including pedestrians, bicyclists, users of public transit, motorists, children, the elderly, and the disabled. OCTA is currently working to update the MPAH Guidelines to reflect the requirements of this act.

5 Economic recession.

Since 2008, the national, regional, and local economies have suffered from deep crises in the banking system, housing market, and other sectors. As a result, transportation revenues from sales taxes, state and federal government grants, and other sources have substantially declined since the 2006 LRTP.

The changes described above have had a substantial impact on the development of this LRTP. The forecast changes associated with funding (balance of funding sources and amount available) limit OCTA's ability to implement projects as planned in earlier LRTP's. This plan also prepares Orange County for the future, through the consideration of projects in light of the new environmental legislation, paving the way for future plans to be in compliance with AB 32 and SB 375.

ACHIEVEMENTS SINCE THE 2006 LRTP

- **Passage of Measure M2**
- **Highways**
  - Construction of improvements to the Santa Ana Freeway (I-5) North
  - Carpool lanes and other improvements on the Garden Grove Freeway (SR-22)
  - Improvements on the Foothill/Eastern Transportation Corridor (SR-241) and San Joaquin Hills Transportation Corridor (SR-73)
- **Arterials**
  - Completion of the Laguna Canyon Road Widening Project
  - Completion of the El Toro Road widening project
  - Initiated work on several railroad grade separation projects
  - Initiated implementation of the Traffic Light Synchronization Program on 10 arterial streets across the county
- **Transit**
  - Opened the Buena Park Metrolink station
  - Completion of a new 1,500-space parking structure at the Irvine Station
  - Expanded Metrolink rail service on the weekends
- **Services**
  - Implementation of an OCTA administered countywide vanpool program- Participation in the roll-out of the Southern California 511 traffic information service

"Measure M2 will continue the legacy of M1 and fund numerous improvements over the next 30 years."

Developing Destination 2035

This LRTP includes a fresh assessment of challenges and opportunities for transportation solutions in Orange County. On one hand, challenges include the reduced levels of traditional sources of transportation funding. On the other hand, opportunities include the continued generation of local Measure M sales tax funding. This measure provides a long-term source of funding that can be leveraged for additional state and federal funds. Additionally, cost savings are being realized due to a highly competitive construction bidding environment.

The process of developing this LRTP includes four key steps:

"All 34 Orange County cities and the County of Orange provided input into the Long-Range Transportation plan."

1 Establish goals and objectives:

To guide the development of priority programs and projects in the 25-year LRTP, three goals are established, with associated objectives:

Goal: Expand Transportation System Choices

- Objective: Expand travel options across modes including transit, driving, bicycling, walking, and ridesharing opportunities
- Objective: Improve connectivity to/from employment centers and regional destinations
- Objective: Ensure multi-modal integration throughout the transportation system

Goal: Improve Transportation System Performance

- Objective: Improve travel speeds
- Objective: Improve travel time
- Objective: Increase person throughput
- Objective: Improve roadway and transit level of service

Goal: Ensure Sustainability

- Objective: Ensure timely maintenance of transportation infrastructure investments
- Objective: Consider costs and environmental impacts when making transportation investment decisions
- Objective: Develop innovative funding and project delivery strategies to reduce taxpayer costs

This LRTP includes specific performance measures to test how well the plan achieves the established goals.

2 Develop planning priorities:

Planning priorities were established to connect the overarching goals and objectives to funding recommendations. This included the development of a Transit Strategy and Freeway Vision, along with existing OCTA policies that provided broad objectives for efficiently prioritizing future improvements. In addition, the Master Plan of Arterial Highways (MPAH) provided guidance on how to develop a system of major arterial roads that would complement the freeway system and provide both regional and local travel options.

3 Forecast revenues through 2035:

A financial assessment was prepared to evaluate the impacts of the recession and other financial developments on the currently adopted program of projects. This helped OCTA identify the level of funding that is available to Orange County through 2035 that could be assumed through the LRTP horizon year.

4 Develop and analyze alternatives:

The program of projects outlined in this LRTP are organized into three alternatives. These alternatives contain a menu of multi-modal projects and programs that include both past commitments by OCTA, as well as unfunded, cost-effective proposals. OCTA's OCTAM travel demand model was then used to evaluate the impacts and benefits of alternatives, which include:

- Year 2035 Baseline (No Build) Condition
- Year 2035 Preferred Plan (includes projects that can be afforded based on the Revenue Forecast)
- Year 2035 Unconstrained Plan (includes projects that require funds beyond the Revenue Forecast)

Public Involvement Process

The public outreach effort conducted for this LRTP was an integral part of the development of the plan. This outreach effort complemented the technical analyses and helped shape the final content of the plan. LRTP elements were discussed with the Citizens Advisory Committee (CAC) and the Orange County Council of Governments (OCCOG) Technical Advisory Committee. OCTA's website was updated to inform the public about the progress of the LRTP and an online survey was conducted to gather further public input. Highlighted in Figure 1-2 are responses from residents regarding prioritization of future transportation improvements.

This LRTP's development is also coordinated in concert with other government agencies that have a stake in the transportation future of Orange County, including the California Department of Transportation (Caltrans), SCAG, the Transportation Corridor Agencies (TCA), local jurisdictions, the San Diego Association of Governments (SANDAG), and others. The OCTA Board of Directors provided substantial policy guidance for the plan.

Following the release of the Draft LRTP, OCTA initiated a public comment period which included a public open house, outreach and information distribution via OCTA's website, email and social media postings, and meetings and outreach via the OCTA Speaker's Bureau, which provides access to numerous stakeholders including the business, academic, environmental and building industries and organizations.

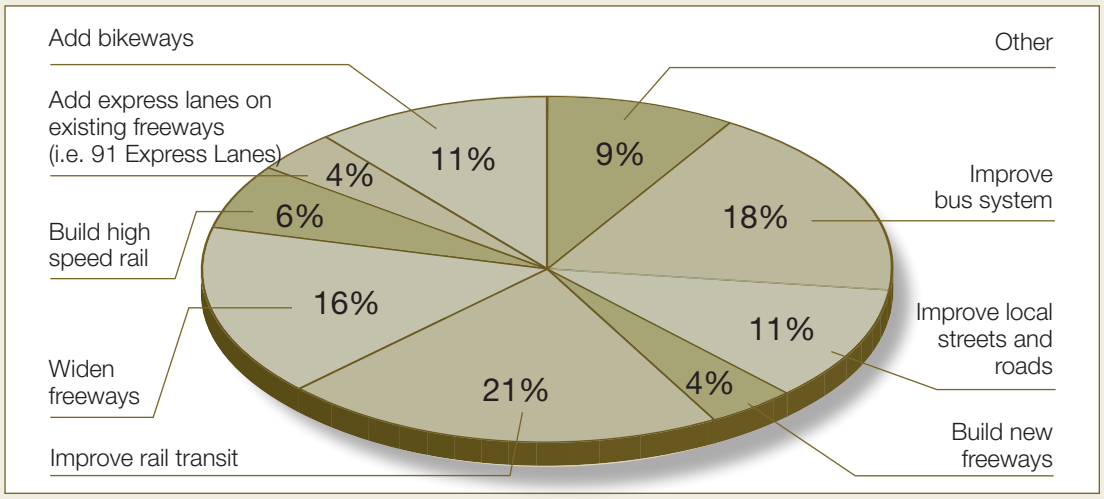
"Opinion research polls and focus groups helped OCTA plan and prioritize transportation improvements."

Figure 1-2: Online Survey Results

Top Transportation Improvements:

- Fix freeway bottlenecks at interchanges and on- and off-ramps
- Add new lanes within existing right-of-way
- Add elevated lanes at key intersections
- Build bridges or underpasses at railroad crossings
- Repair and maintain existing streets (i.e. fix potholes)
- Improve rail and bus connections to destinations/employment centers
- Integrate existing rail services (Metrolink, Amtrak, and Coaster)
- Add high-speed rail service to Los Angeles
- Coordinate traffic signals
- Adding turn lanes at intersections
- Build bicycle/pedestrian facilities (e.g. sidewalks, bikeways, bicycle parking, etc.)
- Promote telecommuting

Top Improvements Priorities:



Note: These results were obtained through an informal, non-scientific survey.

The Transportation System

- Background
- Current Demographics
- Recent Transportation Accomplishments
- Orange County's Transportation System
- The Transportation System and the Environment

The Transportation System

Background

Over the past century, Orange County has grown from a collection of rural, agricultural-based communities into a regional metropolitan center that serves as a major economic engine for Southern California. The transportation network has grown in step with the region. Orange County has been a leader in developing and implementing innovative transportation projects, with one of the most extensive high occupancy vehicle (HOV) lane and toll road networks in the State, a master plan of arterial roadways that outlines a county-wide plan for improving mobility, and an extensive bus and rail transit system that was named the best in the nation by the American Public Transportation Association (APTA) in 2005.

With the first decade of the 21st Century complete, Orange County continues to grow and change. New challenges are emerging to maintain environmental and economic sustainability, accommodate additional development, and maintain an efficient and modern transportation system. This LRTP is an integral component in this effort, outlining the transportation improvements necessary to keep Orange County moving and thriving, economically and environmentally, for the next 25 years.

"Orange County has grown into a regional metropolitan center."

Current Demographics

Orange County is the third most populous county in California, with over three million residents and one million households in 35 jurisdictions. Higher densities are observed in North and Central County (Figure 2-1). Orange County is also home to over 1.5 million jobs. Employment density is concentrated in key activity centers along the Santa Ana (I-5), San Diego (I-405), Costa Mesa (SR-55) and Riverside (SR-91) Freeways (Figure 2-2), with other smaller activity centers located throughout the county.

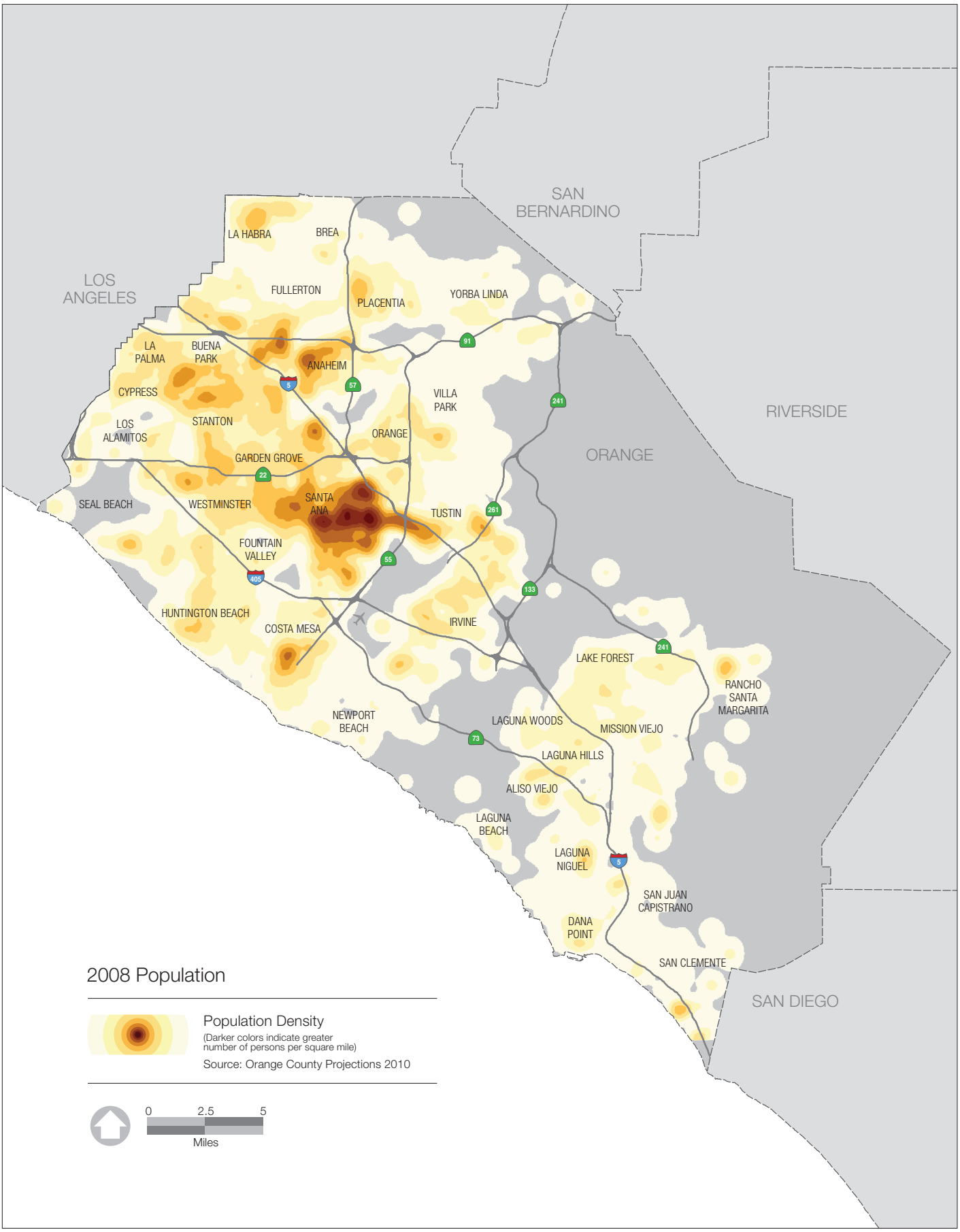


Figure 2-1: Base Year (2008) Population Density

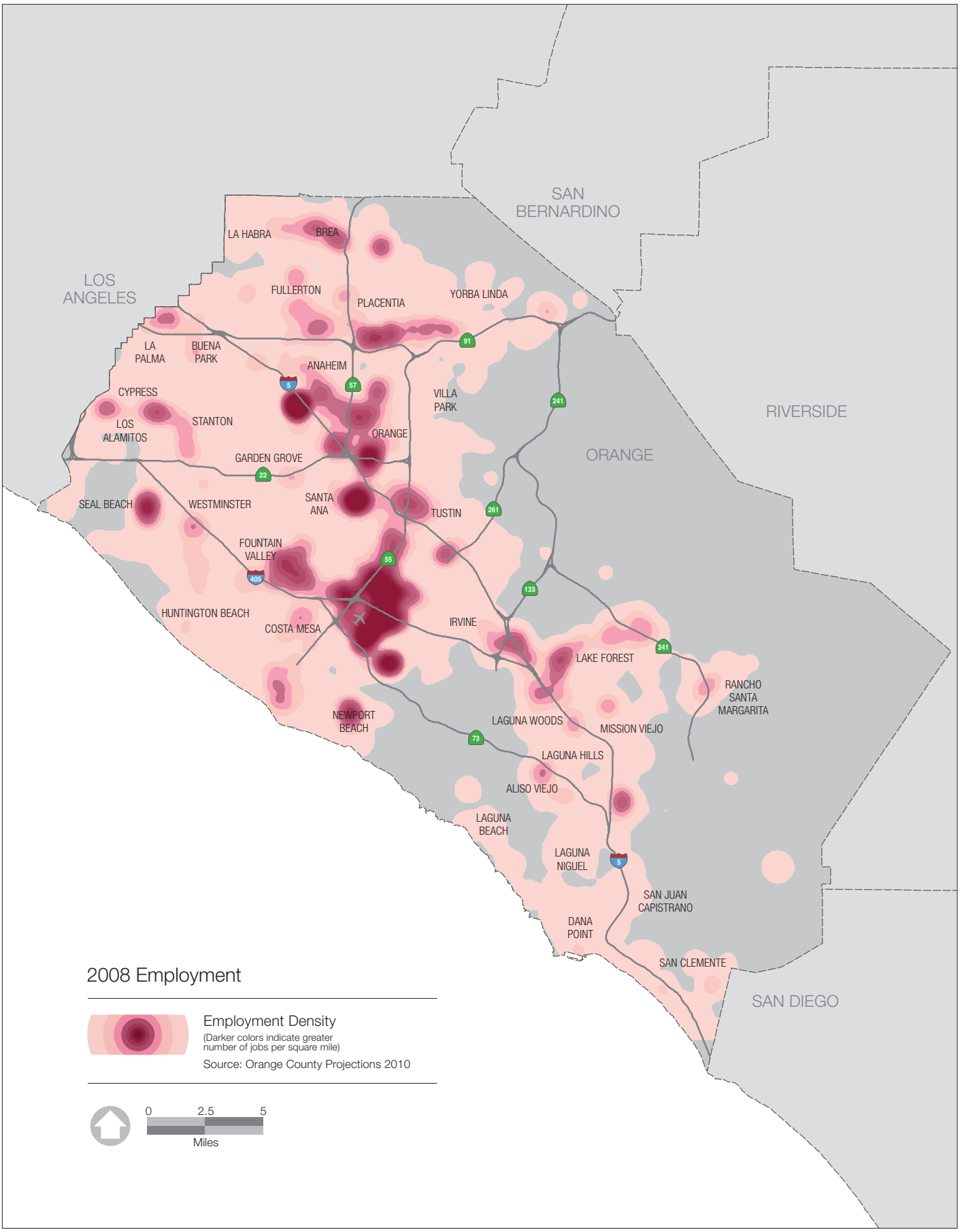


Figure 2-2: Base Year (2008) Employment Density

Recent Transportation Accomplishments

As Orange County has matured into a metropolitan center, its transportation system has evolved around the needs of people and goods that travel throughout the county. Two funding programs have contributed substantially to funding transportation improvements throughout Orange County.

Measure M1

Thanks to the vision and commitment that Orange County voters made in 1990, Measure M1 has successfully funded $3.4 billion in transportation improvements that serve the County's travel needs. These investments included: widening of freeways, construction of carpool lanes and freeway interchange improvements; local roadway projects that focus on maximizing the efficiency of the arterial street system; and transit projects.

Proposition 1B

The county's transportation system has also benefited from funding provided by Proposition 1B, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006. Projects in Orange County receiving funding through this bond include traffic light synchronization programs and grade separations. These projects are highlighted on the following page. Since its inception, Proposition 1B has contributed over $581 million of the $760 million allocated to fund transportation improvements in Orange County.

20 YEARS OF MEASURE M1-FUNDED PROJECTS

Since 1990, Measure M1 has funded about $3.4 billion in transportation improvements during a substantial period of growth. These improvements range from freeway capacity enhancements to commuter rail service and include:

- Widening of the Orange (SR-57) Freeway to provide carpool lanes
- Construction of carpool lanes on the Santa Ana (I-5) Freeway
- Construction of interchange improvements at the I-5/I-405 and SR-91/SR-57 interchanges
- Construction of freeway improvements on the Santa Ana (I-5), Riverside (SR-91), Costa Mesa (SR-55), and Garden Grove (SR-22) Freeways
- Implementation of Smart Streets along Beach Boulevard, Moulton Parkway, Imperial Highway, and Katella Avenue
- Launch of Metrolink service – Orange County, Inland Empire-Orange County and 91 Lines
- Construction of six new commuter rail stations: Anaheim Canyon, San Clemente, Buena Park, Laguna Niguel, Tustin, and Orange
- Implementation of bus fare discounts for seniors and disabled riders
- Construction of bikeway projects
- Construction of local streets and roads improvement projects
- Implementation of signal improvement projects
- Funding for Go Local transit studies

PROPOSITION 1B-FUNDED PROJECTS

Orange County transportation projects fully or partially funded by Proposition 1B (completed or in progress):

- Improvements to the Orange (SR-57) Freeway
- Various widening improvements on the Riverside (SR-91) Freeway
- Freeway to freeway carpool lane connectors between the San Diego (I-405), San Gabriel River (I-605) and Garden Grove (SR-22) Freeways
- Rail grade separation projects in Fullerton, Placentia, Anaheim, and Irvine
- Traffic Light Synchronization Program
- Metrolink Service Expansion Program
- Purchase of paratransit vehicles
- Triple track of the Los Angeles to San Diego (LOSSAN) rail corridor between Commerce and Fullerton
- Completion of the seismic retrofit of Santiago Canyon Road at Santiago Creek bridge

Orange County's Transportation System

Freeways

The county's travel network is anchored by an extensive freeway system that includes both toll roads, express lanes, and the most comprehensive carpool lane network in the nation. As of 2008, the freeway system includes over 1,100 lane-miles of general purpose travel lanes and 230 lane-miles of HOV lanes (Figure 2-3). Additionally, there are over 285 lane-miles of toll roads and 40 lane-miles of express lanes. These toll facilities comprise the largest priced transportation network in California.

The existing freeway system experiences high levels of congestion during peak hours. Only half of the freeway system operates at the minimum acceptable level of service (LOS D), while the other half operates at near or above capacity (14% at LOS E and 33% at LOS F), where speeds and travel times are highly impacted (Figure 2-4).

"Orange County's freeway and toll road network includes over 1,650 lane-miles of travel lanes."

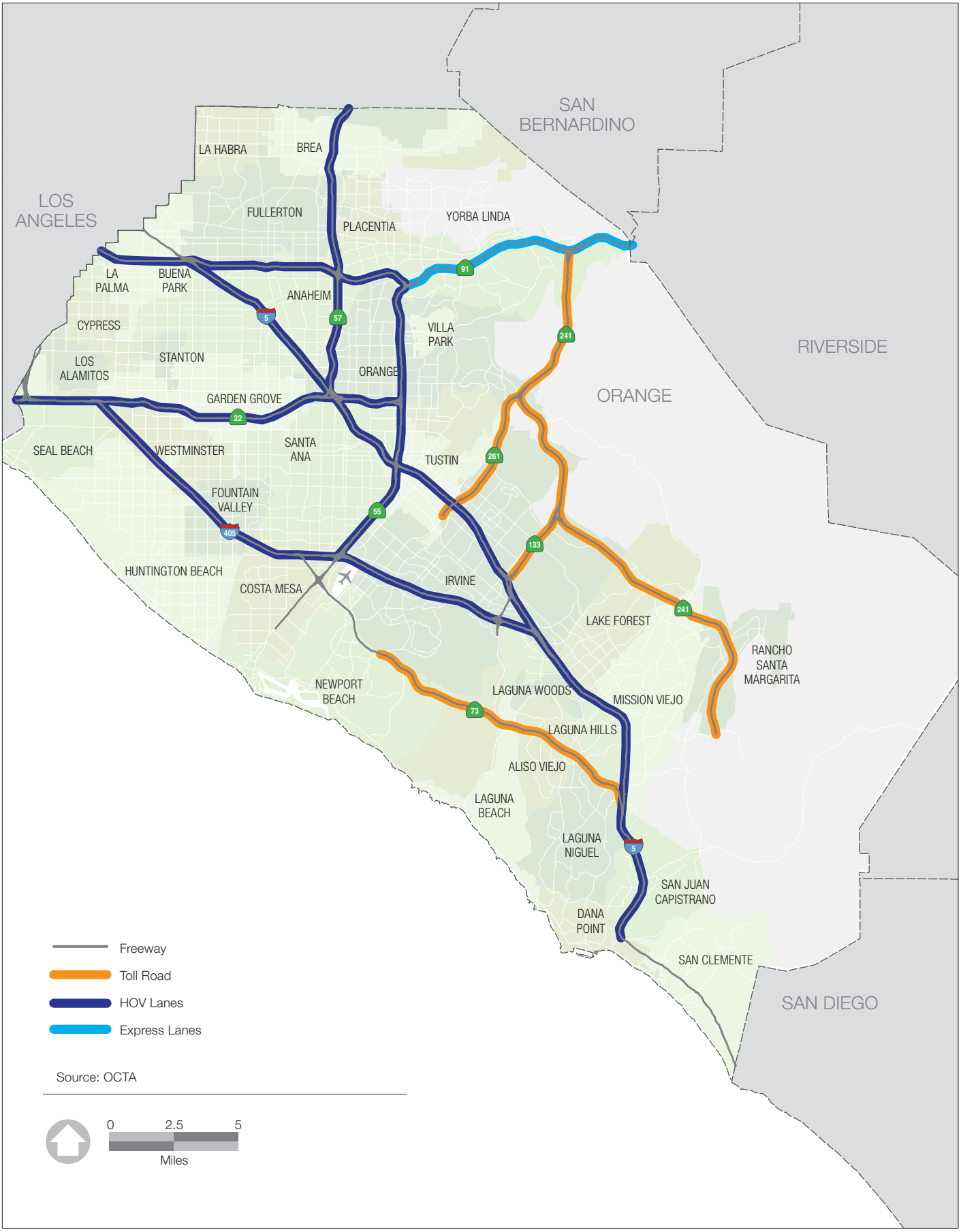


Figure 2-3: Base Year (2008) Freeway System

Figure 2-4: Base Year (2008) AM Peak Freeway Congestion Levels

Arterials and Local Roads

The freeway system is complemented by an arterial roadway system that serves both regional and local travel. Since 1956, Orange County's Master Plan of Arterial Highways (MPAH) has served as the guiding plan for future roadway improvements (Figures 2-5A/B). Today, the arterial roadway system carries approximately half of the daily vehicle miles traveled in Orange County.

The arterial roadway system also experiences congestion during peak periods in selected areas throughout the county. About 10% of the system operates near or at capacity.

The performance of the countywide transportation system is also affected by the condition of 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 biannual basis.

Rail Transit

Orange 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 2-6). 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 transportations agencies in Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties.

Amtrak's Pacific Surfliner inter-city rail service also operates in Orange County, serving stations in Fullerton, Anaheim, Orange, Santa Ana, Irvine, San Juan Capistrano, and San Clemente. Metrolink and Amtrak services connect Orange County to San Diego, Los Angeles, Riverside, and San Bernardino Counties.

"The Master Plan of Arterial Highways has guided the development of Orange County's roads since 1956."

Bus Transit

OCTA and local bus transit providers offer over 80 bus routes serving commuters that begin or end their trip in Orange 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, 5 intra-county express routes, 13 Stationlink Metrolink rail feeder routes, and 5 inter-county express routes. In cities such as Anaheim, Irvine, and Laguna Beach, OCTA bus service is complemented by service provided locally, expanding the transit options available to residents and commuters.

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

Goods Movement

Orange County's transportation system is used daily to transport freight and goods. Freight entering through various seaports (e.g., Ports of Long Beach and Los Angeles) and airports (e.g., John Wayne, LAX) generates substantial on-road truck trips that share freeways and arterial roadways with passenger vehicles.

A substantial amount of freight is also carried by rail. Freight rail activities sometimes conflict with both commuter rail services that share the rail corridors and vehicles traveling across railroad crossings. About 75 freight trains traverse Orange County on a daily basis, creating transportation challenges related to the efficient movement of people and goods on roads and rails.

Delays at rail crossings in north Orange County are particularly acute due to freight rail traffic. However, the significant amount of freight carried by rail also helps to reduce truck traffic on the freeway system.

"OCTA and local bus transit providors offer over 80 different bus routes for travel in Orange County."

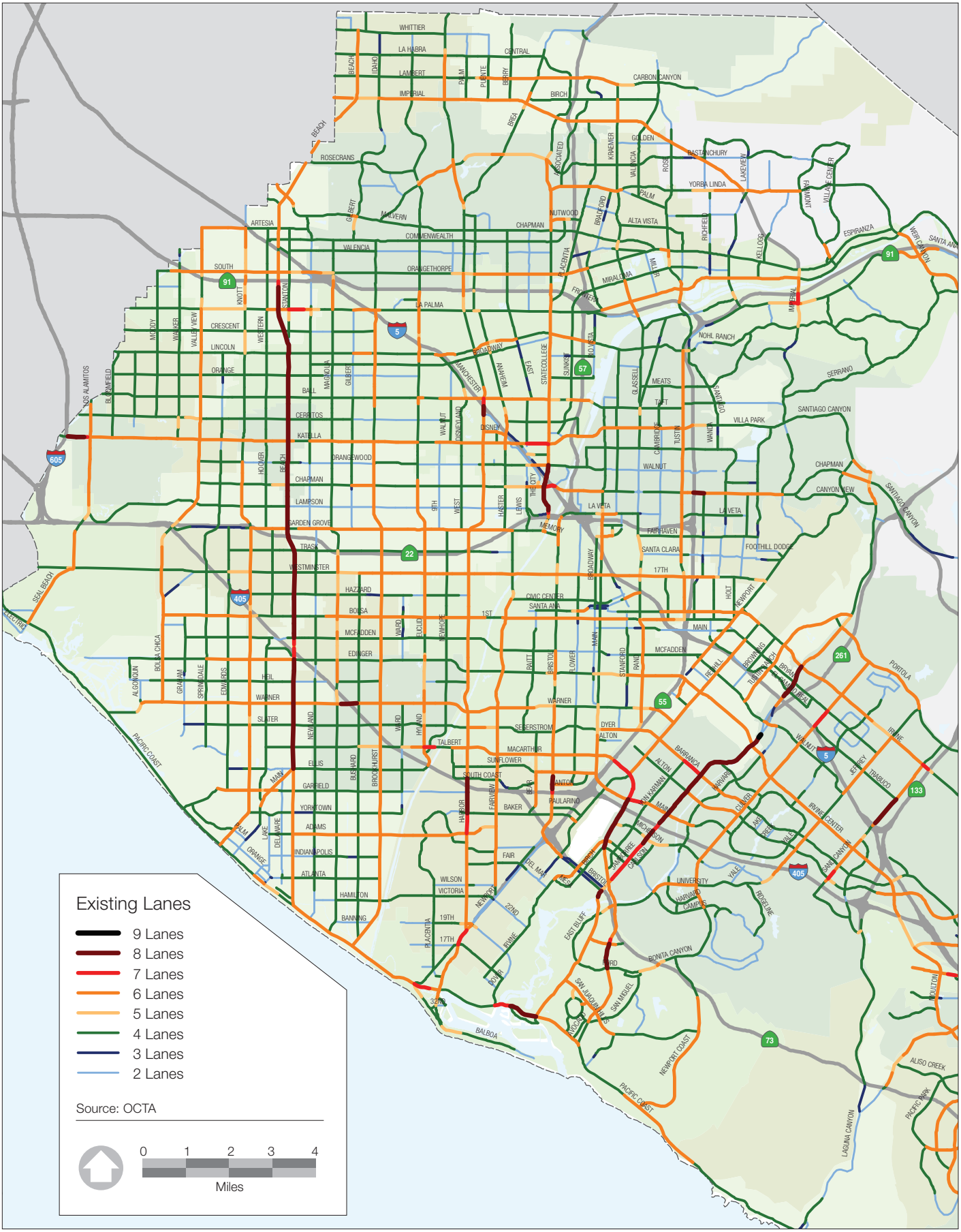


Figure 2-5A: Master Plan of Arterial Highways - Existing Number of Lanes - (North County)

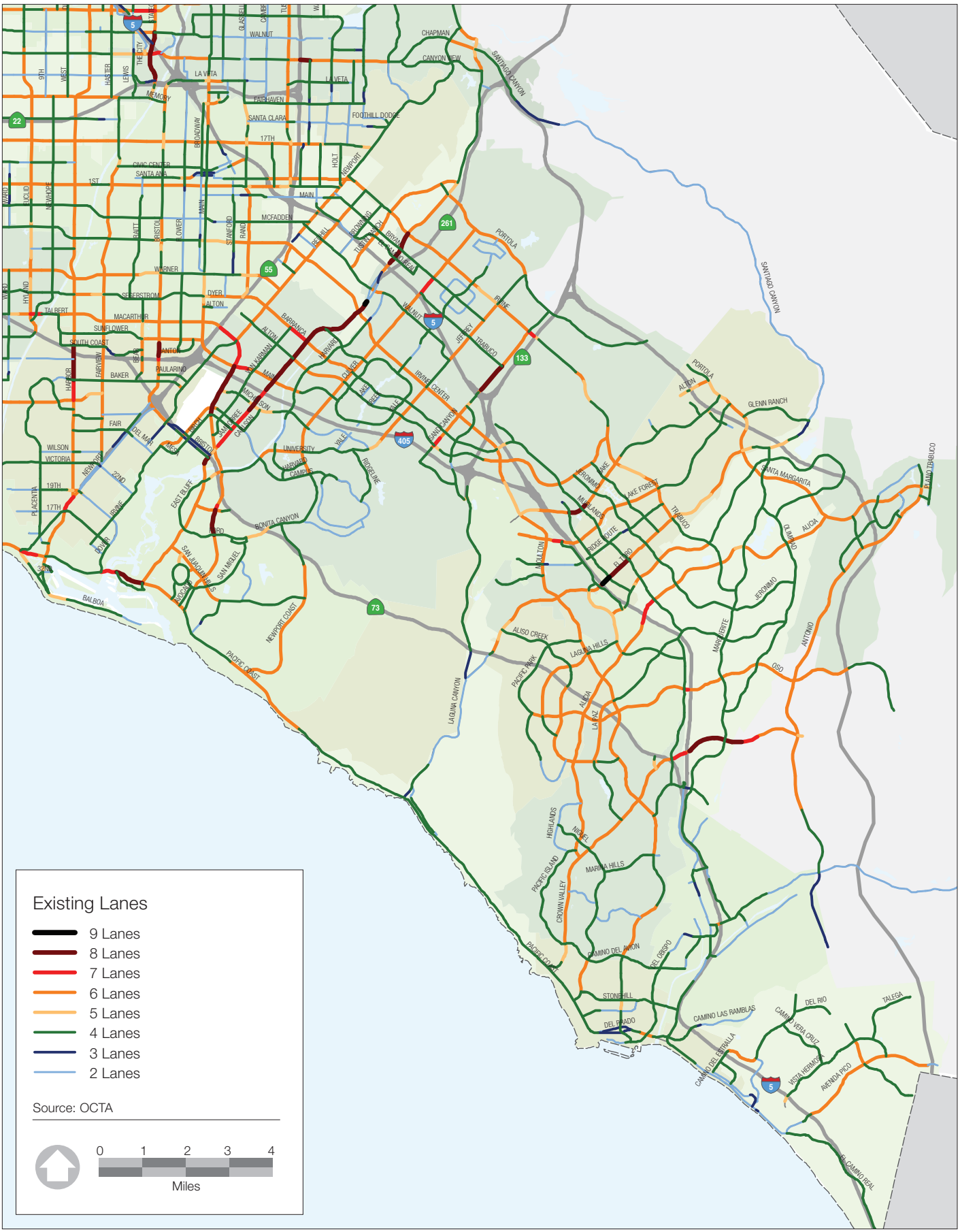


Figure 2-5B: Master Plan of Arterial Highways - Existing Number of Lanes - (South County)

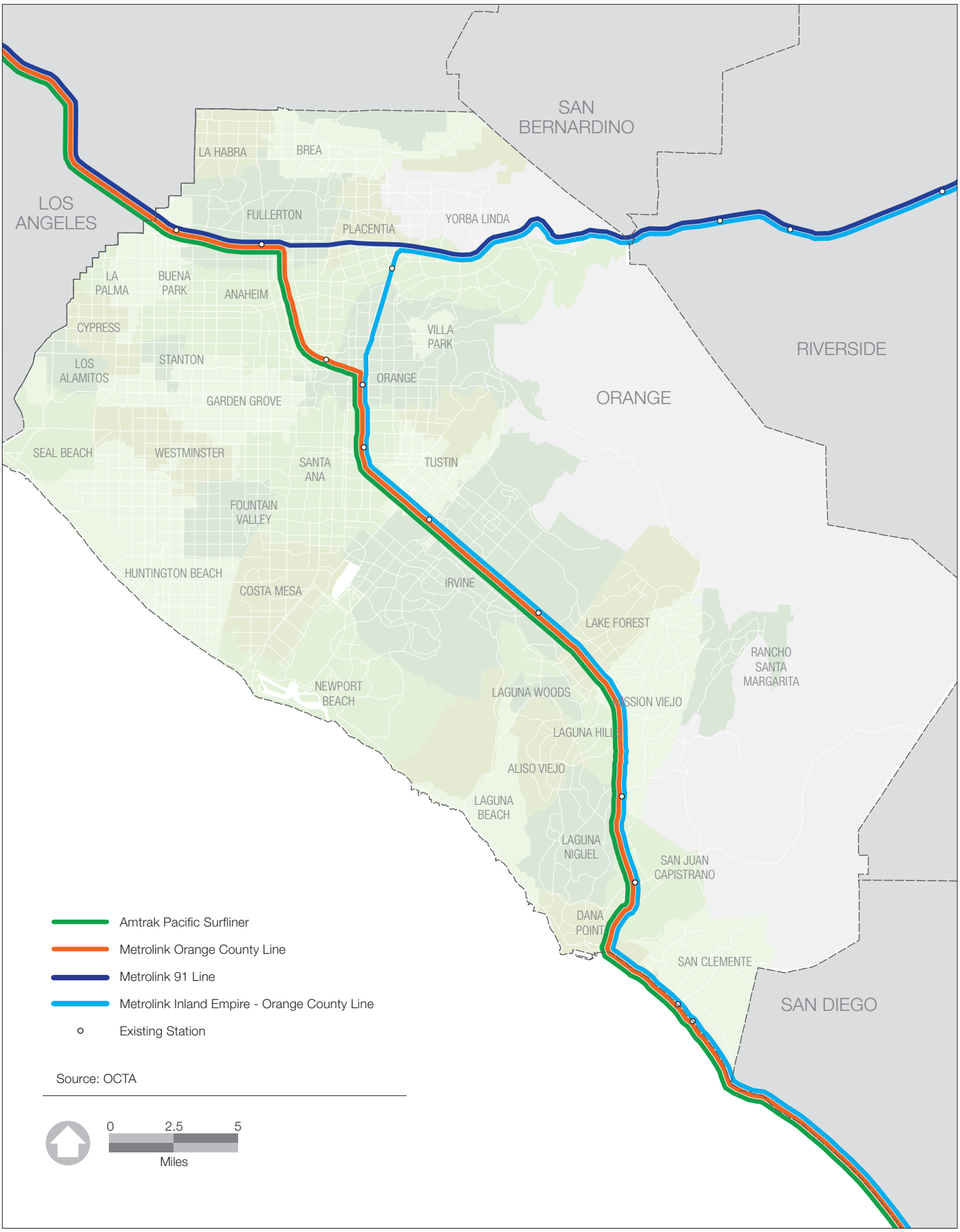


Figure 2-6: Orange County's Base Year (2008) Rail Transit System

Demand Responsive Services and Travel Demand Management

Orange 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, door-to-door service, and same-day taxi service, all of which meet the requirements of the Americans with Disabilities Act (ADA).

  The growth rate in demand for ACCESS services is higher than for traditional bus transit service. The trend is projected to continue throughout the timeframe covered by the LRTP. Between 2010 and 2035, ACCESS costs are projected to increase from 19 percent of the transit operating budget to 31percent. 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.

- **Rideshare Services**
  OCTA administers a vanpool and rideshare program that is designed to encourage commuters to reduce their single occupancy vehicle commuter trips and shift to using a carpool or vanpool for their daily commute. OCTA's Vanpool Program provides assistance to commuters working in Orange County who live in Los Angeles, Orange, Riverside or San Bernardino counties. OCTA works with employers, commuters, and private vanpool operators to organize and sustain vanpools throughout the county.

  As of 2010, it is estimated that over 300 vanpools serve over 230 destinations in Orange County, carrying over 1,800 passengers on a typical weekday. OCTA supports these vanpools with programs that help commuters and employers find vanpool participants, by providing contacts to private companies that offer vehicle leases, and by providing a $400 a month subsidy for each vanpool to offset vehicle lease and maintenance costs.

- **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.

- **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. The countywide system in 2010 consists of 25 companies and over 820 taxicabs.

- **Bicycle Programs**
  Orange County's existing bikeway network consists of over 1,000 miles of bikeways linking residential communities to employment and activity centers, and to transfer points to other types of transportation (Figures 2-8A/B).

  There are three classes of bikeways and two classes of bicycle facilities, with different levels of infrastructure complexity:

  - Class I bikeways – off-street paved bike paths which may be shared with pedestrians. (9% of the bicycle network is designated as Class I)
  - Class II bikeways – on-road striped and signed bicycle lanes (65% is designated as Class II)

- Class III bikeways – on-road shared-lane signed bicycle routes (26% is labeled as Class III)
- Class I bike facility – secure area or bicycle locker intended for long-term parking
- Class II bike facility – bicycle racks intended for short-term parking

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. 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.

- **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 that provides traffic, transit and commuter service information via web and toll-free number. The system was launched in Southern California in June 2010.

- **Freeway Call Boxes/Motorist Aid**
  OCTA helps fund a network of freeway services that provide assistance to motorists in distress. Call boxes are spaced every quarter-mile on the shoulder of freeways, and provide stranded motorists with access to emergency services. In addition, OCTA funds a network of freeway service tow trucks that monitor freeways to remove stalled vehicles and minimize the traffic jams that can severely hamper the proper functioning of the freeway system.

- **Soundwall Retrofit Program**
  The Soundwall Retrofit Program provides noise mitigation for neighborhoods that were built after the freeways. Through the program, noise levels are assessed and studied, and noise mitigation measures are proposed and constructed as appropriate.

The Transportation System and the Environment

The relationship of the transportation system to the natural environment is a complex one. However, an efficient transportation system can minimize its direct and indirect impacts on air quality, noise, and other environmental resources.

Recent State legislation (SB 375) has resulted in aggressive mandates to reduce transportation-related greenhouse gas (GHG) emissions from cars and light trucks. Figure 2-7 illustrates the percentage of GHG emissions in California that originate from transportation sources.

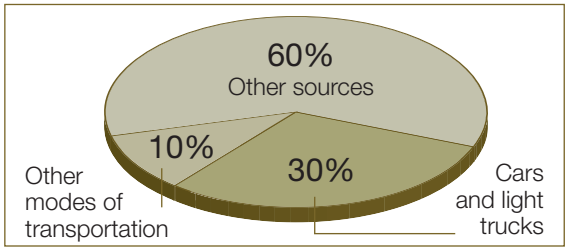


Figure 2-7: Percentage of GHG Emissions in California

At a local level, an efficient transportation system is a critical part of the efforts to achieve clean air standards in Orange County and the entire South Coast Air Basin.

OCTA is also working to minimize the impacts to other environmental resources. Water quality protection measures and open space mitigations are components of Measure M2. These measures will help to mitigate the potential impacts of freeway and other projects.

How the existing and future transportation system is used will have a direct role in helping to reduce GHG emissions, improve air quality, and reduce the impacts on the environment. As such, goals and objectives are integrated into this LRTP to help reduce over time the greenhouse gases and pollutants generated by the use of the transportation system.

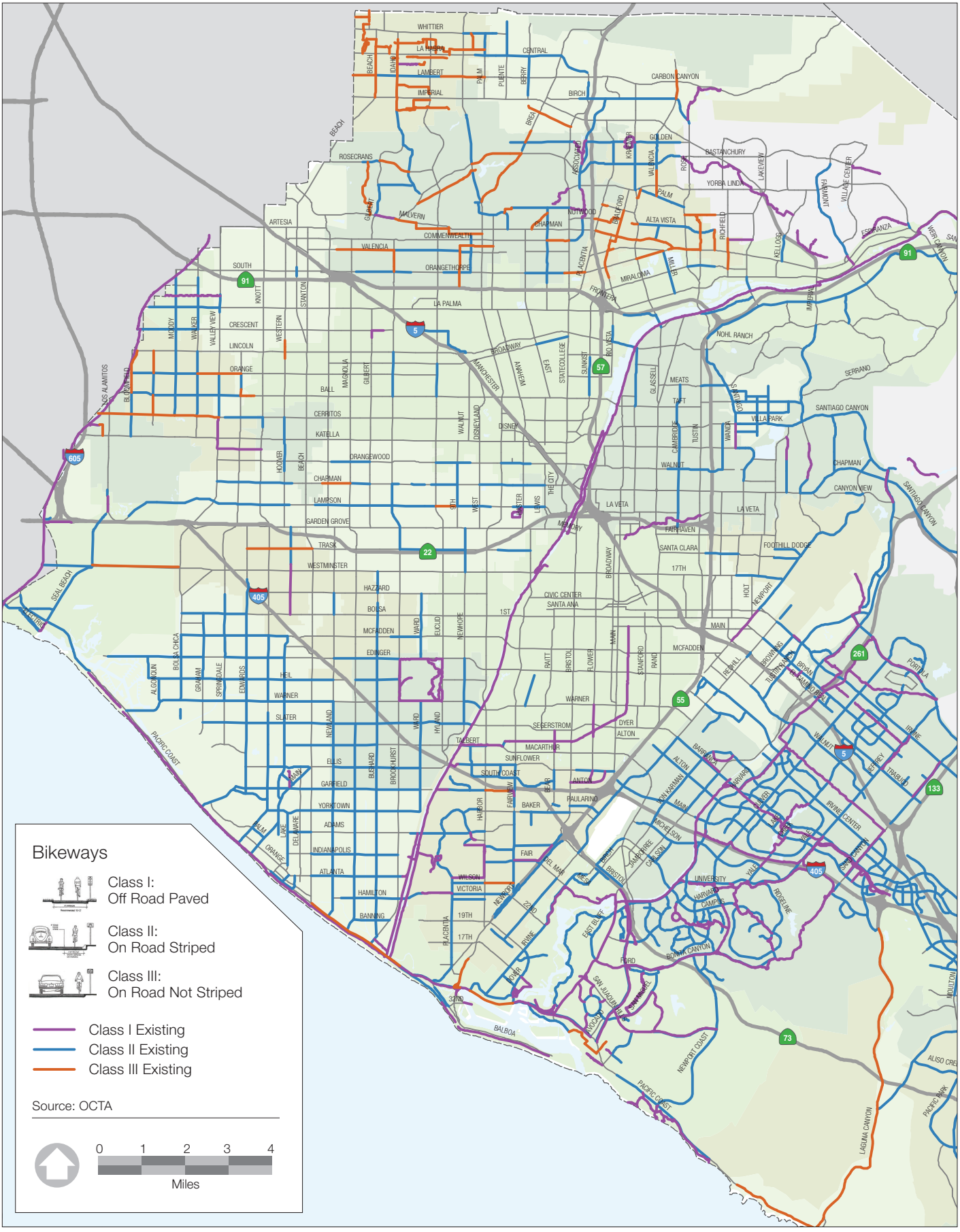


Figure 2-8A: Existing Bikeways (North County)

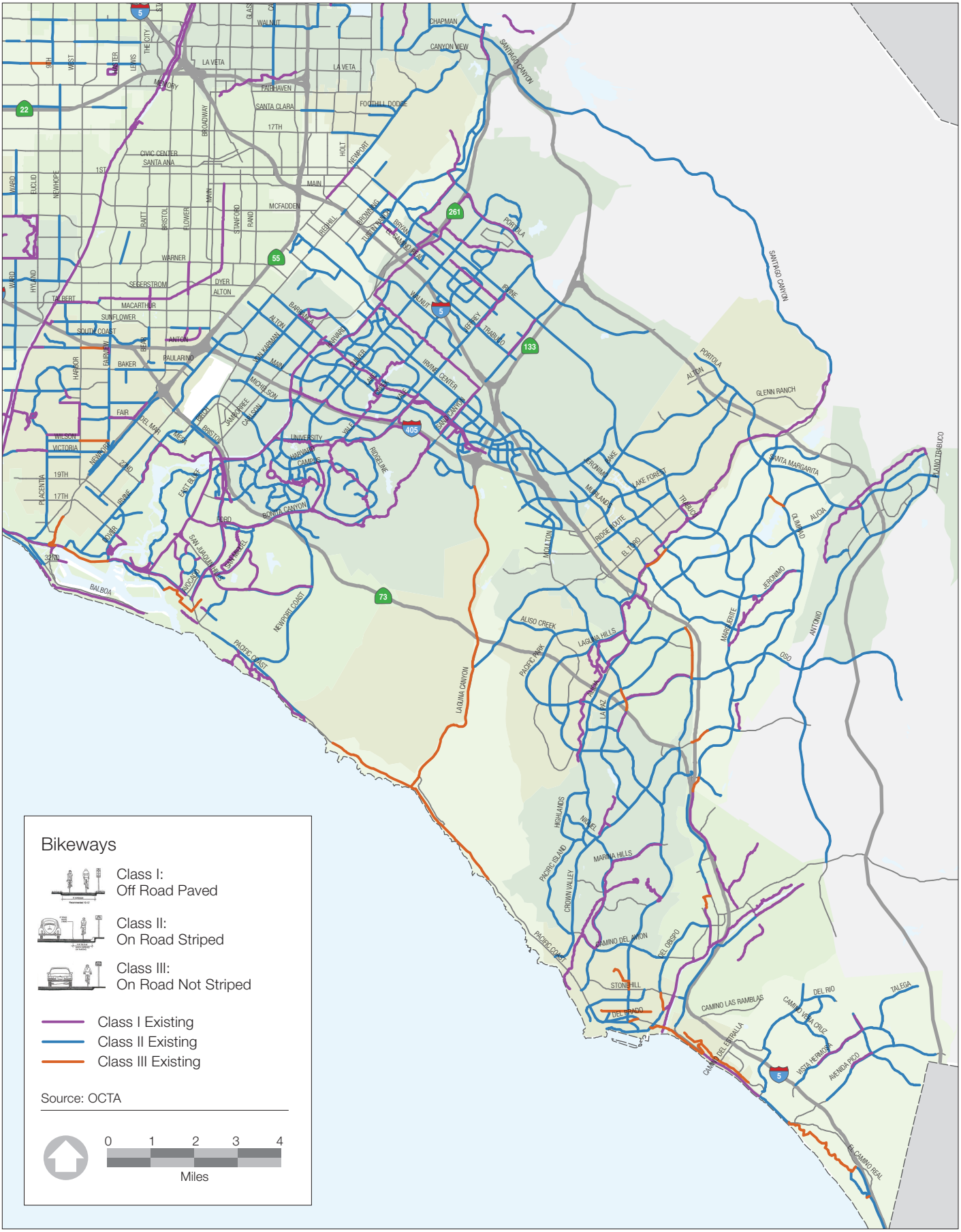


Figure 2-8B: Existing Bikeways (South County)

The Future: Challenges Ahead

- Demographic Forecasts
- Travel Patterns
- 2035 Baseline
- Finances and Revenue Forecasts

The Future: Challenges Ahead

The Year 2035 Baseline condition forecasts population, employment, and travel demand within Orange County. The assumed future transportation network for the Year 2035 Baseline includes only projects that are currently under construction or will be implemented soon. This scenario serves as a base of comparison for travel growth from the 2008 Base Year to 2035 and between different scenarios in 2035. Improvements forecast to occur in the 2035 Preferred and Unconstrained Plans represent changes from this 2035 Baseline.

Demographic Forecasts

Orange County has grown steadily in population and employment for the past 50 years and is forecast to continue to grow over the next 25 years. Population and employment growth drives economic growth for Orange County, and creates more demand on the transportation infrastructure.

The Center for Demographic Research (CDR) at the California State University, Fullerton works regularly with local jurisdictions to develop socioeconomic growth projections for Orange County. These projections provide information on the County's population, employment, and housing for the base year (2008), and the forecasts for future years which include 2020, and 2035.

According to the Orange County Projections 2010 (OCP-2010), from 2008 to 2035 Orange County's population is expected to grow by 458,000, or 14.5 percent (Figure 3-1). The rate of population growth

"Population and employment growth drives economic growth for Orange County, and creates more demand on the transportation infrastructure."

is forecast to be highest over the course of the next 10 years. The growth rate will then decrease as the years go by, ending with an average growth of 0.3 percent per year between 2025 and 2035.

Orange County is also growing older: the working-age population (ages 20 to 64) is expected to grow by 9 percent, while the population over the age of 65 is expected to nearly double from Year 2008 figures (Figure 3-2). In the Year 2035, Orange County's population will continue to be concentrated in North and Central County (Figure 3-3). The areas forecast to experience the most growth include those located near the Santa Ana (I-5), San Diego (I-405), and Riverside (SR-91) Freeways (Figure 3-4).

Figure 3-1: Orange County Population: 2008 to 2035
Source: OCP-2010

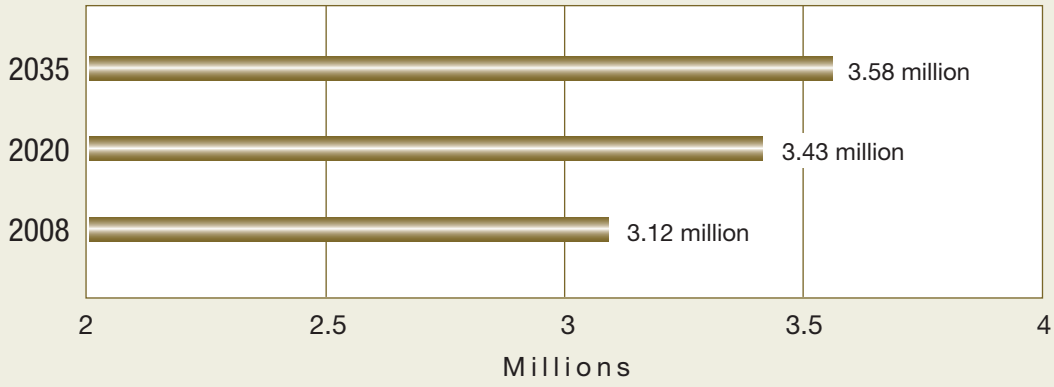
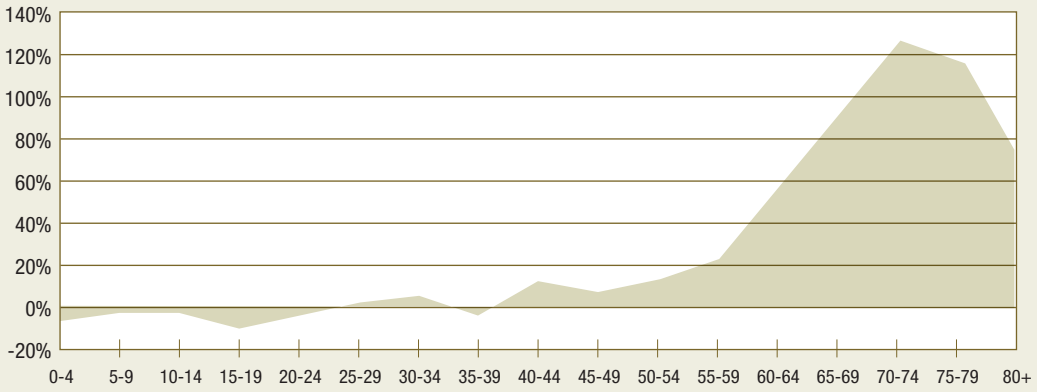


Figure 3-2: Orange County Percent Change in Age Population (2008 - 2035)
Source: OCP-2010



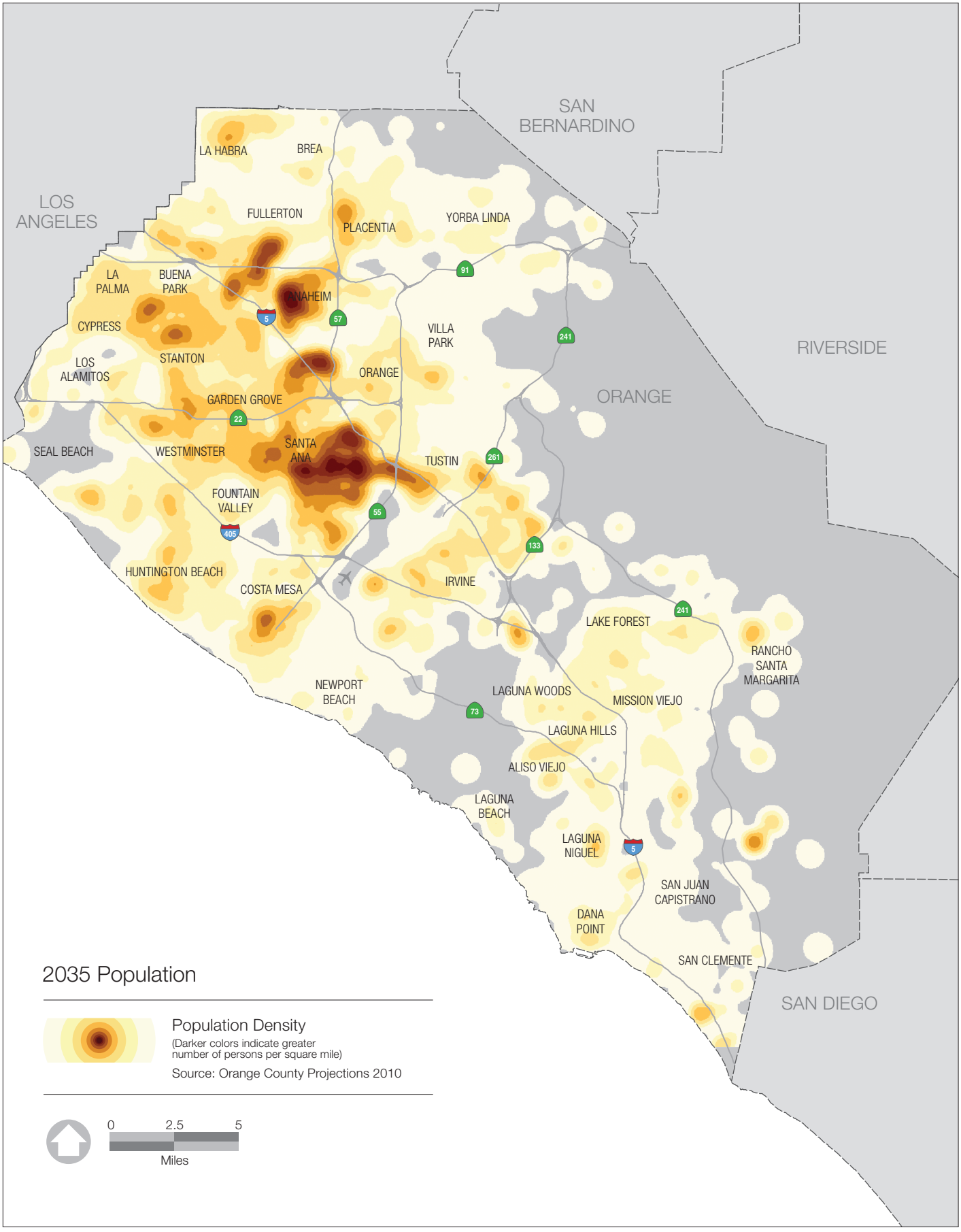


Figure 3-3: 2035 Orange County Population Density

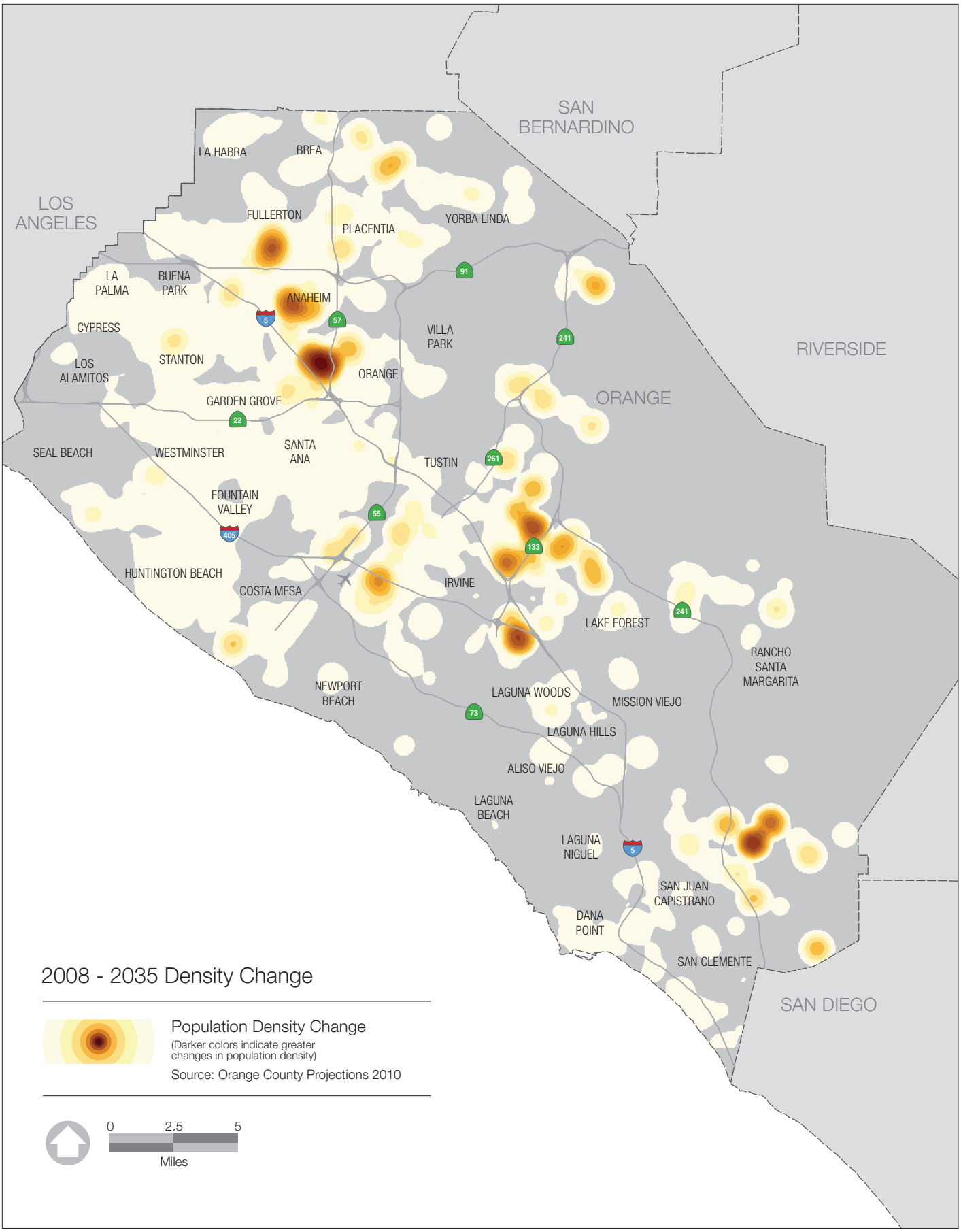
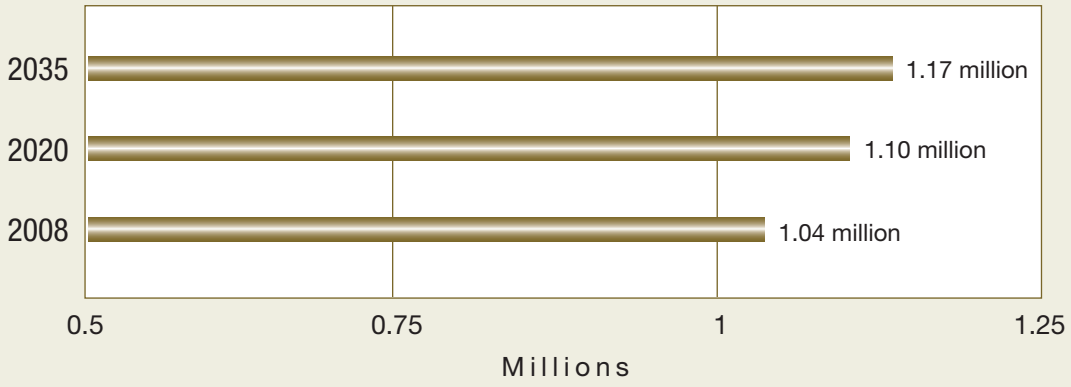


Figure 3-4: 2008-2035 Orange County Population Density Difference

According to the OCP-2010 forecasts, housing in Orange County will grow 13.5 percent between 2008 and 2035, reaching 1.17 million units in 2035. Overall household growth is consistent with forecast population growth for the 2035 horizon year (Figure 3-5). Overall, household density follows the same trend observed for population and employment, with the largest increases forecast in North Orange County.

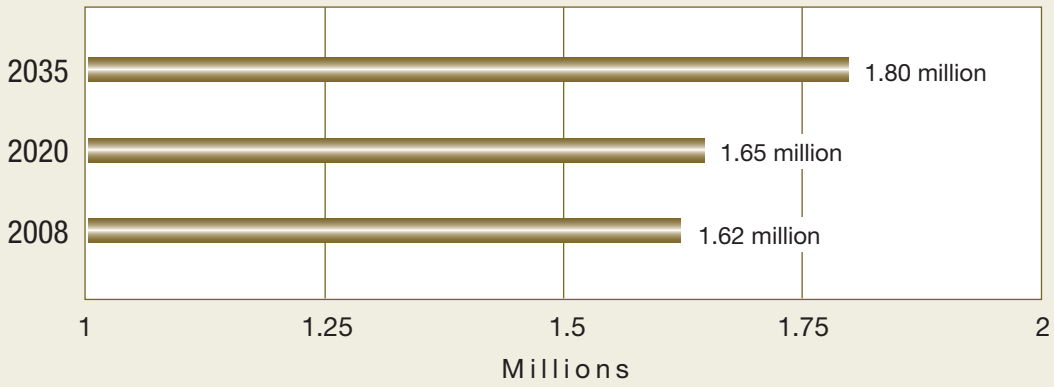
Orange County is forecast to support about 1.80 million jobs in 2035, a 10.8 percent growth over the 2008 (Figure 3-6). Over the full 25-year period outlined in this LRTP, employment is expected to increase by greater numbers in the northern portions of Orange County. There is also significant employment growth forecast in the central portions of Orange County. Both sub-areas are already established job centers that will continue to serve as primary employment centers for Orange County residents (Figure 3-7 and Figure 3-8).

Figure 3-5: Orange County Households: 2008 to 2035
Source: OCP-2010



"Employment levels in orange County are forecast to increase by 10.8 percent between 2008 and 2035."

Figure 3-6: Orange County Employment: 2008 to 2035
Source: OCP-2010



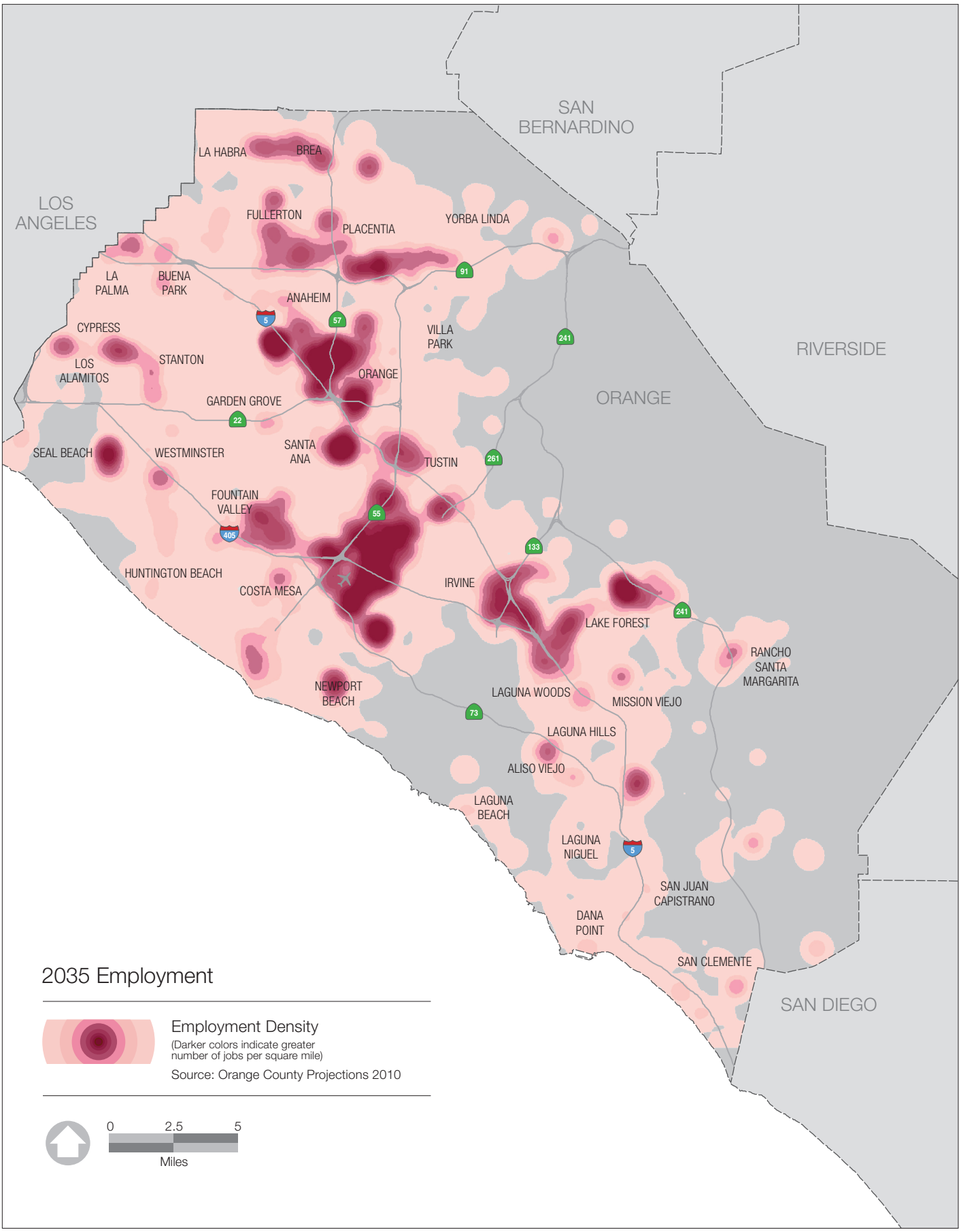


Figure 3-7: 2035 Orange County Employment Density

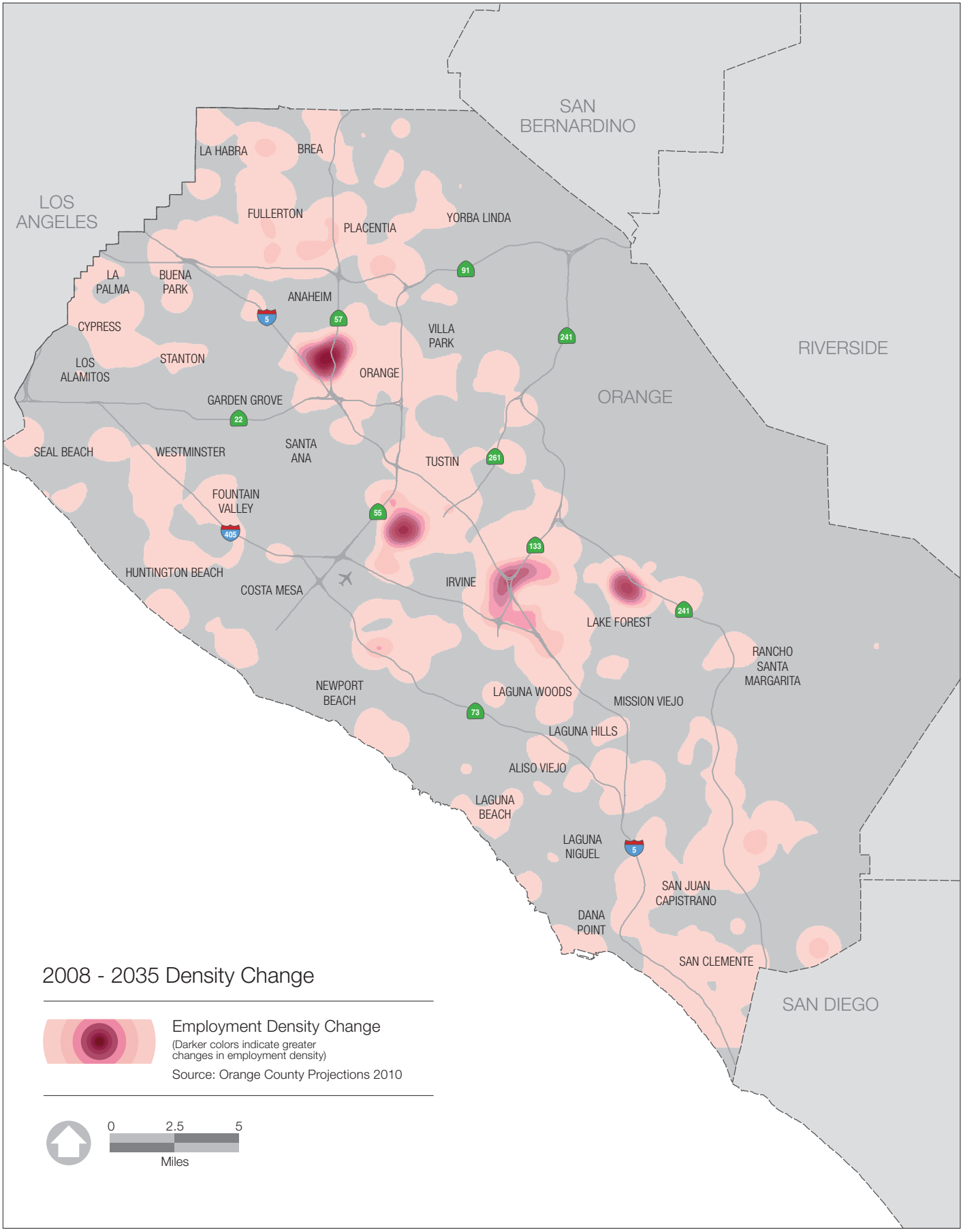


Figure 3-8: 2008-2035 Orange County Employment Density Difference

Travel Patterns

Orange County's continued growth will generate new and increased demands on the transportation system. Future travel patterns and volumes are estimated using OCTA's transportation analysis model (OCTAM 3.3). OCTAM uses the population and employment projections described above and an assumed baseline transportation network to assess how growth will affect the County's transportation system. The model estimates that daily person trips in Orange County will increase by over 12 percent between 2008 and the Year 2035 Baseline Condition. The number of trips that occur inside Orange County is expected to grow by over 11 percent in this same time period, while trips coming from and/or going to other counties are forecast to grow by 15 percent over the 2008 base year. Although the number of trips that occur inside Orange County is forecasted to grow at a lower rate than the trips to/from other counties, these trips will continue to comprise the majority of trips that occur within Orange County (Figure 3-9).

The daily person trips are converted by OCTAM to trips made by car or transit. OCTAM then calculates the amount of miles traveled by vehicles, average speeds, and level of service for roadways and freeways. By 2035, daily vehicle miles traveled (VMT) are expected to increase by 30 percent over the Year 2008 figure. The increase in VMT leads to slower average travel speeds, with the system-wide average speed dropping 34 percent from 2008 to 2035.

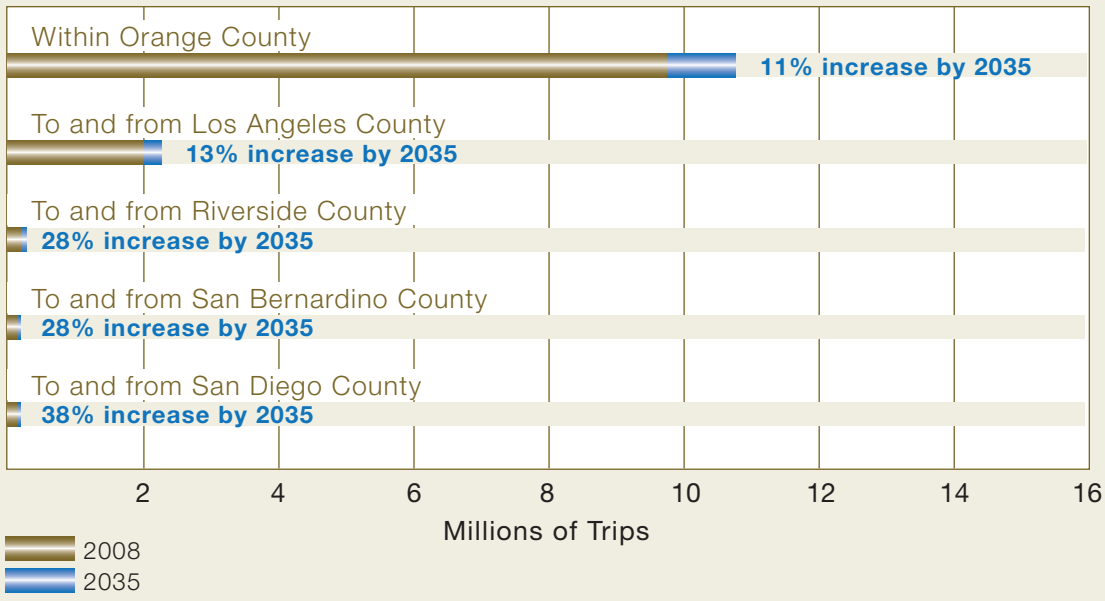
Future travel patterns and trip volumes are anticipated to worsen freeway and roadway congestion levels when compared to those experienced today. It is forecast that by 2035, about 50 percent of Orange County's freeways and about 20 percent of Orange County's roadways will operate under congested conditions during peak hours (Figure 3-10). Average peak period freeway speeds are expected to be close to 30 miles per hour (mph) in the mixed-flow lanes and about 35 mph in the HOV lanes. Average roadway speeds are expected to be about 13 mph during peak hours.

The increased number of vehicles traveling on Orange County's freeways and roadways challenges the transportation system in several ways. On top of the increases in congestion levels and travel times, the increased traffic levels intensify the need for and cost of maintenance. Regular maintenance is necessary for all roadways and freeways. As Orange County's transportation system ages and serves increasing travel volumes, the maintenance frequency will increase and require more financial resources. Appropriate maintenance levels help to avoid pavement deterioration and greater maintenance expenses down the road.

Travel patterns are also affected by the characteristics of the population. With the population over 65 nearly doubling in 2035, significant changes will be observed in travel patterns, and consequently, in the use of the transportation system. For example, the number of daily transit trips occurring in Orange County is anticipated to grow by 14 percent between 2008 and 2035, while the number of ACCESS paratransit trips is projected to increase by 75 percent.

"The number of daily transit trips occurring in Orange County is anticipated to grow by 14 percent between 2008 and 2035."

Figure 3-9: Orange County Daily Person Trips (2008-2035)
Source: OCTAM 3.3



Note: The percentages in 2035 do not add up to 100% due to rounding.

"Daily person trips in Orange County will increase by over 12 percent between 2008 and the 2035 Baseline condition."

2035 Baseline

A review of the baseline transportation system in the Year 2035 provides an understanding of how forecast growth in population and employment, as well as subsequent increases in person trips and travel demand, will impact Orange County's transportation system in the future.

Baseline projects and programs have a secured and approved funding source. These projects are included in the Regional Transportation Improvement Program (RTIP). The RTIP is a six-year capital programming document adopted by SCAG.

The Year 2035 Baseline transportation network includes selected funded transportation improvements, but does not incorporate projects identified in the Preferred Plan for 2035. This scenario acts as a "No Project" condition, including projects that are assumed to be completed even if nothing else in the LRTP was to move forward. A detailed list of projects included in the Year 2035 Baseline is provided in Appendix A.

Some of the major Baseline 2035 transportation network improvements include:

Intersection Improvement Program

Improving Orange County's most congested intersections will be a benefit to commuters and allow improved traffic flow through the system. The Intersection Improvement Program received funding for the improvement of a minimum of 100 intersections, primarily funded through Measure M1. Only intersections that have existing or projected peak level of service (LOS) of "D" or worse and could be improved by ½ a service level or to a new level of service of "D" or better qualify. These projects must be under construction by 2011 or any remaining revenues will be utilized for M2 projects or to augment the first M2 call for projects.

Regional Interchange Program

The Regional Interchange Program works to improve eligible interchanges for the purpose of reducing or eliminating traffic conflicts, to improve safety, and increase traffic capacity. Projects may also include access and exit points to the freeway, including the improvements recommended for smooth traffic flow and benefiting the transition between the arterial and the freeway. Coordination of interchange projects with other freeway enhancement projects is encouraged to provide for the most effective use of program funds. Carpool lane interchanges with local streets are also eligible for funding through this program.

"The Measure M1 Intersection Improvement Program provided funding for improvements at over 100 intersections countywide."

"OCTA is partnering with local cities to improve 52 railroad crossings between Fullerton and San Clemente to enhance vehicle and pedestrian safety."

This program is intended to focus on the most congested interchanges in Orange County. Therefore, only interchanges that meet the following conditions will be eligible for funding under this program:

- Have an existing or projected (within five years) peak period level of service of "D" or worse (ICU calculation of 0.80 or greater) AND
- With the proposed improvement, improve the level of service (as identified in #1 above) by ½ of a service level (0.05 in ICU calculation) or to a new level of service of "D" or better.

Grade Crossing Safety Enhancements

OCTA is partnering with local cities to improve 52 railroad crossings between Fullerton and San Clemente to enhance vehicle and pedestrian safety. The grade crossing improvements include traffic control, new barriers, signal coordination, updating warning devices, improving signage, and other improvements to enhance safety around the crossings. Construction for the enhancements is underway and scheduled to be completed in 2011.

Metrolink Service Expansion Program

While bus service is not expanded under the Baseline scenario, significant expansions to Metrolink service are planned within Orange County. The Metrolink Expansion Service Program (MSEP) will increase the number of trains operating between Fullerton and Laguna Niguel, and expand service outside of the typical peak commute periods in the morning and evening to provide more mid-day and off-peak services. These improvements will enhance the Metrolink services provided to Orange County commuters and are designed to attract additional riders by provided more frequent services throughout the day (Figure 3-11).

Freeway Capacity Enhancements

The Baseline scenario includes several important improvements to freeway capacity, freeway interchanges, and toll facilities. Key freeway improvements include additional lanes on the Riverside (SR-91) Freeway between the Costa Mesa (SR-55) Freeway and the Corona (SR-71) Expressway, interchange improvements on the Santa Ana (I-5) Freeway at Ortega Highway (SR-74), Oso Parkway, Jamboree Road, and Camino Capistrano, and widening the Orange (SR-57) Freeway by one additional lane in the northbound direction between Katella Avenue and Lincoln Avenue and between the Riverside (SR-91) Freeway and Lambert Road. Toll road improvements in the Baseline scenario include a new interchange at State Route 133 and Trabuco Road, additional mixed-flow lanes on the selected segments of the San Joaquin (SR-73), the Eastern (SR-261/SR-241) and Foothill Transportation Corridors (SR-241), and the extension of the Foothill Transportation Corridor (SR-241) from Oso Parkway to the Santa Ana (I-5) Freeway.

Roadway Capacity Enhancements

Numerous arterial roadway improvements are included in the Baseline scenario. Planned improvements include new railroad grade separations, street widening, intersection improvements, and intelligent transportation systems/traffic signal coordination improvements. Many of these proposed projects received funding through the original Measure M Streets and Roads funding programs. Improvements are located throughout Orange County and are being completed by OCTA, local cities, the County of Orange, and Caltrans.

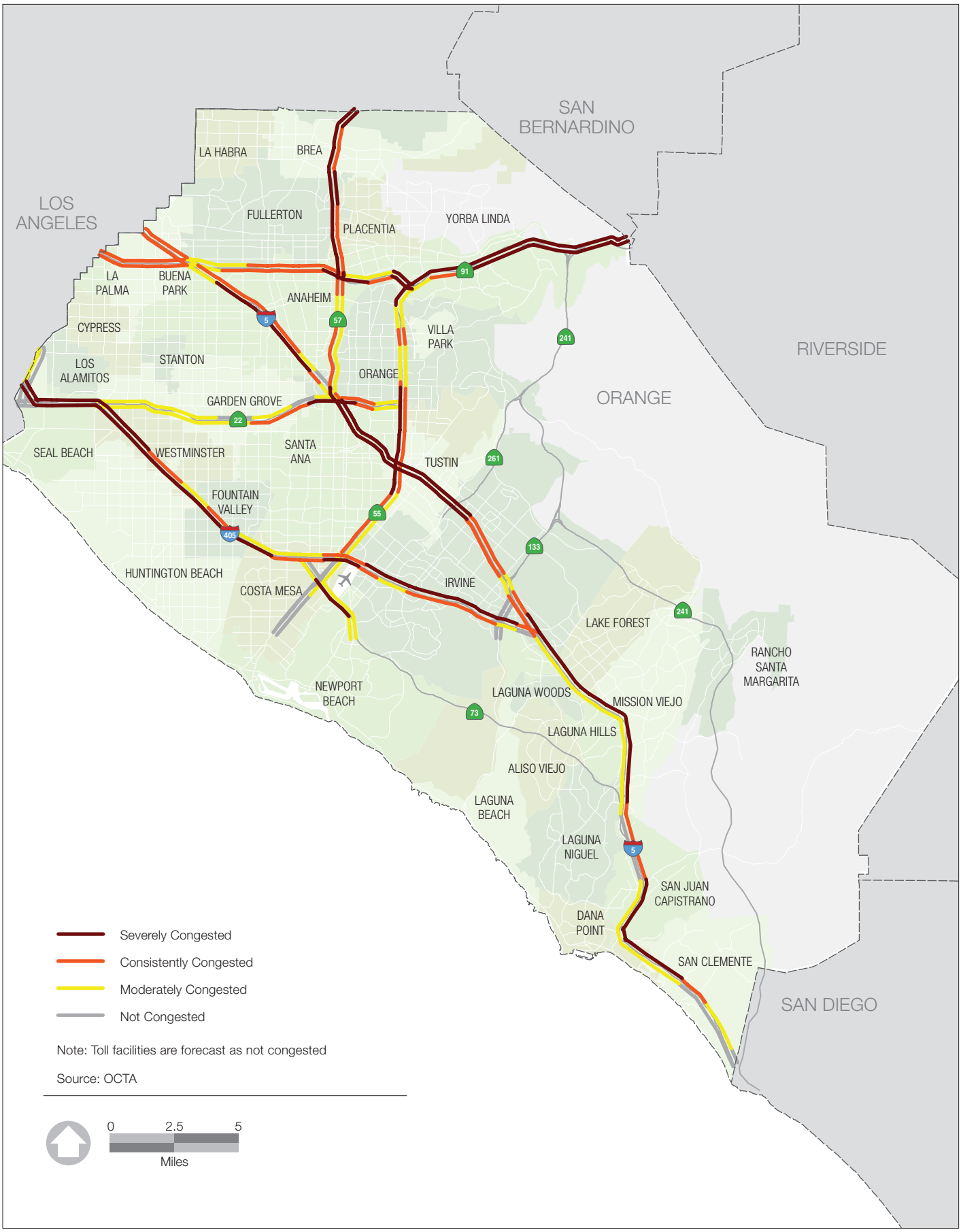


Figure 3-10: Year 2035 Baseline Freeway Level of Service

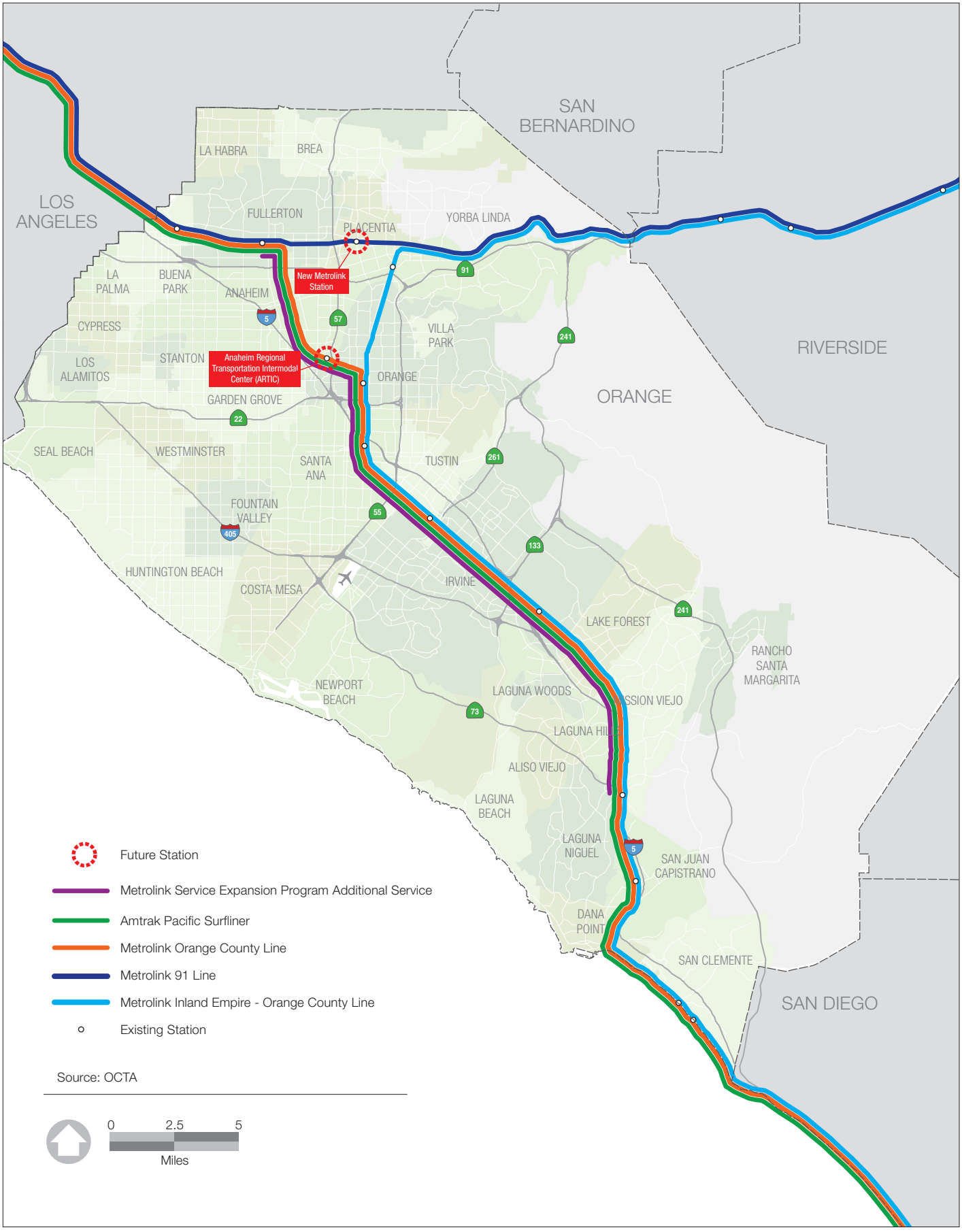


Figure 3-11: Year 2035 Baseline Rail Transit System

Finances and Revenue Forecasts

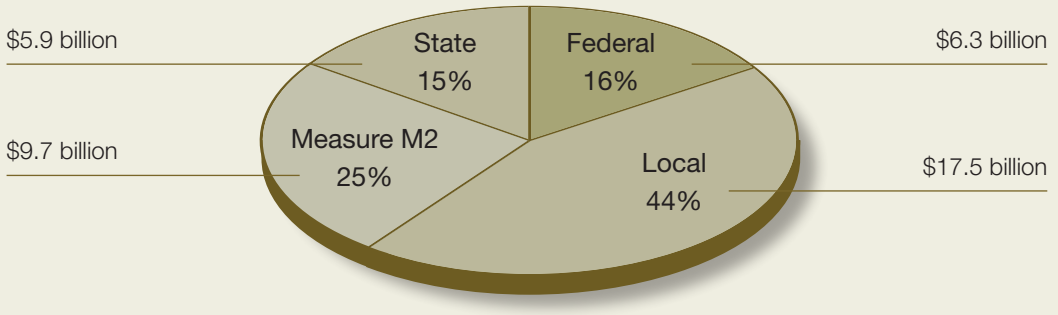
Orange County's transportation system will need to be improved to meet the travel demands forecasted for the future. Of course, the level of improvement is dependent on the amount of money available to fund planned projects. Forecast revenues for the next 25 years for transportation projects in Orange County come mainly from the following sources:

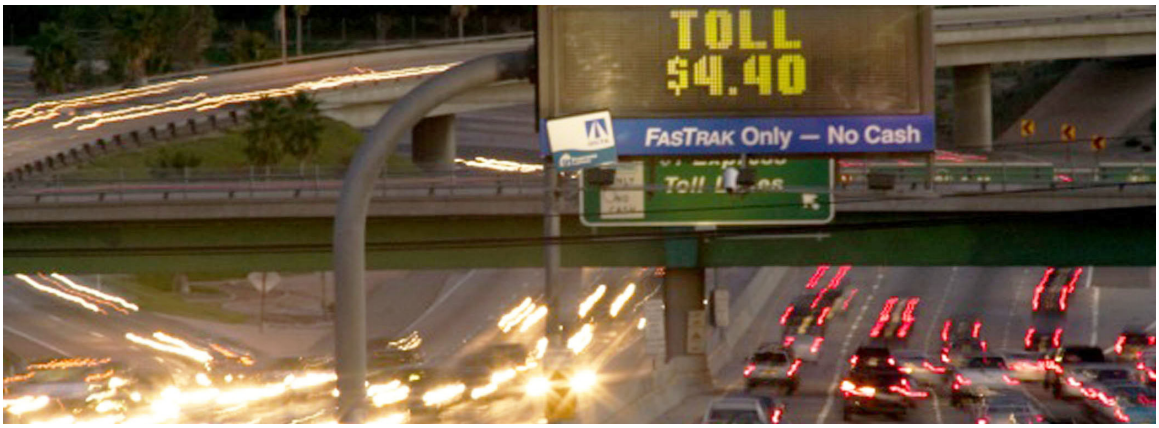
- Federal Highways Administration (FHWA)
- Federal Transit Administration (FTA)
- State Propositions 1A, 1B and 42
- State Highway Operations & Protection Program (SHOPP)
- State Transit Assistance Fund (STAF)
- State Transportation Improvement Program (STIP)
- Measure M1 and Measure M2
- Transit Fare Revenues
- Gasoline Tax
- Toll Revenues
- Transportation Development Act (TDA) Funds

Local sources of funding comprise the largest share of future revenues (Figure 3-12). Examples include: OCTA bus fare revenue, toll revenues, TDA funds, developer funds, and local jurisdiction capital improvevment funds. State and Federal funding sources also contribute significant amounts of funding for transportation improvement projects in Orange County.

Figure 3-12: Projected 25-Year Revenues (FY 2011-2035)

$39.4 billion total

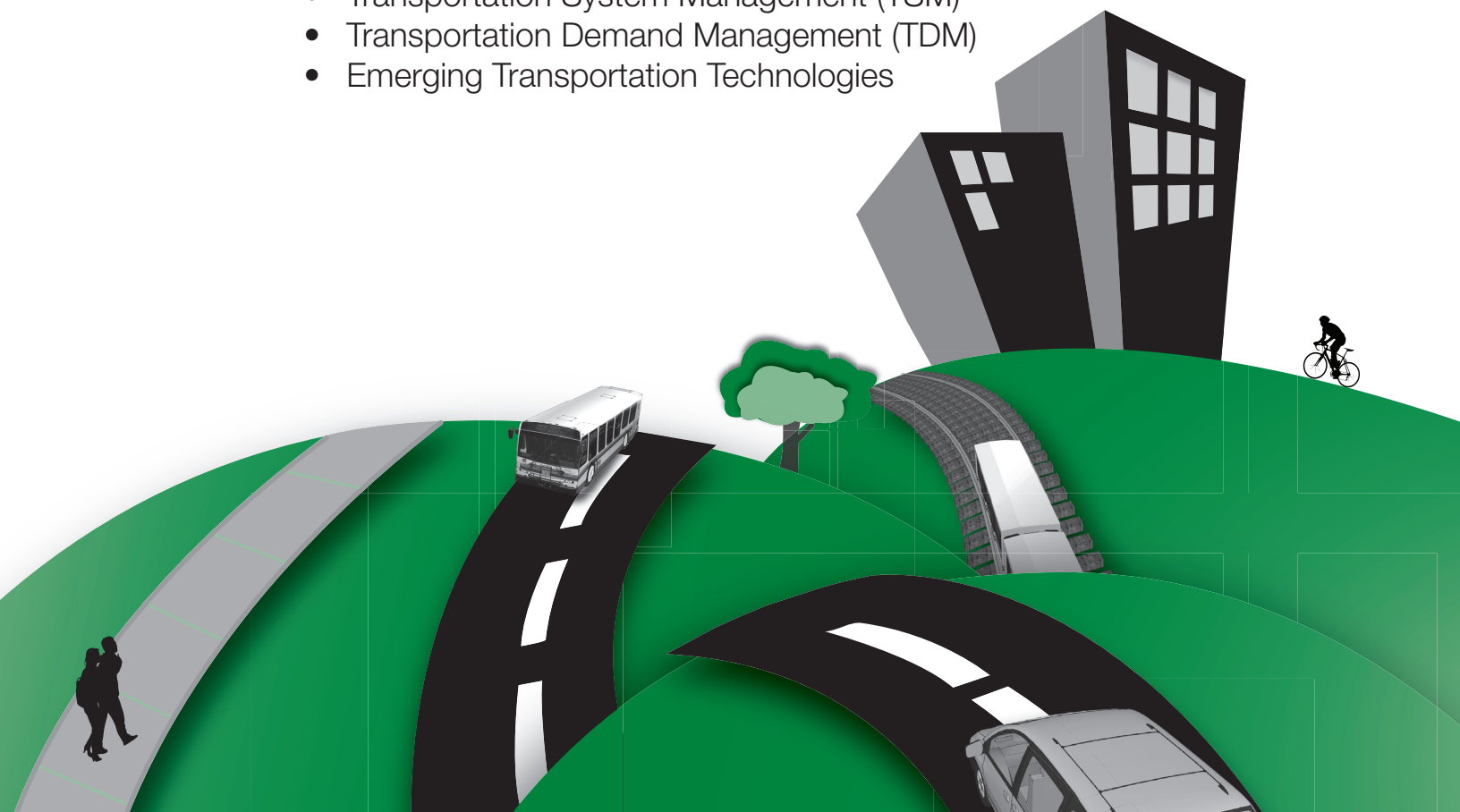




"Transportation improvements are funded by various sources including toll revenues."

The Toolbox: Options for Orange County

- LRTP Goals and Objectives
- Transit Strategy
- Freeway Vision
- Arterial Roadways
- Measure M2 Early Action Plan
- Transportation System Management (TSM)
- Transportation Demand Management (TDM)
- Emerging Transportation Technologies



The Toolbox: Options for Orange County

The 25-year transportation plan outlined in this LRTP is based on a vision for a sustainable transportation system that offers long-term mobility and supports a desirable quality of life for Orange County. OCTA has defined several goals and objectives to help guide the development of this LRTP. These goals and objectives are the basis for a plan of projects and programs that seek to improve the performance and interconnectivity of the transportation system. These projects and programs provide travel options throughout the county, resulting in a transportation system that is versatile, efficient, properly maintained, and that minimizes impacts to the environment.

This section of the LRTP provides additional detail on the goals and objectives of the plan and discusses the strategies considered for addressing the challenges ahead. These strategies were used to identify projects for inclusion in the Preferred and Unconstrained Plans.

"Improving access to the transportation system is essential to the lifestyle and economy of Orange County."

LRTP Goals and Objectives

Goals and objectives were established to provide guidance on the development of transportation strategies to address future challenges.

Goal 1: Expand Transportation System Choices

Providing convenient travel to and from jobs, homes, goods, services, and other activities is the definitive goal of the Orange County transportation system. Improving access to the transportation system across and between travel modes is essential to the lifestyle and economy of Orange County. Providing access to an integrated multimodal transportation system ensures that people are able to travel wherever and whenever to meet a variety of different travel purposes. The objectives below are intended to enhance the versatility and accessibility of the future transportation system.

Objectives

- Expand travel options across modes including transit, driving, bicycling, walking, and ridesharing opportunities
- Improve connectivity to/from employment and regional destinations
- Ensure multimodal integration throughout the transportation system

Enhancing the versatility of the transportation system will provide the array of travel options necessary to meet the needs of the traveling public. Versatility within the system also provides opportunities for reducing reliance on a single mode of transportation such as driving. Versatility benefits the environment, contributes toward meeting the goals of SB 375, and helps to reduce congestion. However, with a growing population and the need to meet travel demand, other goals must be considered in order to provide a complete system.

Goal 2: Improve Transportation System Performance

It is important to provide residents, workers, and visitors with a well-performing transportation system. Efficient movement of people and goods provides economic, environmental, and social benefits for Orange County residents and workers. The objectives below are intended to improve transportation system performance and make better use of existing infrastructure.

Objectives

- Improve travel speeds
- Improve travel time
- Increase person throughput
- Improve roadway and transit level of service

Goal 3: Ensure Sustainability

Sustainability of transportation, environmental, and fiscal resources has become a significant issue in Orange County. The protection and maintenance of Orange County's transportation network into the future should focus on ensuring systems can be maintained for future generations. The objectives below are intended to protect Orange County's transportation resources.

"Fiscal and environmental sustainability are key objectives of this LRTP."

Objectives

- Ensure timely maintenance of transportation infrastructure investments
- Consider all costs and environmental impacts when making transportation investment decisions
- Develop innovative funding and project delivery strategies to reduce taxpayer costs

These three goals and objectives provide the guidance needed to plan for a complete transportation system for Orange County. Furthermore, these goals and objectives result in a plan that provides valuable input into the 2011 Orange County Sustainable Communities Strategy, as well as the 2012 SCAG RTP.

Transit Strategy

The transit strategy identifies broad objectives for prioritizing 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 operation;
- Initiate bus rapid transit (BRT) services;
- Support in California High-Speed Rail,
- Invest in Metrolink and Go Local feeders;
- 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; and,
- Seek funding and savings for transit operations.

Target High-Demand Corridors and Initiate BRT Service

OCTA is currently engaged in the preparation of the Transit System Study, which is comprehensively examining transit services and transit needs in Orange County for both the existing condition and into the future. This study effort will identify changes and enhancements to existing bus services, as well as help OCTA plan for future improvements and expansion to bus services by identifying where new or expanded service is needed and the most appropriate and cost-effective ways to provide those services.

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 4-1 highlights these high-demand corridors for high-frequency transit service, including proposed BRT routes. As financial resources become available over the next 25 years, these core service areas will be prioritized for fixed-route bus service expansion.

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

OCTA is implementing the Metrolink Service Expansion Program (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 Measure 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 4-2 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.

Explore Express Bus Opportunities

Inter-county and intra-county bus services are planned for those corridors which serve major destination areas and improve regional connectivity. Figure 4-3 identifies selected potential express bus corridors that will be further studied to determine their viability.

Improve Access to Regional Bus Service and Local Destinations

Measure 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.

Coordinate Service Planning with Local Land-Use Agencies

Senate Bill 375 offers California Environmental Quality Act (CEQA) streamlining for certain land-use developments located within a half-mile of major transit stops or high-quality transit corridors (California Public Resources Code §21155). A major transit stop can include sites containing a rail station or an intersection of two or more bus routes with 15-minute or better peak headway service. A high-quality transit corridor refers to fixed-route corridors with 15-minute or better peak headway service. This legislation provides local jurisdictions with the incentive to link the high-demand corridors highlighted in this LRTP and major transit stops with qualifying development projects within the Orange County SCS. Bus transit services also have the flexibility to change to better serve new development. This will assist in making the land-use developments eligible for the associated CEQA streamlining benefits. Coordination and communication with local jurisdictions will be a key element in acheiving this objective.

Seek Funding and Savings for Transit Operations

Funding is a major challenge for restoring bus service levels, as well as for planning new services included in this LRTP. OCTA will continue to explore funding opportunities and improved transit efficiencies that support transit expansion that is sustainable and cost-effective.

"Transit investments will seek to meet future demand as effectively and efficiently as possible."

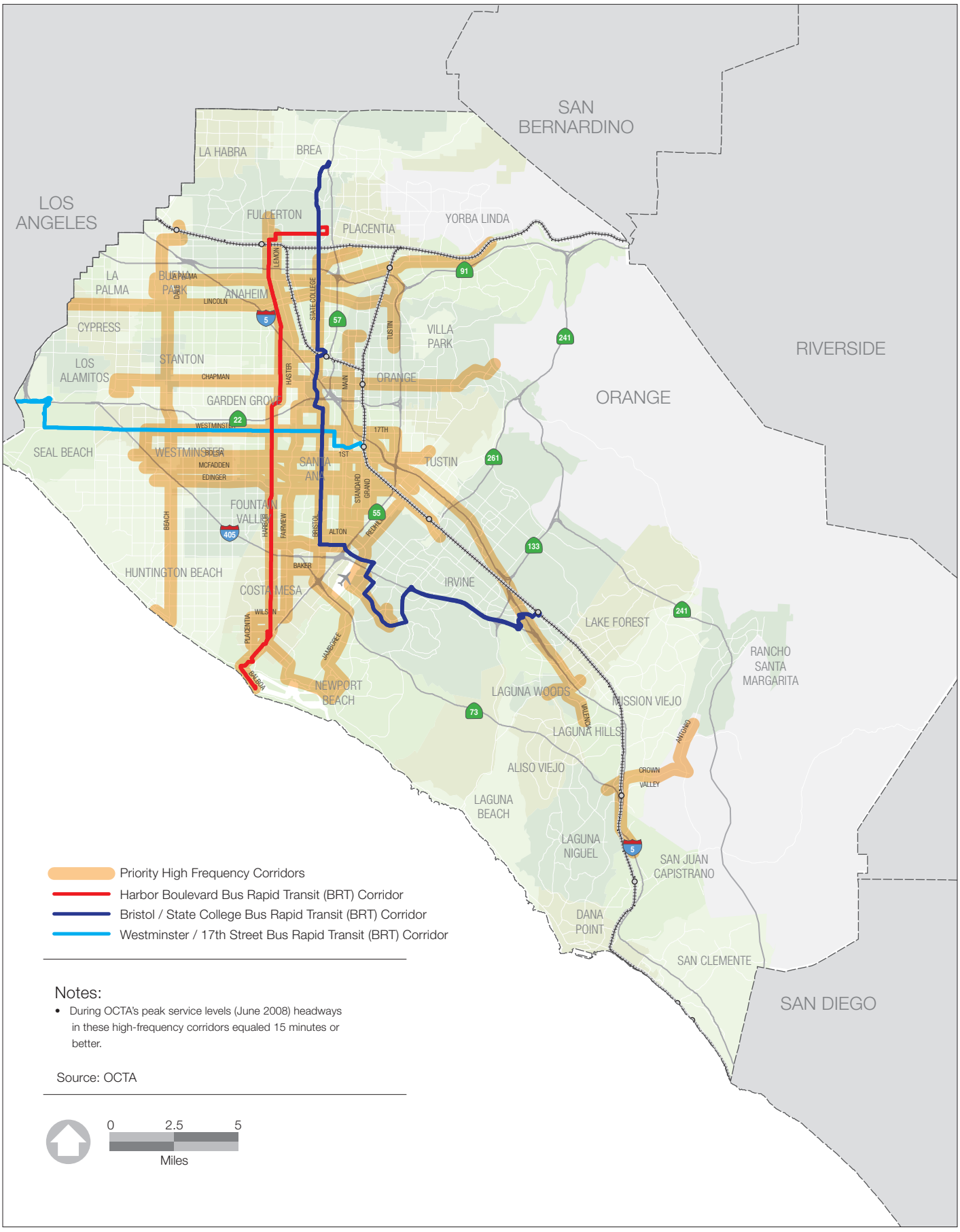


Figure 4-1: Priority High Frequency Bus Corridors and Planned BRT Routes

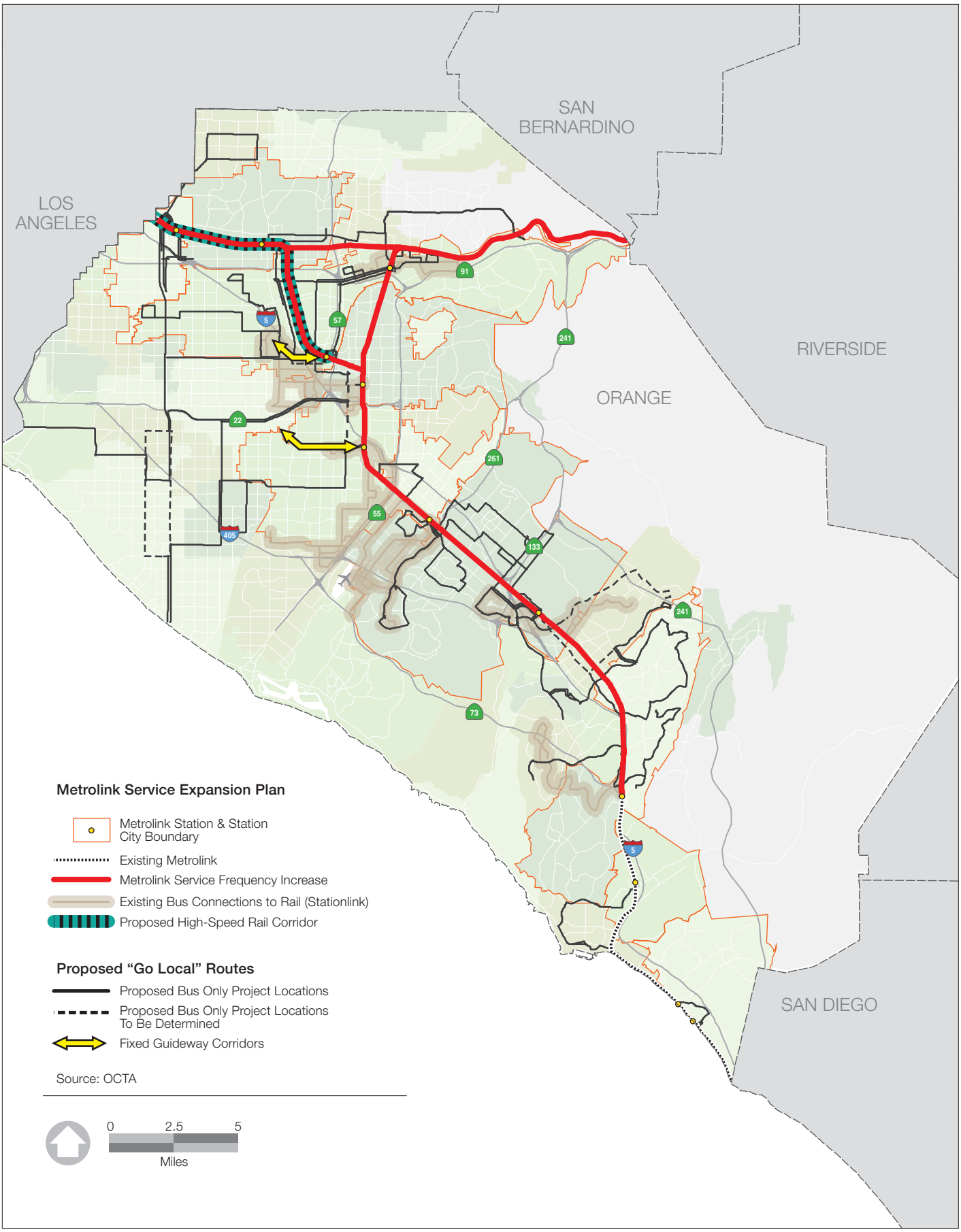


Figure 4-2: Priority Rail Improvements and Proposed Go Local Routes

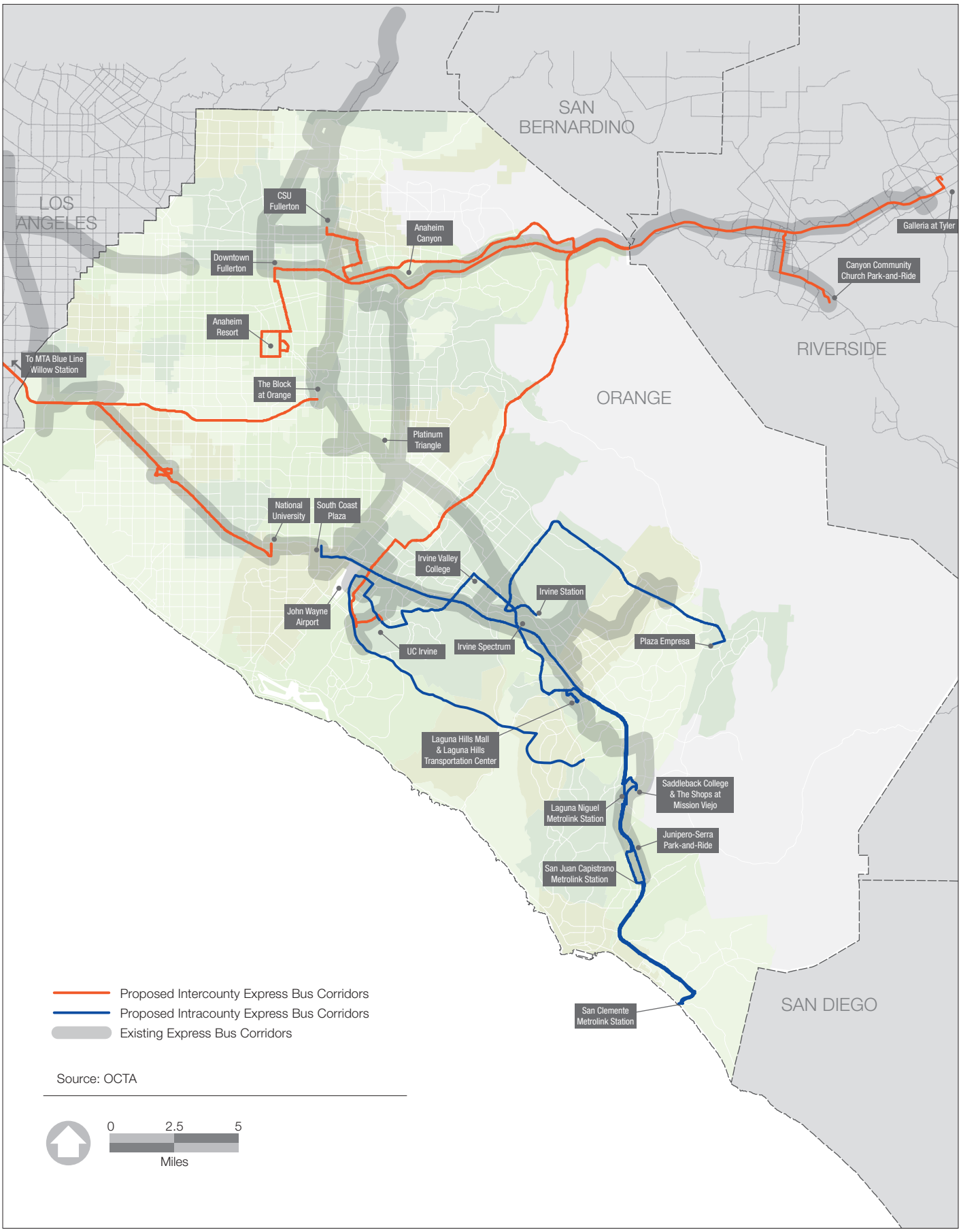


Figure 4-3: Intracounty and Intercounty Express Bus Corridors for Further Study

Freeway Vision

The freeway vision provides guidance for prioritizing freeway projects within the financially-constrained Preferred Plan for the LRTP. The objective of the freeway vision is to ensure that the traveling public will have access to a well-performing freeway network that meets future travel demand, supports a variety of travel modes, such as express bus service and vanpools, and is sustainable for future generations.

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

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

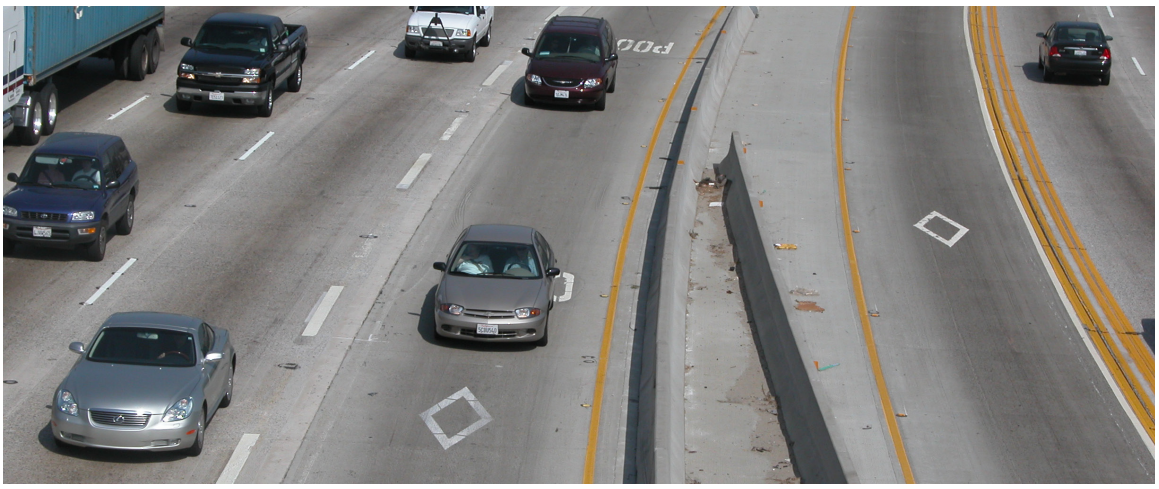
Deliver Committed Projects, including M2

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 Measure M2 program plans for numerous improvements to Orange County freeways, adding roughly 155 lane miles to the system. These projects will address some of the most congested freeway segments, while also enhancing access to and from the freeway system through interchange improvements.

Additionally, there are a number of freeway projects that are not part of M2, but have funding commitments within the Federal Transportation Improvement Program (FTIP). 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 4-4) 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. Continuous access lanes make carpooling more



"The freeway vision ensures access to a well-performing freeway network."

convenient by allowing users to safely enter and exit HOV lanes without feeling pressured by the limited access points that are on most existing HOV facilities. Figure 4-5 highlights the expansion of the continuous access HOV program.

Additionally, there are a number of HOV projects that have been planned as part of Measure M2, or through other planning efforts. Improvements to the HOV network will be considered a priority since these contribute toward making ridesharing more attractive, while also benefiting OCTA express bus services. As of 2008, Orange County has 230 lane miles of HOV facilities in operation, 24 miles of which are continuous access on State Route 22. Through the committed improvements, OCTA plans to expand the HOV network by roughly 20 lane miles.

Improve Freeway Travel Options

"HOV network improvements benefit ridership and OCTA bus services."

The Orange County toll road and express lane network currently consists of the San Joaquin 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 provide the traveling public with the option to pay a fee in order to use a more direct and/or less congested route. The 91 Express Lanes in particular demonstrate consistent time savings by using a congestion pricing system, which increases the toll during peak demand periods in order to provide free-flow conditions on the express lanes.

Orange County's existing and planned toll facilities benefit the traveling public by providing an option for more dependable freeway travel. For example, the toll facilities benefit OCTA express bus services by providing reliable and convenient transit service to and from major destinations. This provides a competitive alternative for single-occupancy drivers to consider, due to the time savings made possible by the toll facilities. Likewise, other rideshare commuters can receive the same types of benefits at a reduced per capita rate by sharing the tolls.

The committed improvements contained in this LRTP will expand the toll network to roughly 520 lane miles. To leverage these committed investments, priority will be given to additional projects that enhance connectivity between toll facilities in an effort to provide a seamless free-flowing network throughout the County. Future policies will provide guidance on where these facilities may implemented.

Coordination with neighboring counties will also help to improve connectivity by identifying opportunities to build a regional toll network. A regional toll network can potentially streamline long-distance travel throughout Southern California. OCTA will continue to work with transportation agencies in neighboring counties to explore these opportunities.

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, including the Interstate 405 MIS, the Central County MIS, the South Orange County MIS, and the Riverside County to Orange County MIS. The purpose of a MIS is to study multimodal corridors, collect input from elected officials and the public, and find consensus on a locally-preferred alternative that identifies the best projects for Orange County.

In addition, the California Department of Transportation (Caltrans) is currently completing a series of corridor system management plans

(CSMPs). Caltrans conducted three freeway corridor studies in Orange County that focused on identifying operational deficiencies, and suggested improvements such as Transportation Demand Management (TDM) and Transportation System Management (TSM) opportunities.

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 work toward improving 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. This LRTP incorporates 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, bring 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.

Transportation-related water quality issues are another growing environmental concern. Measure M2 brings an environmental cleanup program to Orange County to aid with federal Clean Water Act conformity. The environmental cleanup program will enhance existing efforts to improve water quality and reduce the impacts of runoff from transportation facilities.

The Measure M2 Mitigation and Resource Protection Program will provide for coordinated environmental benefits on a regional scale rather than a piecemeal project-by-project approach. The mitigation program will be implemented under an agreement between OCTA and state and federal resource agencies. The program includes habitat protection, connectivity and resource preservation in exchange for streamlined project approvals for the 13 Measure M2 freeway projects.

Seek Additional Funding Opportunities

OCTA will continue to seek additional funding opportunities to assist with the implementation of the Measure M2 freeway projects and programs, as well as for additional freeway improvements beyond Measure M2. OCTA has been successful in competing for state and federal funds, such as the state Corridor Mobility Improvement Account funds, which helped to fast-track several Measure M2 projects. OCTA is well positioned to compete for future funding due to ongoing efforts to prepare project study reports for high-priority projects.

"The Measure M2 environmental programs will enhance existing efforts to improve water quality and reduce the impacts of runoff from transportation facilities."

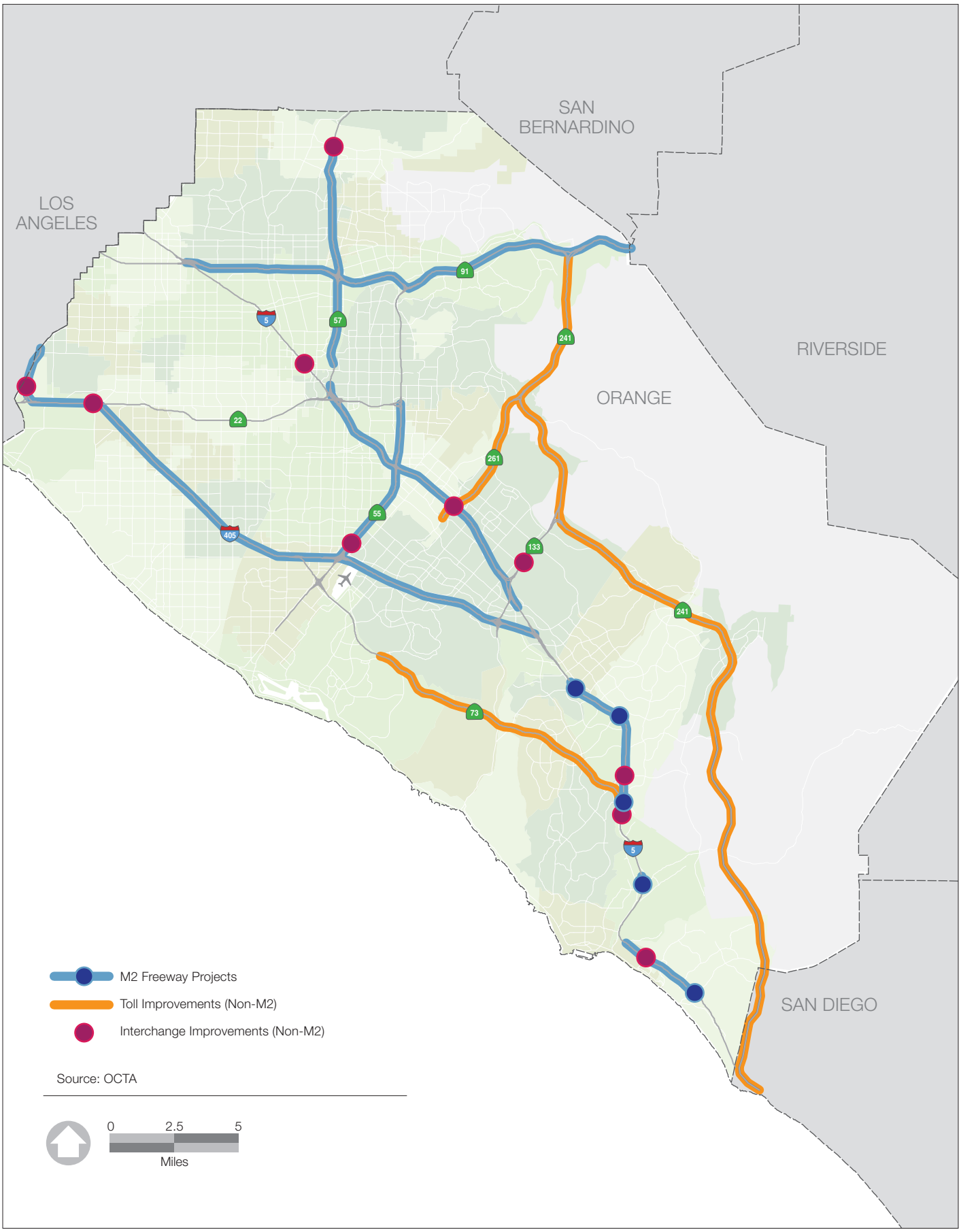


Figure 4-4: Committed Freeway Improvements

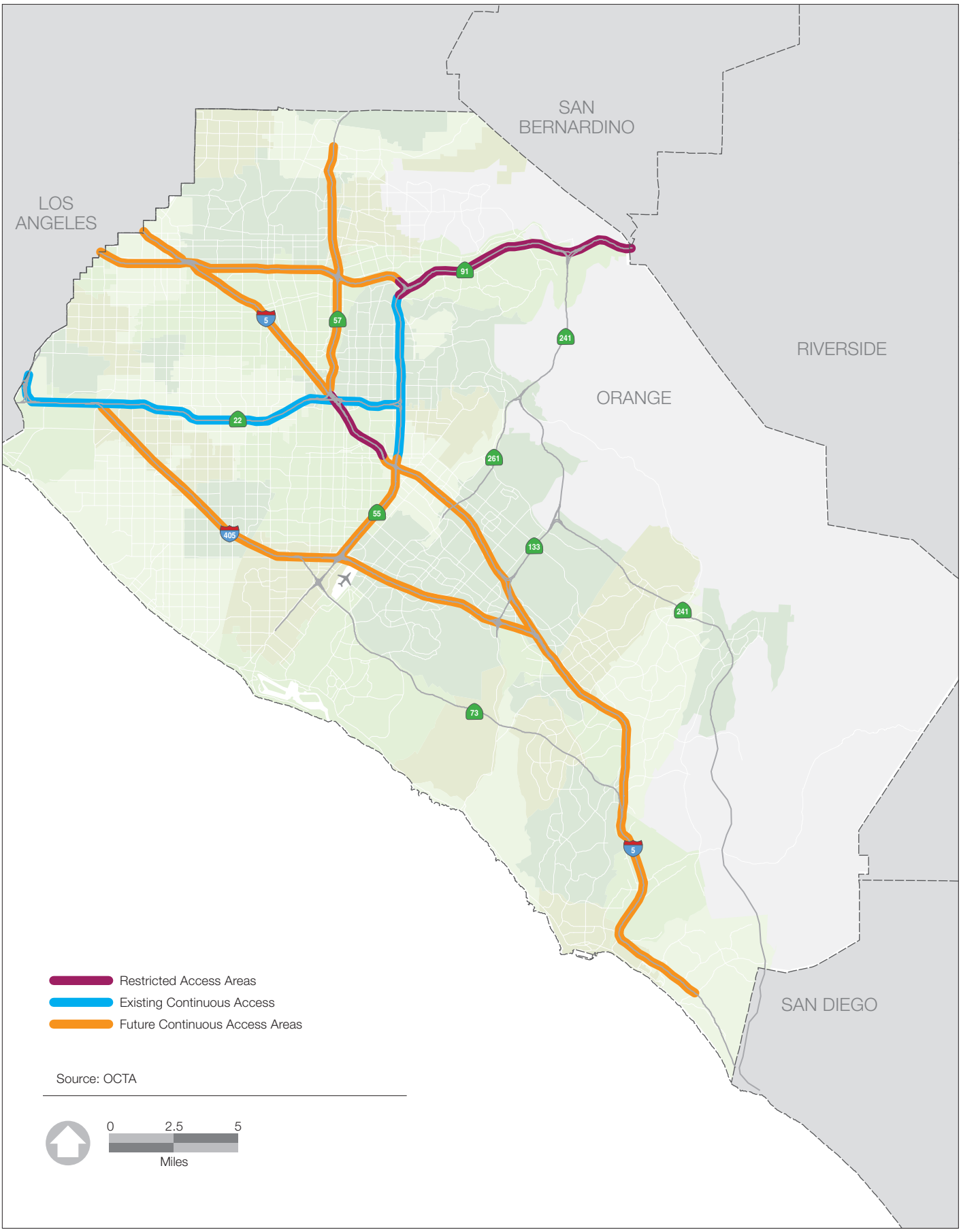


Figure 4-5: HOV Continuous Access Construction Plan

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. Continued growth in population and employment in Orange County will increase travel demand in the future. To address the increase in demand, the following programs are administered by OCTA and are associated with improving travel on arterial roadways in Orange County.

Master Plan of Arterial Highways

The MPAH was established in 1956 to provide a roadmap for the implementation of a county-wide network of roadways that follow consistent standards and design guidelines. Throughout its history, the MPAH has been continuously updated to reflect changing development and traffic patterns. OCTA is responsible for administering the MPAH, including the review and approval of amendments requested by local agencies. Recently, OCTA also completed the Regional Capacity Needs Assessment study, which identifies priority street improvement projects that would be eligible for funding under Measure M2 programs.

The current MPAH reflects the existing roadway plans for the 34 Orange County cities and the County of Orange (Figures 4-6A/B). The MPAH is subject to change and refinement through an established amendment process. Changes requested by local jurisdictions are reviewed and approved by OCTA.

Measure M2, passed by Orange County voters in 2006, ensures the continuation of an important local funding source for the continued implementation of the MPAH. OCTA administers the distribution of funding to local jurisdictions through local fair-share and competitive funding programs for the design and construction of individual MPAH projects. Measure M funds are supplemented by private, local, State, and Federal funding sources on a project-by-project basis.

Future planning efforts for the MPAH and implementation of specific roadway improvements will need to consider The Complete Streets Act. This legislation was passed in 2007 to ensure that the transportation plans of California communities meet the need of all users of the roadway, including pedestrians, bicyclists, users of public transit, motorists, children, the elderly, and the disabled. The purpose of this act is to make roads safer and more convenient for people who choose to walk, ride a bike, or take transit; and aid in reducing

"The Traffic Light Synchronization Plan will implement a countywide network of synchronized roadways."

traffic congestion, auto-related air pollution, and the production of climate-changing greenhouse gases. The bill also directs the California Office of Planning and Research to amend guidelines for the development of general plan circulation elements so that the building and operation of local transportation facilities safely and conveniently accommodate everyone, regardless of their mode of travel.

The Act was effective beginning January 1, 2009. OCTA is currently working to update the MPAH Guidelines to reflect the requirements of the act and to accommodate the related changes that will occur as local jurisdictions in Orange County update their general plan circulation elements in the coming years.

Implementation of the MPAH is essential to ensuring the mobility of Orange County residents and commuters into the future.

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 the border to the neighboring city. OCTA and local jurisdictions recognized this issue and 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 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 cities. 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 4-7). Completion of the traffic signal synchronization projects is a key element of the LRTP and these improvements are funded by Measure 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 that travelers can move safely and conveniently. As part of receiving Measure M 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. The Pavement Management Plans are updated every two years.

Pavement maintenance is funded by a variety of sources, including local funds, Measure M2 fair-share funding, and State and Federal funding programs. Diligent maintenance programs are necessary to ensure that roadway conditions are improved and maintained at consistent levels. Delayed maintenance can increase long-term improvement costs and impact public mobility and safety. OCTA works together with local jurisdictions to ensure that the projects identified in each Pavement Management Plan are funded and completed in a timely fashion.

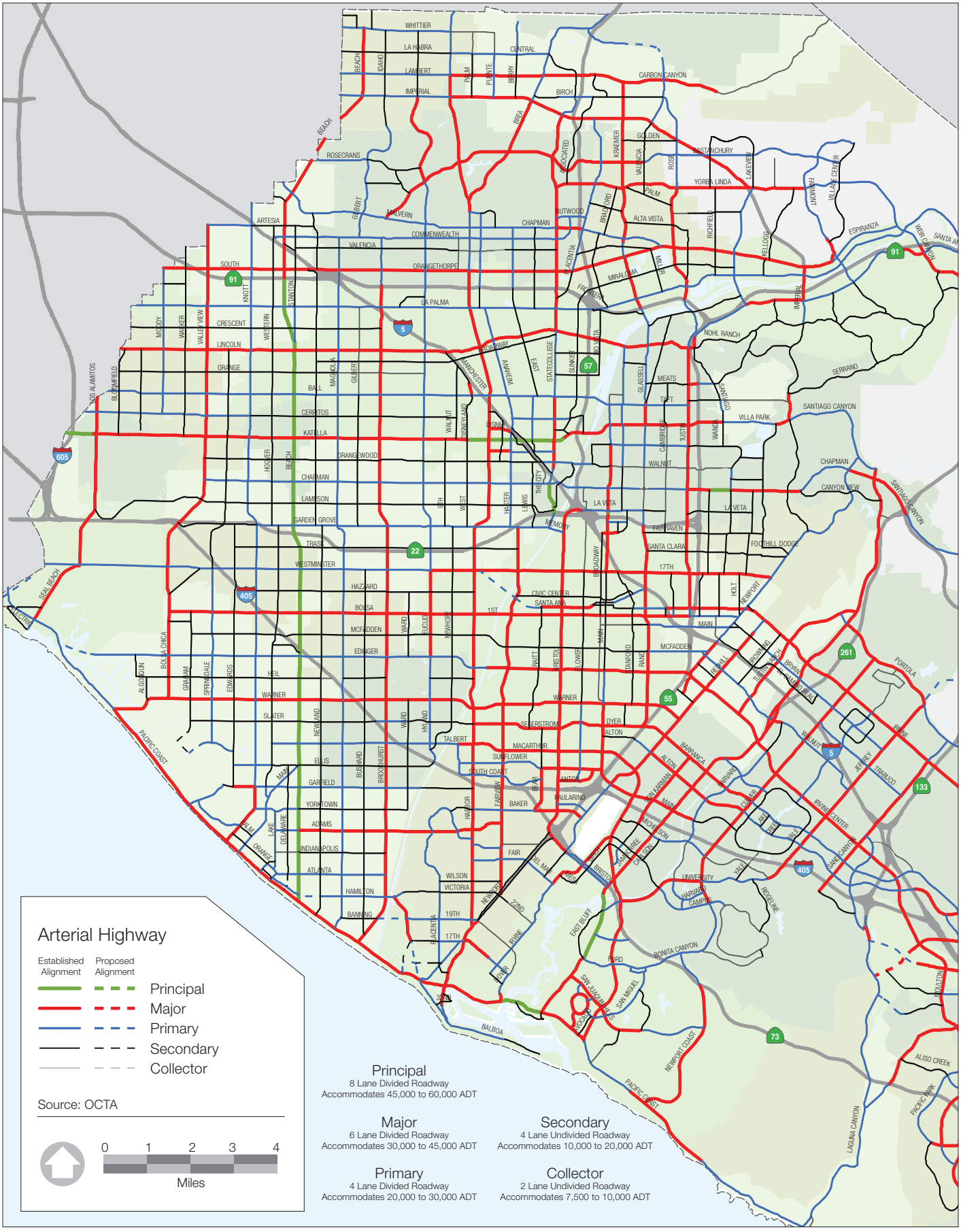


Figure 4-6A: Master Plan of Arterial Highways - (North County)

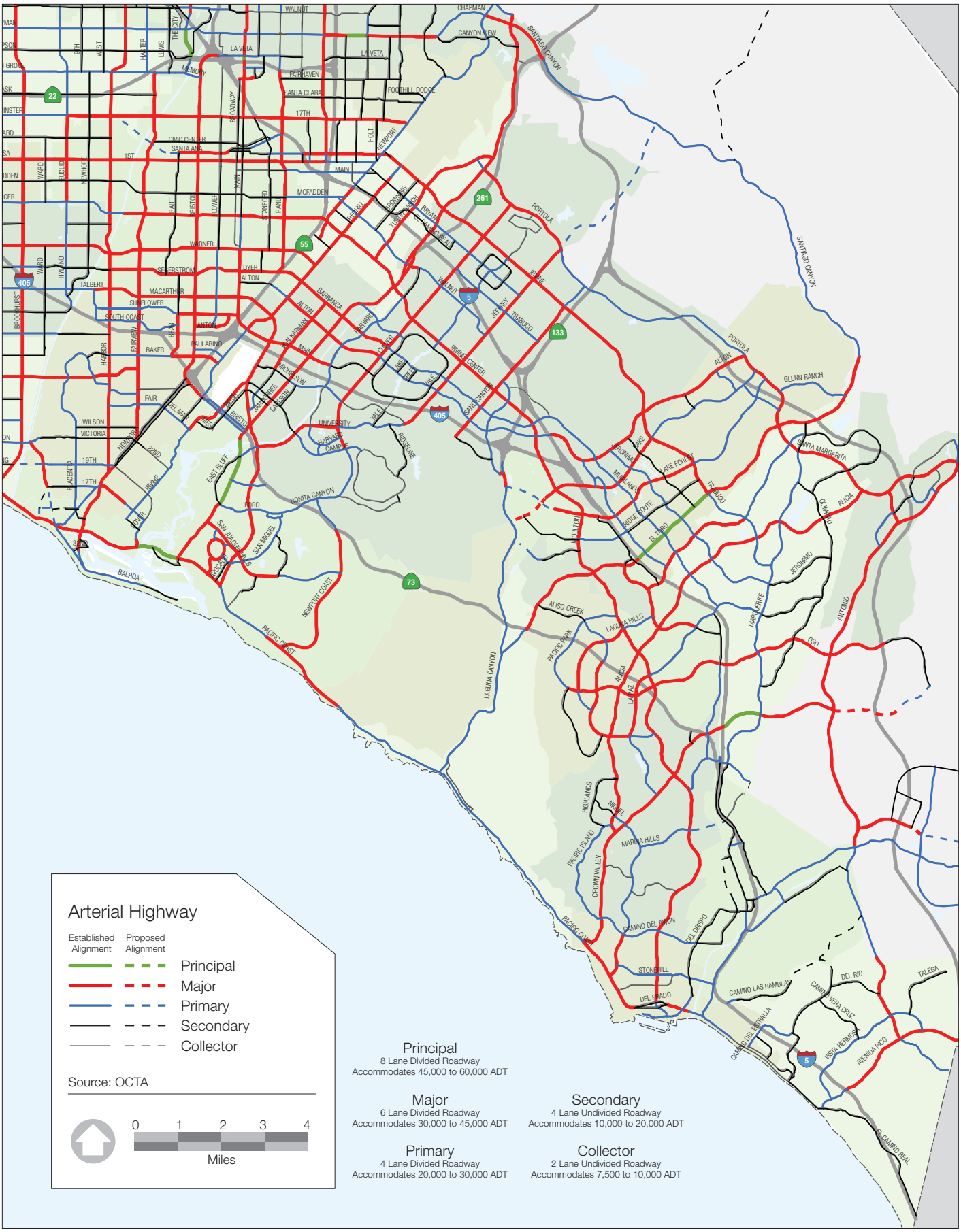


Figure 4-6B: Master Plan of Arterial Highways - (South County)

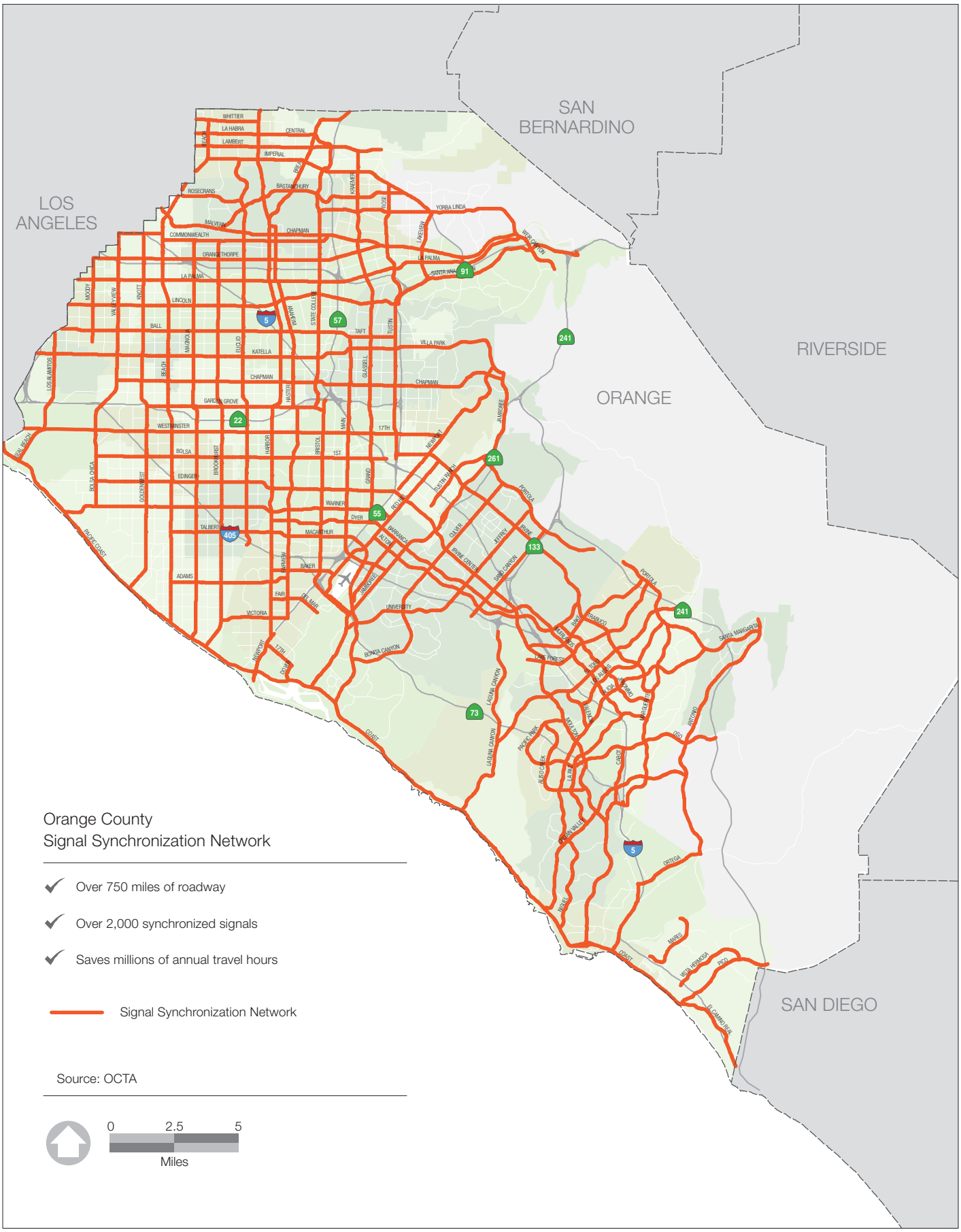


Figure 4-7: Traffic Light Synchronization Master Plan

Measure M2 Early Implementation Projects

Following the approval of Measure M2 by Orange County voters in 2006, OCTA initiated work on the Measure M2 Early Implementation Projects. These projects are the focus of a five-year plan to advance the implementation of Measure M2 projects through the 2011-2012 fiscal year. The primary objectives of this program are the following:

- **Objective 1:** Complete the first major milestone – conceptual engineering – for every Measure 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.

"Higher frequency Metrolink service is a core component of the Measure M2 Early Action Plan."

OCTA has made progress on the implementation of each objective. While the economic downturn and reduced sales tax revenue forecasts have resulted in delays to some initiatives new funding sources, including Proposition 1B, have helped to fill some of the funding gaps and allow for continued progress on several projects.

Major projects completed, currently underway, and planned for the next few years include the following:

- Conceptual engineering for several freeway projects (Figure 4-8)
- 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 Measure M2 Local Agency Eligibility Procedures Manual
- Award of $8 million in funding for traffic signal synchronization along ten significant street corridors
- Final design for seven railroad grade separation projects in Fullerton and Placentia
- Initiation of rail rolling stock purchases for Metrolink Service Expansion Program (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 the Anaheim Regional Transportation Intermodal Center (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 these projects will provide noticeable benefits for Orange County residents. The construction projects will also help the local economy by creating jobs within Orange County.

"Improvements proposed in the Measure M2 Early Action Plan include several freeway enhancement projects."

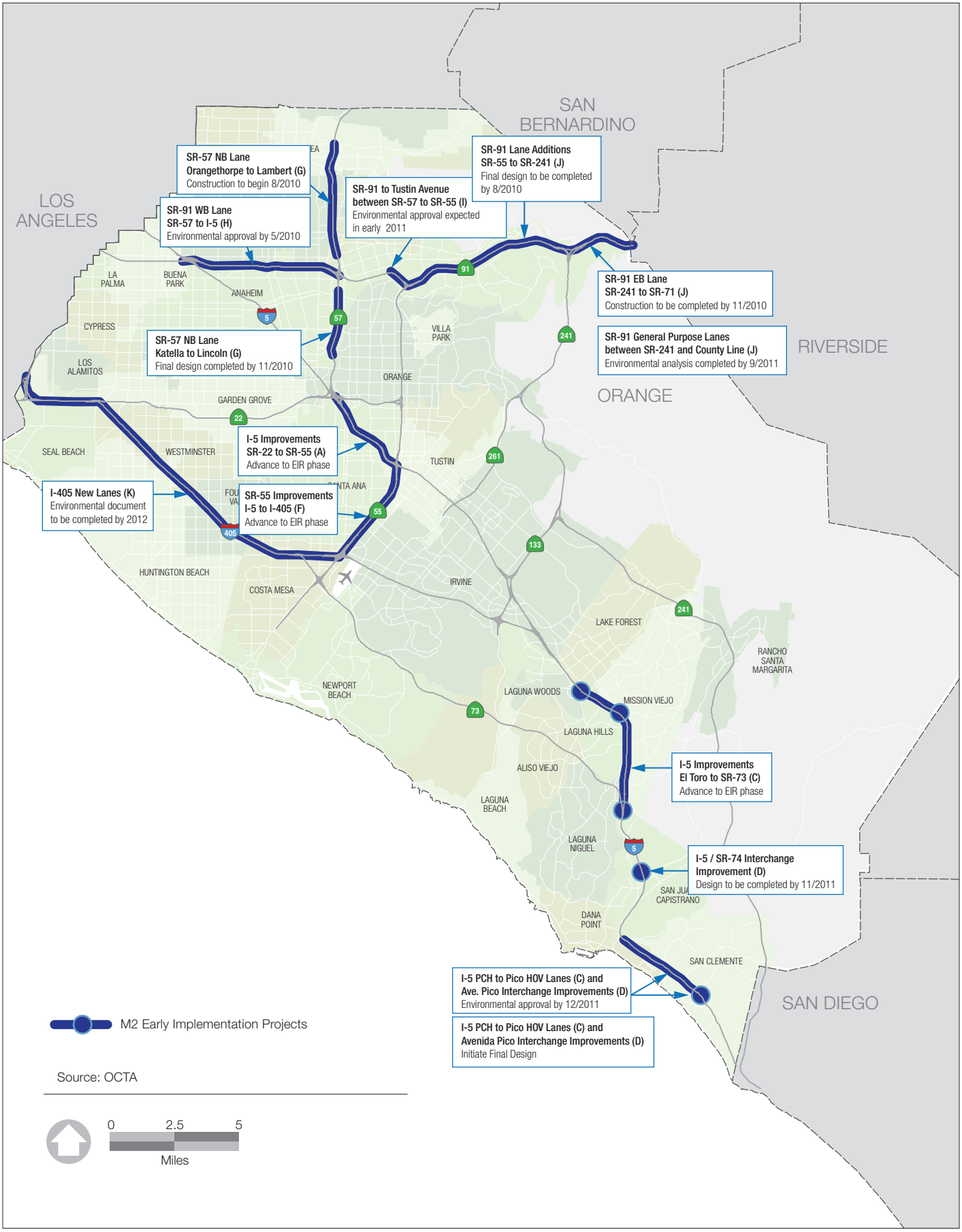


Figure 4-8: Measure M2 Freeway Early Implementation Projects

Transportation System Management (TSM)

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. Transportation System Management (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.

Intelligent Transportation Systems Program

"OCTA is currently using ITS technologies for a number of purposes ranging from supervising bus fleets to managing traffic on the State Route 91 Express Lanes."

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:

- 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)

The application of technology to existing infrastructure, vehicles or communication systems optimizes the use of the transportation system, reduces travel times, and helps to improve safety. The United States Department of Transportation's ITS Joint Program Office keeps a national database to track the benefits of ITS projects over time. Field studies in several cities have shown that advanced traffic signal control systems can improve travel time and on-time bus performance in cities across the country.

Traffic accidents, stalled vehicles, weather-related congestion, and special events at major attractions are all examples of occurrences that can cause nonrecurring congestion. Since instances of nonrecurring congestion are 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 cities 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 Southern California Association of Governments (SCAG). It is part of a nationwide mandate to establish national standards and

common or interchangeable technologies for transportation management.

OCTA is currently using ITS technologies for a number of purposes ranging from supervising bus fleets to managing traffic on the State Route 91 Express Lanes. In addition, OCTA is in the process of identifying opportunities to further implement ITS projects throughout the county within the Orange County Regional ITS Architecture framework.

Southern California 511

Southern California 511 is a free traveler information service that provides traffic, transit and commuter service information in Southern California via a toll-free phone number (511) and website (www.go511.com). The system allows commuters to check real-time traffic speeds, plan a bus or rail trip, or find a carpool or vanpool partner. OCTA is a partner agency in the Southern California 511 program.

Toll and Express Lanes

Toll roads and express lanes charge users a fee for travel, but typically offer less congested traffic lanes when compared to nearby freeways and roadways. The existing toll road and express lane network in Orange County includes the following facilities:

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

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

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. OCTA will also study the viability of other toll and express lane projects in additional corridors.

Transportation Demand Management (TDM)

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, which is a key element in reducing the release of air pollutants and green house gases from motor vehicles. 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.

"TDM Programs help to reduce single occupant vehicle travel, reduce congestion, and enhance the quality of life for Orange County residents, commuters, and visitors."

OCTA recognizes the potential benefits of increased vanpool utilization in terms of reducing congestion and emissions. 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 catchment area than a traditional vanpool.

As part of the effort to increase access to vanpools and utilization of these services, OCTA has identified potential vanpool destinations and opportunity areas for the year 2010 and 2035 located throughout Orange County (Figure 4-9). These opportunity areas are locations with an employment density of 5,000 jobs per square mile or more and could be served by vanpools developed through either one of the strategies describe above.

OCTA's goal is to more than double vanpool utilization from 2010 levels by the year 2035. This goal is proposed to be achieved through further exploration of the strategies identified above and by increasing OCTA's marketing and outreach efforts with commuters and employers to educate both groups about the benefits and availability of vanpool services.

Vanpools are funded from a variety of sources, including user fees, employer contributions, and State and Federal grants. OCTA will continue to actively seek and identify additional funding opportunities that would assist in the expansion of vanpool programs within Orange County.

Park-and-Ride

Recognizing the important role that park-and-ride facilities play in increasing commuter access to alternative transportation modes, OCTA will continue to explore opportunities to increase the number of park-and-rides in Orange County. OCTA will actively work 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.

In efforts to increase the viability of bicycle commuting, OCTA develops the Commuter Bikeways Strategic Plan (CBSP). This plan provides guidance to cities and the County in developing their bikeway planning, implementation, and maintenance efforts. It was developed through a collaborative process between cities, the County, OCTA, Caltrans, and non-profit organizations and the general public. The resulting CBSP 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.

Bikeway design guidelines are presented in the CBSP to assist local agencies in their bikeways planning and design efforts. These guidelines are based on design requirements and guidelines published in the Caltrans Highway Design Manual and the California Manual on Uniform Traffic Control Devices (MUTCD).

The CBSP also identifies regional bikeway priority locations that include transit stations, major employment centers, and schools. Priority will be given to bikeway projects that connect to, or within these locations to improve regional connectivity. Projects will also be prioritized based on CBSP performance criteria which include safety, ease of implementation, and continuity. Local jurisdictions will lead the implementation of these projects. OCTA will support these projects and assist in identifying funding when feasible and appropriate.

OCTA's ongoing role in regional bikeways planning includes the following:

- Promoting the consideration of bicyclists within environmental and planning documents prepared by local agencies
- Maintaining the countywide bicycle transportation plan
- Encouraging local agencies coordinate their bikeways planning efforts with the CBSP
- Working with local agencies to submit projects for state, federal and local funding opportunities as these become available

OCTA will continue to support bicycle commuting by providing amenities on buses (e.g. racks) and encouraging cities and the County to adopt policies that promote investment in bicycle amenities, increases in bicycle infrastructure, and promotion of programs that encourage or incentivise bicycle travel.

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. OCTA recognizes the importance of pedestrian facilities and will continue to support pedestrian programs and improvements.

OCTA is working to incorporate the requirements of the Complete Streets Act into the MPAH guidelines for roadway design and cross sections. This Act requires that city 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.

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 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.

OCTA will also encourage the implementation of these facilities where appropriate by offering local agencies assistance in preparing grant applications for funding, identifying potential private partners for development of a facility, and working to identify potential satellite facilities that would supplement and extend the reach and effectiveness of the

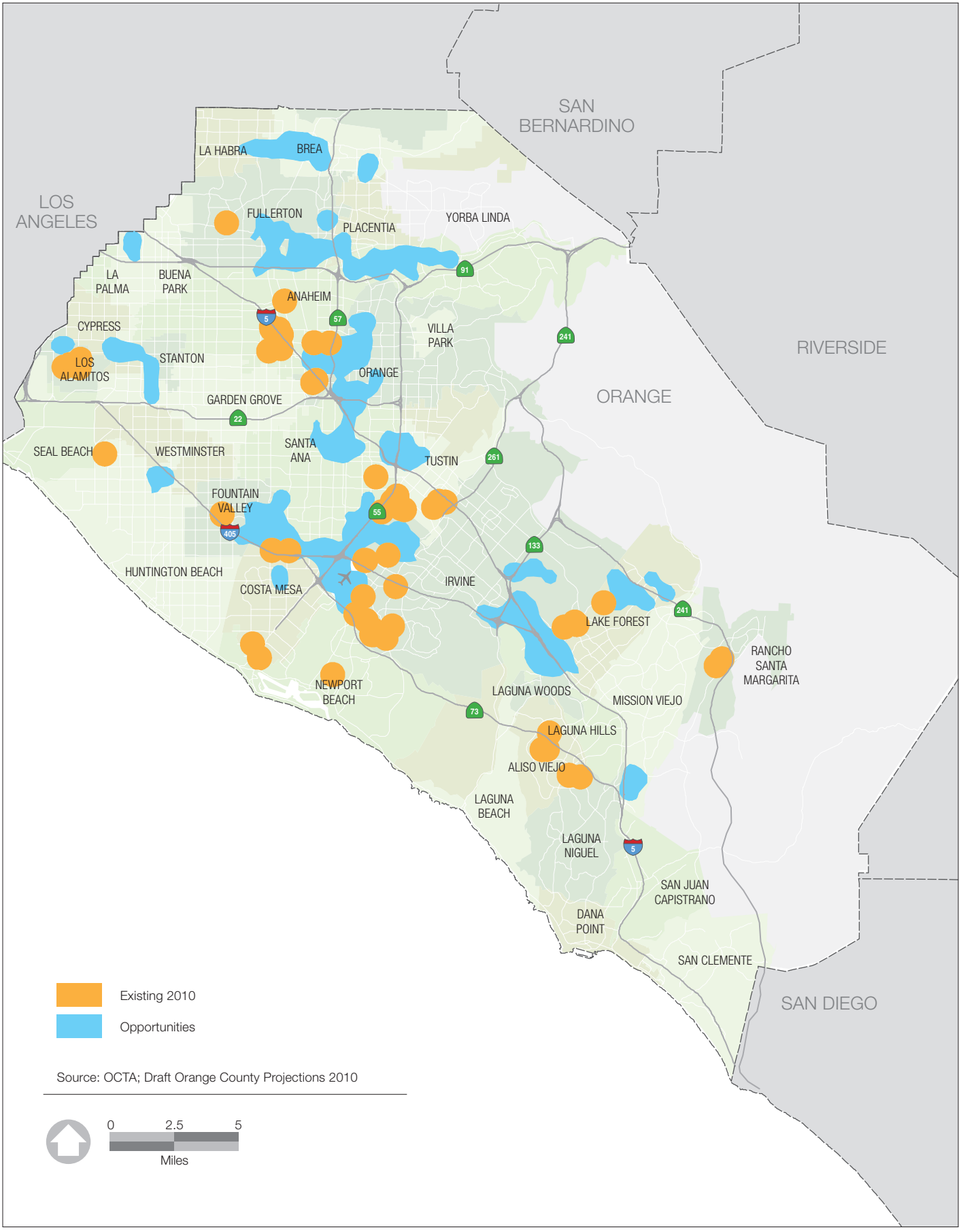


Figure 4-9: Vanpool Destinations and Opportunity Areas

facilities placed at commuter rail stations and transit centers. Opportunities for private investment will also be identified and encouraged.

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 similar system called the Commuter Check program has been operational in the San Francisco Bay Area for several years. This program 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. The system was originally started by public agencies in the region and eventually turned over to a private company for administration and operation. The program is currently self-funding and provides an excellent benefit for employers and commuters throughout the region.

In the future, OCTA will work with Orange County employers to explore the potential viability of commuter incentive programs like the Commuter Check program described above for Orange County.

Climate Protection

Efforts to improve air quality and reduce greenhouse gas emissions are not new to Orange County. In fact, Orange County has long been a leader in identifying effective ways to reduce transportation-related air quality emissions. However, recently enacted legislation (AB 32 and SB 375) has placed greater emphasis on the need to reduce vehicular emission as part of a comprehensive effort to combat climate change.

The 2010 LRTP includes a number of projects and programs that will help Orange County and the region attain their greenhouse gas emissions reduction targets. The list below identifies some of the transportation projects that may significantly contribute toward the reduction of GHG emissions:

- Fixed Route (Bus) Service Expansion
- Express Bus Service Increases
- Bus Rapid Transit (BRT) Implementation
- Go Local Bus/Shuttle Program
- Stationlink (Bus) Service Increases
- Anaheim Rapid Connection (Fixed Guideway) Project
- Santa Ana-Garden Grove Fixed Guideway Project
- Metrolink (Rail) Service Expansion
- High Speed rail
- Vanpool and Park-and-Ride Program Expansion
- Traffic Signal Synchronization Program
- Continuous Access High Occupancy Vehicle (HOV) Lanes
- Commuter Bikeways Strategic Plan Implementation
- Regional Capacity Program

GHG reductions will be measured at the regional level as part of the analysis performed within the RTP. It is safe to say, however, that any action that reduces traffic congestion is generally beneficial to air quality and helpful in the fight against global warming. Implementation of the projects contained in this LRTP is projected to reduce daily hours of delay due to congestion in the Year 2035 by 56 percent. A substantial positive impact on reducing GHG emissions can, therefore, be expected.

Emerging Transportation Technologies

OCTA is monitoring several emerging automobile and transit technologies that are under development or study throughout the United States and internationally.

Transit Technologies

In 2008, the OCTA Board of Directors adopted a set of policies and guiding principles for evaluating the potential for any emerging transportation technology to address transportation challenges within Orange County. The performance of these technologies would be evaluated as part of planning studies according to the following principals:

- Number of years the system has been in continuous revenue service, not including operation on a test track
- Proven safety record based on accident history
- Sufficient data to demonstrate long-term system and vehicle reliability
- The system's construction, operation, and maintenance costs must be established based on similar projects currently in operation and must be compared with other alternatives, including more established transit technologies
- The system's average revenue and farebox recovery must be evaluated and compared with other transit alternatives
- A competitive vendor pool must be available to construct and maintain the system

If an emerging transit technology or system is not currently in revenue service in another location, it would be difficult to gather reliable statistics on long-term safety, reliability, and operation and maintenance costs of the technology. Although several experimental transit technologies hold promise for specific applications in the future, it is premature for OCTA to invest taxpayer dollars in technologies that have not been fully developed and tested in revenue service for a reasonable amount of time.

Future project proposals and planning studies conducted for transit projects in Orange County need to consider these guiding principles when evaluating emerging transit technologies. If appropriate, projects can be considered for inclusion in the Unconstrained Plan until more reliable information and data becomes available.

Automobile Technologies

Automobile fuel and propulsion technology is continually advancing. Recent improvements include gasoline internal combustion engines capable of operating with 85-percent ethanol fuel (E-85), diesel engines capable of running on bio-diesel fuels, and semi and full-electric vehicles utilized battery technology for vehicle propulsion. Each of these technologies is intended to reduce gasoline consumption.

During the four-year period between the preparation of this LRTP and the previous 2006 document, Orange County and the nation as whole experienced substantial swings in the price of gasoline. These price changes, combined with other economic factors, influenced travel patterns and travel mode choices. OCTA is continuously monitoring travel demand and transit ridership to ensure that the right service levels are provided and the appropriate projects are prioritized for implementation. The impacts of gasoline prices are factored into this monitoring effort. Long-term it is difficult to predict the rise and fall of the price of gasoline. One benefit of updating the LRTP every four years is the opportunities provided OCTA to refine project proposals and priorities based on changes in travel patterns, growth, and mode choices.

As these automobile propulsion technologies advance and become more commonplace, they may trigger related changes in the way residents and commuters chose to travel in and around Orange County. OCTA will continue to monitor these technology advances, their integration into the public automobile fleet, and their influence on travel patterns within Orange County.

"OCTA will monitor the adoption of Alternative fuels and propulsion technologies and the impact of these on travel patterns in the future."

The Plan: Orange County Tomorrow

- Year 2035 Preferred Plan
- Achievements of the Year 2035 Preferred Plan
- Year 2035 Unconstrained Plan
- Conclusion

The Plan: Orange County Tomorrow

OCTA has developed a detailed program of transportation projects and improvements to address transportation needs and challenges as outlined in the previous chapters of this LRTP. These projects draw from approved funding programs, including Measure M2, as well as recent and ongoing OCTA planning efforts that have analyzed transportation needs and opportunities throughout Orange County. The Preferred Plan of projects also considers available funding and financial resources over the course of the next 25 years. Particular emphasis is placed on the identification of a program of projects that can be implemented using the funding sources that are reasonably anticipated to be available.

The projects and programs identified in this chapter are focused on fulfilling the LRTP Goals and Objectives. 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 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. To this end, improvements to travel times, person throughput, and reductions in congestion are highlighted later in the chapter, together with the program of projects identified for the next 25 years.

The long-term transportation improvements outlined in this chapter are assigned to one of two groups. The Preferred Plan of projects identifies all planned improvements over the next 25 years that can be paid for based on the current financial forecast (see page 42). The Unconstrained Plan identifies additional transportation projects that are either still in the early planning stages, those that are not affordable within the financial forecast, or those that do not meet the priorities set by the strategies discussed in the Toolbox chapter. These projects are likely to be first in line for consideration should additional financial resources become available in the future. Both the Preferred Plan and the Unconstrained Plan propose improvements for freeways, roads, transit services, and other travel modes.

"Orange County is a leader in developing and implementing innovative transportation projects."

Year 2035 Preferred Plan

Transit Projects

Transit projects in the 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 services, 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 included in the Year 2035 Preferred Plan is provided in Figure 5-1. Detailed project listings and forecast costs are provided in the Appendix.

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 the Transit Strategy.
- **Express Bus Service:** Intercounty and intracounty express bus service will increase.
- **Bus Rapid Transit Projects:**
  1. (Westminster Avenue/17th Street) - 22-mile fixed route BRT between Santa Ana and Long Beach including bus shelters and new buses.
  2. (Harbor Boulevard) - 19-mile fixed route BRT between Fullerton and Newport Beach including bus shelters and new buses.
  3. (Bristol Street-State College Boulevard) - 28-mile fixed BRT from Brea Mall to Irvine Transportation Center, includes shelters.
- **Go Local Bus/Shuttle:** Locally-developed rail feeder bus services that provide connections between Metrolink Stations and local destinations. This is a competitive program that is currently in progress.
- **StationLink:** StationLink services focus on creating linkages and necessary connections to Metrolink stations and employment destinations. Increase StationLink services as needed to coordinate with Metrolink service.

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.
- **Santa Ana - Garden Grove Fixed Guideway:** This project proposes a transit service linking the Santa Ana Regional Transportation Center (SARTC) to the Santa Ana Civic Center and Garden Grove.

(Go Local Fixed Guideway projects will be required to compete for future funding with proposed Go Local Bus/Shuttle Projects.)

Rail

- **Regional Gateways Program:** The Regional Gateways program, funded as part of Measure M2, would enhance key Orange County Metrolink stations to accomodate the additional demand induced by high-speed rail service.
- **Metrolink Service Expansions:** Expansion of Orange County Metrolink service to Los Angeles is planned by 2035. This also includes track improvements, trains, and other capital needs.
- **High-Speed Rail:** The California High Speed Rail Project which will connect Anaheim to Los Angeles and San Francisco.

Other

- **Safe Transit Stops:** Promotes safer transit shelters and transit stops
- **Elderly and Disabled Assistance:** Expands transit convenience and choices for the elderly and disabled population, including continuation of the existing senior and disabled fare stabilization program
- **Vanpool and Park-and-Ride Program Expansion:** Expands rideshare services by over 100 percent above existing 2010 levels.

Category	Project	Description
Fixed-Route Bus Service	Local Routes Service Increase	Service increase to select routes
	Community Routes Service Increase	Service increase to select routes
	Shuttle Routes Service Increase	Service increase to select routes
Express Bus Service	Intercounty Express Routes Service Increase	Service increase to existing express bus routes
	Intracounty Express Routes Service Increase	Service increase to existing express bus routes
Bus Rapid Transit (BRT)	Westminster Avenue / 17th Street BRT	22-mile BRT between Santa Ana and Long Beach
	Harbor Boulevard BRT	19-mile BRT between Fullerton and Newport Beach
	Bristol Street/State College Boulevard BRT	28-mile BRT between Brea and Irvine
Go Local Bus/ Shuttle*	Anaheim Regional Transportation Intermodal Center (ARTIC) to Fullerton Transportation Center	New local bus/rail feeder service
	ARTIC/Anaheim Resort/West Anaheim	New local bus/rail feeder service
	Anaheim Canyon Feeder Shuttle	New local bus/rail feeder service
	Aliso Viejo Town Center Shuttle	New local bus/rail feeder service
	Brea Employee Shuttle	New local bus/rail feeder service
	Yorba Linda & Placentia Park-and-Ride Shuttle	New local bus/rail feeder service
	La Habra Community Bus	New local bus/rail feeder service
	Buena Park Station to Auto Center/Civic Center	New local bus/rail feeder service
	Buena Park Station to Buena Park Downtown	New local bus/rail feeder service
	Irvine Spectrum Shuttle	New local bus/rail feeder service
	Cal State Fullerton Shuttle	New local bus/rail feeder service
	Laguna Beach Summer Arts Festival Shuttle	New local bus/rail feeder service
	Laguna Woods/Lake Forest/Laguna Hills to Irvine Station	New local bus/rail feeder service
	Tri-City Trolley	New local bus/rail feeder service
	Tustin Metrolink to Tustin Downtown	New local bus/rail feeder service
	Tustin Metrolink to Tustin Legacy	New local bus/rail feeder service
	Mission Viejo Blue Line	New local bus/rail feeder service
	Bolsa Chica Inter-County Express	New local bus/rail feeder service
	Fountain Valley Express	New local bus/rail feeder service
	Little Saigon/Fountain Valley/Huntington Beach Express	New local bus/rail feeder service
	ARTIC to Anaheim Canyon Station	New local bus/rail feeder service
	Lake Forest Metrolink Shuttle	New local bus/rail feeder service
	Lake Forest Demand Response Shuttle	New local bus/rail feeder service
	Tustin Station to Irvine 1	New local bus/rail feeder service
	Tustin Station to Irvine 2	New local bus/rail feeder service
	Tustin Station to Irvine 3	New local bus/rail feeder service
	Tustin Station to Irvine 4	New local bus/rail feeder service
	Irvine Station to Great Park/Woodbury	New local bus/rail feeder service
Go Local Fixed Guideway*	Anaheim Rapid Connection (ARC)	New fixed guideway/rail feeder service
	Santa Ana & Garden Grove Fixed Guideway	New fixed guideway/rail feeder service
Station Link	StationLink Service Increase	Service increase as needed to coordinate with Metrolink service
Rail	Regional Gateways Program	Station improvements including ARTIC and others
	Metrolink Service Expansion Program (Phase II)	Extend service improvements from Fullerton to Los Angeles
	California High-Speed Rail - Phase 1	New service from San Francisco to Los Angeles and Anaheim
Other	Elderly & Handicapped Assistance	Expand transportation choices
	Safe Transit Stops	Transit stop improvements
	Vanpool and Park & Ride Program Expansion	Expand rideshare services in Orange County

Figure 5-1: Year 2035 Preferred Plan Transit Projects
* Go Local projects are eligible for Measure M2 (Project S) funding. Allocation of funds is pending OCTA Board approval.

Freeway Projects

Freeway projects contained in the Year 2035 Preferred Plan range from ramp and interchange improvements for mixed-flow and HOV lanes, to widening and expansions throughout the system, to systemwide safety improvements, including freeway service-patrol, call boxes, and a sound wall retrofit program. A brief overview of freeway projects contained in the Year 2035 Preferred Plan is provided below. A full list of freeway projects included in the Year 2035 Preferred Plan is provided in Figure 5-2. Lane additions for specific freeway and toll road segments between the 2008 Base Year and 2035 Preferred scenario are shown in Figure 5-3. Detailed project listings and costs are provided in the Appendix.

Transportation System Management Projects

- Interstate 5: Add 1 HOV lane in each direction from Avenida Pico to PCH and improve the Avenida Pico Interchange. Add 1 HOV lane in each direction from SR-55 to SR-57. HOV ramp improvements at Barranca Parkway.
- Interstate 405: From the SR-73 to the San Gabriel River Freeway (I-605), provide two High Occupancy Toll (HOT) lanes in each direction, converting existing HOV lanes, and adding one new HOT lane in each direction.
- State Route 57: 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.
- State Route 73: Add an HOV lane in each direction from MacArthur to the San Diego Freeway (I-405). Provide an HOV connector at the I-405.
- State Route 241/State Route 91: Add an HOV/HOT connector at the Foothill Transportation Corridor (SR-241).
- State Route 91: Image based toll collection demonstration project on 91 Express Lanes.
- All: Freeway Service and Patrol Boxes: Maintain the freeway call box program and invest in motorist aid. Freeway TDM/TSM: Freeway TDM/TSM design, implementation and operation.

General Purpose Improvements

- Interstate 5: Widen from the Costa Mesa Freeway (SR-55) to the San Diego Freeway (I-405) and from the Orange Freeway (SR-57) to the Riverside Freeway (SR-91) 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 Freeway (I-605), add one mixed-flow lane in each direction. From the Santa Ana Freeway (I-5) to the Costa Mesa Freeway (SR-55), add lanes and improve merging.
- State Route 55: Add one auxiliary lane and one mixed-flow lane in each direction from I-405 to I-5. From I-5 to SR-22, add one mixed-flow lane in each direction.
- State Route 57: Widen to provide an additional mixed-flow northbound lane from Orangewood Avenue to Katella Avenue and from Lincoln Avenue to Orangethorpe 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 Freeway (SR-57) to the Costa Mesa Freeway (SR-55).

Other Projects

- Soundwall Retrofit Program: Construct soundwalls along freeways to minimize traffic noise from freeways into residential neighborhoods.
- State Highway and Protection Program (SHOPP): Various freeway safety improvements as needed.

"Orange County is a leader in developing and implementing innovative transportation projects."

Environmental and Freeway Mitigation

- Environmental Cleanup Program: Supplement the existing transportation related water quality program.

Interchange Projects

- Interstate 5: Reconfigure interchanges at Avery Parkway, Avenida Pico, La Paz Road, Alicia Parkway, First Street, and Fourth Street. Add an interchange at Marguerite Parkway, Los Alisos Boulevard, and Stonehill Drive.
- Interstate 405: Interchange improvement on SR-55 and Bristol Street.
- 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: 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 Road. Add interchange and overcrossing at Fairmont Boulevard.
- State Route 241: Add interchange at Jeffrey Road.

Category	Project	Description
Transportation System Management Projects	Interstate 5 HOV expansion from Pacific Coast Highway to Avenida Pico	Add one HOV lane in each direction from Pacific Coast Highway to Avenida Pico
	Interstate 5 HOV Lane Expansion	Add one HOV lane each direction from State Route 55 to State Route 57
	Interstate 5 HOV Improvements	HOV ramp improvements at Barranca Parkway
	Interstate 405 HOT Project	Convert existing HOV lane to HOT, add one additional HOT lane each direction from State Route 73 to Interstate 605
	State Route 57 Improvements	Provide HOV interchange at Cerritos Avenue
	State Route 57 Improvements	Add one truck climbing auxiliary lane in the northbound direction from Lambert Road to Los Angeles County line
	State Route 73 Improvements	Add one HOV lane each direction from MacArthur Boulevard to Interstate 405
	State Route 73 HOV Connector	Add HOV lane connector to Interstate 405
	State Route 91/State Route 241 Interchange	Add HOV/HOT connector at State Route 241/State Route 91 interchange (eastbound on-ramp/westbound off-ramp)
	Freeway Service Patrol & Call Box Program	Continuation of motorist aid services
	Toll Roads Video Detection Demonstration Project	Image-based toll collection system demonstration project
General Purpose Improvements	Interstate 5 Improvements between State Route 55 and El Toro "Y"	Add one mixed-flow lane in each direction from State Route 55 to Interstate 405
	Interstate 5 Improvements from State Route 57 to State Route 91	Add one mixed-flow lane in each direction from State Route 57 to State Route 91
	Interstate 5 Improvements South of the El Toro "Y"	Add one mixed-flow lane in each direction from Avery Parkway to Alicia Parkway
	Interstate 5 Improvements South of the El Toro "Y"	Reconfigure interchange of Interstate 5 with Avery Parkway
	Interstate 5 Improvements South of the El Toro "Y"	Reconfigure interchange of Interstate 5 with La Paz Road
	Interstate 405 Improvements Project from State Route 55 to Interstate 5	Add one auxiliary lane in the northbound direction from Jefferey Road to Culver Drive

Figure 5-2: Year 2035 Preferred Plan Freeway Projects, *continued on the next page.*

Category	Project	Description
General Purpose Improvements	Interstate 405 Improvements Project from State Route 55 to Interstate 5	Add one mixed-flow lane in each direction from Interstate 5 to State Route 55
	Interstate 405 Improvements Project from State Route 73 to Interstate 605	Add one mixed-flow lane in each direction from State Route 73 to Interstate 605
	State Route 55 Improvements	Add one mixed-flow lane in each direction from Interstate 405 to Interstate 5
	State Route 55 Improvements	Add one mixed-flow lane in each direction from Interstate 5 to State Route 22
	State Route 55 Improvements	Add one auxiliary lane in each direction between select on/off ramps through project limits from Interstate 405 to Interstate 5
	State Route 57 Improvements	Add one mixed-flow lane in the northbound direction from Lincoln Avenue to Orangethorpe Avenue
	State Route 57 Improvements	Add one mixed-flow lane in the northbound direction from Orangewood Avenue to Katella Avenue
	State Route 91 Improvements from State Route 55 to Orange County/Riverside County Line	Add one westbound lane from State Route 241 to Gypsum Canyon Road
	State Route 91 Improvements from State Route 55 to Orange County/Riverside County Line	Add one auxiliary lane in each direction from State Route 241 to Green River Road
	State Route 91 Improvements from State Route 57 to State Route 55	Add one mixed-flow lane in the eastbound direction from State Route 57 to State Route 55
Interchange Projects	Interstate 5/Stonehill Drive Interchange	Add southbound off-ramp at interchange with Stonehill Drive
	Interstate 5 Local Interchange Upgrade	Improve interchange of Interstate 5 with Avenida Pico
	Interstate 5 Interchange Upgrade	Reconstruct interchange of Interstate 5 with 1st Street/4th Street to increase weaving length to standard on southbound Interstate 5
	Interstate 5/Marguerite Parkway Interchange	Add interchange at Marguerite Parkway
	Interstate 5/Alicia Parkway Interchange Improvement	Improve interchange of Interstate 5 with Alicia Parkway
	Interstate 5/Los Alisos Boulevard Interchange	Add interchange at Los Alisos Boulevard
	Interstate 5/North Irvine Traffic Mitigation Ramp Improvements	Improve access ramps to/from Interstate 5
	Interstate 405/South Bristol Braid Interchange Reconfiguration	Reconfigure interchange of Interstate 405 with State Route 55 and Bristol Street
	Interstate 405/Irvine Center Drive/North Irvine Traffic Mitigation Improvement	Improve various access ramps to/from Interstate 405
	Interstate 605 Freeway Access Improvements	Ramp improvements at interchange with Katella Avenue
	State Route 55/Meats Avenue Interchange	Construct on-ramp/off-ramps at the interchange of State Route 55
	State Route 57 Improvements	Ramp improvement at Lambert Road
	State Route 73/Glenwood Drive/Pacific Park Drive Interchange	Complete southbound ramp at interchange with Glenwood Drive/ Pacific Park Drive
	State Route 91 Improvements from State Route 57 to State Route 55	Improve interchange with State Route 55
	State Route 91 Improvements from State Route 57 to State Route 55	Improve interchange with Lakeview Drive
	State Route 91/Gypsum Canyon	Improve access ramp at Gypsum Canyon Road
	State Route 91/Fairmont Boulevard Interchange	Add interchange and overcrossing at Fainmont Boulevard
	State Route 241/Jeffrey Road Interchange	New interchange at Jeffrey Road
Other Projects	Soundwall Program	Construct soundwalls along freeways to minimize traffic noise from freeways into residential neighborhoods
	State Highway Operation and Protection Program (SHOPP)	Various freeway safety improvements, as needed
Environmental Mitigation	Environmental Cleanup and Freeway Mitigation Programs	Transportation-related water quality program and acquisition/ restorational habitat, respectively

Figure 5-2: Year 2035 Preferred Plan Freeway Projects, *continued from the previous page.*

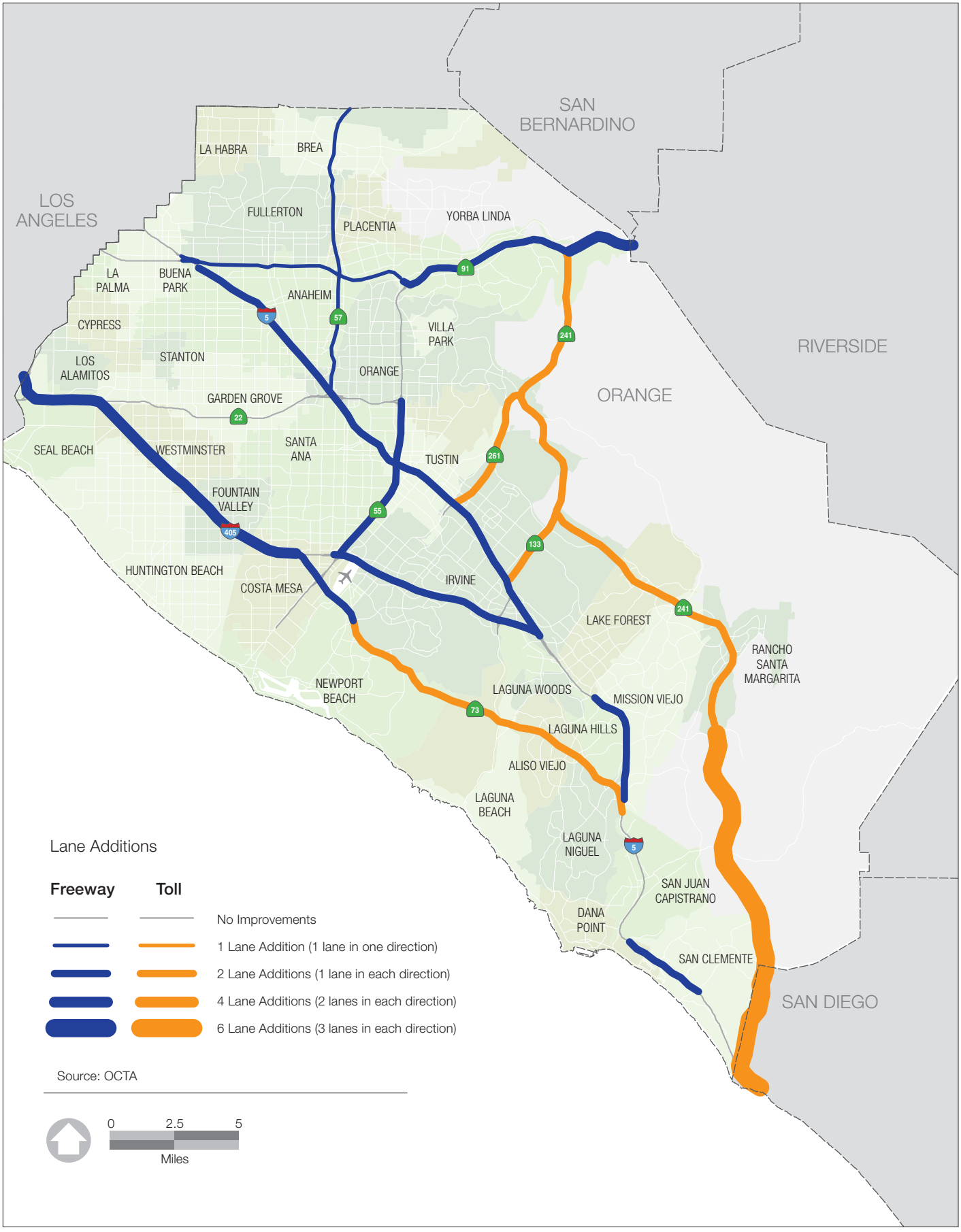


Figure 5-3: Lane Additions from 2008 Base Year to Year 2035 Preferred Plan

Street Projects

Street projects contained in the Year 2035 Preferred Plan include expanding and extending arterials, ongoing maintenance, transportation demand management, intelligent transportation systems, 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 Figure 5-4. Detailed project listings and costs are provided in the Appendix.

Transportation Demand Management

- Signal Synchronization Program: Implement traffic signal synchronization on over 750 miles of roadways.
- Commuter Bikeways Strategic Plan: Implement the Commuter Bikeways Strategic Plan (Figure 5-5). Responsibility for implementation lies with local jurisdictions.

Capacity & Maintenance

- Local Fair Share Program: Local fair share program funded by Measure M. Money 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 5-6 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 Freeway (SR-55) at Alton Parkway. New roadway would be four lanes from Daimler Street to East Alton Avenue.

Other

- Planning, Programming & Monitoring Studies, and Other Studies: Conduct transportation related studies on an as-needed basis.

Category	Project	Description
	Signal Synchronization Program	Coordinate traffic signals in key corridors (750 mile network with 2000 signals)
	Implement Commuter Bikeways Strategic Plan	Add Class I, II, III bikeways throughout Orange County
Capacity & Maintenance	Alton Parkway Overpass	Add new four lane roadway from Daimler Street to east Alton Avenue
	Local Fair Share Program	Roadway maintenance projects
	Complete the MPAH Regional Capacity Plan	Various arterial roadway projects
Other	Planning, Programming & Monitoring Studies, and Other Studies	Transportation-related studies

Figure 5-4: Year 2035 Preferred Plan Street Projects

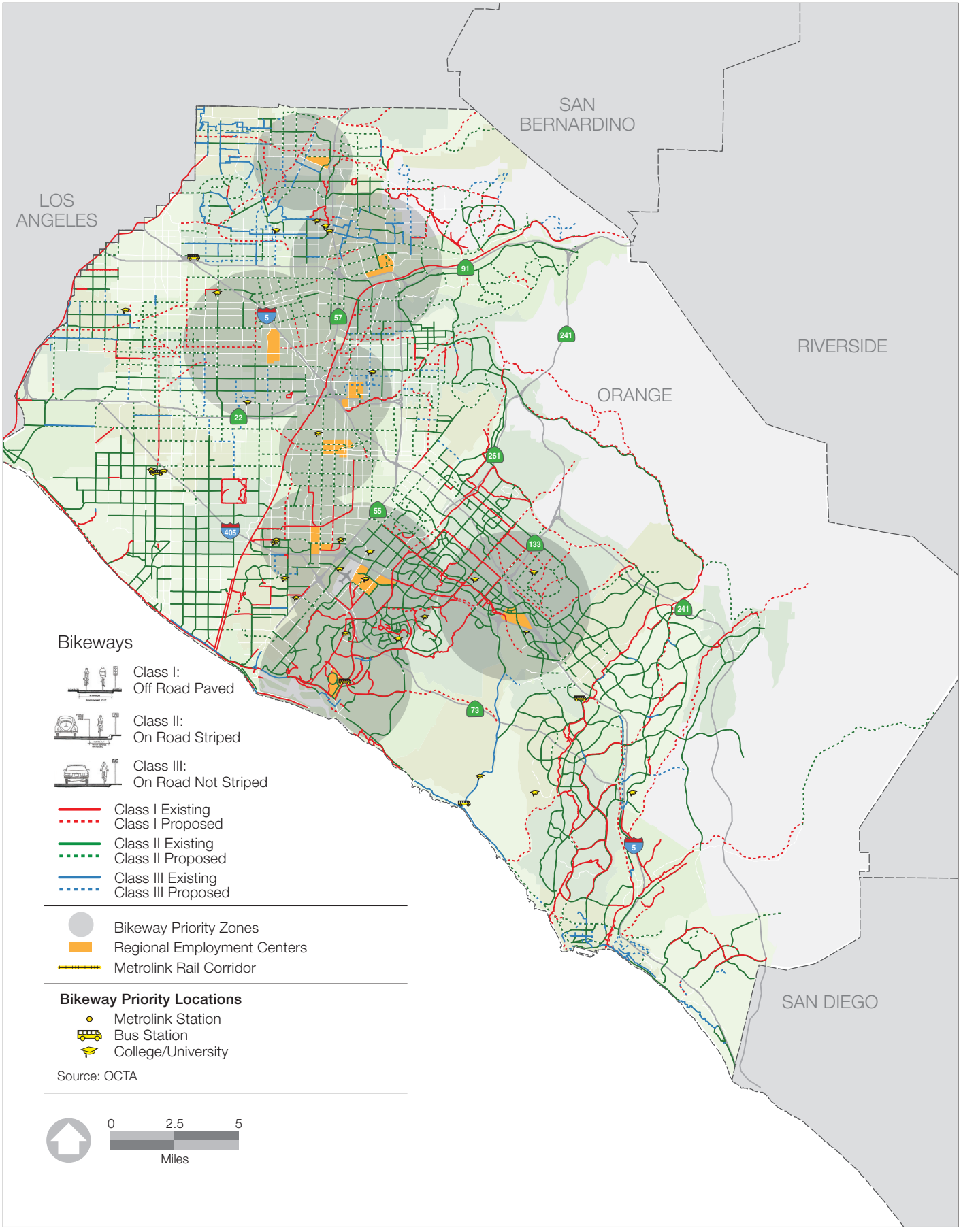


Figure 5-5: Commuter Bikeways Strategic Plan

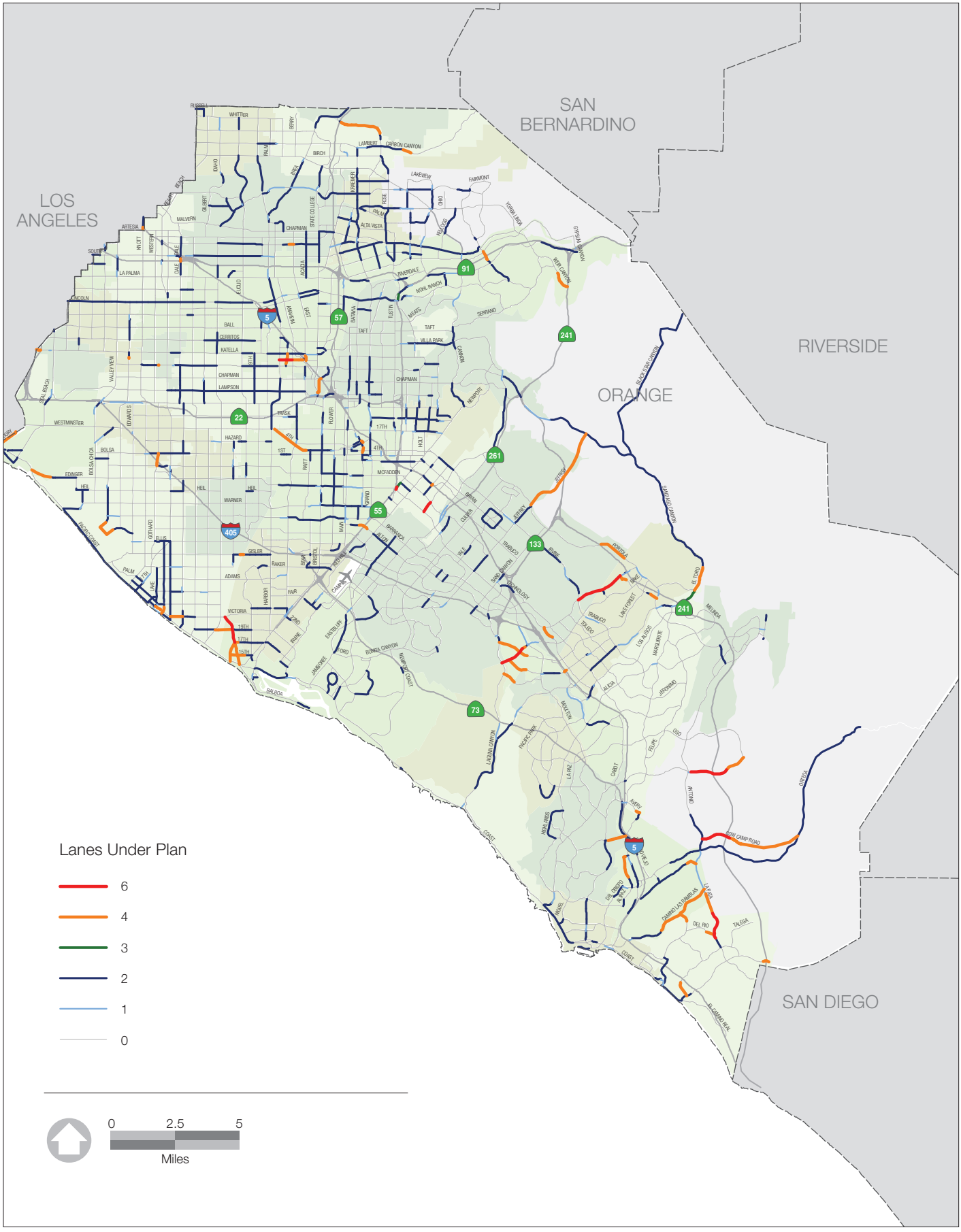


Figure 5-6: Traffic Lanes Necessary to Complete MPAH

Achievements of the Year 2035 Preferred Plan

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 Measure M2 program, as well as numerous other transit, freeway, street, and travel demand management projects located throughout Orange County.

A key achievement of the Year 2035 Preferred Plan is satisfying the Goals and Objectives established for this LRTP. The performance of the Year 2035 Preferred Plan is summarized below:

1 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 would be added to the system, including Go Local projects. Specific transit service improvements will be defined through OCTA Board direction based on the Transit System Study that is currently underway. Metrolink service would be expanded, 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 Program will expand access to arterial roadways throughout Orange County. These improvements will not only benefit automobile traffic, but also transit services, bicyclists, and pedestrians that travel on these roadway corridors.

The Year 2035 Preferred Plan expands access to alternative transportation modes, including vanpool and rideshare services, bicycle facilities, and other transportation demand management strategies. Each of these projects and programs improves the transportation choices available to Orange County residents, commuters, and visitors.

2 Improve Transportation System Performance: The performance of the transportation system with the implementation of the projects outlined in the Year 2035 Preferred Plan is compared to the Year 2035 Baseline condition in order to measure the plan's performance and level of improvement achieved. Figure 5-7 summarizes the level of improvement achieved by the Year 2035 Preferred Plan over the Year 2035 Baseline condition using several transportation performance metrics.

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%*

Figure 5-7: Preferred Plan Performance Analysis (compared to 2035 Baseline)

* 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.

The Year 2035 Preferred Plan is forecast to successfully help reduce travel delays and improve travel speeds on freeways and streets throughout Orange County. These projects are also forecast to contribute to an 11 percent increase in transit ridership over the Year 2035 Baseline condition, and a 26 percent increase in ridership compared to the 2008 Base Year. These improvements are integral components of improving the performance of the transportation system.

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 (Level of Service "F"), are forecasted to be reduced by 35 percent compared to the Year 2035 Baseline (Figure 5-8). Similarly, a 40 percent decrease is forecast to occur in the number of roadway segments that are severely congested under the Baseline 2035 scenarion.

3 **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, with the timing of project implementation tied 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 Measure 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.

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.

"OCTA participates in regional programs that provide support for carpool, vanpool and other services that encourage ridesharing."

Figure 5-8: Improvement in Level of Service for Year 2035 Preferred Plan Compared to Year 2035 Baseline

Year 2035 Unconstrained Plan

The Unconstrained Plan identifies projects and improvements outside of the Year 2035 Preferred Plan. The Year 2035 Unconstrained Plan projects do not have an identified funding source. The status of each project also varies, with some projects still in need of additional study.

Transit Projects

Transit projects in the Year 2035 Unconstrained Plan include additional high-speed rail service, Metrolink and local bus service expansions, and expansions of express bus and bus rapid transit (BRT) services to rapidly move commuters and residents throughout Orange County. A brief overview of transit projects in the Year 2035 Unconstrained Plan is provided below. A full list of the Year 2035 Unconstrained Plan transit projects is provided in Figure 5-9. Detailed project listings are provided in the Appendix.

Bus Service

- **Fixed-Route Service Expansion:** Additional local and community bus service throughout Orange County.
- **Express Bus Service Expansion:** Increase express bus service on routes serving Central Orange County. Add new intercounty and intracounty routes.
- **Bus Rapid Transit Projects:** BRT service along Katella Avenue, Edinger Avenue, Beach Boulevard, and La Palma Avenue. BRT services will also connect Central Orange County and South Orange County.

Rail

- **Metrolink Service Expansions:** Metrolink service increase for Orange County stations south of Laguna Niguel/Mission Viejo.
- **High-Speed Rail:** The California-Nevada Super-Speed Train from Anaheim to Ontario.
- **LOSSAN Rail Corridor:** The LOSSAN double track project would be tunneled on an inland route to the San Diego County line

Transit Facilities

- **Fullerton Transportation Center:** Implement transit station improvements to accommodate future travel demand.
- **Santa Ana Regional transportation Center Expansion:** Expand the Santa Ana Regional Transportation Center to accommodate future travel demand.
- **Irvine Station Master Plan:** Expand the Irvine Station to accomodate future travel demand.

"OCTA participates in regional programs that provide support for carpooling."

Category	Project	Description
Fixed Route Bus Transit	Systemwide Local Bus Service Expansion	Design, implementation, and operation of local fixed route service
	Intra-County and Inter-County Express Bus	Expand both inter-county and intra-county express bus services *
	New Express Bus Service from Industry to Anaheim	Industry Metrolink/Anaheim Resort Express Bus service expansion *
	New Express Bus Service from Anaheim to Laguna Hills	Anaheim Metrolink/Laguna Hills Transit Center Express Bus service expansion *
	New Express Bus Service from Orange to Long Beach	The Block at Orange/Long Beach Transit Mall Express Bus service expansion *
	New Express Bus Service from South Coast Metro to Long Beach	South Coast Metro/Wardlow Metro Blue Line Station Express Bus service expansion *
	New Express Bus Service from Irvine to Norwalk	Alton Parkway/Yale Loop to Goldenwest Transportation Center/Green Line Express Bus service expansion *
	New Express Bus Service from Riverside to Brea	Tyler Galleria/Yorba Linda/Brea Express Bus service expansion *
	New Express Bus Service from Riverside to Anaheim	Tyler Galleria/Anaheim Resort Express Bus service expansion *
	New Express Bus Service from Riverside to Irvine	Tyler Galleria/Irvine Business Complex/UCI Express Bus service expansion *
	New Express Bus Service from Rancho Santa Margarita to Irvine	Rancho Santa Margarita/Irvine Spectrum Express Bus service expansion *
	New Express Bus Service from Laguna Niguel/Aliso Viejo to Irvine	Laguna Niguel/Aliso Viejo/Irvine Business Complex/UCI Express Bus service expansion
	New Express Bus Service from San Clemente to South Coast Metro	San Clemente/UCI/South Coast Metro Express Bus service expansion *
	New Express Bus Service from Anaheim to Laguna Hills	Harbor/Manchester/Laguna Hills Transit Center Express Bus service expansion *
Bus Rapid Transit (BRT)	Katella Avenue BRT	New BRT service between Long Beach and Orange
	Edinger Avenue BRT	New BRT service between Huntington Beach and Tustin
	Beach Boulevard BRT	New BRT service between Buena Park and La Habra
	La Palma Avenue BRT	New BRT service between Buena Park and Anaheim
	South County BRT	New BRT service between Central Orange County and South Orange County
	Enhance BRT Routes	Implement bypass lanes at intersections, real-time passenger information, transit signal priority, and station improvements
Rail Transit	Metrolink Service Expansion Program	Service frequency increase to all stations south of Laguna Niguel/ Mission Viejo
	Calfornia-Nevada Super-Speed Train	New service from Anaheim to Ontario
	LOSSAN Capacity Increase to San Diego Border	Extend double track in tunnel south of San Juan Capistrano to San Diego County line
Transit Facilities	Fullerton Transportation Center	Transit station improvements
	Santa Ana Regional Transportation Center (SARTC) Expansion	Expansion of the Santa Ana Regional Transportation Center
	Irvine Station Master Plan	Transit station improvements
	Increase Access to Park and Rides	Increase access to Park and Rides and increase parking capacity
	New Intermodal Stations	New Intermodal stations in Fountain Valley, Santa Ana, Westminster/Garden Grove and Anaheim
Other	Pacific Electric Right-of-Way (PEROW) Transportation Corridor	Specific improvements and design alternatives to be defined through ongoing intercounty studies

* Pending further study

Figure 5-9: Year 2035 Unconstrained Transit Projects

Freeway Projects

Freeway projects in the Year 2035 Unconstrained Plan include HOV improvements, as well as performance enhancements through freeway widening, ramp, and interchange improvements. A brief overview of freeway projects in the Year 2035 Unconstrained Plan is provided below. A full list of freeway projects in the Year 2035 Unconstrained Plan is provided in Figure 5-10. Detailed project listings are provided in the Appendix.

Transportation System Management Projects

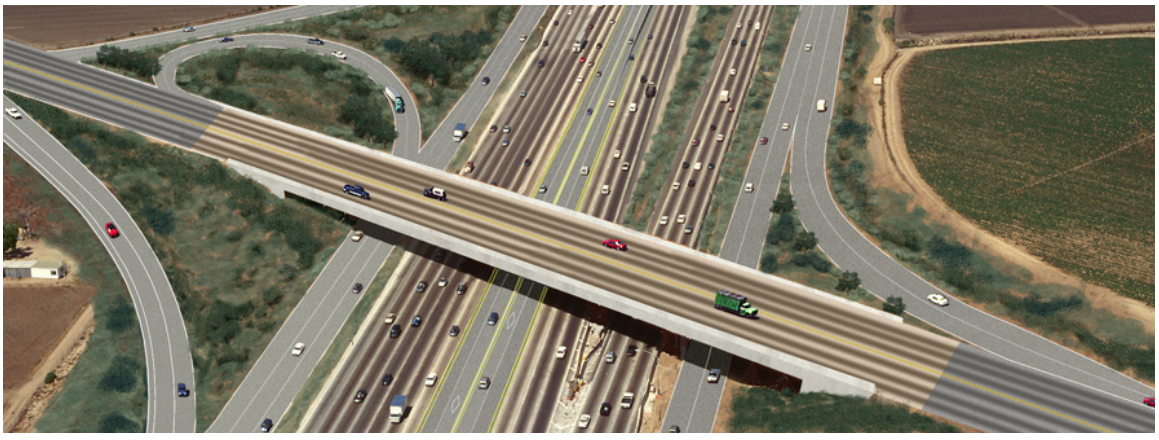
- Interstate 5: Add one HOV lane in each direction from the San Diego County Line to Avenida Pico. From Avenida Pico to Avenida Vaquero, add one northbound truck climbing lane.
- Interstate 405: Add HOV ramps at Von Karman Avenue and Bear Street.
- State Route 55: Continue the HOV lane from the San Diego Freeway (I-405) to 19th Street. Provide HOV ramps at Alton Parkway.
- Toll Corridors: Build out to TCA specifications. Add shadow tolls and additional lanes beyond the TCA buildout on the San Joaquin Hills Transportation Corridor (SR-73), the Eastern Transportation Corridor (SR-133), and the Foothill Eastern Transportation Corridor (SR-241).
- New Corridors: Irvine-Corona Expressway tunnel. Additional express lanes on a facility parallel to the Riverside Freeway (SR-91), from the Eastern Transportation Corridor (SR-241) to the Mojave Freeway (I-15).

General Purpose Improvements

- Interstate 5: Add one lane each direction from Avenida Pico to Ortega Highway.
- Interstate 405: Add one mixed-flow lane in each direction from Culver Drive to State Route 133.
- State Route 55: Extend the freeway from 19th Street to Industrial Way.

Interchange Projects

- Interstate 5: Modify the interchanges at El Camino Real, Pacific Coast Highway, and I-5/SR-57/SR-22.
- Interstate 405: Improve the interchange of the San Diego Freeway (I-405) southbound to the Laguna Freeway (SR-133) northbound.
- State Route 22: Connect the Garden Grove Freeway (SR-22) to the Pacific Electric Right of Way.
- State Route 73: Improve the interchange at El Toro Road and Laguna Canyon Road.
- State Route 241: Add a new interchange at Crown Valley Parkway.



"Freeway projects contained in the Year 2035 Unconstrained Plan include HOV improvements and expanding freeway capacity via freeway widening, ramp, and interchange improvements."

Category	Project	Description
Transportation System Management Projects	Interstate 5 HOV Project	Add one HOV lane each direction from San Diego County line to Avenida Pico
	Interstate 5 Improvements	Add one northbound truck climbing lane from Avenida Pico to Avenida Vaquero
	Interstate 405/Von Karman Avenue HOV Access	Add HOV ramps at Von Karman Avenue
	Interstate 405/Bear Street HOV Access	Add HOV ramps at Bear Street
	State Route 55 HOV Lane Extension	Extend HOV lanes from Interstate 405 to 19th Street
	State Route 55/Alton Parkway HOV Access	Add HOV ramps at Alton Parkway
	State Route 55 Operational Improvements	Operational improvements from State Route 91 to State Route 22
	Toll Corridors Improvements	Build out to Transportation Corridor Agencies specifications
	Corridor "A"	Elevated four-lane facility from State Route 241 to Interstate 15 parallel to State Route 91
	Irvine - Corona Expressway	Tunnel connecting State Route 133/State Route 241 in Orange County to Interstate 15 in Riverside
	Toll Roads/Shadow Tolls	Funds to compensate the Transportation Corridor Agencies for lower tolls and addition of one mixed-flow lane on State Route 73, State Route 133, and State Route 241
General Purpose Improvements	Interstate 5 Widening from Avenida Pico to Ortega Highway	Add one mixed-flow lane in each direction from Avenida Pico to State Route 74
	State Route 55 Extension	Extend the freeway from 19th Street to Industrial Way
	Interstate 405 Improvements	Add one mixed-flow lane in each direction from Culver Drive to State Route 133
Interchange Projects	Interstate 5/El Camino Real Interchange Project	Modify interchange of Interstate 5 with El Camino Real
	Interstate 5/Pacific Coast Highway Interchange Project	Modify interchange of Interstate 5 with Pacific Coast Highway
	Interstate 5/State Route 57/State Route 22 Interchange Improvement Project	Improve interchange of Interstate 5 with State Route 57 and State Route 22
	Interstate 405/State Route 133	Improve interchange of Interstate 405 southbound with State Route 133 northbound
	State Route 73/El Toro Road and Laguna Canyon Road Interchange	Improve interchange of State Route 73 with El Toro Road and Laguna Canyon Road
	State Route 241/Crown Valley Parkway Interchange	Add new interchange on State Route 241 at Crown Valley Parkway
	State Route 241/Weir Canyon Interchange	Add new interchange on State Route 241 at Weir Canyon Road
	State Route 22 Connector Ramps	Connect State Route 22 to the Pacific Electric Right-of-Way
	State Route 241/State Route 261 Interchange	Improve interchange of State Route 241 northbound and State Route 261 Southbound and State Route 261 northbound and State Route 241 southbound

Figure 5-10: Year 2035 Unconstrained Freeway Projects

Street Projects

Street projects contained in the Year 2035 Unconstrained Plan include the continued extension and expansion of arterials. A brief overview of street projects in the Year 2035 Unconstrained Plan is provided below. A full list of street projects in the Year 2035 Unconstrained Plan is provided in Figure 5-11. Detailed project listings are provided in the Appendix.

Capacity Improvements

- Street Widening: Add one lane each direction on Harbor Boulevard from Warner Avenue to 17th Street. Add a direct access ramp from Jamboree Road to the Tustin Metrolink Station. Provide an SR-73/SR-241 Roadway Connector with four lanes of limited access connecting both I-5 and SR-73 to Antonio Parkway and Cow Camp Road.
- Grade Separated Intersection: Construct a grade separated intersection at Harbor Boulevard and Ball Road
- State Route 74: Implement operational improvements.

Rail Grade Separations

- LOSSAN Corridor: Construct grade separations at Orangethorpe Avenue, 17th Street, Santa Ana Boulevard, Grand Avenue, Ball Road, State College Boulevard, and Main Street.

Category	Project	Description
Capacity Improvements	Harbor Boulevard Widening	Add one lane each direction from Warner Avenue to 17th Street
	SR-73/SR-241 Roadway Connector	Four lane limited access road connecting I-5 and SR-73 to Antonio Parkway and Cow Camp Road
	Tustin Metrolink Station Direct Access	Add ramp from Jamboree Road to Tustin Metrolink Station
	Harbor Boulevard/Ball Road Grade Separation	Grade separated intersection at Harbor Boulevard and Ball Road
Rail Grade Separations	Orangethorpe Avenue	New rail grade separation on LOSSAN Corridor
	Ball Road	New rail grade separation on LOSSAN Corridor
	State College Boulevard	New rail grade separation on LOSSAN Corridor
	17th Street	New rail grade separation on LOSSAN Corridor
	Santa Ana Boulevard	New rail grade separation on LOSSAN Corridor
	Grand Avenue	New rail grade separation on LOSSAN Corridor
	Main Street	New rail grade separation on LOSSAN Corridor
Transportation Demand Management	Advanced Pedestrian Treatments	New and improved bicycle and pedestrian treatments at key intersections within Central County MIS study area
Capacity and Systems	Additional Arterial and Intersection Optimization	Additional turn lanes, advanced traffic management systems, communications, improved lighting and safety treatments on 9 arterials and at 60 intersections identified in Central County MIS
	Traffic Efficiency Improvements	Improvements at or near freeway interchanges to improve efficiency
Other	Corridor Feasibility study	Results from future corridor feasibility studies for Beach Boulevard and Harbor Boulevard
Capacity Improvements	State Route 55 Ramp Improvement	Improve eastbound on and off-ramps from MacArthur Boulevard to State Route 55
	State Route 74 Improvements	Implement operational improvements on State Route 74

Figure 5-11: Year 2035 Unconstrained Street Projects

Performance of the Year 2035 Unconstrained Plan

The Year 2035 Unconstrained Plan includes a set of projects and programs that are intended to provide additional benefits and transportation capacity beyond what is planned in the Year 2035 Preferred Plan. While the projects in the Year 2035 Unconstrained Plan do not have an identified source of funding, identifying and analyzing the benefits of these projects is an important element in the long range planning process. Projects identified in the Unconstrained Plan are typically "first in line" when new or additional funds become available and it is important to identify projects that provide benefits or address forecasted issues or constraints in the transportation system.

The level of improvement of the Year 2035 Unconstrained Plan over the Year 2035 Baseline is summarized in Figure 5-12. When compared to the Year 2035 Preferred Plan, the Year 2035 Unconstrained Plan provides additional benefits in average peak period freeway speeds (31 percent vs. 22 percent improvement over 2035 Baseline) and in daily transit trips (55 percent increase vs. 11 percent increase over 2035 Baseline).

Figure 5-13 highlights the forecast level of improvement in congestion levels over the 2035 Baseline condition on Orange County freeways with the implementation of the Year 2035 Preferred Plan and the Year 2035 Unconstrained Plan. When compared the forecast improvement in congestion anticipated for the Year 2035 Preferred Plan, the Year 2035 Unconstrained Plan is forecast to provide additional reductions in congestion on the Santa Ana (I-5) Freeway south of the El Toro "Y", on the Orange Freeway (SR-57) between I-5 and SR-91, and on the Costa Mesa Freeway (SR-55) between the I-405 and I-5.

As noted earlier, the Year 2035 Unconstrained Plan includes a range of projects and programs that are at varying levels of planning and detail. OCTA will continue to study many of these projects to further assess their potential benefits, as well as their feasibility and cost-effectiveness based on forecast travel demand in the future.

Performance Measure	2035 Baseline	2035 Unconstrained Plan
Daily vehicle hours traveled	3.4 million	Reduced by 24%
Daily hours of delay due to congestion	1.5 million	Reduced by 58%
Average peak period freeway speed (AM)	29 miles per hour	Increased by 31%
Average peak period HOV speed (AM)	35 miles per hour	Increased by 32%
Average peak period roadway speed (AM)	13 miles per hour	Increased by 86%
Daily transit trips	144,000	Increased by 55%

Figure 5-12: Unconstrained Plan Performance Analysis (compared to 2035 Baseline)

Figure 5-13: Improvement in Level of Service for Year 2035 Unconstrained Plan Compared to Year 2035 Baseline

Conclusion

This LRTP lays out a detailed program of transportation projects intended to fulfill the goals and objectives established by OCTA. Specifically, the projects identified within the Year 2035 Preferred Plan are designed to expand and improve access to the transportation system in Orange County by providing additional travel options, as well as more and improved ways for residents and commuters to access and use their travel of mode of choice (i.e. driving, transit, walking, etc).

Additionally, the Year 2035 Preferred Plan of projects helps to improve the performance of the transportation system over the next 25 years. This is evidenced by the projected 56 percent reduction in daily hours of delay between the Year 2035 Baseline condition and the Year 2035 Preferred Plan, as well as through the anticipated increases in average freeway and roadway speeds during peak periods (22 percent for freeways and 82 percent for roadways).

Finally, the projects identified in the Year 2035 Preferred Plan help OCTA to ensure the sustainability of the transportation system through ongoing maintenance of the system, achievable financial investments in transportation improvements, and the implementation of environmental protection and mitigation programs as planned in Measure M2.

Collectively, the projects contained in the Year 2035 Preferred Plan are anticipated to provide substantial improvements in mobility and quality of travel for Orange County residents and commuters when compared to the Year 2035 Baseline condition. These investments in Orange County's transportation infrastructure and programs will help OCTA continue to provide Orange County residents with a world-class transportation system now and into the future.

"The 2035 Unconstrained plan transit improvements include further expansion of Metrolink service in Orange County."

Glossary of Terms

Glossary of Terms

ACCESS (Curb-to-Curb Service): ACCESS is OCTA's shared-ride curb-to-curb service for people who are physically unable to use the fixed-route bus service.

Alternative Planning Strategy (APS): In the case where the Sustainable Communities Strategy (SCS) falls short of meeting the greenhouse gas emission reduction targets set for a Metropolitan Planning Organization's (MPO) region, the region must prepare an APS - strategy that, if implemented could meet the emission reduction targets.

American Public Transportation Association (APTA): National organization that is engaged in advancing public transportation. Members include government agencies, metropolitan planning organizations, state departments of public transportation, academic institutions and trade publications.

Americans With Disabilities Act (ADA): Prescribes federal requirements to transportation providers, as well as other entities, guaranteeing accommodations for individuals with disabilities.

Amtrak: National passenger rail service which shares track with Metrolink under contract with the Southern California Regional Rail Authority (SCRRA) to provide passenger rail service in Orange, Los Angeles, and Ventura Counties.

Anaheim Regional Transportation Intermodal Center (ARTIC): A planned, multi-modal transportation center that will provide connections to nearby destinations including the Platinum Triangle, The Anaheim Resort, and others. The facility will also provide improved connections between train, bus, taxi, autos, and local transit services.

Arterial Highway Classifications: Descriptors indicating travel demand in terms of capacity and number of through lanes.

- Principal: Eight-lane divided roadway, able to accommodate approximately 45,000-60,000 trips per day at a Level-of-Service 'C'.
- Major: Six-lane divided roadway, able to accommodate approximately 30,000-45,000 trips per day at a Level-of-Service 'C'.
- Primary: Four-lane divided roadway, able to accommodate approximately 20,000-30,000 trips per day at a Level-of-Service 'C'.
- Secondary: Four-lane undivided roadway, able to accommodate approximately 10,000-20,000 trips per day at a Level-of-Service 'C'.
- Collector: Two-lane undivided, unrestricted access roadway, able to accommodate approximately 10,000 trips per day at Level-of-Service 'C'.
- Smart Street: A Principal or Major arterial with enhanced traffic-carrying capacity.

Assembly Bill 32 (AB 32): The California Global Warming Solutions Act of 2006. California's landmark bill that establishes a first-in-the-world comprehensive program of regulatory and market mechanisms to achieve real, quantifiable, cost-effective reductions of greenhouse gases.

Automated People Mover (APM): Fully automated transit systems that run along dedicated guideways and are grade separated from pedestrian and vehicle crossings.

Base Year: The year 2008, used in the RTP performance analysis as a reference point for current conditions.

Baseline: Includes projects that are currently under construction or will be implemented soon, and that generally reflect the approved 2008 Federal Transportation Improvement Program.

Bikeway: Infrastructure used by bicycle users. The Commuter Bikeways Strategic Plan (CBSP) defines three classes of bikeways:

- Class I bikeways are off-road, paved paths;
- Class II bikeways are on-road, signed and striped bicycle lanes;
- Class III bikeways are on-road, signed bicycle routes.

Buildout: The completed status of any given planned project.

Burlington Northern and Santa Fe Railway Company (BNSF): American freight railroad company headquartered in Fort Worth, Texas; it is one of four remaining transcontinental railroads and has one of the largest freight railroad networks in North America.

Bus Rapid Transit (BRT): BRT combines the quality of rail transit with the flexibility of buses. It can operate on exclusive transitways, HOV lanes, expressways, or ordinary streets. A BRT system combines Intelligent Transportation Systems (ITS) technology, priority for transit, lower emissions, quieter vehicles, and rapid and convenient fare collection, to provide enhanced transit services when compared to fixed-route bus.

California Air Resources Board (CARB): State agency responsible for attaining and maintaining healthy air quality through setting and enforcing emissions standards, conducting research, monitoring air quality, providing education and outreach, and overseeing/assisting local air quality districts.

California Department of Transportation (Caltrans): State agency responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as that portion of the Interstate Highway System within the State's boundaries.

California Environmental Quality Act (CEQA): A statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.

California Global Warming Solutions Act of 2006: see Assembly Bill 32.

California Interregional Blueprint (CIB): Statewide initiative designed to improve address climate change goals by improving decision making on land use and transportation investments.

California Transportation Plan (CTP): The California Transportation Plan (CTP) is a statewide, long-range transportation plan for meeting our future mobility needs. The CTP defines goals, policies, and strategies to achieve our collective vision for California's future transportation system. This plan, with a minimum 20-year planning horizon, is prepared in response to federal and State requirements and is updated every five years

Carpool: Arrangement in which two or more people share the use, cost or both of traveling in privately owned automobiles between fixed points on a regular basis.

Carpool Lane: A highway or street lane reserved for carpools and other high occupancy vehicles.

Carpool Lane Connectors: Dedicated freeway lanes that permit direct transfer of high occupancy vehicles from one HOV lane to another, thereby minimizing weaving conflicts and enabling ridesharing vehicles to maintain their speed advantage through freeway interchanges. These lanes make it possible for carpoolers using more than one freeway to travel without leaving the HOV lane to change freeways.

Center for Demographic Research (CDR): A non-profit research center located at California State University, Fullerton dedicated to the development and support of demographic research. CDR provides information regarding Orange County's population, housing and employment characteristics.

Chokepoint: A segment of a transportation corridor that consistently averages a significantly lower Level-of-Service during peak-hours as compared to the corridor's adjacent segments. Point of congestion or blockage.

Citizens Advisory Committee (CAC): Committee formed by 34 members (one citizen per incorporated city of the County) that meets regularly, providing advice and input on the OCTA's various activities.

Clean Air Act (CAA): 1970 federal act that authorized EPA to establish air quality standards to limit levels of pollutants in the air. EPA has promulgated such standards (or NAAQS) for six criteria pollutants: sulfur dioxide (SO2), nitrogen dioxide (NO2), carbon monoxide (CO), ozone, lead, and particulate matter (PM10). All areas of the United States must maintain ambient levels of these pollutants below the ceilings established by the NAAQS; any area that does not meet these standards is a "nonattainment" area. States must develop SIPs to explain how they will comply with the CAA. The act was amended in 1977 and again in 1990.

Clean Water Act (CWA): The Federal Water Pollution Control Act, popularly known as the Clean Water Act, is a comprehensive statute aimed at restoring and maintaining the chemical, physical and biological integrity of the nation's waters. Enacted originally in 1948, the Act was amended numerous times until it was reorganized and expanded in 1972.

Commuter Bikeways Strategic Plan (CBSP): This plan compiles the blueprints of existing and proposed regional bicycle facilities and local connector routes from Orange County cities and the County of Orange. Bikeways include a range of facilities, which are divided into three classifications (see bikeway for classification).

Commuter Rail: Any of several types of passenger rail systems that primarily serve peak period commuter travel.

Compressed Natural Gas (CNG): The type of fuel used by the majority of OCTA's bus fleet. CNG is considered to be an environmentally clean alternative to diesel fuel.

Congestion Pricing: Congestion pricing is the concept of charging for the use of a transportation facility, such as a roadway, based on the level of congestion. The greater the level of congestion, usually occurring during morning and evening rush hours, the higher the cost to use the facility.

Corridor Mobility Improvement Account (CMIA): Funds available to be allocated for performance improvements on the state highway system or major access routes to the state highway system.

Corridor System Management Plan (CSMP): Plan that integrates capital improvements, traffic and transit management strategies and planning to keep people and goods moving safely and efficiently through a corridor.

Costa Mesa Freeway (State Route 55/SR-55): State highway that runs in the north-south direction in Orange County connecting Newport Beach to Anaheim.

Council Of Governments (COG): Regional or subregional cooperative and advocacy associations of city governments.

Demand Responsive Service: Type of public transport characterized by flexible routing and scheduling of small or medium size vehicles that pick-up and drop-off passengers according to their needs.

Foothill /Eastern Transportation Corridor (State Route 261/SR-241/SR-133): Tollway composed of two segments. The Eastern Transportation Corridor (SR-241/SR-261/SR-133 connects SR-91 to the greater Irvine area. The Foothill Transportation Corridor runs from SR 91 in Yorba Linda to connect with I-5 within northern San Diego County. The facility is owned by Caltrans, and constructed and operated by the Foothill/EasternTransportation Corridor Agency, a joint powers authority composed of fifteen cities and County Supervisorial Districts along the Corridor.

Environmental Impact Report (EIR): A detailed report required under the California Environmental Quality Act (CEQA) describing and analyzing the significant environmental effects of a proposed project, identifying alternatives and discussing ways to reduce or avoid the possible environmental impacts.

Express Bus: Relatively long-distance fixed-route buses that utilize high-occupancy vehicle (HOV) lanes on Orange County Freeways.

Express Lane: An additional lane(s) on a freeway that requires payment of a toll for access and use.

Facility: infrastructure that is designed, built, installed, etc., to serve a specific function or fulfill a specific need.

Federal Highway Administration (FHWA): Federal agency responsible for administering the Federal-Aid Highway Program, which provides federal financial assistance to the states to construct and improve the National Highway System, urban and rural roads, and bridges.

Federal Transportation Improvement Program (FTIP): A three-year list of all transportation projects proposed for federal transportation funding within the planning area of an MPO.

Federal Transit Administration (FTA): The federal agency responsible for administering federal transit funds and assisting in the planning and establishment of area-wide urban mass transportation systems. As opposed to FHWA funding, most FTA funds are allocated directly to local agencies, rather than Caltrans.

Fiscal Year (FY): The annual period for which a business entity establishes a budget for spending. In California government, the fiscal year is from July 1st until June 30th each year. The federal government's fiscal year (FFY) is from October 1st until September 30th of each year.

Freeway Service Patrol (FSP): Service to assist stranded motorists on all Orange County freeways.

Garden Grove Freeway (State Route 22/SR-22): State Highway that runs in the east-west direction connecting the Pacific Coast Highway in Los Angeles County to the Costa Mesa Freeway in Orange County.

Go Local: Program to enhance connections between the Metrolink stations and surrounding communities.

Goods Movement: The shipping of consumer products from their places of origin to the consumer.

Grade Crossing: A crossing or intersection of highways, railroad tracks, other guideways, or pedestrian walks, or combinations of these at the same level or grade.

Grade Separation: Facilities that are either elevated above or trenched below the surface elevation.

Greenhouse Gas (GHG): Gases in an atmosphere that absorb and emit radiation within the thermal infrared range. The main GHGs in the Earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide and ozone. The burning of fossil fuels has substantially increased the levels of carbon dioxide in the atmosphere.

High-Occupancy/Toll Lane (HOT Lane): A designated carpool lane that motorists driving alone can use if they pay a toll, allowing them to avoid traffic delays in the adjacent regular lanes. Toll-paying drivers and toll-free carpools/vanpools share the lane, increasing the number of total vehicles using the HOV/HOT lane and generating revenues that can be used for transportation improvements.

High-Occupancy Vehicle (HOV): Any transportation vehicle carrying more than one person for travel purposes. This may include an automobile, bus, or train.

High-Occupancy Vehicle Lane (HOV Lane): A lane, or lanes, that are dedicated to passenger vehicles carrying two or more passengers, with a few exceptions such as single passenger motorcycles.

High-Speed Rail (HSR): Type of passenger rail transport which operates at significantly faster speeds than the normal speed of rail traffic. The California High Speed Rail project would link Southern California to Sacramento and the San Francisco Bay Area through the San Joaquin Valley.

Highway Safety, Traffic Reduction, Air Quality, and Port Security Bonds Act of 2006: see Proposition 1B

Imperial County Transportation Commission (ICTC): Association of city, county, and local governments created to address regional transportation issues in Imparial County.

Imperial Highway (State Route 90/SR-90): State Highway that connects La Habra, Brea and Yorba Linda in Orange County.

Incident: any non-recurring event that causes a reduction of roadway capacity or an abnormal increase in demand (Freeway Management and Operations Handbook).

Intelligent Transportation Systems (ITS): Technical innovations that apply communications and information processing to improve the efficiency and safety of ground transportation systems.

Intersection Capacity Utilization (ICU): A tool for measuring a roadway intersection's capacity. It is ideal for transportation planning applications such as roadway design, congestion management programs and traffic impact studies.

Inter-county: Travel with origin or destination outside of Orange County.

Intra-county: Travel with both origin and destination located inside Orange County.

Joint Powers Authority (JPA): Two or more agencies that enter into a cooperative agreement to jointly wield powers that are common to them. JPAs are a vehicle for the cooperative use of existing governmental powers to finance and provide infrastructure and/or services in a cost-efficient manner.

Lane-Miles: The sum of the distance of each lane in a segment of a transportation corridor.

Laguna Freeway (State Route 133/SR-133): Freeway and roadway connecting Laguna Beach to the Interstate 5, and a tollway managed by the Foothill/Eastern Transportation Corridor Agency from the Interstate 5 to State Route 241.

Level of Service (LOS): A letter grade indicating an arterial or highway facility's ability to provide unimpeded travel to drivers. LOS uses letters A through F, with A being the best and F being the worst.

- 'A' – No physical restriction on operating speed.
- 'B' – Stable flow with few restrictions on operating speed.
- 'C' – Stable flow, higher volume, and more restrictions on speed and lane changing.
- 'D' – Approaching unstable flow, little freedom to maneuver, and conditions intolerable for short periods.
- 'E' – Unstable flow, low operation speeds, and momentary stoppages.
- 'F' – Forced flow operation at low speeds where the highway acts as a storage area and there are many stoppages.

Locally Preferred Alternative (LPA): Alternative containing the refinement of transportation improvement concepts based on technical analyses and stakeholder input. The LPA helps guide transit, street and freeway enhancements to address travel demand.

Long Range Transportation Plan (LRTP): Plan to assess future population increases projected for the county and what such increases will mean for future mobility needs. The plan recommends what can be done in terms of transportation improvements within anticipated revenues, as well as what could be done if additional revenues became available.

Los Angeles Metropolitan Transportation Authority (Metro): Agency that serves as transportation planner and coordinator, designer, builder and operator of transportation facilities in Los Angeles County.

Los Angeles- San Diego-San Luis Obispo Transportation Corridor (LOSSAN): Rail corridor along the coast of California, from San Diego to Los Angeles to San Luis Obispo.

Magnetic Levitation (MAGLEV): A transportation technology that utilizes electromagnetic force to propel vehicles on a guide-way without the need for rails or wheels.

Major Investment Study (MIS): The preliminary study, including preliminary environmental documentation, for choosing alternative transportation projects for federal transportation funding. An MIS is a requirement of the federal project development process, and is conducted cooperatively by the study sponsor and the MPO.

Master Plan of Arterial Highways (MPAH): Orange County's master plan for major roadways and arterial streets throughout the county. The MPAH was initially established in 1956 and is continuously updated to reflect changing development and traffic patterns. OCTA is responsible for administering the MPAH, including the review and approval of amendments requested by local agencies.

Measure M1/Original Measure M: Half-percent sales tax currently set to sunset in 2011, that allocates its revenues to specific Orange County transportation improvement projects in freeways, streets, roads and transit.

Measure M2: Renewal of Measure M1. Half-percent sales tax currently set to sunset in 2041, that allocates its revenues to specific Orange County transportation improvement projects in freeways, streets, roads and transit.

Measure M2 Early Action Plan: Document outlining the projects and programs in Measure M2 that could be advanced along with anticipated schedules and major milestones, and was approved by OCTA's Board of Directors on August 13, 2007. Identifies projects that can be underway by 2012.

Metrolink: Regional commuter rail system connecting Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Service began in October 1992.

Metrolink Service Expansion Program (MSEP): Program to provide more frequent train service between Fullerton and Laguna Niguel/Mission Viejo, station enhancements and one new station in Orange County. The $382.5 million Metrolink Service Expansion Program is funded by Measure M, Orange County's half-cent transportation sales tax.

Metropolitan Planning Organization (MPO): Organization designated by the Federal Government, the Governor, and local elected officials as responsible for transportation planning in an urbanized area. In the Southern California region, excluding San Diego County, the Southern California Association of Governments (SCAG) is the designated MPO.

Miles Per Hour (Mph): Speed described as the distance traveled in one hour.

Motorist Aid and Traveler's Information System (511 MATIS): The 511 Motorist Aid and Travelers' Information System (MATIS) is an interactive voice response (IVR) telephone system (English and Spanish) and a web portal capable of providing a variety of traveler information and service to the public.

Multi-modal: A mixture of the several modes of transportation, such as transit, highways, non-motorized, etc.

Orange County Council of Governments (OCCOG): Joint power authority and council of governments formed to facilitate area-wide planning and coordination in order to provide advice to public entities on a range of issues that affect multiple interests in Orange County, create a subregional organization to represent Orange County's interests in the Southern California region, accomplish the preparation of subregional plan components mandated by state and federal law, conduct studies and projects designed to improve and coordinate the common governmental responsibilities and services on an area-wide/regional basis, and explore areas of intergovernmental cooperation and coordination of government programs and provide recommendations and solutions to problems of common general concern.

Orange County Projections (OCP): Long-range projections dataset and report containing countywide population, housing, and employment projections using a wide range of local, subregional and regional applications. The report also contains the methodology, growth assumptions, regional statistical area profiles, and maps.

Orange County Taxi Administration Program (OCTAP): Voluntary association of Orange County Agencies created to coordinate taxicab service, permitting, and other administrative functions with the Orange County Transportation Authority.

Orange County Transportation Analysis Model (OCTAM): OCTAM is a travel demand forecasting regional model based on the traditional four-step sequential modeling methodology.

Orange County Transportation Authority (OCTA): Formed in 1991 by the consolidation of six separate transportation agencies to develop and implement unified transportation programs and services for Orange County.

Orange Freeway (State Route 57/SR-57): North-south state highway that connects Interstate 5/State Route 22 in Orange County to the Greater Los Angeles Area.

Ortega Highway (State Route 74/SR-74): Highway that connects San Juan Capistrano in Orange County to Riverside County.

Pacific Coast Highway (PCH): State highway that runs along the west coast of Orange County, and of most of the west coast of the State of California.

Paratransit Service: Flexible forms of transportation services that are not confined to a fixed route. Paratransit is generally used to provide service for people with disabilities in compliance with the Americans with Disabilities Act of 1990 (ADA). See ACCESS.

Park-And-Ride Facility: A parking area that permits drivers to park for the day in order to carpool or access transit, in an effort to reduce congestion.

Pavement Management: The assessment of pavement and identification of necessary maintenance required keep roadways and freeways in good condition.

Peak: Periods in the day when the majority of commutes are being made.

Peak Hours: Typically from 7AM to 9AM and from 4PM to 6PM. See Peak.

Person Trip: A trip made by a person using any transportation mode, or combination of modes, for any purpose.

Personal Rapid Transit (PRT): A subclass of automated people movers, but with smaller vehicles that range from one to six passengers.

Preliminary Engineering (PE): Range of engineering services: preliminary design to develop criteria for final design, conceptual planning to establish construction budgets, feasibility studies to develop project economics and evaluate concepts and systems, preliminary construction cost estimates and quantity estimates.

Propositon 1A: A statewide initiative approved in November 2006 which provides greater assurance that gasoline sales tax revenues will go to transportation. Proposition 1A allows the funds to be loaned to the General Fund only twice in a 10-year period and requires that funds be repaid within three years prior to making a second loan.

Proposition 1B: A statewide initiative approved in November 2006 to fund existing and new transportation infrastructure capital programs and projects over ten years. Proposition 1B is also known as the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bonds Act of 2006.

Proposition 42: A statewide initiative approved in 2002 that requires gasoline sales tax revenues to be dedicated to transportation purposes.

Regional Capacity Needs Assessment: Assessment of current and future Orange County arterial street and demand capacity. Part of the M2 Regional Capacity Program.

Regional Transportation Plan (RTP): Federally required 20-year plan prepared by metropolitan planning organizations and updated every four years. Includes projections of population growth and travel demand, along with a specific list of proposed projects to be funded.

Reversible Lanes: Lanes that change their directional flow according to traffic demand.

Rideshare: Multiple people in a vehicle, including carpooling, vanpooling, fixed-route bus service, and commuter rail, but the term generally refers to carpooling and vanpooling.

Right-of-Way (ROW): Land designated for use with transportation systems.

Riverside County Transportation Commission (RCTC): agency responsible for planning and funding countywide transportation improvements and administering the county's transportation sales tax revenues in Riverside County.

Riverside Freeway (State Route 91/SR-91): Major east-west freeway serving Los Angeles, Orange and Riverside counties. The 91 Express Lanes, a fully automated tollway is contained in the Riverside Freeway between the Orange/Riverside county line and the Costa Mesa Freeway interchange in Anaheim.

Roadway Pavement Management Plan: Plan to ensure timely street maintenance and to report the condition of the streets.

San Bernardino Association of Governments (SANBAG): Council of governments and transportation planning agency for San Bernardino County

San Diego Association of Governments (SANDAG): SANDAG is the regional planning agency for San Diego County.

Santa Ana Freeway (Interstate 5/I-5): Highway that connects the states along the west coast of the United States. Is one of the major connections between Orange County and the counties of Los Angeles and San Diego.

Santa Ana Regional Transportation Center (SARTC): Transportation center that combines Amtrak, Metrolink, local, intercity and intracity bus service, as well as airport and taxi services.

San Diego Freeway (Interstate 405/I-405): Bypass of the Interstate 5 from Irvine in Orange County to near San Fernando in the Greater Los Angeles Area.

San Gabriel Freeway (Interstate 605/I-605): Highway that connects Seal Beach in Orange County to the Greater Los Angeles Area.

San Joaquin Hills Transportation Corridor (State Route 73/SR-73): State highway that runs approximately parallel to the Pacific Coast Highway and connects the Interstate 405 to the Interstate 5 through the San Joaquin Hills. State Route 73 is a tollway in the majority of its extension, with the exception of the northern three miles close to the Interstate 405. The facility is owned by Caltrans, and constructed and operated by the San Joaquin Hills Transportation Corridor Agency, a joint powers authority composed of fourteen cities and County Supervisorial Districts along the Corridor.

Senate Bill 375 (SB 375): SB 375 (Steinberg) is California state legislation that became law effective January 1, 2009. It prompts California regions to work together to reduce greenhouse gas (GHG) emissions from cars and light trucks through changes in land use and other measures.

Shared-Ride Service: see Access.

Signal Priority: Special treatment giving priority treatment to transit vehicles at signalized intersections.

Signal Synchronization: Traffic signal synchronization refers to the functioning relationship between active signals along a corridor. A common cycle length is established. All intersections in the coordinated system have the same cycle length. By maintaining a constant relationship between the signals at all times, there is a greater likelihood that mobility will be improved. This does not mean that the signals will provide a green light at the same time for the entire length of a corridor; rather, that each signal will quite literally be synchronized with the entire system, allowing for more efficient mobility.

Single-Occupant Vehicle (SOV): A vehicle with only one occupant. Also known as a "drive alone."

Smart Street: See Arterial Highway Classifications.

Soundwall: Noise control walls and barriers built between highways and nearby homes that can reduce noise levels by 10-15 decibels.

South Coast Air Basin (SCAB): The geographic area defined by the San Jacinto Mountains to the east, the San Bernardino Mountains to the north, and the Pacific Ocean to the west and south. The entire SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

South Coast Air Quality Management District (SCAQMD):The air pollution control agency for Orange County and major portions of Los Angeles, San Bernardino and Riverside Counties in Southern California.

Southern California Association of Governments (SCAG): The metropolitan planning organization (MPO) for six counties including Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.

Southern California Regional Rail Authority (SCRRA): Joint powers authority governed by five county-level agencies: the Los Angeles County Metropolitan Transportation Authority, the Orange County Transportation Authority, the Riverside County Transportation Commission, the San Bernardino Associated Governments, and the Ventura County Transportation Commission.

State Highway Operations and Protection Program (SHOPP): Funding category used by Caltrans to maintain and operate state highways.

State Transit Assistance Fund (STAF): Provides funding for allocation to local transit agencies to fund a portion of the operations and capital costs associated with local mass transportation programs.

State Transportation Improvement Program (STIP): A four-year capital outlay plan that includes the cost and schedule estimates for all transportation projects funded with any amount of State funds. The STIP is approved and adopted by the CTC and is the combined result of the ITIP and the RTIP.

Stationlink: Shuttles that travel from Metrolink Stations to business districts and vice versa.

Sustainable Communities Strategy (SCS): Strategies which combine transportation and land-use elements in order to achieve the emissions reduction target, if feasible.

Traffic Light Synchronization Program (TLSP): Program to fund traffic light synchronization projects and other technology-based improvements to improve safety, operations and the effective capacity of local streets and roads

Transportation Corridor Agencies (TCA): two joint power authorities formed to plan, finance, construct and operate Orange County's public toll road system. The system covers 67 miles, and includes the San Joaquin Hills Transportation Corridor (SR-73), the Eastern Transportation Corridor (SR-241, SR-261 and SR-133) and Foothill Transportation Corridor (SR-241) Toll Roads.

Transportation Demand Management (TDM): Strategies that result in more efficient use of transportation resources, such as ridesharing, telecommuting, park and ride programs, pedestrian improvements, and alternative work schedules.

Transportation Development Act: One of the major funding sources for public transit in California.

Transportation System Management (TSM): That part of the urban transportation planning process undertaken to improve the efficiency of the existing transportation system. The intent is to make better use of the existing transportation system by using short-term, low-capital transportation improvements that generally cost less and can be implemented more quickly than major capital projects.

Transit Oriented Development (TOD): A type of development that links land use and transit facilities to support the transit system and help reduce sprawl, traffic congestion and air pollution. It calls for locating housing, along with complementary public uses (jobs, retail and services) at strategic points along a transit line.

Travel Demand Management: see transportation demand management.

Union Pacific Railroad (UP): American freight railroad company that covers 23 states in the western two-thirds of the United States.

University of California, Irvine (UCI): Campus of the University of California system, located in the City of Irvine.

Vanpool: Arrangement in which a number of people travel together to and from work in a shared van

Vehicle-Miles Traveled (VMT): A measurement of the total miles traveled by all vehicles. It is calculated by multiplying the number of vehicles by the miles traveled on a link or route.

Ventura County Transportation Commission (VCTC): Regional transportation planning agency for Ventura County.

Volume to Capacity Ratio (V/C Ratio): Performance measure obtained by dividing the volume on a given transportation element by the capacity of this element.

Appendix A

- Detailed Year 2035 Baseline Project List

Detailed Year 2035 Baseline Project List , *continued on the following page.*

TRANSIT

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Transit Operations	Transit	Bus Operations and Maintenance	Bus Operations and Maintenance	2035		$ 9,475.89
	Transit	Metrolink Operations and Maintenance	Metrolink Operations and Maintenance	2035	R	$ 1,302.78
Transit Capital	Transit	Bus Capital	Bus Capital	2035		$ 1,299.62
	Transit	Metrolink Capital	Metrolink Capital	2035	R	$ 254.71
Transit Facilities	Anaheim Regional Transportation Intermodal Center (ARTIC)	Anaheim Regional Transportation Intermodal Center (ARTIC)	Includes expansion of existing Amtrak/Metrolink Station at Anaheim Stadium to provide access with transit service	2014		$ 134.24
	Anaheim Canyon Station	Anaheim Canyon Station Access Improvements	Improve access of the Anaheim Canyon Station, Phase I - Construct a pedestrian undercrossing, platform extension work, 2nd track, and associated ADA improvements, transit	2014		$ 31.28
Transit Capital	Other	Highway Bridge Replacement and Rehabilitation Program (HBRR)	Local Bridge Lump Sum	2012		$ 28.99
	Other	FTA Section 5316 Jobs Access Reverse Commute (JARC)	Various projects to increase transportation access to jobs for low income individuals, including voucher programs and vanpools	2030		$ 26.24
	Transit	1% Transit Security Projects	Transit Security Projects	2020		$ 18.88
Transit Facilities	Placentia Transit Station	Placentia Transit Station	Construct a new Metrolink Station and rail sideing east of SR-57 and Melrose Street and north of Crowther Ave	2014		$ 16.60
Transit Capital	Other	FTA Section 5317 New Freedom	Various projects and transportation services beyond those required by ADA, including voucher programs	2016		$ 11.22
	Transit	1% Transit Security Projects (Mission Viejo)	Transit security projects	2020		$ 3.98
	Transit	1% Transit Enhancements	Bicycle and pedestrian facilities countywide	2016		$ 3.49
	Transit	Rideshare Services (Orange County portion)	Rideguide, database, customer information, and marketing services for the rideshare program	2016		$ 2.99
	Irvine Transit Station	Irvine Transit Station (PA&ED/PS&E)	Project Approval & Environmental Document and Plan Specifications & Estimate for station improvements	2015		$ 2.69
	Other	FTA Section 5317 New Freedom (Mission Viejo)	Various projects and transportation services beyond those required by ADA including voucher programs	2030		$ 1.85
	Other	FTA Section 5316 Jobs Access Reverse Commute (Mission Viejo)	Various projects to increase transportation access to jobs for low income individuals, including voucher programs and vanpools	2030		$ 1.71
	Transit	1% Transit Enhancements (Mission Viejo)	Bicycle and pedestrian facilities countywide	2016		$ 0.74
	Transit	Station Improvements	Improvements to stations countywide	2015		$ 0.02
Transit Facilities	Fullerton Train Station	Fullerton Train Station	Construction of parking structure, Phase I and II, total of 800 spaces	2011		Previously Funded

* Pending Board Action

Note: LRTP cost is the remaining project cost anticipated to be incurred between 2011 and 2035
Source: Federal Transportation Improvement Program (FTIP) project listings and OCTA. For a full project description, please reference the FTIP.

Detailed Year 2035 Baseline Project List , *continued on the following page.*

TRANSIT

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Transit Capital	Transit	Paratransit Vehicles Expansion in FY06/07	Purchase of one vehicle	2010		Complete
	Transit	SCRRA Rolling Stock Storage Facility in the Pacific Surfliner Corridor (OCTA Share)	OCTA share of cost for SCRRA rolling stock storage facility in the Pacific Surfliner Corridor near Los Angeles Union Station and control point San Diego Junction at Keller Street yard	2010		Complete
	Transit	Relocate Los Angeles Union Station Mail Dock (OCTA Share)	OCTA share of demolition of existing mail dock and construction of new, expanded passenger platform at Los Angeles Union Station	2011		Previously Funded
Transit Planning	Transit	Santa Fe Depot Specific Plan Update (PA&ED/PS&E)	Update of the Santa Fe Depot Specific Plan	2010		Previously Funded
Transit Capital	Transit	Vehicle Replacement for Express Service in Orange County	Purchase of one 40' replacement vehicle for express service in Orange County	2035		Previously Funded
	Other	Commuter Rail Monitoring Equipment Upgrade/Installation	Commuter rail crossing monitors upgrade and/or install monitoring equipment at rail crossings in Orange County to provide notification in the event of damage or malfunction	2016		Previously Funded
	Other	Video Surveillance System for Irvine Station	Implement a video surveillance System at the Irvine Transportation Center	2013		Complete
	Other	Video Surveillance System for Base Facilities	Install video surveillance equipment at four OCTA base facilities: Anaheim, Garden Grove, Irvine (Sand Canyon and Construction Circle)	2016		Previously Funded
Transit Facilities	Other	Commuter Rail Right-of-Way Fencing	Replace destroyed or damaged fencing along the rail corridors within Orange County to deter unauthorized access	2016		Previously Funded
Transit Capital	Other	On-board bus video surveillance System	Equip 67 buses with on board video surveillance system equipment, of which 36 are 40-foot buses and 31 are 30- foot mid-size buses	2013		Complete
Transit Capital	Other	Key Card Access System for Base Facilities	Install key card access system at five OCTA base facilities: Anaheim, Garden Grove, Irvine (Sand Canyon and Construction Circle) and Santa Ana.	2016		Previously Funded
Transit Operations	Transit	1% Transit enhancements (Mission Viejo)	Bus stop ADA improvements countywide	2010		Complete
Transit Planning	Other	Program Environmental Impact Report (EIR) for the Santa Fe Specific Plan Update (PA&ED/PS&E)	Program Environmental Impact Report (EIR) for the Santa Fe Specific Plan Update	2012		Previously Funded
Transit Planning	Other	Planning for Transit in Stanton (PA&ED/PS&E)	Citywide policies and site specific development standards for Transit-Oriented Projects	2008		Previously Funded
Transit Capital	Transit	Implement Positive Train Control (PTC)	Implement PTC, a system of monitoring and controlling train movements to provide increased safety	2015		Previously Funded
	Transit	High Speed Rail Project (PA&ED/PS&E)	High Speed Rail from San Francisco to Los Angeles and Anaheim	2015		Previously Funded
	Transit	Vehicle Purchase	ABRAZAR - purchase of three (R) small buses Type1A ,three SE small buses Type1A, eight MRs	2011		Previously Funded

Detailed Year 2035 Baseline Project List , *continued on the following page.*

TRANSIT

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Transit Capital	Transit	Vehicle Purchase	Purchase of vehicles for the City of Huntington Beach Seniors Program - two (R) large bus - VII, One (SE) mini van-Type IV	2011		Previously Funded
	Transit	Vehicle Purchase	Purchase of paratransit vehicles and equipment for the Orange County ARC (OCARC) - ten (SE) large buses type III, cameras	2011		Previously Funded
Transit Planning	Transit	Anaheim Fixed Guideway (PA&ED/PS&E)	Project Approval & Environmental Document and Plan Specification & Estimate for fixed guideway project in Anaheim	2013		Previously Funded
	Transit	Santa Ana Fixed Guideway (PA&ED/PS&E)	Project Approval & Environmental Document and Plan Specifications & Estimate for fixed guideway project in Santa Ana/Garden Grove	2015		Previously Funded
Transit Capital	Transit	Vehicle Purchase	Purchase of Trolleys (three replacement) by the City of Laguna Beach	2010		Previously Funded
	Santa Ana Transit Station	Santa Ana Transit Station (PA&ED/PS&E)	Project Approval & Environmental Document and Plan Specifications & Estimate for station improvements	2015		Previously Funded
	Fullerton Transportation Center	Fullerton Transportation Center (PA&ED/PS&E)	Project Approval & Environmental Document and Plan Specifications & Estimate for station improvements	2015		Previously Funded
	Other	Orange County Metrolink Fiber Optics Installation Project	Replacement and upgrade of the existing SCRRA communications system with fiber optics	2011		Previously Funded
	Transit	Irvine Guideway Demonstration Project Study	Transit System in the Great Park Spectrum Area, linking Irvine Station with Spectrum and others	2009		Complete
	Transit	Vehicle Purchase for Paratransit Service	Purchase of one replacement modified van for paratransit service (FY07 cycle) - Easter Seals Southern California	2009		Complete
	Transit	Vehicle Purchase for Paratransit Service	Purchase of one replacement largest bus for paratransit service (FY07 cycle) - Golden Rain Foundation (Laguna Woods)	2009		Complete
	Transit	Vehicle Purchase for Paratransit Service	Purchase of two replacement mini vans for paratransit service (FY07 cycle) - St. Jude Hospital	2009		Complete
	Transit	Vehicle Purchase for Paratransit Service	Purchase of two replacement paratransit vehicles for the City of La Habra Senior Transportation Program	2012		Complete
	Transit	City of Yorba Linda Senior Mobility Program	Transportation services to seniors	2012		Complete
	Other	Security-related Equipment for Transit	Security surveillance and monitoring equipment for transit	2016		Previously Funded
	Transit	Vehicle Purchase	Purchase of three 40ft expansion vehicles for Bus Rapid Transit (BRT) service in Orange County	2012		Previously Funded
	Transit	Vehicle Purchase for Paratransit Service	ABRAZAR - purchase of 1 small bus, 2 minvans, 8 radios, base Station, computer equipment to expand Paratransit Service (FY07 cycle)	2009		Complete
	Transit	Santa Ana Transit Terminal Facility Improvements	Improvements to the Santa Ana Transit Terminal Facility to increase ventilation/safety	2015		Previously Funded
	Transit	Eastern Area Rolling Stock Maintenance Facility (OCTA Share)	Construction of a rolling stock maintenance facility in Colton (between Mill and Oak Street on railroad line)	2009		Complete
	Transit	Vehicle Capital Lease	Vehicle Capital Lease for OCTA Inter-County Express Bus Service	2010		Complete

Detailed Year 2035 Baseline Project List , *continued on the following page.*

TRANSIT

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Transit Capital	Tustin Rail Station	Tustin Rail Station Parking Expansion	Construction of 191 new spaces (281 existing plus 191 new, total of 472 spaces)	2012		Previously Funded
	Laguna Niguel Station	Laguna Niguel Rail Station Parking Expansion	Construction of 562 new spaces (281 existing plus 562 new, total of 843 spaces)	2013		Previously Funded
	Transit	Operating assistance	Transit operating assistance	2010		Previously Funded
	Transit	Vehicle Replacement	Replacement Clean Air and Festival Trollies	2010		Previously Funded
	Transit	1% Transit enhancements	Bus stop ADA improvements - countywide	2010		Complete
	Multi-use Trail	San Clemente Multi-use Trail	Construct 2.6 miles of multi-use trail in San Clemente parallel to railroad tracks	2009		Previously Funded
	Other	FTA 5316 - Job Access Reverse Commute (JARC), FTA 5317 New Freedom Lump Sum CAPITAL	Various projects to increase transportation access to jobs for low income individuals, including voucher programs and vanpools/Various projects and transportation services beyond those required by ADA including voucher programs	2016		Previously Funded
Transit Operations	Other	FTA 5316 - Job Access Reverse Commute (JARC), FTA 5317 New Freedom Lump Sum OPERATING	Various projects to increase transportation access to jobs for low income individuals, including voucher programs and vanpools/Various projects and transportation services beyond those required by ADA including voucher programs	2016		Previously Funded
Transit Capital	Transit	Vehicle Purchase	Purchase of 50 standard 60ft replacement vehicles - alternative fuel - FY15/16	2018		Previously Funded
	Transit	Preventative Maintenance	Preventative Maintenance	2016		Previously Funded
	Transit	Vehicle Purchase	Purchase of 464 replacement paratransit vans: 79 in FY06 /07 67 in FY07/08 120 in FY08/09 58 in FY10/11 140 in FY 15/16	2016		Previously Funded
	Transit	Fixed Route Operating Costs	Fixed Route Operating Costs	2016		Previously Funded
	Transit	Vehicle Purchase	Purchase of 66 40' Replacement Vehicle in Orange County - FY10/11	2016		Previously Funded
	Transit	Metrolink Service Track Expansion and Grade Crossing Improvements	Metrolink Service Track Expansion and Grade Crossing Improvements	2015		Previously Funded
	Transit	Bus Operating assistance FTA9 - for Paratransit - Mission Viejo - UZA	Bus Operating assistance FTA9 - for Paratransit - Mission Viejo - UZA	2016		Previously Funded
	Transit	Preventative Maintenance (Mission Viejo)	Preventative Maintenance (Mission Viejo)	2016		Previously Funded
	Transit	Vehicle Purchase	Purchase of 71 standard 30ft expansion buses - alternative fuel: 31 in FY08/09 9 in FY09/10 7 in FY11/12 6 in FY12/13 18 in FY13/14	2016		Previously Funded

Detailed Year 2035 Baseline Project List , *continued on the following page.*

TRANSIT

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Transit Capital	Other	Capital Cost of Contracting	Capital Cost of Contracting	2020		Previously Funded
	Other	Radio Communication System Upgrade	Radio Communication System Upgrade	2016		Previously Funded
	Transit	City Shuttle System Capital and Operations and Maintenance	City Shuttle System Capital and Operations and Maintenance	2014		Previously Funded
	Other	Support Equipment Purchase	Purchase miscellaneous support equipment	2020		Previously Funded
	Other	Support Vehicle Purchase	Purchase miscellaneous support vehicles	2020		Previously Funded
	Transit	Metrolink Commuter Rail Program	Metrolink Commuter Rail Program	2015		Previously Funded
	Transit	Vehicle Purchase	Purchase of 72 Paratransit expansion vans: 21 in FY09/10 51 in FY10/11	2016		Previously Funded
	Transit	Vehicle Purchase	Purchase of eight paratransit vehicles replacement (Mission Viejo) - FY09/10	2016		Previously Funded
	Transit	Vehicle Purchase	Purchase of 11 paratransit vehicles expansion (Mission Viejo) - FY09/10	2030		Previously Funded
	Transit	Metrolink Rolling Stock Acquisition (OCTA Share)	OCTA share of the Metrolink rolling stock aquisition	2020		Previously Funded
	Transit	Construction and Operations of CNG Fueling Station at Anaheim Maintenance Base	Capital lease costs associated with the Construction and operations of CNG fueling Station at Anaheim maintenance base	2016		Previously Funded
	Transit	Construction and Operations of CNG Fueling Station at Garden Grove Maintenance Base	Capital lease costs associated with the Construction and operations of CNG fueling Station at Garden Grove maintenance base	2012		Previously Funded
	Transit	Bus Operating Assistance FTA9 - for Paratransit (OCTA)	Bus operating assistance FTA9 - for Paratransit (OCTA)	2020		Previously Funded
	Transit	Capital Maintenance on Metrolink System	Rehabilitation of track, signal, communications, structures, facilities, and rolling stock	2015		Previously Funded
	Transit	Operating Assistance for Commuter Rail	Operating assistance for Commuter Rail	2016		Previously Funded
	Transit	Vehicle Modifications, Supplemental Vehicles and Equipment Replacement	Vehicle modifications/miscellaneous, replace supplemental vehicles and support equipment, bus and facility equipment	2016		Previously Funded
	Transit	Facility Modifications for Bus Transit	Facility modifications for Bus Transit	2016		Previously Funded
	Transit	Vehicle Purchase	Purchase of 87 standard 40ft expansion alternative fuel buses: 14 in FY08/09 44 in FY10/11 14 in FY11/12 2 in FY12/13 13 in FY13/14	2016		Previously Funded
	Transit	Vehicle Purchase (Mission Viejo)	Purchase of (10) 40ft alternative fuel replacement bus - FY10/11	2016		Previously Funded

Detailed Year 2035 Baseline Project List , *continued on the following page.*

FREEWAY

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Interchange Projects	Santa Ana Freeway (Interstate 5)	Interstate 5/State Route 74 Interchange (San Juan Capistrano)	Reconstruct Interstate 5/State Route 74 Interchange (San Juan Capistrano) on Route 74 from Interstate 5 to east of the City limit	2014	D	$ 45.39
	Santa Ana Freeway (Interstate 5)	Interstate 5/Camino De Estrella (San Clemente)	Widen the southbound off-ramp at Camino De Estrella from one to two lanes and widen the overcrossing from five to seven lanes (one westbound left turn lane and one eastbound lane)	2011		$ 16.34
	Santa Ana Freeway (Interstate 5)	Interstate 5/Jamboree Road	Construct auxiliary lane on southbound Interstate 5 and widen the southbound off-ramp from one to two lanes	2012		$ 7.11
	Santa Ana Freeway (Interstate 5)	Interstate 5/La Paz Road Interchange Improvements	Expand La Paz Road from 4 to 6 lanes total	2011		Previously Funded
	Santa Ana Freeway (Interstate 5)	Gene Autry Way West/Interstate 5	Add overcrossing on Southbound Interstate 5/Manchester Avenue at Gene Autry Way and extend Gene Autry Way West from Interstate 5 HOV Drop Ramps to Haster (three lanes in each direction)	2012		Previously Funded
	Santa Ana Freeway (Interstate 5)	Interstate 5/Camino Capistrano	Improve intersection of Interstate 5 with Camino Capistrano by widening the southbound off-ramp from two to three lanes	2012		Previously Funded
	Santa Ana Freeway (Interstate 5)	Interstate 5/Oso Parkway	Improve exit lane and interchange of Interstate 5 southbound with Oso Parkway. Widen from one to two lanes and add exit/storage lane. Sight distance improvement to northbound off-ramp	2009		Complete
	Santa Ana Freeway (Interstate 5)	Interstate 5/Crown Valley Parkway (Mission Viejo)	Widen the southbound off-ramp from four to five lanes at the interchange of Interstate 5 with Crown Valley Parkway	2012		Previously Funded
Interchange Projects	Santa Ana Freeway (Interstate 5)	Interstate 5/Avery Parkway	Improve interchange of Interstate 5 with Avery Parkway - widen Avery Parkway between Marguerite Parkway and Camino Capistrano from four to five lanes (for turn lane) under freeway bridge	2010		Previously Funded
General Purpose Improvements	Santa Ana Freeway (Interstate 5)	Interstate 5 Pavement and Landscape	Provide enhanced paving and landscaping on the Interstate 5 from Calle Juanita to 4th Street	2013		Previously Funded
Other	Santa Ana Freeway (Interstate 5)	Interstate 5 Soundwall Design and Construction	Soundwall design and construction on Interstate 5 southbound from El Camino Real to Avenida Ramona	2011		Previously Funded
	Santa Ana Freeway (Interstate 5)	Interstate 5 Soundwall Design and Construction	Soundwall design and construction on Interstate 5 northbound at Avenida Vaquero (San Clemente)	2011		Previously Funded

Detailed Year 2035 Baseline Project List , *continued on the following page.*

FREEWAY

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
General Purpose Improvements/ Transportation System Management Projects	Garden Grove Freeway (State Route 22)	State Route 22 Improvements	Add two HOV lanes (one in each direction) to the segment between Interstate 405 and State Route 55, two auxiliary lanes (one in each direction) to the segment between Interstate 5 and Beach Boulevard, and implement operating improvements (TCRP)	2011		$ 47.30
Transportation System Management Projects	Garden Grove Freeway (State Route 22)	State Route 22/Interstate 405 HOV Connector	Construct State Route 22/Interstate 405 HOV connector	2013		$ 32.10
General Purpose Improvements/ Transportation System Management Projects	Garden Grove Freeway (State Route 22)	State Route 22/Magnolia	Replace interchanges, construct HOV lanes and lengthen bridges in Garden Grove	2010		Complete
Interchange Projects/ Transportation System Management Projects General Purpose Improvements	Garden Grove Freeway (State Route 22)	State Route 22/Harbor Boulevard	Reconstruct interchange to Harbor Boulevard to four lanes in each direction (1/4 mile before and after the State Route 22 ramps), two HOV lanes(one eastbound and one westbound) and proposed State Route 22 HOV lanes	2011		Complete
	Garden Grove Freeway (State Route 22)	State Route 22/City Drive	Improve interchange of State Route 22 and City Drive - reconfigure freeway interchange at State Route 22 from State Route 57 to Lewis Street, adding two HOV lanes	2010		Complete
General Purpose Improvements	Costa Mesa Freeway (State Route 55)	State Route 55 Improvements	Construct one auxiliary lane on State Route 55 in the southbound direction between East Edinger Avenue on-ramp and East Dyer Road off-ramp	2011		$ 32.88
	Costa Mesa Freeway (State Route 55)	State Route 55 Improvements	Add axiliary lane to State Route 55 in the southbound direction from Dyer Road to MacArthur Boulevard	2012		Previously Funded
	Costa Mesa Freeway (State Route 55)	State Route 55/MacArthur Boulevard	State Route 55 at MacArthur Boulevard (Santa Ana) - widen MacArthur northbound on-ramp (from eastbound MacArthur to State Route 55 by adding one lane)	2010		Previously Funded
Interchange Projects	Orange Freeway (State Route 57)	State Route 57/Lambert Road	Improve interchange of State Route 57 with Lambert Road - reconfigure existing diamond interchange to loop ramp and add southbound lane on/ off-ramp	2018		$ 35.00

Detailed Year 2035 Baseline Project List , *continued on the following page.*

FREEWAY

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
General Purpose Improvements	Orange Freeway (State Route 57)	State Route 57 Improvements	Widen the northbound direction from four to five mixed-flow lanes, from 0.3 mi south of Katella Avenue to 0.3 mi north of Lincoln Avenue	2015	G	$ 34.69
	Orange Freeway (State Route 57)	State Route 57 Improvements	Add one mixed-flow lane in the nothbound direction, from 0.4 mi north of State Route 91 to 0.1 mile north of Lambert Road	2014	G	$ 2.70
	San Joaquin Hills Transportation Corridor (State Route 73)	San Joaquin Hills Transportation Corridor State Route 73 Improvements	Add one mixed-flow lane in each direction and climbing and auxiliary lanes as required (between Irvine and San Juan Capistrano)	2020		$ 334.77
Interchange Projects	Riverside Freeway (State Route 91)	State Route 91 at State Route 55/Tustin Street Interchange	Add lane at the interchange with State Route 55/ Tustin Street	2015	I	$ 83.96
General Purpose Improvements	Riverside Freeway (State Route 91)	State Route 91 Improvements	Add one mixed-flow lane on State Route 91 in the eastbound direction between the State Route 91/ State Route 55 connector and State Route 241	2014	J	$ 78.68
General Purpose Improvements	Riverside Freeway (State Route 91)	State Route 91 Improvements	Connect existing auxiliary lane on State Route 91 in the westbound direction between State Route 57 and Interstate 5 through interchanges with ITS elements	2015	H	$ 59.40
General Purpose Improvements	Riverside Freeway (State Route 91)	State Route 91 Improvements	Add one lane on State Route 91 in the eastbound direction between State Route 241 & State Route 71. Improve northbound State Route 71 connector from State Route 91 to standard one lane and shoulder width	2011	J	$ 19.96
General Purpose Improvements	Riverside Freeway (State Route 91)	State Route 91 Improvements	State Route 91 eastbound at Beach Boulevard - widen on-ramp from 1 to 2 lanes, including the addition of a ramp meter	2010		$ 1.26
General Purpose Improvements	Riverside Freeway (State Route 91)	State Route 91 Improvements	Lane drop restoration on State Route 91 in the westbound direction - extend existing auxiliary lane from westbound to southbound State Route 241 from 400 meters west of Coal Canyon Road undercrossing to 1000 meters east of Coal Canyon Road	2010		Complete
Other	Riverside Freeway (State Route 91)	State Route 91 Improvements	Construct soundwall on State Route 91 in the eastbound direction from State Route 55/State Route 91 separation to Lakeview Avenue Overcrossing (Anaheim - Peralta Hills)	2010		Complete
Interchange Projects	Eastern Transportation Corridor (State Route 133)	State Route 133 / Trabuco Road	Add new on-ramps and off-ramps on State Route 133 at Trabuco Road (Irvine)	2020		$ 70.23
Transportation System Managed Projects	Foothill Transportation Corridor (State Route 241)	Foothill Transportation Corridor South Improvements	Improvements on Foothill Transportation Corridor South from Interstate 5 to Oso Parkway - two mixed-flow lanes in each direction by 2013, and one additional mixed-flow lane in each direction plus climbing and auxiliary lanes as required by 2030	2030		$ 1,212.19

Detailed Year 2035 Baseline Project List

FREEWAY

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Transportation System Managed Projects	Foothill Transportation Corridor (State Route 241)	Foothill Transportation Corridor Improvements	Improvements on Foothill Transportation Corridor in the northbound direction from Oso Parkway to Eastern Transportation Corridor - two additional mixed-flow lanes plus climbing and auxiliary lanes as required by 2020	2020		$ 132.98
Transportation System Managed Projects	Transportation Corridor Agencies (State Route 241/261/133/73)	Transportation Corridor Maintenance	Highway Maintenance Project	2010		Previously Funded
Transportation System Managed Projects	Eastern Transportation Corridor	Eastern Transportation Corridor (Routes 241/261/133) Improvements	Add two mixed-flow lanes in each direction plus climbing and auxiliary lanes as required by 2020 to the Eastern Transportation Corridor (Routes 241/261/133) from State Route 91 to Interstate 5/Jamboree Road	2020		$ 1,140.89
General Purpose Improvements	San Diego Freeway (Interstate 405)	Interstate 405 Improvements	Add one auxiliary lane in both directions to the Interstate 405 from Magnolia Street to Beach Boulevard	2010		Complete
General Purpose Improvements	San Diego Freeway (Interstate 405)	Interstate 405 Improvements	Rehabilitate Interstate 405, from Bear Street to Fairview Road	2011		Previously Funded
Transportation System Managed Projects	San Gabriel River Freeway (Interstate 605)	Interstate 405/Interstate 605 HOV Connector	Construction of the Interstate 405/Interstate 605 HOV connector	2013		$ 52.25
Other	Freeway - Countywide	Emergency Projects	Emergency projects in various locations (Countywide)	2020		$ 21.65
Other	Freeway - Countywide	Emergency Response Projects	Emergency response projects in various locations (Countywide)	2020		$ 21.65
Other	Freeway - Countywide	Orange County - HOV Drop Ramp Study (PA&ED/PS&E)	Orange County - HOV Drop Ramp Study	2013		$ 12.82
Interchange Projects	Santa Ana Freeway (Interstate 5)	Interstate 5 Improvements	Widen the off-ramp in the southbound direction on the interchange of Interstate 5 with Culver Drive from one to two lanes	2009		Complete
Other	Freeway - Countywide	Highway Maintenance Project	Highway Maintenance Project	2010		Previously Funded
Other	Freeway - Countywide	Emergency Response Projects	Emergency response projects in various locations (Countywide)	2014		Complete
Interchange Projects	Foothill/Eastern Transportation Corridor (State Route 241)	State Route 241/Cristianitos Road Interchange	Add new interchange on State Route 241 at Cristianitos Road	Unconstrained		Previously Funded

Detailed Year 2035 Baseline Project List , *continued on the following page.*

STREET

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	LRTP Cost ($ million)
Capacity Improvements	Cow Camp Road	Cow Camp Road Construction	Construct Cow Camp Road from Antonio Parkway to Foothill Transportation Corridor (SR-241) and to Ortega Highway	2015		$ 176.00
Rail Grade Separations	Orangethorpe Ave.	Orangethorpe Avenue Grade Separation	Construct a grade separation on Orangethorpe Avenue at the BNSF railroad tracks.	2015		$ 94.15
Rail Grade Separations	Raymond Ave.	Raymond Avenue Grade Separation	Construct a grade separation on Raymond Avenue at the BNSF railroad tracks	2016		$ 60.20
Rail Grade Separations	State College Boulevard	State College Grade Separation	Construct a grade separation on State College Boulevard at the BNSF railroad tracks (from Santa Fe Avenue to 700 ft south of Valencia Avenue)	2016		$ 59.29
Rail Grade Separations	Tustin Avenue/Rose Dr	Tustin Avenue / Rose Drive Grade Separation	Construct a grade separation on Tustin Avenue / Rose Drive at the BNSF railroad tracks.	2015		$ 56.87
Other	Streets and Roads	Orange County - Mandate Projects	Lump sum at various locations in Orange County - mandate projects	2015		$ 49.79
Capacity Improvements	Bristol Street	Bristol Street Widening	Widen Bristol Street from four to six lanes, from Warner Avenue to Memory Lane. Includes improvements at the intersection of Bristol Street/ Warner Avenue (additional northbound, eastbound and southbound thru lanes and westbound right-turn lane) and Bristol Street/1st Street (additional northbound and southbound thru lanes and southbound left- and right-turn lanes)	2012		$ 41.66
Rail Grade Separations	Kraemer Boulevard	Kraemer Boulevard Grade Separation	Construct a grade separation on Kraemer Boulevard at the BNSF railroad tracks	2015		$ 35.94
Capacity Improvements	La Pata Avenue	La Pata Avenue Widening/Gap Closure	Widening of La Pata Avenue from three lanes to five lanes and extension as a four-lane facility and connecting to La Pata Avenue in San Clemente at Calle Saluda	2014		$ 32.00
Rail Grade Separations	Lakeview Avenue	Lakeview Avenue Grade Separation	Construct a grade separation on Lakeview Avenue at the BNSF railroad tracks	2015		$ 28.69
Capacity & Maintenance	Streets and Roads	Roadway Preservation Projects	Lump sum at various locations in Orange County - roadway preservation projects	2015		$ 25.94
Rail Grade Separations	Streets and Roads	Grade Separation/ Corridor Improvements on BNSF Railway Line (Placentia)	Grade Separation/ Corridor Improvements on BNSF Railway Line along south side of Orangethorpe	2015		$ 25.13
Capacity Improvements	Tustin Ranch Road	Tustin Ranch Road Gap Closure	New six lane major arterial from Walnut Avenue to Valencia Avenue with new grade separation at Edinger Avenue	2012		$ 24.69

Detailed Year 2035 Baseline Project List , *continued on the following page.*

STREET

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Capacity Improvements	Ortega Highway (State Route 74)	State Route 74 Widening	Widen from two to four lanes (one lane in each direction), from San Juan Capistrano city limits to 1,900 feet past La Pata Avenue (1.2 miles)	2012		$ 24.21
Capacity Improvements	Antonio Parkway	Antonio Parkway Widening	Widen from four to six lanes	2015		$ 15.50
Capacity Improvements	Brookhurst Street	Brookhurst Street Widening	Widen from south of Ball Road to north of Katella Ave	2014		$ 13.03
Capacity Improvements	Grand Avenue	Grand Avenue Widening	Widen from two to three lanes between 1st Street and 4th Street	2011		$ 12.32
Other	Streets and Roads	Collision Reduction	Lump sum in various locations in Orange County - collision reduction	2015		$ 11.90
Capacity Improvements	1st Street	1st Street Widening	Widen from four to six lanes between Susan Street and Fairview Street (Santa Ana)	2014		$ 10.33
Capacity & Maintenance	Streets and Roads	Roadside Preservation Projects	Lump sum at various locations in Orange County - roadside preservation projects	2015		$ 7.32
Capacity Improvements	Oso Parkway	Oso Parkway Widening	Widen from three lanes to four lanes in each direction between Blasco and Interstate 5	2015		$ 6.80
Capacity Improvements	Alton Parkway	Alton Parkway Improvements	Extend as a four-lane divided highway between Commercenter and Towne Center Drive	2013		$ 6.40
Capacity Improvements	Jamboree Road	Jamboree Road Improvements	Add 4th southbound and northbound thru lanes on Jamboree Road at Interstate 5/Michelle (Irvine)	2012		$ 6.30
Capacity Improvements	La Paz Road	La Paz Road Widening	Widen bridge from four to six lanes from Murilands Boulevard/Interstate 5 to Chrisanta Drive	2014		$ 6.12
Other	Streets and Roads	Mobility Projects	Lump sum at various locations in Orange County - Mobility Projects	2015		$ 5.79
Capacity Improvements	Laguna Canyon Road	Laguna Canyon / Interstate 405 Overcrossing	Widen overcrossing from two lanes to four lanes	2013		$ 5.10
Capacity Improvements	Gypson Canyon Road	State Route 91/Gypsum Canyon Road Interchange	Widen Gypsum Canyon Road from two to four lanes, add Class II on-road bike lanes, and add multi-use trail and sidewalk on west side of roadway	2015		$ 5.00
Capacity & Maintenance	Streets and Roads	Bridge Preservation SHOPP Projects	Lump sum at various locations in Orange County - Bridge Preservation SHOPP Projects	2015		$ 4.73

Detailed Year 2035 Baseline Project List , *continued on the following page.*

STREET

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Capacity Improvements	Harbor Boulevard	Harbor Boulevard - Adams Avenue	Harbor Boulevard - Adams Avenue	2015		$ 4.50
Capacity Improvements	Firestone Boulevard	Firestone Boulevard Improvement	Widen and reconstruct from Artesia Boulevard to approximately 900 feet north of Artesia Boulevard	2010		$ 3.57
Capacity Improvements	Bolsa Avenue	Bolsa Avenue Bridge Widening	Widen Bolsa Avenue Bridge from four to six lanes (from Chestnut Street to Goldenwest Avenue)	2011		$ 2.20
Capacity Improvements	Rancho Parkway	Rancho Parkway Improvements	Extend from existing terminus at Hermana Circle to Portola Parkway	2013		$ 2.06
Transportation Demand Management	Streets and Roads	Orange County Signal Improvement Program	This project will target 158 miles and 533 signalized intersections along ten high-volume regional traffic corridors across the County of Orange for coodinated signal synchronization.	2012		$ 2.00
Capacity & Maintenance	Streets and Roads	Landscaping and Other Scenic Improvements Throughout Orange County	Lump sum. TEA Funds for landscaping and other scenic improvements throughout Orange County	2020		$ 2.00
Capacity Improvements	Atlanta Avenue	Atlanta Avenue Widening	Widen from two to four lanes from Huntington Street to Deleware Street	2010		$ 1.90
Rail Grade Separations	Jeffrey Road	Jeffrey Road Railroad Grade Separation	Widen from four to six lanes from Irvine Center Drive to Walnut Avenue - railroad grade separation	2011		$ 1.80
Capacity Improvements	Seal Beach Boulevard	Seal Beach Boulevard Street Widening Project	Seal Beach Boulevard street widening project at Interstatet 405 southbound off-ramp	2012		$ 1.44
Capacity Improvements	Seal Beach Boulevard	Seal Beach Boulevard Street Widening Project	Seal Beach Boulevard Street widening project from Old Ranch Parkway to St. Cloud Drive	2012		$ 1.44
Other	Imperial Highway (State Route 90)	State Route 90 Enhancement	Provide enhancement and mitigation planting in the cities of Yorba Linda and Anaheim - from east of Kellogg Drive undercrossing to La Palma Avenue	2012		$ 1.44
Capacity Improvements	Orangethorpe Avenue	Orangethorpe Avenue Widening	Widen from four to six lanes from Melrose Avenue to east City limits	2013		$ 1.19
Capacity Improvements	Baker Street	Baker Street / State Route 55	Northbound and southbound frontage road improvements. Intersection improved with southbound free right turn, northbound left turn and second eastbound left turn	2014		$ 0.90
Capacity & Maintenance	Coal Canyon Road	Coal Canyon Road Interchange	Install vegetation enhancements	2013		$ 0.80

Detailed Year 2035 Baseline Project List , *continued on the following page.*

STREET

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Transportation Demand Management	Lemon Street	Recreational Trail Reconstruction/Rehabiltation	Reconstruct or rehabilitate recreational trail along Lemon Street from Santiago Boulevard to Valley Drive	2013		$ 0.73
Capacity Improvements	Paularino Avenue	Paularino Avenue/State Route 55 Intersection Improvement	Improve intersection of State Route 55 northbound frontage road at Paularino Avenue with the addition of northbound ramp and westbound right turn lane	2015		$ 0.51
Other	Streets and Roads	Preliminary Engineering for Six Miles of New Roadways (PA&ED/PS&E)	Six miles of new roadways including Trabuco Road, O Street and Marine Way - Preliminary Engineering only	2012		$ 0.50
Transportation Demand Management	Multi-use Trails	Multi-use Trail Staging Facility in Anaheim (Anaheim Coves)	Construct multi-use trail staging facility on the west of the Santa Ana River south of Lincoln Avenue (Anaheim). Includes 14 parking stalls, restroom building, one drinking fountain, a horse D-Rail, bicycle racks, benches, native landscape	2011		$ 0.47
Capacity Improvements	Newport Avenue	Newport Avenue Extension Project, Phase II (PA&ED/PS&E)	Extend from north of Edinger Avenue to Myrtle Ave with grade separation at OCTA SCRRA Railway	2013		$ 0.33
Capacity Improvements	Paularino Avenue	Paularino Avenue/State Route 55 Intersection Improvement	Improve intersection of State Route 55 southbound frontage road at Paularino Avenue with the addition of southbound right-turn lane	2014		$ 0.27
Transportation Demand Management	Santa Ana Golden Loop Trail	Santa Ana Golden Loop Trail Rehabilitation	Rabilitation of 19,000 linear feet of trail	2010		$ 0.21
Grade Separation	Santa Ana Boulevard	Santa Ana Boulevard Grade Separation (PA&ED/PS&E)	Santa Ana Boulevard Grade Separation	2015		$ 0.18
Transportation Demand Management	Streets and Roads	Signal upgrades in Rancho Santa Margarita	Signal upgrades on Avenida De Las Flores, Melinda Road, Avenida De Las Banderas, and Alma Aldea	2010		$ 0.02
Capacity & Maintenance	Streets and Roads	Roadway Rehabilitation of Major and Primary Arterials	Countywide roadway rehabilitation of major and primary arterials. Non-capacity adding improvements	2010		$ 0.01
Transportation Demand Management	Rail Trail	Tustin Branch Rail Trail Gap Closure	Closure of a two mile gap in the Tustin Branch Rail Trail - along the Santiago Creek from Tustin Street to Walnut Avenue and City-owned Right-of-Way from Walnut Avenue to Collins Avenue	2011		$ 0.01
Transportation Demand Management	Bicycle and Pedestrian Facilities	Bicycle and Pedestrian Facility Projects Throughout Orange County	Lump sum - TEA funds for bicycle and pedestrian facility projects throughout Orange County	2015		$ 0.01

Detailed Year 2035 Baseline Project List , *continued on the following page.*

STREET

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Capacity Improvements	Imperial Highway (State Route 90)	Imperial Highway Smart Street Project	Restripe four to six lanes, add raised median from Los Angeles County line to Idaho Street, modify medians at four intersections and add bus pads, turnouts	2010		Previously Funded
Capacity Improvements	Imperial Highway (State Route 90)	Imperial Highway Smart Street Project	Widen eastbound by one lane from east of Valencia Avenue to City limits. Median modifications at intersections: Associated Road, Valencia Ave, and Rose Dr	2011		Previously Funded
Capacity Improvements	Alton Avenue	Alton Avenue Overcrossing (PA&ED/PS&E)	Construct a new four-lane (two lanes in each direction) overcrossing and HOV access ramps at State Route 55	2011		Previously Funded
Capacity Improvements	Moulton Parkway	Moulton Smart Street Project	Moulton Smart Street from Ritchey St to Red Hill Avenue - restripe 6 lanes, add bike lanes, and construct raised median. Add right turn lane for on/off-ramp at State Route 55. Widen intersection	2010		Complete
Rail Grade Separations	Orangethorpe Avenue	Imperial Highway/Orangethorpe Avenue Grade Separation	Imperial Hwy Grade Seperation at Orangethrope Ave/Esperanza Road and BNSF railroad	2011		Complete
Capacity Improvements	Harbor Boulevard	Harbor Boulevard/Interstate 405 Interchange Improvements	Channelization and operational improvements at the Interstate 405 interchange on northbound Harbor Boulevard, southbound on-ramp to Law Court	2009		Complete
Capacity Improvements	Katella Avenue	Katella Avenue Smart Street Project	Katella Avenue Smart Street Project from Humor Drive to Jean Street	2010		Previously Funded
Rail Grade Separations	Sand Canyon Road	Sand Canyon Road Railroad Grade Separation and Widening	From Burt Road to Laguna Canyon/Oak Canyon - Railroad Grade Separation, widen from four to six lanes	2013		Previously Funded
Capacity Improvements	El Toro Road	El Toro Road / Paseo de Valencia	Add one right turn and one left turn lane in each direction on El Toro Road.	2010		Complete
Capacity Improvements	Moulton Parkway	Moulton Parkway Improvements	Widen from eight to nine lanes Moulton Parkway, from Lake Forest Drive to El Pacifico Drive. Northbound remains the same (four lanes) and southbound increases one lane (from four to five lanes). Project also includes the widening of intersections and landscape.	2010		Complete
Capacity Improvements	Moulton Parkway	Moulton Parkway Improvements	Widen from seven to nine lanes, adding one lane in each direction from Santa Maria Avenue to El Pacifico Drive. Number of lanes after project is four lanes northbound and five lanes southbound. Project also includes the widening of intersections, addition of sidewalk and landscape.	2011		Previously Funded

Detailed Year 2035 Baseline Project List , *continued on the following page.*

STREET

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Other	Streets and Roads	Preliminary Engineering, Technical Studies, Project Report and EIR for Arterial Crossings with BNSF Railway Line	Preliminary engineering, technical studies, project report and EIR for the lowering/grade seperation of seven or eight arterial crossings along the BNSF Railway Line west of Bradford Avenue to Imperial Highway, along south side of Orangethorpe East Avenue	2009		Complete
Capacity Improvements	Chapman Avenue	Chapman Avenue Improvements	Widen from four to six lanes from Tustin Street to State Route 55. Add two dedicated right turn lanes (one at westbound Chapman Avenue and one at northbound Tustin Street) plus two bus turnouts (one at northbound Tustin Street and one at westbound Chapman Ave)	2011		Previously Funded
Capacity Improvements	Crown Valley Parkway	Crown Valley Parkway Widening	Widen from six lane divided to eight lane divided, from Puerta Real to City limits, near Jardines	2011		Previously Funded
Capacity Improvements	Culver Drive	Culver Drive Widening	Widen Culver Drive from Campus Drive to Bonita Canyon from two lane undivided to four lane divided facility and realign	2011		Complete
Capacity Improvementstt	Memory Lane	Memory Lane Bridge Widening	Widen from four to six lanes, from Pacific Avenue to City Drive	2009		Complete
Rail Grade Separations	Red Hill Avenue	Red Hill Avenue Grade Separation (PA&ED/PS&E)	Grade separation at Edinger Ave/railroad tracks	2016		Previously Funded
Transportation Demand Management	El Toro Road	El Toro Road Hardware Installation and Signal Timing	From Bridger Road to Trabuco Road - timing study and interconnect system: install hardware and signal timing.	2010		Complete
Capacity Improvements	Katella Avenue	Katella Avenue Smart Street Project	Katella Avenue Smart Street from Magnolia Street to Beach Boulevard and Beach Boulevard to Knott Street. Widen from four to six lanes, add bus turnouts, intersection widening, curbline/median modification	2011		Complete
Other	Streets and Roads	Passive Park Adjacent to Patricia Lane Scenic Enhancements	Aquire Right-of-Way from Caltrans adjacent to Patricia Lane Scenic Enhancements, between 6th Street and Eastside Avenue and landscape empty lot to create passive park. (State TEA share)	2009		Complete
Other	Pacific Coast Highway	Pacific Coast Highway Congestion Relief Project	Pacific Coast Highway at Del Obispo Street - implementation of PCH Congestion Relief Project	2009		Complete
Capacity Improvements	Cabot Road	Cabot Road Bridge to Camino Capistrano (PA&ED/PS&E)	Provide alternate access to Metrolink Station and relief to interchange at Interstate 5 and Avery Parkway	2011		Previously Funded

Detailed Year 2035 Baseline Project List , *continued on the following page.*

STREET

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Transportation Demand Management	Sea Terrace Park Recreational Trail	Sea Terrace Park Recreational Trails Improvement	Improve existing trail and construct new trail in Sea Terrace Park	2009		Complete
Transportation Demand Management	Salt Creek Trail	Salt Creek Trail Enhancement Project (PA&ED/PS&E)	Salt Creek Trail Enhancement Project	2011		Previously Funded
Other	Streets and Roads	Supplemental Safety Measures for BNSF Railway Line At-grade Crossings	Install supplemental Safety measures at 8 at-grade crossings for the BNSF Railway Line from Kraemer Boulevard to Kellogg Dr, along south side of Orangethorpe Avenue	2010		Previously Funded
Capacity Improvements	Jamboree Road	Jamboree Road Widening	Widen from six to eight lanes between Bayview Way and MacArthur Boulevard	2012		Previously Funded
Capacity Improvements	Weir Canyon Road	Weir Canyon Road Widening	Widen by adding one northbound lane from State Route 91 to La Palma Avenue	2009		Complete
Other	Streets and Roads	Planning Study to Evaluate the Land Use in the Gateway Specific Plan (GSP) (PA&ED/PS&E)	Planning Study to evaluate the land use in the Gateway Specific Plan (GSP), including Transit-Oriented Development and Mixed-Use Development	2011		Previously Funded
Transportation Demand Management	Streets and Roads	ITS Master Plan in Anaheim	Develop and implement an ITS Master Plan in Anaheim	2011		Previously Funded
Transportation Demand Management	Harbor Boulevard	ITS for Harbor Boulevard in Garden Grove	Design and implement Harbor Boulevard ITS in Garden Grove.	2011		Previously Funded
Transportation Demand Management	Bud Turner Recreational Trail	Bud Turner Recreational Trail at Laguna Lake Improvements	Trail reconstruction, landscape and irrigation improvement	2011		Previously Funded
Transportation Demand Management	Santa Ana River Trail	Santa Ana River Trail Fairview Triangle Habitat Restoration Project	Improvements for and along the Santa Ana River Trail	2010		Previously Funded
Transportation Demand Management	Oso Creek Trail	Oso Creek Trail Signing	Comprehensive signage including four kiosks and wayfinding signs along 5.5 miles of trail	2009		Previously Funded

Detailed Year 2035 Baseline Project List , *continued on the following page.*

STREET

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Transportation Demand Management	Bikeways	Regional Class 1 Bikeway along Coyote Creek Flood Control Channel	Construct Regional Class 1 Bikeway along Coyote Creek Flood Control Channel from Imperial Highway in La Habra to Los Angeles County border	2010		Previously Funded
Other	Streets and Roads	Esperanza Road Berm Wall	Construct a berm and wall along the south side of Esperanza Road from Imperial Hwy to Weir Cnyn Road/Yorba Linda Boulevard including landscaping	2009		Complete
Transportation Demand Management	Santiago Creek Bike Trail	Santiago Creek Bike Trail Enhancment Project	Extend trail by 600ft to run under Broadway and Interstate 5. Refurbish existing trail from Main Street to Santiago Park	2009		Complete
Transportation Demand Management	Discovery Science Center Park-and-Ride Facility	Intermodal Park-and-Ride Facility at Discovery Science Center	Intermodal Park-and-Ride Facility at Discovery Science Center in Santa Ana	2016		Previously Funded
Capacity Improvements	La Palma Avenue /Del Amo Boulevard	La Palma Avenue /Del Amo Boulevard Improvements	Realign existing roadway over Coyote Creek. Demolition and reconstruction	2008		Previously Funded
Capacity Improvements	Goldenwest Bridge	Goldenwest Bridge Widening	Widen over Interstate 405 from five to six lanes (addition of one southbound lane)	2010		Previously Funded
Capacity Improvements	Sand Canyon Avenue	Sand Canyon Avenue / Interstate 5 (Irvine)	Add a third and fourth northbound and southbound lane, improve eastbound approach by adding two teft turn lanes, one thru lane and one right turn lane	2012		Previously Funded
Capacity Improvements	Crown Valley Parkway	Crown Valley Parkway Widening	Widen eastbound direction from Cabot Road to Interstate 5 on-ramp from four to five lanes; add dedicated right turn lane for southbound Interstate 5 on-ramp and dedicated right turn lane for northbound on-ramp)	2011		Previously Funded
Capacity Improvements	Seal Beach Boulevard	Seal Beach Boulevard Improvement	Overpass bridge lengthening turn lanes and ramps realignment from Beverly Manor Road to Old Ranch Parkway	2010		Previously Funded
Capacity Improvements	Streets and Roads	Intelligent Transportation System	Interconnect 21 signals from the west side of Garden Grove to the City's TMC with fiber optics (project closes a 3.5 mile gap)	2008		Previously Funded

Detailed Year 2035 Baseline Project List , *continued on the following page.*

STREET

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Other	Streets and Roads	Planning Programming and Monitoring AB3090 - Payback Project	Planning Programming and Monitoring AB3090 - Payback Project - Orange County	2009		Complete
Capacity Improvements	Newport Boulevard	Newport Boulevard Widening	Widen from six to lanes (addition of one lane in each direction) from 19th Street to Harbor Boulevard	2009		Complete
Capacity Improvements	Newport Boulevard/17th Street	Newport Boulevard/17Street Intersection improvement	Add 4th northbound thru lane and southbound right turn lane on Newport Boulevard	2009		Complete
Capacity Improvements	Alton Parkway	Alton Parkway Extension	Construct six lane roadway from Irvine Boulevard to Commercentre Drive	2010		Previously Funded
Capacity Improvements	MacArthur Boulevard/Red Hill Ave	MacArthur Boulevard / Red Hill Avenue Intersection Improvements (Irvine)	Add 3rd westbound lane, eastbound, southbound and northbound thru lanes and northbound left turn lane	2009		Previously Funded
Capacity Improvements	Barranca Parkway/Red Hill Avenue	Barranca Parkway / Red Hill Avenue Intersection Improvements	Add 4th thru lane in all directions, eastbound/westbound left turn lanes and westbound dedicated right turn lane	2011		Previously Funded
Capacity Improvements	Culver Drive	Culver Drive/Interstate 5/Trabuco Improvements	Add 5th lane on Interstate 5 southbound off-ramp; 3rd northbound thru lane and 2nd westbound right turn lane	2009		Previously Funded
Capacity Improvements	Richfield Avenue	Richfield Avenue/Atwood Channel Bridge Widening	Widen Atwood Channel Bridge from three to four lanes	2010		Previously Funded
Capacity Improvements	Streets and Roads	Del Obispo Widening	Widen to accommodate bike lanes and sidewalk in each direction from Alipaz to Camino Capistrano	2010		Previously Funded
Capacity Improvements	Main Street	Main Street Widening	Widen from four to six lanes from Culver Drive to 260ft north of Palmyra	2011		Previously Funded
Capacity Improvements	Flamingo Road	Flamingo Road Reconstruction	Reconstruct Flamingo Road	2010		Previously Funded

Detailed Year 2035 Baseline Project List , *continued on the following page.*

STREET

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M2 Project ID	Year of Expenditure Project Cost ($ million)
Other	Streets and Roads	Debt Service for 1990 and 1993 Cops Funding of Capital Projects	Debt Service for 1990 and 1993 Cops Funding of Capital Projects	2010		Complete
Capacity Improvements	Valley View Street	Valley View Street Widening	Widen from 6 lanes to 8 lanes from Lincoln Avenue to Artesia Boulevard	2010		Complete
Capacity Improvements	Artesia Boulevard	Artesia Boulevard Improvements	Improve intersection of Artesia Boulevard with Interstate 5 (from Knott Street to Botryoides Avenue). Realign northbound off-ramp and southbound on-ramp.	2010		Complete
Capacity Improvements	Harbor Boulevard	Harbor Boulevard Improvement	Implement intersection channelization on Harbor Boulevard at Gisler Avenue. Add 5th northbound lane on Harbor Boulevard and right turn lane on Gisler Avenue to northbound Harbor Boulevard, and 2nd southbound Interstate 405 slip on-ramp lane	2010		Complete
Transportation Demand Management	Multi-use Trails	Multi-use trail (San Clemente)	Multi-use trail constructed parallel to railroad tracks, 2.6 miles long	2009		Complete
Capacity & Maintenance	Streets and Roads	Native Landscaping	Native Landscaping	2015		Previously Funded
Other	Streets and Roads	Reduce Orange County Congestion (ROCC) Program (PA&ED/PS&E)	Reduce Orange County Congestion (ROCC) Program (includes studies and planning)	2009		Previously Funded
Other	Streets and Roads	Planning and Transportation Projects	Various Planning and Transportation Projects determined by the Orange County Council of Governments (OCCOG) to reduce congestion in Orange County, including smart growth and increased transit	2016		Previously Funded
Other	Planning Studies	Planning, Programming and Monitoring (PPM)	Countywide activities: Planning, Programming and Monitoring (PPM)	2020		$ 3.22

Appendix B

- Detailed Year 2035 Preferred Plan Project List

Detailed Year 2035 Preferred Plan Project List , *continued on the following page.*

TRANSIT

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M Project ID	Year of Expenditure Project Cost ($ million)
Fixed-Route Service	Transit	Several	Bus expansion capital	2035		$ 73.54
	Transit	Several	Bus expansion operations	2035		$ 456.34
	Transit	Several	Community-based shuttles – Deployment	2035	V	$ 264.50
Express Bus Service	Transit	Express Bus Service Expansion	Express Bus Service Expansion (Intracounty and Intercounty)	2035		Part of bus expansion capital
Bus Rapid Transit (BRT)	Transit	Westminster Avenue / 17th Street BRT	22-mile fixed-route BRT between Santa Ana and Long Beach. Includes structures, (23) rolling stock	2026		$ 2.08
	Transit	Harbor Boulevard BRT	19-mile fixed-route BRT between Fullerton and Newport Beach. Includes structures, (23) rolling stock	2027		$ 3.49
	Transit	Bristol Street/State College Boulevard BRT	28-mile fixed-route BRT from Brea Mall to Irvine Transportation Center. Includes structures, (32) rolling stock	2028		$ 4.04
Go Local Bus/ Shuttle*	Go Local - Extensions to Metrolink	Anaheim Regional Transportation Intermodal Center (ARTIC) to Fullerton Transportation Center	New local bus/rail feeder service	2035	S	$ 1,168.00
	Go Local - Extensions to Metrolink	ARTIC/Anaheim Resort/West Anaheim	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Anaheim Canyon Feeder Shuttle	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Aliso Viejo Town Center Shuttle	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Brea Employee Shuttle	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Yorba Linda & Placentia Park-and-Ride Shuttle	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	La Habra Community Bus	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Buena Park Station to Auto Center/Civic Center	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Buena Park Station to Buena Park Downtown	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Irvine Spectrum Shuttle	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Cal State Fullerton Shuttle	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Laguna Beach Summer Arts Festival Shuttle	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Laguna Woods/Lake Forest/Laguna Hills to Irvine Station	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Tri-City Trolley	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Tustin Metrolink to Tustin Downtown	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Tustin Metrolink to Tustin Legacy	New local bus/rail feeder service			

* Pending Board Action

Detailed Year 2035 Preferred Plan Project List

TRANSIT

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M Project ID	Year of Expenditure Project Cost ($ million)
Go Local Bus/ Shuttle*	Go Local - Extensions to Metrolink	Mission Viejo Blue Line	New local bus/rail feeder service	2035	S	$ 1,168.00
	Go Local - Extensions to Metrolink	Bolsa Chica Inter-County Express	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Fountain Valley Express	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Little Saigon/Fountain Valley/Huntington Beach Express	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	ARTIC to Anaheim Canyon Station	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Lake Forest Metrolink Shuttle	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Irvine Station to Mission Viejo Community Center	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Lake Forest Demand Response Shuttle	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Tustin Station to Irvine 1	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Tustin Station to Irvine 2	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Tustin Station to Irvine 3	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Tustin Station to Irvine 4	New local bus/rail feeder service			
	Go Local - Extensions to Metrolink	Irvine Station to Great Park/Woodbury	New local bus/rail feeder service			
Go Local Fixed Guideway*	Go Local - Extensions to Metrolink	Anaheim Rapid Connection (ARC)	New fixed guideway/rail feeder service	2020		funds from outside of the OCTA financial forecast
	Go Local - Extensions to Metrolink	Santa Ana & Garden Grove Fixed Guideway	New fixed guideway/rail feeder service	2020		funds from outside of the OCTA financial forecast
Station Link	Transit	StationLink Service Increase	Service increase as needed to coordinate with Metrolink service (rail-feeder expansion)	2035		Part of Metrolink service expansion to L.A.
Rail	Transit	Regional Gateways Program	Station improvements including ARTIC and others, to accommodate high-speed rail systems	2035	T	$ 264.70
	Transit	Metrolink Service Expansion Program (Phase II)	Metrolink service expansion from Fullerton to Los Angeles (Operations)	2035	R	$ 23.38
	Transit		Metrolink service expansion from Fullerton to Los Angeles (Capital)	2035	R	$ 6.86
	Transit	California High-Speed Rail - Phase 1	New service from San Francisco to Los Angeles and Anaheim	2020		funds from outside of the OCTA financial forecast
Other	Transit	Elderly & Handicapped Assistance	Expand transportation choices	2035	U	$396.90
	Transit	Safe Transit Stops	Transit stop improvements	2035	W	$29.20
	Transit	Vanpool and Park & Ride Program Expansion	Expand rideshare services in Orange County	2035		$ 161.54

* Pending Board Action

Detailed Year 2035 Preferred Plan Project List , *continued on the following page.*

FREEWAY

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M Project ID	Year of Expenditure Project Cost ($ million)
Transportation System Management Projects	Santa Ana Freeway (Interstate 5)	Interstate 5 HOV Expansion from Pacific Coast Highway to Avenida Pico, Interstate 5 Local Interchange Upgrade	Add one HOV lane in each direction from Pacific Coast Highway to Avenida Pico	2019	C/D	$ 365.00
Interchange Projects	Santa Ana Freeway (Interstate 5)		Improve interchange of Interstate 5 with Avenida Pico			
Transportation System Management Projects	Santa Ana Freeway (Interstate 5)	Interstate 5 HOV Lane Expansion, Interstate 5 Interchange Upgrade	Add one HOV lane each direction from State Route 55 to State Route 57	2031	A	$ 95.95
Interchange Projects	Santa Ana Freeway (Interstate 5)		Reconstruct interchange of Interstate 5 with 1st Street/4th Street to increase weaving length to standard on southbound Interstate 5 (extend merge lanes by 100 feet)			
Transportation System Management Projects	Santa Ana Freeway (Interstate 5)	Interstate 5 HOV Improvements	HOV ramp improvements at Barranca Parkway (southbound on-ramp, northbound off-ramp)	2021		$21.21
	San Diego Freeway (Interstate 405)	Interstate 405 HOT Project, Interstate 405 Improvements Project from State Route 73 to Interstate 605	Convert existing HOV lane to HOT, add one additional HOT lane each direction from State Route 73 to Interstate 605	2022	K	$ 2,200.00
General Purpose Improvements	San Diego Freeway (Interstate 405)		Add one mixed-flow lane in each direction from State Route 73 to Interstate 605			
Transportation System Management Projects	Orange Freeway (State Route 57)	State Route 57 Improvements	Provide HOV interchange at Cerritos Avenue	2035		$ 81.42
	Orange Freeway (State Route 57)	State Route 57 Improvements	Add one truck climbing auxiliary lane in the northbound direction from Lambert Road to Los Angeles County line	2015	G	$ 124.60
	Corona Del Mar Freeway/San Joaquin Transportation Corridor (State Route 73)	State Route 73 Improvements	Add one HOV lane each direction from MacArthur Boulevard to Interstate 405	2035		$ 359.13

Detailed Year 2035 Preferred Plan Project List , *continued on the following page.*

FREEWAY

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M Project ID	Year of Expenditure Project Cost ($ million)
Transportation System Management Projects	Corona Del Mar Freeway (State Route 73)	State Route 73 HOV Connector	Add HOV lane connector to Interstate 405	2035		$ 513.61
	Eastern Foothill Transportation Corridor (State Route 241) / Riverside Freeway (State Route 91)	State Route 91/State Route 241 Interchange	Add HOV/HOT connector at State Route 241 / State Route 91 interchange (eastbound on-ramp, westbound off-ramp)	2020		$ 394.75
	All Freeways	Freeway Service Patrol & Call Box Program	Continuation of motorist aid services	2035	N	$ 175.20
	Transportation Corridor Agencies (State Route 241/261/133/73)	Toll Roads Video Detection Demonstration Project	Image-based toll collection system demonstration project	2014		$ 0.75

Detailed Year 2035 Preferred Plan Project List , *continued on the following page.*

FREEWAY

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M Project ID	Year of Expenditure Project Cost ($ million)
General Purpose Improvements	Santa Ana Freeway (Interstate 5)	Interstate 5 Improvements Between State Route 55 and El Toro "Y"	Add one mixed-flow lane in each direction from State Route 55 to Interstate 405	2023	B	$ 394.24
	Santa Ana Freeway (Interstate 5)	Interstate 5 Improvements from State Route 57 to State Route 91	Add one mixed-flow lane in each direction from State Route 57 to State Route 91	2030		$ 475.55
	Santa Ana Freeway (Interstate 5)	Interstate 5 Improvements South of the El Toro "Y"	Add one mixed-flow lane in each direction from Avery Parkway to Alicia Parkway	2019	C/D	$ 584.24
			Reconfigure interchange of Interstate 5 with Avery Parkway			
			Reconfigure interchange of Interstate 5 with La Paz Road			
	San Diego Freeway (Interstate 405)	Interstate 405 Improvements Project from State Route 55 to Interstate 5	Add one auxiliary lane in the northbound direction from Jeffrey Road to Culver Drive	2020		$ 12.17
	San Diego Freeway (Interstate 405)	Interstate 405 Improvements Project from State Route 55 to Interstate 5	Add one mixed-flow lane in each direction from Interstate 5 to State Route 55 and improve merging	2023	L	$ 664.30

Detailed Year 2035 Preferred Plan Project List , *continued on the following page.*

FREEWAY

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M Project ID	Year of Expenditure Project Cost ($ million)
General Purpose Improvements	Costa Mesa Freeway (State Route 55)	State Route 55 Improvements	Add one mixed-flow lane in each direction from Interstate 405 to Interstate 5 and fix chokepoints	2020	F	$ 325.34
	Costa Mesa Freeway (State Route 55)		Add one auxiliary lane in each direction between select on/off ramps through project limits from Interstate 405 to Interstate 5			
	Costa Mesa Freeway (State Route 55)	State Route 55 Improvements	Add one mixed-flow lane in each direction from Interstate 5 to State Route 22	2022	F	$ 136.12
	Orange Freeway (State Route 57)	State Route 57 Improvements	Add one mixed-flow lane in the northbound direction from Orangewood Avenue to Katella Avenue	2015		$ 27.83
	Orange Freeway (State Route 57)	State Route 57 Improvements	Add one mixed-flow lane in the northbound direction from Lincoln Avenue to Orangethorpe Avenue	2020		$ 44.29
	Riverside Freeway (State Route 91)	State Route 91 Improvements from State Route 55 to Orange County/Riverside County Line	Add one westbound lane from State Route 241 to Gypsum Canyon Road	2018	J	$ 223.29
	Riverside Freeway (State Route 91)		Add one auxiliary lane in each direction from State Route 241 to Green River Road. Additional improvements in Riverside County			
	Riverside Freeway (State Route 91)	State Route 91 Improvements from State Route 57 to State Route 55	Add one mixed-flow lane in the eastbound direction from State Route 57 to State Route 55	2021	I	$ 460.59
Interchange Projects	Riverside Freeway (State Route 91)	State Route 91 Improvements from State Route 57 to State Route 55	Improve interchange with State Route 55 (operational, no increase in capacity)			
	Riverside Freeway (State Route 91)	State Route 91 Improvements from State Route 57 to State Route 55	Improve interchange with Lakeview Drive (operational, no increase in capacity)			
	Santa Ana Freeway (Interstate 5)	Interstate 5/Stonehill Drive Interchange	Add southbound off-ramp at interchange with Stonehill Drive	2020		$ 117.85
	Santa Ana Freeway (Interstate 5)	Interstate 5/Marguerite Parkway Interchange	Add interchange with Marguerite Parkway (Saddleback College connection)	2020		$ 186.06
	Santa Ana Freeway (Interstate 5)	Interstate 5/Alicia Parkway Interchange Improvement	Improve interchange of Interstate 5 with Alicia Parkway	2021		$ 100.60
	Santa Ana Freeway (Interstate 5)	Interstate 5/Los Alisos Boulevard Interchange	Add interchange at Los Alisos Boulevard	2019	D	$ 73.85

Detailed Year 2035 Preferred Plan Project List

FREEWAY

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M Project ID	Year of Expenditure Project Cost ($ million)
Interchange Projects	Santa Ana Freeway (Interstate 5)	Interstate 5/North Irvine Traffic Mitigation Improvements	Improve interchanges on Interstate 5: Alton Parkway (SB off-ramp) Bake Parkway (SB off-ramp) Culver Drive (SB off-ramp) El Toro Road (SB off-ramp) Jamboree Road (NB and SB off-ramps) Jeffrey Road (SB off-ramp) Sand Canyon Avenue (NB on-ramp)	2025		funds from outside of the OCTA financial forecast
	San Diego Freeway (Interstate 405)	Interstate 405/South Bristol Braid Interchange Reconfiguration	Reconfigure interchange of Interstate 405 with State Route 55 and Bristol Street	2035		$ 138.37
	San Diego Freeway (Interstate 405)	Interstate 405/Irvine Center Drive/North Irvine Traffic Mitigation Improvements	Improve interchanges at: Irvine Center Drive (SB off-ramp) Jeffrey Road (NB off-ramp) Sand Canyon Avenue (NB direct on-ramp) Sand Canyon Avenue (SB off-ramp)	2025		funds from outside of the OCTA financial forecast
	San Gabriel Freeway (Interstate 605)	Interstate 605 Freeway Access Improvements	Ramp improvements at interchange with Katella Avenue	2020	M	$ 43.11
	Costa Mesa Freeway (State Route 55)	State Route 55/Meats Avenue Interchange	Construct on-ramp/off-ramps at the interchange of State Route 55 with Meats Avenue	2017	O	$ 60.00
	Orange Freeway (State Route 57)	State Route 57 Improvements	Ramp Improvement at Lambert Road	2035		$ 19.43
	San Joaquin Transportation Corridor (State Route 73)	State Route 73/Glenwood Drive/Pacific Park Drive Interchange	Complete southbound ramp at interchange with Glenwood Drive/Pacific Park Drive	2035		$ 66.52
	Riverside Freeway (State Route 91)	State Route 91/Gypsum Canyon Road	Improve access ramp at Gypsum Canyon Road	2025		funds from outside of the OCTA financial forecast
	Riverside Freeway (State Route 91)	State Route 91/Fairmont Boulevard Interchange	Add interchange and overcrossing at Fairmont Boulevard	2018		$88.93
	Foothill Transportation Corridor (State Route 241)	State Route 241/Jeffrey Road Interchange	New interchange at Jeffrey Road	2025		funds from outside of the OCTA financial forecast
Other	Freeways	Soundwall Program	Construct soundwalls along freeways to minimize traffic noise from freeways into residential neighborhoods	2035		$ 32.00
	Freeways	State Highway Operation and Protection Program	Reconstruction or rehabilitation to correct major highway issues	2035		$ 1,723.27
Environmental Mitigation	Freeways	Environmental Cleanup and Freeway Mitigation Programs	Transportation-related water quality program and acquisition/restoration of habitat, respectively	2035	X	$ 368.41

Detailed Year 2035 Preferred Plan Project List

STREET

Category	Route/Facility	Project	Description	Anticipated Completion Date	Measure M Project ID	Year of Expenditure Project Cost ($ million)
Transportation Demand Management	Streets	Signal Synchronization Program	Coordinate traffic signals in key corridors -750 mile network with 2000 signals (includes local share)	2023	P	$ 635.04
	Bikeways	Implement Commuter Bikeways Plan	Add Class I, II, III bikeways throughout Orange County	2035		$ 704.50
Capacity & Maintenance	Alton Parkway	Alton Parkway Overpass	Add new four lane roadway from Daimler Street to east Alton Avenue	2015		$ 35.00
	Streets	Local Fair Share Program	Roadway maintenance projects	2035	Q	$ 2,381.60
	Streets	Complete the MPAH Regional Capacity Program	Various arterial roadway projects (includes local share)	2035	O	$ 1,984.65
Other	Other	Planning, Programming & Monitoring Studies, and Other Studies Including TDM/TSM	Transportation-related studies	2035		$ 87.43
	Other	Debt Services	Debt Services (interest)	2035		$ 3,026.83

Appendix C

- Detailed Year 2035 Unconstrained Project List

Detailed Year 2035 Unconstrained Project List , *continued on the following page.*

TRANSIT

Category	Route/Facility	Project	Description	Anticipated Completion Date
Fixed-Route Bus Service	Transit	Systemwide Local Bus Service Expansion	Design, implementation, and operation of local fixed route service	Unconstrained
	Express Bus	Service Increase to Express Bus Routes in Central County	Central County express bus service expansion *	Unconstrained
	Express Bus	New Express Bus Service from Industry to Anaheim	Industry Metrolink/Anaheim Resort express bus service expansion *	Unconstrained
	Express Bus	New Express Bus Service from Anaheim to Laguna Hills	Anaheim Metrolink/Laguna Hills Transit Center express bus service expansion *	Unconstrained
	Express Bus	New Express Bus Service from Orange to Long Beach	The Block at Orange/Long Beach Transit Mall express bus service expansion *	Unconstrained
	Express Bus	New Express Bus Service from South Coast Metro to Long Beach	South Coast Metro/Wardlow Metro Blue Line Station express bus service expansion *	Unconstrained
	Express Bus	New Express Bus Service from Irvine to Norwalk	Alton Parkway/Yale Loop to Goldenwest Transportation Center/Green Line express bus service expansion *	Unconstrained
	Express Bus	New Express Bus Service from Riverside to Brea	Tyler Galleria/Yorba Linda/Brea express bus service expansion *	Unconstrained
	Express Bus	New Express Bus Service from Riverside to Anaheim	Tyler Galleria/Anaheim Resort express bus service expansion *	Unconstrained
	Express Bus	New Express Bus Service from Riverside to Irvine	Tyler Galleria/Irvine Business Complex/UCI express bus service expansion *	Unconstrained
	Express Bus	New Express Bus Service from Rancho Santa Margarita to Irvine	Rancho Santa Margarita/Irvine Spectrum express bus service expansion *	Unconstrained
	Express Bus	New Express Bus Service from Laguna Niguel/Aliso Viejo to Irvine	Laguna Niguel/Aliso Viejo/Irvine Business Complex/UCI express bus service expansion	Unconstrained
	Express Bus	New Express Bus Service from San Clemente to South Coast Metro	San Clemente/UCI/South Coast Metro express bus service expansion *	Unconstrained
	Express Bus	New Express Bus Service from Anaheim to Laguna Hills	Harbor Boulevard/Manchester Avenue/Laguna Hills Transit Center express bus service expansion *	Unconstrained
Bus Rapid Transit (BRT)	BRT - Katella	Katella Avenue BRT	New BRT service between Long Beach and Orange	Unconstrained
	BRT - Edinger	Edinger Avenue BRT	New BRT service between Huntington Beach and Tustin	Unconstrained
	BRT - Beach	Beach Boulevard BRT	New BRT service between Huntington Beach and La Habra	Unconstrained
	BRT - La Palma	La Palma Avenue BRT	New BRT service between Buena Park and Anaheim	Unconstrained
	BRT - South County	South County BRT	New BRT service between Central Orange County and South Orange County (via Irvine Center Drive/Moulton Parkway /Golden Lantern)	Unconstrained
	BRT Routes	Enhance BRT Routes	Implement by pass lanes at intersections real-time passenger information, transit signal priority, and station improvements	Unconstrained
Rail	Transit	Metrolink Service Expansion Program	Service frequency increase to all stations south of Laguna Niguel/Mission Viejo	Unconstrained
	Transit	California-Nevada Super Speed Train	New service from Anaheim to Ontario	Unconstrained
	Transit	LOSSAN Capacity Increase to San Diego Border	Extend double track in tunnel south of San Juan Capistrano to San Diego county line	Unconstrained

* Pending Further Study

Detailed Year 2035 Unconstrained Project List

TRANSIT

Category	Route/Facility	Project	Description	Anticipated Completion Date
Transit Facilities	Fullerton Transportation Center	Fullerton Transportation Center	Transit station improvements	Unconstrained
	Santa Ana Regional Transportation Center	Santa Ana Regional Transportation Center (SARTC) Expansion	Expand to include fixed-guideway station and maintenance/storage facility; BRT station; reconstructed and additional parking; pedestrian bridges; circulation improvements; and Santa Ana Boulevard grade separation	Unconstrained
	Irvine Station	Irvine Station Master Plan	Transit station improvements	Unconstrained
	Park and Rides	Increase Access to Park and Rides	Increase access to Park and Rides and Increase parking capacity	Unconstrained
	Intermodal Stations	New Intermodal Stations	New Intermodal stations in Fountain Valley, Santa Ana, Westminster/Garden Grove and Anaheim	Unconstrained
Other	Pacific Electric Right-of-Way (PEROW)	Pacific Electric Right-of-Way (PEROW) Transportation Corridor	Specific improvements and design alternatives to be defined through ongoing intercounty studies	Unconstrained

Detailed Year 2035 Unconstrained Project List

FREEWAY

Category	Route/Facility	Project	Description	Anticipated Completion Date
Transportation System Management Projects	Santa Ana Freeway (Interstate 5)	Interstate 5 HOV Project	Add one HOV lane each direction from San Diego County line to Avenida Pico	Unconstrained
	Santa Ana Freeway (Interstate 5)	Interstate 5 Improvements	Add one northbound truck climbing lane from Avenida Pico to Avenida Vaquero	Unconstrained
	San Diego Freeway (Interstate 405)	Interstate 405/Von Karman Avenue HOV Access	Add HOV ramps at Von Karman Avenue	Unconstrained
	San Diego Freeway (Interstate 405)	Interstate 405/Bear Street HOV Access	Add HOV ramps at Bear Street	Unconstrained
	Costa Mesa Freeway (State Route 55)	State Route 55 HOV Lane Extension	Extend HOV lanes from Interstate 405 to 19th Street	Unconstrained
	Costa Mesa Freeway (State Route 55)	State Route 55/Alton Parkway HOV Access	Add HOV ramps at Alton Parkway	Unconstrained
	Costa Mesa Freeway (State Route 55)	State Route 55 Operational Improvements	Operational Improvements from State Route 91 to State Route 22	Unconstrained
	Toll Roads	Toll Corridors Improvements	Transportation Corridor Agencies - build-out of toll corridors	Unconstrained
	Corridor "A"	Corridor "A"	Elevated four-lane facility from State Route 241 to Interstate 15 (Corridor A) parallel to State Route 91	Unconstrained
	Irvine-Corona Expressway	Irvine-Corona Expressway	Tunnel connecting State Route 133/State Route 241 in Orange County to Interstate 15 in Riverside (Corridor B)	Unconstrained
	Toll Roads	Toll Roads/Shadow Tolls	Funds to compensate the Transportation Corridor Agencies for lower tolls and addition of one mixed-flow lane on State Route 73, State Route 133 and State Route 241	Unconstrained
General Purpose Improvements	Santa Ana Freeway (Interstate 5)	Interstate 5 Widening - Avenida Pico to State Route 74	Add one mixed-flow lane in each direction from Avenida Pico to State Route 74	Unconstrained
	Costa Mesa Freeway (State Route 55)	State Route 55 Extension	Extend the freeway from 19th Street to Industrial Way	Unconstrained
	San Diego Freeway (Interstate 405)	Improvements Project from State Route 55 to Interstate 5	Add one mixed-flow lane in each direction from Culver Drive to State Route 133	Unconstrained
Interchange Projects	Santa Ana Freeway (Interstate 5)	Interstate 5/El Camino Real Interchange Project	Modify interchange of Interstate 5 with El Camino Real	Unconstrained
	Santa Ana Freeway (Interstate 5)	Interstate 5/Pacific Coast Highway Interchange Project	Modify interchange of Interstate 5 with Pacific Coast Highway	Unconstrained
	Santa Ana Freeway (Interstate 5)	Interstate 5/State Route 57/State Route 22 Interchange Improvement Project	Improve interchange of Interstate 5 with State Route 57 and State Route 22	Unconstrained
	San Diego Freeway (Interstate 405)	Interstate 405/State Route 133	Improve interchange of Interstate 405 southbound with State Route 133 northbound	Unconstrained
	San Joaquin Transportation Corridor (State Route 73)	State Route 73/El Toro Road and Laguna Canyon Road Interchange	Improve interchange of State Route 73 with El Toro Road and Laguna Canyon Road	Unconstrained
	Foothill/Eastern Transportation Corridor (State Route 241)	State Route 241/Crown Valley Parkway Interchange	Add new interchange on State Route 241 at Crown Valley Parkway	Unconstrained
	Foothill/Eastern Transportation Corridor (State Route 241)	State Route 241/Weir Canyon Interchange	Add new interchange on State Route 241 at Weir Canyon Road	Unconstrained
	Foothill/Eastern Transportation Corridor (State Route 241)	State Route 241/State Route 261 Interchange	Improve interchange of State Route 241 northbound and State Route 261 southbound and State Route 261 northbound and State Route 241 southbound	Unconstrained
	Garden Grove Freeway (State Route 22)	State Route 22 Connector Ramps	Connect State Route 22 to the Pacific Electric Right-of-Way	Unconstrained

Detailed Year 2035 Unconstrained Project List

STREET

Category	Route/Facility	Project	Description	Anticipated Completion Date
Capacity Improvements	Harbor Boulevard	Harbor Boulevard Widening	Add one lane in each direction from Warner Avenue to 17th Street	Unconstrained
	State Route 73/State Route 241 Roadway Connector	State Route 73/State Route 241 Roadway Connector	Four lane limited access road connecting Interstate 5 and State Route 73 to Antonio Parkway and Cow Camp Road	Unconstrained
	Jamboree Road	Tustin Metrolink Station Direct Access	Add ramp from Jamboree Road to Tustin Metrolink Station	Unconstrained
	Harbor Boulevard	Harborr Boulevard/Ball Road Grade Separation	Construct grade separated intersection at Harbor Boulevard and Ball Road	Unconstrained
Rail Grade Separations	LOSSAN Corridor	Orangethorpe Avenue	New rail grade separation on LOSSAN Corridor (Anaheim)	Unconstrained
	LOSSAN Corridor	Ball Road	New rail grade separation on LOSSAN Corridor (Anaheim)	Unconstrained
	LOSSAN Corridor	State College Boulevard	New rail grade separation on LOSSAN Corridor(Anaheim)	Unconstrained
	LOSSAN Corridor	17th Street	New rail grade separation on LOSSAN Corridor (Santa Ana)	Unconstrained
	LOSSAN Corridor	Santa Ana Boulevard	New rail grade separation on LOSSAN Corridor (Santa Ana)	Unconstrained
	LOSSAN Corridor	Grand Avenue	New rail grade separation on LOSSAN Corridor (Santa Ana)	Unconstrained
	LOSSAN Corridor	Main Street	New rail grade separation on LOSSAN Corridor (Orange)	Unconstrained
Transportation Demand Management	Central County Arterials	Advanced Pedestrian Treatments	New and improved bicycle and pedestrian treatments at key intersections within Central County MIS study area	Unconstrained
Capacity and Systems	Central County Arterials	Additional Arterial and Intersection Optimization	Additional turn lanes, advanced traffic management systems, communications, improved lighting and safety treatments on 9 arterials and at 60 intersections identified in Central County MIS	Unconstrained
	Paularino Avenue and Baker Avenue at State Route 55	Traffic Efficiency Improvements	Improvements at or near freeway interchanges to improve efficiency	Unconstrained
Other	Beach Boulevard and Harbor Boulevard	Corridor Feasibility Study	Conduct corridor feasibility studies for Beach Boulevard and Harbor Boulevard	Unconstrained
Capacity Improvements	MacArthur Boulevard	State Route 55 Ramp Improvement	Improve eastbound on and off-ramps from MacArthur Boulevard to State Route 55	Unconstrained
	Ortega Highway (State Route 74)	State Route 74 Improvements	Implement operational improvements on State Route 74	Unconstrained

Appendix D

- MPAH Build-out
- MPAH Additional Projects

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
1	Aliso Viejo	Wood Canyon Drive	Aliso Creek Road	3062.74' from Aliso Creek Road	1.21	2.43
2	Anaheim	9th Street	Katella Avenue	432.98' from Orangewood Avenue	0.58	1.08
3	Anaheim	Acacia Street	1250.58' from Orangethorpe Avenue	La Palma Avenue	0.62	1.23
4	Anaheim	Anaheim Shores Drive	La Palma Avenue	Romneya Drive	0.38	0.76
5	Anaheim	Broadway	East Street	State College Boulevard	0.76	1.52
6	Anaheim	Brookhurst Street	1037.17' from Ball Road	Katella Avenue	0.81	1.07
7	Anaheim	Brookhurst Street	La Palma Avenue	1988.23' from Orangethorpe Avenue	0.47	0.93
8	Anaheim	Cerritos Avenue	1246.46' from Walnut Street	Brookhurst Street	1.52	3.04
9	Anaheim	Clementine Street	Disney Way	Manchester Avenue	0.19	0.37
10	Anaheim	Clementine Street	Orangewood Avenue	Katella Avenue	0.50	1.80
11	Anaheim	Convention Way	Harbor Boulevard	Haster Street	5.00	2.27
12	Anaheim	Crescent Avenue	Dale Street	Magnolia Street	0.50	0.72
13	Anaheim	Dale Street	1087.76' from Kass Drive	Kass Drive	0.21	0.31
14	Anaheim	Disneyland Drive	Ball Road	635.99' from Manchester Avenue	0.28	0.34
15	Anaheim	East Street	Broadway	Santa Ana Boulevard	0.15	0.15
16	Anaheim	Fairmont Boulevard	Canyon Rim Road	502.23' from Santa Ana Canyon Road	0.98	1.96
17	Anaheim	Fairmont Boulevard	La Palma Avenue	Santa Ana Canyon Road	0.53	1.80
18	Anaheim	Frontera Street	885.25' from Park Vista	Glassel Street	0.74	1.49
19	Anaheim	Gene Autry Way	Manchester Avenue	Haster Street	0.43	1.7
20	Anaheim	Harbor Boulevard	Interstate 5	Lincoln Avenue	1.28	2.21
21	Anaheim	Harbor Boulevard	409.97' from Broadway	1379.51' from Ball Road	0.80	1.60
22	Anaheim	Haster Street	156.9' from Gene Autry Way	462.55' from Gene Autry Way	0.06	0.12
23	Anaheim	Howell Avenue	State College Boulevard	Katella Avenue	0.37	0.73
24	Anaheim	Imperial Highway	Cannon Street	1572.99' from Nohl Ranch Road	0.37	0.37
25	Anaheim	Imperial Highway	Esperanza Road	La Palma Avenue	0.20	0.20
26	Anaheim	Jefferson Street	Orangethorpe Avenue	Tustin Street	0.71	1.21
27	Anaheim	Katella Avenue	Disneyland Drive	602.05' from Howell Avenue	2.27	4.04
28	Anaheim	Katella Avenue	Euclid Street	472.03' from 9th Street	0.41	0.83

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
29	Anaheim	Kraemer Boulevard	58.24' from Crowther Avenue	Miraloma Avenue	0.75	1.38
30	Anaheim	Lakeview Avenue	Orangethorpe Avenue	1093.14' from Orangethorpe Avenue	0.21	0.11
31	Anaheim	Lakeview Avenue	Orangethorpe Avenue	2183.2' from Orangethorpe Avenue	0.42	0.21
32	Anaheim	Lewis Street	Gene Autry Way	Katella Avenue	0.26	0.92
33	Anaheim	Lewis Street	Orangewood Avenue	Simmons Avenue	0.39	0.63
34	Anaheim	Lincoln Avenue	600.7' from Manchester Avenue	532.56' from Brookhurst Street	1.49	2.98
35	Anaheim	Lincoln Avenue	Anaheim Boulevard	Olive Street	0.22	0.22
36	Anaheim	Lincoln Avenue	East Street	State College Boulevard	0.80	1.59
37	Anaheim	Lincoln Avenue	Gilbert Street	Knott Street	2.49	4.77
38	Anaheim	Lincoln Avenue	Harbor Boulevard	West Street	0.45	0.91
39	Anaheim	Lincoln Avenue	Rio Vista Street	236.33' from Batavia Street	0.54	1.09
40	Anaheim	Manchester Avenue	Clementine Street	Harbor Boulevard	0.40	0.80
41	Anaheim	Miller Street	Crowther Avenue	La Palma Avenue	1.00	2.00
42	Anaheim	Orange Avenue	Magnolia Street	1148.54' from Magnolia Street	0.22	0.44
43	Anaheim	Orangethorpe Avenue	931.91' from Rose Drive	1287.07' from Kraemer Boulevard	1.25	2.01
44	Anaheim	Orangethorpe Avenue	Lakeview Avenue	Esperanza Road	1.65	3.29
45	Anaheim	Orangethorpe Avenue	Rose Drive	Jefferson Street	0.32	0.32
46	Anaheim	Orangewood Avenue	Euclid Street	1152.14' from 9th Street	0.72	1.22
47	Anaheim	Orangewood Avenue	West Street	483.36' from Harbor Boulevard	0.41	0.41
48	Anaheim	Rampart Street	Orangewood Avenue	1196.52' from Orangewood Avenue	0.24	0.48
49	Anaheim	Richfield Road	La Palma Avenue	433.21' from Las Brisas Place	0.10	0.20
50	Anaheim	Rio Vista Street	Frontera Street	1818.64' from Lincoln Avenue	0.35	0.35
51	Anaheim	Rio Vista Street	Lincoln Avenue	Wagner Avenue	0.76	1.53
52	Anaheim	Riverdale Avenue	2098.61' from Tustin Avenue	418.26' from Tustin Street	0.48	0.88
53	Anaheim	Royal Oak Road	Nohl Ranch Road	Santa Ana Canyon Road	0.49	0.97
54	Anaheim	Santa Ana Canyon Road	1948.84' from Santiago Boulevard	Santiago Boulevard	0.37	0.53
55	Anaheim	Santa Ana Canyon Road	Gypsum Canyon Road	2440.5' from Weir Canyon Road	1.48	2.97
56	Anaheim	Santa Ana Canyon Road	Lakeview Avenue	834.54' from Imperial Highway	1.17	1.84

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
57	Anaheim	Santiago Boulevard	Santa Ana Canyon Road	1352.76' from Lincoln Avenue	0.34	0.68
58	Anaheim	South Street	State College Boulevard	Sunkist Street	0.50	0.86
59	Anaheim	State College Boulevard	Orangethorpe Avenue	1217.43' from Orangethorpe Avenue	0.23	0.23
60	Anaheim	Tustin Avenue	Jefferson Street	693.95' from Orangethorpe Avenue	0.66	1.12
61	Anaheim	Walnut Street	Ball Road	Manchester Avenue	0.69	1.37
62	Anaheim	Weir Canyon Road	SR-241	1643.62' from Oak Canyon Drive	0.73	2.90
63	Brea	Associated Road	Birch Street	1115.36' from Birch Street	0.25	0.25
64	Brea	Brea Boulevard	2957.21' from Bastanchury Road	Imperial Highway	0.72	1.32
65	Brea	Brea Boulevard	814.42' from Central Avenue	1904.52' from Central Avenue	0.21	0.36
66	Brea	Carbon Canyon Road	Lambert Road	6499.84' from Birch Street	1.25	2.23
67	Brea	Kraemer Boulevard	Birch Street	Lambert Road	0.34	0.68
68	Brea	Kraemer Boulevard	Imperial Highway	886.39' from Imperial Highway	0.17	0.34
69	Brea	Lambert Road	936.94' from Puente Street	1217.79' from Palm Street	0.09	0.09
70	Brea	Lambert Road	Kraemer Boulevard	2354.09' from Carbon Canyon Road	0.50	0.64
71	Brea	Rose Drive		2133.73' from Imperial Highway	0.69	1.13
72	Brea	State College Boulevard	1675.88' from Imperial Highway	Imperial Highway	0.32	0.57
73	Brea	Valencia Avenue		1306.63' From	0.25	0.50
74	Brea		Tonner Canyon Road	Valencia Avenue	0.23	0.91
75	Buena Park	Beach Boulevard	1818.77' from Orangethorpe Avenue	1022.25' from Orangethorpe Avenue	0.15	0.16
76	Buena Park	Beach Boulevard	Auto Center Drive	771.29' from Auto Center Drive	0.15	0.29
77	Buena Park	Crescent Avenue	Dale Street	1155.48' from Magnolia Street	0.29	0.29
78	Buena Park	Dale Street	413.43' from La Palma Avenue	Kass Drive	0.64	1.18
79	Buena Park	Dale Street	Orangethorpe Avenue	Commonwealth Avenue	0.75	0.99
80	Buena Park	Holder Street	Cerritos Avenue	Orange Avenue	1.01	1.42
81	Buena Park	Kass Drive	Orangethorpe Avenue	Dale Street	0.28	0.56
82	Buena Park	Knott Street		161.43' from Artesia Boulevard	0.49	1.17
83	Buena Park	Lincoln Avenue	1114.68' from Valley View Avenue	1133.87' from Knott Street	1.43	2.11
84	Buena Park	Orangethorpe Avenue	Kass Drive	Stanton Avenue	0.30	0.30

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
85	Buena Park	Orangethorpe Avenue	Magnolia Street	1142.96' from Dale Street	0.28	0.14
86	Buena Park	Stanton Avenue	Beach Boulevard	700.59' from Crescent Avenue	0.18	0.37
87	Buena Park	Valley View Avenue	Orangethorpe Avenue	La Palma Avenue	0.85	1.27
88	Costa Mesa	17th Street	1347.23' from Irvine Avenue	Newport Boulevard	0.72	1.44
89	Costa Mesa	17th Street	Superior Avenue	Balboa Boulevard	1.13	2.48
90	Costa Mesa	19th Street	971.25' from Balboa Boulevard	Placentia Avenue	0.57	1.13
91	Costa Mesa	19th Street	Balboa Boulevard	Banning Avenue	0.55	2.22
92	Costa Mesa	22nd Street	Newport Boulevard	1294.64' from Newport Boulevard	0.25	0.49
93	Costa Mesa	Adams Avenue	Fairview Street	1762.07' from Harbor Boulevard	0.36	0.36
94	Costa Mesa	Anton Boulevard	Sakioka Drive	Sunflower Avenue	0.52	1.04
95	Costa Mesa	Baker Street	607.91' from Red Hill Avenue	Bear Street	1.00	2.00
96	Costa Mesa	Baker Street	Mesa Verde Drive	782.01' from Harbor Boulevard	0.39	0.78
97	Costa Mesa	Balboa Boulevard	17th Street	Victoria Street	1.13	5.19
98	Costa Mesa	Bear Street	931.76' from South Coast Drive	1249.99' from South Coast Drive	0.06	0.12
99	Costa Mesa	Bear Street	Baker Street	1224.21' from Baker Street	0.24	0.48
100	Costa Mesa	Del Mar Avenue	656.04' from Newport Boulevard	Santa Ana Avenue	0.38	0.76
101	Costa Mesa	Fairview Street	Wilson Street		0.28	0.48
102	Costa Mesa	Gisler Avenue	Harbor Boulevard	166.72' from Garfield Avenue	1.19	2.61
103	Costa Mesa	Newport Boulevard	Fairview Street	1494.64' from Fairview Street	0.53	0.53
104	Costa Mesa	Santa Ana Avenue	Del Mar Avenue	1316.85' from Del Mar Avenue	0.25	0.25
105	Costa Mesa	South Coast Drive	396.6' from Fairview Street	1785.02' from Fairview Street	0.28	0.28
106	Costa Mesa	Victoria Street	22nd Street	Newport Boulevard	0.05	0.05
107	Costa Mesa	Wilson Street	Fairview Street	861.76' from Harbor Boulevard	0.50	0.99
108	Costa Mesa	Wilson Street	Placentia Avenue	Harbor Boulevard	0.75	1.51
109	County	15th Street	17th Street	65.65' from Balboa Boulevard	0.30	1.21
110	County	17th Street	Coast Highway	Balboa Boulevard	0.79	3.14
111	County	17th Street	Prospect Avenue	Newport Avenue	1.08	1.89
112	County	Alton Parkway	IrvineBoulevard	2103.37' from Irvine Boulevard	0.40	1.20

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
113	County	Antonio Parkway	Avenida La Pata	7849.83' from Avenida La Pata	1.58	3.16
114	County	Balboa Boulevard	1339.79' from 17th Street	281.9' from 15th Street	0.31	1.24
115	County	Balboa Boulevard	677.68' from 17th Street	19th Street	0.66	2.10
116	County	Black Star Canyon Road	Santiago Canyon Road		7.05	28.22
117	County	Bolsa Avenue	426.79' from Beach Boulevard	1328.12' from Beach Boulevard	0.17	0.17
118	County	Bolsa Avenue	Beach Boulevard	1236.11' from Newland Street	0.73	1.03
119	County	Bond Avenue	145.05' from Prospect Street	1046.88' from Hewes Street	0.31	0.31
120	County	Bond Avenue	Hewes Street	397.65' from Hewes Street	0.08	0.08
121	County	Brea Boulevard	Brea Canyon Road	1614.85' from Central Avenue	1.37	2.68
122	County	Brea Canyon Road	Brea Boulevard		0.22	0.45
123	County	Carbon Canyon Road	Lambert Road	4823.32' from Lambert Road	0.92	0.92
124	County	Cerritos Avenue	Brookhurst Street	Gilbert Street	0.50	1.00
125	County	Coast Highway	9226.81' from Newport Coast Drive	9744.48' from Newport Coast Drive	0.10	0.20
126	County	Cow Camp Road	Ortega Highway		4.05	18.49
127	County	Crawford Canyon Road	Cannon Street	Newport Boulevard	1.13	2.03
128	County	Crown Valley Parkway	Antonio Parkway	Oso Parkway	2.48	12.60
129	County	Dale Street	Orangewood Avenue	576.32' from Chapman Avenue	0.39	0.39
130	County	Dodge Avenue	1433.19' from Hewes Avenue	Hewes Avenue	0.27	0.40
131	County	Dodge Avenue	Esplanade Avenue	Hewes Avenue	0.32	0.64
132	County	Esperanza Road	389.57' from Fairmont Boulevard	Imperial Highway	0.61	1.21
133	County	Esplanade Avenue	Fairhaven Avenue	17th Street	0.94	1.89
134	County	Foothill Boulevard	Hewes Avenue	656.45' from Newport Avenue	0.53	1.06
135	County	Graham Street	Talbert Avenue	1523.04' from Slater Avenue	0.68	2.71
136	County	Hewes Avenue	Foothill Boulevard	1540.95' from Esplanade Avenue	0.63	0.79
137	County	Hewes Avenue			0.03	0.07
138	County	Irvine Avenue	Mesa Drive	University Drive	0.26	0.26
139	County	Irvine Boulevard	Red Hill Avenue	489.64' from Browning Avenue	0.59	1.09
140	County	Jeffrey Road	Santiago Canyon Road	6166' from Santiago Canyon Road	1.17	4.69

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
141	County	Kellogg Drive	Yorba Linda Boulevard	3124.37' from Ohio Street	0.67	1.03
142	County	Avenida La Pata	4448.47' from Avenida La Pata	Antonio Parkway	2.67	5.18
143	County	Lambert Road	Carbon Canyon Road	2354.09' from Carbon Canyon Road	0.45	0.90
144	County	Lincoln Avenue	236.33' from Batavia Street	751.14' from Glassel Street	0.44	0.44
145	County	Lincoln Avenue	42.75' from Orange Olive Road	41.62' from Orange Olive Road	0.02	0.02
146	County	Macy Street	Russell Street	Whittier Boulevard	0.29	0.51
147	County	Newland Street	Bolsa Avenue	Hazard Avenue	0.50	1.01
148	County	Orange Olive Road	330.49' from Lincoln Avenue	1053.77' from Lincoln Avenue	0.14	0.12
149	County	Orangewood Avenue	Dale Street	1093.12' from Dale Street	0.21	0.21
150	County	Ortega Highway		2841.03' from Avenida La Pata	14.54	29.07
151	County	Pacific Coast Highway	Warner Avenue	Seapoint Avenue	2.81	3.11
152	County	Plano Trabuco Road	604.34' from Alas De Paz		0.03	0.07
153	County	Portola Parkway	3200.04' from Alton Parkway	7772.98' from Alton Parkway	1.13	4.51
154	County	Prospect Street	1079.53' from La Veta Avenue	1242.92' from Fairhaven Avenue	0.04	0.04
155	County	Prospect Street	Fairhaven Avenue	17th Street	0.93	1.56
156	County	Prospect Street	Fairhaven Avenue	737.64' from Fairhaven Avenue	0.14	0.14
157	County	Ridge Route Drive	Avenida De La Carlota	193.41' from Avenida De La Carlota	0.04	0.15
158	County	Rose Drive	1167.59' from Birch Street		0.25	0.25
159	County	Russell Street	266.13' from Macy Street	1000' from Macy Street	0.14	0.14
160	County	San Juan Creek Road	Avenida La Pata	1220.98' from Avenida La Pata	0.23	0.92
161	County	Santa Ana Avenue	Del Mar Avenue	405.35' from Bristol Street	0.68	0.46
162	County	Santa Clara Avenue	Dodge Avenue	665.19' from Yorba Street	1.04	1.61
163	County	Santa Maria Avenue	Laguna Canyon Road	692.52' from Laguna Canyon Road	0.13	0.53
164	County	Santiago Canyon Road	3358.95' from El Toro Road	672.5' from El Toro Road	0.57	1.14
165	County	Santiago Canyon Road	Black Star Canyon Road	1185.37' from Jeffrey Road	8.71	15.75
166	County	Seal Beach Boulevard	Lampson Avenue	923.86' from Lampson Avenue	0.18	0.09
167	County	Spring Street	Hewes Street	1154.61' from Hewes Street	0.22	0.11
168	County	Talbert Avenue	Graham Street	1522.39' from Springdale Street	0.31	1.24

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
169	County	Tonner Canyon Road	1072.38' from Brea Boulevard		1.55	6.04
170	County	Tustin Avenue	17th Street	726.1' from 17th Street	0.14	0.09
171	County	University Drive	Del Mar Avenue	Irvine Avenue	0.25	0.50
172	County	Villa Park Road	2352.93' from Hewes Street	Santiago Canyon Road	0.63	1.08
173	County	Yorba Street	464.67' from Santa Clara Avenue	615.39' from Fairhaven Avenue	0.63	0.95
174	County	Yorba Linda Boulevard	838.53' from Valencia Avenue	2008.14' from Valencia Avenue	0.22	0.39
175	Cypress	Carson Street	Lincoln Avenue		0.05	0.09
176	Cypress	Holder Street	Ball Road	Orange Avenue	0.51	0.42
177	Cypress	Holder Street	Katella Avenue	1292.48' from Orangewood Avenue	0.25	0.57
178	Cypress	Lexington Drive	Cerritos Avenue	1305.61' from Cerritos Avenue	0.25	0.25
179	Cypress	Lincoln Avenue	Carson Street	948.61' from Holder Street	2.25	3.98
180	Dana Point	Coast Highway	Doheny Park Road	Pacific Coast Highway	0.38	0.38
181	Dana Point	Crown Valley Parkway	Pacific Coast Highway	Camino Del Avion	0.84	1.22
182	Dana Point	Dana Point Harbor Boulevard	579.48' from Street of The Golden Lantern		0.44	0.89
183	Dana Point	El Camino Real	Camino Capistrano	600.97' from Camino Capistrano	0.11	0.11
184	Dana Point	Niguel Road	Pacific Coast Highway	Stonehill Drive	0.28	0.56
185	Dana Point	Pacific Coast Highway	132.35' from Del Prado Avenue	900.29' from Dana Point Harbor Drive	0.19	0.37
186	Dana Point	Pacific Coast Highway	Del Prado Avenue	Crown Valley Parkway	1.95	3.89
187	Dana Point	Street of the Golden Lantern	Pacific Coast Highway	Camino Del Avion	1.65	3.05
188	Fountain Valley	Euclid Street	400' from Edinger Avenue	672' from Edinger Avenue	0.04	0.03
189	Fountain Valley	Garfield Avenue	Gisler Avenue	Ward Street	0.27	0.27
190	Fountain Valley	Gisler Avenue	Garfield Avenue	166.72' from Garfield Avenue	0.03	0.13
191	Fountain Valley	Heil Avenue	Euclid Street	1166.99' from Newhope Street	0.28	0.55
192	Fountain Valley	Ward Street	1265.08' from Ellis Avenue	Talbert Avenue	0.29	0.57
193	Fountain Valley	Ward Street	Edinger Avenue	512.63' from Edinger Avenue	0.10	0.19
194	Fullerton	Acacia Street	Chapman Avenue	1250.58' from Orangethorpe Avenue	1.24	2.48
195	Fullerton	Bastanchury Road	1362.46' from Brea Boulevard	Harbor Boulevard	0.96	1.25
196	Fullerton	Bastanchury Road	678.56' from State College Boulevard	1189.21' from Placentia Avenue	1.00	1.94

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
197	Fullerton	Bastanchury Road	Brea Boulevard	State College Boulevard	1.02	1.02
198	Fullerton	Bastanchury Road	Malvern Avenue	Euclid Street	1.25	2.51
199	Fullerton	Berkeley Avenue	Chapman Avenue	Lemon Street	0.68	1.37
200	Fullerton	Bradford Avenue	596.16' from Madison Avenue	1021.8' from Yorba Linda Boulevard	0.19	0.10
201	Fullerton	Brea Boulevard	2957.21' from Bastanchury Road	Harbor Boulevard	2.06	4.11
202	Fullerton	Chapman Avenue	State College Boulevard	Placentia Avenue	0.61	1.22
203	Fullerton	Dale Street	Orangethorpe Avenue	Whitaker Street	0.50	0.50
204	Fullerton	Euclid Street	3045.9' from Gilbert Street	Bastanchury Road	1.67	3.28
205	Fullerton	Gilbert Street	Idaho Street	1983.5' from Idaho Street	0.39	0.77
206	Fullerton	Harbor Boulevard	Brea Boulevard	Berkeley Avenue	0.26	0.40
207	Fullerton	Harbor Boulevard	Imperial Highway	621.8' from Bastanchury Road	1.42	2.37
208	Fullerton	Lambert Road	Harbor Boulevard	Palm Street	0.50	0.50
209	Fullerton	Madison Avenue	Placentia Avenue	647.23' from Placentia Avenue	0.12	0.25
210	Fullerton	Orangethorpe Avenue	1142.96' from Dale Street	Lemon Street	3.53	6.12
211	Fullerton	Parks Road	Rosecrans Avenue	Bastanchury Road	0.65	1.30
212	Fullerton	Pioneer Avenue	Gilbert Street	Parks Road	0.81	1.62
213	Fullerton	State College Boulevard	1328.3' from Imperial Highway	Bastanchury Road	0.77	1.27
214	Fullerton	State College Boulevard	Chapman Avenue	1217.43' from Orangethorpe Avenue	1.24	2.24
215	Fullerton	Valencia Drive	1627.84' from Lemon Street	State College Boulevard	1.44	3.24
216	Fullerton	Valencia Drive	Brookhurst Road	Highland Avenue	1.77	3.55
217	Garden Grove	9th Street	Orangewood Avenue	Garden Grove Boulevard	1.49	2.91
218	Garden Grove	Dale Street	Chapman Avenue	Orangewood Avenue	0.50	0.61
219	Garden Grove	Dale Street	Garden Grove Boulevard	545.89' from Chapman Avenue	0.90	1.62
220	Garden Grove	Fairview Street	Garden Grove Boulevard	940.04' from Trask Avenue	0.68	0.75
221	Garden Grove	Garden Grove Boulevard	2529.86' from Springdale Street	494.54' from Goldenwest Street	1.15	0.57
222	Garden Grove	Gilbert Street	Garden Grove Boulevard	Chapman Avenue	1.01	1.92
223	Garden Grove	Harbor Boulevard	Westminster Avenue	Chapman Avenue	2.17	4.34
224	Garden Grove	Hazard Avenue	Brookhurst Street	709.12' from Bushard Street	0.37	0.20

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
225	Garden Grove	Hazard Avenue	Euclid Street	1020.49' from Ward Street	0.30	0.42
226	Garden Grove	Lampson Avenue	Lewis Street	828.57' from Beach Boulevard	5.33	10.49
227	Garden Grove	Newland Street	Garden Grove Boulevard	396.49' from Trask Avenue	0.42	0.85
228	Garden Grove	Orangewood Avenue	9th Street	483.36' from Harbor Boulevard	0.92	1.20
229	Garden Grove	Orangewood Avenue	Brookhurst Street	1093.12' from Dale Street	1.67	3.14
230	Garden Grove	Orangewood Avenue	Knott Street	Western Avenue	0.55	1.09
231	Garden Grove	Trask Avenue	Fairview Street	2612.49' from Harbor Boulevard	0.51	0.85
232	Garden Grove	Valley View Avenue	Garden Grove Boulevard	1176.19' from Garden Grove Boulevard	0.22	0.22
233	Garden Grove	Ward Street	512.63' from Edinger Avenue	1163.65' from Bolsa Avenue	0.67	0.54
234	Garden Grove	Ward Street	Hazard Avenue	653.81' from Bolsa Avenue	0.38	0.33
235	Huntington Beach	17th Street	Main Street	Pacific Coast Highway	0.96	1.42
236	Huntington Beach	1st Street	Orange Avenue	Pacific Coast Highway	0.21	0.38
237	Huntington Beach	5th Street	6th Street	Lake Street	0.07	0.15
238	Huntington Beach	6th Street	5th Street	Pacific Coast Highway	0.37	0.74
239	Huntington Beach	Algonquin Street	Heil Avenue	455.25' from Warner Avenue	0.46	0.92
240	Huntington Beach	Argosy Avenue	Bolsa Chica Street	Graham Street	0.51	1.02
241	Huntington Beach	Atlanta Avenue	Orange Avenue	Delaware Street	0.23	0.45
242	Huntington Beach	Banning Avenue	19th Street	Magnolia Street	0.96	2.17
243	Huntington Beach	Beach Boulevard	571.89' from Center Avenue	Edinger Avenue	0.19	0.10
244	Huntington Beach	Beach Boulevard	Pacific View Avenue	Ellis Avenue	3.14	6.28
245	Huntington Beach	Delaware Street	385.04' from Atlanta Avenue	Ellis Avenue	2.43	4.86
246	Huntington Beach	Delaware Street	Atlanta Avenue	Pacific Coast Highway	0.40	1.33
247	Huntington Beach	Edinger Avenue	4739.72' from Pacific Coast Highway	Saybrook Lane	0.92	0.92
248	Huntington Beach	Ellis Avenue	Edwards Street	654.28' from Goldenwest Street	0.37	0.37
249	Huntington Beach	Ellis Avenue	Gothard Street	Main Street	0.60	1.20
250	Huntington Beach	Garfield Avenue	Gisler Avenue	Ward Street	0.27	0.27
251	Huntington Beach	Graham Street	1523.04' from Slater Avenue	1165.51' from Heil Avenue	1.52	2.94
252	Huntington Beach	Hamilton Avenue	Magnolia Street	Beach Boulevard	0.99	2.95

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
253	Huntington Beach	Heil Avenue	Beach Boulevard	Newland Street	0.49	0.49
254	Huntington Beach	Heil Avenue	Saybrook Lane	1172.1' from Algonquin Street	0.47	0.94
255	Huntington Beach	Indianapolis Avenue	Beach Boulevard	Newland Street	0.50	1.00
256	Huntington Beach	Indianapolis Avenue	Bushard Street	1271.22' from Magnolia Street	0.26	0.26
257	Huntington Beach	Lake Street	Yorktown Avenue	Orange Avenue	1.34	2.68
258	Huntington Beach	McFadden Avenue	398.72' from Gothard Street	1263.54' from Beach Boulevard	0.26	0.52
259	Huntington Beach	Newland Street	464.68' from Edinger Avenue	1308.74' from Heil Avenue	0.16	0.16
260	Huntington Beach	Newland Street	Indianapolis Avenue	1089.59' from Indianapolis Avenue	0.21	0.21
261	Huntington Beach	Newland Street	Pacific Coast Highway	1201.65' from Hamilton Avenue	0.68	1.37
262	Huntington Beach	Orange Avenue	Atlanta Avenue	Goldenwest Street	1.40	2.76
263	Huntington Beach	Pacific Coast Highway	1610.91' from Warner Avenue	17th Street	4.73	6.97
264	Huntington Beach	Pacific Coast Highway	1st Street	Beach Boulevard	0.83	1.28
265	Huntington Beach	Pacific View Avenue			0.27	1.08
266	Huntington Beach	Palm Street	17th Street	Goldenwest Street	0.37	0.74
267	Huntington Beach	Rancho Road	Bolsa Chica Street	1385.91' from Westminster Avenue	0.65	0.42
268	Huntington Beach	Saybrook Lane	Heil Avenue	365.42' from Heil Avenue	0.07	0.14
269	Huntington Beach	Slater Avenue	Graham Street	SpringDale Street	0.50	0.50
270	Huntington Beach	Talbert Avenue	1522.39' from Springdale Street	Edwards Street	0.85	1.70
271	Huntington Beach	Walnut Avenue	1st Street	6th Street	0.32	0.63
272	Huntington Beach	Ward Street	Garfield Avenue	480.5' from Yorktown Avenue	0.41	0.72
273	Huntington Beach	Warner Avenue	Pacific Coast Highway	Algonquin Street	0.90	1.57
274	Huntington Beach	Yorktown Avenue	Beach Boulevard	Newland Street	0.50	0.50
275	Irvine	Alton Parkway	1737.78' from Dyer Road	1704.81' from Red Hill Avenue	0.18	0.36
276	Irvine	Alton Parkway	Irvine Boulevard	Commercentre Drive	1.06	5.13
277	Irvine	Alton Parkway	Red Hill Avenue	Jamboree Road	1.25	2.50
278	Irvine	Bake Parkway	2227.63' from Irvine Center Drive	Laguna Canyon Road	1.74	7.38
279	Irvine	Campus Drive	Carlson Avenue	University Drive	0.75	1.49
280	Irvine	Creek Road	Alton Parkway	Barranca Parkway	0.31	0.62

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
281	Irvine	Eastwood	Northwood		0.48	0.97
282	Irvine	Harvard Avenue	Edinger Avenue	Walnut Avenue	0.77	1.21
283	Irvine	Irvine Boulevard	7428.41' from Alton Parkway	1468.39' from Alton Parkway	1.22	1.92
284	Irvine	Irvine Boulevard	834.94' from Sand Canyon Avenue	7544.67' from Sand Canyon Avenue	1.27	2.41
285	Irvine	Irvine Boulevard	862.86' from Eastwood	Jeffrey Road	0.57	0.57
286	Irvine	Irvine Center Drive	Bake Parkway	2679.83' from Alton Parkway	0.81	0.81
287	Irvine	Jamboree Road	2311.63' from El Camino Real	1096.04' from Walnut Street	1.28	1.28
288	Irvine	Jamboree Road	Portola Parkway	Tustin Ranch Road	0.34	0.17
289	Irvine	Jeffrey Road	Irvine Boulevard	Portola Parkway	0.93	1.86
290	Irvine	Jeffrey Road	Irvine Center Drive	Walnut Avenue	0.81	1.62
291	Irvine	Jeffrey Road	Portola Parkway	6166' from Santiago Canyon Road	2.61	10.44
292	Irvine	Laguna Canyon Road	684.45' from Alton Parkway	1667.64' from Alton Parkway	0.19	0.38
293	Irvine	Laguna Canyon Road	Lake Forest Drive	1135.3' from Lake Forest Drive	0.22	0.44
294	Irvine	Laguna Canyon Road			0.08	0.08
295	Irvine	Lake Road	Alton Parkway	Barranca Parkway	0.33	0.67
296	Irvine	Lake Forest Drive	1777.42' from Bake Parkway	Laguna Canyon Road	1.26	5.02
297	Irvine	Northwood	Westwood	Eastwood	0.51	1.01
298	Irvine	Red Hill Avenue	MacArthur Boulevard	Main Street	0.68	1.36
299	Irvine	Ridge Route Drive	Bake Parkway	3326.47' from Bake Parkway	0.65	2.59
300	Irvine	Rockfield Boulevard	Alton Parkway	1251.8' from Bake Parkway	0.59	2.20
301	Irvine	Sand Canyon Avenue	2213.37' from Laguna Canyon Road	Laguna Canyon Road	0.42	0.71
302	Irvine	Sand Canyon Avenue	Shady Canyon	447.18' from Alton Parkway	0.25	0.51
303	Irvine	Shady Canyon Drive	Sand Canyon Avenue	176.82' from Quail Hill Parkway	0.13	0.27
304	Irvine	Southwood	Westwood	Eastwood	0.77	1.53
305	Irvine	Sunnyhill	Shady Canyon Drive	Turtle Rock Drive	0.18	0.35
306	Irvine	Technology Drive	Laguna Canyon Road	2873.35' from Irvine Center Drive	0.63	1.26
307	Irvine	University Drive	MacArthur Boulevard	Campus Drive	0.96	1.93
308	Irvine	University Drive	Michelson Drive	1019.81' from Jeffrey Road	0.33	0.33

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
309	Irvine	Von Karman Avenue	Barranca Parkway	Michelson Drive	1.94	3.88
310	Irvine	Westwood	Northwood	Southwood	0.51	1.03
311	Irvine	Yale Loop	1446.25' from Irvine Center Drive	1813.04' from Walnut Street	0.40	0.81
312	Irvine	Yale Loop	987.67' from Michelson Drive	1619.34' from Michelson Drive	0.12	0.12
313	Irvine	Yale Loop	Michelson Drive	University Drive	0.43	0.86
314	La Habra	Euclid Street	Imperial Highway	3045.9' from Gilbert Street	0.60	1.20
315	La Habra	Euclid Street	Whittier Boulevard	342' from La Habra Boulevard	0.44	0.88
316	La Habra	Harbor Boulevard	Imperial Highway	2376.79' from Imperial Highway	0.46	0.46
317	La Habra	Idaho Street	Gilbert Street	343' from Gilbert Street	0.06	0.06
318	La Habra	Idaho Street	La Habra Boulevard	Whittier Boulevard	0.50	0.50
319	La Habra	Lambert Road	Harbor Boulevard	1217.79' from Palm Street	0.73	0.96
320	La Habra	Macy Street	Russell Street	315' from Russell Street	0.06	0.06
321	La Habra	Russell Street		Macy Street	0.32	0.51
322	La Palma	Houston Avenue	Carmenita Road	Walker Street	0.50	1.00
323	La Palma	Marquardt Avenue	Walker Street	760' from Walker Street	0.14	0.21
324	La Palma	Orangethorpe Avenue	South Street	476.85' from South Street	0.09	0.18
325	La Palma	South Street	Carmenita Road	Orangethorpe Avenue	0.23	0.45
326	La Palma	Valley View Avenue	La Palma Avenue	1195.45' from La Palma Avenue	0.23	0.11
327	La Palma	Walker Street	Marquardt Avenue	508.26' from Marquardt Avenue	0.10	0.19
328	Laguna Beach	Broadway	Coast Highway	Laguna Canyon Road	0.25	0.25
329	Laguna Beach	El Toro Road	2934.84' from Aliso Creek Road	Laguna Canyon Road	0.88	1.76
330	Laguna Beach	El Toro Road	Aliso Creek Road	1272.68' from Aliso Creek Road	0.24	0.24
331	Laguna Beach	Laguna Canyon Road	3393.84' from El Toro Road	3313.87' from Forest Avenue	3.11	5.56
332	Laguna Hills	El Toro Road	403.99' from Avenida De La Carlota	505.89' from Avenida De La Carlota	0.02	0.02
333	Laguna Hills	Los Alisos Boulevard	987.12' from Avenida De La Carlota	Avenida De La Carlota	0.19	0.31
334	Laguna Hills	Paseo De Valencia Avenue	Alicia Parkway	La Paz Road	0.92	1.83
335	Laguna Hills	Paseo De Valencia Avenue	Laguna Hills Drive	El Toro Road	1.50	0.75
336	Laguna Hills	Ridge Route Drive	1006.72' from Avenida De La Carlota	Moulton Parkway	0.75	0.93

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
337	Laguna Hills	Ridge Route Drive	3178.02' from Moulton Parkway	3326.47' from Bake Parkway	0.20	0.81
338	Laguna Niguel	Camino Capistrano	Avery Parkway	517.52' from Marguerite Parkway	0.38	0.76
339	Laguna Niguel	Camino Los Padres	Marina Hills Drive	681.71' from Marina Hills Drive	0.13	0.26
340	Laguna Niguel	Highlands Avenue	Pacific Island Drive	Alicia Parkway	1.68	3.36
341	Laguna Niguel	Street of the Golden Lantern	2472.67' from Beacon Hill Way	Camino Los Padres	1.26	2.51
342	Laguna Woods	El Toro Road	Aliso Creek Road	1279.83' from Aliso Creek Road	0.24	0.24
343	Laguna Woods	Paseo De Valencia Avenue	Laguna Hills Drive	El Toro Road	1.50	0.75
344	Laguna Woods	Ridge Route Drive	2242.59' from Avenida De La Carlota	Moulton Parkway	0.51	0.45
345	Laguna Woods	Santa Maria Avenue	692.52' from Laguna Canyon Road	2710.07' from Laguna Canyon Road	0.39	1.56
346	Lake Forest	Alton Parkway	1516.4' from Portola Parkway	Commercentre Drive	1.37	5.98
347	Lake Forest	Commercentre Drive	Alton Parkway	919.76' from Alton Parkway	0.17	0.35
348	Lake Forest	Dimension Drive	Alton Parkway	Rancho Parkway	0.15	0.61
349	Lake Forest	El Toro Road	399.13' from Glenn Ranch Road	Santiago Canyon Road	1.06	4.08
350	Lake Forest	El Toro Road	794.87' from Trabuco Road	5507.04' from Trabuco Road	0.94	0.94
351	Lake Forest	El Toro Road	Marguerite Parkway	Portola Parkway	0.63	1.01
352	Lake Forest	El Toro Road	Muirlands Boulevard	Trabuco Road	1.37	2.75
353	Lake Forest	Los Alisos Boulevard	937.13' from Muirlands Boulevard	987.12' from Avenida De La Carlota	0.48	0.81
354	Lake Forest	Portola Parkway	535.46' from Glenn Ranch Road	802.13' from Rancho Parkway	0.21	0.21
355	Lake Forest	Portola Parkway	Alton Parkway	824.99' from Bake Parkway	0.60	0.60
356	Lake Forest	Rancho Parkway	769.68' from Lake Forest Drive	Portola Parkway	0.45	1.48
357	Lake Forest	Rancho Parkway	Dimension Drive	855.85' from Dimension Drive	0.17	0.66
358	Lake Forest	Ridge Route Drive	595.32' from Avenida De La Carlota	193.41' from Avenida De La Carlota	0.08	0.30
359	Lake Forest	Ridge Route Drive	Jeronimo Road	1089.78' from Jeronimo Road	0.21	0.25
360	Lake Forest	Santiago Canyon Road	3358.95' from El Toro Road	10033.42' from El Toro Road	1.35	2.69
361	Lake Forest	Santiago Canyon Road	El Toro Road	672.5' from El Toro Road	0.13	0.25
362	Lake Forest	Trabuco Road	733.19' from Bake Parkway	2285.92' from Lake Forest Drive	0.57	0.57
363	Los Alamitos	Katella Avenue	2766.43' from Los Alamitos Boulevard		0.16	0.64
364	Los Alamitos	Katella Avenue	333.05' from Los Alamitos Boulevard	759.54' from Los Alamitos Boulevard	0.08	0.08

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
365	Los Alamitos	Lexington Drive	Cerritos Avenue	1305.61' from Cerritos Avenue	0.25	0.25
366	Los Alamitos	Los Alamitos Boulevard	1280.99' from Cerritos Avenue		0.09	0.19
367	Mission Viejo	Alicia Parkway	Marguerite Parkway	1103.67' from Marguerite Parkway	0.21	0.21
368	Mission Viejo	Avery Parkway	Camino Capistrano	Marguerite Parkway	0.18	0.18
369	Mission Viejo	Avery Parkway	Trabuco Canyon Road	793.15' from Trabuco Canyon Road	0.16	0.62
370	Mission Viejo	Crown Valley Parkway	2089.69' from Cabot Road	2380.47' from Cabot Road	0.06	0.11
371	Mission Viejo	El Toro Road	112.4' from Glenn Ranch Road	Marguerite Parkway	1.13	2.12
372	Mission Viejo	Los Alisos Boulevard	428.33' from Rockfield Boulevard	937.13' from Muirlands Boulevard	0.12	0.09
373	Mission Viejo	Trabuco Canyon Road	Avery Parkway	Trabuco Creek Road	0.34	0.67
374	Newport Beach	15th Street	Superior Avenue	65.65' from Balboa Boulevard	0.59	1.74
375	Newport Beach	16th Street	Irvine Avenue	Dover Drive	0.37	0.75
376	Newport Beach	19th Street	971.25' from Balboa Boulevard	Balboa Boulevard	0.19	0.37
377	Newport Beach	32nd Street	Lafayette Avenue	Newport Boulevard	0.20	0.40
378	Newport Beach	Balboa Boulevard	4208.4' from Bayside Drive		0.50	1.00
379	Newport Beach	Balboa Boulevard	677.68' from 17th Street	1339.79' from 17th Street	0.13	0.50
380	Newport Beach	Balboa Boulevard	Coast Highway	281.9' from 15th Street	0.34	1.36
381	Newport Beach	Coast Highway	Bayside Drive	Newport Boulevard	1.74	3.10
382	Newport Beach	Dover Drive	Coast Highway	954.76' from Coast Highway	0.19	0.37
383	Newport Beach	Irvine Avenue	Mesa Drive	University Drive	0.26	0.26
384	Newport Beach	Jamboree Road	851.19' from Bristol Street		1.60	3.20
385	Newport Beach	Jamboree Road	MacArthur Boulevard		0.24	0.24
386	Newport Beach	MacArthur Boulevard	Coast Highway	San Miguel Drive	0.56	1.11
387	Newport Beach	Newport Boulevard	426.45' from 32nd Street	Via Lido	0.26	0.34
388	Newport Beach	Newport Center Drive	Coast Highway	1351.52' from San Miguel Drive	0.42	0.84
389	Newport Beach	Newport Center Drive			1.30	2.61
390	Newport Beach	Newport Coast Drive	4138.92' from San Joaquin Hills Road	4169.98' from Bonita Canyon Drive	0.22	0.44
391	Newport Beach	Placentia Avenue	Hospital Road	Superior Avenue	0.16	0.33
392	Newport Beach	San Joaquin Hills Road	Marguerite Avenue	Spyglass Hill Road	0.52	1.04

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
393	Newport Beach	Santa Ana Avenue	405.35' from Bristol Street	1316.85' from Del Mar Avenue	0.43	0.21
394	Newport Beach	Spyglass Hill Road	San Joaquin Hills Road	San Miguel Drive	1.10	2.19
395	Orange	Batavia Street	La Veta Avenue	Chapman Avenue	0.51	1.01
396	Orange	Bond Avenue	Prospect Street	Hewes Street	0.53	0.68
397	Orange	Cannon Street	1425.12' from Santiago Canyon Road		0.15	0.30
398	Orange	Cannon Street	Imperial Highway	1071.95' from Imperial Highway	0.21	0.21
399	Orange	Cannon Street	Serrano Avenue		0.74	1.29
400	Orange	Chapman Avenue	Plaza Square	523.67' from Plaza Square	0.10	0.20
401	Orange	Chapman Avenue	Plaza Square	554.29' from Plaza Square	0.10	0.21
402	Orange	Crawford Canyon Road	Cannon Street	1163.6' from Cannon Street	0.22	0.22
403	Orange	Fletcher Avenue	Batavia Street	Glassel Street	0.51	1.01
404	Orange	Glassel Streetl	La Veta Avenue	Plaza Square	0.48	0.97
405	Orange	Glassel Streetl	Plaza Square	Collins Avenue	0.97	1.95
406	Orange	Hewes Street	Fairhaven Avenue	1540.95' from Esplanade Street	0.31	0.16
407	Orange	Jamboree Road	3215.13' from Handy Creek Road	Canyon View Avenue	0.94	1.88
408	Orange	Jamboree Road	Santiago Canyon Road	824.26' from Chapman Avenue	0.39	0.39
409	Orange	Katella Avenue	1276.34' from Tustin Street	Villa Park Road	0.57	0.85
410	Orange	La Veta Avenue	Cambridge Street	Glassel Street	0.50	0.94
411	Orange	La Veta Avenue	Esplanade Street	662.45' from Esplanade Street	0.13	0.25
412	Orange	Lewis Street	Chapman Avenue	1274.8' from Orangewood Avenue	0.25	0.25
413	Orange	Lincoln Avenue	Nohl Ranch Road	236.33' from Batavia Street	1.70	2.80
414	Orange	Main Street	La Veta Avenue	Collins Avenue	1.53	2.91
415	Orange	Metropolitan Drive	1434.76' from Rampart Street		0.25	0.25
416	Orange	Nohl Ranch Road	1628.36' from Santa Ana Canyon Road	767.28' from Lincoln Avenue	0.27	0.42
417	Orange	Nohl Ranch Road	1481.68' from Lincoln Avenue	2216.32' from Santa Ana Canyon Road	0.34	0.34
418	Orange	Orange Olive Road	853.48' from Lincoln Avenue	1380.31' from Lincoln Avenue	0.10	0.08
419	Orange	Parker Street	Memory Lane	La Veta Avenue	0.36	0.72
420	Orange	Prospect Street	La Veta Avenue	Fairhaven Avenue	0.48	0.58

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
421	Orange	Rampart Street	The City Drive	1196.52' from Orangewood Avenue	1.03	3.34
422	Orange	Santiago Boulevard	Lincoln Avenue	1352.76' from Lincoln Avenue	0.26	0.70
423	Orange	Santiago Canyon Road	4509.59' from Handy Creek Road	9289.3' from Handy Creek Road	0.94	0.47
424	Orange	Santiago Canyon Road	Cannon Street	Villa Park Road	0.16	0.32
425	Orange	Santiago Canyon Road	Chapman Avenue	3244.67' from Handy Creek Road	1.15	2.30
426	Orange	Spring Street	Hewes Street	1154.61' from Hewes Street	0.22	0.11
427	Orange	The City Drive	Rampart Street	786.11' from Rampart Street	0.15	0.24
428	Orange	Villa Park Road	Hewes Street	Santiago Canyon Road	0.18	0.18
429	Orange	Villa Park Road	Katella Avenue	534.25' from Katella Avenue	0.10	0.10
430	Orange	Walnut Avenue	421.72' from Prospect Street	1232.44' from Prospect Street	0.15	0.31
431	Orange	Wanda Road	Katella Avenue	1363.67' from Katella Avenue	0.26	0.13
432	Orange	Yorba Street	Fairhaven Avenue	778.72' from Fairhaven Avenue	0.15	0.09
433	Placentia	Bastanchury Road	Valencia Avenue	1483.84' from Placentia Avenue	1.28	2.51
434	Placentia	Bradford Avenue	Crowther Avenue	1021.8' from Yorba Linda Boulevard	1.23	1.94
435	Placentia	Crowther Avenue	Placentia Avenue	615.3' from Kraemer Boulevard	0.97	1.50
436	Placentia	Golden Avenue	Kraemer Boulevard	Rose Drive	1.24	2.27
437	Placentia	Jefferson Street	Orangethorpe Avenue	906.49' from Miraloma Avenue	0.20	0.20
438	Placentia	Kraemer Boulevard	886.39' from Imperial Highway	58.24' from Crowther Avenue	2.79	5.41
439	Placentia	Kraemer Boulevard	Orangethorpe Avenue	678.88' from Orangethorpe Avenue	0.13	0.13
440	Placentia	Las Brisas Place	Miraloma Avenue	Miraloma Avenue	0.08	0.16
441	Placentia	Madison Avenue	Kraemer Boulevard	647.23' from Placentia Avenue	0.64	1.27
442	Placentia	Miraloma Avenue	Lakeview Avenue	786.71' from Las Brisas Place	0.29	0.57
443	Placentia	Miraloma Avenue	Las Brisas Place	786.71' from Las Brisas Place	0.15	0.30
444	Placentia	Miraloma Avenue	Las Brisas Place	1212.37' from Las Brisas Place	0.24	0.47
445	Placentia	Orangethorpe Avenue	657.48' from Crowther Avenue	931.91' from Rose Drive	0.24	0.24
446	Placentia	Orangethorpe Avenue	Melrose Drive	Kraemer Boulevard	0.74	1.23
447	Placentia	Orangethorpe Avenue	Rose Drive	Richfield Road	1.39	2.47
448	Placentia	Palm Drive	837.69' from Valencia Avenue		0.27	0.54

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
449	Placentia	Richfield Road	1099.39' from Orangethorpe Avenue	1621.9' from Orangethorpe Avenue	0.10	0.10
450	Placentia	Richfield Road	433.21' from Las Brisas Place	Orangethorpe Avenue	0.47	0.47
451	Placentia	Rose Drive	1497.07' from Imperial Highway	2133.73' from Imperial Highway	0.12	0.12
452	Placentia	Rose Drive	Golden Avenue	Imperial Highway	0.03	0.06
453	Placentia	Rose Drive	Orangethorpe Avenue	Yorba Linda Boulevard	1.43	2.85
454	Placentia	Yorba Linda Boulevard	1348.19' from Rose Drive	1749.38' from Valencia Avenue	0.70	1.15
455	Placentia	Yorba Linda Boulevard	549.31' from Kraemer Boulevard	838.53' from Valencia Avenue	0.56	1.13
456	Rancho Santa Margarita	Avenida Empresa	Santa Margarita Parkway	Antonio Parkway	0.77	1.55
457	Rancho Santa Margarita	Plano Trabuco Drive	1760.16' from Santa Margarita Parkway		0.23	0.46
458	Rancho Santa Margarita	Santa Margarita Parkway			0.21	0.21
459	San Clemente	Avenida La Pata	Camino Del Rio	Avenida La Pata	0.16	0.94
460	San Clemente	Avenida Pico	5141.96' from Avenida Vista Hermosa		0.24	0.95
461	San Clemente	Avenida Pico	El Camino Real	957.56' from Avenida Vista Hermosa	0.49	0.99
462	San Clemente	Avenida Vaquero	Camino De Los Mares	Camino Capistrano	1.27	2.55
463	San Clemente	Camino Capistrano	1738.59' from Camino Mira Costa	Coast Highway	0.59	0.83
464	San Clemente	Camino Del Rio	Avenida La Pata	1726.41' from Avenida La Pata	0.33	1.32
465	San Clemente	El Camino Real	Camino Capistrano	Avenida Pico	1.03	1.90
466	San Clemente	Avenida La Pata	Avenida La Pata	4448.47' from Avenida La Pata	0.93	5.60
467	San Clemente	Avenida La Pata			0.43	0.86
468	San Clemente	Avenida Vista Hermosa	Avenida Pico	682.42' from Forster Ranch Road	0.62	2.46
469	San Juan Capistrano	Alipaz Street	Camino Del Avion	1369.72' from Camino Del Avion	0.26	0.53
470	San Juan Capistrano	Alipaz Street	Del Obispo Street	Oso Road	1.29	4.25
471	San Juan Capistrano	Camino Capistrano	498.67' from San Juan Creek Road	1827.19' from Alipaz Street	0.62	1.23
472	San Juan Capistrano	Camino Capistrano	Del Obispo Street	Oso Road	1.34	2.32
473	San Juan Capistrano	Camino Capistrano	Junipero Serra Road	517.52' from Marguerite Parkway	1.69	3.38
474	San Juan Capistrano	Camino De Los Mares	Camino Las Ramblas	1916.5' from Camino Del Rio	0.41	1.65
475	San Juan Capistrano	Camino Las Ramblas	Pacific Coast Highway	Camino De Los Mares	3.89	12.66
476	San Juan Capistrano	Camino Los Padres	681.71' from Marina Hills Drive		0.72	2.88

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
477	San Juan Capistrano	Del Obispo Street	827.27' from Alipaz Street	2147.5' from Camino Del Avion	0.79	1.36
478	San Juan Capistrano	La Novia Avenue	San Juan Creek Road	953.25' from San Juan Creek Road	0.18	0.36
479	San Juan Capistrano	Ortega Highway	4208.04' from La Novia Avenue	2841.03' from La Pata	0.72	1.44
480	San Juan Capistrano	Oso Road	Camino Capistrano	Alipaz Street	0.20	0.54
481	San Juan Capistrano	Rancho Viejo Road	Junipero Serra Road	1495.13' from Junipero Serra Road	0.29	0.57
482	San Juan Capistrano	San Juan Creek Road	727.96' from Camino Capistrano	1220.98' from Avenida La Pata	2.52	5.39
483	Santa Ana	Euclid Street	400' from Edinger Avenue	622' from McFadden Avenue	0.54	1.01
484	Santa Ana	1st Street	2025.1' from Harbor Boulevard	392.24' from Fairview Street	0.39	0.79
485	Santa Ana	1st Street	Standard Avenue	470.92' from Grand Avenue	0.38	0.68
486	Santa Ana	1st Street	Tustin Avenue	754.77' from Cabrillo Park Drive	0.23	0.23
487	Santa Ana	4th Street	French Street	1176.8' from French Street	0.22	0.45
488	Santa Ana	4th Street	Raitt Street	Westminster Boulevard	1.71	6.50
489	Santa Ana	Alton Avenue	1704.81' from Red Hill Avenue	1014' from Main Street	0.71	1.78
490	Santa Ana	Bristol Street	1238.29' from Memory Lane	McFadden Avenue	2.43	4.43
491	Santa Ana	Bristol Street	68.49' from La Veta Avenue	438.12' from La Veta Avenue	0.07	0.07
492	Santa Ana	Bristol Street	Warner Avenue	693.24' from Edinger Avenue	0.63	0.98
493	Santa Ana	Broadway	1st Street	5th Street	0.23	0.47
494	Santa Ana	Chestnut Avenue	Standard Avenue	Grand Avenue	0.38	0.57
495	Santa Ana	Civic Center Drive	1038.35' from 5th Street	Logan Street	0.34	0.69
496	Santa Ana	Dyer Road	582.98' from Main Street	Flower Street	0.63	1.15
497	Santa Ana	Edinger Avenue	Standard Avenue	1614.22' from Harbor Boulevard	3.35	5.74
498	Santa Ana	Fairview Street	359.93' from Garden Grove Boulevard	Civic Center Drive	1.52	2.25
499	Santa Ana	Flower Street	Warner Avenue	1st Street	2.02	3.92
500	Santa Ana	French Street	4th Street	5th Street	0.06	0.12
501	Santa Ana	Grand Avenue	Dyer Road	1173.35' from Dyer Road	0.23	0.23
502	Santa Ana	Grand Avenue	Glassel Street	1st Street	2.09	3.38
503	Santa Ana	Halladay Street	Dyer Road	Warner Avenue	0.50	1.01
504	Santa Ana	Hazard Avenue	Euclid Street	972.32' from Euclid Street	0.18	0.18

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
505	Santa Ana	Hazard Avenue	Harbor Boulevard	1143.35' from Harbor Boulevard	0.22	0.43
506	Santa Ana	La Veta Avenue	Bristol Street	1088.72' from Flower Street	0.36	0.73
507	Santa Ana	Logan Street	Civic Center Drive	Santa Ana Boulevard	0.10	0.40
508	Santa Ana	Mabury Street	1st Street	4th Street	0.18	0.18
509	Santa Ana	Main Street	17th Street	2000.34' from 17th Street	0.38	0.76
510	Santa Ana	Main Street	Chestnut Avenue	1276.14' from Chestnut Avenue	0.24	0.24
511	Santa Ana	Main Street	Warner Avenue	579.39' from Alton Avenue	0.64	0.64
512	Santa Ana	Main Streetplace	Broadway	Main Street	0.12	0.12
513	Santa Ana	McFadden Avenue	Main Street	Bristol Street	1.00	2.01
514	Santa Ana	McFadden Avenue	Standard Avenue	850.39' from Main Street	0.50	0.94
515	Santa Ana	Penn Way	Santiago Street	797.55' from 17th Street	0.19	0.19
516	Santa Ana	Raitt Street	1270.05' from 1st Street	Santa Ana Boulevard	0.41	0.83
517	Santa Ana	Santa Ana Boulevard	386.16' from Santiago Street	336.32' from 5th Street	0.33	0.61
518	Santa Ana	Santa Ana Boulevard	Flower Street	Raitt Street	0.96	1.79
519	Santa Ana	Santa Clara Avenue	863.1' from Tustin Avenue	1219.12' from Yorba Street	0.11	0.22
520	Santa Ana	Santa Clara Avenue	Grand Avenue	Tustin Avenue	0.91	1.81
521	Santa Ana	Santiago Street	Penn Way	Standard Avenue	0.48	0.96
522	Santa Ana	Segerstrom Avenue	Dyer Road	1481.07' from Fairview Street	2.13	3.97
523	Santa Ana	Standard Avenue	Santiago Street	Chestnut Avenue	0.51	1.38
524	Santa Ana	Standard Avenue	Warner Avenue	1110.36' from Edinger Avenue	0.54	0.54
525	Santa Ana	Tustin Avenue	893.87' from Santa Clara Avenue	17th Street	0.35	0.50
526	Santa Ana	Warner Avenue	1080.27' from Grand Avenue	819.78' from Raitt Street	2.68	4.51
527	Seal Beach	6th Street	Electric Avenue	Marina Drive	0.04	0.07
528	Seal Beach	Bolsa Avenue	Seal Beach Boulevard	Main Street	0.55	1.10
529	Seal Beach	Dory Way	Pacific Coast Highway		0.68	2.73
530	Seal Beach	Edinger Avenue	Pacific Coast Highway	Saybrook Lane	1.83	4.35
531	Seal Beach	Electric Avenue	6th Street	Seal Beach Boulevard	0.65	1.29
532	Seal Beach	Main Street	Bolsa Avenue	Pacific Coast Highway	0.05	0.10

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
533	Seal Beach	Marina Drive	6th Street	Pacific Coast Highway	0.12	0.25
534	Seal Beach	Marina Drive		1st Street	0.15	0.31
535	Seal Beach	Seal Beach Boulevard	923.86' from Lampson Avenue	2731.83' from Lampson Avenue	0.69	0.97
536	Seal Beach	Seal Beach Boulevard	Electric Avenue	Pacific Coast Highway	0.30	0.59
537	Stanton	Dale Street	Chapman Avenue	1140.39' from Lampson Avenue	0.28	0.39
538	Stanton	Katella Avenue	Dale Street	678.27' from Beach Boulevard	0.37	0.74
539	Stanton	Lampson Avenue	Beach Boulevard	921.99' from Dale Street	0.33	0.49
540	Stanton	Orangewood Avenue	1093.12' from Dale Street	1315.11' from Beach Boulevard	0.05	0.05
541	Stanton	Orangewood Avenue	Western Avenue	828.69' from Western Avenue	0.16	0.36
542	Tustin	17th Street	824.38' from Esplanade Avenue	1034.19' from Esplanade Avenue	0.04	0.04
543	Tustin	17th Street			0.11	0.11
544	Tustin	Browning Avenue	El Camino Real	Walnut Avenue	0.53	1.16
545	Tustin	Bryan Avenue	Main Street	Newport Avenue	0.17	0.34
546	Tustin	El Camino Real	Browning Avenue	Red Hill Avenue	0.51	1.02
547	Tustin	Harvard Avenue	Edinger Avenue	1404.98' from Edinger Avenue	0.27	0.21
548	Tustin	Irvine Boulevard	Browning Avenue	Tustin Ranch Road	0.26	0.44
549	Tustin	Jamboree Road	Portola Parkway	3215.13' from Handy Creek Road	2.08	3.66
550	Tustin	Main Street	816.01' from Newport Avenue	Chestnut Avenue	1.32	2.40
551	Tustin	Newport Avenue	513.78' from El Camino Real	639.3' from El Camino Real	0.02	0.05
552	Tustin	Newport Avenue	Sycamore Avenue	Edinger Avenue	0.33	1.32
553	Tustin	Prospect Avenue	17th Street	1141.2' from 17th Street	0.22	0.22
554	Tustin	Prospect Avenue	Santa Clara Avenue	407.52' from Santa Clara Avenue	0.08	0.08
555	Tustin	Red Hill Avenue	Bryan Avenue	719.2' from Bryan Avenue	0.14	0.27
556	Tustin	Santa Clara Avenue	305.43' from Yorba Street	1219.12' from Yorba Street	0.17	0.28
557	Tustin	Santa Clara Avenue	Prospect Avenue	Yorba Street	0.40	0.40
558	Tustin	Sycamore Avenue	Newport Avenue	Red Hill Avenue	0.50	1.00
559	Tustin	Tustin Ranch Road	Edinger Avenue	Walnut Avenue	0.45	2.72
560	Tustin	Valencia Avenue	Newport Avenue		0.16	0.32

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
561	Tustin	Yorba Street	17th Street	685.15' from 17th Street	0.13	0.13
562	Tustin	Yorba Street	Santa Clara Avenue	1032.33' from Santa Clara Avenue	0.20	0.15
563	Villa Park	Cannon Street	Serrano Avenue	Taft Avenue	0.18	0.18
564	Villa Park	Villa Park Road	Katella Avenue	2352.93' from Hewes Avenue	0.77	1.43
565	Villa Park	Wanda Road	Katella Avenue	1363.67' from Katella Avenue	0.26	0.13
566	Westminster	Beach Boulevard	Edinger Avenue	McFadden Avenue	0.50	0.49
567	Westminster	Bolsa Avenue	669.32' from Newland Street	1236.11' from Newland Street	0.36	0.36
568	Westminster	Bolsa Avenue	Goldenwest Street	343.45' from Beach Boulevard	1.07	1.75
569	Westminster	Bolsa Chica Street	Valley View Avenue	1214.87' from Valley View Avenue	0.23	0.23
570	Westminster	Edwards Street	809.84' from Westminster Boulevard	1152.8' from Westminster Boulevard	0.06	0.06
571	Westminster	Garden Grove Boulevard	494.54' from Goldenwest Street	2134.57' from Valley View Avenue	1.29	0.72
572	Westminster	Garden Grove Boulevard	875.35' from Valley View Avenue	956.88' from Valley View Avenue	0.02	0.02
573	Westminster	Hazard Avenue	709.12' from Bushard Street	1170.02' from Bushard Street	0.09	0.04
574	Westminster	Hazard Avenue	Brookhurst Street	1325.91' from Brookhurst Street	0.25	0.13
575	Westminster	Heil Avenue	Beach Boulevard	Newland Street	0.49	0.49
576	Westminster	Hoover Street	Bolsa Avenue	Gothard Street	0.50	2.01
577	Westminster	McFadden Avenue	749.58' from Beach Boulevard	1263.54' from Beach Boulevard	0.10	0.20
578	Westminster	Newland Street	464.68' from Edinger Avenue	290.2' from Heil Avenue	0.36	0.55
579	Westminster	Rancho Avenue	Westminster Boulevard	Bolsa Chica Street	0.92	0.95
580	Westminster	Valley View Avenue	Bolsa Chica Street	Garden Grove Boulevard	0.33	0.59
581	Westminster	Ward Street	512.63' from Edinger Avenue	1163.65' from Bolsa Avenue	0.67	0.54
582	Westminster	Ward Street	Hazard Avenue	653.81' from Bolsa Avenue	0.38	0.33
583	Yorba Linda	Bastanchury Road	Fairmont Boulevard		0.50	1.00
584	Yorba Linda	Bastanchury Road	Imperial Highway	1338.82' from Rose Drive	0.36	0.43
585	Yorba Linda	Bastanchury Road	Lakeview Avenue	Valley View Avenue	0.99	1.97
586	Yorba Linda	Buena Vista Avenue	Lakeview Avenue	Richfield Road	0.58	1.16
587	Yorba Linda	Esperanza Road	Fairmont Boulevard	389.57' from Fairmont Boulevard	0.07	0.15
588	Yorba Linda	Fairmont Boulevard	Bastanchury Road	401.08' from Bastanchury Road	0.08	0.15

MPAH Build-out

Order	City	On Street	From Street	To Street	Miles	Lane Miles
589	Yorba Linda	Fairmont Boulevard	Esperanza Road	451.77' from Esperanza Road	0.17	0.34
590	Yorba Linda	Fairmont Boulevard	Village Center Drive	530.85' from Village Center Drive	0.10	0.20
591	Yorba Linda	Golden Avenue	Rose Drive	1054.71' from Rose Drive	0.20	0.20
592	Yorba Linda	Gypsum Canyon Road	806.92' from Santa Ana Canyon Road	925.94' from Santa Ana Canyon Road	0.02	0.02
593	Yorba Linda	Kellogg Drive	2901.46' from Ohio Street	3583.24' from Orangethorpe Avenue	0.50	0.94
594	Yorba Linda	Kellogg Drive	Yorba Linda Boulevard	1306.86' from Yorba Linda Boulevard	0.25	0.25
595	Yorba Linda	Lakeview Avenue	1093.14' from Orangethorpe Avenue	2183.2' from Orangethorpe Avenue	0.21	0.10
596	Yorba Linda	Lakeview Avenue	933.11' from Imperial Highway	Buena Vista Avenue	0.42	0.75
597	Yorba Linda	Lakeview Avenue	Yorba Linda Boulevard	948.62' from Bastanchury Road	0.93	1.68
598	Yorba Linda	Richfield Road	1099.39' from Orangethorpe Avenue	2236.15' from Buena Vista Avenue	0.25	0.40
599	Yorba Linda	Richfield Road	949.87' from Yorba Linda Boulevard	Buena Vista Avenue	0.38	0.75
600	Yorba Linda	Rose Drive	1497.07' from Imperial Highway	2133.73' from Imperial Highway	0.12	0.12
601	Yorba Linda	Valley View Avenue	Yorba Linda Boulevard	Bastanchury Road	0.76	1.43
602	Yorba Linda	Yorba Linda Boulevard	1138.15' from Rose Drive	666.98' from Richfield Road	0.79	1.01
603	Yorba Linda	Yorba Linda Boulevard	Imperial Highway	Lakeview Avenue	0.11	0.11
604	Yorba Linda	Yorba Linda Boulevard	Rose Drive	808.38' from Rose Drive	0.15	0.15

MPAH Additional Projects

Order	City	On Street	From Street	To Street	Miles
1	Aliso Viejo	Alicia Parkway	Pacific Park Drive	1175.64' from Moulton Parkway	0.73
2	Anaheim	Anaheim Boulevard	1201.43' from Ball Road	Haster Street	0.8
3	Anaheim	Ball Road	1243.33' from Taft Avenue	Taft Avenue	0.24
4	Anaheim	Ball Road	Sunkist Street	Anaheim Boulevard	1.58
5	Anaheim	Ball Road	Walnut Street	Harbor Boulevard	0.75
6	Anaheim	Blue Gum Street	Melrose Street	Miraloma Avenue	0.13
7	Anaheim	Brookhurst Street	Crescent Avenue	La Palma Avenue	0.5
8	Anaheim	Cerritos Avenue	Walnut Street	1246.46' from Walnut Street	0.24
9	Anaheim	Disney Way	Anaheim Boulevard	Clementine Street	0.23
10	Anaheim	Euclid Street	Broadway	1279.45' from Romneya Drive	1.75
11	Anaheim	Fairmont Boulevard	109.05' from Esperanza Road	La Palma Avenue	0.14
12	Anaheim	Glassel Street	Frontera Street	Kraemer Boulevard	0.13
13	Anaheim	Harbor Boulevard	1379.51' from Ball Road	Katella Avenue	1.28
14	Anaheim	Imperial Highway	La Palma Avenue	Santa Ana Canyon Road	0.58
15	Anaheim	Katella Avenue	9th Street	Disneyland Drive	0.5
16	Anaheim	Katella Avenue	Douglass Road	602.05' from Howell Avenue	0.46
17	Anaheim	Kraemer Boulevard	Glassel Street	La Palma Avenue	0.24
18	Anaheim	La Palma Avenue	Blue Gum Street	Tustin Avenue	1.88
19	Anaheim	La Palma Avenue	Fairmont Boulevard	Imperial Highway	0.96
20	Anaheim	Lakeview Avenue	Santa Ana Canyon Road	La Palma Avenue	0.73
21	Anaheim	Lincoln Avenue	Manchester Avenue	600.7' from Manchester Avenue	0.11
22	Anaheim	Miraloma Avenue	Sunkist Street	Blue Gum Street	0.68
23	Anaheim	Orangewood Avenue	State College Boulevard	796.72' from Rampart Street	0.57
24	Anaheim	State College Boulevard	Wagner Avenue	Lincoln Avenue	1.52
25	Anaheim	Sunkist Street	Ball Road	Miraloma Avenue	2.12
26	Anaheim	Tustin Avenue	La Palma Avenue	RiverDale Street	0.67

MPAH Additional Projects

Order	City	On Street	From Street	To Street	Miles
27	Brea	Brea Boulevard	Central Avenue	814.42' from Central Avenue	0.15
28	Brea	Carbon Canyon Road	6499.84' from Birch Street		3.36
29	Brea	Imperial Highway	State College Boulevard	Associated Road	0.46
30	Buena Park	Artesia Boulevard	2128.47' from Knott Street	Beach Boulevard	1.16
31	Buena Park	Beach Boulevard		Auto Center Drive	2.1
32	Buena Park	Dale Street	Artesia Boulevard	Malvern Avenue	0.29
33	Buena Park	La Mirada Boulevard		Beach Boulevard	0.34
34	Buena Park	Malvern Avenue	Dale Street	Beach Boulevard	0.76
35	Costa Mesa	19th Street	Newport Boulevard	1766.54' from Harbor Boulevard	0.47
36	Costa Mesa	Adams Avenue	2650.31' from Mesa Verde Drive	Mesa Verde Drive	0.5
37	Costa Mesa	Arlington Drive	Fairview Road	Newport Boulevard	0.88
38	Costa Mesa	Baker Street	Bear Street	Fairview Street	0.77
39	Costa Mesa	Baker Street	Red Hill Avenue	607.91' from Red Hill Avenue	0.12
40	Costa Mesa	Bristol Street	Sunflower Avenue	571.72' from Sunflower Avenue	0.11
41	Costa Mesa	Del Mar Avenue	656.04' from Newport Boulevard	Fair Drive	0.19
42	Costa Mesa	Fairview Road	South Coast Drive	1336.63' from South Coast Drive	0.25
43	Costa Mesa	Harbor Boulevard	Wilson Street	Adams Avenue	1.18
44	Costa Mesa	Irvine Avenue	1614.34' from University Drive	1805.24' from University Drive	0.04
45	Costa Mesa	MacArthur Boulevard	Hyland Avenue	Talbert Avenue	0.21
46	Costa Mesa	Newport Boulevard	19th Street	17th Street	0.58
47	Costa Mesa	Paularino Avenue	Bristol Street	Red Hill Avenue	0.73
48	Costa Mesa	Red Hill Avenue	Baker Street	Main Street	1.03
49	Costa Mesa	Victoria Street	Newport Boulevard	Hamilton Street	2.48
50	County	17th Street	647.68' from Tustin Avenue	580.67' from Yorba Street	0.06
51	County	Adams Avenue	2430.95' from Brookhurst Street	2650.31' from Mesa Verde Drive	0.1
52	County	Antonio Parkway	7849.83' from Avenida La Pata	Crown Valley Parkway	1.77

MPAH Additional Projects

Order	City	On Street	From Street	To Street	Miles
53	County	Campus Drive	MacArthur Boulevard		0.96
54	County	Coast Highway	17th Street	472.65' from Balboa Boulevard	0.32
55	County	Coast Highway	Pacific Coast Highway	285.37' from Pacific Coast Highway	0.05
56	County	Crown Valley Parkway	898.05' from Marguerite Parkway	Antonio Parkway	1.6
57	County	Hamilton Avenue	Victoria Street	299.05' from Victoria Street	0.06
58	County	Harbor Boulevard	1535.51' from Heil Avenue	743.23' from Warner Avenue	0.27
59	County	Harbor Boulevard	Edinger Avenue	661.46' from Heil Avenue	0.13
60	County	Irvine Boulevard	344.31' from Red Hill Avenue	472.59' from Old Irvine Boulevard	0.16
61	County	Irvine Avenue	University Drive	1614.34' from University Drive	0.31
62	County	Laguna Canyon Road	4336.73' from Aliso Creek Road	591.98' from Bake Parkway	2.18
63	County	MacArthur Boulevard	1074.42' from Main Street	Michelson Drive	0.42
64	County	MacArthur Boulevard	1868.44' from Red Hill Avenue	2218.74' from Main Street	0.12
65	County	Main Street	1035.64' from Red Hill Avenue	1401.25' from MacArthur Boulevard	0.13
66	County	Oso Parkway	5379.11' from Antonio Parkway	6803.44' from Antonio Parkway	0.28
67	County	Oso Parkway	Antonio Parkway	2045.27' from Felipe Road	0.55
68	County	Pacific Coast Highway	4132.74' from Warner Avenue	Warner Avenue	0.78
69	County	Pacific Coast Highway	Coast Highway	264.04' from Coast Highway	0.05
70	County	Portola Parkway	7772.98' from Alton Parkway	7994.44' from Alton Parkway	0.16
71	County	Portola Parkway	Sand Canyon Avenue	2201.63' from Jeffrey Road	0.6
72	County	Segerstrom Avenue	Slater Avenue	380.59' from Slater Avenue	0.07
73	County	Talbert Avenue	MacArthur Boulevard	420.93' from MacArthur Boulevard	0.08
74	County	Warner Avenue	526.65' from Harbor Boulevard	815.01' from Harbor Boulevard	0.06
75	Cypress	Valley View Avenue	Katella Avenue	Orangewood Avenue	0.5
76	Dana Point	Coast Highway	Camino Capistrano	2351.92' from Camino Capistrano	1.64
77	Dana Point	Pacific Coast Highway	Crown Valley Parkway	Coast Highway	0.41
78	Fountain Valley	Ellis Avenue	Euclid Street	Ward Street	0.49

MPAH Additional Projects

Order	City	On Street	From Street	To Street	Miles
79	Fountain Valley	Euclid Street	Ellis Avenue	800.21' from Ellis Avenue	0.16
80	Fountain Valley	Harbor Boulevard	1626.81' from Edinger Avenue	1225.34' from Warner Avenue	1.04
81	Fountain Valley	Slater Avenue	Euclid Street	Ward Street	0.51
82	Fountain Valley	Slater Avenue	Newhope Street	Segerstrom Avenue	0.14
83	Fountain Valley	Talbert Avenue	Ward Street	420.93' from MacArthur Boulevard	0.86
84	Fountain Valley	Warner Avenue	Newhope Street	815.01' from Harbor Boulevard	0.4
85	Fountain Valley	Warner Avenue	Ward Street	Euclid Street	0.5
86	Fullerton	Beach Boulevard			0.31
87	Fullerton	Brookhurst Street	Orangethorpe Avenue	1988.23' from Orangethorpe Avenue	0.38
88	Fullerton	Euclid Street	1279.45' from Romneya Drive	Bastanchury	2.42
89	Fullerton	Gilbert Street	Commonwealth Avenue	113.01' from Malvern Avenue	0.53
90	Fullerton	Harbor Boulevard	Commonwealth Avenue	Berkeley Avenue	0.61
91	Fullerton	Imperial Highway	Associated Road	1070.47' from Associated Road	0.2
92	Fullerton	Magnolia Street	965.07' from Orangethorpe Avenue	Orangethorpe Avenue	0.18
93	Fullerton	Malvern Avenue	Bastanchury Road	Gilbert Street	0.55
94	Garden Grove	Brookhurst Street	Trask Avenue	Westminster Avenue	0.5
95	Garden Grove	Magnolia Street	Trask Avenue	Westminster Avenue	0.5
96	Garden Grove	Westminster Avenue	4th Street	Harbor Boulevard	0.13
97	Huntington Beach	Adams Avenue	Brookhurst Street	2430.95' from Brookhurst Street	0.46
98	Huntington Beach	Bolsa Chica Street	Rancho Road	703.06' from Rancho Road	0.13
99	Huntington Beach	Hamilton Avenue	Brookhurst Street	299.05' from Victoria Street	0.07
100	Huntington Beach	Pacific Coast Highway	4132.74' from Warner Avenue	2537.33' from Edinger Avenue	0.78
101	Huntington Beach	Pacific Coast Highway	Brookhurst Street	264.04' from Coast Highway	0.43
102	Huntington Beach	Pacific Coast Highway	Warner Avenue	2307.91' from Warner Avenue	0.44
103	Huntington Beach	Springdale Street	Bolsa Avenue	1684.41' from Westminster Boulevard	0.68
104	Irvine	Alton Parkway	2025.15' from Irvine Center Drive	2572.69' from Laguna Canyon Road	0.28

MPAH Additional Projects

Order	City	On Street	From Street	To Street	Miles
105	Irvine	Alton Parkway	Harvard Avenue	Yale Loop	1.1
106	Irvine	Alton Parkway	Jeronimo Road	1529.96' from Irvine Center Drive	1.74
107	Irvine	Alton Parkway	Red Hill Avenue	1704.81' from Red Hill Avenue	0.32
108	Irvine	Alton Parkway	Sand Canyon Avenue	Yale Loop	1.25
109	Irvine	Barranca Parkway	938.61' from Irvine Center Drive	Alton Parkway	1.7
110	Irvine	Barranca Parkway	Culver Drive	Yale Loop	0.18
111	Irvine	Barranca Parkway	Irvine Center Drive	2558.74' from Irvine Center Drive	0.51
112	Irvine	Barranca Parkway	Yale Loop	Sand Canyon Avenue	1.2
113	Irvine	Culver Drive	Irvine Center Drive	Warner Avenue	0.46
114	Irvine	Culver Drive	Michelson Drive	Main Street	0.92
115	Irvine	Irvine Center Drive	2228.34' from Alton Parkway	2679.83' from Alton Parkway	0.09
116	Irvine	Irvine Center Drive	Jeffrey Road	Sand Canyon Avenue	0.99
117	Irvine	Irvine Center Drive	Lake Forest Drive	Bake Parkway	0.87
118	Irvine	Jamboree Road	1405.76' from Main Street	Michelson Drive	0.46
119	Irvine	Jeffrey Road	Trabuco Road	Walnut Street	0.7
120	Irvine	Jeronimo Road	Alton Parkway	Bake Parkway	0.63
121	Irvine	Laguna Canyon Road	Lake Forest Drive	591.98' from Bake Parkway	0.97
122	Irvine	Laguna Canyon Road			0.37
123	Irvine	MacArthur Boulevard	Main Street	Michelson Drive	0.62
124	Irvine	MacArthur Boulevard	Red Hill Avenue	1868.44' from Red Hill Avenue	0.35
125	Irvine	MacArthur Boulevard	University Drive	1108.71' from Bristol Street	0.29
126	Irvine	Main Street	1401.25' from MacArthur Boulevard	Yale Loop	2.91
127	Irvine	Main Street	817.08' from Sunflower Avenue	1035.64' from Red Hill Avenue	0.46
128	Irvine	Michelson Drive	MacArthur Boulevard	Culver Drive	2.24
129	Irvine	Muirlands Boulevard	Alton Parkway	849.36' from Bake Parkway	0.94
130	Irvine	Portola Parkway	Jeffrey Road	7994.44' from Alton Parkway	3.37

MPAH Additional Projects

Order	City	On Street	From Street	To Street	Miles
131	Irvine	Rockfield Boulevard	1251.8' from Bake Parkway	726.67' from Lake Forest Drive	0.81
132	Irvine	Sand Canyon Avenue	2213.37' from Laguna Canyon Road	2671.7' from Laguna Canyon Road	0.09
133	Irvine	Toledo Way	Bake Parkway	Alton Parkway	0.46
134	Irvine	Trabuco Road	Jeffrey Road	Sand Canyon Avenue	1
135	La Habra	Hacienda Road	Whittier Boulevard		0.42
136	La Habra	Harbor Boulevard	Whittier Boulevard		0.49
137	La Habra	Idaho Street	Imperial Highway	343' from Gilbert Street	0.67
138	La Habra	Imperial Highway	Beach Boulevard	Harbor Boulevard	2.01
139	La Habra	Lambert Road	Harbor Boulevard		2.53
140	La Habra	Whittier Boulevard	Hacienda Road	Harbor Boulevard	1.82
141	Laguna Beach	Bluebird Canyon Drive	Coast Highway	Glenneyre Street	0.06
142	Laguna Beach	Coast Highway	Pacific Coast Highway	Bluebird Canyon Drive	6.84
143	Laguna Beach	Forest Avenue	Glenneyre Street	Laguna Canyon Road	0.26
144	Laguna Beach	Glenneyre Street	Bluebird Canyon Drive	Forest Avenue	1.07
145	Laguna Beach	Laguna Canyon Road	4336.73' from Aliso Creek Road	3393.84' from El Toro Road	0.24
146	Laguna Beach	Laguna Canyon Road	Broadway	3313.87' from Forest Avenue	0.72
147	Laguna Hills	Alicia Parkway	Paseo De Valencia	1175.64' from Moulton Parkway	0.96
148	Laguna Hills	Avenida De La Carlota	El Toro Road	Ridge Route Drive	0.7
149	Laguna Hills	El Toro Road	Avenida De La Carlota	403.99' from Avenida De La Carlota	0.08
150	Laguna Hills	Lake Forest Drive	1777.42' from Bake Parkway	Irvine Center Drive	0.65
151	Laguna Hills	Moulton Parkway	920.9' from Glenwood Drive	Oso Parkway	2.03
152	Laguna Hills	Moulton Parkway	Irvine Center Drive	Santa Maria Avenue	0.84
153	Laguna Hills	Oso Parkway	Cabot Road	436.24' from Cabot Road	0.08
154	Laguna Hills	Paseo De Valencia	Alicia Parkway	Laguna Hills Drive	0.3
155	Laguna Hills	Paseo De Valencia	Avenida De La Carlota	El Toro Road	0.24
156	Laguna Niguel	Paseo De Colinas	Street of The Golden Lantern	Camino Capistrano	1.3

MPAH Additional Projects

Order	City	On Street	From Street	To Street	Miles
157	Laguna Niguel	Street of The Golden Lantern	Paseo De Colinas	Camino Los Padres	0.91
158	Laguna Woods	Avenida De La Carlota	Paseo De Valencia	388.89' from Ridge Route Drive	0.5
159	Laguna Woods	Moulton Parkway	Ridge Route Drive	920.9' from Glenwood Drive	1.9
160	Laguna Woods	Paseo De Valencia	Avenida De La Carlota	El Toro Road	0.24
161	Lake Forest	Bake Parkway	Portola Parkway		0.64
162	Lake Forest	El Toro Road	Rockfield Boulevard	505.89' from Avenida De La Carlota	0.21
163	Lake Forest	Jeronimo Road	Bake Parkway	Los Alisos Boulevard	2.24
164	Lake Forest	Muirlands Boulevard	Los Alisos Boulevard	849.36' from Bake Parkway	1.95
165	Lake Forest	Portola Parkway	Alton Parkway	3200.04' from Alton Parkway	0.62
166	Lake Forest	Portola Parkway	El Toro Road	Rancho Parkway	0.38
167	Lake Forest	Portola Parkway	Glenn Ranch Road	824.99' from Bake Parkway	0.58
168	Lake Forest	Rancho Parkway	Bake Parkway	769.68' from Lake Forest Drive	0.55
169	Lake Forest	Ridge Route Drive	Rockfield Boulevard	595.32' from Avenida De La Carlota	0.12
170	Lake Forest	Rockfield Boulevard	Los Alisos Boulevard	726.67' from Lake Forest Drive	1.82
171	Lake Forest	Santa Margarita Parkway	El Toro Road	1021.86' from El Toro Road	0.19
172	Lake Forest	Toledo Way	Bake Parkway	El Toro Road	1.77
173	Lake Forest	Trabuco Road	Lake Forest Drive	2348.47' from El Toro Road	1.23
174	Mission Viejo	Alicia Parkway	Trabuco Road	1103.67' from Marguerite Parkway	0.47
175	Mission Viejo	Crown Valley Parkway	1628.56' from Cabot Road	2089.69' from Cabot Road	0.09
176	Mission Viejo	Crown Valley Parkway	898.05' from Marguerite Parkway	2380.47' from Cabot Road	1.08
177	Mission Viejo	Jeronimo Road	Alicia Parkway	Los Alisos Boulevard	0.71
178	Mission Viejo	La Paz Road	1140.72' from Muirlands Boulevard	Marguerite Parkway	0.85
179	Mission Viejo	Marguerite Parkway	El Toro Road	Olympiad Road	1.42
180	Mission Viejo	Marguerite Parkway	La Paz Road	Avery Parkway	3.94
181	Mission Viejo	Muirlands Boulevard	Los Alisos Boulevard	Alicia Parkway	0.61
182	Mission Viejo	Oso Parkway	436.24' from Cabot Road	2045.27' from Felipe Road	2.13

MPAH Additional Projects

Order	City	On Street	From Street	To Street	Miles
183	Mission Viejo	Santa Margarita Parkway	Marguerite Parkway	1021.86' from El Toro Road	0.56
184	Mission Viejo	Trabuco Road	Los Alisos Boulevard	2348.47' from El Toro Road	1.18
185	Newport Beach	Birch Street	Von Karman Avenue		1.41
186	Newport Beach	Bison Avenue		MacArthur Boulevard	0.33
187	Newport Beach	Campus Drive	MacArthur Boulevard		0.96
188	Newport Beach	Coast Highway	Balboa Boulevard	285.37' from Pacific Coast Highway	1.16
189	Newport Beach	Coast Highway	MacArthur Boulevard	2412.27' from Newport Coast Drive	1.68
190	Newport Beach	Irvine Avenue	University Drive	Santiago Drive	1.08
191	Newport Beach	Jamboree Road	Bristol Street	851.19' from Bristol Street	0.16
192	Newport Beach	MacArthur Boulevard	University Drive	1108.71' from Bristol Street	0.29
193	Orange	Chapman Avenue	666.11' from Flower Street	The City Drive	0.95
194	Orange	Chapman Avenue	714.44' from Tustin Street	Yorba Street	0.36
195	Orange	Main Street	La Veta Avenue	Town and Country Road	0.26
196	Orange	Meats Avenue	Tustin Street	Santiago Boulevard	0.58
197	Orange	Taft Avenue	Ball Road	589.46' from Ball Road	0.11
198	Orange	Orangewood Avenue	796.72' from Rampart Street	Eckhoff Street	0.32
199	Orange	Taft Avenue	Main Street	589.46' from Ball Road	0.19
200	Placentia	Melrose Street	Orangethorpe Avenue	Blue Gum Street	0.38
201	Rancho Santa Margarita	Oso Parkway	5379.11' from Antonio Parkway	6803.44' from Antonio Parkway	0.28
202	Rancho Santa Margarita	Santa Margarita Parkway	Alicia Parkway	Avenida De Las Flores	1.36
203	San Juan Capistrano	Ortega Highway	4208.04' from La Novia Avenue	Del Obispo Street	1.38
204	Santa Ana	17th Street	508.41' from Tustin Avenue	409.2' from Yorba Street	0.12
205	Santa Ana	Alton Parkway	Main Street	1014' from Main Street	0.19
206	Santa Ana	Alton Parkway	Red Hill Avenue	1704.81' from Red Hill Avenue	0.32
207	Santa Ana	Bear Street	Segerstrom Avenue	MacArthur Boulevard	0.51
208	Santa Ana	Bristol Street	1238.29' from Memory Lane	438.12' from La Veta Avenue	0.58

MPAH Additional Projects

Order	City	On Street	From Street	To Street	Miles
209	Santa Ana	Bristol Street	La Veta Avenue	68.49' from La Veta Avenue	0.01
210	Santa Ana	Bristol Street	McFadden Avenue	693.24' from Edinger Avenue	0.63
211	Santa Ana	Bristol Street	Sunflower Avenue	Warner Avenue	1.51
212	Santa Ana	Dyer Road	Halladay Street	Barranca Parkway	1
213	Santa Ana	Fairview Street	McFadden Avenue	1268.21' from MacArthur Boulevard	2.18
214	Santa Ana	Flower Street	Dyer Road	Warner Avenue	0.45
215	Santa Ana	Grand Avenue	1st Street	1173.35' from Dyer Road	2.37
216	Santa Ana	Harbor Boulevard	1st Street	1626.81' from Edinger Avenue	0.92
217	Santa Ana	Harbor Boulevard	MacArthur Boulevard	743.23' from Warner Avenue	0.96
218	Santa Ana	MacArthur Boulevard	Hyland Avenue	Talbert Avenue	0.21
219	Santa Ana	MacArthur Boulevard	Main Street	2218.74' from Main Street	0.44
220	Santa Ana	Main Street	619.41' from La Veta Avenue	Town and Country Road	0.14
221	Santa Ana	Main Street	817.08' from Sunflower Avenue	579.39' from Alton Parkway	1.02
222	Santa Ana	Main Street	Santa Ana Boulevard	Warner Avenue	2.32
223	Santa Ana	Raitt Street	McFadden Avenue	Warner Avenue	1.33
224	Santa Ana	Segerstrom Avenue	Harbor Boulevard	380.59' from Slater Avenue	0.3
225	Santa Ana	Standard Avenue	Chestnut Avenue	1110.36' from Edinger Avenue	1.29
226	Santa Ana	Warner Avenue	1080.27' from Grand Avenue	1669.86' from Grand Avenue	0.11
227	Santa Ana	Warner Avenue	Harbor Boulevard	526.65' from Harbor Boulevard	0.1
228	Santa Ana	Warner Avenue	Red Hill Avenue	1649.65' from Red Hill Avenue	0.31
229	Santa Ana	Westminster Avenue	4th Street	Harbor Boulevard	0.13
230	Seal Beach	Marina Drive	1st Street	6th Street	0.32
231	Seal Beach	Pacific Coast Highway	4078.17' from Edinger Avenue		2.62
232	Seal Beach	Westminster Avenue	Seal Beach Boulevard	182.47' from Bolsa Chica Street	1.98
233	Tustin	17th Street	580.67' from Yorba Street	Yorba Street	0.11
234	Tustin	El Camino Real	Newport Avenue	Main Street	0.31

MPAH Additional Projects

Order	City	On Street	From Street	To Street	Miles
235	Tustin	Irvine Boulevard	Newport Avenue	Old Irvine Boulevard	0.2
236	Tustin	Irvine Boulevard	Red Hill Avenue	Old Irvine Boulevard	0.31
237	Tustin	Old Irvine Boulevard			0.02
238	Tustin	Valencia Avenue	Newport Avenue	Red Hill Avenue	0.32
239	Tustin	Warner Avenue	1669.86' from Grand Avenue	Red Hill Avenue	0.53
240	Westminster	Bolsa Chica Street	703.06' from Rancho Avenue	Westminster Boulevard	0.77
241	Westminster	Garden Grove Boulevard	Valley View Avenue	875.35' from Valley View Avenue	0.18
242	Westminster	Springdale Street	1684.41' from Westminster Boulevard	673.17' from Westminster Boulevard	0.45
243	Westminster	Westminster Boulevard	Bolsa Chica Street	182.47' from Bolsa Chica Street	0.03
244	Yorba Linda	Fairmont Boulevard	109.05' from Esperanza Road	451.77' from Esperanza Road	0.11

DESTINATION 2035

Moving Toward a Greener Tomorrow

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