ORANGE AND LOS ANGELES INTERCOUNTY TRANSPORTATION STUDY

Corridor Mobility Problem and Purpose and Need Report - Executive Summary

Task 3.3

February 6, 2008

IBI GROUP

in association with

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S1 INTRODUCTION

The Orange and Los Angeles (OC/LA) Intercounty Transportation Study is exploring alternatives for improving transportation infrastructure and services across the border between Orange and Los Angeles counties. The study is jointly funded and managed by the Orange County Transportation Authority (OCTA) and the Los Angeles County Metropolitan Transportation Authority (Metro). This is the first time the two agencies are cooperatively conducting a transportation planning study. This study lays the groundwork for future, more detailed studies.

The objectives of the OC/LA Intercounty Transportation Study are to identify transportation needs and issues within the study area and to develop conceptual transportation improvements and strategies to address these needs. The study includes extensive coordination with technical staff and elected officials from cities located along the county line, as well as with the general public.

This report describes existing and future transportation conditions in the study area. The purpose and need for transportation improvements in the OC/LA study area is established based on technical analysis of travel demand data for the study area and local input. The purpose and need serves as the basis for developing conceptual alternatives and further analysis of future transportation improvements in the study area.

The OC/LA study area follows the county line from the Pacific Ocean in the southwest to the Chino Hills in the northeast. The study area includes all existing transportation corridors that travel between Orange and Los Angeles counties. Exhibit S-1 illustrates the study area, along with major transportation corridors serving the area.

Input Received from Local Agencies

The public involvement plan for the study includes meetings with local agencies and the general public to provide information on the study and to provide an opportunity for feedback and public participation. Input for the Purpose and Need Report was provided through three Technical Working Group (TWG) meetings held with city staff and local agencies, and an Elected Officials Workshop that included OCTA and Metro Board Members along with elected officials from cities located along the county line.

Input received from these meetings included observations on the transportation modes and corridors most in need of improvement, opportunities for reducing traffic congestion across the county line, and areas where additional coordination is needed between OCTA, Metro, and other local agencies. The primary needs and areas of improvement noted in both the technical meetings and the Elected Officials Workshop included study area freeways, Metrolink service, regional transit service, and studying the potential use of the Pacific Electric right-of-way, which extends across the the county line between Orange and Los Angeles counties.

OC/LA Intercounty Transportation Study

Exhibit S-1: Study Area

February 2008

OCTA Metro

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S2 STUDY AREA TRANSPORTATION SYSTEM

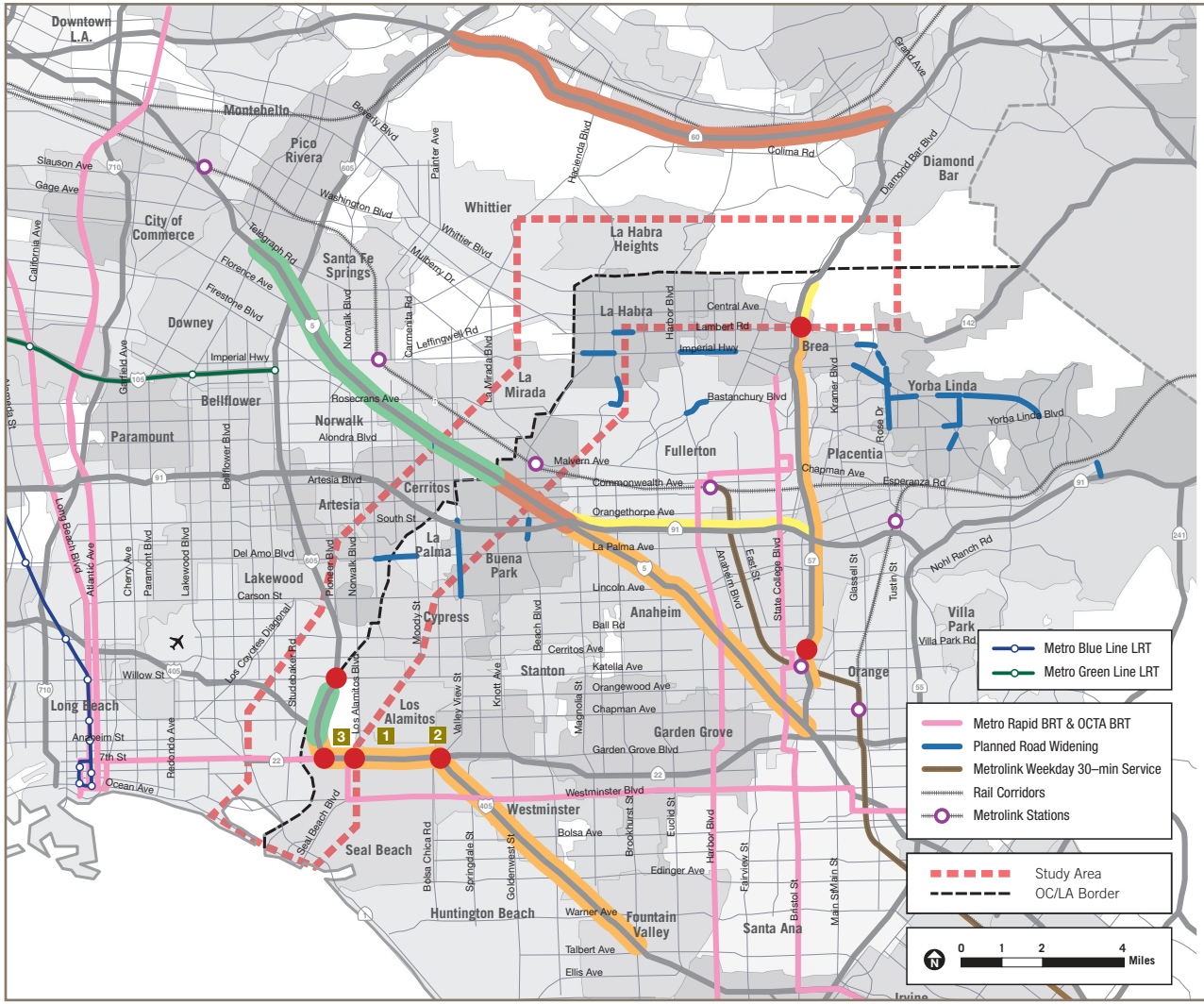
The transportation system in the OC/LA study area consists of freeways, roadways, rail systems, transportation centers, and park and ride facilities. Available modes of transportation include automobiles, bus and rail transit, and non-motorized (bicycling and pedestrian) transportation. A brief description of the existing study area transportation network is provided below:

- Freeways: Orange and Los Angeles counties are linked by six major freeways. The freeways are the Santa Ana Freeway (I-5), the San Diego Freeway (I-405), the San Gabriel River Freeway (I-605), the Garden Grove Freeway (SR-22), the Orange Freeway (SR-57), and the Riverside/Artesia Freeway (SR-91).
- Arterial Roadways: Numerous arterial roadways traverse the OC/LA county line and the project study area. Major roadways serving east-west traffic include Katella Avenue/Willow Street, Del Amo Boulevard/La Palma Avenue, and Imperial Highway. Major roadways serving north-south traffic include Los Alamitos Boulevard/Norwalk Boulevard, Valley View Street, and Harbor Boulevard.
- Bus Transit: Existing bus transit services consist primarily of local bus routes, operating on arterial roadways near the OC/LA county line. Transit providers operating in the study area include OCTA, Metro, Long Beach Transit, Montebello Bus Lines, Norwalk Transit, Cerritos on Wheels, and Foothill Transit.
- Rail Transit: Study area regional rail transit services are provided by Metrolink and Amtrak. Services include the Metrolink Orange County Line between Oceanside and Downtown Los Angeles, the Metrolink 91 Line between Riverside and Downtown Los Angeles, and the Amtrak Pacific Surfliner from San Diego to San Luis Obispo.
- Bicycle and Pedestrian Transportation: Several on-street and off-street bikeways are located in the study area. OCTA and several of the local cities have adopted bikeway plans that guide the implementation of future bicycle routes.

2030 Baseline Condition

Projects included in the 2030 Baseline condition have a committed funding source and are planned for completion prior to the study planning horizon of 2030. The projects included in the 2030 Baseline are summarized below and shown in Exhibit S-2 on the following page.

- Freeway enhancement projects as identified in the adopted OCTA and Metro Long Range Transportation Plans (Baseline and Constrained projects only);
- Orange County Renewed Measure M Early Action Plan freeway projects;
- Arterial roadway improvements as identified in study area city capital improvement programs (CIPs);
- Planned improvements by OCTA and Metro to local bus routes in the study area;
- New OCTA bus rapid transit routes on Harbor Boulevard, Westminster Avenue, and State College Boulevard/Bristol Street;
- New Metro Rapid routes on Atlantic Boulevard and Long Beach Boulevard; and
- Weekday 30-minute headways on Metrolink between Fullerton and Laguna Niguel.



Transportation projects included in the Baseline Year 2030 concept have a committed funding source and are planned for completion prior to the Year 2030. The components of the Baseline Year 2030 concept include the following:

- Freeway enhancement projects as identified in the adopted OCTA and Metro Long Range Transportation Plans (LRTP) (Baseline and Constrained projects only);
- In Orange County, Renewed Measure M Early Action Plan freeway projects;
- Arterial Roadway improvements as identified in study area city Capital Improvement Programs (CIPs);
- Planned enhancements by OCTA and Metro to local bus transit routes in the study area;
- New OCTA bus rapid transit routes on Harbor Boulevard, Westminster Avenue, and State College Boulevard/Bristol Street in Orange County;
- New Metro Rapid routes on Atlantic Boulevard and Long Beach Boulevard in Los Angeles County;
- The implementation of 30-minute headways for Metrolink service between Fullerton and Laguna Niguel/Mission Viejo in Orange County.

I-5 Freeway

- Add 1 general purpose lane & 1 HOV lane in each direction; improve interchanges from Rosemead Blvd – Orange county Line
- Add 1 general purpose lane & 1 HOV lane in each direction from SR-91 to County Line
- Improve from SR-57 to SR-91

I-405 Freeway

- Add 1 general purpose lane in each direction from Brookhurst – I-605
- Auxiliary lanes between entrance ramps & downstream exit ramps at most locations
- 1 Add 1 HOV lane in each direction from SR–22 to I-605

I-605 Freeway

- Improve freeway access & arterial connection in communities of Los Alamitos & Cypress
- 3 New freeway-to-freeway carpool ramps to I-405
- Add HOV lane from I-405 to Orange County Line

SR-22 Freeway

- 2 Construct HOV connector to I-405

SR-57 Freeway

- New NB truck climbing lane from Lambert Rd – Tonner Canyon
- New NB lane from Orangewood Ave-Lambert Rd
- Reconfigure existing interchange & add SB lane off-ramp at Lambert Rd
- Construct HOV drop ramps to Cerritos Ave

SR-91 Freeway

- Add 1 WB lane from I-5 to SR-57

SR-60 Freeway

- Add 1 HOV lane in each direction from I-605 to Brea Canyon Road

S3 STUDY AREA DEMOGRAPHICS AND LAND USE

Existing and forecast population and employment data for the project study area were obtained from OCTA and Metro. In the existing condition, there are about 410,000 residents living within one mile of the OC/LA county line. About 175,000 jobs are located within the study area. Steady growth in both population and employment levels within the OC/LA study area is anticipated in the time period between Year 2000 and Year 2030. The highest population densities for the Year 2000 and Year 2030 are observed in the central portions of the study area in Buena Park, Cerritos, Lakewood and La Mirada. The central portion of the study area also has the highest concentrations of employment along the OC/LA county line. The greatest percentage of population and employment growth between Year 2000 and Year 2030 is anticipated to occur in the northern portions of the study area (Diamond Bar, Brea, La Habra) and in the areas near the coast (Long Beach, Los Alamitos). Exhibit S-3 illustrates the forecasted population growth within the project study area between 2000 and 2030. Project study area employment growth for the same 30-year time period is illustrated in Exhibit S-4.

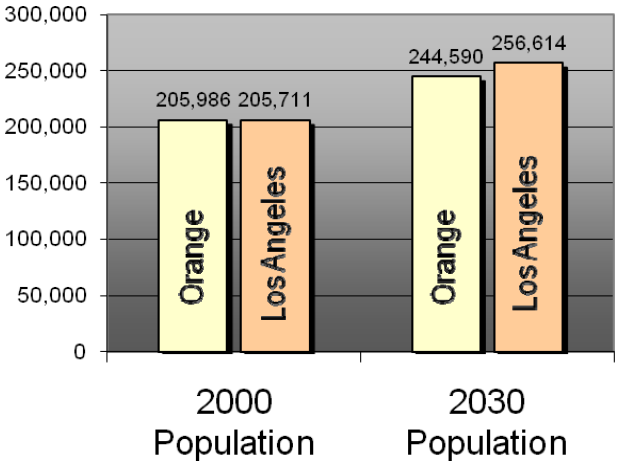


EXHIBIT S-3
STUDY AREA POPULATION GROWTH
YEAR 2000 TO YEAR 2030

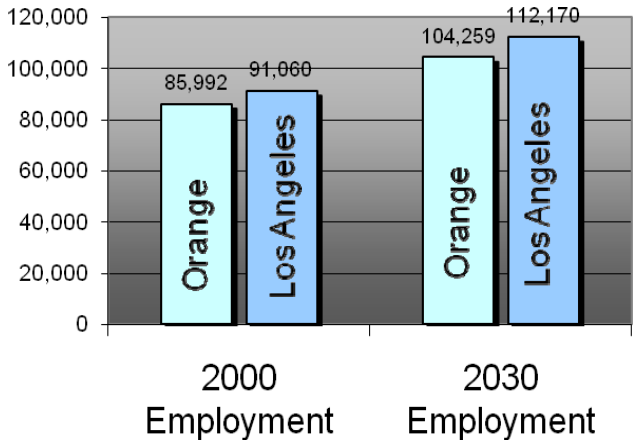


EXHIBIT S-4
STUDY AREA EMPLOYMENT GROWTH
YEAR 2000 TO YEAR 2030

S4 RELATED TRANSPORTATION STUDIES

Several transportation planning studies have been or are currently being conducted in portions of the OC/LA study area. These studies help to identify the various transportation needs in the study area and provide valuable input into the process of developing recommendations for transportation improvements. Major studies include the following:

- Regional studies: Multi-County Goods Movement Action Plan, Four Corners Transportation Study, and Metrolink Commuter Rail Strategic Plan.
- Los Angeles County studies: SR-91/I-605/I-405 Major Corridor Study, Eastside Transit Corridor Study Phase 2, Caltrans Interstate 5 Major Improvement Project EIS/EIR.
- Orange County studies: OCTA Go Local Program, I-405 Major Investment Study, West Orange County Project Definition Study, North Orange County Cities Transit Feasibility Study.

S5 TRAVEL DEMAND DATA

Forecast year 2030 travel demand data for the study area was generated using the Orange County Transportation Analysis Model (OCTAM), version 3.2, the regional model for transportation planning in Orange County. Input was also received from Metro regarding the transportation network and travel forecasts in Los Angeles County. The travel demand data showed a strong attraction between Orange and Los Angeles counties in regard to trips across the county line. This pattern is particularly apparent in cities located along the OC/LA county line. In the Year 2030, about 9% of the total daily vehicle trips generated in Orange County are forecast to travel to destinations in Los Angeles County. By comparison, about 3% of the vehicle trips generated in Los Angeles County are destined for Orange County.

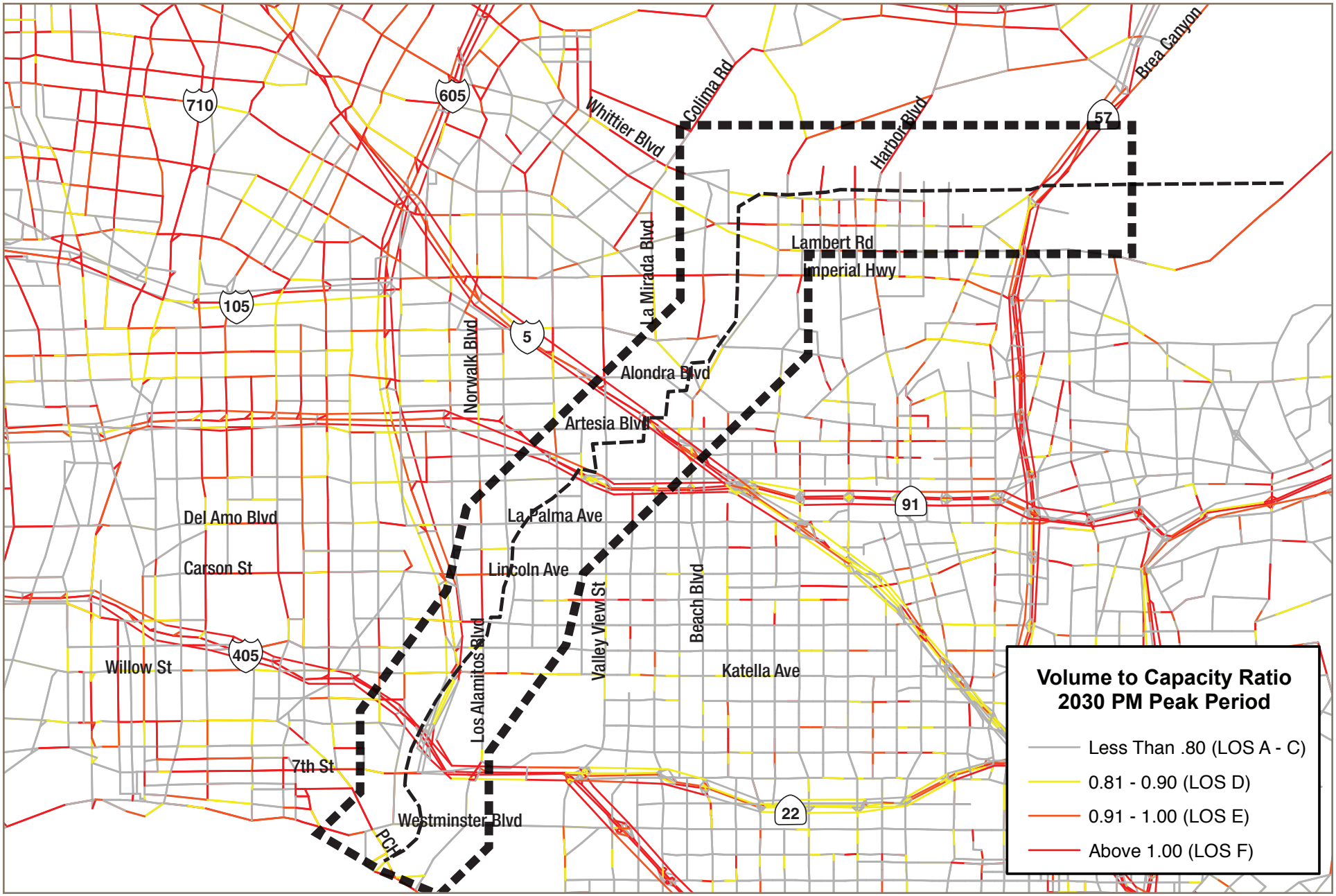
An estimated two million trips cross the OC/LA county line on a daily basis in the existing condition. Additionally, trips between the two counties are forecast to increase by 26% from the existing condition to the Year 2030. It is important to note that trips across the county line include not only the trips between Orange and Los Angeles counties, but trips with origins in San Bernardino County, Riverside County, San Diego County, or other locations in Southern California. These regional trip origins must also be considered when developing improvements to address transportation needs between Orange and Los Angeles counties.

Related to the anticipated increase in trips across the OC/LA county line, a large increase in vehicle miles traveled (VMT) and vehicle hours traveled (VHT) is also forecast. Weekday VMT in the project study area is estimated to increase by 25% between 2000 and 2030. By comparison, weekday VHT in the project study area is forecast to increase by 47% over the same time period. The forecast increases for VHT in the study area are significantly higher than the forecast increases in VMT. This means that commuters traveling between Orange and Los Angeles counties are forecast to be making longer and more frequent trips, and spending a greater amount of time to complete these trips. The forecast Year 2030 PM peak period volume to capacity ratios illustrate these findings and show the substantial congestion forecast for the study area. Exhibit S-5 on the following page shows the forecast PM peak period volume to capacity ratios on freeways and arterial roadways in the study area.

S6 SYSTEM PERFORMANCE/MOBILITY PROBLEM

The performance of the existing and future transportation system within the project study area was analyzed to establish the purpose and need for transportation improvements across the OC/LA county line. The major findings of the system performance analysis are:

- In the year 2030, traffic operates at a poor level of service on a majority of study area freeway segments and on several major arterial roadways including: Katella Avenue, Imperial Highway, Whittier Boulevard, and Brea Canyon Road.
- The highest freeway daily traffic volume increases between 2007 and 2030 are forecast to occur on the SR-57 and I-5 freeways.
- The highest arterial daily traffic volume increases between 2007 and 2030 are forecast to occur on Imperial Highway, Rosecrans Avenue, Katella Avenue, and 7th Street.
- Demand for transit services (local bus, regional bus, and Metrolink) is forecast to increase in the Year 2030.


710
605
105
5
57
91
22
405
Whittier Blvd
Colima Rd
Harbor Blvd
Brea Canyon
Lambert Rd
Imperial Hwy
La Mirada Blvd
Norwalk Blvd
Alondra Blvd
Artesia Blvd
Del Amo Blvd
La Palma Ave
Carson St
Lincoln Ave
Valley View St
Beach Blvd
Los Alamitos Blvd
Willow St
Katella Ave
7th St
Westminster Blvd
PCH
Volume to Capacity Ratio
2030 PM Peak Period
Less Than .80 (LOS A - C)
0.81 - 0.90 (LOS D)
0.91 - 1.00 (LOS E)
Above 1.00 (LOS F)

Defining the intercounty mobility problems is an essential part of establishing the purpose and need for transportation improvements near the county line. The following are the findings and conclusions regarding the mobility problem between Orange and Los Angeles counties:

- Traffic congestion is substantial in the existing condition, particularly on study area freeways, and congestion levels will continue to increase in the year 2030 Baseline condition.
- Vehicle hours traveled (VHT) and vehicle hours of delay (VHD) are forecast to increase at a faster rate than vehicle miles traveled (VMT) in the study area between the existing condition and Year 2030. Commuters and travelers in the study area will experience increased levels of congestion and delay compared to the existing condition.
- A majority of the freeway segments in the OC/LA study area are forecast to operate at an unacceptable level of service during the AM and PM peak periods in the Year 2030.
- Significant traffic congestion and poor levels of service are observed on several arterial roadways in the Year 2030. This situation severely constrains intercounty travel.
- Only a limited number of local and regional transit services provide connections across the OC/LA county line. Transit services that do cross the county line are not necessarily coordinated to connect with transit services operating in the neighboring county.
- Demand exists for regional transit services such as Metrolink commuter rail, bus rapid transit, and express bus services, but these services are limited in their timeframes and areas of service. This condition limits the regional transit options available to residents and commuters seeking to travel across the county line.
- Freight goods movement has an impact on traffic operations and rail capacity within the study area. Improvements to the transportation network must factor in the impacts associated with goods movement and address goods movement within the overall context of improving transportation between Orange and Los Angeles counties.
- The existing network of bikeways serving the study area is in need of better connections across the county line and more continuous corridors that link major activity centers. The presence of bikeway facilities varies on a city by city basis, creating gaps and reducing the ability of bicycle commuters to make longer regional trips. The Coyote Creek Bikeway is a good candidate for improvement to connect bikeways in the study area.

S7 STUDY PURPOSE AND NEED STATEMENT

Given the projected increase in travel demand in the study area, it is essential for OCTA, Metro, Caltrans, and local cities along the OC/LA county line to work together to improve planning and coordination efforts and to implement enhancements and improvements to the transportation system near the county line. The purpose and need for the OC/LA Intercounty Transportation Study is summarized below.

Interagency Coordination

The OC/LA Intercounty Transportation Study is the first significant joint planning effort undertaken by OCTA and Metro that specifically looks at transportation issues along the OC/LA county line. This study is an important first step for OCTA and Metro to work together to improve transportation infrastructure and services between Orange and Los Angeles counties. Increased coordination between agencies is essential for the successful implementation of transportation improvements. There are also significant opportunities for cities located along the county line to use this study effort to increase coordination and cooperation on local transportation issues. Issues such as traffic signal synchronization, roadway improvements, and bicycle and pedestrian facilities are typically handled at the city level.

Freeway Congestion

Traffic congestion is already a substantial constraint on mobility for all freeways in the OC/LA study area. Forecasted increases in traffic volumes, delay, and travel demand for the Year 2030 condition will only further exacerbate the pressure on the freeway network serving Los Angeles and Orange counties. In 2030, the majority of freeway segments in the OC/LA study area are forecast to operate at an unacceptable level of service (LOS E or F). A range of improvements for the freeway network needs to be explored to meet forecast travel demand. Improving the operating efficiency of the existing freeway infrastructure will be important in order to maximize traffic flow. However, operational improvements alone will not be able to serve forecasted Year 2030 traffic volumes. Additional freeway capacity is necessary to serve anticipated traffic volumes and to ensure the continued economic growth of Southern California.

Arterial Roadway Congestion

The Year 2030 traffic forecasts identify future traffic congestion on arterial roadways crossing the OC/LA county line. However, due to land use and geographic constraints, there is insufficient arterial roadway capacity available to meet travel demand in many portions of the study area. Limitations in arterial roadway capacity cause substantial impacts to the mobility of residents and commuters across the county line. The capacity limitations also contribute to higher levels of forecasted delay and traffic congestion.

Optimization of Existing Transportation Infrastructure

There is local support for improving traffic operations in existing corridors through the implementation of intelligent transportation measures. Cities located along the county line have expressed reservations about significant freeway and roadway widening that could have adverse impacts to their communities and adjacent land uses. Based on this input, improvements and capacity enhancements within existing public rights-of-way need to be explored during the development of conceptual alternatives.

Traffic signal coordination and improved transit services are two strategies deserving additional consideration. The implementation of traffic signal coordination and synchronization across the county line should be explored to improve traffic flow on arterial roadways. Improving the frequency and volume of transit services within an existing freeway and arterial roadway network would increase the capacity of these facilities and optimize existing transportation corridors and infrastructure.

Transit Connectivity

Improvements to regional transit services between Orange and Los Angeles counties are necessary to meet existing and future travel demand. There are a limited number of transit services that cross the county line, and many of these services operate primarily or exclusively during peak hours and in peak directions only. This condition limits the potential to carry a significant amount of travelers across the county line. Additional regional transit services are needed to meet forecast demand for transit service, particularly in portions of the study area that are not well-served by the Metrolink commuter rail system.

Use of Pacific Electric Right-of-Way

The Pacific Electric right-of-way (PE ROW) provides OCTA and Metro an opportunity to implement a regional transit service to connect Orange and Los Angeles counties. A project in this corridor would also increase the capacity of the transportation network within an area that has a limited number of parallel or alternative routes. The travel demand data for the Year 2030 shows a significant number of trips between Orange and Los Angeles counties from the cities that border the PE ROW. These travel forecasts suggest a healthy potential market for transit services in the Year 2030 in and near the PE ROW corridor. Therefore, transportation improvements should be explored to serve this travel market.