



Transportation Concept Report
ROUTE 164
District 7
June 2015



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DISCLAIMER

Disclaimer: The information and data contained in this document are for planning purposes only and should not be relied upon for final design of any project. Any information in this Transportation Concept Report (TCR) is subject to modification as conditions change and new information is obtained. Although planning information is dynamic and continually changing, the District 7 Division of Planning and Local Assistance makes every effort to ensure the accuracy and timeliness of the information contained in the TCR. The information in the TCR does not constitute a standard, specification, or regulation, nor is it intended to address design policies and procedures.

Mission – Provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability

California Department of Transportation

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ABOUT THE TRANSPORTATION CONCEPT REPORT

System Planning is the long-range transportation planning process for the California Department of Transportation (Caltrans). The System Planning process fulfills Caltrans' statutory responsibility as owner/operator of the State Highway System (SHS) by identifying deficiencies and proposing improvements to the SHS. Through System Planning, Caltrans focuses on developing an integrated multimodal transportation system that meets Caltrans' major goals of safety, efficiency, sustainability, system performance and excellence.

The System Planning process is primarily composed of several parts: the District System Management Plan (DSMP), the Transportation Concept Report (TCR), the Corridor System Management Plan (CSMP) and the Priority Listing of Projects for the District (formerly known as the Transportation System Development Plan).

The District wide DSMP is a strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. The TCR is a planning document that identifies the existing and future route conditions as well as future needs for each route on the SHS. The CSMP is a complex, multi-jurisdictional planning document that identifies future needs within corridors experiencing or expected to experience high levels of congestion. The Priority Listing of Projects is a list of planned and partially programmed transportation projects used to recommend projects for funding. These System Planning products are also intended as resources for public/stakeholders, the regional and local agencies.

TCR Purpose

California's State Highway System needs long range planning documents to guide the logical development of transportation systems as required by law and as necessitated by the public, stakeholders, and system users. The purpose of the TCR is to evaluate current and projected conditions along the route and communicate the vision for the development of each route in each Caltrans District during a 20-25 year planning horizon. The TCR is developed with the goals of increasing safety, stewardship and efficiency, sustainability, livability and economy, and system performance.

STAKEHOLDER PARTICIPATION

Stakeholder participation was sought throughout the development of the SR-164 TCR. Outreach involved internal and external stakeholders.

Both internal and external stakeholders including MPO and RTPAs were asked to review the document for comments, edits, and for consistency with the intent of existing plans, policies, and procedures. The process of including and working closely with stakeholders adds value to the TCR, allows for outside input and ideas to be reflected in the document, increases credibility and helps strengthen public supports and trust.

EXECUTIVE SUMMARY

The main purpose of this TCR is to evaluate current and projected conditions along the route and suggest a configuration for SR-164 that will meet projected demand. Historically the freeway system in Southern California is highly congested and this trend will continue into the future. Due to financial, environmental, right of way and political constraints, it is very difficult for Caltrans to continue to add more lanes to the system. Recognizing these constraints, the planned/programmed projects and strategies in the TCR are within a framework of programming and implementation constraints and regional policy.

In addition to these planned/programmed projects and strategies, the TCR also suggests a configuration for SR-164 that will meet future demand on this route. The suggested configuration is meant only to show the severity of future conditions and what it would take to attain that LOS. It is our Mission to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

The SR-164 TCR is divided into several major sections; three of the sections – the Corridor Performance, System Characteristics and Corridor Concept – are the core of the document. The remaining sections provide a context for analyzing the SR-164 corridor and document the data resources.

Concept Summary Table

CONCEPT – 2035 FACILITY

| Segment | ADT | Dir. Split | Peak Hour | Truck Peak Hour | 2035 Baseline RTP* | | Concept LOS "D" Attainment* | Concept LOS "F0" Attainment* |
|------------------------------|----------------------|------------|-----------------|-----------------|--------------------|-----|-----------------------------|------------------------------|
| 1 | UNCONSTRUCTED | | | | | | | |
| 2 (Gallatin Rd to Rte 60) | 37,900 | 57.8% | 3,300 (8.6%) | 50 (1.5%) | 4 | | 6 | 4 |
| | | | | | V/C | LOS | | |
| | | | | | 1.2 | F0 | | |
| 3 (SR-60 to I-10) | 62,300 | 50.6% | 5,500 (8.1%) | 60 (1.1%) | 6 | | 7 | 6 |
| | | | | | V/C | LOS | | |
| | | | | | 1.04 | F0 | | |
| 4 (I-10 to End of Rte) | 56,600 | 50.8% | 4,000 (7.0%) | 30 (0.8%) | 4 | | 6 | 4 |
| | | | | | V/C | LOS | | |
| | | | | | 1.14 | F0 | | |

Source: SCAG's 2012-2035 RTP/SCS

* The number of lanes in the LOS D Attainment column is for both directions. LOS D Attainment indicate how many lanes it would require to achieve LOS D. It is meant to show the severity of future conditions and what it would take to achieve LOS D. Caltrans is not suggesting that it is our plan to build the facility to achieve the LOS D.

* The number of lanes in the LOS F0 attainment column is for both directions. The data in the LOS FO attainment column is only meant to show the severity of congestion on our system and what it would require to achieve that level of service. We recognize the difficulty in achieving the desired LOS given the financial, environmental, right of way and political constraints.

* Sometimes the model output implies that there would be aux. lanes (each direction) and aux. lanes are given only half capacity. That is why there are instances where we have odd number of lanes for both direction.

* The 2035 Baseline includes all planned and programmed projects in the 2012-2035 RTP/SCS

* For consistency with 2012-2035 RTP/SCS, year 2008 and 2035 were used.

* 2008 & 2035 data are derived from the 2012-2035 RTP/SCS model. Data in this report is meant to be used for comparison purposes only and are not to be use for specific projects without further analysis.

Concept Rationale

Route 164 is a north-south arterial route for intraregional travel and shipping in Los Angeles County. The route serves as a feeder to major freeways, employment and business centers, and recreation areas from the coastal area (via Route 19) to the San Gabriel Valley. Traffic demand already exceeds capacity for that portion of the route from Gallatin Road to Route 60 (PM 1.39/3.34). By the year 2035, traffic demand will exceed capacity in the area between Route 10 and Route 210 as well (PM 5.60/10/6.89). If not mitigated, the level of service (LOS) in these areas will continue to deteriorate.

Traffic volume is forecasted to increase on Route 164 by 2035 and will require additional lanes to achieve the acceptable concept level of service.

Proposed Projects and Strategies

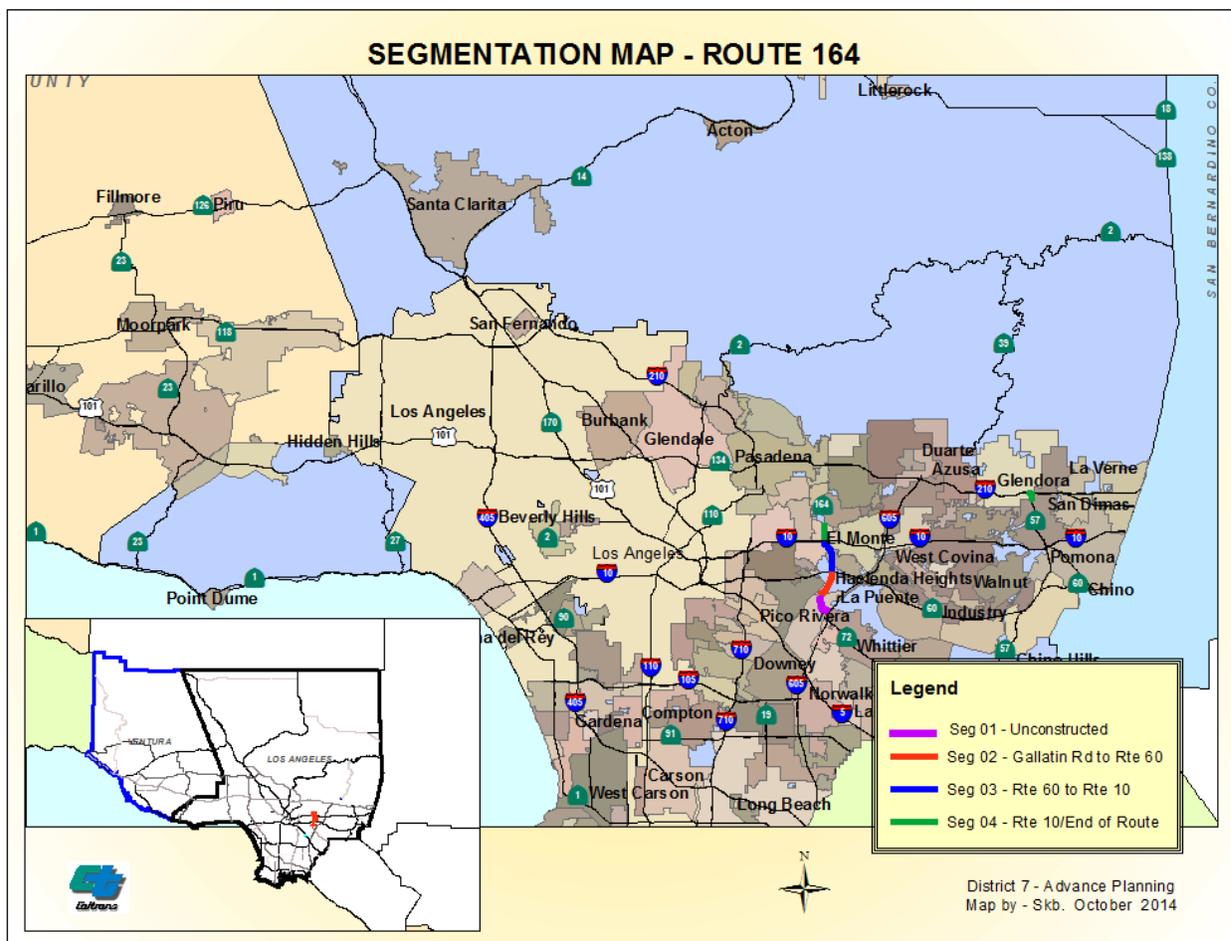
There are no capacity enhancement projects proposed on SR-164. However, there are several demonstration Projects from Compass Blueprint (Compass Blueprint is a new way to look at how Southern California grows. It is driven by Mobility, Livability, Prosperity and Sustainability).

CORRIDOR OVERVIEW

ROUTE SEGMENTATION

| SEGMENTS | DESCRIPTION | BEGIN PM | END PM | NO. OF LANES (each dir.) |
|----------|----------------------|----------|--------|-----------------------------|
| 1 | UNCONSTRUCTED | | | |
| 2 | Gallatin Rd to SR-60 | 1.39 | 3.34 | 2 |
| 3 | SR-60 to I-10 | 3.34 | 5.59 | 3 |
| 4 | I-10 to End of Rte | 5.59 | 6.89 | 2 |

SR-164 Segment Map



ROUTE DESCRIPTION

The 1989 “Statutes Relating to the California Department of Transportation” describes Route 164 as follows: “Route 164 is from 605 near Pico Rivera to Route 210 near Pasadena.” Existing Route 164 is entirely in District 7, commencing northerly from the Route 19 junction in Pico Rivera and terminating at Route 210 in Pasadena. There is an “unconstructed” 1.39 mile segment from Route 605 to the Gallatin Road/Route 19 junction. This section of Route 164 is an existing “traversable highway” The Streets and Highways Code” defines “traversable highway” as a road or street under local jurisdiction that satisfies all or part of a statutory state highway route description. The relinquished former portions of Route 164 within the County of Los Angeles and the City of Temple City are not state highways and are not eligible for adoption under Section 81. For the relinquished former portions of Route 164, the County of Los Angeles and the City of Temple City shall maintain within their respective jurisdictions signs directing motorists to the continuation of Route 164.

RELINQUISHMENT TABLE

| ID | Rel. No | Rel. Type | Co Rte. | Beg PM | End PM | Locations | Agency | Effective Date | Doc No |
|----|----------------------|-----------|---------|--------|--------|---|--------------------|----------------|--------|
| 16 | 1231 | Del | LA164 | 8.7 | 10.9 | Rosemead Boulevard from Cailita St and Sultana Ave (N’y city limit of Temple City) To Foothill Blvd (s’y city of the city of Pasadena) DOC#06-2320450 COST: 5,9000.000 | Los Angeles County | 19-Jan-06 | 4769 |
| 18 | 1236 | Del | LA164 | 9.6 | 11.7 | Rte 164 (Rosemaed Boulevard), from Grand Ave (N’y city limit of Rosemean) To Callita St and Sultana Ave (N’y city limit of Temple City) DOC# 20080686453 COST: \$368,000. | Temple City | 18-Apr-08 | 4834 |

The route is a principle arterial and is entirely within a highly urbanized area. Route 164 serves one community college (Pasadena City, one four year educational institution (California Institute of Technology), and five regional shopping centers. Other traffic generators include Whittier Narrows Recreation Area in South El Monte, Pico Rivera Bicentennial Park and Sports Arena, Santa Anita Park in Santa Anita, the Huntington Library and Art Gallery in San Marino, and a small airport in El Monte. The route passes five cities in Los Angeles County.

Route Designation and Characteristics

SR-164 is part of the Federal Aid Interstate (FAI) system, which is a subset of the National Highway System. Its functional classification is P1P (Urban Principle Arterial). This route is a part of the Federal Surface Transportation Assistance Act (STAA) route network for oversized. For the purpose of this analysis, the route has been divided into 4 segments based on traffic volume, connections to local streets or State Highways, freeway interchanges, and the county boundary.

| Seg | Freeway and Expressway System | National Highway System | Strategic Highway Network | Scenic Highway | Interregional Road System Route | High Emphasis Route | Focus Route | Federal Functional Classification | Goods Movement Route | Truck Designation |
|-----|-------------------------------|-------------------------|---------------------------|----------------|---------------------------------|---------------------|-------------|-----------------------------------|----------------------|-----------------------------|
| 1 | UNCONSTRUCTED | | | | | | | | | |
| 2 | Yes | Yes | No | No | No | No | No | Other Principal Arterial | No | STAA-National Network Route |
| 3 | Yes | Yes | No | No | No | No | No | Other Principal Arterial | No | STAA-National Network Route |
| 4 | Yes | Yes | Yes | No | No | No | No | Other Principal Arterial | No | STAA-National Network Route |

| Seg | Rural/Urban/Urbanized | Primary/Secondary System | Metropolitan Planning Organization | Regional Transportation Planning Agency | Congestion Management Agency | Local Agencies | Tribes | Air District | Terrain |
|-----|-----------------------|--------------------------|------------------------------------|---|------------------------------|----------------|--------|--------------|---------|
| 1 | UNCONSTRUCTED | | | | | | | | |
| 2 | Urban | Primary | SCAG | Metro | Metro | Metro | N/A | SCAQMD | Flat |
| 3 | Urban | Primary | SCAG | Metro | Metro | Metro | N/A | SCAQMD | Flat |
| 4 | Urban | Primary | SCAG | Metro | Metro | Metro | N/A | SCAQMD | Flat |

COMMUNITY CHARACTERISTICS

SR164 is a state conventional highway facility, and is a subset of the National Highway System. The route is divided into 4 segments based on traffic volume, connections to local streets or state highways, freeway interchanges, grade and terrain.

LAND USE

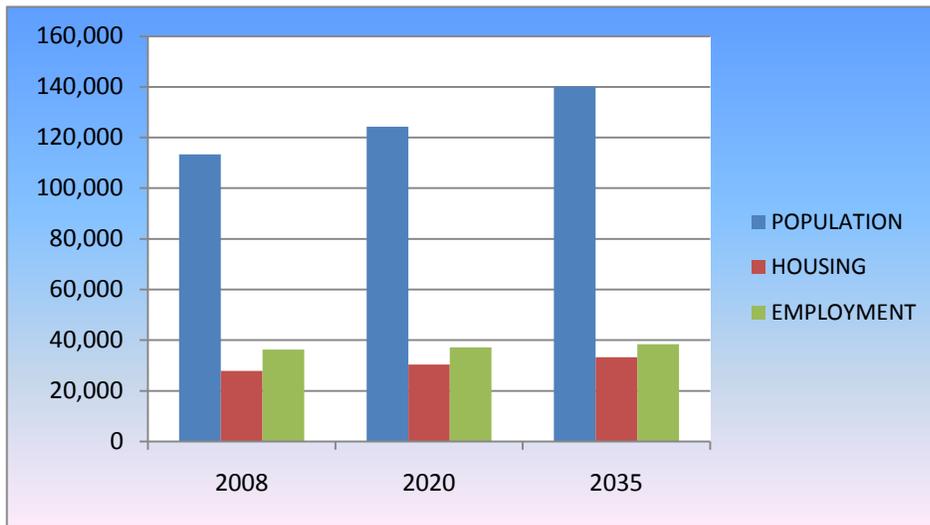
Land uses along SR-164 vary considerably and range from open-space areas to industrial warehousing, commercial and single-family homes to multi-family dwellings. Land-use patterns along Route 164 comprised of commercial and industrial uses in the beginning of the segment along with open space uses towards the end of the segment. The many significant trip generators along this corridor include:

- Pico Rivera Town Center
- Whittier Narrows Recreational Area
- Montebello Shopping Center
- Rosemead Place
- Elm Center Shopping Center
- Temple City Square Shopping Center
- El Rancho Santa Anita Shopping Center
- Toyota of Pasadena
- Hastings Ranch Shopping Center
- Foothill & Rosemead Market Place
- Los Angeles County Arboretum and Botanic
- Santa Anita Park and Race Track

Significant growth in housing, population, and employment are generally projected throughout SR-164 corridor area. The following graphs show projected socioeconomic growths in the cities along the SR-164 Corridor per the SCAG 2012 -2035 RTP/SCS GROWTH FORECAST.

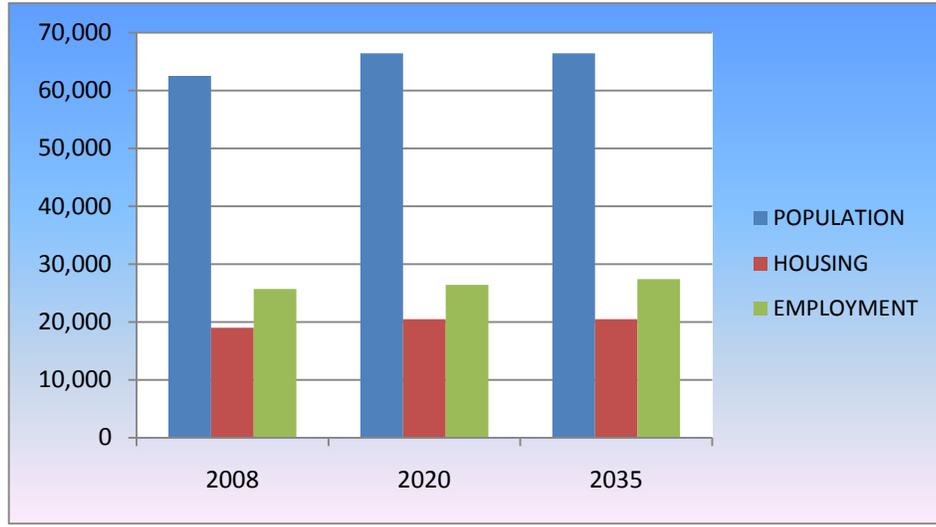
EL MONTE

| | 2008 | 2020 | 2035 | 2008 - 2020 CHANGE | 2008 -2035 CHANGE |
|------------|---------|---------|---------|--------------------|-------------------|
| POPULATION | 113,400 | 124,300 | 140,100 | 9.61% | 23.54% |
| HOUSING | 27,800 | 30,400 | 33,300 | 9.35% | 19.78% |
| EMPLOYMENT | 36,300 | 37,100 | 38,400 | 2.20% | 5.79% |



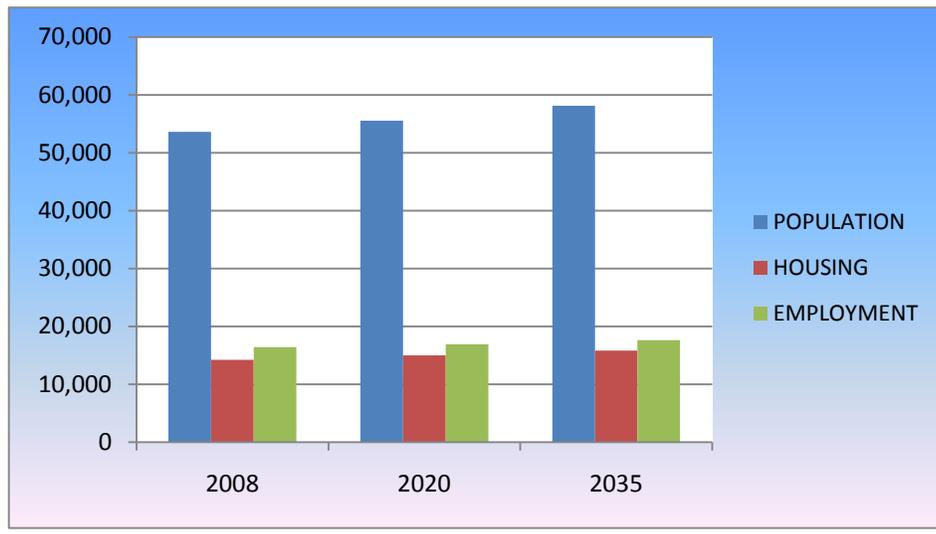
MONTEBELLO

| | 2008 | 2020 | 2035 | 2008 - 2020 CHANGE | 2008 -2035 CHANGE |
|------------|--------|--------|--------|-----------------------|----------------------|
| POPULATION | 62,500 | 66,400 | 66,400 | 6.24% | 6.24% |
| HOUSING | 19,000 | 20,500 | 20,500 | 7.89% | 7.89% |
| EMPLOYMENT | 25,700 | 26,400 | 27,400 | 2.72% | 6.61% |



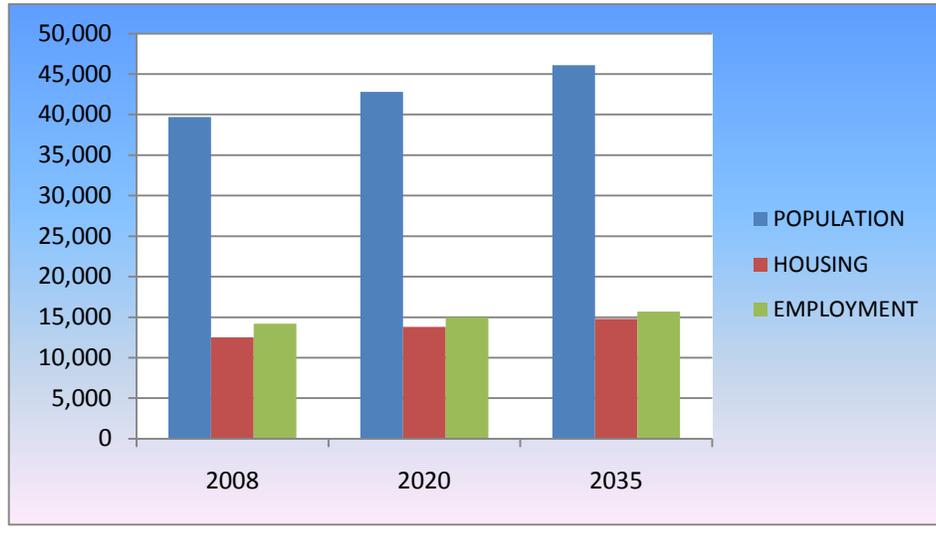
ROSEMEAD

| | 2008 | 2020 | 2035 | 2008 - 2020 CHANGE | 2008 -2035 CHANGE |
|------------|--------|--------|--------|-----------------------|----------------------|
| POPULATION | 53,600 | 55,500 | 58,100 | 3.54% | 8.40% |
| HOUSING | 14,200 | 15,000 | 15,800 | 5.63% | 11.27% |
| EMPLOYMENT | 16,400 | 16,900 | 17,600 | 3.05% | 7.32% |



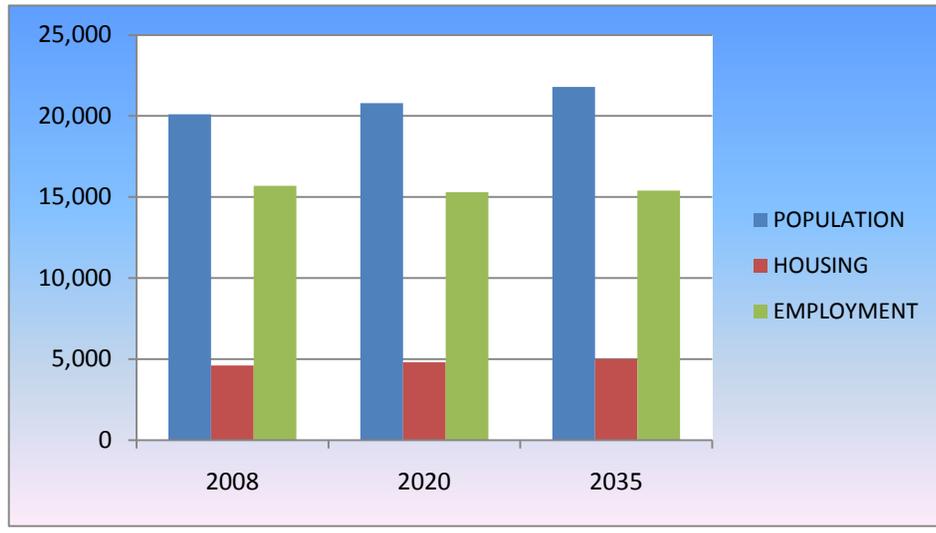
SAN GABRIEL

| | 2008 | 2020 | 2035 | 2008 - 2020 CHANGE | 2008 -2035 CHANGE |
|------------|--------|--------|--------|-----------------------|----------------------|
| POPULATION | 39,700 | 42,800 | 46,100 | 7.81% | 16.12% |
| HOUSING | 12,500 | 13,800 | 14,800 | 10.40% | 18.40% |
| EMPLOYMENT | 14,200 | 15,000 | 15,700 | 5.63% | 10.56% |



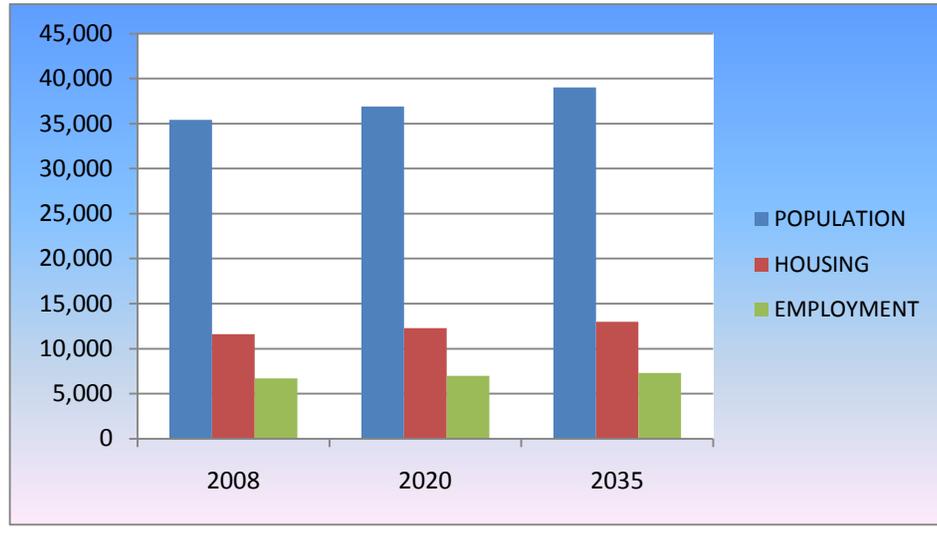
SOUTH EL MONTE

| | 2008 | 2020 | 2035 | 2008 - 2020 CHANGE | 2008 -2035 CHANGE |
|------------|--------|--------|--------|-----------------------|----------------------|
| POPULATION | 20,100 | 20,800 | 21,800 | 3.48% | 8.46% |
| HOUSING | 4,600 | 4,800 | 5,000 | 4.35% | 8.70% |
| EMPLOYMENT | 15,700 | 15,300 | 15,400 | -2.55% | -1.91% |



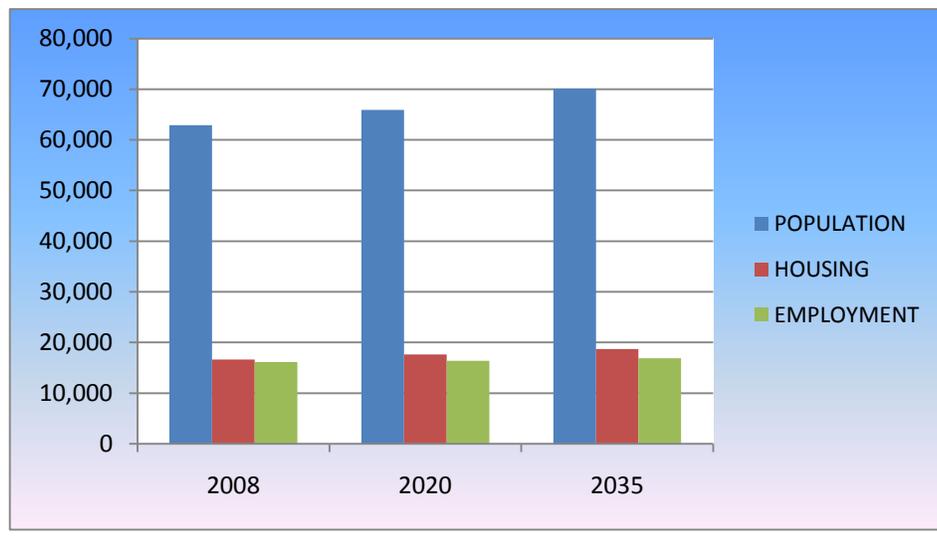
TEMPLE CITY

| | 2008 | 2020 | 2035 | 2008 - 2020 CHANGE | 2008 -2035 CHANGE |
|------------|--------|--------|--------|-----------------------|----------------------|
| POPULATION | 35,400 | 36,900 | 39,000 | 4.24% | 10.17% |
| HOUSING | 11,600 | 12,300 | 13,000 | 6.03% | 12.07% |
| EMPLOYMENT | 6,700 | 7,000 | 7,300 | 4.48% | 8.96% |



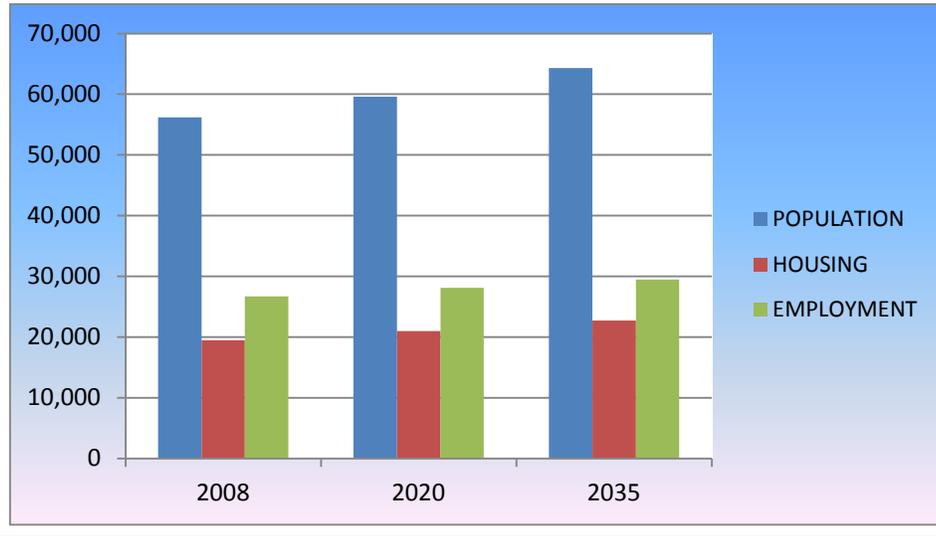
PICO RIVERA

| | 2008 | 2020 | 2035 | 2008 - 2020 CHANGE | 2008 -2035 CHANGE |
|------------|--------|--------|--------|-----------------------|----------------------|
| POPULATION | 62,900 | 65,900 | 70,100 | 4.77% | 11.45% |
| HOUSING | 16,600 | 17,600 | 18,700 | 6.02% | 12.65% |
| EMPLOYMENT | 16,100 | 16,400 | 16,900 | 1.86% | 4.97% |



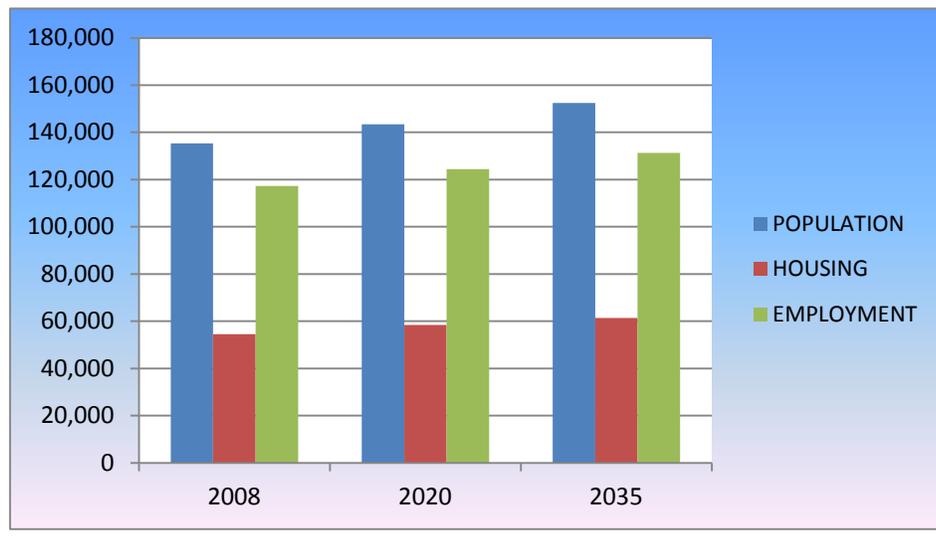
ARCADIA

| | 2008 | 2020 | 2035 | 2008 - 2020 CHANGE | 2008 -2035 CHANGE |
|------------|--------|--------|--------|-----------------------|----------------------|
| POPULATION | 56,200 | 59,600 | 64,300 | 6.05% | 14.41% |
| HOUSING | 19,500 | 21,000 | 22,700 | 7.69% | 16.41% |
| EMPLOYMENT | 26,700 | 28,100 | 29,500 | 5.24% | 10.49% |



PASADENA

| | 2008 | 2020 | 2035 | 2008 - 2020 CHANGE | 2008 -2035 CHANGE |
|------------|---------|---------|---------|-----------------------|----------------------|
| POPULATION | 135,300 | 143,400 | 152,500 | 5.99% | 12.71% |
| HOUSING | 54,500 | 58,400 | 61,400 | 7.16% | 12.66% |
| EMPLOYMENT | 117,300 | 124,400 | 131,300 | 6.05% | 11.94% |



SYSTEM CHARACTERISTICS

For the purpose of analysis, the SR-164 is divided into 4 segments based on logical termini including intersections, jurisdiction and changes in land use.

| Existing Facility | | | | |
|-------------------|----------------------|------------------------------------|------------------|-----------------------------|
| Segment/PM | Facility Type | Mixed -Flow Lanes (each direction) | Centerline Miles | Lane Miles (each direction) |
| 1 (0.00 - 1.39) | UNCONSTRUCTED | | | |
| 2 (1.39 - 3.34) | conventional highway | 2 | 1.95 | 3.9 |
| 3 (3.34 - 5.59) | conventional highway | 3 | 2.25 | 4.5 |
| 4 (5.59 - 6.89) | conventional highway | 2 | 1.3 | 2.6 |

| RAMP METERS ON SR-164 | | | |
|------------------------------|-----------|----------|----------|
| Postmile | Direction | Location | Comments |
| Segment 1 (PM 0.00 - R 1.39) | | | |
| UNCONSTRUCTED | | | |
| Segment 2 (PM 1.39 - 3.34) | | | |
| NONE | | | |
| Segment 3 (PM 3.34 - 5.59) | | | |
| NONE | | | |
| Segment 4 (PM 5.59 - 6.89) | | | |
| NONE | | | |

Source: 2013 Ramp Meter Development Plan (RMDP)

TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS (TSM&O)

As congestion spreads and intensifies and the level of incidents, delays, and disruptions increase, the level of service and reliability of the roadway systems in many areas continues to deteriorate. It is very important to operate the existing network to its fullest service potential.

The era of new roadway construction has largely ended in most of the country. In addition, the practice of widening existing freeways is also falling out of favor due to high costs, the built out nature of many urbanized areas and community desires for more multi-modal streets. There's growing momentum for making more efficient use of the existing transportation system.

MAP-21 defines transportation system management and operations (TSM&O) as integrated strategies to optimize the performance of existing infrastructure through the implementation of multimodal and intermodal, cross-jurisdictional systems, services and projects designed to preserve capacity and improve security, safety and reliability of the transportation system. TSM&O activities focus on a set of well known strategies such as incident management, traffic signal timing, ramp metering, road weather management and others.

Incorporating TSM&O into the Planning and Programming process will provide a more robust understanding of the statewide /regional transportation system and a toolbox of strategies that go beyond capacity expansion to include operations and demand management solutions.

Caltrans has incorporated System Performance as one of the Caltrans Strategic Plan Goals which is a five year implementation – and seeks to implement TSM&O on our most congested corridors through Integrated Corridor Management or ICM which optimizes the use of existing infrastructure assets and leverages unused capacity. TSM&O will be integral to Caltrans' new mission to 'PROVIDE A SAFE, SUSTAINABLE, INTEGRATED AND EFFICIENT TRANSPORTATION SYSTEM TO ENHANCE CALIFORNIA'S ECONOMY AND LIVABILITY.'

The Complete Streets Act of 2008 (AB. No. 1358 of September 30, 2008) requires cities and counties to incorporate the concept of Complete Streets into their General Plan Updates to ensure that transportation plans meet the needs of all users of our roadway system.

Also, California Vehicle Code and Streets and Highway Code Section 888 (Revised 10/4/2013) states that the department shall not construct a state highway as a freeway that will result in the severance or destruction of an existing major route for non-motorized transportation traffic and light motorcycles, unless it provides a reasonable, safe, and convenient alternate route or such a route exists.

SCAG's 2012-2035 Regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS) invests \$6.7 billion towards increasing bikeways, bringing sidewalks into compliance with Americans with Disabilities Act, safety improvements and other Active Transportation Strategies.

The United States Department of Transportation (US DOT) Policy Statement on bicycle and pedestrian accommodation (March 11, 2010) also states that US DOT encourages transportation agencies to go beyond the minimum requirements, and proactively provide convenient, safe and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics when appropriate.

Based on Caltrans' context sensitive, smart mobility and complete streets policies and the Governor's Office's Climate Action and Sustainability Plan; "where the existing freeway or highway corridor has severed routes and has decreased connectivity between communities, employment hubs, schools, wild life corridors, every effort will be made to re-establish those lost connections on any project along the corridor."

SB-99, the listed Caltrans Deputy Directive, California Vehicle and Highway Code, SCAG's 2012 RTP/SCS and U.S. DOT policy statements all support Complete Street including bicycle and pedestrian facilities for SR-164.

PARK AND RIDE FACILITIES

SR-164 has two Park and Ride Facilities located in close proximity. The table below lists these facilities.

| Address | Lot Name | Spaces | Cost |
|----------------------------------|-----------------------|--------|-----------------|
| 149 N Halstead Ave, Pasadena, Ca | Sierra Madre-Goldline | 965 | Free & Reserved |
| 1000 Durfee Ave, Whittier, Ca | Whittier Narrows | 365 | Not Available |

Source : 2014 METRO

TRANSIT FACILITY

The transit component for State Route 164 embodies a multi-modal system including carpooling, local and express transit service, and Commuter Rail (Metrolink). These agencies operate along this route, providing the following services (see below):

SR 164 - TCR TRANSIT INFORMATION - DISTRICT 7

Source: Office of Mass Transportation and Transit Operators

EXISTING SERVICE ON SR 164

| Route | From/To | Operator | Rt # | Name/Description | Service Type | Service Span | Notes |
|-------|----------------------------|----------|------|--|--------------|---------------|----------------------|
| 164 | Gallatin Rd-Lower Azusa Rd | Metro | 266 | Sierra Madre Villa Station - Lakewood Center Mall | Local | 7 Days | 30-60 min. Frequency |
| 164 | Garvey-Mission | Rosemead | 1.2 | Rosemead Explorer | Community | 7 Days | 60 min Frequency |
| 164 | Telstar-Mission Rd | Metro | 176 | Highland Park - El Monte Station - The Shops at Montebello | Local | Weekdays | 45 min Frequency |
| 164 | Valley-Lower Azusa Rd | Metro | 489 | Diamond Bar-Rowland Hts-DTLA | Express | Weekdays Peak | 20 min Frequency |

FUTURE SERVICE

Metro Gold Line will extend from East LA to South El Monte or Whittier after 2025

INTERMODAL TRANSIT CENTERS AND STATIONS LOCATED ON OR NEAR SR 164 CORRIDOR

| Route | Location | City | Operator | Transit Service | Service Type | Service Span | Notes |
|-------|----------------------------------|----------|------------------|--|----------------|-----------------|--------------|
| 164 | El Monte Station | El Monte | Metro | Metro Silver Line | Transitway | 7 Days | Free Parking |
| | | | | Metro 70,76,176,190,194,267,268,274,87,577,770 | Local | 7 Days | |
| | | | | | Express,Rapid | 7 Days | |
| | | | | Foothill Silver Streak | Transitway | 7 Days | |
| | | | | Foothill 178,269,282,481,486,488,492,494 | Local | 7 Days | |
| | | | | El Monte Commuter Shuttle | Express | Weekdays Peak | |
| | | | | Rosemead Commuter Connection | Express | Weekdays Peak | |
| | | | | Greyhound | Intercity | 7 Days | |
| | | | | LAX FlyAway | Express | 7 Days | |
| 164 | El Monte Metrolink Station | El Monte | City of El Monte | Metrolink San Bernardino Line | Commuter Rail | 7 Days | Free Parking |
| | | | | Rosemead Commuter Connection | Express | Weekdays Peak | |
| | | | | El Monte Commuter Shuttle | Express | Weekdays Peak | |
| | | | | El Monte Transit All Routes | Local | Monday-Saturday | |
| | | | | Metro 76 | Local | 7 Days | |
| 164 | Sierra Madre Villa Metro Station | Pasadena | Metro | Metro Gold Line | Light Rail | 7 Days | Free Parking |
| | | | | Metro 181,264,266,268,487 | Local, Express | 7 Days | |
| | | | | Pasadena ARTS 31,32,40,60 | Local | Monday-Saturday | |
| | | | | Foothill 187 | Local | 7 Days | |

FUTURE SERVICE

Metro Gold Line will extend from Sierra Madre Villa to Azusa in 2016.

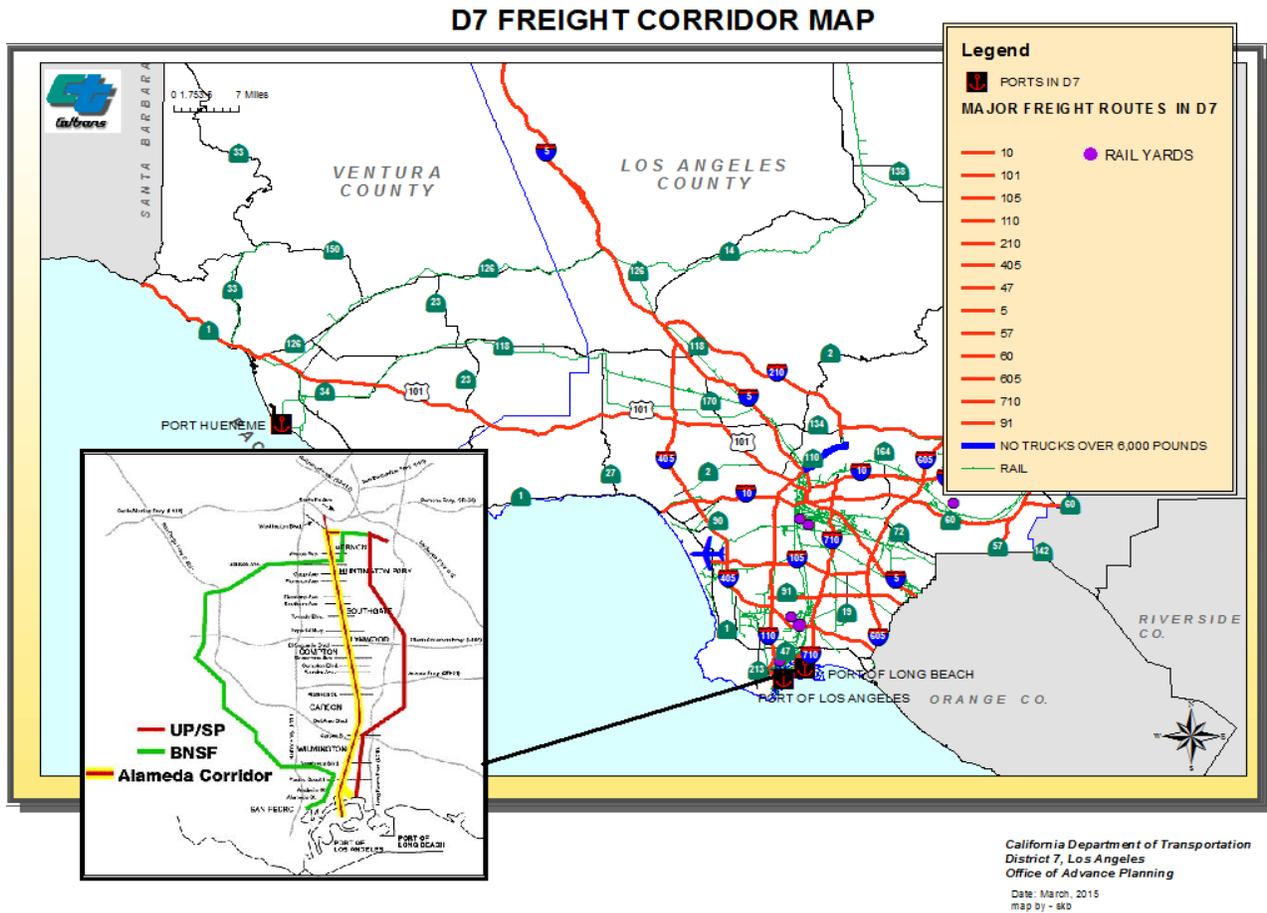
Proposed Metro Gold Line extension from Azusa to Montclair Metrolink

Metro Gold Line will extend from Atlantic to South El Monte or Whittier after 2025

FREIGHT

SR-164 is a part of the Terminal Access Route STAA truck network and its truck volumes in 2008 range from 3.7 % to 5.6 % of AADT. Regionally, truck traffic in Southern California is expected to grow significantly through 2035, using an increasing share of the regions’ highway capacity. Truck vehicle-miles-traveled (VMT) on regional highways is projected to grow by 80 percent between 2008 and 2035, an increase from 6.8 percent to over 10 percent of total VMT. (Source: SCAG’s On the Move: A Comprehensive Regional Goods Movement Plan and Implementation Strategy; December 2012)

Seaports: The Port of Los Angeles, the Port of Long Beach and the Port of Hueneme are major ports in the region and are significant traffic generators.



ENVIRONMENTAL CONSIDERATION - California is known for traffic congestion and its impacts. Pollution of various types is typical in this region. Air quality, noise and water pollution are common. Below is the latest attainment/nonattainment status of SR-164 Corridor which falls in the South Coast Air Quality Management District.

| POLLUTANTS | STATE DESIGNATION |
|-------------------------------|-------------------|
| Ozone | Nonattainment |
| Carbon Monoxide | Attainment |
| PM2.5 | Nonattainment |
| PM10 | Nonattainment |
| Nitrogen Dioxide | Attainment |
| Sulfur Dioxide | Attainment |
| Sulfates | Attainment |
| Lead | Attainment |
| Hydrogen Sulfide | Unclassified |
| Visibility Reducing Particles | Unclassified |

** Source: Air Resource Board 2013 State Designation Map*

CORRIDOR PERFORMANCE:

Segment 1 - UNCONSTRUCTED

Segment 2 has 37,900 AADT in 2035 according to the modeling data. The segment currently operates at LOS F0 during the period of peak congestion.

Segment 3 has 62,300 AADT in 2035 according to the modeling data. The segment currently operates at LOS F0 during the period of peak congestion.

Segment 4 has 56,600 AADT in 2035 according to the modeling data. The segment currently operates at LOS F0 during the period of peak congestion.

| Basic System Operations | | | | | | |
|--------------------------------|----------------------|------------------|-----------------|-----------------|-----------------|-----------------|
| Segment | AADT 2008 | AADT 2035 | LOS 2008 | LOS 2035 | VMT 2008 | VMT 2035 |
| 1 | UNCONSTRUCTED | | | | | |
| 2 | 35,500 | 37,900 | F0 | F0 | 241,800 | 258,100 |
| 3 | 60,600 | 62,300 | F0 | F0 | 137,600 | 141,400 |
| 4 | 55,600 | 56,600 | F0 | F0 | 70,000 | 71,300 |

* Source: 2012-2035 RTP/SCS model data

| Truck Traffic | | | | |
|----------------------|--|---------------------------------------|---|--|
| Segment | Total Average Annual Daily Truck Traffic (AADTT) 2008 | Total Trucks (% of AADTT) 2008 | 5 + Axle Average Annual Daily Truck Traffic (AADTT) 2008 | 5 + Axle Trucks (% of AADTT) 2008 |
| 1 | UNCONSTRUCTED | | | |
| 2 | 1,640 | 5.3% | 320 | 19.4% |
| 3 | 2,800 | 5.6% | 340 | 12.4% |
| 4 | 1,800 | 3.7% | 140 | 8.2% |

* Source: Caltrans Truck Volume Book

CORRIDOR CONCEPT

CONCEPT RATIONALE

The transportation concept describes the operating conditions and physical facilities required to provide those conditions that could exist on SR-164 after considering the conclusions, priorities and strategies discussed in the District System Management Plan (DSMP), the SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and other planning documents. The route concept represents what could reasonably be accomplished to facilitate the mobility of traffic desiring to use the route. It assumes that management improvement strategies and system operation improvements to maximize the efficiency on SR-164 will be implemented.

The transportation concept is composed of a Level of Service (LOS) and facility component. The concept facility is the facility that could be developed to maintain or attain the concept LOS.

PLANNED/PROGRAMMED PROJECTS AND STRATEGIES

COMPASS BLUEPRINT

Demonstration Projects from Compass Blueprint (Compass Blueprint is a new way to look at how Southern California grows. It is driven by Mobility, Livability, Prosperity and Sustainability)

San Gabriel - Visualizations and Tipping Point Analysis

Compass Blueprint provided the City of San Gabriel with an analysis of the financial feasibility of various development scenarios at a site in the City's mission District.

Goals

- Provide a market driven plan for long-term economic vitality
- Develop regulatory standards that ensure efficient use of underutilized properties
- Establish land use regulations that support increased pedestrian activity
- Establish clearly defined sense of arrival in the Mission District
- Create a cohesive pedestrian circulation concept

The City of San Gabriel created a vision for the City's Mission District. The City believes the Mission District is an important part of its future, and identified an opportunity site to conduct economic feasibility analyses. In the Mission District Specific Plan, the City envisions the district to thrive in a market driven economy, be economically vital in the long-run, establish land use regulations with emphasis on pedestrian activity, and create urban design standards to create a cohesive environment. Three mixed-use development scenarios were examined to provide insight into the mix of uses, necessary density and intensity, and parking requirements for the identified opportunity site. In the course of creating the three primary scenarios, alternative development possibilities were also considered and analyzed as additional options. Finally 3D visualizations were produced to help stakeholders and community leaders envision the proposed changes to the urban form.

Results

- Multiple development scenarios for the 2.27 acre opportunity site
- Feasible program proposes 159 units, 14,280 sq. ft. of retail, at an FAR of 1.80
- 3D visualizations demonstrating possible building form
- Pedestrian circulation for proposed site

Demonstration Projects from Compass Blueprint (Compass Blueprint is a new way to look at how Southern California grows. It is driven by Mobility, Livability, Prosperity and Sustainability)

SR60 Coalition of Cities - Gold Line Corridor Study

The SR60 Coalition, made up of the cities of Monterey Park, Montebello, Rosemead, El Monte, South El Monte, and the City of Industry, initiated a study of potential freeway adjacent Transit Oriented Development (TOD) designs.

The SR60 Coalition approached this project with three goals: to provide economic development analysis for the area if Metro identifies this alignment for the Gold Line Eastside Extension phase II, to create a planning, design framework for sustainable transit oriented development at the proposed station locations, and to further the inter-jurisdictional planning efforts between the their jurisdictions.

Goals

- Identify strategies for sustainably developing TOD near highways
- Support inter-jurisdictional collaborative planning
- Coordinate numerous city level planning efforts

This project resulted in presentation maps, a summary of the redevelopment analysis, visualization products, TOD areas showing proposed land uses for each of the four station sites, a technical memorandum on sustainable design and construction, presentation materials on multi-jurisdictional implementation tools, and a final Report and poster graphic. Throughout the process representatives from the cities continued to meet with each other and stakeholder agencies, including the Army Corps of Engineers to broaden the conversation on planning opportunities. This report applies two innovative planning concepts to TOD areas: 5 & 10 min radius drive-shed analyses, and road network analyses to arrive at a more accurate rider capture areas than simple circle radius maps would provide.

Results

- Covered combined study area of 10,771 acres
- Higher population & employment growth in TOD areas than in overall subregion
- Combined new development potential around the four station areas of 218 acres
- Eight implementation strategies for the SR60 Coalition to engage
- 2885 potential residential units
- 5,240,030 sq. ft potential new commercial/office/retail space

Demonstration Projects from Compass Blueprint (Compass Blueprint is a new way to look at how Southern California grows. It is driven by Mobility, Livability, Prosperity and Sustainability)

El Monte - Economic Development Plan

For this project, Compass Blueprint worked with the City of El Monte to ensure a land use design that promotes compact development patterns, increase in housing supply, and supports economic revitalization and employment.

Goals

- Develop a land use strategy to intensify residential uses within the downtown and along major corridors
- Propose economic development policies and practical strategies to capture most appropriate business sectors suitable for location in El Monte
- Circulation strategies for increased connectivity between subdistricts, to proposed Transit Village, and to larger subregion
- Provide key input for Land Use, Community Design, and Circulation Elements as part of the City’s General Plan update

El Monte is located in the heart of the San Gabriel Valley and hosts one of the busiest multi-modal transit hubs, which is served by the MTA, Foothill Transit, El Monte Transit, as well as Metrolink. In the past three years, there has been interest in downtown El Monte, including residential, commercial, and industrial development around the \$500 million transit center. City of El Monte staff anticipates this project will help revitalize El Monte. Surrounding the transit center and greater downtown El Monte are several key districts slated for potential revitalization, intensification, and development. These districts are included as part of the City’s redevelopment project areas.

Results

- Study area: Corridors of 2,000 acres, Transit Village Specific Plan of 60 acres, Flair Business Park of 200 acres, Northwest Industrial District (NID) of 400 acres, and the Downtown District of 200 acres
- Development of land use guidelines; economic and circulation recommendations
- Identified 68 strategies for four districts: NID, Flair Park, Downtown, and Corridor District
- Recommendations for 60-acre Transit Village
 - 1 million sq. ft. of nonresidential commercial areas
 - 35 percent (648 units) of the units for rental households 65 percent (1,202 units) for ownership households
 - 15 percent (270 units) must be affordable to low and moderate income households
- Incorporated strategies in City’s General Plan update
- New mixed-use, high density land use designations in El Monte

Alhambra: Envision 2035 - This project provided the City of Alhambra with a shared vision that is helping guide the city's future growth and related policies. Project is not expected to have an impact on the highway and is located 3.7 miles north-west of SR-164's northern terminus. (SR 164,Section 4)

Pico Rivera Kruse Road Open Space Study - The project entails a study for the relocation, acquisition and conversion to open space of a 15 acre legally non-conforming industrial area surrounded by parkland and residential uses. Project is not expected to have an impact on the highway and is located 0.5 miles east of where SR-164 enters Whittier Narrows. (SR 164,Section 1)

San Gabriel Greening the Zoning Code - This project enabled the City of San Gabriel to model a strategy to better integrate land use and transportation plans in order to reduce greenhouse gases, and improve sustainability. Project is not expected to have an impact on the highway and is located 2 miles north-west of SR-164's northern terminus. (SR 164,Section 4)

Washington Blvd Coalition of Studies: Gold Line Corridor Study - The primary goal of the Washington Boulevard Gold Line Light Rail Transit Corridor Study was to identify how land uses and transportation strategies can be used to support and stimulate economic development, create sustainable communities, and reduce long-term congestion along the proposed rail alignment along Washington Blvd. and Garfield Ave. Project provides an alternative to driving and travels along Washington Blvd. 1.9 miles south of where SR-164 crosses Whittier Blvd. (SR 164,Section 1)

Source: SCAG's Sustainability Division

CONCLUSION

Traffic volume is forecasted to increase on SR-164 due to the growth in population, housing and employment along this route and throughout the region. Growth in the region will continue to create mobility challenges and put additional stresses on our transportation system. Southern California is not only an important component of California's economy but it is also vital to the United States and world's economies as a whole. It is critical that mobility be maintained and improved in order to sustain the economic growth that is expected. In addition to sustaining the economic vitality of the region, mobility is also an important component in enhancing the quality of life for the residents in this region. SR-164 is only one component of the transportation infrastructure, but it plays a critical role in providing mobility for the region. In order to improve mobility, additional capacity will be required beyond those planned and programmed in the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to maintain an acceptable level of service through 2035.

District 7 employs a variety of strategies to address current congestion challenges including:

- High Occupancy Vehicle Lane (HOV)
- Ramp Metering
- Congestion Pricing (Toll Lanes)
- Changeable Message Signs (CMS)
- TSM&O (Transportation System Management and Operations)

Several regional freeway capacity expansion projects are in the planning process, under development or under construction which will assist in decreasing congestion.

Constructing an HOV or Managed Lane system continues to be a priority. Incorporating TSM&O strategies into Planning process will help to support Caltrans new mission of providing safe, sustainable, integrated and efficient transportation system in the region.

The highway system is only one component of the transportation infrastructure; but it plays a very important role in providing mobility for the region. To achieve the desired minimum acceptable level of service, additional lanes will be needed beyond those planned and programmed in the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

In addition to the projects on our system, Caltrans supports programs such as Transit Oriented Development (TOD). TOD is a moderate to higher density development, located within easy walk of a major a transit stop. Generally with a mix of residential, employment and shopping opportunities designed for pedestrians. Research has shown that these types of development increase the number of trips made by transit, walking and cycling thus reducing the number of car trips and reducing tailpipe emissions.

SCAG's 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) identifies High Quality Transit Areas (HQTAs) meeting definitions established in SB 375. These areas are intended to direct and prioritize future growth, and further, establish eligibility for certain types of

projects to access CEQA streamlining. Note, however, that residential and other types of development along freeways can be associated with increased health risk due to emissions exposure. Future projects should refer to available information resources, including but not limited to SCAG's 2012-2035 RTP/SCS Environmental Justice Appendix and Program Environmental Impact Report.

Appendix A

GLOSSARY OF TERMS AND ACRONYMS

Acronyms

| | |
|----------|--|
| AADT | Annual Average Daily Traffic |
| AADTT | Annual Average Daily Truck Traffic |
| ADT | Average Daily Traffic |
| AQMD | Air Quality Management District |
| CALTRANS | California Department of Transportation |
| CEQA | California Environmental Quality Act |
| CHSRA | California High Speed Rail Authority |
| CMP | Congestion Management Plan |
| FHWA | Federal Highway Administration |
| HOV | High Occupancy Vehicle Lane |
| HOT | High Occupancy Toll Lane |
| IC | Interchange |
| IRRS | Interregional Road System |
| ITIP | Interregional Transportation Improvement Program |
| ITS | Intelligent Transportation System |
| LACBD | Los Angeles Central Business District |
| LOS | Level of Service |
| MF | Mixed Flow Lane |
| MFE | Mixed Flow Equivalent |
| ML | Managed Lane |
| MPO | Metropolitan Planning Organizations |
| RTP | Regional Transportation Plan |

| | |
|--------|--|
| RTIP | Regional Transportation Improvement Program |
| RTPA | Regional Transportation Planning Agency |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| SCS | Sustainable Community Strategy |
| SHOPP | State Highway Operation Protection Program |
| SHS | State Highway System |
| SR | State Route |
| STIP | State Transportation Improvement Program |
| STAA | Surface Transportation Assistance Act |
| TDM | Transportation Demand Management |
| TMS | Transportation Management System |
| TOD | Transit Oriented Development |
| V/C | Volume to Capacity Ratio |
| VMT | Vehicle Miles Traveled |

DEFINITIONS

Annual Average Daily Traffic (AADT) - AADT is the total volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th.

Facility Concept – Describes the facility and strategies that may be needed within 20-25 years. This can include capacity increasing, state highway, bicycle facility, pedestrian facility, transit facility, non-capacity increasing operational improvements, new managed lanes, conversion of existing managed lanes to another managed lane type or characteristic, TMS field elements, transportation demand management, and incident management.

Focus Route – Focus Routes are a subset of the 34 High Emphasis Routes. The routes represent 10 IRRS corridors that should be of the highest priority for completion to minimum facility standards in the 20-year period. Completion of the Focus Routes to minimum facility standards (for most routes freeway or expressway) will assure a statewide trunk system is in place and complete for higher volume interregional trip movements. Focus Routes will serve as a system of high volume primary arteries to which lower volume and facility standard state highway routes can connect for purposes of longer interregional trips and access into statewide Gateways. The routes, taken as a whole, constitute a “backbone” for additional capacity and complete facilities for the state. They balance north-south and east-west access and connectivity statewide. The Focus Routes assure rural connectivity for the north state and otherwise connect the fastest growing urbanized areas and urban centers to a trunk system. All Focus Routes are on the National Highway System (an exception is the S.R. 49 portion of the S.R. 20 corridor), Freeway and Expressway System, and are STAA Truck or Truck Terminal Routes.

High Emphasis Route – The High Emphasis category represents routes that have high interregional importance from a statewide perspective. This makes them a priority to be programmed and constructed to at least the minimum facility concept standard (for most routes, this is freeway or expressway). The interstates are included in the High Emphasis category to highlight their critical importance to interregional travel and the State as a whole.

Interregional Road System -- IRRS was first identified by statute in 1989 as part of the Blueprint Legislation (a 10-year transportation funding package including AB 471, SB 300, and AB 973). It is a subset of the entire 265 SHS routes that provides connectivity among all of California’s regions. There are currently 93 statutory IRRS routes (page 3 and Appendix E, page 101 Interregional Transportation Strategic Plan – October 2013). The IRRS was conceived as part of the larger effort to address the critical transportation system funding and development needs of the State. The implementation of IRRS improvements is dependent on prioritization of State transportation revenues. Most interstates are included in the IRRS. SB 45 requires that the ITIP include a specific allocation of funds to be programmed on IRRS routes in non-urbanized areas.

Level of Service (LOS) – It is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. A LOS definition generally describes these conditions in terms of density, speed, travel time, freedom to maneuver, traffic interruption, comfort and convenience. LOS can be categorized as follows:

LOS A describes free flowing conditions.

LOS B also indicative of free flow conditions. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.

LOS C represents a range in which the influence of traffic density on operations becomes marked. The ability to maneuver with the traffic stream is now clearly affected by the present of other vehicles.

LOS D demonstrates a range in which the ability to maneuver is severely restricted because of the traffic congestion. Travel speed begins to be reduced as traffic volume increases.

LOS E reflects operations at or near capacity and an extremely unstable flow. Maneuverability and psychological comfort are poor.

LOS F is a stop and go, low speed conditions with little or poor maneuverability. Speed and traffic flow may drop to zero and considerable delays occur. For intersections, LOS F describes operations with delay in excess of 60 seconds per vehicle. To reflect the duration of congestion, the LOS F has been expanded into F0, F1, F2 and F3. Each LOS F indicates the time a segment is congested. F0 (0-1 Hour), F1 (1-2 Hours), F2 (2-3 Hours), F3 (> 3 Hours)

Mainline – includes travel way for through traffic but not freeway to freeway interchanges, local road interchanges, ramps, or auxiliary lanes.

Peak Hour – The hour of the day in which the maximum volume occurs across a point on the highway.

Peak Hour Volume – The hourly volume during the highest hour traffic volume of the day traversing a point on a highway segment. It is generally between six percent and 10 percent of the Annual Daily Traffic (ADT). The lower values are generally found on roadways with low volumes.

Post Mile (PM) – A post mile is an identified point on the State Highway System. The milepost values increase from the beginning of a route within a county to the next county line. The milepost values start over again at each county line. Mile post values usually increase from south to north or west to east depending upon the general direction the route follows within the State. The milepost at a given location will remain the same year after year. When a section of road is relocated, new milepost (usually noted by an alphabetical prefix such as “R” or “M”) are established for it.

Vehicle Miles Traveled (VMT) – Is the total number of miles traveled by motor vehicles on a road or highway segments.