



SR-710 Study

Alternatives Analysis Report

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## Appendix I

Forecast Results and Future System Performance Report





SR-710 Study

Alternatives Analysis Phase

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# SR 710 EIR/EIS Forecast Results and Future System Performance Report

Prepared for



**Metro**

Los Angeles County  
Metropolitan Transportation Authority

December 2012

**CH2MHILL®**

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**Attachments**

1. Performance Measure Technical Appendix
2. Freeway Truck Volume Technical Appendix
3. SR 710 EIR/EIS Travel Forecasting Alternatives Analysis Framework
4. SR 710 EIR/EIS SCAG Highway Model Validation Technical Memorandum
5. SR 710 EIR/EIS Metro Transit Model Validation Technical Memorandum
6. SR 710 EIR/EIS SCAG Truck Model Validation Technical Memorandum

**For Attachments 3-6, please click on the name of the Attachment to be redirected to Appendix G.**

# Acronyms and Abbreviations

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ADT	average daily traffic
AM	6:00 to 9:00
BRT	Bus Rapid Transit
C	capacity
CA	California
Caltech	California Institute of Technology
Caltrans	California Department of Transportation
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
HCM	Highway Capacity Manual
HOV	high-occupancy vehicle
I	Interstate
ITS	Intelligent Transportation Systems
JPL	Jet Propulsion Laboratory
LA	Los Angeles
LOS	level of service
LRT	Light Rail Transit
Metro	Los Angeles County Metropolitan Transportation Authority
mph	miles per hour
O-D	origin-destination
PCC	Pasadena City College
PM	3:00 to 7:00
PR	Project Report
RTP	Regional Transportation Plan
RTPID	RTP identification number
SCAG	Southern California Association of Governments
SR	State Route
TDM	Travel Demand Management
TMT	truck miles traveled
TSM	Transportation System Management
UPRR	Union Pacific Railroad
US	United States
V	volume
V/C	volume to capacity
VHT	vehicle hours traveled
VMT	vehicle miles traveled

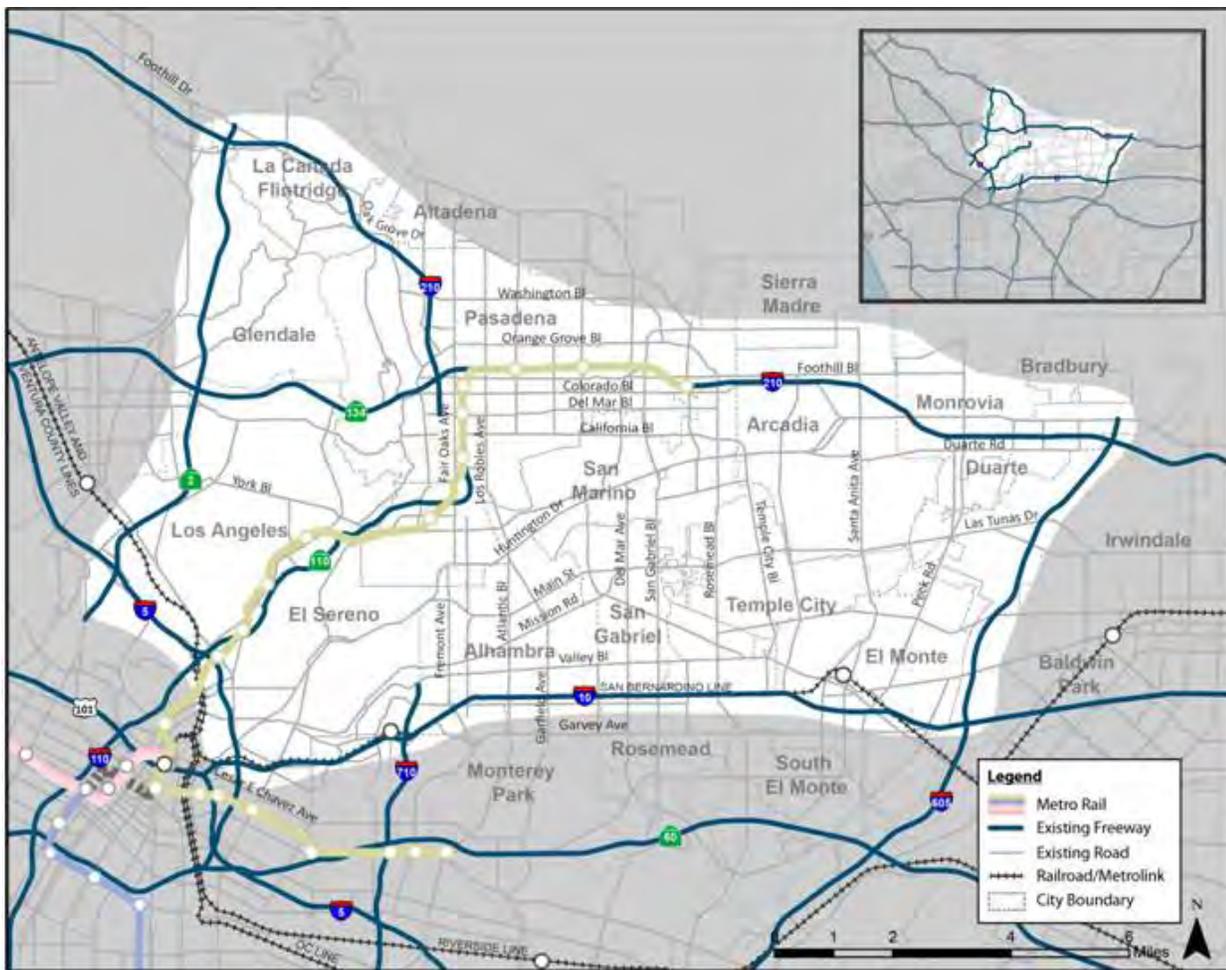
SECTION 1

# Introduction

The State Route (SR) 710 corridor and study area are located in and near some of the most densely developed parts of southern California. The demand for the transportation facilities causes congestion on the freeways and arterials, which in turn affects the mobility and safety of all modes. An important element of the SR 710 Environmental Impact Report/Environmental Impact Statement (EIR/EIS) is to analyze the benefits of the planned and programmed transportation improvement projects in the area.

The study area (shown in Figure 1.1) encompasses SR 2, Interstate (I)-5, I-10, I-210, and I-605. Because a multimodal transportation system is being evaluated, the project influence zone is expected to be much wider than the study area, and will be developed as necessary during the next phase of this project.

FIGURE 1.1  
SR 710 EIR/EIS Study Area



This report focuses on Part 1 (Alternatives Analysis) of the study process. In Parts 2 and 3, the Project Report (PR) and EIR/EIS will be completed. The subsequent stages of the study process will include additional and more refined travel modeling.

In Part 1, a range of transportation improvement projects have been identified, defined, and screened according to feasibility and effectiveness. An important element of the screening process involves understanding the likely impacts of the alternative on travel demand and resulting congestion on the region’s highway and transit facilities. These estimates are generated with a series of travel demand models that represent the relationship

between existing and future land use and socioeconomic characteristics (including population and household characteristics, employment, and school and university enrollment) and transportation supply to indicate the demand for travel. Together, these models are used to assess the frequency of trip making, origins and destinations of travel, choice of mode, and choice of route. This information will guide the evaluation of alternatives to understand how different projects affect mobility for vehicles and transit. This evaluation will also look at which alternatives contribute to, or alleviate, congestion on the roadways and transit operations.

This report presents the travel demand forecasting results and an assessment of the future transportation system performance. This report describes the alternatives considered in the screening level process (Section 3) and the performance measures (Section 4) used to evaluate each of the alternatives. The report then presents the model results and performance evaluation for each alternative and a comparison showing the alternatives by each performance measure.

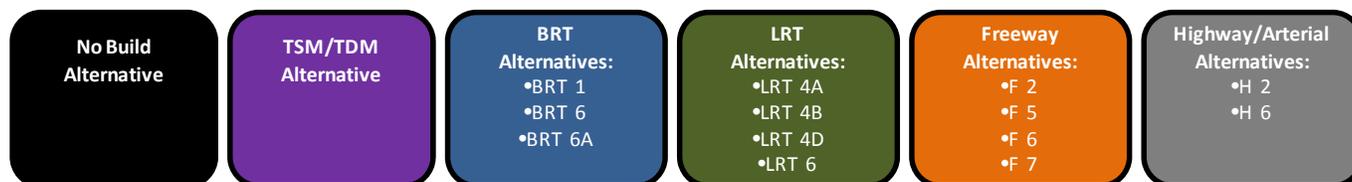
The alternatives considered in this screening level process include the No Build alternative, the Transportation System Management/Travel Demand Management (TSM/TDM) alternative, Bus Rapid Transit (BRT) alternatives, Light Rail Transit (LRT) alternatives, freeway alternatives, and highway/arterial alternatives. Model results and performance are discussed in Sections 5 through 10.

- **Section 5: TSM/TDM Alternative**, providing the system performance evaluation for the TSM/TDM alternative compared with the No Build alternative.
- **Section 6: BRT Alternatives**, providing the system performance evaluation for the BRT alternatives compared with the TSM/TDM alternative.
- **Section 7: LRT Alternatives**, providing the system performance evaluation for the LRT alternatives compared with the TSM/TDM alternative.
- **Section 8: Freeway Alternatives**, providing the system performance evaluation for the freeway alternatives compared with the No Build alternative.
- **Section 9: Highway/Arterial Alternatives**, providing the system performance evaluation for the highway/arterial alternatives compared with the No Build alternative.
- **Section 10: All Alternatives Performance Comparisons**, provides a system performance evaluation comparison of all of the alternatives.

Sections 5 through 10 compare each of the alternatives with the No Build alternative. Figure 1.2 is a visual example of the alternatives discussed in Sections 5 through 10.

FIGURE 1.2

#### Alternatives for System Performance Evaluation



SECTION 2

# Documentation Approach

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Travel demand forecasting focuses on transportation system analysis, and it includes several deliverables. This memorandum is the “System Performance Report”. Table 2.1 is a summary of deliverables, which shows how this report fits within the overall structure.

TABLE 2.1  
**Deliverables**

<b>Report Title</b>	<b>Original Scope of Work Deliverable(s)</b>	<b>Description</b>	<b>Appendices</b>
<b>Existing Conditions System Performance Report</b>	Baseline Conditions Report	Field data and model results for existing conditions	Field traffic and transit data, plus model output
<b>Forecast Results and Future System Performance Report</b>	System Performance Report	Application of the model for 2035 conditions – No Build and alternatives	Detailed modeling results
<b>Model Methodology Report</b>	Model Methodology Report and Forecast Results Report	Approach for modeling, and setup/validation of the models	Forecasting methodology document (December) and detailed validation reports for each mode
<b>Model Results Report</b>	SR 710 Gap Model Results Report	Executive summary of the other reports	Other memos not included in other reports

# Alternatives

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Part 1 (Alternatives Analysis) of the SR 710 EIR/EIS project evaluated impacts using a travel demand modeling (forecasting) process that combined the Southern California Association of Governments (SCAG) 2008 Regional Transportation Plan (RTP) travel demand model (to be referred to as “the model”) and the Metro Measure R transit forecasting model. The blended model approach was designed to take advantage of the strengths of each tool (highway and transit forecasts) and to maintain the schedule requirements determined by Metro and the California Department of Transportation (Caltrans). The blended model solution was identified in December 2011 by a working group comprised of technical experts from Caltrans, Metro, SCAG, and the consulting team. Additional information regarding the blended model can be found in the “*SR 710 EIR/EIS – Model Methodology Report*” dated September, 2012. Subsequent parts of the project (Part 2 and Part 3) will use a revised and more detailed modeling approach that will take advantage of potential model improvements associated with the 2012 SCAG RTP model, which was recently released for use.

Alternatives were reduced from a list of potential alternatives through an initial screening analysis that used less refined techniques and broader performance measures. A review of this initial screening can be found in the report “*SR 710 EIR/EIS – Draft Results of Initial Evaluation*” dated March 28, 2012. Alternatives were defined in four major categories:

1. **No Build Alternative:** The No Build alternative assumes that the transportation needs in the study area are not specifically addressed through the development of new projects. Only projects currently included in the 2012 RTP Federal Transportation Improvement Program (FTIP), and the additional financially constrained transportation projects above and beyond the FTIP that are identified in the 2012 RTP transportation project list. These projects make up the fiscally constrained RTP.
2. **TSM/TDM Alternative:** The TSM/TDM alternative addresses the transportation needs in the corridor through the implementation of alternative strategies that do not include construction of new transit or highway facilities. These improvements could include application of advanced technologies and arterial improvements.
3. **BRT Alternatives:** The transportation needs in the corridor would be addressed through the application of the transit system portion of the TSM/TDM alternative, and the development of BRT alternatives connecting with other existing transit service.
4. **LRT Alternatives:** The transportation needs in the corridor would be addressed through the application of the transit system portion of the TSM/TDM alternative, and the development of LRT alternatives connecting with other existing transit service.
5. **Freeway Alternatives:** The transportation needs in the study area would be addressed through the development of a freeway (either tunnel or surface) from the Alhambra area (near SR 710 and I-10) to the north connecting to I-210, SR 134, or SR 2.
6. **Highway Alternatives:** The transportation needs in the corridor would be addressed through improvements to existing highways and arterials in the study area without the construction of a new facility. Improvements may include intersection enhancements, grade separations, and widening.

## 3.1 No Build Alternative

The 2035 programmed projects in and around the study area are shown in Figure 3.1. The No Build alternative does not include any project in the SR 710 corridor not already programmed in the fiscally constrained regional plan. The No Build alternative does include all of the projects that are identified for construction and implementation in the financially constrained project list of the 2008 RTP. The No Build project list includes projects both inside and outside the study area, extending throughout the entire SCAG region. The No



No Build  
Alternative



TABLE 3.1  
2035 Programmed Projects

RTP ID	Route	From	To	Description
LA000274	SR 2	Sepulveda Boulevard	Moreno Drive	Construct divided parkway with transit parkway improvements (bike lanes and SR 2/I-405 interchange).
LA000320	Atlantic Boulevard	Olympic Boulevard	Whittier Boulevard	Widen from 4 to 6 lanes to include left turn lanes.
LA000357	I-5	SR 170	SR 118	Add an HOV lane in both the northbound and southbound directions. Construct I-5 / SR 170 HOV to HOV connector.
LA000358	I-5	SR 134	SR 170	Add an HOV lane in both the northbound and southbound directions. Add auxiliary lanes in both the northbound and southbound directions between Burbank Boulevard and Empire Avenue. Add an auxiliary lane(s) in (DIRECTION) between Alameda Avenue and Olive Street; Construct modified interchange at I-5 and Empire Avenue.
LA000359	I-10	Baldwin Avenue	I-605	Add an HOV lane in both the eastbound and westbound directions.
LA000548	I-10	Puente Avenue	Citrus Street	Add an HOV lane in both the eastbound and westbound directions.
LA01342	I-10	I-605	Puente Avenue	Add an HOV lane in both the eastbound and westbound directions.
LA01344	I-5	SR 118	SR 14	Add an HOV lane in both the northbound and southbound directions.
LA0B7234	Overland Bridge	National Boulevard / I-10 westbound ramps	National Boulevard / National Place	Widen the west side of Overland Avenue Bridge over I-10. Add one lane in both the northbound and southbound directions.
LA0B875	I-10	Citrus Street	I-10 / SR 57 / I-210 Interchange	Add an HOV lane in both the eastbound and westbound directions.
LA0C10	Exposition LRT Phase I	7th Street / Metro Center	Culver City	Exposition LRT project (Phase I to Venice-Robertson Station).
LA0C40	Valley Boulevard / West Mission Road	I-710 alignment		Add a frontage road.
LA0C8012	I-5	At Western Avenue Interchange		Realignment of I-5 northbound off and on ramps; northbound off-ramp would begin as 2 lanes and widen to 4 lanes at Flower Street.
LA0C8037	Soto Street	Over Mission Road & Huntington Drive	Radium Drive	Demolish and reconstruct Soto Street Bridge. Add southbound travel lane. Add bike lane.
LA0C8038	Laurel Canyon Boulevard	Sheldon Street	Wentworth Street	Widen bridge from 4 to 6 lanes and upgrade railings.
LA0C8046	Burbank Boulevard	Lankershim Boulevard	Cleon Avenue	Add a travel lane in both the eastbound and westbound directions.
LA0C8054	Skirball Center Drive	I-405	Mulholland Drive Overpass	Widen roadway and add 1 southbound travel lane.

**TABLE 3.1**  
**2035 Programmed Projects**

<b>RTP ID</b>	<b>Route</b>	<b>From</b>	<b>To</b>	<b>Description</b>
LA0C8055	Moorpark Avenue	Woodman Avenue	Murietta Avenue	Add travel lane in both the eastbound and westbound directions. Upgrade highway to secondary highway standards.
LA0C8063	Riverside Drive	Barclay Street	San Fernando Road	Widen Riverside Drive bridge from 2 lanes to 4 lanes. Add bike lanes.
LA0C8064	San Fernando Mission Boulevard	Sepulveda Boulevard	I-5	Add travel lane in both the eastbound and westbound directions.
LA0C8087	Magnolia Boulevard	Cahuenga Boulevard	Vineland Avenue	Add travel lane in both the eastbound and westbound directions. Upgrade highway to secondary highway standards.
LA0C8098	Santa Monica Boulevard	Doheny Drive	Wilshire Boulevard	Add travel lane in both the eastbound and westbound directions.
LA0C8344	I-405	Greenleaf Street		Interchange improvements.
LA0D190	Atlantic Boulevard	Newmark Avenue	Hellman Avenue	Add a travel lane in both the northbound and southbound directions including an acceleration and deceleration lane option modification.
LA0D31	US 101	Van Nuys Boulevard		Add one lane for both the northbound and southbound off ramps.
LA0D328	I-110 (Harbor Freeway)	12th Street	110 / I-10 connector	Add an auxiliary lane in both the northbound and southbound directions and modify ramps. Convert existing southbound auxiliary lane to optional lane. Add storage lane on mainline and reconstruct ramps from 12 <sup>th</sup> Street to north end of 7 <sup>th</sup> Street.
LA0D441	Valley Boulevard	I-605		Reconfigure Valley Boulevard ramps to add 1 lane to all ramps.
LA0D442	Peck Road	I-605		Widen existing bridge to 4 lanes (2 in each direction).
LA0D77	I-405 / US 101 Interchange	southbound I-405	northbound and southbound US 101	Construct freeway connector from southbound I-405 to northbound and southbound US 101. Add an auxiliary lane from Burbank Boulevard to northbound US 101 connector and reconstruct existing connector.
LA0F021	Exposition LRT Phase II	Venice-Robertson Station	Ocean Avenue / Colorado Boulevard	Exposition LRT project (Phase II to Santa Monica).
LA0G407	Monterey Road	Colorado Drive	Glenoaks Boulevard	Add two lanes in both the eastbound and westbound directions.
LA195900	I-405	Waterford Avenue	I-10	Add an HOV lane in the northbound and southbound directions.
LA29202V	Gold line Eastside Light Rail Transit	Union Station	Atlantic Station	LRT between Union Station in downtown Los Angeles and Atlantic Boulevard / Pomona Boulevard.
LA29202W	Mid-City Transit Corridor / Wilshire Boulevard Bus Rapid Transit-Phase 1	Wilshire Boulevard / Valencia Boulevard (Excludes City of Beverly Hills)	Wilshire Boulevard / Centinela Avenue (Excludes City of Beverly Hills)	Corridor improvements and bus rapid transit system from west of I-110 to Santa Monica city limits (excluding City of Beverly Hills).

**TABLE 3.1**  
**2035 Programmed Projects**

RTP ID	Route	From	To	Description
LA29212XY	Gold line Foothill LRT Extension (Segment 1)	Pasadena	Azusa	Extend Metro Gold Line eastward to Azusa.
LA927107	Fremont Avenue	Commonwealth Road	Valley Boulevard	Add southbound through lane and right turn lane.
LA960018	Beverly Boulevard	Montebello Boulevard	West of Rea Drive	Add a lane in both the eastbound and westbound directions.
LA960021	Peck Road	Over I-605		Widen bridge and add a lane in both the northbound and southbound directions.
LA98STIP4	US 101	Los Angeles Street	Center Street	Southbound improvements; Eliminate Hewitt Street on- and off-ramps and Vignes off-ramp. Construct new on-ramp at Garey Street.
LA990356	Mission Road	1st Street	East City Limits	Reconstruct and widen roadway to add 3 lanes in both the eastbound and westbound directions.
LA996090	At Mission Street & Meridian Avenue			Construct 142 park-and-ride spaces.
LA996137	SR 60	I-605	Brea Canyon Road	Add an HOV lane in both the eastbound and westbound directions.
LA996415	Upper 2nd Street	Grand Avenue	Olive Street	Construct a roadway with 1 lane in both the eastbound and westbound directions
LA996425	Sepulveda Boulevard	Mulholland Tunnel	Wilshire Boulevard	Add a center-reversible lane. Add bike lane. Intersection improvements.
LAE0039	Myrtle Avenue	Pomona Avenue	Railroad crossing	Transit village project will provide satellite parking for Sierra Madre Villa Gold Line station, 246 parking spaces with bus connections to Metro line 270, foothill 494 and future gold line station stop
LAE1904	Azusa Avenue / San Gabriel Avenue	Azusa Avenue	San Gabriel Avenue	No new lanes will be added, change direction with a striped median.
LAE2299	Haskell Avenue	Chase Street	Roscoe Boulevard	Add travel lane the northbound and southbound directions.
LAE2515	Bundy Drive	Wilshire Boulevard	Santa Monica Boulevard	Add travel lane the northbound and southbound directions.
LAE2517	Maine Avenue	Ramona Boulevard	Bogart Avenue	Add 1 through travel lane.
LAE3018	Valley Boulevard	SR 710	Marguerita Avenue	Add travel lane in both the eastbound and westbound directions.
LAE3805	Robertson Boulevard / National Boulevard	I-10		Planning, design, and preliminary engineering of on/off-ramp system.
LAF1136	Grandview Avenue	Air Way	San Fernando Road	Widen roadway and add 1 eastbound lane.

TABLE 3.1  
2035 Programmed Projects

RTP ID	Route	From	To	Description
LAF1455	Cross-town Transit Connector			Route from North Hollywood Red Line station to downtown Burbank Metrolink station.
LAOB422	Fair Oaks Avenue	At SR 110 Interchange	Columbia Street	Widen SR 110 eastbound off-ramp and add 1 lane. Construct hook ramp from westbound traffic entering freeway.
1TR1004	Gold Line Eastside Transit Corridor (Phase 2)	Pomona / Atlantic Station	Mar Vista in Whittier	Extend the Metro Gold Line from Atlantic Station eastward to Whittier.
1TR0404	Regional Connector	Alameda / 1 <sup>st</sup> Street	7th Street / Metro Center	Construct 1.9-mile light rail in tunnel allowing through movements of Metro light rail trains (Blue, Gold, Expo Lines)
UT101	Westside Subway Extension (Segment 1)	Wilshire / Western Station	Fairfax Avenue / Wilshire Boulevard	Purple Line subway extension from Wilshire / Western to Fairfax Avenue.
LA0D198	Crenshaw / LAX Transit Corridor	Exposition Crenshaw Station	Metro Green Line	Assume LRT until Metro Board adopts a preferred alternative.

## 3.2 Transportation Systems Management/Travel Demand Management (TSM/TDM) Alternative

The TSM/TDM alternative consists of strategies and improvements to increase efficiency and capacity for all modes in the transportation system with lower capital cost investments and/or lower potential impacts. A thorough discussion of the TSM/TDM alternative and components will be included in the “SR 710 EIR/EIS – Alternatives Analysis Report” that is currently being developed.



Figure 3.2 is an overview of the bus elements of the TSM/TDM alternative. TSM elements aim to improve the operational efficiency of the existing transportation network, and the TDM elements are oriented toward reducing traffic demands. The TSM/TDM alternative includes expanded transit service, active transportation (pedestrian and bicycle) facilities, intersection spot improvements, arterial improvements, and Intelligent Transportation Systems (ITS) elements. The TSM/TDM alternative also includes policy components as part of the TDM strategy. TDM policies and strategies cannot be effectively analyzed using the model and will not be discussed in this report. Tables 3.2 and 3.3 summarize the TSM and TDM elements of the TSM/TDM alternative.

FIGURE 3.2  
TSM/TDM Alternative Transit Improvements

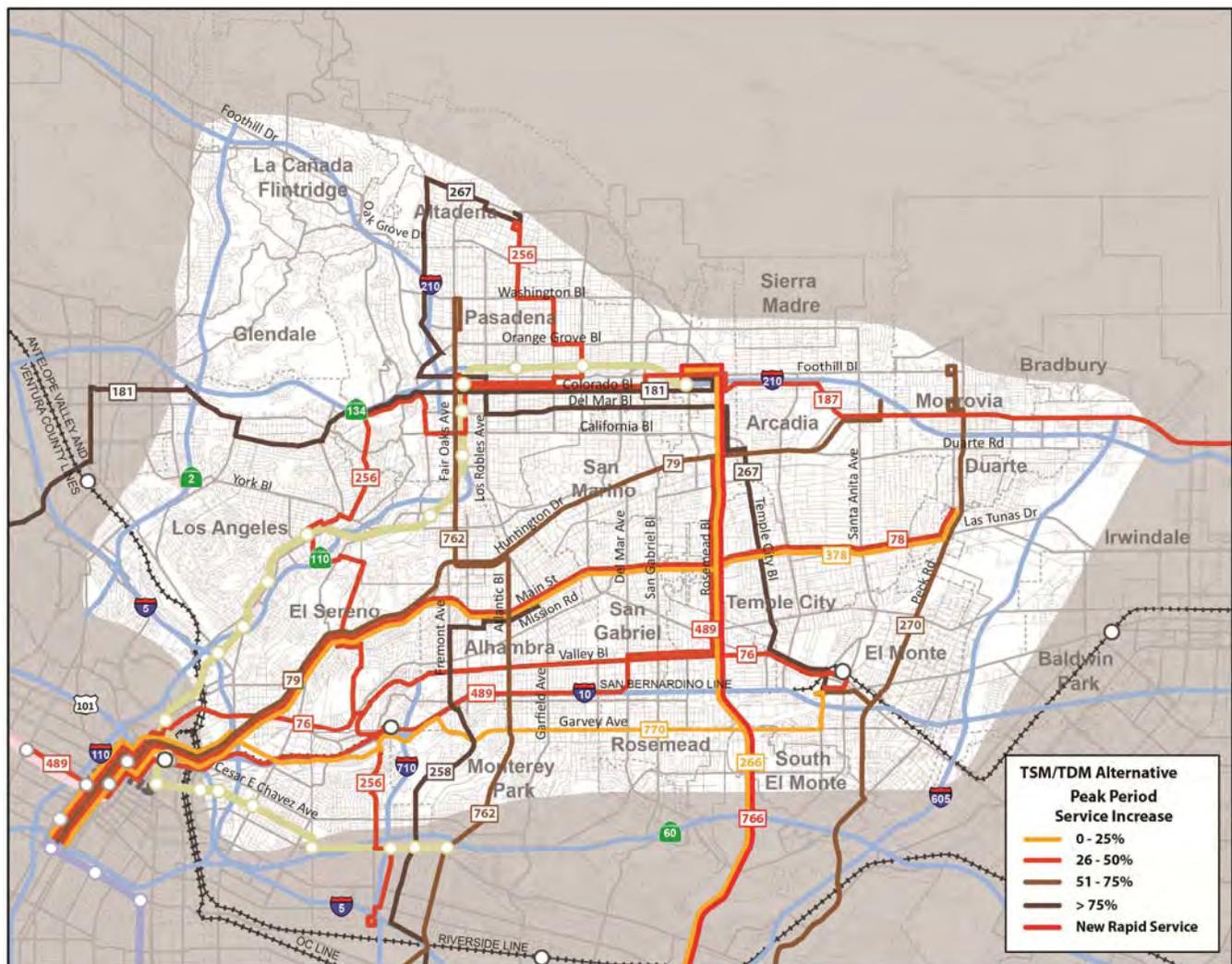


TABLE 3.2  
TSM Elements of the TSM/TDM Alternative

Category	Description	Location
<b>ITS Improvements</b>		
ITS-1	Transit Signal Priority	Rosemead Boulevard (Foothill Boulevard, Del Amo Boulevard)
ITS-2	Install VDS on SR 110	SR 110 north of US 101
ITS-3	Install VDS at intersections	At key locations in study area
ITS-4	Arterial speed data collection	On key north/south arterials
ITS-5	Install arterial CMS	At key locations in study area
ITS-6	New TSSP on Garfield Avenue	Huntington Drive to I-10
ITS-7	Signal optimization on Del Mar Avenue	Huntington Drive to I-10
ITS-8	Signal optimization on Rosemead Boulevard	Foothill Boulevard to I-10
ITS-9	Signal optimization on Temple City Boulevard	Duarte Road to I-10

TABLE 3.2  
**TSM Elements of the TSM/TDM Alternative**

Category	Description	Location
ITS-10	Signal optimization on Santa Anita Avenue	Foothill Boulevard to I-10
ITS-11	Signal optimization on Peck Road	Live Oak Boulevard to I-10
<b>Intersection Hot Spot Improvements</b>		
I-1	Intersection Operational Improvements	West Broadway/Colorado Boulevard
I-2	Intersection Operational Improvements	Eagle Rock Boulevard/York Boulevard
I-3	Intersection Operational Improvements	Eastern Avenue/Huntington Drive
I-4	Intersection Operational Improvements	SR 710 southbound on-ramp/Valley Boulevard
I-5	Intersection Operational Improvements	SR 710 northbound off-Ramp/Valley Boulevard
I-6	Intersection Operational Improvements	Fremont Street/Columbia Street/Pasadena Avenue
I-7	Intersection Operational Improvements	Fair Oaks Avenue/Mission Street
I-8	Intersection Operational Improvements	Fair Oaks Avenue/Monterey Road
I-9	Intersection Operational Improvements	Fremont Street/Monterey Road
I-10	Intersection Operational Improvements	Huntington Drive/Fair Oaks Avenue
I-11	Intersection Operational Improvements	Fremont Street/Huntington Drive
I-12	Intersection Operational Improvements	Fremont Street/Valley Boulevard
I-13	Intersection Operational Improvements	Garfield Avenue/Huntington Drive
I-14	Intersection Operational Improvements	Atlantic Boulevard/Huntington Drive
I-15	Intersection Operational Improvements	Atlantic Boulevard/Garfield Avenue
I-16	Intersection Operational Improvements	Garfield Avenue/Mission Road
I-17	Intersection Operational Improvements	Garfield Avenue/Valley Boulevard
I-18	Intersection Operational Improvements	San Gabriel Boulevard/Huntington Drive
I-19	Intersection Operational Improvements	San Gabriel Boulevard/Mission Road
I-20	Intersection Operational Improvements	Rosemead Boulevard/Mission Road
<b>Local Street Hot Spot Improvements</b>		
L-1	Figueroa Street	From SR 134 to Colorado Boulevard
L-2a	Fremont Avenue	From Huntington Drive to Alhambra Road
L-2b	Fremont Avenue	From Poplar Boulevard to Commonwealth Avenue
L-2c	Fremont Avenue	From Mission Road to Valley Boulevard
L-3	Atlantic Boulevard	From Glendon Way to I-10
L-4	Garfield Avenue	From Valley Boulevard to Glendon Wy
L-5	Rosemead Boulevard	From Lower Azusa Road to Marshall Street

Notes: TSSP=Traffic Signal Synchronization Program; VDS= Video Detection System; CMS=Changeable Message Signs

TABLE 3.3  
TDM Elements of the TSM/TDM Alternative

Category	Description	Location
<b>Bus Service Improvements</b>		
Bus-1	Additional bus service	See Figure 2-9
Bus-2	Bus stop enhancements	Along TSM routes
<b>Bicycle Facility Improvements</b>		
Bike-1	Rosemead Boulevard bike lanes (Class II/III)	Colorado Boulevard to Valley Boulevard (through County, Temple City, Rosemead)
Bike-2	Del Mar Avenue bike lanes (Class II/III)	Huntington Drive to Valley Boulevard (through San Marino, San Gabriel)
Bike-3	Huntington Drive bike lanes (Class II/III)	Mission Road to Santa Anita Avenue (through LA, South Pasadena, San Marino, Alhambra, County, Arcadia)
Bike-4	Foothill Boulevard bike lanes (Class II/III)	In La Canada Flintridge
Bike-5	Orange Grove bike route (Class III)	Walnut Street to Columbia Street (in Pasadena)
Bike-6	California Boulevard bike route (Class III)	Grand Avenue to Marengo Avenue (in Pasadena)
Bike-7	Add bike parking at transit stations	Gold Line stations
Bike-8	Improve bicycle detection at existing intersections	Along bike routes in study area

Notes: TSSP=Traffic Signal Synchronization Program; VDS= Video Detection System; CMS=Changeable Message Signs

### 3.3 Bus Rapid Transit (BRT) Alternatives

The BRT alternatives would provide high-speed, high frequency bus service operating in a combination of new, dedicated bus lanes and existing, mixed-flow traffic lanes. Bus priority methods such as synchronized traffic signal timing and preferential treatment of bus arrivals at signalized intersections would also be incorporated into the BRT system.

Figure 3.3 is a map of the BRT alternatives and the remainder of this section describes the two BRT alternatives and one variation. A thorough discussion of the BRT alternatives and components will be included in the “SR 710 EIR/EIS – Alternatives Analysis Report” that is currently being developed.

The BRT alternatives include all of the additional transit service provided in the TSM/TDM alternative, except where those services overlap with the BRT service itself. Where feasible, BRT vehicles would operate in exclusive lanes, generally in existing right-of-way through restriping the roadway, prohibiting on-street parking, and narrowing medians, planted parkways, and sidewalks. Bus stops would be placed at approximately ½-mile intervals, at major activity centers and cross streets. During peak hours, buses would operate every 10 minutes. During off-peak hours, buses would operate every 20 minutes.



FIGURE 3.3  
BRT Alternatives



### 3.3.1 BRT-1 Alternative

The BRT-1 alternative would provide BRT service between Patsaouras Transit Plaza at Los Angeles Union Station and the Jet Propulsion Laboratory (JPL) in La Cañada Flintridge. BRT vehicles would travel along Mission Road and Huntington Drive to Fair Oaks Avenue in South Pasadena. They would then travel on Fair Oaks Avenue through South Pasadena and Pasadena, turning onto Woodbury Road and following Woodbury Road and Oak Grove Drive to JPL. The length of improvements for the BRT-1 alternative would be approximately 13.9 miles.

### 3.3.2 BRT-6 Alternative

The BRT-6 alternative would provide BRT service between Atlantic Boulevard at Whittier Boulevard, just south of the Gold Line Atlantic Station, and Pasadena City College (PCC) and the California Institute of Technology (Caltech) in Pasadena. BRT vehicles would travel along Atlantic Boulevard to Huntington Drive, and then travel briefly west along Huntington Drive to Fair Oaks Avenue before traveling along Fair Oaks Avenue into Pasadena. In Pasadena, the BRT vehicles would travel along California Boulevard, making a loop to PCC and Caltech via Hill Avenue, California Boulevard, and Lake Avenue. The length of improvements for BRT-6 would be approximately 13.8 miles.

### 3.3.3 BRT-6A Alternative

The BRT-6A alternative is a design variation of alternative BRT-6. BRT-6A was developed to address right-of-way constraints on Fair Oaks Avenue north of Glenarm Street in Pasadena. BRT-6A is able to provide exclusive bus lanes for a longer part of the route than does BRT-6. Instead of traveling both eastbound and westbound on Colorado Boulevard, alternative BRT-6A would travel only eastbound on Colorado Boulevard and then return westbound on California Boulevard after stopping at PCC and Caltech. The length of improvements for BRT-6A would be approximately 14.2 miles.

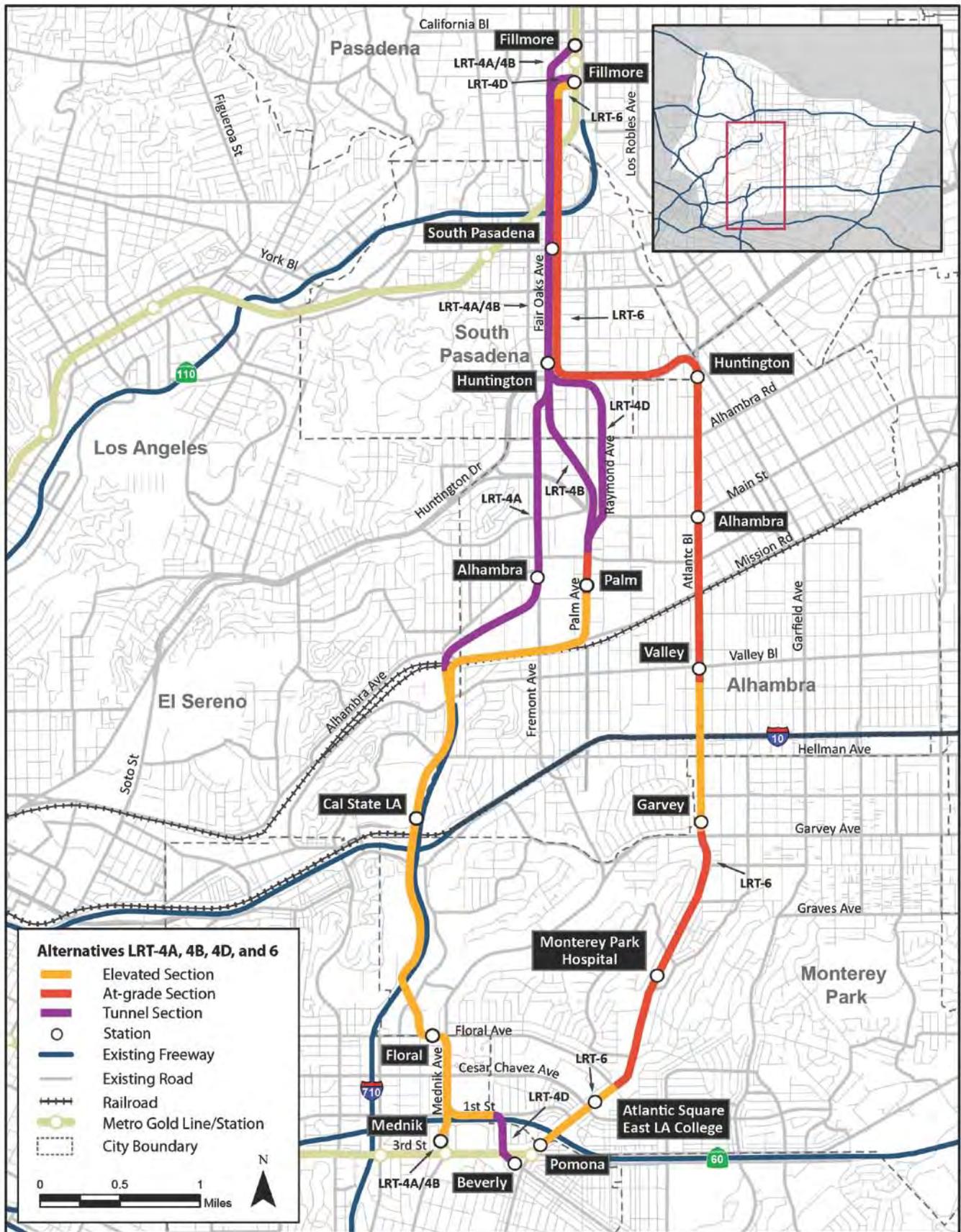
## 3.4 Light Rail Transit (LRT) Alternatives

The LRT alternatives would be similar to the Metro Gold Line and Metro Blue Line currently operated by Metro in Los Angeles County. Figure 3.4 is a map of the LRT alternatives. The remainder of this section describes the two LRT alternatives and two variations. A thorough discussion of the LRT alternatives and components (including maintenance facilities) will be included in the *“SR 710 EIR/EIS – Alternatives Analysis Report”* that is currently being developed.



LRT systems typically operate along dedicated rights-of-way at-grade, but can be built in aerial or underground configurations where necessary. They are electrically powered through an overhead catenary system. In dedicated right-of-way, Metro LRT vehicles can operate at speeds of up to 65 miles per hour (mph). The LRT alternatives include all of the additional transit service provided in the TSM/TDM alternative, except where those services overlap with the LRT service itself. During peak hours, trains would operate every 5 minutes. During off-peak hours, trains would operate every 10 minutes.

FIGURE 3.4  
LRT Alternatives



### 3.4.1 Alternative LRT-4A

Alternative LRT-4A would begin at an aerial station on Mednik Avenue adjacent to the existing East Los Angeles (LA) Civic Center Station on the Metro Gold Line. From there, the line would run north on Mednik Avenue on an elevated structure, then turn west on Floral Drive, then turn north across Corporate Center Drive and enter the SR 710 right-of-way. The alignment would then travel north, with a station at Cal State LA providing a transfer location for El Monte Busway and Metrolink service. Continuing north of Cal State LA, the LRT-4A alignment would enter a bored tunnel between Valley Boulevard and Mission Road. The tunnel alignment would continue to the northeast to Fremont Avenue, with a station near the Los Angeles County office building in Alhambra. The alignment would then run north under Fremont Avenue, shifting slightly east to Fair Oaks Avenue, remaining in a tunnel. Stations would be placed under Fair Oaks Avenue near Huntington Drive and Mission Street. The alignment would continue in a tunnel under SR 110 and continue north to a terminus station near the existing Fillmore Station on the Metro Gold Line. Park-and-ride facilities would be provided at all stations except Cal State LA and Fillmore. The length of alternative LRT-4A would be approximately 7.6 miles.

### 3.4.2 Alternative LRT-4B

Alternative LRT-4B was developed as a variant of alternative LRT-4A to reduce the length of tunneling required. Alternative LRT-4B would also begin at an aerial station on Mednik Avenue adjacent to the existing East LA Civic Center Station on the Metro Gold Line, and follow the same path as LRT-4A to the Cal State LA Station. LRT-4B would deviate from LRT-4A north of the Cal State LA station. Instead of immediately entering a tunnel, LRT-4B would continue on an elevated structure above Mission Road, turning north on Palm Avenue. The alignment would descend to grade on Palm Avenue, with an at-grade station near the intersection of Palm Avenue and Orange Street to serve the area around the Los Angeles County Public Works building. LRT-4B would then enter a bored tunnel before Main Street and continue along an alignment similar to that of LRT-4A. The length of alternative LRT-4B would be approximately 8.3 miles.

### 3.4.3 Alternative LRT-4D

Alternative LRT-4D was developed as a variant of alternative LRT-4A to eliminate the bored tunnel section and use only cut-and-cover tunnel techniques to reduce project tunneling cost. Alternative LRT-4D would originate at an underground station beneath Beverly Boulevard, near the existing Atlantic Station on the Metro Gold Line. It would continue north underground, transitioning to an elevated structure in First Street. The elevated alignment would then turn north onto Mednik Avenue and follow the same alignment as LRT-4B to Palm Avenue. North of the Palm Avenue station, LRT-4D would enter a cut-and-cover tunnel under the Southern California Edison right-of-way adjacent to Raymond Avenue, following that right-of-way to Huntington Drive. LRT-4D would continue underground beneath Huntington Drive to Fair Oaks Avenue, and then follow generally the same alignment as LRT-4A and LRT-4B to the Fillmore Station. Park-and-ride facilities would be provided at all stations except Cal State LA and Fillmore. The length of alternative LRT-4D would be approximately 8.7 miles.

### 3.4.4 Alternative LRT-6

Alternative LRT-6 would connect the existing Atlantic and Fillmore stations on the Metro Gold Line. Alternative LRT-6 would begin at an aerial station on Atlantic Boulevard near Pomona Boulevard. The alignment would run north on Atlantic Boulevard on an elevated structure across SR 60, with another elevated station at Atlantic Square, near East LA College. It would then descend to grade and continue north on Atlantic Boulevard, with stations at Monterey Park Hospital and Garvey Avenue. It would then return to an aerial configuration to cross I-10, returning to grade for stations at Valley Boulevard, Main Street, and Pine Street (Huntington Drive). It would turn west on Huntington Drive and then north along Fair Oaks Avenue, remaining at-grade with a station near Mission Street. After crossing SR 110, LRT-6 would again become elevated, turning onto Fillmore Street, with a new, elevated station above the existing Fillmore Station on the Metro Gold Line. Park-and-ride facilities would be provided at all stations except Pomona and Fillmore. The length of alternative LRT-6 would be approximately 8.3 miles.

## 3.5 Freeway Alternatives

Four freeway alternatives were defined for the SR 710 corridor: three tunnel alternatives and one surface freeway alternative. The four freeway alternatives are shown in Figure 3.5. All of the freeway alternatives would extend SR 710 as a high-speed, limited-access roadway with a total of four travel lanes in each direction. For this analysis, all travel lanes were assumed to be general purpose lanes (free lanes open to all traffic). Operational changes to limit lanes to high-occupancy vehicle (HOVs), automobile traffic only, or tolled vehicles will be investigated in the next phase.

### Freeway Alternatives:

- F 2
- F 5
- F 6
- F 7

Three of the freeway alternatives would be constructed primarily in bored tunnels. Freeway sections near the tunnel portals would be constructed using cut-and-cover construction techniques. The fourth freeway alternative consists primarily of a combination of surface and depressed segments, with one short cut-and-cover tunnel segment. The three tunnel alternatives will have identical cross-sections. Each tunnel would be dedicated to either northbound or southbound travel, with two lanes on each of two levels in each tunnel.

### 3.5.1 Freeway Tunnel 2 (F-2) Alternative

The F-2 alternative would originate at the terminus of I-710, located just north of I-10, and connect to SR 2 between the Verdugo Road and SR 134 interchanges. The alternative would be an eight-lane freeway primarily constructed in two bored tunnels, one for each direction of travel. Each tunnel would be dedicated to either northbound or southbound travel, with two lanes on each of two levels in each tunnel. The SR 2/SR 710 interchange would include ramps to and from SR 2 only to the north. The length of improvements for the F-2 alternative would be approximately 6.9 miles, including 4.3 miles of bored tunnel.

### 3.5.2 Freeway Tunnel 5 (F-5) Alternative

The F-5 alternative would also originate at the terminus of I-710, identical to the F-2 alternative, and connect to the SR 134 freeway near the Colorado Boulevard interchange. The F-5 alternative would also be an eight-lane freeway with two bored tunnels, one for each directional of travel. The SR 134/SR 710 interchange would include ramps to and from SR 134 for both eastbound and westbound travel. Colorado Boulevard would be realigned in the vicinity of the new interchange. The length of improvements for the F-5 alternative would be approximately 5.8 miles, including 3.8 miles of bored tunnel.

### 3.5.3 Surface Freeway 6 (F-6) Alternative

The F-6 alternative would also originate at the terminus of I-710, and would consist of a combination of surface and depressed freeway segments, ultimately connecting to the short SR 710 segment south of the I-210/SR 134 interchange in Pasadena. Generally, the F-6 alternative would follow a similar alignment to the “Meridian Variation” approved in the Record of Decision in 1992. From the existing I-710 terminus north of I-10, the freeway would travel over Valley Boulevard, the Union Pacific Railroad (UPRR) tracks, and Mission Road/Alhambra Avenue. Ramps would provide full access to the freeway from Valley Boulevard and Mission Road/Alhambra Avenue. The freeway would then transition to grade along Sheffield Avenue, passing under Huntington Drive. A full interchange would be provided at Huntington Drive. North of Huntington Drive, the freeway would turn slightly to the east and continue north just west of Meridian Avenue until the vicinity of Columbia Street, passing under the Metro Gold Line and SR 110. Turning to the east again, it would travel under Pasadena Avenue in a short cut-and-cover section approximately 0.4 miles long and then enter the existing Caltrans right-of-way in Pasadena. Alternative F-6 would be grade separated at major arterials; minor streets that currently cross the alignment would become discontinuous. The length of improvements for the F-6 alternative would be approximately 5.8 miles.

The major difference between the tunnel alternatives (F-2, F-5, and F-7) is HOV lanes in the F-6 alternative. The tunnel alternatives each have four general purpose lanes in each direction. The F-6 alternative has three general purpose lanes and 1 HOV lane in each direction. Only the F-6 alternative has HOV lanes, because the tunnel configurations do not allow for HOV lanes. Generally, HOV lanes are included on a new freeway project.

However, in the case of the tunnel alternatives, there are only two lanes on each level of the tunnel, so an HOV lane would result in a single general purpose lane configuration on one level.

### 3.5.4 Freeway Tunnel 7 (F-7) Alternative

The F-7 alternative would also originate at the terminus of I-710, located just north of I-10, and would connect via a bored tunnel to the SR 710 segment south of the I-210/SR 134 interchange in Pasadena. The F-7 alternative would also be an eight-lane freeway with two bored tunnels, one for each direction of travel. Each tunnel would have two travel lanes on each of two levels. Because of physical constraints at the SR 710 north stub, the lower levels of the tunnels would provide access to and from I-210 to the west only. Access to I-210 and west SR 134 would be provided from the upper bore. The length of improvements for the F-7 alternative would be approximately 6.3 miles, including 4.2 miles of bored tunnel.

## 3.6 Highway/Arterial Alternatives

Two highway/arterial alternatives were developed. These alternatives involve improving existing arterials to meet the transportation needs in the corridor. The two highway/arterial alternatives are shown in Figure 3.6. The highway/arterial alternatives would extend the designation of SR 710 by providing roadway improvements to existing arterials in the study area. Each of these alternatives would provide three lanes in each direction along the length of the alignments. Where possible, the roadway widening associated with each alternative is limited to one side of the existing roadway to reduce the number of property acquisitions. Properties would be maintained on the other side of the roadway and in many areas have a frontage road for access. The frontage roads would provide sheltered access to properties and also reduce the number of driveways and access points along the major arterial.

### Highway/Arterial Alternatives:

- H 2
- H 6

### 3.6.1 Highway 2 (H-2) Alternative

The H-2 alternative would begin at the terminus of I-710 north of I-10 and connect the SR 710 freeway directly to Concord Avenue. The freeway configuration would end at Valley Boulevard and transition to a major arterial along Concord Avenue, similar to the SR 110 freeway transition to Arroyo Parkway at Glenarm Street in Pasadena. The alignment would then continue along Concord Avenue to Fremont Avenue, to Monterey Road, to York Avenue, to Avenue 64, and to Colorado Boulevard, ending near the intersection of San Rafael Avenue and Linda Vista Avenue. The length of improvements for the H-2 alternative would be approximately 7.4 miles.

### 3.6.2 Highway 6 (H-6) Alternative

The H-6 alternative would also begin at the terminus of I-710 north of I-10 and connect the SR 710 freeway directly to Sheffield Avenue. The SR 710 freeway would come to an end at Valley Boulevard and transition to a major arterial along Sheffield Avenue. The alignment would then continue along Sheffield Avenue to Huntington Drive, to Fair Oaks Avenue, to Columbia Street, and then to Pasadena Avenue. Just north of the intersection of Pasadena Avenue and Bellefontaine Street, the roadway would split into a northbound segment along Pasadena Avenue and a southbound segment along Saint John Avenue. The improvements in both directions would end near Del Mar Boulevard. The length of improvements for the H-6 alternative would be approximately 6.3 miles.

FIGURE 3.5  
Freeway Alternatives

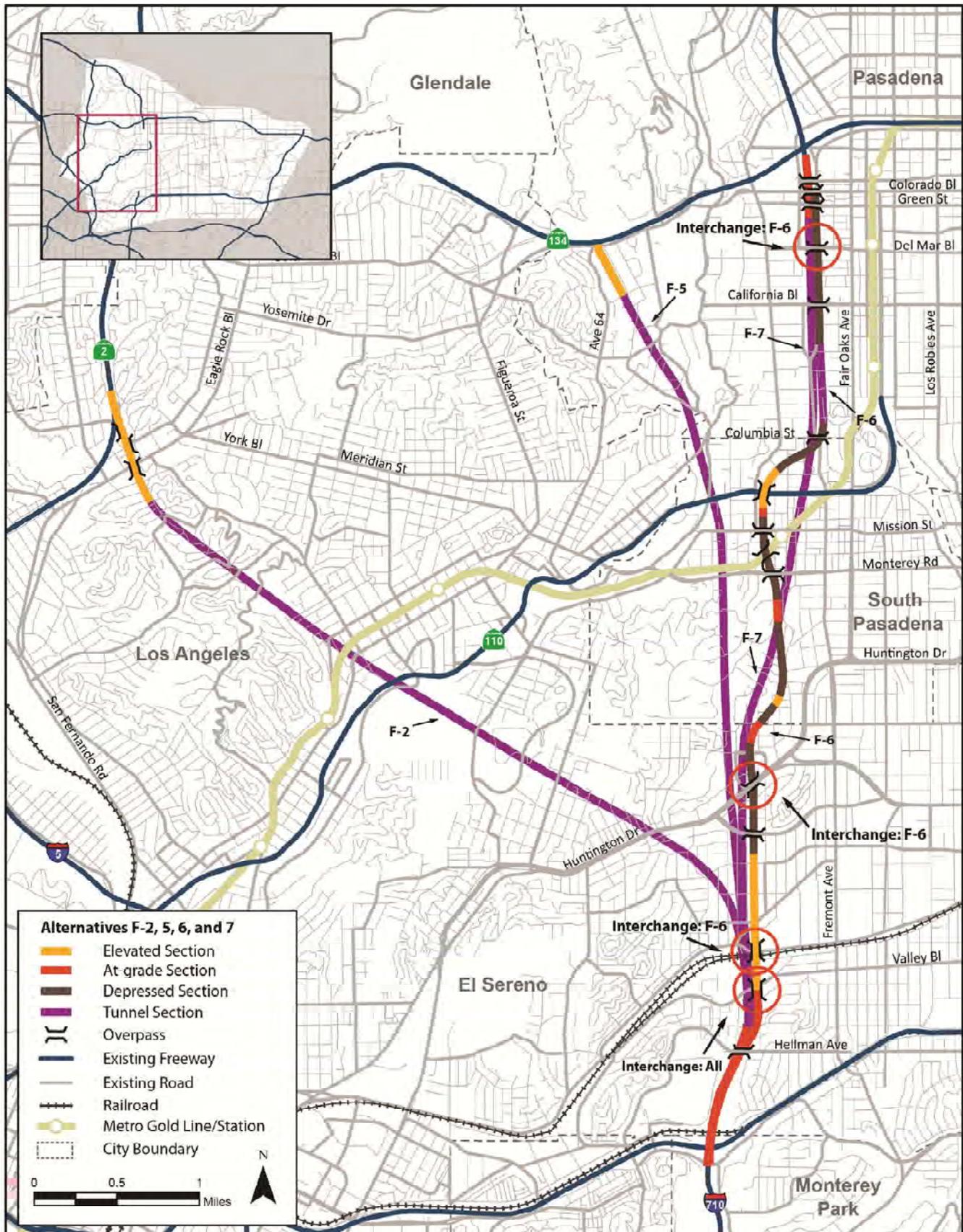
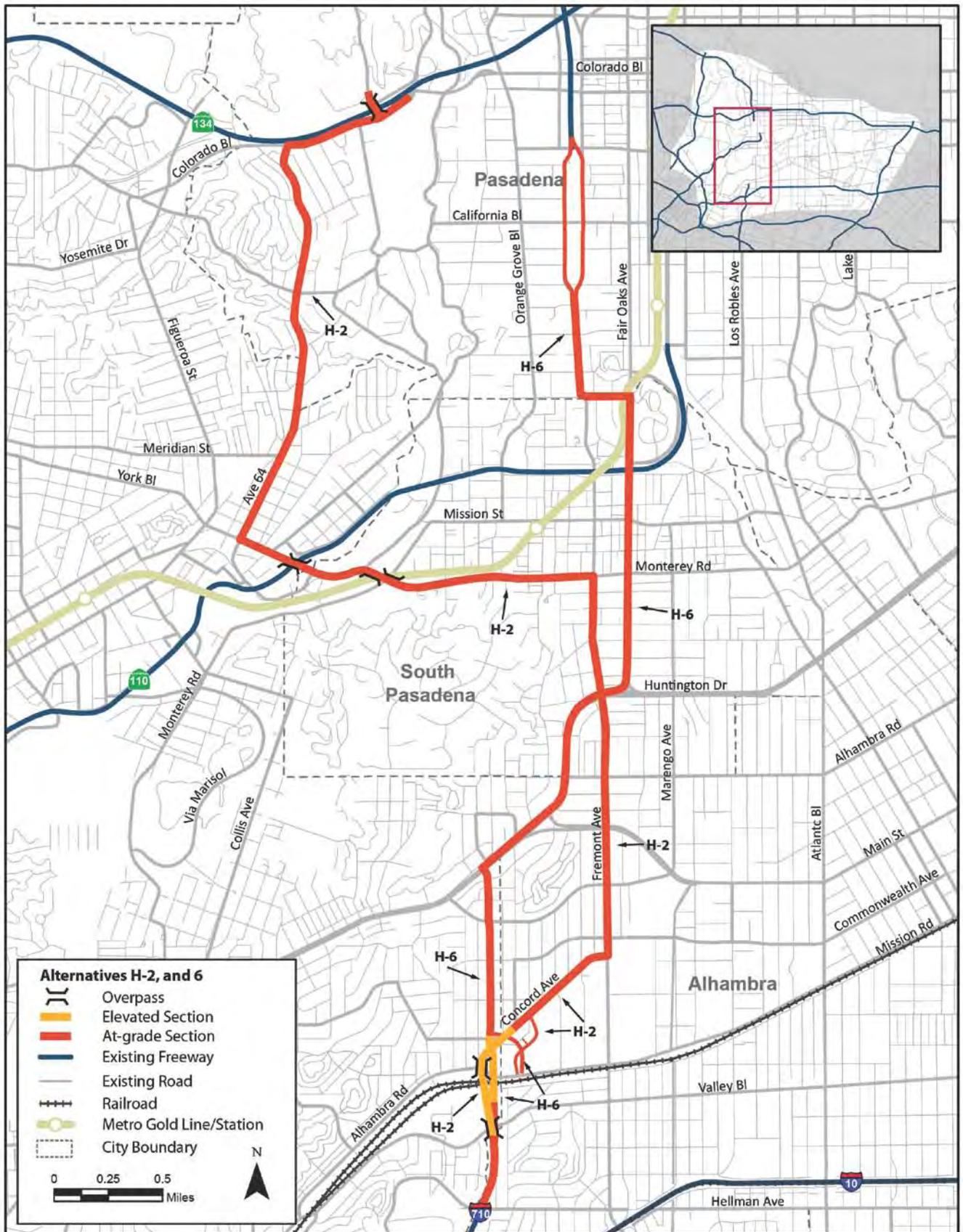


FIGURE 3.6  
 Highway/Arterial Alternatives



# Performance Measures

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Performance measures allow for the impacts of transportation alternatives to be quantified. The performance measures defined for Alternatives Analysis are designed to focus on the transportation system (vehicular and transit) performance for the region and the study area.

The environmental, sustainable, and economic performance measures will be examined separately. Although these other performance measures have been analyzed independently, many of these performance measures are based on the transportation performance measures.

The transportation performance measures are focused on the transportation need. Figure 4.1 displays the primary elements of need, objective statements, evaluation criteria, and performance measures that will be discussed and evaluated in detail in this report.

There is a demonstrated need for transportation system improvements in the study area, for both the broader area of influence and the immediate study area. The primary needs area:

- **On the regional transportation system:** Regional travel speeds are low, delay is high, and travel times are unpredictable.
- **On the freeway system:** North-south travel demand is greater than capacity, which affects mobility. There are high delays and unpredictable travel times on the study area freeways. Drivers opting to stay on the freeway system use congested freeways and take longer trips (potentially taking a less direct route). The increased congestion on the freeway system results in increased travel times and elevates already high accident rates on the freeways.
- **On the local street system:** Transportation system operational issues are exacerbated by low speeds on study area freeways, causing some freeway traffic to shift to arterials. Freeway traffic that shifts to arterials is referred to as out-of-place freeway trips. These out-of-place freeway trips increase the level of congestion on arterials.
- **On the transit system:** The operational deficiencies of the freeway and arterial systems lead to related issues on the transit system. Congestion on the arterial system results in low travel speeds for buses and increased delay for peak hour trips on transit. These congested arterials constrain the already limited north-south transit network.

This section of the report describes the performance measures related to the primary elements of need, and developed need objectives, of the transportation system as a whole. The performance measures developed for this analysis are based on information gathered beginning with the project scoping session, and throughout the initial alternatives screening and development processes. The performance measures have been developed based on the primary elements of need for the project.

FIGURE 4.1  
Performance Evaluation

Primary Element of Need	Objective Statements	Evaluation Criterion	Performance Measure
<b>1) Regional Transportation System</b> (regional travel speeds low; regional travel delays high; regional travel times are unpredictable)	1) Minimize travel time	Trip travel time	Point-to-point travel times for a set of 9 trip pairs - regional and study area. Peak period travel times are calculated for highway (SOV, HOV-2, HOV-3+) and transit. Two measures are reported - normalized travel time for highway and transit.
		Total vehicular travel time	Reduction in vehicle hours (1000s) of travel for all vehicle trips in the region. Reported as the change in travel time (from No Build) total of AM/PM, then compared to No Build.
		Travel time reliability	Percent of travel on facilities in study area with dedicated or managed operations, weighted by volume/use, for person hours of daily travel.
	2) Improve connectivity and mobility	Access to regional freeway and transit system	Number of new interchanges connecting to existing highway facilities + new transit transfer points. Transit transfer points are between an exclusive new/existing transit facility.
		Employment, health care, education accessibility	Assessment of the number of jobs reachable within 25.3 minutes in peak periods, for a set of 12 origins. Percentage of "lost" accessible jobs (due to 2035 congestion) gained back.
		North-south transit throughput	Total boardings on transit routes crossing an east/west screenline from US 101 to I-605. The screenline is approximately in the middle of South Pasadena.
		Volume served	Daily volume (1000s) on arterials crossing the east-west screenline.
	Daily volume (1000s) on freeways crossing the east-west screenline.		
<b>2) Freeway system in study area</b> (over-capacity north/south travel demand affects mobility; high delays and unpredictable travel times on study area freeways; freeway system users take longer trips; high accident rates on freeways due to congestion)	3) Reduce congestion on freeway system	Level of congestion on study area freeways	Total directional miles of roadway facilities at LOS F1, F2, and F3 in the study area.
			Total directional miles of roadway facilities at LOS E or F0 in the study area.
			Total daily auto and truck vehicle hours of travel (in 1000s) on congested freeways (V/C > 1.0) in the study area.
<b>3) Local Street system</b> (affected by excess freeway traffic; operates at low speeds; out-of-place freeway trips cause high levels of congestion)	4) Reduce congestion on local street system	Local arterials traffic operations	Percentage of intersections in the study area with congested approaches, with PM peak volume/capacity (V/C) ratio > 1.0.
			Average V/C ratio on north-south arterials at screenlines within the study area, using the maximum of the AM and PM peak hours.
			Arterial vehicle miles traveled (in 1000s) in the study area - daily for all vehicle trips.
			Percentage of PM peak period trips on arterials that have an O-D outside of study area.
			Total north-south travel served (daily person trips on arterials, in millions) crossing an east-west screenline through South Pasadena from US 101 to I-605.
<b>4) Transit system in study area</b> (operational deficiencies of the highway system affects transit; low travel speeds for buses and increased delay for peak hour trips; north/south transit network is constrained by slow speeds on the arterial network)	5) Increase transit ridership	New transit ridership	Increase in transit ridership (new daily riders).
		Transit accessibility	Percentage of study area population/employment within 1/4 mile of transit stop with high frequency service.
		Transit use	Transit percentage of total trips (mode split).

## 4.1 Regional Transportation System Operations

Performance measures for the regional transportation system were developed to quantify the performance of the alternatives on the regional level, and are directly related to the first primary element of need. The *Texas Transportation Institute 2011 Annual Urban Mobility Report* (September, 2011), ranks the Los Angeles-Long Beach-Santa Ana CA urban area worst in the nation in total travel delay, total congestion cost, and total vehicular travel time index (the ratio of travel time during congested conditions to free flow travel).

Two objectives were derived from the project needs for regional transportation system operations: minimize travel time, and improve connectivity and mobility. Each objective includes multiple performance measures. The identified needs for the regional transportation system are as follows:

- Regional travel speeds are low
- Regional travel delays are high
- Regional travel times are unpredictable

### 4.1.1 Minimize Travel Time

Minimizing travel time can help more people access destinations more efficiently and can also improve the air quality in the region. Three performance measures are used to evaluate travel time.

#### **Trip Travel Time**

The minimized trip travel time performance measure was developed to compare trip travel time between alternatives by measuring the average of point-to-point travel times for trips traversing the study area and the region in a variety of directions. Two separate performance measures were applied: one for vehicular trips, and one for transit trips. Figure 4.2 is a map of the regional and study area origin and destination locations used for the trip travel time performance measure. Each set of nine trips was constructed by selecting a western, central, or eastern origin on the south side of the study area and pairing it with a western, central, or eastern origin on the north side of the study area.

The trip travel time performance measure calculation uses raw outputs from the model. Travel times from the model (also called skims) were used to capture the peak period travel time (in minutes) for regional and study area origin-destination (O-D) pairs. Travel time skims were obtained for multiple travel modes including three automobile modes differentiated by occupancy (drive alone, shared ride with one passenger, shared ride with two or more passengers), and for transit. The values for trip travel time were normalized from zero to 100 (slower to faster) to better understand the range of change between the alternatives. The No Build alternative has the longest travel time (a score of zero) and the alternative with the shortest travel time scores 100.

Separate averages were developed for the region and the study area (one average of the nine regional O-D pairs, and one average of the nine study area O-D pairs). The trip travel time performance measure was reported as the sum of the average regional and average study area trip travel times. The regional and study area O-D pairs are summarized in Table 4.1.

A thorough description of the calculation for the vehicular and transit trip travel time index is included in Performance Measure Technical Appendix, Section A.

FIGURE 4.2  
Regional and Study Area O-D Locations for Trip Travel Time

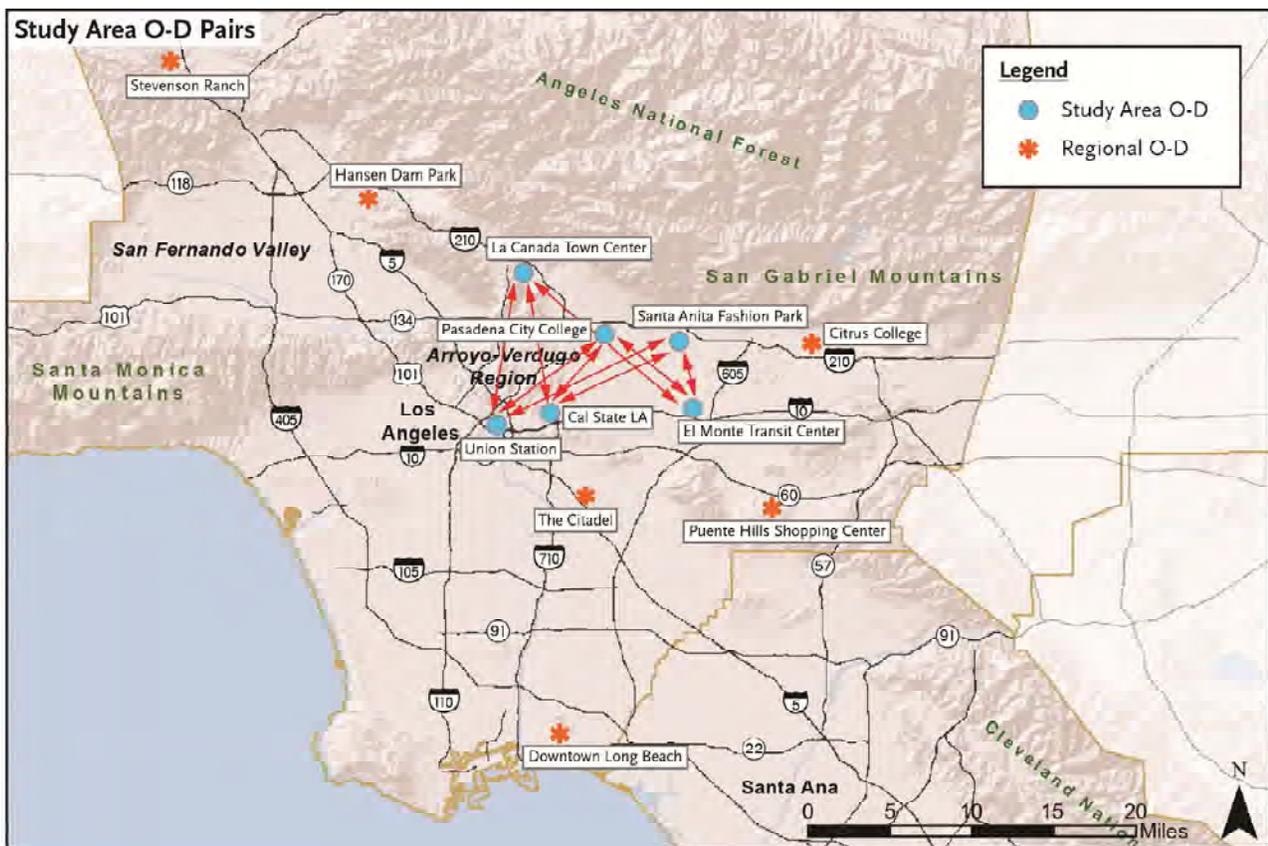
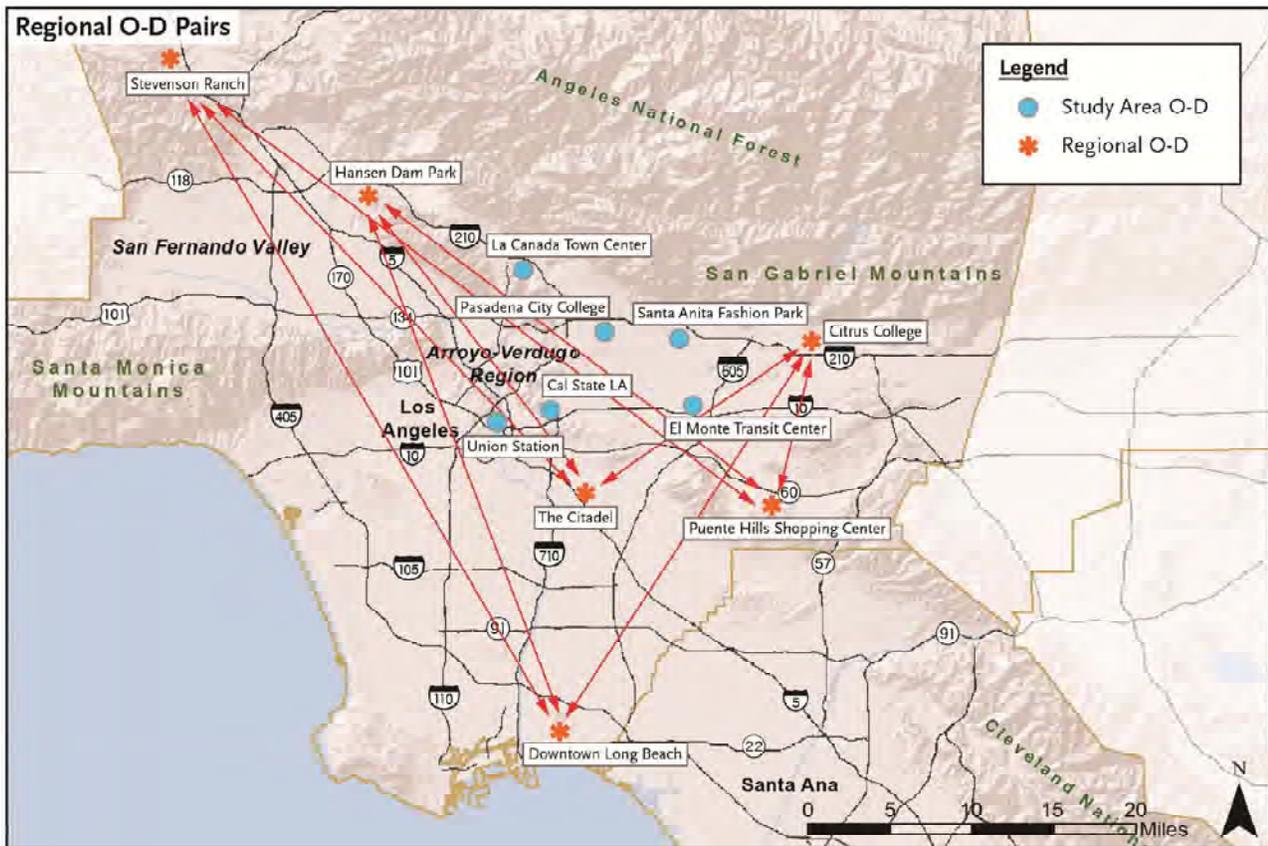


TABLE 4.1  
**Regional and Study Area Origin-Destination Pairs**

Regional O-D Pairs	Study Area O-D Pairs
Downtown Long Beach to Hansen Dam Park	Union Station to La Cañada Town Center
Downtown Long Beach to Citrus College	Union Station to Pasadena City College
Downtown Long Beach to Stevenson Ranch	Union Station to Santa Anita Fashion Park
The Citadel to Stevenson Ranch	Cal State LA to La Cañada Town Center
The Citadel to Hansen Dam Park	Cal State LA to Pasadena City College
The Citadel to Citrus College	Cal State LA to Santa Anita Fashion Park
Puente Hills Shopping Center to Stevenson Ranch	El Monte Transit Center to La Cañada Town Center
Puente Hills Shopping Center to Hansen Dam Park	El Monte Transit Center to Pasadena City College
Puente Hills Shopping Center to Citrus College	El Monte Transit Center to Santa Anita Fashion Park

### **Total Vehicular Travel Time**

The total vehicular travel time performance measure was developed to quantify the reduction in total vehicular travel time for each alternative. The reduction in vehicle hours of travel (VHT) for all vehicular (automobile and truck) trips in the region is completed using outputs from the model.

The total VHT in the region is calculated separately for the AM (6:00 to 9:00) and PM (3:00 to 7:00) peak period trips, and then summed together to create one value for regional peak VHT. The reported performance measure data are the change in travel time (reported in 1,000s) from the No Build alternative (the value for the No Build alternative is zero).

A thorough description of the calculation for total vehicular travel time is included in Performance Measure Technical Appendix, Section B.

### **Travel Time Reliability**

The travel time reliability performance measure was developed to calculate an index for the reliability for the facilities in the study area. The aggregate nature of the model does not provide a great enough level of detail to reflect congestion differences within the peak periods. The performance measure developed for travel time reliability is a percent of travel on facilities in the study area with dedicated or managed lane operations (HOV facilities or tolled facilities). Managed lanes typically have more predictable travel times than general purpose lanes, and are operated to keep traffic moving at a consistently high speed, typically 45 mph or higher.

The calculation for travel time reliability is the percentage of daily person hours of travel on facilities in the study area that have dedicated or managed lane operations as compared with the total person hours of travel in the study area. This metric applies only to automobile trips and not transit trips.

A thorough description of the calculation for travel time reliability is included in Performance Measure Technical Appendix, Section C.

## **4.1.2 Improve Connectivity and Mobility**

Improving connectivity and mobility in the region and in the study area also helps people access destinations more efficiently by having better access to the regional freeway and transit systems, thus reducing congestion on the arterial street system. Four performance measures are used to evaluate improved connectivity and mobility.

### **Access to Regional Freeway and Transit System**

The access to the regional freeway and transit system performance measure was developed to quantify the increase in the interchanges between the existing roadway network with the freeway and transit systems. Travel on freeways is typically at a faster speed, and is often a more direct route to destinations. In a more efficient system, roadway users are able to choose among alternative routes, allowing traffic to be distributed more evenly and reducing the amount of travel that must take place on congested facilities. For transit, more connections among routes with high frequency service provides riders with more options to reach their destinations and thus reduces transfer and travel time. This is particularly relevant in a dense transportation system, such as the one in LA County.

The access to the regional freeway system includes counting the number of directional interchanges to and from new freeway facilities. Each new system interchange ramp received 1 point and each new full interchange at an arterial received 2 points. Conversely, if existing movements were removed, points were subtracted. For the transit system, a measure of new transit connections is simply the number of new transfer points between any new transit service and existing fixed-guideway service in the study area (the Metro Gold Line, Metrolink, and the El Monte Busway).

The BRT and LRT alternatives all allow for new connections to high frequency transit service. Each alternative is described in detail in the Performance Measure Technical Appendix, Section D. The LRT-4A alternative provides three new high frequency transit service access points:

- East LA Civic Center
- Cal State LA
- Fillmore Station

All of the freeway and highway alternatives have an identical connection south of Valley Boulevard. Each alternative provides four additional access points to the existing freeway system. The new connections are:

- SR 710 southbound to I-10 eastbound and westbound SR 710 southbound to I-10 westbound Expressway (the El Monte Busway)
- I-10 eastbound and westbound to SR 710 northbound
- SR 710 and I-710 northbound and southbound at I-10

The performance measure is the difference in total freeway access points and high frequency transit transfer locations between the No Build alternative and each alternative (the value for the No Build alternative is zero).

A thorough description of the calculation for access to the regional freeway and transit systems is included in Performance Measure Technical Appendix, Section D.

### **Employment Accessibility**

The employment accessibility performance measure was derived to quantify how many jobs are accessible to residents within a defined time interval from multiple locations. With increasing population, employment, and congestion, the number of accessible jobs will decrease between 2008 and 2035 No Build alternative. Figure 4.3 is a map of the origins that were used to determine employment accessibility.

The calculation for employment accessibility summed the number of jobs accessible to residents of the study area within 25.3 minutes of 12 origin locations. The use of 25.3 minutes of travel time was selected because it is the average travel time for workers 16 and older in the 2010 American Community Survey by the U.S. Census Bureau. Raw model travel times were used to calculate the travel time from the 12 origins to all locations of employment in the SCAG region.

The number of jobs reachable within 25.3 minutes in peak periods was summarized for drive alone vehicles, shared ride vehicles, and transit. The number of jobs accessible by vehicle and transit access are calculated

separately, but combined so no job is double counted. The number of jobs accessible is the average number of jobs accessible from all 12 origin areas by vehicular and transit modes of travel. The study area origins are:

- Alhambra
- Arcadia
- Cal State LA
- Eagle Rock
- El Monte Transit Center
- Glendale
- La Cañada Flintridge Town Center
- Pasadena Memorial Park
- South Pasadena
- San Marino
- San Gabriel
- Temple City

The alternatives will increase job accessibility compared with the No Build alternative. The employment accessibility performance measure is reported as the ratio of the restored number of accessible jobs (the number of jobs accessible by the alternative compared with the No Build alternative) compared with the decrease in job accessibility from 2008 to 2035 (the number of accessible jobs lost between 2008 and the No Build alternative).

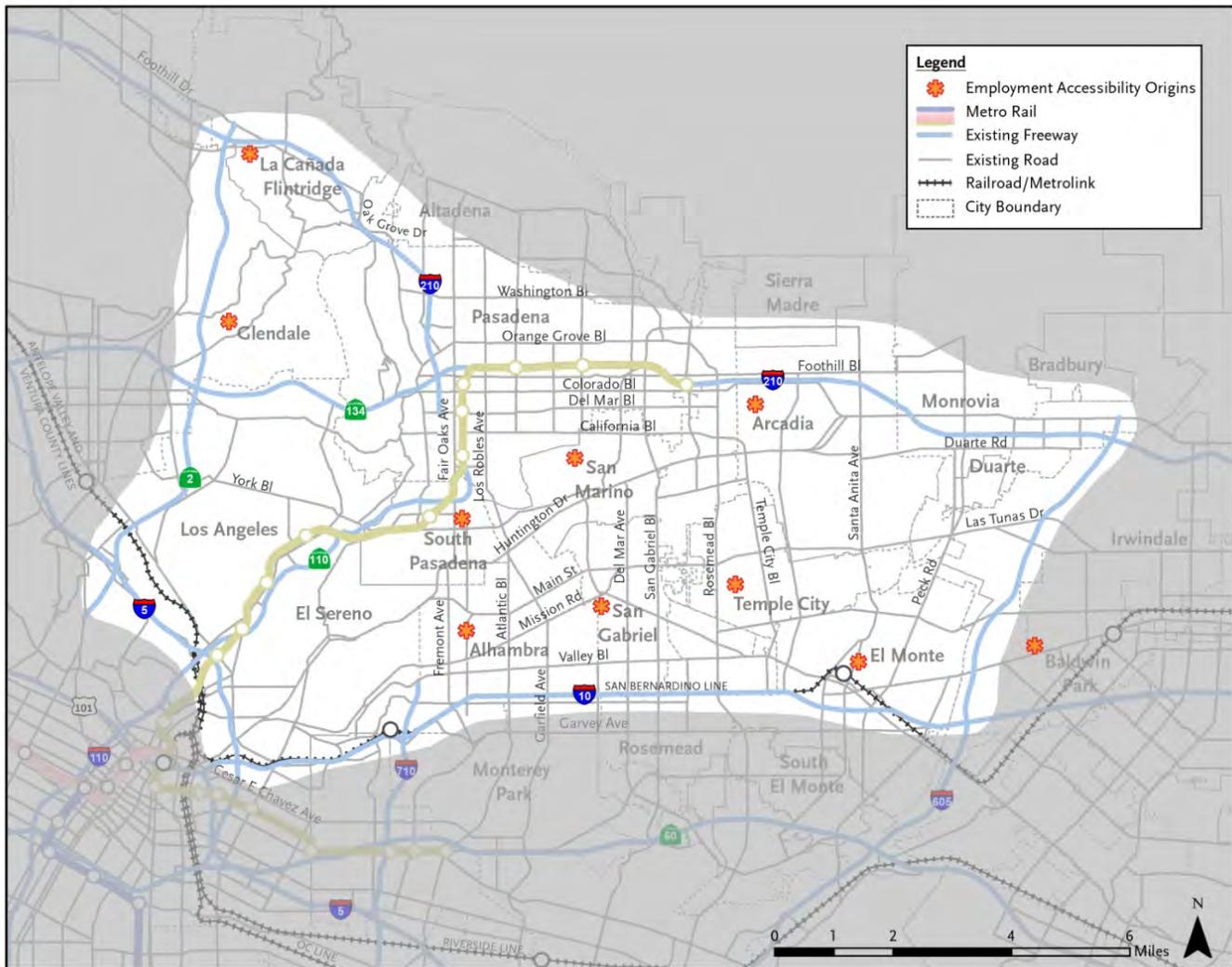
For example, if the 2008 average number of jobs accessible from the 12 origins was 100,000, and the 2035 No Build alternative was 85,000, and the 2035 Build Alternative value was 95,000 then the performance measure value would equal 67 percent, and the calculation would be completed as follows:

$$\frac{(95,000 - 85,000)}{(100,000 - 85,000)} \times 100 = 66.7\%$$

If the alternative returned the number of accessible jobs to 2008 levels, the value of the performance measure would equal 100 percent, and if the alternative increased the average number of jobs accessible to a value greater than the 2008 levels, the performance measure would be greater than 100 percent.

A thorough description of the calculation for employment accessibility is included in Performance Measure Technical Appendix, Section E.

FIGURE 4.3  
**Employment Accessibility Origins**



According to the U.S. Census Bureau (<http://factfinder2.census.gov>; LA County 2011 American Community Survey 1-year estimate), the average travel time to work in LA County is 29.4 minutes. The U.S. Census also shows statistics for mode-specific travel time. The average journey to work in LA County is:

- 27.8 minutes for drive alone trips
- 31.0 minutes for shared ride trips
- 49.3 minutes for public transportation trips

Overall, the average travel time in LA County is approximately 4.1 minutes (or 16 percent) longer than the national average of 25.3 minutes.

Sensitivity testing was completed to determine the length of time used for the performance evaluation used in this report. The sensitivity test showing jobs accessible within 45 minutes showed little to no difference between all of the alternatives. The sensitivity testing results indicated that a lower value of travel time resulted in a greater difference in alternative results. Therefore, using the national average travel time (25.3 minutes) was selected to result in greater differences in alternative evaluation than the LA County average journey to work.

Sensitivity testing of performance evaluation using 25.3-minute, 29.4-minute, and 45-minute travel times is described in detail in the Performance Measure Technical Appendix, Section E.

### **North-South Transit Throughput**

The north-south transit throughput performance measure is used as an indicator of how well transit is able to serve north-south travel within the study area. The measurement used for this analysis is the summation of all transit boardings on all transit facilities that cross an east-west screenline. Figure 4.4 is a map of the east-west screenline located between US 101 and I-605 through the center of the study area. The screenline crosses the study area approximately in the middle of South Pasadena.

The transit throughput performance was measured as transit passengers (daily person trips) on the transit routes that cross the east-west screenline.

A thorough description of the calculation for north-south transit throughput is included in Performance Measure Technical Appendix, Section F.

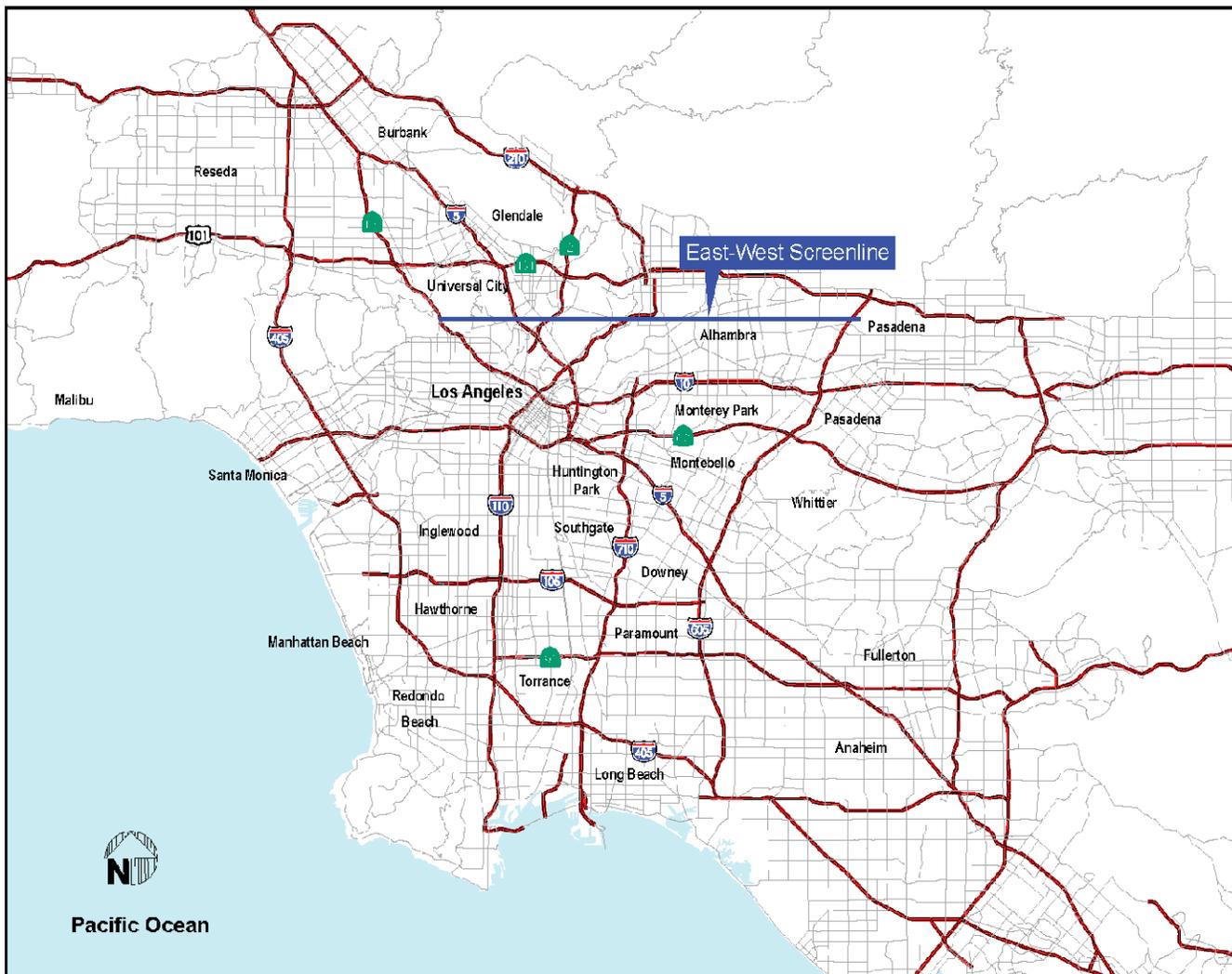
### **Volume Served**

The performance measure for volume served is defined as regional north-south vehicular throughput served on the freeway and arterial systems. Comparing the daily volumes on freeways and arterials across the east-west screenline (Figure 4.4) provides a metric of the location of traffic moving through the study area. Typically, longer distance trips use the freeway system. Often, with a congested freeway system, there is a shift in travel from the freeway system to the arterial system. The travel on the arterial system is induced by freeway congestion, and thus reduces the speeds and increases the delays on the arterials.

The calculation for vehicle throughput was measured separately for the arterial and the freeway systems. The measurement is calculated as the daily volume of vehicles that cross the east-west screenline. Looking at these two performance measures together provides a good indication of how well the system is working for regional and local trips.

A thorough description of the calculation for volume served on freeways and arterials is included in Performance Measure Technical Appendix, Section G.

FIGURE 4.4  
East-West Screenline



\*Note: Screenlines extend completely across the modeled area from boundary cordon to boundary cordon. Screenlines are often associated with physical barriers such as rivers or railroads, although jurisdictional boundaries such as county lines that extend through the study area may also be used as screenlines. (Source: The Travel Model Improvement Program Travel Model Validation and Reasonableness Checking Manual Second Edition.)

## 4.2 Freeway System Operations

Performance measures used to quantify the freeway system operations in the study area are related to the second primary element of need. Analysis conducted by SCAG for the 2012 RTP shows that current four-hour PM peak period travel speeds on north-south freeways between I-10 and US 101/SR 134/I-210 are under 15 miles per hour in many locations. The regional models (2008 RTP and 2012 RTP) forecast freeway speeds to be slower in 2035 than they are today if there are no major improvements to the freeways in the study area.

The objective derived from the project needs for the freeway system operations is to reduce the level of congestion on the freeway system, and includes multiple performance measures. The identified needs for the freeway system are as follows:

- Demand exceeds capacity for north-south travel, and causes high delays and unpredictable travel times on study area freeways
- Freeway system users take longer trips

- Higher accident rates on freeways due to congestion

All three performance measures developed for freeway system operations calculate the congestion on roadways as a ratio of total volume (V) to the available capacity (C) on each link in the highway network. The level of service (LOS) criteria are then used to summarize total directional miles at different levels of congestion. The LOS criteria used to calculate congestion on all roadways in the travel model are shown in Table 4.2, and is obtained from the Highway Capacity Manual (HCM) 2000.

TABLE 4.2  
**Level of Service Criteria for Freeway and Arterial Congestion**

	Freeways*		Expressways, Arterials, and Collectors*	
	From V/C	To V/C	From V/C	To V/C
LOS A	0.00	0.30	0.00	0.26
LOS B	0.30	0.49	0.26	0.43
LOS C	0.49	0.70	0.43	0.62
LOS D	0.70	0.90	0.62	0.82
LOS E	0.90	1.00	0.82	1.00
LOS F	1.00	1.10	1.00	1.10
**LOS F1	1.10	1.20	1.10	1.20
**LOS F2	1.20	1.30	1.20	1.30
**LOS F3	1.30		1.30	

\*Note: V/C criteria are from HCM 2000 Exhibit 21-2 for multilane highways. Freeways assume a free-flow speed of 60 mph. Expressways, arterials, and collectors assume a free-flow speed of 45 mph.

\*\*LOS F1, F2, and F3 represent severe congestion.

### **Level of Severe Congestion**

The level of severe congestion performance measure was defined to compare the length of facilities in the study area that are operating in severe congestion.

The level of severe congestion is determined using the LOS criteria summarized in Table 4.2. Severe congestion is defined as facilities with LOS of F1, F2, or F3 (all facilities with a V/C ratio greater than 1.1). The reported value for the miles of severely congested facilities is the greatest length between the AM and PM peak periods.

A thorough description of the calculation for the level of severe congestion is included in Performance Measure Technical Appendix, Section H.

### **Level of Moderate Congestion**

The level of moderate congestion performance measure was defined to compare the length of facilities in the study area that are approaching a level of severe congestion. Similar to the level of severe congestion, the level of moderate congestion is determined using the LOS criteria summarized in Table 4.2. Moderate congestion is defined as facilities with LOS of E or F, but not including severe congestion. The reported value for the miles of facilities is the greatest value between the AM and PM peak periods.

A thorough description of the calculation for the level of moderate congestion is included in Performance Measure Technical Appendix, Section H.

### **Travel in Congestion**

The travel in congestion performance measure is another indicator of freeway system performance. The congested facilities for this performance measures are defined as facilities with a V/C ratio greater than 1.0. In a

more efficient system, daily travel on congested facilities in the study area will decrease. In a more efficient system, roadway users are able to choose among alternative routes, allowing traffic to be distributed more evenly and reducing the amount of travel that must take place on congested facilities.

The performance for the travel in congestion uses raw model outputs to calculate the total daily vehicle (automobile and truck) miles traveled (VMT) on congested facilities (V/C ratio greater than 1.0).

A thorough description of the calculation for travel in congestion is included in Performance Measure Technical Appendix, Section I.

### 4.3 Arterial System Operations

Performance measures used to quantify the arterial system operations in the study area are related to the third primary element of need. This section of the report describes evaluation tools that were used to quantify the performance of the arterial system operations. Average speeds in the study are lower than average Los Angeles metropolitan area roads by 10 percent (freeways), 13 percent (arterials), and 31 percent (collectors) (as reported in the “SR 710 EIR/EIS – Existing Conditions System Performance Report” dated October, 2012). These lower speeds are in part attributable to the increased congestion due to a lack of sufficient transportation facilities.

The primary objective derived from the project needs for the arterial system operations is to reduce the level of congestion on the arterial system and improve arterial traffic operations, and includes multiple performance measures. The identified needs for the arterial system are as follows:

- Effects of excess freeway traffic on arterials
- Low speeds on arterials
- Out-of-place freeway trips that cause high levels of congestion on arterials

#### Local Arterial Traffic

The performance of arterial traffic is difficult to capture in a travel demand model. The performance of the arterial system can be quantified by calculating the number of congested intersection approaches in the study area. Figure 4.5 is a map of the 50 intersections selected for this evaluation. The intersections included in the evaluation are:

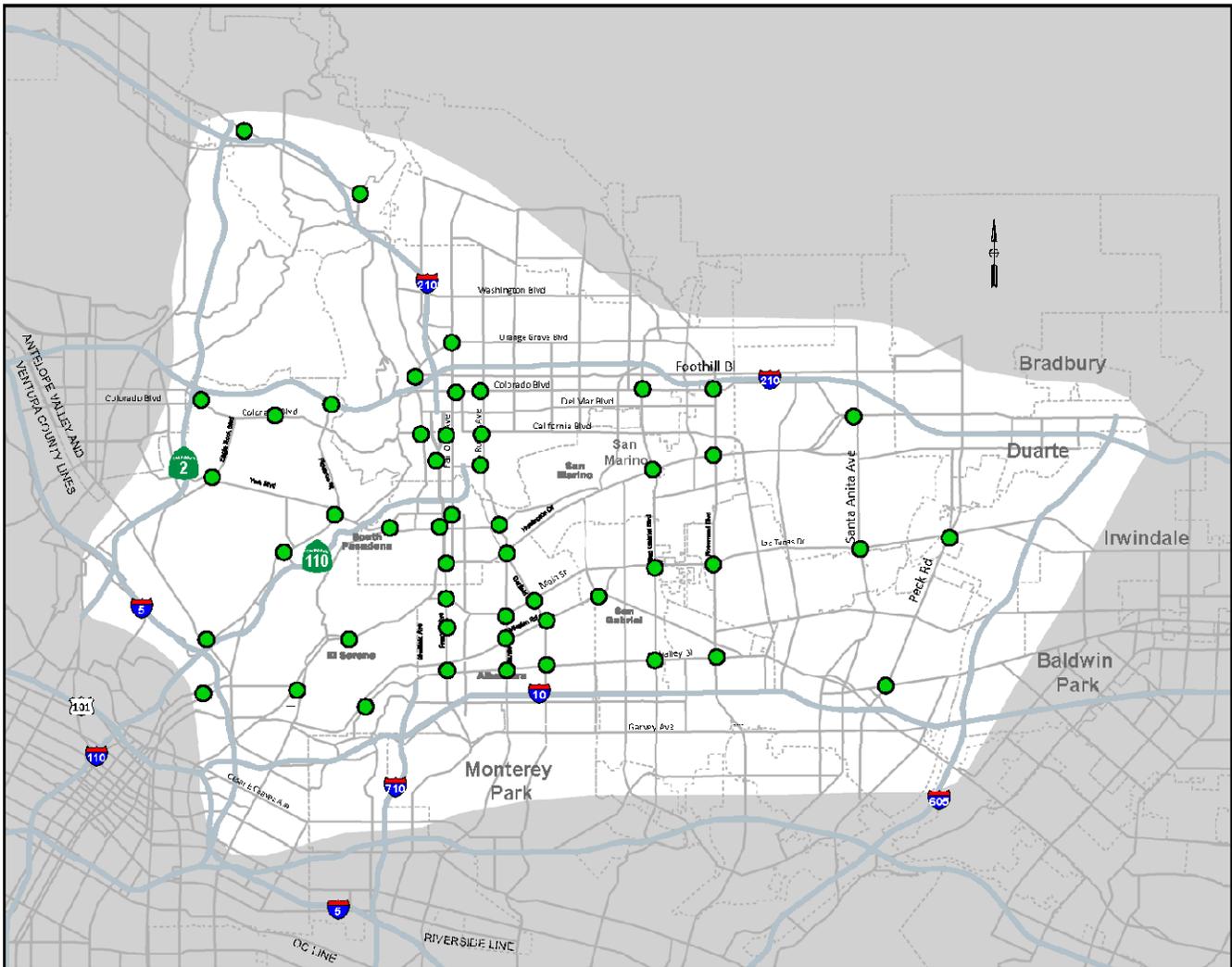
- Arroyo Parkway at Colorado Boulevard
- Atlantic Boulevard at Main Street, Mission Road, and Valley Boulevard
- California Boulevard at Orange Grove Boulevard
- Colorado Boulevard at N. Broadway and Eagle Vista Drive
- Eagle Rock Boulevard at York Boulevard
- Eastern Avenue at Huntington Drive
- Fair Oaks Avenue at California Boulevard, Mission Street, and Orange Grove Boulevard
- Figueroa Street at Cypress Avenue, N. Avenue 52, York Boulevard
- Foothill Boulevard at Alta Canyada Road
- Fremont Avenue at Concord Avenue, Huntington Drive, and Main Street
- Fremont Avenue at Monterey Road and Valley Boulevard
- Garfield Avenue at Huntington Drive, Mission Road, Main Street, and Valley Boulevard
- Los Robles Avenue at California Boulevard, Colorado Boulevard, Monterey Road, and Wallis Street
- Marianna Avenue at Valley Boulevard
- Mission Drive at Mission Road
- Mission Road at N. Broadway
- N. Avenue 64 at Colorado Boulevard
- Oak Grove Drive at Foothill Boulevard
- Pasadena Avenue at Monterey Road and Saint John Avenue
- Peck Road at Live Oak Avenue and Ramona Boulevard

- Rosemead Boulevard at Colorado Boulevard, Huntington Drive, Las Tunas Drive, and Valley Boulevard
- San Gabriel Boulevard at Colorado Boulevard, Huntington Drive, Las Tunas Drive, and Valley Boulevard
- Santa Anita Avenue at Huntington Drive and Live Oak Avenue
- Spring Street at N. Broadway
- Walnut Street at Orange Grove Boulevard

The arterial traffic performance measure used model volumes and capacities from the four-hour PM peak period to calculate the percentage of intersection approaches with a V/C ratio greater than 1.0.

A thorough description of the calculation for congested intersection approaches is included in Performance Measure Technical Appendix, Section J.

FIGURE 4.5  
Local Intersections Selected for Calculating Congested Approaches



### **Arterial Congestion**

An arterial congestion performance measure was calculated for north-south arterial traffic crossing the east-west screenline (Figure 4.4). The performance measure uses model outputs to calculate the average north-south arterial V/C ratio.

The reported evaluation value was the maximum of the average AM and PM peak period V/C ratios on the north-south arterials crossing the east-west screenline.

A thorough description of the calculation for arterial congested is included in Performance Measure Technical Appendix, Section K.

### **Traffic Diversion to Local Arterials**

The traffic diversion to arterials performance measure was developed to calculate the volume of traffic that shifts from the freeway system to the arterial system due to congestion or lack of freeway connectivity. In a regional transportation system, it is preferred to have a majority of the VMT occur on the freeway system, and not the arterial street network.

The calculation for the traffic diversion to arterials performance measure uses model outputs to calculate the VMT on the arterial system in the study area. Comparing between alternatives shows the traffic diversion from arterials to the freeway system.

A thorough description of the calculation for traffic diversion to arterials is included in Performance Measure Technical Appendix, Section L.

### **Use of Local Arterials for Long Trips**

The performance measure to calculate the use of arterials for long trips captures the percentage of the trips that have both an origin and a destination outside of the study area. These trips represent cut-through travel on the arterial system that would be best served by the freeway system. The resulting congestion on the arterial system is partially caused by vehicle trips using arterials for long distance trips.

The method for quantifying cut-through travel uses model outputs to calculate the percentage of trips on arterials with an origin and a destination outside of the study area in the four-hour PM peak period. Four major arterials were selected as heavily used and representative of north-south and east-west travel in the study area. The four major arterials selected are illustrated in Figure 4.6. The locations used for the cut-through travel calculation are:

- Huntington Drive east of Fremont Avenue
- Monterey Road south of SR 110
- Fremont Avenue south of Huntington Drive
- Rosemead Boulevard south of Huntington Drive

A thorough description of the calculation for use of arterial for long trips is included in Performance Measure Technical Appendix, Section M.

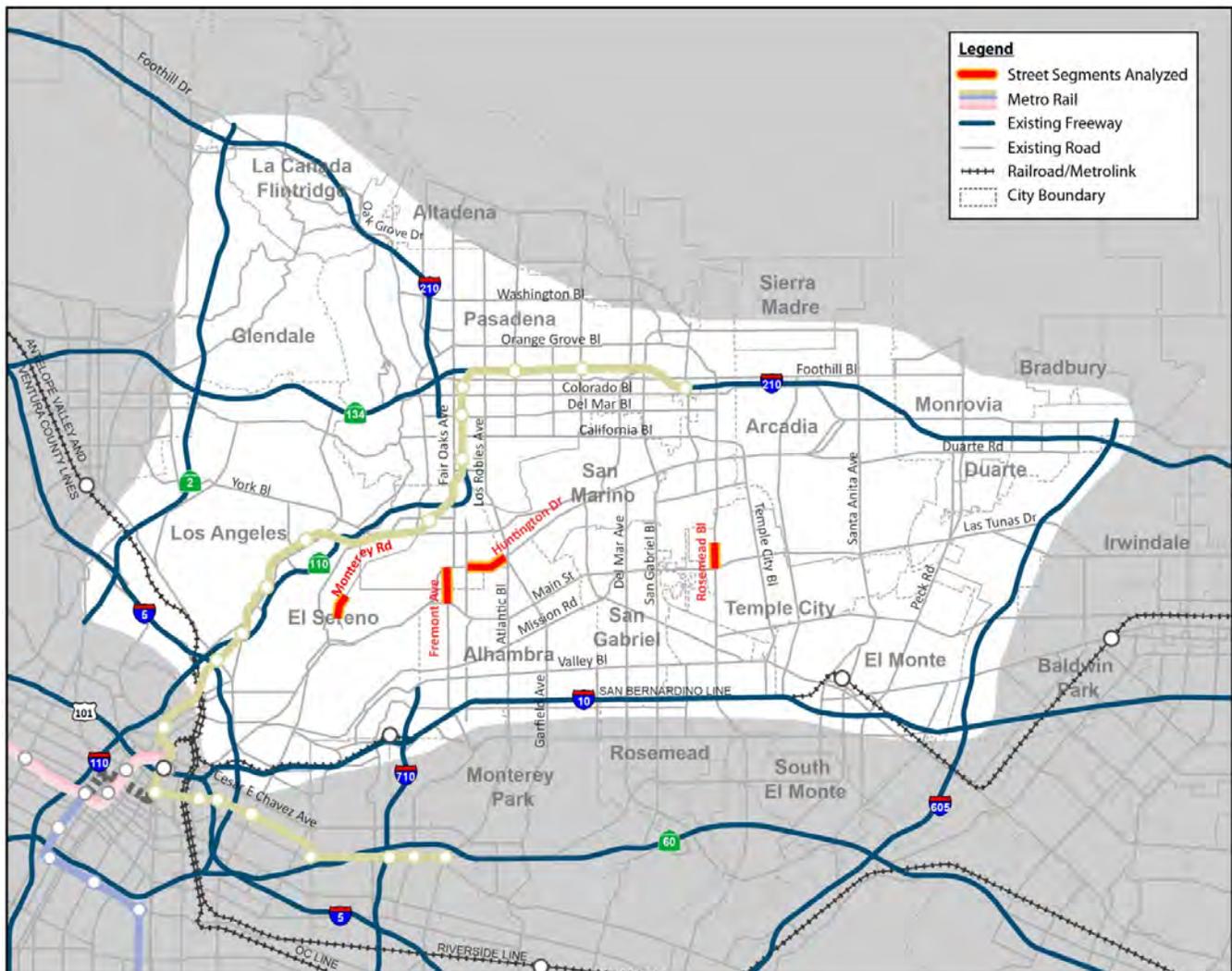
### **Daily Person Travel on Arterials**

The daily person travel on arterials performance measure was developed to quantify the total north-south travel (daily person trips on arterials, in millions) crossing an east-west screenline (Figure 4.4).

Daily person travel on arterials was calculated using the daily volume of vehicle trips for drive alone and shared-ride vehicles and vehicle occupancy factors were used to calculate the number of person trips. The occupancy factors used for this calculation were obtained from the 2008 SCAG RTP travel model, and are 1.0 for drive alone and truck trips, 2.0 for shared ride with one passenger, and 3.2 for shared ride with three or more passengers. The reported value was the total north-south daily person trips on arterials (in millions) crossing the east-west screenline.

A thorough description of the calculation for daily person travel on arterials is included in Performance Measure Technical Appendix, Section N.

FIGURE 4.6  
Study Area Cut-Through Travel Locations



## 4.4 Transit System Operations

Performance measures used to quantify the transit system operations in the study area are related to the fourth primary element of need. This section of the report describes evaluation tools that were used to quantify the performance of the transit system operations. The Metro Gold Line is the only fixed-guideway transit facility within the study area, linking parts of the study area to downtown Los Angeles. The remaining transit services in the study are provided by buses, which are affected by roadway congestion. For example, according to the “2010 Congestion Management Program” prepared by Los Angeles County Metropolitan Transportation Authority, speeds on Metro Route 260, which runs on Fair Oaks Avenue, have decreased from 14.8 mph in 1992 to 11.6 mph in 2009. A bus trip from the Gold Line Atlantic Station to the Fair Oaks Avenue/Colorado Boulevard intersection takes up to 48 minutes in the peak period (60 percent longer than during uncongested periods) (LA Metro Route 260 Schedule, [http://www.metro.net/riding\\_metro/bus\\_overview/images/260.pdf](http://www.metro.net/riding_metro/bus_overview/images/260.pdf)).

The primary objective derived from the project needs for the arterial system operations is to increase transit ridership. The identified needs for the arterial system are as follows:

- Operational deficiencies of the highway system effects transit
- Low travel speeds for buses and increased delay for peak hour trips
- The north-south transit network is constrained by slow speeds on the arterial network

There are multiple performance measures for the transit system operations.

#### **4.4.1 New Transit Ridership**

A new transit rider is defined as a person that elects to use transit services, which would have otherwise used a different mode for travel (most likely a personal vehicle). An increase in new transit ridership could be the result of multiple factors, including increases in transit service, reduced transfer times, or new services that are available. New transit ridership was calculated as the change in daily linked transit trips compared with the No Build alternative (the value for the No Build alternative was zero).

A thorough description of the calculation for new transit ridership is included in Performance Measure Technical Appendix, Section O.

#### **4.4.2 Transit Accessibility**

Improvements in transit service can be assessed with an increase in transit accessibility. Transit accessibility was measured as the percentage of the study area population and employment located within  $\frac{1}{4}$  mile of a transit stop with high frequency service (headways less than 15 minutes). The calculation for population and employment are calculated independently, and the average of the two was reported as the transit accessibility percentage.

A thorough description of the calculation for transit accessibility is included in Performance Measure Technical Appendix, Section P.

#### **4.4.3 Transit Mode Split**

Transit mode split was determined as a ratio of transit trips to total person trips. A higher mode split for transit indicates an increase in transit trips and transit ridership. Transit mode split was calculated for daily trips within the study area, as an indicator of how attractive the transit system is compared to other modes of travel.

A thorough description of the calculation for transit mode split is included in Performance Measure Technical Appendix, Section Q.

SECTION 5

# TSM/TDM Alternative

In this section, the TSM/TDM alternative is compared with the No Build alternative. Both the highway and the transit networks are different in the TSM/TDM alternative than in the No Build alternative. The TSM/TDM alternative consists of strategies and improvements to increase efficiency and capacity for all modes in the transportation system, with lower capital cost investments and/or lower potential impacts than other build alternatives. The TSM/TDM alternative includes many transit system improvements, as discussed in Section 3.2, and there are modest arterial and intersection improvements.

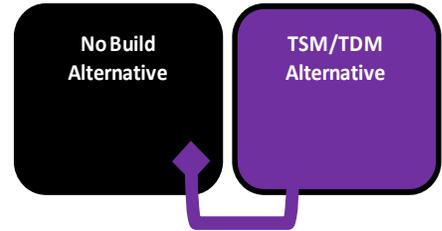
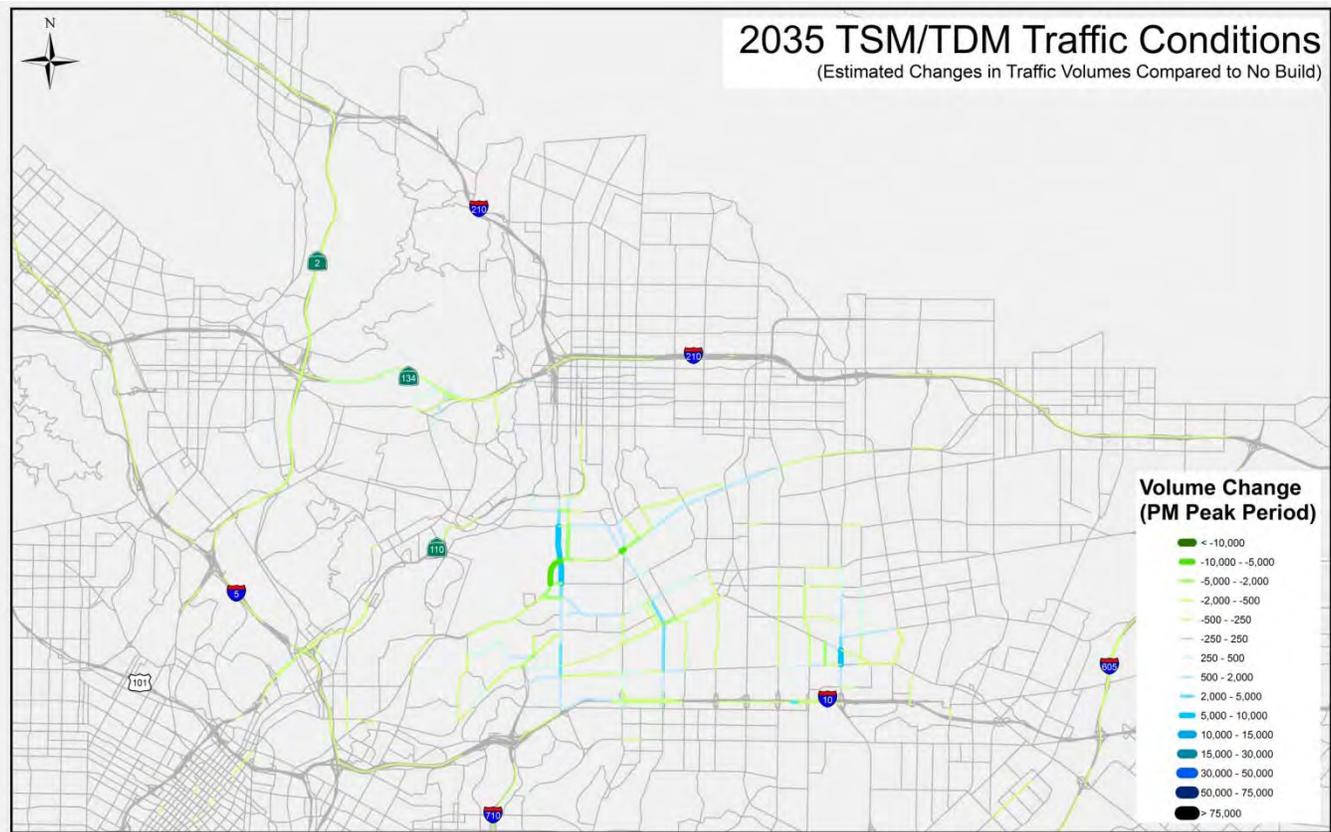


Figure 5.1 is an illustration of the change in traffic volumes between the TSM/TDM alternative and the No Build alternative. Small changes are visible throughout the study area on local roads. The arterial and intersection improvements result in changes to the volumes on the arterials in the area of the intersection improvements. The changes in traffic are a small percentage of the arterial traffic, and are typically less than 250 vehicles in the four-hour PM peak period. The majority of changes are small increases and reductions in volume related to the arterial capacity and intersection improvements. Very little change in traffic is related to the increase in transit service.

The major increases in traffic volumes in the TSM/TDM alternative are on Rosemead Boulevard and Fremont Avenue. These increases are generally due to an increase in capacity which will result in an increase in traffic volumes, but not degrade operations.

FIGURE 5.1  
TSM/TDM Alternative PM Peak Period Volume Changes



## 5.1 Regional Transportation System Performance

The TSM/TDM alternative does not include any regional roadway improvements. However, the extent of the transit system improvements has the potential to have a regional impact on the transportation system. The majority of the transit improvements are located in the study area. Due to the interconnectedness of the regional transit system, the small effects of these improvements can be seen throughout the region.

### 5.1.1 Minimize Travel Time

There are some improvements in several performance measures for vehicular and transit trip travel times throughout the region when compared with the No Build alternative. Table 5.1 is a summary of the performance of the TSM/TDM alternative for the project objective of minimizing travel time.

#### Trip Travel Time

- ❖ *The trip travel time measure is a projection of the normalized reduction in regional and study area point-to-point travel times from zero (worst) to 100 (best). An increase in travel time index equates to a decrease in travel time.*

For the TSM/TDM alternative, the vehicle travel time index results indicate that there will be a small reduction in vehicular travel times (an increase from 0 to 11), and the transit travel time index results in a larger reduction (an increase from 0 to 41) in transit travel times. The decrease in the vehicle travel time index is directly related to the reduction in vehicular travel on arterials. The decrease in transit travel time is primarily the result of an increase in transit service and a decrease in arterial congestion.

#### Total Vehicular Travel Time

- ❖ *The total vehicular travel time measure is the reduction in daily VHT in the AM and PM peak periods, and is reported as the change in total vehicular travel time from the No Build alternative.*

The roadway and transit improvements result in an increase in the number of transit system users. The effect is a decrease in the total number of vehicle trips that use the regional roadway system, and a modest reduction in VHT. The reduction in VHT on the regional transportation system is directly related to the reduction in vehicle trips on the roadways that are now using transit.

#### Travel Time Reliability

- ❖ *The travel time reliability measure is based on a calculation of the percentage of travel on dedicated or managed lanes in the study area.*

The improvements to the transit and roadway network in the TSM/TDM alternative do not improve the travel time reliability.

TABLE 5.1  
TSM/TDM Alternative Performance Evaluation for Minimizing Travel Time

Performance Measure	Performance Measure Calculation	No Build	TSM/TDM
<i>Trip Travel Time-Vehicle Travel Time Index</i>	Point-to-point travel times for a set of nine trip pairs in each of two types of origin-destination (O-D) pairs – regional (e.g., Long Beach to Stevenson Ranch) and study area (e.g., Union Station to La Cañada Flintridge). Peak period travel times are reported as the sum of the average regional and average study area travel times, and normalized from zero (worst) to 100 (best).	0	11
<i>Trip Travel Time - Transit Travel Time Index</i>	Point-to-point travel times for a set of nine trip pairs in each of two types of origin-destination (O-D) pairs – regional (e.g., Long Beach to Stevenson Ranch) and study area (e.g., Union Station to La Cañada Flintridge). Reported as the sum of the average regional and average study area travel times, and normalized from zero (worst) to 100 (best).	0	41

TABLE 5.1  
**TSM/TDM Alternative Performance Evaluation for Minimizing Travel Time**

Performance Measure	Performance Measure Calculation	No Build	TSM/TDM
<i>Total Vehicular Travel Time</i>	Reduction in vehicle hours (in 1000s) of travel for all vehicular (auto and truck) trips in the region. Reported as the reduction in travel time (from the No Build alternative) for the total of the AM and PM peak periods.	0	89
<i>Travel Time Reliability</i>	Percentage of daily person hours of travel on facilities in the study area that have dedicated or managed lane operations (HOV facilities, or tolled facilities).	8.6%	8.6%

Note: See Section 4.1.1 for a thorough description of the method of calculation for all performance measures described in this table.

## 5.1.2 Improve Connectivity and Mobility

The improvement in connectivity and mobility is small compared with the No Build alternative. Table 5.2 is a summary of the performance of the TSM/TDM alternative for the objective of improving connectivity and mobility in the region.

### Access to Regional Freeway and Transit System

- ❖ *The regional freeway and transit access quantifies the number of new directional interchanges between the existing facilities and new freeway systems or transfers with high frequency transit service.*

There are no improvements to the regional access for either the freeway or the transit system with the TSM/TDM alternative.

### Employment Accessibility

- ❖ *The employment accessibility is the ratio of restored accessible jobs compared with the No Build alternative.*

The improvement in transit service increases the employment accessibility by slightly more than 3 percent, a slight increase in the total number of accessible jobs compared with the No Build alternative.

### North-South Transit Throughput

- ❖ *The north-south transit throughput is calculated as the total daily boardings on transit routes crossing the east-west screenline.*

The transit throughput is increased from 624,946 to 648,051 daily boardings, which is an increase of 4 percent. While this number is a small percentage, it does represent a modest increase in north-south transit ridership throughout the region, which translates into a reduction in north-south vehicle trips on arterials.

### Volume Served

- ❖ *The daily vehicle volume on the east-west screenline is calculated separately for arterials and freeways.*

The roadway improvements are located on arterials and at intersections identified as being the most congested locations in the study area. The improvements to the arterial system increase the volume of vehicles served on arterials, and decrease the volume of vehicles served on freeways. The shift from the freeway system onto the arterial system (a reduction from 985,170 to 983,820 vehicles) is less than 1 percent of study area travel, and is a result of the increase in the arterial performance related to roadway and transit improvements.

TABLE 5.2  
**TSM/TDM Performance Evaluation for Improving Connectivity and Mobility**

Performance Measure	Performance Measure Calculation	No Build	TSM/TDM
<i>Access to Regional Freeway and Transit System</i>	Number of new interchanges to the regional freeway system, and the number of new transit system transfer locations between high frequency service.	0	0

TABLE 5.2  
**TSM/TDM Performance Evaluation for Improving Connectivity and Mobility**

Performance Measure	Performance Measure Calculation	No Build	TSM/TDM
<i>Employment Accessibility</i>	The percentage ratio of the restored number of accessible jobs (the number of job accessible by the alternative compared with the No Build alternative) compared with the decrease in job accessibility from 2008 to 2035 (the number of accessible jobs lost between 2008 and the No Build alternative). A ratio of 100% indicates that all of the job accessibility "lost" by 2035 will be restored.	0.00%	3.38%
<i>North-South Transit Throughput</i>	Total daily boardings on transit routes crossing the east-west screenline.	624,946	648,051
<i>Volume Served – Arterials</i>	Daily volume on arterials crossing the east-west screenline.	940,610	949,080
<i>Volume Served – Freeways</i>	Daily volume on freeways crossing the east-west screenline.	985,170	983,820

Note: See Section 4.1.2 for a thorough description of the method of calculation for all performance measures described in this table.

## 5.2 Freeway System Performance

The TSM/TDM alternative does not include any regional freeway improvements. However, the improvements that are made to the arterials and transit systems result in a small improvement in freeway system performance. Table 5.3 is a summary of the freeway system performance of the TSM/TDM alternative compared with the No Build alternative.

### Level of Severe Congestion

- ❖ *The level of severe congestion is calculated as the directional miles of roadways at LOS of F1, F2, or F3 in the study area.*

The arterial improvements in the study area are made primarily in locations with severe congestion. The length of facilities that operate in severe congestion is reduced from 100.0 to 95.7 miles, which is slightly more than 4 percent.

### Level of Moderate Congestion

- ❖ *The level of moderate congestion is calculated as the miles of facilities with LOS of E or F0 (not including severe congestion) in the study area.*

The total directional miles of roadway in the study area that are moderately congested is reduced by 1.8 miles (from 420.2 to 418.4 miles), a reduction of less than 1 percent. The reduction in moderate congestion is less than the reduction in severe congestion, but does indicate an overall reduction in congestion.

### Travel in Congestion

- ❖ *The travel in congestion is the total daily VMT (in 1000s) on congested facilities (V/C>1.0) in the study area.*

The improvements that are made to the transit routes increase the number of transit system users, and thus decrease the volume of vehicles using the roadways in the study area. The increase in transit users decreases the daily VMT on the regional network from 1,550.5 to 1,497.8 VMT. A decrease in VMT on study area facilities reflects fewer hours of delays on the freeway and arterial system due to a decrease in congestion and a corresponding increase in speeds on the freeways.

TABLE 5.3  
**TSM/TDM Alternative Performance on the Freeway System**

Performance Measure	Performance Measure Calculation	No Build	TSM/TDM
<i>Level of Severe Congestion</i>	Total directional miles of roadway facilities at LOS F1, F2, and F3 in the study area. This translates into facilities with LOS greater than or equal to 1.1.	100.0	95.7
<i>Level of Moderate Congestion</i>	Total directional miles of roadway facilities at LOS E or F0 in the study area (not including severe congestion). LOS E and F are calculated separately for freeways and arterials, and are calculated in accordance with the HCM 2000.	420.2	418.4
<i>Travel in Congestion (VMT)</i>	Total daily vehicular (auto and truck) VMT (in 1000s) on congested facilities (V/C > 1.0) in the study area.	1,550.5	1,497.8

Note: See Section 4.2 for a thorough description of the method of calculation for all performance measures described in this table.

## 5.3 Arterial System Performance

The TSM/TDM alternative has arterial capacity and intersection improvements at some congested locations. The TSM/TDM alternative provides some relief to the arterial system, but generally performs similar to the No Build alternative when looking at the entire study area. Table 5.4 is a summary of the arterial system performance of the TSM/TDM alternative compared with the No Build alternative.

### Local Arterial Traffic

- ❖ *The arterial traffic performance measure is the percentage of intersection approaches that are over capacity.*

The roadway improvements in this alternative were developed to decrease the congestion in the study area. However, the TSM/TDM alternative slightly increases the percentage (by 0.5 percent) of congested intersection approaches in the study area. The slight increase in congested intersection approaches is directly related to the increase in local arterial capacity, and resulting increase in local arterial traffic. Both the TSM/TDM and No Build alternatives have nearly identical arterial traffic performance at the selected intersections.

### Arterial Congestion

- ❖ *The arterial congestion performance measure is the average of the AM and PM peak period V/C ratios on arterials crossing the east-west screenline.*

The roadway and transit system improvements do not improve the arterial congestion performance (a slight increase in V/C ratio from 0.77 to 0.78) compared with the No Build alternative. Similar to the local arterial traffic measure, the TSM/TDM alternative slightly increases the average V/C ratio on north-south arterials crossing the east-west screenline.

### Traffic Diversion to Local Arterials

- ❖ *The traffic diversion to arterials performance measure is the change in VMT on the arterial system in the study area.*

The TSM/TDM alternative results in no material change in the daily VMT (7,000 VMT for both alternatives) in the study area on arterials.

### Use of Local Arterials for Long Trips

- ❖ *The performance measure for the use of arterials for long trips is the percentage of the study area trips with origins and destinations outside of the study area. This measure is informally called the percentage of cut-through travel.*

The overall change in the cut-through travel is an increase from 24.9 to 25.2 percent, a change of less than 1 percent. Several of the TDM projects will increase the capacity on currently congested north-south arterials in the study area. These “local street hot spot improvements” are described in Table 3.2 on Fremont Avenue and

Rosemead Boulevard. The capacity improvements on Fremont Avenue and Rosemead Boulevard increase the capacity of two of the roadways used to calculate the percentage of cut-through travel. The result is a slight increase in the volume of cut-through travel.

### **Daily Person Travel on Arterials**

- ❖ *The daily person travel on arterials performance measure is the total north-south person travel crossing the east-west screenline. Only travel in vehicles is included.*

There is a slight increase in the number of daily person trips (from 1.27 to 1.29 million) on north-south arterials crossing the east-west screenline. The increase of approximately 1.5 percent is a result of the localized increases in capacity and speeds throughout the study area.

TABLE 5.4  
**TSM/TDM Alternative Performance on the Arterial System**

Performance Measure	Performance Measure Calculation	No Build	TSM/TDM
<i>Local Arterial Traffic</i>	Percentage of intersection approaches with a V/C ratio greater than 1.0 in the PM peak period.	28.0%	28.5%
<i>Arterial Congestion</i>	The maximum of the AM and PM peak period V/C ratios on the north-south arterials crossing the east-west screenline.	0.77	0.78
<i>Traffic Diversion to Local Arterials</i>	Daily arterial vehicle miles traveled (VMT) in the study area (reported in 1000s).	7.0	7.0
<i>Use of Local Arterials for Long Trips</i>	Percentage of PM peak period trips on arterials that have an origin and a destination outside of the study area.	24.9%	25.2%
<i>Daily Person Travel on Arterials</i>	Total north-south travel served (daily person trips on arterials, in millions) crossing the east-west screenline.	1.27	1.29

Note: See Section 4.3 for a thorough description of the method of calculation for all performance measures described in this table.

## **5.4 Transit System Performance**

The TSM/TDM alternative provides additional peak period service for multiple bus routes, and also adds one new rapid transit route. The TSM/TDM alternative also increases approach capacities at many of the most congested intersections in the study area. The overall performance of the transit system is improved with the roadway and transit improvements in the TSM/TDM alternative when compared with the No Build alternative. Table 5.5 is a summary of the transit system performance of the TSM/TDM alternative compared with the No Build alternative.

### **New Transit Ridership**

- ❖ *The performance measure is the number of new transit riders compared with the No Build alternative.*

The transit system improvements, including the new rapid bus route, increase new transit ridership by over 16,300 riders per day. This increase in riders is the result of a small shift in travel mode in the study area from vehicles to transit. Corridor transit mode shares are projected to increase from 3.73 percent to 3.93 percent.

### **Transit Accessibility**

- ❖ *The transit accessibility performance measure is the average percentage of the study area and population that is located within ¼ mile of a transit stop with high frequency service.*

The transit accessibility is increased from 29.3 percent to 35.3 percent, an increase of almost 20 percent, and is primarily related to the new rapid bus route added to the transit system.

### **Transit Mode Split**

- ❖ *The transit mode split performance is the percentage of total daily person trips that use transit.*

The TSM/TDM alternative will increase the mode split for the study area by approximately 4 percent (from 3.73 to 3.89%).

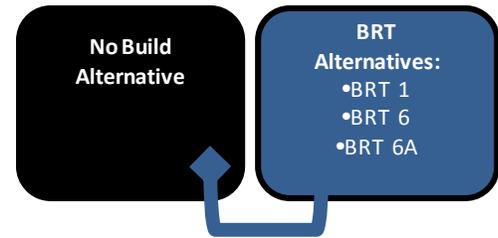
TABLE 5.5  
**TSM/TDM Alternative Performance on the Transit System**

<b>Performance Measure</b>	<b>Performance Measure Calculation</b>	<b>No Build</b>	<b>TSM/TDM</b>
<i>New Transit Ridership</i>	Increase in transit ridership (new daily riders).	0	16,329
<i>Transit Accessibility</i>	Percentage of study area population and employment within ¼-mile of a transit stop with high frequency service. Calculated independently for population and employment, and averaged together.	29.3%	35.3%
<i>Transit Mode Split</i>	Transit percentage of daily trips (mode split) within in the study area.	3.73%	3.89%

Note: See Section 4.4 for a thorough description of the method of calculation for all performance measures described in this table.

# BRT Alternatives

In this section, the BRT alternatives are compared with the No Build alternative. There are two BRT alternatives, and one variation to an alternative. The BRT alternatives include all of the transit system improvements that are included in the TSM/TDM alternative, but BRT alternatives do not include arterial improvements from the TSM/TDM alternative. The highway system for the BRT alternatives is identical to the highway system in the No Build alternative. In general, the BRT alternatives are designed to provide high-speed, high frequency bus service in a combination of new and dedicated bus lanes and existing, mixed-flow traffic lanes. During peak hours, buses would operate every 10 minutes, and during off-peak hours buses would operate every 20 minutes.



Figures 6.1, 6.2, and 6.3 are illustrations of the change in traffic volumes between the BRT alternatives and the No Build alternative. All of the BRT alternatives (BRT-1, BRT-6, and BRT-6A) show negligible changes in traffic volume throughout the study area on either local facilities or freeways. While there are many transit system improvements, these result in only a slight reduction in volumes throughout the study area. The decrease and increases in traffic are a small percentage of the arterials, and typically less than 250 vehicles in the four-hour PM peak period.

The alignment of the BRT-6 and BRT-6A alternatives are virtually identical to one another, with a slight modification to the local street routing at the north end of the route in Pasadena. The only alternative that was modeled was BRT-6, assuming that both alternatives would have virtually identical. This section of the report will refer to both of the BRT-6 alternatives as just the BRT-6 alternative, unless there is a reason to specifically call out the BRT-6A alternative results.

FIGURE 6.1  
BRT-1 Alternative PM Peak Period Volume Changes

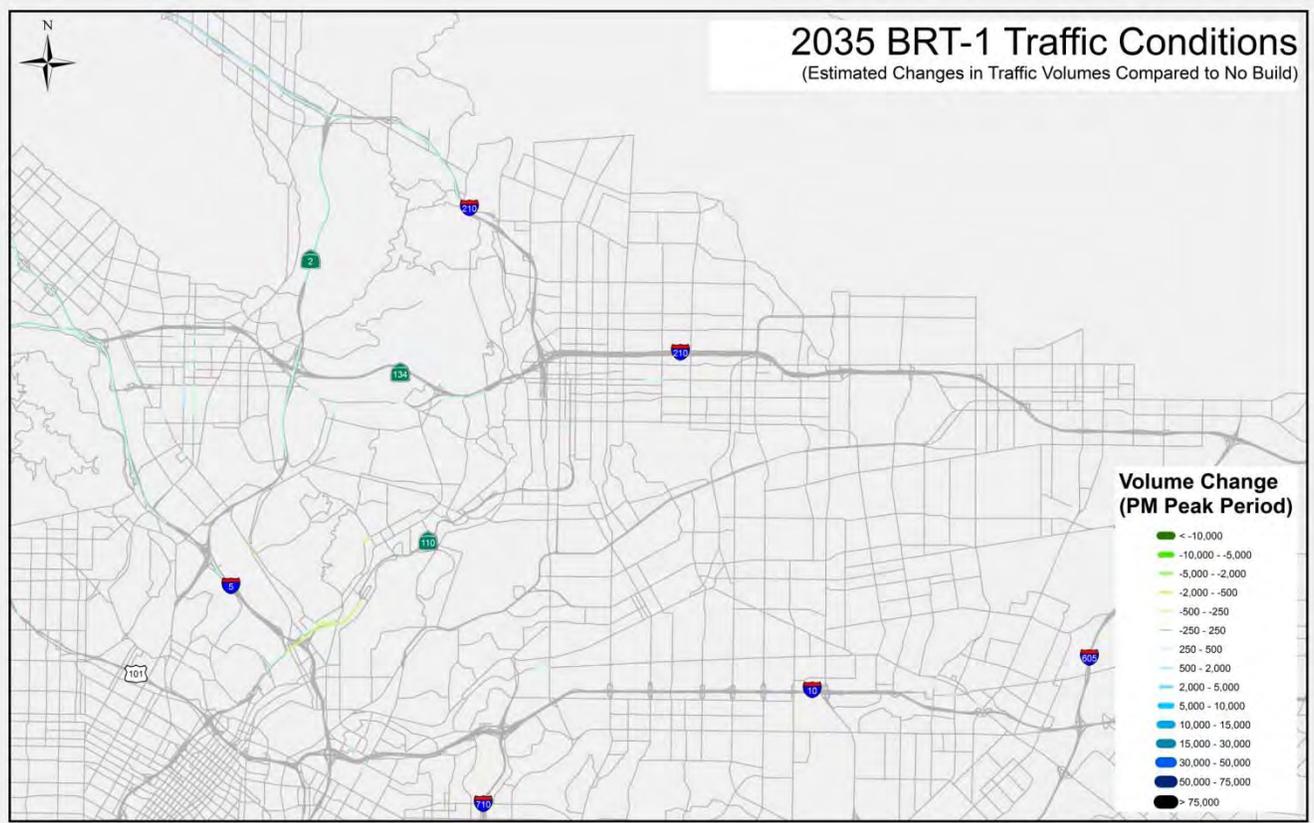


FIGURE 6.2  
BRT-6 Alternative PM Peak Period Volume Changes

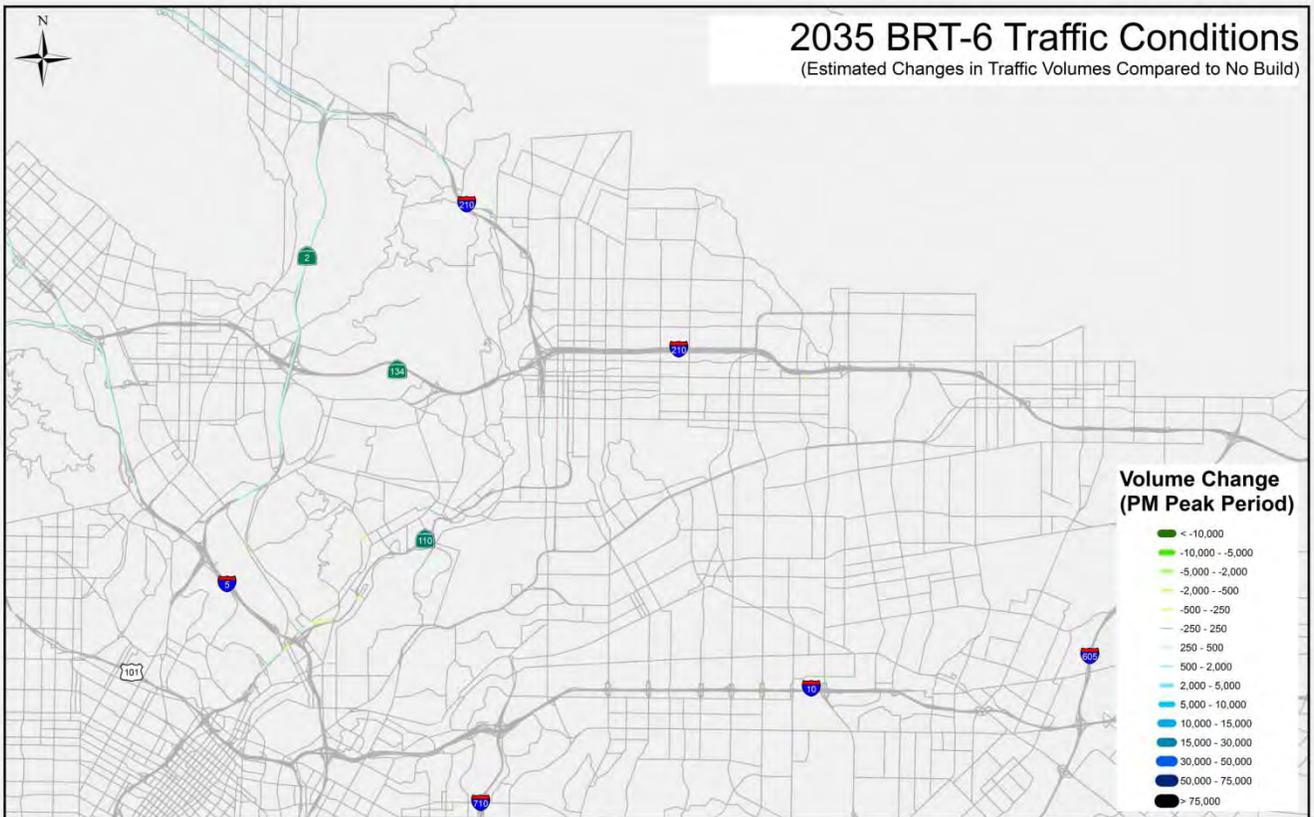
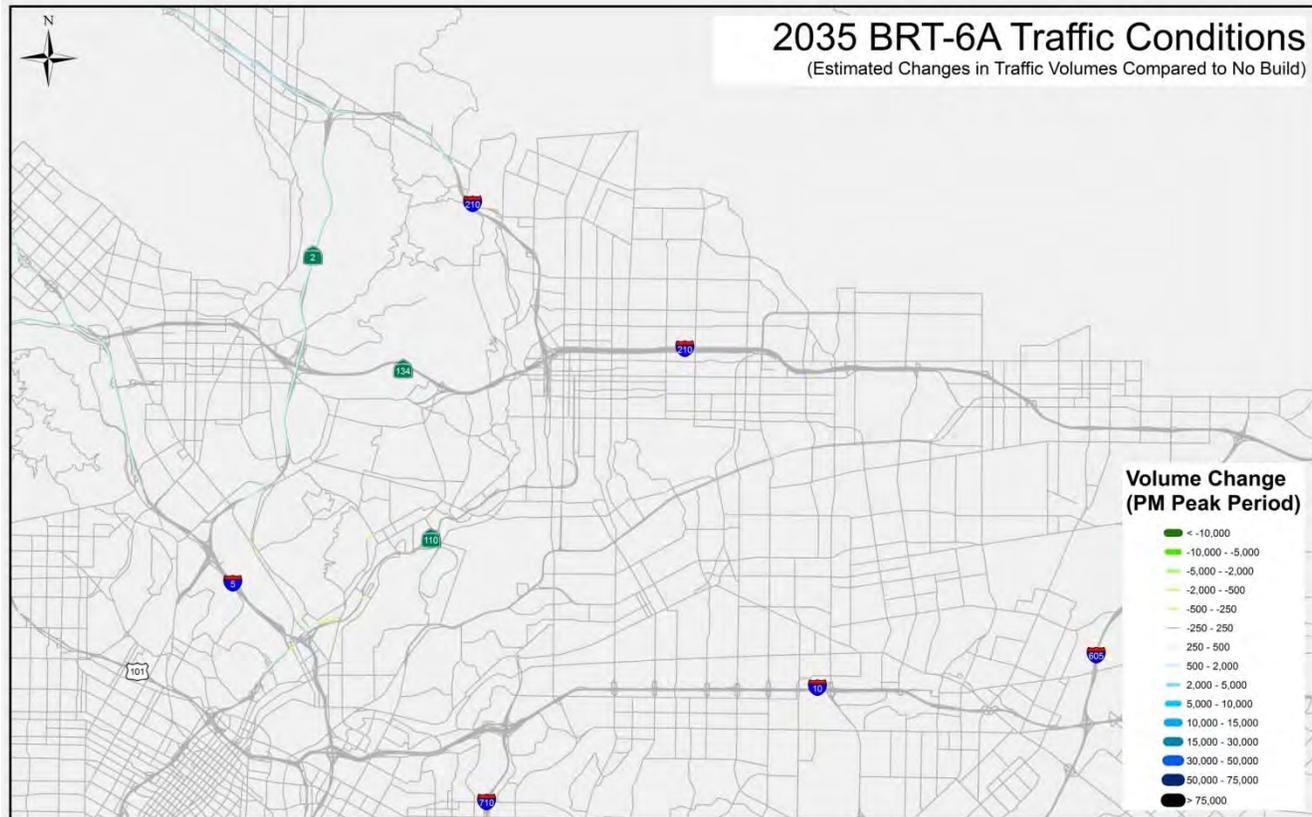


FIGURE 6.3  
BRT-6A Alternative PM Peak Period Volume Changes



## 6.1 Regional Transportation System Performance

The BRT alternatives do not include any roadway improvements. The regional extent of the transit system improvements (including the TSM/TDM study area transit system improvements) has the potential to have a regional impact on the transportation system. While the majority of the BRT alternative routes are located in the study area, the regional transit system is interconnected. Therefore, the effects of the BRT alternatives can be seen throughout the region. With the BRT alternatives, the effects on the transit related performance measures are much greater than on the vehicular related performance measures.

### 6.1.1 Minimize Travel Time

There are slight decreases in several performance measures for vehicular and transit trip travel times throughout the region when compared with the No Build alternative. Table 6.1 is a summary of the performance of the BRT alternatives for the project objective of minimizing travel time. Overall, the BRT-1 alternative performs the best for minimizing travel time when compared with the TSM/TDM alternative and the BRT-6 alternative.

#### Trip Travel Time

- ❖ *The trip travel time measure is a projection of the normalized reduction in regional and study area point-to-point travel times from zero (worst) to 100 (best). An increase in travel time index equates to a decrease in travel time.*

For the BRT alternatives, the vehicle travel time index shows a small reduction in vehicular travel times. The transit travel time index results in a larger reduction in transit travel times. The decrease in the vehicle travel time index is directly related to a slight reduction in vehicular travel on arterials. The decrease in transit travel time is the result of an increase in transit service and new BRT routes. The BRT-1 alternative shows a greater decrease in vehicular and transit trip regional travel times than the BRT-6 alternative. The BRT-1 alternative travel time index

scores 100, which represents that alternative with the greatest improvement in transit travel time among all of the alternatives discussed in this report.

The BRT-1 alternative appears to perform much better than the BRT-6 alternative in minimizing transit travel time (an increase in travel time index from 52 to 100). The increase in transit travel time index is directly related to the extension of BRT-1 to the Jet Propulsion Lab north of I-210. The extension of the BRT route from Pasadena to north of La Canada Flintridge decreases the transit travel time between the selected locations for this performance measure.

The BRT-1 alternative serves more of the performance measure locations, which results in a higher transit travel time index. This does not directly relate to transit ridership.

### **Total Vehicular Travel Time**

- ❖ *The total vehicular travel time measure is the reduction in daily VHT in the AM and PM peak periods, and is reported as the change in total vehicular travel time from the No Build alternative.*

The transit improvements result in an increase in the number of transit system users. The effect is a decrease in the total number of vehicle trips that use the regional roadway system, and a modest reduction in VHT. The reduction in VHT on the regional transportation system is directly related to the reduction in vehicle trips on the roadways that are now using transit.

The BRT-6 alternative performance is superior to the BRT-1 alternative. The BRT-6 alternative decreases VHT in the region by 101,000 hours; 5 percent more than the BRT-1 alternative (a reduction of 96,000 VHT).

### **Travel Time Reliability**

- ❖ *The travel time reliability measure is based on a calculation of the percentage of travel on dedicated or managed lanes in the study area.*

For the BRT alternatives, the improvements to the transit network do not improve travel time reliability.

TABLE 6.1  
**BRT Alternative Performance Evaluation for Minimizing Travel Time**

Performance Measure	Performance Measure Calculation	No Build	BRT-1	BRT-6
<i>Trip Travel Time- Vehicle Travel Time Index</i>	Point-to-point travel times for a set of nine trip pairs in each of two types of origin-destination (O-D) pairs – regional (e.g., Long Beach to Stevenson Ranch) and study area (e.g., Union Station to La Cañada Flintridge). Peak period travel times are reported as the sum of the average regional and average study area travel times, and normalized from zero (worst) to 100 (best).	0	14	7
<i>Trip Travel Time - Transit Travel Time Index</i>	Point-to-point travel times for a set of nine trip pairs in each of two types of origin-destination (O-D) pairs – regional (e.g., Long Beach to Stevenson Ranch) and study area (e.g., Union Station to La Cañada Flintridge). Reported as the sum of the average regional and average study area travel times, and normalized from zero (worst) to 100 (best).	0	100	52
<i>Total Vehicular Travel Time</i>	Reduction in vehicle hours (in 1000s) of travel for all vehicular (auto and truck) trips in the region. Reported as the reduction in travel time (from the No Build alternative) for the total of the AM and PM peak periods.	0	96	101
<i>Travel Time Reliability</i>	Percentage of daily person hours of travel on facilities in the study area that have dedicated or managed lane operations (HOV facilities, or tolled facilities).	8.60%	8.60%	8.60%

Note: See Section 4.1.1 for a thorough description of the method of calculation for all performance measures described in this table.

## **6.1.2 Improve Connectivity and Mobility**

The improvement in connectivity and mobility is small compared with the No Build alternative. Table 6.2 is a summary of the performance of the BRT alternatives for the objective of improving connectivity and mobility in the region.

### **Access to Regional Freeway and Transit System**

- ❖ *The regional freeway and transit access quantifies the number of new directional interchanges between the existing facilities and new freeway systems or transfers with high frequency transit service.*

The BRT alternatives all increase the number of transfer points between any new or existing services and high frequency transit stops. The BRT-6A alternative includes an additional connection with high frequency transit that is not included in the BRT-6 alternative. This connection is between the BRT-6A alternative and the Gold Line Fillmore station in Pasadena.

### **Employment Accessibility**

- ❖ *The employment accessibility is the ratio of restored accessible jobs compared with the No Build alternative.*

There is a slight improvement in employment accessibility when comparing the BRT alternatives to the No Build alternative. The BRT-6 alternative gains back slightly more jobs than the BRT-1 alternative, but the increases of 2.97 and 3.38 are both relatively modest.

### **North-South Transit Throughput**

- ❖ *The north-south transit throughput is calculated as the total daily boardings on transit routes crossing the east-west screenline.*

The north-south transit trip throughput for all of the BRT alternatives is greater than the No Build alternative. The BRT-6 alternative performs better than the BRT-1 alternative, increasing the number of daily boardings on routes crossing the east-west screenline by approximately 30,000 (from 624,946 to 654,475 boardings). The change is a modest increase in north-south transit ridership throughout the region, which translates into a reduction in north-south vehicle trips on arterials. The BRT-1 alternative is similar, with an increase in daily transit boardings of approximately 25,000 (from 624,946 to 649,428 boardings).

While the BRT-1 alternative results in the greatest improvement in the transit travel time performance measure, the BRT-6 alternative results in the greater improvement in north-south transit throughput performance measure. This apparent disconnect shows that the BRT-1 alternative increases the transit travel time between selected study area and regional locations, but this does not directly relate to transit ridership. The BRT-6 alternative provides better transit service to the north-south travel market.

### **Volume Served**

- ❖ *The daily vehicle volume on the east-west screenline is calculated separately for arterials and freeways.*

The BRT alternatives all perform identically in the volume of daily vehicles served on arterials and freeways. The shift from the arterial system onto the freeway system is less than 1 percent (from 985,170 to approximately 984,800) of study area travel.

TABLE 6.2  
**BRT Alternative Performance Evaluation for Improving Connectivity and Mobility**

Performance Measure	Performance Measure Calculation	No Build	BRT-1	BRT-6	BRT-6A
<i>Access to Regional Freeway and Transit System</i>	Number of new interchanges to the regional freeway system, and the number of new transit system transfer locations between high frequency service.	0	1	1	2
<i>Employment Accessibility</i>	The percentage ratio of the restored number of accessible jobs (the number of job accessible by the alternative compared with the No Build alternative) compared with the decrease in job accessibility from 2008 to 2035 (the number of accessible jobs lost between 2008 and the No Build alternative). A ratio of 100% indicates that all of the job accessibility "lost" by 2035 will be restored.	0.00%	2.97%	3.38%	3.38%

TABLE 6.2  
**BRT Alternative Performance Evaluation for Improving Connectivity and Mobility**

Performance Measure	Performance Measure Calculation	No Build	BRT-1	BRT-6	BRT-6A
<i>North-South Transit Throughput</i>	Total daily boardings on transit routes crossing the east-west screenline.	624,946	649,428	654,475	654,475
<i>Volume Served – Arterials</i>	Daily volume on arterials crossing the east-west screenline.	940,610	941,080	939,850	939,850
<i>Volume Served – Freeways</i>	Daily volume on freeways crossing the east-west screenline.	985,170	984,850	984,790	984,790

Note: See Section 4.1.2 for a thorough description of the method of calculation for all performance measures described in this table.

## 6.2 Freeway System Performance

The BRT alternatives include the transit system improvements identified in the TSM/TDM alternative. The freeway system performance in the BRT alternatives is very similar to the freeway system performance of the No Build alternative. Table 6.3 is a summary of the freeway system performance of the BRT alternatives compared with the No Build alternative.

### Level of Severe Congestion

- ❖ *The level of severe congestion is calculated as the directional miles of roadways at LOS of F1, F2, or F3 in the study area.*

The BRT alternatives do not increase the performance of the roadway system that operates in severe congestion. All BRT alternatives perform the same as the No Build alternative for this measure. The modest decreases in vehicle trips do not affect the overall performance of the most congested facilities.

### Level of Moderate Congestion

- ❖ *The level of moderate congestion is calculated as the miles of facilities with LOS of E or F0 (not including severe congestion) in the study area.*

The total directional miles of moderately congested roadways in the study area is essentially the same for all of the BRT alternatives compared with the No Build alternative. The BRT-6 alternatives do represent a reduction from the No Build alternative of less than 1 percent. The very small differences in moderate congestion levels are negligible.

### Travel in Congestion

- ❖ *The travel in congestion is the total daily VMT (in 1000s) on congested facilities ( $V/C > 1.0$ ) in the study area.*

The improvements that are made to the transit routes increase the number of transit system users, and thus decrease the volume of vehicles. The increase in transit users decreases the daily VMT on facilities in the study area. All of the BRT alternatives reduce travel in congestion compared with the No Build alternative. The BRT-1 alternative provides the greatest reduction in travel on congested facilities, a value of 1 percent. The very small difference in VMT on congested facilities is negligible.

TABLE 6.3  
**BRT Alternative Performance on the Freeway System**

Performance Measure	Performance Measure Calculation	No Build	BRT-1	BRT-6
<i>Level of Severe Congestion</i>	Total directional miles of roadway facilities at LOS F1, F2, and F3 in the study area. This translates into facilities with LOS greater than or equal to 1.1.	100	100.1	99.4

TABLE 6.3  
**BRT Alternative Performance on the Freeway System**

Performance Measure	Performance Measure Calculation	No Build	BRT-1	BRT-6
<i>Level of Moderate Congestion</i>	Total directional miles of roadway facilities at LOS E or F0 in the study area (not including severe congestion). LOS E and F are calculated separately for freeways and arterials, and are calculated in accordance with the HCM 2000.	420.2	420.7	419.6
<i>Travel in Congestion (VMT)</i>	Total daily vehicular (auto and truck) VMT (in 1000s) on congested facilities (V/C > 1.0) in the study area.	1,550.50	1,533.30	1,546.20

Note: See Section 4.2 for a thorough description of the method of calculation for all performance measures described in this table.

## 6.3 Arterial System Performance

The BRT alternatives do not include any arterial improvements. The transit improvements in the study area have little effect on the performance of the arterial system. Table 6.4 is a summary of the arterial system performance of the BRT alternatives compared with the No Build alternative. The BRT alternatives all perform almost identically to the No Build alternative.

### Local Arterial Traffic

- ❖ *The arterial traffic performance measure is the percentage of intersection approaches that are over capacity.*

The BRT alternatives do not improve the arterial traffic at any of the selected approaches, and perform identically to the No Build alternative.

### Arterial Congestion

- ❖ *The arterial congestion performance measure is the average of the AM and PM peak period V/C ratios on arterials crossing the east-west screenline.*

The BRT alternatives do not improve the arterial congestion in the study area. The BRT alternatives perform identically to the No Build alternative.

### Traffic Diversion to Local Arterials

- ❖ *The traffic diversion to arterials performance measure is the change in VMT on the arterial system in the study area.*

The BRT alternatives do not improve the traffic diversion to arterials in the study area. The BRT alternatives perform identically to the No Build alternative.

### Use of Local Arterials for Long Trips

- ❖ *The performance measure for the use of arterials for long trips is the percentage of the study area trips with origins and destinations outside of the study area. This measure is informally called the percentage of cut-through travel.*

The BRT alternatives result in a slight increase in cut-through travel of less than 1 percent. This difference is negligible.

### Daily Person Travel on Arterials

- ❖ *The daily person travel on arterials performance measure is the total north-south person travel crossing the east-west screenline. Only travel in vehicles is included.*

There is no change in the number of daily person trips on north-south arterials crossing the east-west screenline compared with the No Build alternative.

TABLE 6.4  
**BRT Alternative Performance on the Arterial System**

Performance Measure	Performance Measure Calculation	No Build	BRT-1	BRT-6
<i>Local Arterial Traffic</i>	Percentage of intersection approaches with a V/C ratio greater than 1.0 in the PM peak period.	28.0%	28.0%	28.0%
<i>Arterial Congestion</i>	The maximum of the AM and PM peak period V/C ratios on the north-south arterials crossing the east-west screenline.	0.77	0.77	0.77
<i>Traffic Diversion to Arterials</i>	Daily arterial vehicle miles traveled (VMT) in the study area (reported in 1000s).	7.0	7.0	7.0
<i>Use of Local Arterials for Long Trips</i>	Percentage of PM peak period trips on arterials that have an origin and a destination outside of the study area.	24.9%	25.2%	25.3%
<i>Daily Person Travel on Arterials</i>	Total north-south travel served (daily person trips on arterials, in millions) crossing the east-west screenline.	1.27	1.27	1.27

Note: See Section 4.3 for a thorough description of the method of calculation for all performance measures described in this table.

## 6.4 Transit Performance

The BRT alternatives include all transit improvements in the TSM/TDM alternative. In this section, transit performance is compared with both No Build and TSM/TDM alternatives, consistent with FTA guidance for transit system analysis. Table 6.5 is a summary of the transit system performance of the BRT alternatives compared with the No Build and TSM/TDM alternatives. The overall performance of the transit system is improved with the addition of the BRT routes when compared with either the No Build or TSM/TDM alternatives.

### New Transit Ridership

❖ *The performance measure is the number of new transit riders compared with the No Build alternative.*

The transit system improvements increase new transit ridership for all of the BRT alternatives. This increase in riders shows a shift in travel mode from vehicles to transit. The BRT-6 alternatives result in a growth of approximately 17 (from 16,329 to 19,058 riders) percent when compared with the TSM/TDM alternative. The increase in ridership from the BRT-1 alternative is slightly less (14 percent). The increase in ridership from all of the BRT alternatives is in large part a result of the transit service improvements from the TSM/TDM alternative.

Similar the north-south transit throughput performance measure, the BRT-1 alternative results in the greatest improvement in the transit travel time performance measure and the BRT-6 alternative results in the greater improvement in new transit ridership performance measure. This apparent disconnect shows that the BRT-1 alternative increases the transit travel time between selected study area and regional locations, but this does not directly relate to transit ridership. The BRT-6 alternative provides better transit service to the north-south travel market, and results in a greater increase in new transit ridership.

### Transit Accessibility

❖ *The transit accessibility performance measure is the average percentage of the study area and population that is located within ¼ mile of a transit stop with high frequency service.*

The BRT alternatives have a positive effect on the percentage of the study area population and employment within ¼ mile of a transit stop with high frequency service when compared with the No Build alternative. The transit accessibility for all of the BRT alternatives result in an increase of 18 to 21 percent compared with the No Build alternative. The BRT alternatives all perform similarly to the TSM/TDM alternative.

While the BRT alternatives include the transit improvements in the TSM/TDM alternative, Route 378 is truncated in the BRT-1 alternative, which slightly reduces the performance of the transit accessibility for this alternative.

### **Transit Mode Split**

❖ *The transit mode split performance is the percentage of total daily person trips that use transit.*

The BRT alternatives will increase the mode split for the study area by a negligible amount compared with the No Build alternative. The BRT alternatives will increase the mode split for the study area by approximately 5 percent (from 3.73 to 3.91 percent) compared with the No Build alternative. The BRT alternatives all perform similarly to the TSM/TDM alternative.

TABLE 6.5  
**BRT Alternatives Performance on the Transit System**

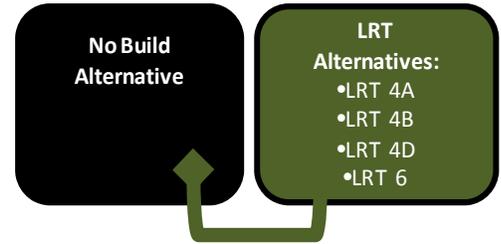
<b>Performance Measure</b>	<b>Performance Measure Calculation</b>	<b>No Build</b>	<b>TSM/TDM</b>	<b>BRT-1</b>	<b>BRT-6</b>
<i>New Transit Ridership</i>	Increase in transit ridership (new daily riders).	0	16,329	18,690	19,058
<i>Transit Accessibility</i>	Percentage of study area population and employment within ¼-mile of a transit stop with high-frequency service. Calculated independently for population and employment, and averaged together.	29.30%	35.30%	34.70%	35.60%
<i>Transit Mode Split</i>	Transit percentage of daily trips (mode split) within in the study area.	3.73%	3.89%	3.90%	3.91%

Note: See Section 4.4 for a thorough description of the method of calculation for all performance measures described in this table.

SECTION 7

# LRT Alternatives

In this section, the LRT alternatives are compared with the No Build alternative. There are two LRT alternatives, and two variations to one of the alternatives. The LRT alternatives include all of the transit system improvements that are included in the TSM/TDM alternative, but LRT alternatives do not include arterial improvements from the TSM/TDM alternative. The highway system for the LRT alternatives is identical to the highway system in the No Build alternative. The LRT alternatives are designed to operate similar to the Gold Line and Blue Line that are currently operated by Metro in Los Angeles County. During peak hours, trains would operate every 5 minutes, and during off-peak hours, trains would operate every 10 minutes.



Figures 7.1, 7.2, 7.3, and 7.4 are illustrations of the change in traffic volumes between the LRT alternatives and the No Build alternative. All of the LRT alternatives (LRT-4A, LRT-4B, LRT-4D, and LRT-6) result in negligible changes in traffic volume throughout the study area on either local facilities or freeways. While there are many transit system improvements, these result in only a slight reduction in volumes throughout the study area. The decrease and increases in traffic are a small percentage of the arterials, and typically less than 250 vehicles in the four-hour PM peak period.

FIGURE 7.1  
LRT-4A Alternative PM Peak Period Volume Changes

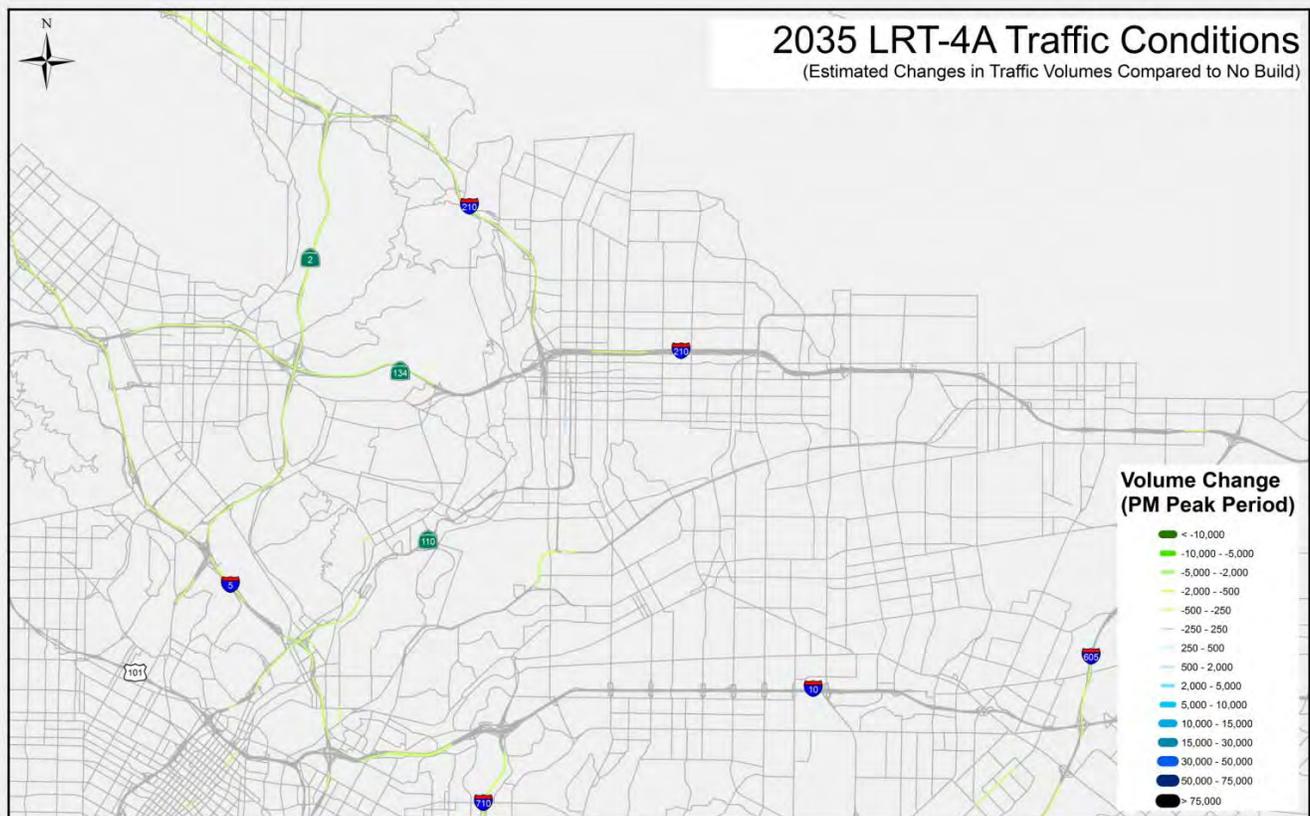


Figure 7.2  
LRT-4B Alternative PM Peak Period Volume Changes

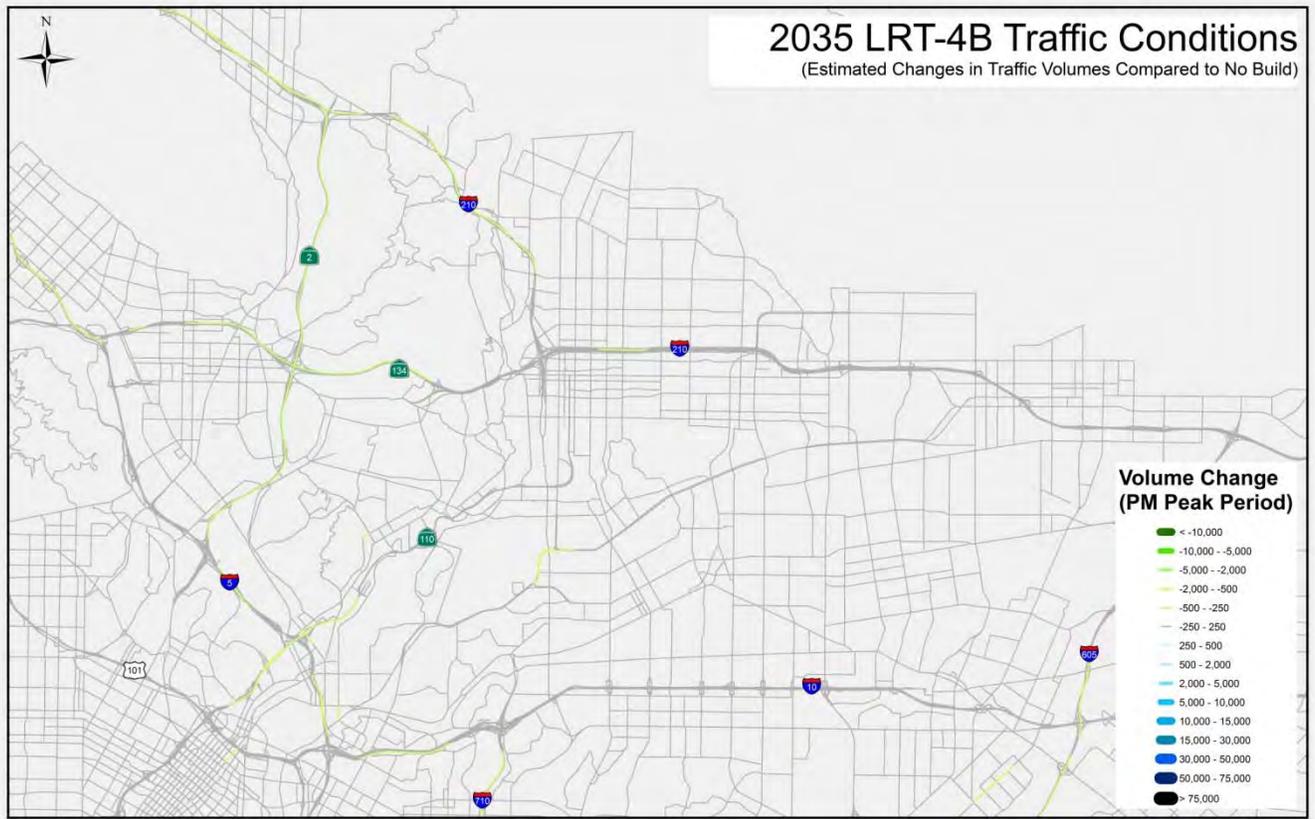


FIGURE 7.3  
LRT-4D Alternative PM Peak Period Volume Changes

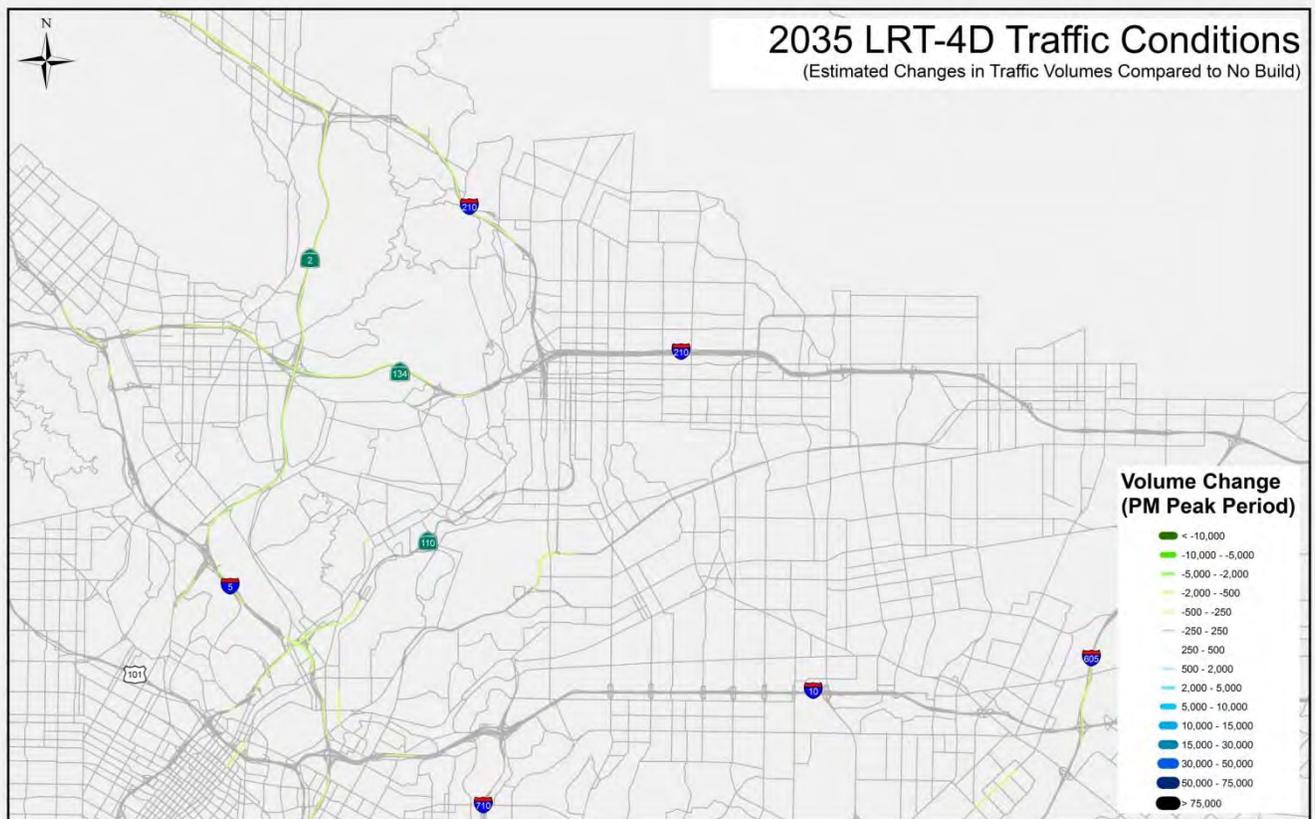
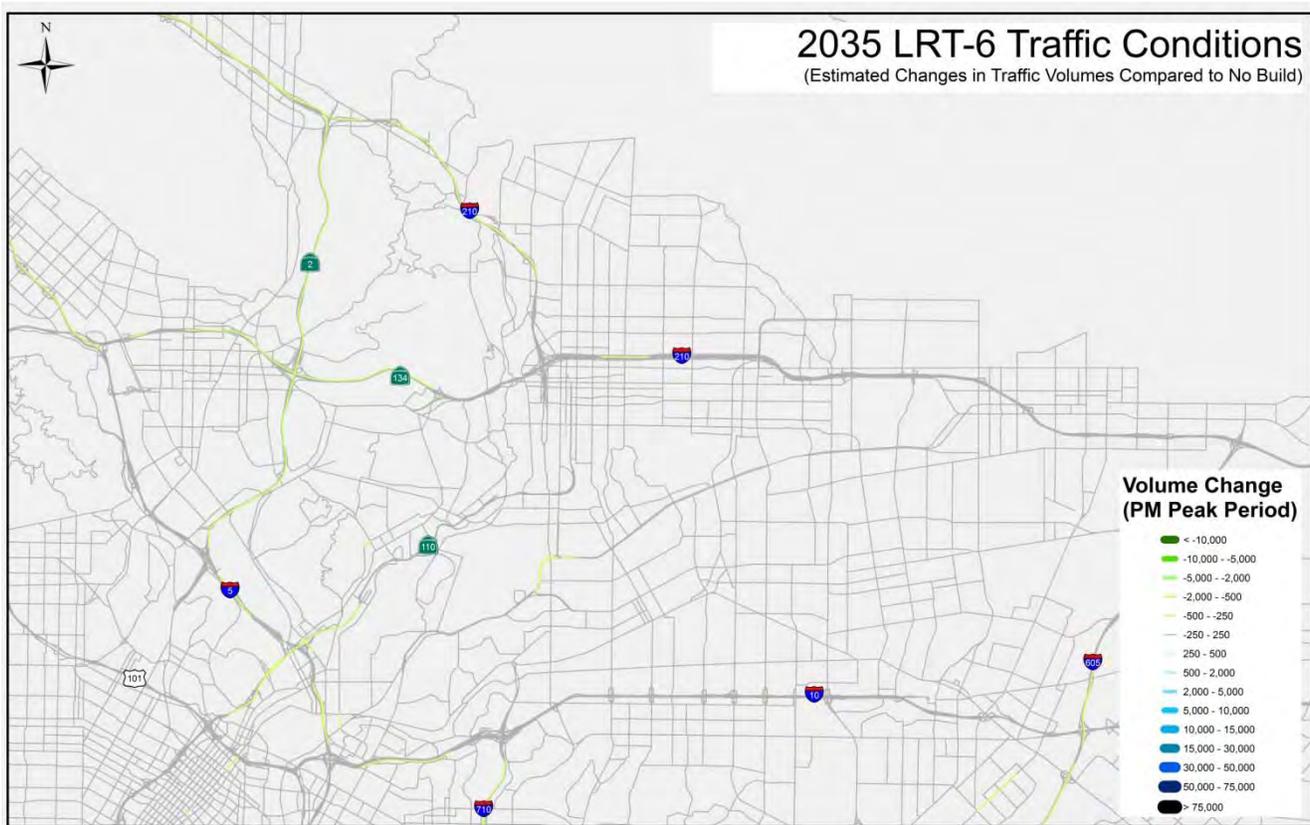


FIGURE 7.4  
LRT-6 Alternative PM Peak Period Volume Changes



## 7.1 Regional Transportation System Performance

The LRT alternatives do not include any roadway improvements. The regional extent of the transit system improvements (including the TSM/TDM study area transit system improvements) has the potential to have a regional impact on the transportation system. While the majority of the LRT alternative routes are located in the study area, the regional transit system is interconnected. Therefore, the effects of the LRT alternatives can be seen throughout the region. With the LRT alternatives, the effects on the transit related performance measures are much greater than on the traffic-related performance measures.

### 7.1.1 Minimize Travel Time

There are slight decreases in several performance measures for vehicular and transit trip travel times throughout the region when compared with the No Build alternative. Table 7.1 is a summary of the performance of the LRT alternatives for the project objective of minimizing travel time. Generally, the LRT-4 alternatives (LRT-4A, LRT-4B, and LRT-4D) perform the best for minimizing travel time when compared with the No Build alternative and the LRT-6 alternative. The LRT-4 alternatives perform similar to one another.

#### Trip Travel Time

- ❖ *The trip travel time measure is a projection of the normalized reduction in regional and study area point-to-point travel times from zero (worst) to 100 (best). An increase in travel time index equates to a decrease in travel time.*

For the LRT alternatives, the vehicle travel time index shows a small reduction in vehicular travel times. The transit travel time index results in a larger reduction in transit travel times. The decrease in the vehicle travel time index is directly related to a slight reduction in vehicular travel on arterials. The decrease in transit travel time is due to an increase in transit service. The LRT-4B alternative results in the greatest decrease in vehicular trip travel times, and the LRT-4D alternative results in the greatest decrease in transit trip travel times. Overall, the LRT-4

alternatives show a greater decrease in transit trip travel times than the LRT-6 alternative, although the decrease in vehicular trip travel times is similar.

### **Total Vehicular Travel Time**

- ❖ *The total vehicular travel time measure is the reduction in daily VHT in the AM and PM peak periods, and is reported as the change in total vehicular travel time from the No Build alternative.*

The transit improvements result in an increase in the number of transit system users. The effect is a decrease in the total number of vehicle trips that use the regional roadway system, and a modest reduction in VHT. The reduction in VHT on the regional transportation system is directly related to the reduction in vehicle trips on the roadways that are now using transit.

The LRT-4 alternatives perform similar to one another, and result in a slightly greater decrease than the LRT-6 alternative. The LRT-4 alternatives decrease VHT in the region by 3 (LRT-4D) to 5 (LRT-4A) percent more than the LRT-6 alternative.

### **Travel Time Reliability**

- ❖ *The travel time reliability measure is based on a calculation of the percentage of travel on dedicated or managed lanes in the study area.*

For the LRT alternatives, the improvements to the transit network do not change the percentage of travel on dedicated or managed lanes in the study area. This results in no change in the travel time reliability performance measure.

TABLE 7.1  
**LRT Alternative Performance Evaluation for Minimizing Travel Time**

Performance Measure	Performance Measure Calculation	No Build	LRT-4A	LRT-4B	LRT-4D	LRT-6
<i>Trip Travel Time-Vehicle Travel Time Index</i>	Point-to-point travel times for a set of nine trip pairs in each of two types of origin-destination (O-D) pairs – regional (e.g., Long Beach to Stevenson Ranch) and study area (e.g., Union Station to La Cañada Flintridge). Peak period travel times are reported as the sum of the average regional and average study area travel times, and normalized from zero (worst) to 100 (best).	0	13	15	13	14
<i>Trip Travel Time - Transit Travel Time Index</i>	Point-to-point travel times for a set of nine trip pairs in each of two types of origin-destination (O-D) pairs – regional (e.g., Long Beach to Stevenson Ranch) and study area (e.g., Union Station to La Cañada Flintridge). Reported as the sum of the average regional and average study area travel times, and normalized from zero (worst) to 100 (best).	0	93	90	95	66
<i>Total Vehicular Travel Time</i>	Reduction in vehicle hours (in 1000s) of travel for all vehicular (auto and truck) trips in the region. Reported as the reduction in travel time (from the No Build alternative) for the total of the AM and PM peak periods.	0	102	101	100	97
<i>Travel Time Reliability</i>	Percentage of daily person hours of travel on facilities in the study area that have dedicated or managed lane operations (HOV facilities, or tolled facilities).	8.6%	8.6%	8.6%	8.6%	8.6%

Note: See Section 4.1.1 for a thorough description of the method of calculation for all performance measures described in this table.

## 7.1.2 Improve Connectivity and Mobility

The improvement in connectivity and mobility is small compared with the No Build alternative. Table 7.2 is a summary of the performance of the LRT alternatives for the objective of improving connectivity and mobility in the region.

### Access to Regional Freeway and Transit System

- ❖ *The regional freeway and transit access quantifies the number of new directional interchanges between the existing facilities and new freeway systems or transfers with high frequency transit service.*

The LRT alternatives all increase the number of transfer points between any new or existing services and high frequency transit stops. The LRT-4 alternatives have an additional transit system interchange (at the Cal State LA Metrolink station) as compared with the LRT-6 alternative.

### Employment Accessibility

- ❖ *The employment accessibility is the ratio of restored accessible jobs compared with the No Build alternative.*

There is a slight improvement in employment accessibility when comparing the LRT alternatives to the No Build alternative. The LRT-4 alternatives gain back slightly more jobs than the LRT-6 alternative, but both are relatively modest (between 3 and 5 percent).

### North-South Transit Throughput

- ❖ *The north-south transit throughput is calculated as the total daily boardings on transit routes crossing the east-west screenline.*

The north-south transit throughput for all of the LRT alternatives is greater than the No Build alternative. The LRT-6 alternative performs better than the LRT-4 alternatives, increasing the number of boardings on routes that cross the east-west screenline by approximately 32,000. The increase translates into a modest increase in north-south transit ridership throughout the region, resulting in a reduction in north-south vehicle trips on arterials. The LRT-4 alternatives are similar to the LRT-6 alternative, with an increase of approximately 31,000 person trips. All of the LRT alternatives result in an increase of approximately 5 percent compared with the No Build alternative.

### Volume Served

- ❖ *The daily vehicle volume on the east-west screenline is calculated separately for arterials and freeways.*

The LRT alternatives all perform identically in the volume of daily vehicles served on arterials and freeways.

TABLE 7.2  
LRT Alternative Performance Evaluation for Improving Connectivity and Mobility

Performance Measure	Performance Measure Calculation	No Build	LRT-4A	LRT-4B	LRT-4D	LRT-6
<i>Access to Regional Freeway and Transit System</i>	Number of new interchanges to the regional freeway system, and the number of new transit system transfer locations between high frequency service.	0	3	3	3	2
<i>Employment Accessibility</i>	The percentage ratio of the restored number of accessible jobs (the number of job accessible by the alternative compared with the No Build alternative) compared with the decrease in job accessibility from 2008 to 2035 (the number of accessible jobs lost between 2008 and the No Build alternative). A ratio of 100% indicates that all of the job accessibility "lost" by 2035 will be restored.	0.00%	5.20%	4.29%	4.00%	3.67%
<i>North-South Transit Throughput</i>	Total daily boardings on transit routes crossing the east-west screenline.	624,946	655,759	655,233	655,553	656,319

TABLE 7.2  
LRT Alternative Performance Evaluation for Improving Connectivity and Mobility

Performance Measure	Performance Measure Calculation	No Build	LRT-4A	LRT-4B	LRT-4D	LRT-6
Volume Served – Arterials	Daily volume on arterials crossing the east-west screenline.	940,610	940,060	940,140	940,050	940,230
Volume Served – Freeways	Daily volume on freeways crossing the east-west screenline.	985,170	984,830	984,750	984,730	985,090

Note: See Section 4.1.2 for a thorough description of the method of calculation for all performance measures described in this table.

## 7.2 Freeway System Performance

The LRT alternatives include the transit system improvements identified in the TSM/TDM alternative. The freeway system performance in the LRT alternatives is very similar to the freeway system performance of the No Build alternative. Table 7.3 is a summary of the freeway system performance of the LRT alternatives compared with the No Build alternative.

### Level of Severe Congestion

- ❖ *The level of severe congestion is calculated as the directional miles of roadways at LOS of F1, F2, or F3 in the study area.*

The LRT alternatives do not increase the performance of the roadway system that operates in congestion. All LRT alternatives perform the same as the No Build alternative for this measure. The modest decreases in vehicle trips do not affect the overall performance of the most congested facilities.

### Level of Moderate Congestion

- ❖ *The level of moderate congestion is calculated as the miles of facilities with LOS of E or F0 (not including severe congestion) in the study area.*

The total directional miles of moderately congested roadways is essentially the same for all of the LRT alternatives compared with the No Build alternative. The very small differences in moderate congestion levels are negligible.

### Travel in Congestion

- ❖ *The travel in congestion is the total daily VMT (in 1000s) on congested facilities ( $V/C > 1.0$ ) in the study area.*

The improvements that are made to the transit routes increase the number of transit system users, and thus decrease the volume of vehicles using the roadways in the study area. The increase in transit users decreases the daily VHT on freeways. A decrease in VHT on freeways reflects fewer hours of delays on the freeway system as the result of a decrease in congestion and corresponding increase in speeds on the freeways. All of the LRT alternatives slightly decrease travel in congestion compared with the No Build alternative.

TABLE 7.3  
LRT Alternative Performance on the Freeway System

Performance Measure	Performance Measure Calculation	No Build	LRT-4A	LRT-4B	LRT-4D	LRT-6
Level of Severe Congestion	Total directional miles of roadway facilities at LOS F1, F2, and F3 in the study area. This translates into facilities with LOS greater than or equal to 1.1.	100.0	99.6	99.6	99.2	99.9
Level of Moderate Congestion	Total directional miles of roadway facilities at LOS E or F0 in the study area (not including severe congestion). LOS E and F are calculated separately for freeways and arterials, and are calculated in accordance with the HCM 2000.	420.2	420.3	421.0	421.4	420.6

TABLE 7.3  
**LRT Alternative Performance on the Freeway System**

Performance Measure	Performance Measure Calculation	No Build	LRT-4A	LRT-4B	LRT-4D	LRT-6
Travel in Congestion (VMT)	Total daily vehicular (auto and truck) VMT (in 1000s) on congested facilities (V/C > 1.0) in the study area.	1,550.5	1,528.4	1,545.9	1,544.5	1,546.6

Note: See Section 4.2 for a thorough description of the method of calculation for all performance measures described in this table.

## 7.3 Arterial System Performance

The LRT alternatives do not include any arterial improvements. The transit improvements in the study area have little effect on the performance of the arterial system. Table 7.4 is a summary of the arterial system performance of the LRT alternatives compared with the No Build alternative. The LRT alternatives all perform almost identically to the No Build alternative.

### Local Arterial Traffic

- ❖ *The arterial traffic performance measure is the percentage of intersection approaches that are over capacity.*

The LRT alternatives do not improve the arterial traffic at any of the selected approaches, and perform identically to the No Build alternative.

### Arterial Congestion

- ❖ *The arterial congestion performance measure is the average of the AM and PM peak period V/C ratios on arterials crossing the east-west screenline.*

The LRT alternatives do not improve the arterial congestion in the study area. The LRT alternatives perform identically to the No Build alternative.

### Traffic Diversion to Local Arterials

- ❖ *The traffic diversion to arterials performance measure is the change in VMT on the arterial system in the study area.*

The LRT alternatives do not reduce the traffic diversion to arterials in the study area. The LRT alternatives perform identically to the No Build alternative.

### Use of Local Arterials for Long Trips

- ❖ *The performance measure for the use of arterials for long trips is the percentage of the study area trips with origins and destinations outside of the study area. This measure is informally called the percentage of cut-through travel.*

The LRT alternatives all slightly increase cut-through travel by less than 1 percent (from 24.9 percent to either 25.2 or 25.3 percent). This difference is negligible.

### Daily Person Travel on Arterials

- ❖ *The daily person travel on arterials performance measure is the total north-south person travel crossing the east-west screenline. Only travel in vehicles is included.*

There is no change in the number of daily person trips on north-south arterials crossing the east-west screenline compared with the No Build alternative.

TABLE 7.4  
**LRT Alternative Performance on the Transit System**

Performance Measure	Performance Measure Calculation	No Build	LRT-4A	LRT-4B	LRT-4D	LRT-6
<i>Local Arterial Traffic</i>	Percentage of intersection approaches with a V/C ratio greater than 1.0 in the PM peak period.	28.0%	28.0%	28.0%	28.0%	28.0%
<i>Arterial Congestion</i>	The maximum of the AM and PM peak period V/C ratios on the north-south arterials crossing the east-west screenline.	0.77	0.77	0.77	0.77	0.77
<i>Traffic Diversion to Arterials</i>	Daily arterial vehicle miles traveled (VMT) in the study area (reported in 1000s).	7.0	7.0	7.0	7.0	7.0
<i>Use of Local Arterials for Long Trips</i>	Percentage of PM peak period trips on arterials that have an origin and a destination outside of the study area.	24.9%	25.2%	25.3%	25.3%	25.3%
<i>Daily Person Travel on Arterials</i>	Total north-south travel served (daily person trips on arterials, in millions) crossing the east-west screenline.	1.27	1.27	1.27	1.27	1.27

Note: See Section 4.3 for a thorough description of the method of calculation for all performance measures described in this table.

## 7.4 Transit Performance

The LRT alternatives include all transit improvements in the TSM/TDM alternative. In this section, transit performance is compared with both No Build and TSM/TDM alternatives, consistent with FTA guidance for transit system analysis. Table 7.5 is a summary of the transit system performance of the LRT alternatives compared with the No Build and TSM/TDM alternatives. The overall performance of the transit system is improved with the addition of the LRT routes when compared with either the No Build or TSM/TDM alternatives.

### **New Transit Ridership**

- ❖ *The performance measure is the number of new transit riders compared with the No Build alternative.*

The transit system improvements increase new transit ridership for all of the LRT alternatives. This increase in riders shows a shift in travel mode in the study area from vehicles to transit. The LRT-4 alternatives result in a growth of approximately 22 percent when compared with the No Build alternative. The increase in ridership from the LRT-6 alternative is slightly less (21 percent). The increase in ridership from all of the LRT alternatives is in large part due to the transit service improvements from the TSM/TDM alternative.

### **Transit Accessibility**

- ❖ *The transit accessibility performance measure is the average percentage of the study area and population that is located within ¼ mile of a transit stop with high frequency service.*

The LRT alternatives have a positive effect on the percentage of the study area population and employment within ¼ mile of a transit stop with high frequency service when compared with the No Build alternative. The transit accessibility for all of the LRT alternatives result in an increase of 22 percent (from 29.3 to 35.7 percent) compared with the No Build alternative, and an increase of 1 percent (from 35.3 to 35.7 percent) compared with the TSM/TDM alternative.

### **Transit Mode Split**

- ❖ *The transit mode split performance is the percentage of total daily person trips that use transit.*

The LRT alternatives increase the mode split for the study area by a negligible amount compared with the No Build and the TSM/TDM alternatives. The LRT alternatives increase the mode split for the study area by approximately 5 percent (from 3.73 to 3.93 percent) compared with the No Build alternative. The LRT alternatives increase the mode split for the study area by less than 1 percent (from 3.89 to 3.92 and 2.93 percent) compared with the No Build alternative.

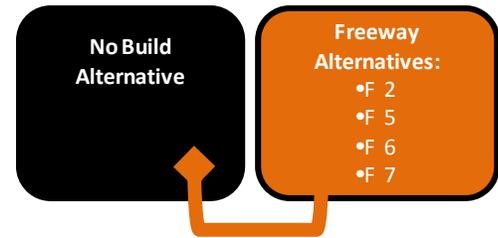
TABLE 7.5  
**LRT Alternative Performance on the Transit System**

Performance Measure	Performance Measure Calculation	No Build	TSM/TDM	LRT-4A	LRT-4B	LRT-4D	LRT-6
<i>New Transit Ridership</i>	Increase in transit ridership (new daily riders).	0	16,329	20,136	19,806	19,804	19,762
<i>Transit Accessibility</i>	Percentage of study area population and employment within ¼-mile of a transit stop with high frequency service. Calculated independently for population and employment, and averaged together.	29.3%	35.3%	35.7%	35.7%	35.7%	35.7%
<i>Transit Mode Split</i>	Transit percentage of daily trips (mode split) within in the study area.	3.73%	3.89%	3.92%	3.93%	3.92%	3.92%

Note: See Section 4.4 for a thorough description of the method of calculation for all performance measures described in this table.

# Freeway Alternatives

In this section, the freeway alternatives will be compared with the No Build alternative. There are three tunnel alternatives and one surface alternative. The transit system for the freeway alternatives is identical to the transit system in the No Build alternative. A discussion of the truck elements of the freeway system is provided at the end of the section.



Figures 8.1, 8.2, 8.3, and 8.4 are illustrations of the change in traffic volumes between the freeway alternatives and the No Build alternative. All of the freeway alternatives result in a change in study area travel on the freeway and arterial system. The magnitude of the changes is much greater than those from the TSM/TDM, BRT, LRT, and highway/arterial alternatives.

The F-2 alternative shows decreases in traffic on I-10 west of I-710, on I-5 between I-10 and SR 134, on SR 134 east of SR 2, and on I-210 east of SR 2. There are increases in traffic on I-710 south of I-10, on SR 2 between the F-2 alignment and I-210, and a small increase on I-210 west of SR 2. The study area shows large decreases in local travel on arterials. The approximate four-hour PM peak period volume carried by the F-2 tunnel is 49,000 vehicles.

The F-5 alternative shows changes in travel patterns similar to F-2, but there are changes in the distribution of traffic on SR 2 and I-210. There is a slight increase in traffic on I-210 west of SR 134. On SR 2 north of SR 134 there is a slight increase, but much less than for the F-2 alternative. Otherwise, the freeway traffic patterns are very similar to the F-2 alternative. The study area shows large decreases in local travel on arterials, similar to F-2. The approximate four-hour PM peak period volume carried by the F-5 tunnel is 50,500 vehicles.

The F-6 alternative shows changes in travel patterns similar to the F-2 and F-5 alternatives. Again, the biggest changes are on the distribution of traffic on Sr 2 and I-210. With the F-6 alternative, there is a noticeable decrease in traffic on SR 2 north of SR 134. There will be a larger increase in traffic on I-210 west of SR 134. The study area shows large decreases in local travel on arterials, similar to the F-2 and F-5 alternatives. The approximate four-hour PM peak period volume carried by the F-6 alternative is 53,000 vehicles, of which 11,000 are in HOV lanes. The F-6 alternative is the only freeway alternative where HOV lanes were included.

The F-7 alternative shows changes in travel patterns similar to the F-2 and F-5 alternatives, but is most similar to the travel patterns shown in the F-6 alternative. The study area shows large decreases in local travel on arterials, similar to the F-2, F-5, and F-6 alternatives. The approximate four-hour PM peak period volume carried by the F-7 tunnel is 51,000 vehicles.

FIGURE 8.1  
**F-2 Alternative PM Peak Period Volume Changes**

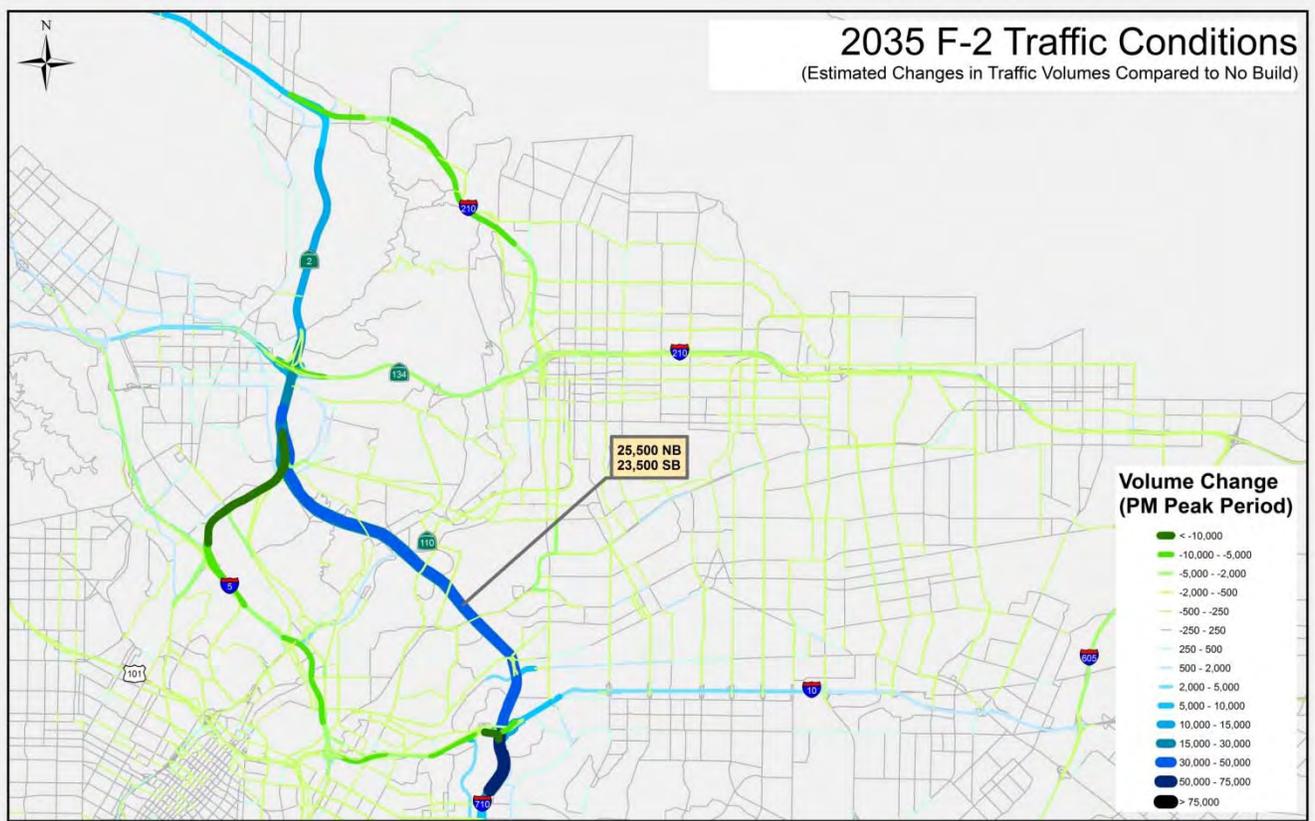


FIGURE 8.2  
**F-5 Alternative PM Peak Period Volume Changes**

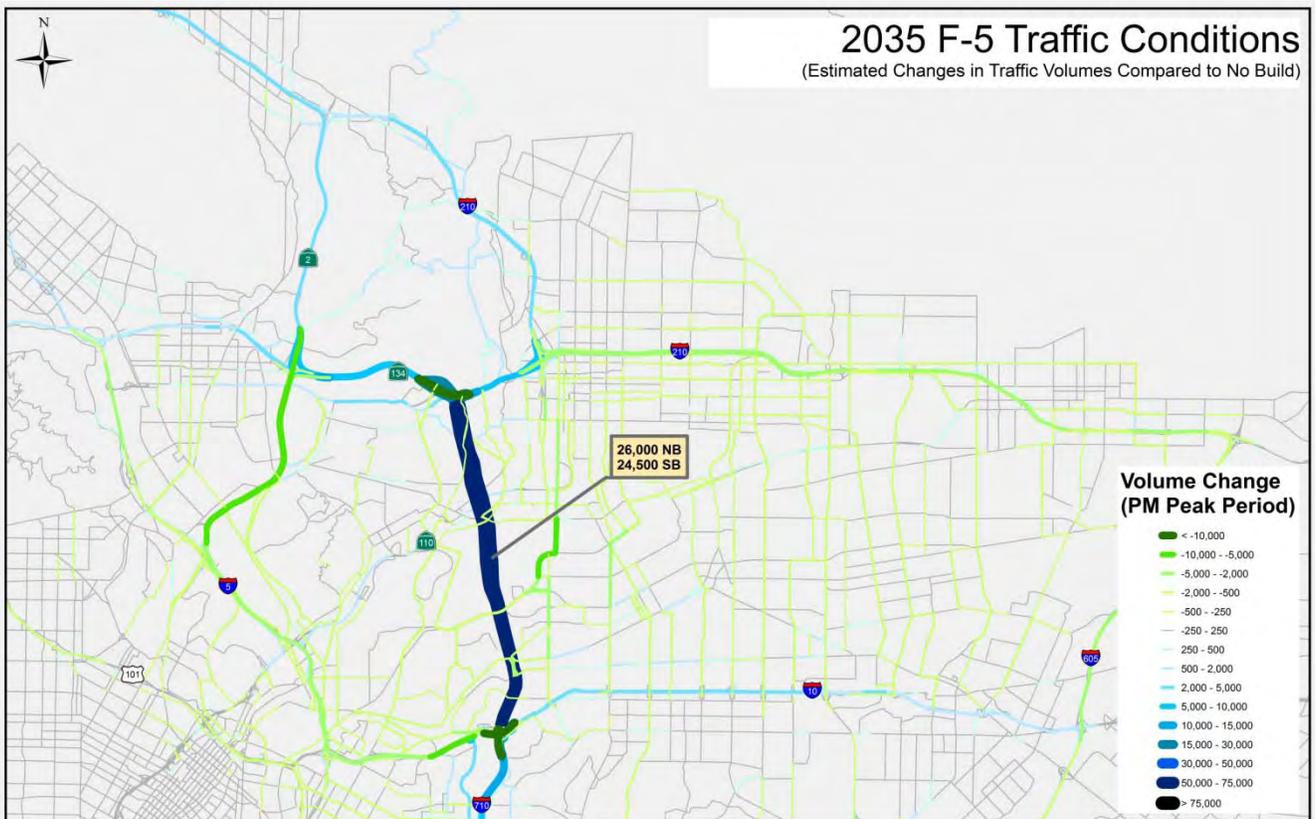


FIGURE 8.3  
**F-6 Alternative PM Peak Period Volume Changes**

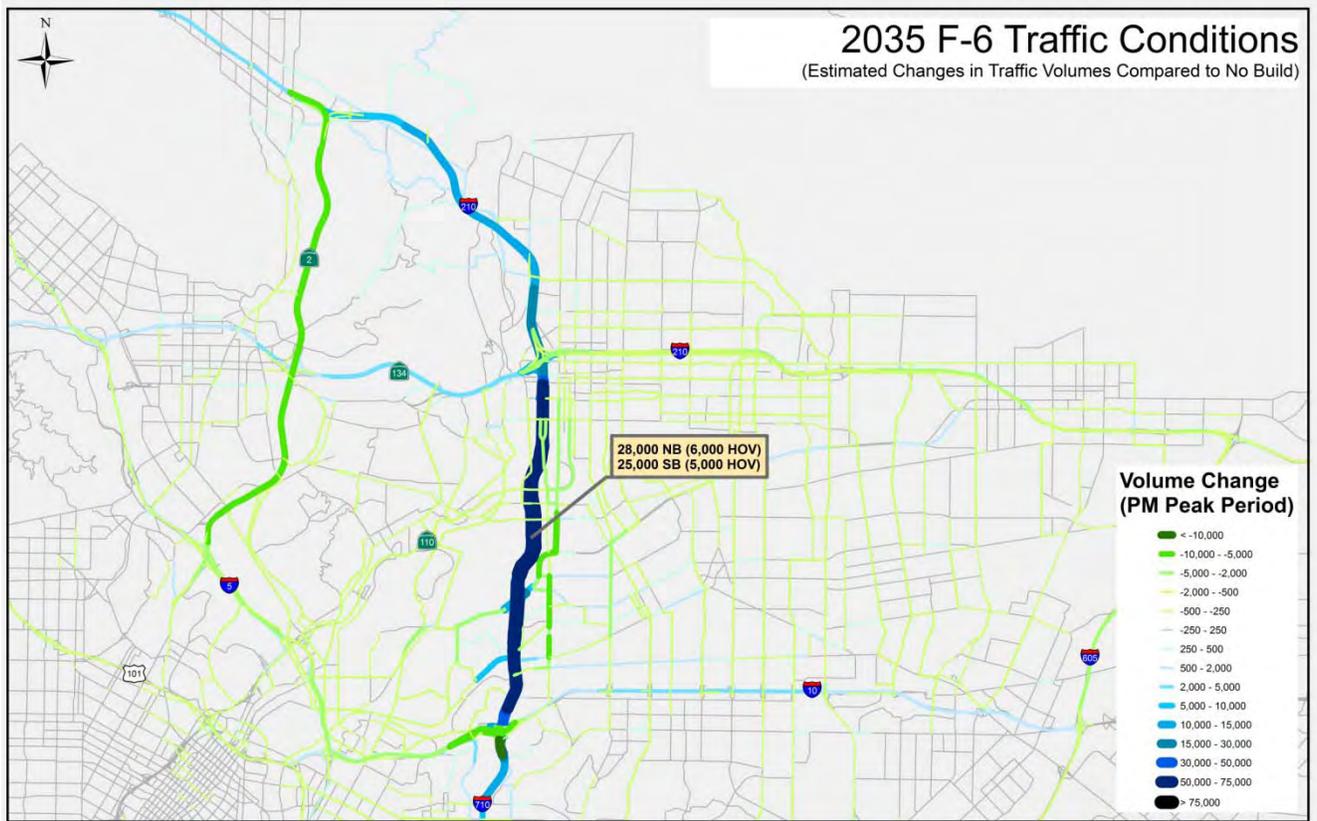
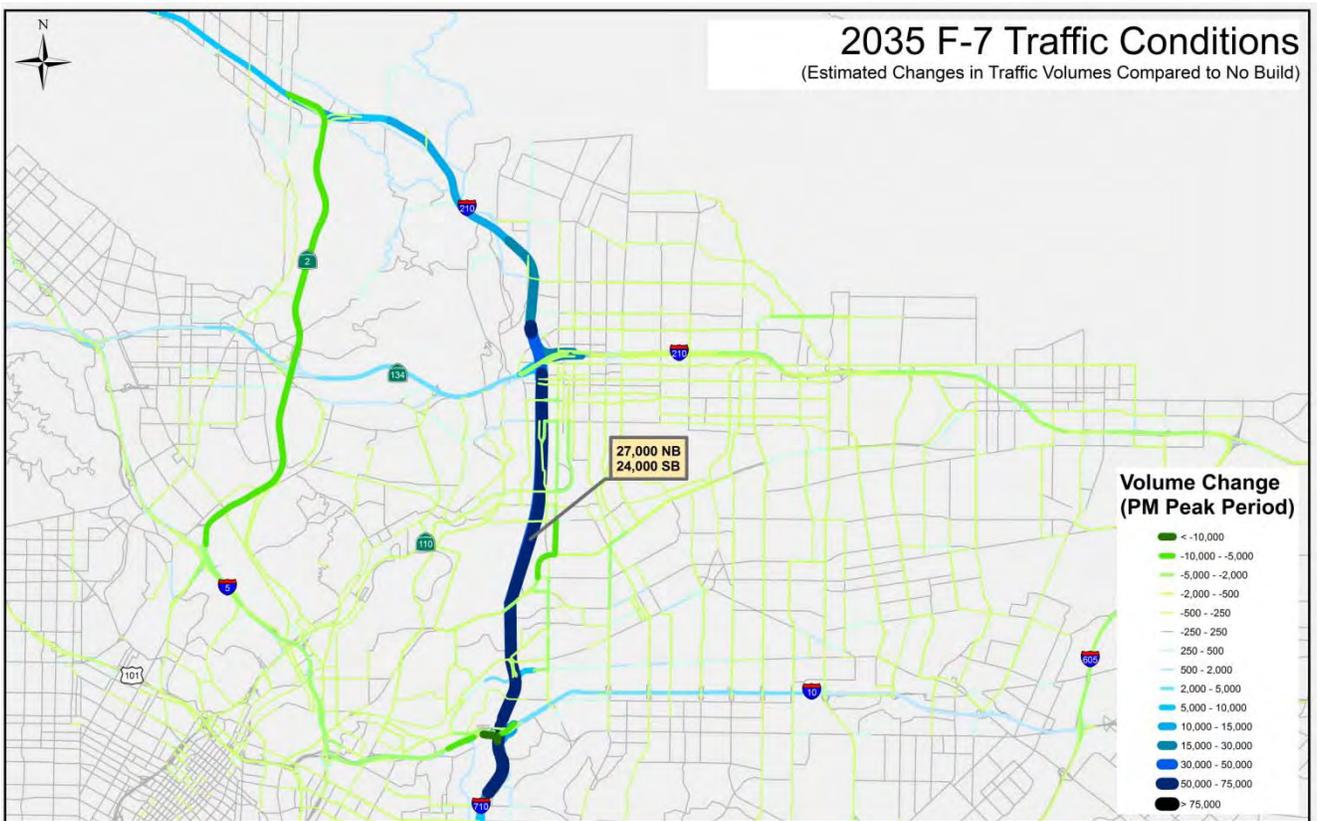


FIGURE 8.4  
**F-7 Alternative PM Peak Period Volume Changes**



## 8.1 Regional Transportation System Performance

The freeway alternatives do not include any transit improvements. Due to the nature of travel in the region, with the primary mode of travel being vehicular travel, all freeway alternatives show the largest changes in the performance of the regional transportation system.

### 8.1.1 Minimize Travel Time

There are improvements in several performance measures for vehicular and transit trip travel times throughout the region when compared with the No Build alternative. Table 8.1 is a summary of the performance of the freeway alternatives for the project objective of minimizing travel time. Overall, the F-7 alternative performs the best for minimizing travel time, and the F-6 alternative performs the best for increasing travel time reliability.

#### Trip Travel Time

- ❖ *The trip travel time measure is a projection of the normalized reduction in regional and study area point-to-point travel times from zero (worst) to 100 (best). An increase in travel time index equates to a decrease in travel time.*

For the freeway alternatives, the vehicular travel time index results in a large reduction in vehicular trip travel times. The transit travel time index shows a small reduction in transit trip travel times. The decreases in both vehicular and transit travel time are attributed to less traffic on arterials, resulting in an increase in available capacity and speeds. The F-7 alternative shows the greatest decrease in vehicular and transit trip regional travel times.

#### Total Vehicular Travel Time

- ❖ *The total vehicular travel time measure is the reduction in daily VHT in the AM and PM peak periods, and is reported as the change in total vehicular travel time from the No Build alternative.*

The freeway improvements result in an increase in system capacity, which reduces the congestion on the freeway system, shifts travel away from lower-speed arterials, and decreases the travel time for vehicles. The freeway alternatives are designed to increase the efficiency of travel, and do not reduce the number of vehicle trips on the regional transportation system. In some cases, trip lengths may increase. The reduction in VHT compared with the No Build alternative shows a reduction in congestion in the region. For the freeway alternatives, F-7 provides the greatest reduction in total vehicular travel time.

#### Travel Time Reliability

- ❖ *The travel time reliability measure is based on a calculation of the percentage of travel on dedicated or managed lanes in the study area.*

The freeway alternatives are the only alternatives that have an increase in travel time reliability. The F-6 alternative is the only alternative with an increase in managed lanes in the region (approximately 9 miles). The F-6 alternative results in a large increase (from 8.6 to 9.9 percent) in the regional managed lane travel compared with the No Build alternative. The small increases seen in the F-2, F-5, and F-7 alternatives are a result of increased freeway capacity and connection in the study area. The new freeway connection provides direct HOV access to the El Monte Busway and other HOV facilities in the study area. HOV trips in the study area that would otherwise use arterial streets are now choosing to use the freeway system.

Tolling was not used in this analysis, and would increase the performance of the travel time reliability for the freeway alternatives.

TABLE 8.1  
**Freeway Alternative Performance Evaluation for Minimizing Travel Time**

Performance Measure	Performance Measure Calculation	No Build	F-2	F-5	F-6	F-7
<i>Trip Travel Time - Vehicle Travel Time Index</i>	Point-to-point travel times for a set of nine trip pairs in each of two types of origin-destination (O-D) pairs – regional (e.g., Long Beach to Stevenson Ranch) and study area (e.g., Union Station to La Cañada Flintridge). Peak period travel times are reported as the sum of the average regional and average study area travel times, and normalized from zero (worst) to 100 (best).	0	92	63	88	100
<i>Trip Travel Time - Transit Travel Time Index</i>	Point-to-point travel times for a set of nine trip pairs in each of two types of origin-destination (O-D) pairs – regional (e.g., Long Beach to Stevenson Ranch) and study area (e.g., Union Station to La Cañada Flintridge). Reported as the sum of the average regional and average study area travel times, and normalized from zero (worst) to 100 (best).	0	35	37	10	39
<i>Total Vehicular Travel Time</i>	Reduction in vehicle hours (in 1000s) of travel for all vehicular (auto and truck) trips in the region. Reported as the reduction in travel time (from the No Build alternative) for the total of the AM and PM peak periods.	0	11	7	10	14
<i>Travel Time Reliability</i>	Percentage of daily person hours of travel on facilities in the study area that have dedicated or managed lane operations (HOV facilities, or tolled facilities).	8.6%	8.6%	8.7%	9.9%	8.8%

Note: See Section 4.1.1 for a thorough description of the method of calculation for all performance measures described in this table.

## 8.1.2 Improve Connectivity and Mobility

There is a noticeable improvement in connectivity and mobility for all freeway alternatives compared with the No Build alternative. Table 8.2 is a summary of the performance of the freeway alternatives for the objective of improving connectivity and mobility in the region.

### **Access to Regional Freeway and Transit System**

- ❖ *The regional freeway and transit access quantifies the number of new directional interchanges between the existing facilities and new freeway systems or transfers with high frequency transit service.*

The freeway alternatives increase the access to the regional freeway system for all of the alternatives. The F-6 alternative has an additional interchange not included in the F-2, F-5, and F-7 alternatives, and performs the best for this measure. All freeway alternatives have the same number of access points at the connection with I-10. The four access points at the new system interchange between SR 710 and I-10 are:

- 1 point for a through connection between SR 710 and I-710 to the south
- 1 point for a connection between SR 710 southbound and I-10 eastbound and westbound (two system interchange ramps)
- 1 point for a connection between I-10 eastbound and westbound (two system interchange ramps) and SR 710 northbound
- 1 point for the connection from SR 710 southbound to the westbound El Monte Busway (carpool lanes)

All of the freeway alternatives have a different number of connections at the north end. The F-2, F-5, and F-7 alternatives have no interchanges between the connection with I-10 and with SR 2, SR 134, or I-210. The F-6 alternative has an intermediate interchange at Huntington Drive. The F-6 alternative results in a greater performance than the other freeway alternatives because of additional access at Huntington Drive and at frontage roads in Pasadena.

### **Employment Accessibility**

- ❖ *The employment accessibility is the ratio of restored accessible jobs compared with the No Build alternative.*

The freeway alternatives add capacity to the No Build roadway system, which reduces congestion and delays on many of the facilities in the region, and thus improves travel times on many of the arterials and freeways. The increase in speeds on these facilities results in travel times better than those in existing conditions. The result is a large improvement in employment accessibility when comparing the freeway alternatives to the No Build alternative. The F-6 and F-7 alternatives both increase the number of jobs accessible to more than the number of jobs accessible in existing conditions. Thus, the value in the table shown for the F-6 and F-7 alternatives is greater than 100 percent.

### **North-South Transit Throughput**

- ❖ *The north-south transit throughput is calculated as the total daily boardings on transit routes crossing the east-west screenline.*

The north-south transit throughput for all of the freeway alternatives is nearly identical to the No Build alternative. The F-7 alternative performs the best of the freeway alternatives, with an increase of 2,000 additional transit boardings. However, the performance for all freeway alternatives is within 0.5 percent when compared with the No Build alternative.

### **Volume Served**

- ❖ *The daily vehicle volume on the east-west screenline is calculated separately for arterials and freeways.*

The freeway alternatives all decrease the volume served on arterials, and increase the volume served on freeways. Both of these results are positive benefits. The shift of travel from arterials to freeways results in an increase in the speeds on arterials, an increase in the safety of arterials, and a decrease in cut-through travel which occurs on arterials due to freeway system congestion and improved regional connectivity.

TABLE 8.2  
**Freeway Alternative Performance Evaluation for Improving Connectivity and Mobility**

<b>Performance Measure</b>	<b>Performance Measure Calculation</b>	<b>No Build</b>	<b>F-2</b>	<b>F-5</b>	<b>F-6</b>	<b>F-7</b>
<i>Access to Regional Freeway and Transit System</i>	Number of new interchanges to the regional freeway system, and the number of new transit system transfer locations between high frequency service.	0	5	6	14	7
<i>Employment Accessibility</i>	The percentage ratio of the restored number of accessible jobs (the number of job accessible by the alternative compared with the No Build alternative) compared with the decrease in job accessibility from 2008 to 2035 (the number of accessible jobs lost between 2008 and the No Build alternative). A ratio of 100% indicates that all of the job accessibility "lost" by 2035 will be restored.	0.00%	98.43%	91.38%	184.04%	122.02%
<i>North-South Transit Throughput</i>	Total daily boardings on transit routes crossing the east-west screenline.	624,946	624,180	625,582	624,032	627,027
<i>Volume Served – Arterials</i>	Daily volume on arterials crossing the east-west screenline.	940,610	892,610	843,240	879,600	860,810
<i>Volume Served – Freeways</i>	Daily volume on freeways crossing the east-west screenline.	985,170	1,097,050	1,133,250	1,106,300	1,128,920

Note: See Section 4.1.2 for a thorough description of the method of calculation for all performance measures described in this table.

## 8.2 Freeway System Performance

The freeway alternatives provide a new major direct north-south freeway connection in the study area. Additional freeway system capacity will alleviate some of the currently congested facilities, and allow the opportunity for fewer delays and faster travel times. The freeway system performance in the freeway alternatives is a noticeable improvement for all performance measures. Table 8.3 is a summary of the freeway system performance of the freeway alternatives compared with the No Build alternative.

### Level of Severe Congestion

- ❖ *The level of severe congestion is calculated as the directional miles of roadways at LOS of F1, F2, or F3 in the study area.*

The freeway alternatives increase the performance of the roadway system that operates in severe congestion. The F-6 alternative performs the best, with a decrease in length of severely congested facilities of 28 percent. All freeway alternatives show a minimum improvement (decrease in severe congestion) of 18 percent.

### Level of Moderate Congestion

- ❖ *The level of moderate congestion is calculated as the miles of facilities with LOS of E or F0 (not including severe congestion) in the study area.*

The freeway alternatives increase the performance of the roadway system that operates in moderate congestion. The F-6 alternative performs the best, with a decrease in length of moderately congested facilities by 5 percent. All freeway alternatives show a decrease of a minimum of 1 percent.

The performance for the freeway alternatives shows a shift in severe congestion to moderate congestion, and a shift in moderate congestion to non-congestion (facilities with LOS of A through D). For this reason, the level of moderate congestion is often muted, and does not show as much improvement as the values for the level of severe congestion. For example, the No Build alternative has 520.2 miles of facilities with moderate or severe congestion. The F-6 alternative reduces the total length of moderate and severe congestion by a total of 6 percent. The reduction of 27.9 miles of severe congestion resulted in a shift to moderate congestion, and 50.4 miles (420.2 miles – 397.7 miles + 27.9 miles = 50.4 miles) of moderate congestion shifted to non-congested facilities.

### Travel in Congestion

- ❖ *The travel in congestion is the total daily VMT (in 1000s) on congested facilities ( $V/C > 1.0$ ) in the study area.*

The freeway alternatives all decrease the total daily VHT on congested freeways. The F-6 alternative performs the best, with a decrease of 20 percent. All freeway alternatives show a reduction between 10 and 20 percent.

TABLE 8.3  
Freeway Alternative Performance on the Freeway System

Performance Measure	Performance Measure Calculation	No Build	F-2	F-5	F-6	F-7
<i>Level of Severe Congestion</i>	Total directional miles of roadway facilities at LOS F1, F2, and F3 in the study area. This translates into facilities with LOS greater than or equal to 1.1.	100.0	82.5	80.5	72.1	79.2
<i>Level of Moderate Congestion</i>	Total directional miles of roadway facilities at LOS E or F0 in the study area (not including severe congestion). LOS E and F are calculated separately for freeways and arterials, and are calculated in accordance with the HCM 2000.	420.2	406.2	407.2	397.7	414.2

TABLE 8.3  
**Freeway Alternative Performance on the Freeway System**

Performance Measure	Performance Measure Calculation	No Build	F-2	F-5	F-6	F-7
Travel in Congestion (VMT)	Total daily vehicular (auto and truck) VMT (in 1000s) on congested facilities (V/C > 1.0) in the study area.	1,550.5	1,219.3	1,400.6	1,255.7	1,292.4

Note: See Section 4.2 for a thorough description of the method of calculation for all performance measures described in this table.

## 8.3 Arterial System Performance

The freeway alternatives are designed to add more freeway capacity, which draws vehicle trips away from the arterials and onto the freeway system. The freeway alternatives have a positive effect on the performance of the arterial system. Table 8.4 is a summary of the arterial system performance of the freeway alternatives compared with the No Build alternative.

### Local Arterial Traffic

- ❖ *The arterial traffic performance measure is the percentage of intersection approaches that are over capacity.*

The freeway alternatives all decrease the congestion on the arterial approaches at heavily congested intersections. The F-6 alternative shows the greatest reduction in arterial traffic, and reduces the proportion of congested approaches to less than 20 percent. The other freeway alternatives provide similar benefits, but with somewhat fewer benefits.

### Arterial Congestion

- ❖ *The arterial congestion performance measure is the average of the AM and PM peak period V/C ratios on arterials crossing the east-west screenline.*

The freeway alternatives all reduce the arterial congestion in the study area in the AM and PM peak periods in the north-south direction of travel. The reduction in the north-south arterial V/C ratio is the greatest for the F-6 alternative, which reduces north-south arterial congestion from 0.77 to 0.71 (almost 8 percent) in the AM and PM peak periods across the entire study area. The F-5 and F-7 alternatives provide similar benefits, with a reduction in arterial congestion of 6.5 percent (from 0.77 to 0.72).

### Traffic Diversion to Local Arterials

- ❖ *The traffic diversion to arterials performance measure is the change in VMT on the arterial system in the study area.*

The freeway alternatives reduce the level of traffic that is diverted from the freeway system to the arterial system. The F-6 alternative has the greatest reduction (8.6 percent), but the F-2 (5.2 percent), F-5 (6.5 percent), and F-7 (6.5 percent) alternatives are similar.

### Use of Local Arterials for Long Trips

- ❖ *The performance measure for the use of arterials for long trips is the percentage of the study area trips with origins and destinations outside of the study area. This measure is informally called the percentage of cut-through travel.*

The freeway alternatives are the only alternatives that result in an improvement to the performance measure for the use of arterials for long (cut-through) trips. On the four major representative arterials selected, the No Build alternative shows approximately one out of every four trips begins and ends outside of the study area. The F-7 alternative performs the best for this measure, and reduces the percentage of cut-through trips to approximately 10 percent of trips (a reduction of over 60 percent). The other freeway alternatives also have definite benefits with this performance measure.

### **Daily Person Travel on Arterials**

- ❖ *The daily person travel on arterials performance measure is the total north-south person travel crossing the east-west screenline. Only travel in vehicles is included.*

The freeway alternatives reduce the volume of daily person travel on the arterials. The person travel on arterials in the study area is reduced by up to 12 percent (for the F-6 alternative). The F-2, F-5, and F-7 alternatives also result in a reduction of daily person trips; all alternatives result in a reduction of less than 10 percent.

TABLE 8.4  
**Freeway Alternative Performance on the Arterial System**

Performance Measure	Performance Measure Calculation	No Build	F-2	F-5	F-6	F-7
<i>Local Arterial Traffic</i>	Percentage of intersection approaches with a V/C ratio greater than 1.0 in the PM peak period.	28.0%	25.1%	23.2%	19.3%	21.7%
<i>Arterial Congestion</i>	The maximum of the AM and PM peak period V/C ratios on the north-south arterials crossing the east-west screenline.	0.77	0.73	0.72	0.71	0.72
<i>Traffic Diversion to Local Arterials</i>	Daily arterial vehicle miles traveled (VMT) in the study area (reported in 1000s).	7.0	6.6	6.5	6.4	6.5
<i>Use of Local Arterials for Long Trips</i>	Percentage of PM peak period trips on arterials that have an origin and a destination outside of the study area.	24.9%	17.1%	13.7%	15.5%	9.7%
<i>Daily Person Travel on Arterials</i>	Total north-south travel served (daily person trips on arterials, in millions) crossing the east-west screenline.	1.27	1.19	1.14	1.12	1.15

Note: See Section 4.3 for a thorough description of the method of calculation for all performance measures described in this table.

## **8.4 Transit Performance**

The freeway alternatives have the same transit network as the No Build alternative, and result in little difference in transit performance compared with the No Build alternative. Table 8.5 is a summary of the transit system performance of the freeway alternatives compared with the No Build alternative.

### **New Transit Ridership**

- ❖ *The performance measure is the number of new transit riders compared with the No Build alternative.*

The freeway alternatives do not increase the number of new riders, and perform identically to the No Build alternative.

### **Transit Accessibility**

- ❖ *The transit accessibility performance measure is the average percentage of the study area and population that is located within ¼ mile of a transit stop with high frequency service.*

The freeway alternatives do not increase transit accessibility, and perform identically to the No Build alternative.

### **Transit Mode Split**

- ❖ *The transit mode split performance is the percentage of total daily person trips that use transit.*

The freeway alternatives all increase the percentage of transit mode split, but they perform nearly identically to the No Build alternative, and the change is negligible.

TABLE 8.5  
**Freeway Alternative Performance on the Transit System**

Performance Measure	Performance Measure Calculation	No Build	F-2	F-5	F-6	F-7
<i>New Transit Ridership</i>	Increase in transit ridership (new daily riders).	0	0	0	0	0
<i>Transit Accessibility</i>	Percentage of study area population and employment within ¼-mile of a transit stop with high frequency service. Calculated independently for population and employment, and averaged together.	29.3%	29.3%	29.3%	29.3%	29.3%
<i>Transit Mode Split</i>	Transit percentage of daily trips (mode split) within in the study area.	3.73%	3.74%	3.75%	3.74%	3.75%

Note: See Section 4.4 for a thorough description of the method of calculation for all performance measures described in this table.

## 8.5 Truck Performance

This section is an assessment of truck traffic in the region and study area. The traffic operations and environmental impact analysis described in this report implicitly considers the effects of trucks. Because trucks are a relatively small percentage of total traffic (generally less than 10 percent on the freeways and less than 5 percent on the arterials), they are not a primary element of the needs statement. Therefore, no performance measures are focused solely on trucks.

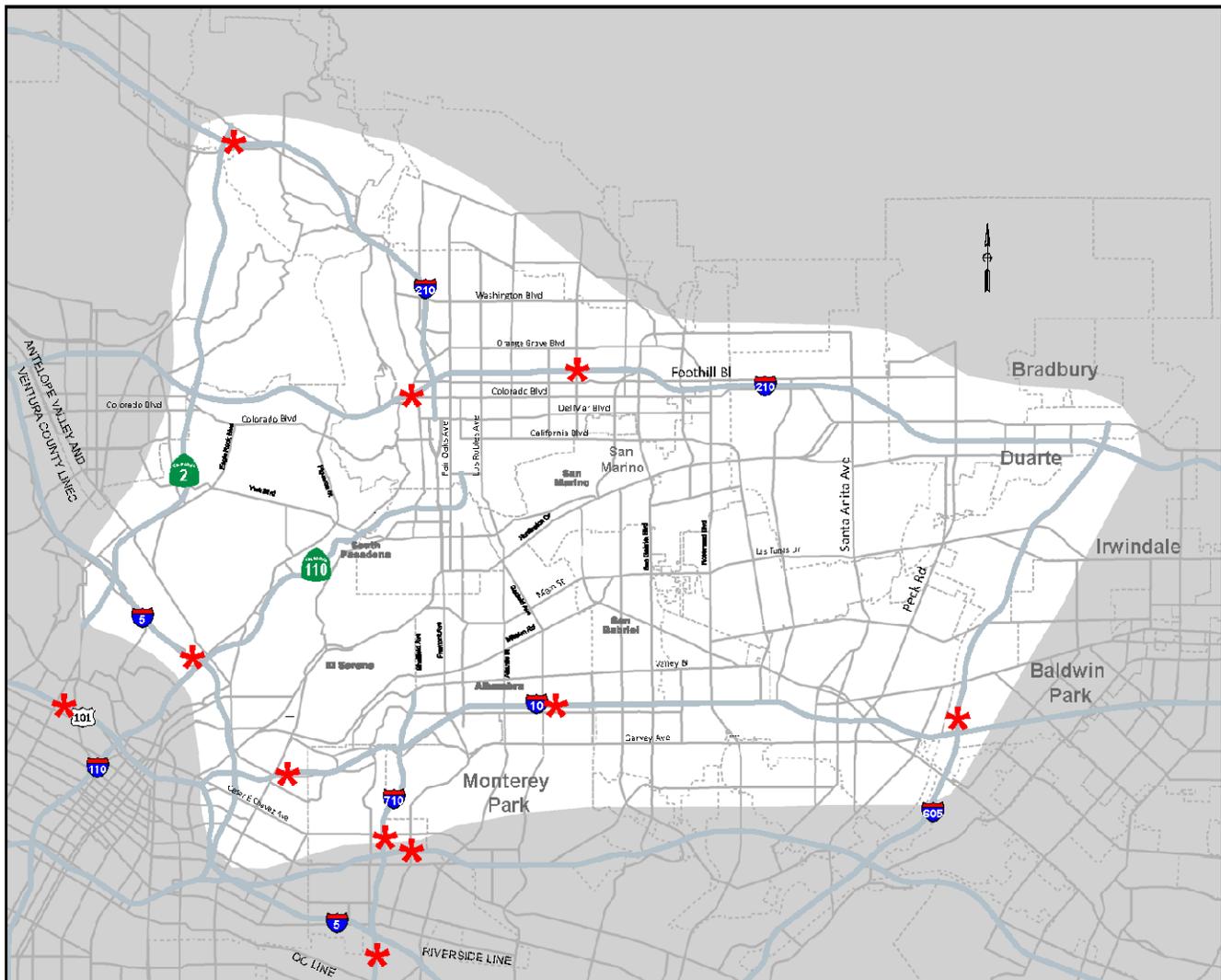
However, stakeholders have expressed an interest in truck data and the impacts of trucks in the study area. The analysis of trucks is particularly relevant for the freeway alternatives, where there will be shifts in traffic patterns on the freeways, which have the highest volumes of trucks. To provide additional information on trucks, truck data were extracted from the travel demand models and are reported in this section. The data include truck volumes and percentages on specific freeway segments, and truck VMT (referred to as TMT) on regional freeways and local arterials in the study area.

### 8.5.1 Truck Volumes on Freeways

Future truck volumes on study area freeways were calculated using existing count data and model forecasts. Existing truck and vehicle average daily traffic (ADT) counts were obtained from *2010 Annual Average Daily Truck Traffic on the California State Highway System*, located on the CalTrans website: <http://traffic-counts.dot.ca.gov/>. The truck volume counts and model forecasts were evaluated at 11 freeway locations. The freeway locations selected are illustrated in Figure 8.5 and are as follows:

- I-10 between I-5 and SR 710 (east of North Soto Street)
- I-10 east of SR 710 in Alhambra (east of Garfield Avenue)
- I-210 east of SR 2 (at Foothill Boulevard)
- I-210 east of SR 710/SR 134 (at North Hill Avenue)
- I-5 north of SR 110 (north of San Fernando Boulevard)
- I-605 north of I-10 (south of Ramona Boulevard)
- I-710 north of SR 60 (at East 1<sup>st</sup> Street)
- I-710 south of I-5 (north of Washington Boulevard)
- SR 134 west of SR 710/I-210 (east of Linda Vista Avenue)
- SR 60 east of I-710 (at Mednik Avenue)
- US 101 west of SR 110 (west of Glendale Boulevard)

FIGURE 8.5  
Existing Truck ADT Count Locations



Future (2035) No Build alternative truck volumes were estimated using the existing field ADT data and multiplying by the ratio of trucks for the 2035 No Build alternative versus 2008 trucks from the model forecasts. The estimated truck percentage was calculated using the estimated truck volume and the forecast total volume on the roadway from the travel model.

The average percentage of total vehicular travel that are trucks on the freeways in the study area increases the truck percentage of the total vehicular travel (from 5.3 percent to 6.4 percent). The greatest growth in truck percentage (1.9 percent) is projected to occur at three locations:

- I-210 east of SR 710/SR 134 (at North Hill Avenue), an increase from 4.5 percent to 6.4 percent
- I-710 south of I-5 (north of Washington Boulevard), an increase from 8.0 percent to 9.9 percent
- SR 60 east of I-710 (at Mednik Avenue), an increase from 6.7 percent to 8.6 percent

A thorough description of the calculation for trucks on the study area freeway system is included in the Freeway Truck Volume Technical Appendix.

Table 8.6 is a summary of the estimated truck volumes and percentages. The blue numbers indicate increases of at least 200 trucks/day compared to the No Build alternative, and the green numbers indicate decreases of at least 200 trucks/day. The table is separated into four sections:

- New alignment (tunnel or surface freeway): Row 1
- Freeway locations in the study area: Rows 2 through 8
- Freeway locations outside of the study area: Rows 9 through 12
- Average of all locations: Row 13

TABLE 8.6  
2035 Estimated Daily Truck Volumes and Percentages

Row	Location	Estimated No-Build 2035 Daily Truck Volumes (Percentage)	F-2 Daily Truck Volume (Percentage)	F-5 Daily Truck Volume (Percentage)	F-6 Daily Truck Volume (Percentage)	F-7 Daily Truck Volume (Percentage)
1	New alignment (tunnel or freeway)	N/A	11,300 (6.4%)	10,700 (5.4%)	10,200 (5.0%)	11,300 (6.1%)
2	I-210 east of SR 2	17,100 (9.8%)	15,900 (9.6%)	18,100 (9.9%)	21,300 (10.4%)	23,600 (11.3%)
3	I-210 east of SR 710/SR 134	21,600 (6.4%)	20,200 (6.2%)	20,200 (6.2%)	20,700 (6.2%)	20,800 (6.2%)
4	SR 134 west of SR 710/I-210	7,200 (2.5%)	6,800 (2.4%)	7,900 (2.4%)	7,200 (2.4%)	7,100 (2.4%)
5	I-5 north of SR 110	18,000 (5.4%)	13,700 (4.5%)	16,500 (5.2%)	16,600 (5.2%)	15,500 (4.8%)
6	I-10 between I-5 and SR 710	11,500 (4.3%)	9,700 (3.9%)	10,000 (4.0%)	10,400 (4.0%)	10,300 (3.9%)
7	I-10 east of SR 710	17,100 (5.8%)	17,000 (5.6%)	16,900 (5.6%)	16,700 (5.6%)	16,900 (5.6%)
8	I-605 north of I-10	15,200 (8.6%)	15,100 (8.7%)	15,400 (9.0%)	14,800 (8.7%)	14,700 (8.7%)
9	*US 101 west of SR 110	10,500 (3.5%)	9,500 (3.2%)	9,600 (3.3%)	9,700 (3.3%)	9,700 (3.3%)
10	*I-710 north of SR 60	9,400 (5.4%)	12,500 (5.2%)	10,000 (4.4%)	10,700 (4.6%)	12,700 (5.2%)
11	*I-710 south of I-5	31,100 (9.9%)	31,800 (9.8%)	30,700 (9.4%)	31,300 (9.5%)	32,100 (9.7%)
12	*SR 60 East of I-710	24,700 (8.6%)	25,800 (8.7%)	25,800 (8.8%)	25,600 (8.7%)	25,600 (8.7%)
13	<b>Average</b>	16,673 (6.4%)	15,775 (6.2%)	15,983 (6.1%)	16,267 (6.1%)	16,697 (6.3%)

\* Note: These locations are outside of the project study area, but are included in this summary because they help the reader understand the regional truck movements in and around the study area on the regional freeway system.

The average truck percentage for the No Build alternative is 6.4 percent. Each of the build alternatives results in decreases in the overall average truck percentage. The F-2 alternative results in decreases in truck volumes on most of the study area freeway segments. There are decreases of more than 200 trucks/day on five freeway segments within the study area, and two freeway segments in the study area have a negligible change in truck traffic.

The F-5 alternative results in a mix of increases and decreases in truck volumes. There are projected decreases on I-210 in Pasadena, I-5, and I-10. There are projected increases on I-210, SR 134, and I-605. The increases are relatively small, and only have a minor effect on truck percentage (less than 0.4%). The F-6 alternative results in decreases in truck volumes everywhere except on I-210 west of SR 134. The increases are relatively small, and only have a minor effect on truck percentage (generally negative, but always less than 0.6%). The truck volume changes for the F-7 alternative are almost identical to the F-6 alternative, which is logical because they have nearly the same horizontal alignment.

## 8.5.2 Truck Miles Traveled

TMT is calculated in the same way as VMT, but only for trucks. TMT was used to assess the shift in truck travel from the arterial system to the freeway system. A reduction in TMT on arterials indicates a shift in trip patterns to a freeway that is better-suited to their trips.

Table 8.7 is a summary of the VMT and TMT for the study area and for the region for all alternatives compared with the No Build alternative. There was a negligible change in regional VMT and TMT on all facilities for all freeway alternatives compared with the No Build alternative. Within the study area, there is a shift in TMT from arterials to the freeway system. The greatest reduction in arterial truck travel occurs in the F-6 alternative, which reduces almost 20 percent of the truck travel on arterials to the freeway system.

TABLE 8.7

**Auto and Truck VMT and TMT in the Region and Study Area**

Region	No Build	F-2	F-5	F-6	F-7
Auto/Truck VMT (All Facilities) (in 1000s)	510,066	510,927	510,744	510,692	510,849
TMT (All Facilities) (in 1000s)	49,896	49,917	49,909	49,907	49,926
Change in TMT from No-Build (All Facilities)		0.0%	0.0%	0.0%	0.1%
Auto/Truck VMT (Freeways) (in 1000s)	245,198	246,461	246,330	246,334	246,627
TMT (Freeways) (in 1000s)	38,590	38,660	38,668	38,679	38,688
Change in TMT from No-Build (Freeways)		0.2%	0.2%	0.2%	0.3%
Auto/Truck VMT (Arterials) (in 1000s)	217,119	216,650	216,584	216,411	216,440
TMT (Arterials) (in 1000s)	9,068	9,021	9,019	9,010	9,013
Change in TMT from No-Build (Arterials)		-0.5%	-0.5%	-0.6%	-0.6%
Study Area	No Build	F-2	F-5	F-6	F-7
Auto/Truck VMT (All Facilities) (in 1000s)	21,980	22,655	22,503	22,461	22,602
TMT (All Facilities) (in 1000s)	1,873	1,930	1,899	1,900	1,930
Change in TMT from No-Build (All Facilities)		3.0%	1.4%	1.4%	3.0%
Auto/Truck VMT (Freeways) (in 1000s)	12,331	13,335	13,317	13,265	13,465
TMT (Freeways) (in 1000s)	1,551	1,629	1,610	1,631	1,655
Change in TMT from No-Build (Freeways)		5.0%	3.8%	5.2%	6.7%
Auto/Truck VMT (Arterials) (in 1000s)	7,022	6,642	6,544	6,415	6,510
TMT (Arterials) (in 1000s)	218	191	186	175	180
Change in TMT from No-Build (Arterials)		-12.4%	-14.7%	-19.7%	-17.4%

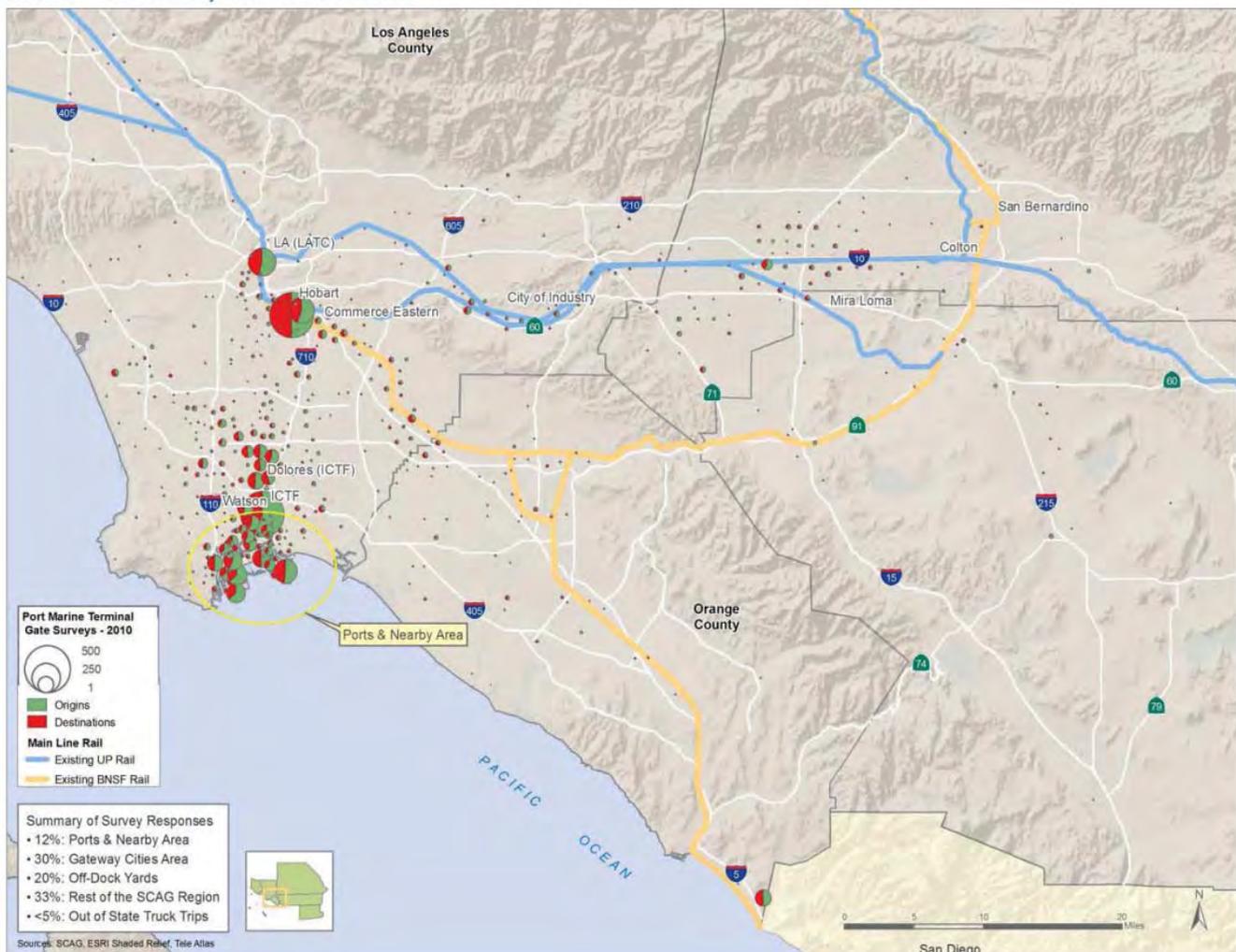
The study area TMT for all of the build alternatives is higher than the No Build alternative, by 1.4 to 3.0 percent. The arterial TMT goes down by 12.4 to 19.7 percent and freeway TMT goes up by 3.8 to 6.7 percent. Most of the increase in freeway TMT is a direct result of the traffic in the new freeway/tunnel alignment. The net effect is that the freeway alternatives are removing trucks from the arterials, because they are using a freeway for more of their trips. For the study area, there are associated air quality and noise benefits for residential neighborhoods.

### 8.5.3 Port Trucks

Although trucks have noticeable operational effects on the south part of I-710 (toward the Ports of Long Beach and Los Angeles), they are not a major cause of congestion on the freeways in the study area. Most of the truck destinations from the Port are south and east of the study area, and less than 15 percent of the truck trips in the six-county SCAG region leave Southern California (SCAG 2012 RTP Goods Movement Appendix, Exhibit 2). Figure 8.6 is a map of the truck origins and destinations of port truck trips in the SCAG region. Overall, Port-related trucks constitute less than 4 percent of truck trips region-wide and less than 8 percent in Los Angeles County (Table 5 of the Goods Movement Appendix to the 2012 RTP, page 14 [add ref.]).

FIGURE 8.6

#### San Pedro Bay Ports Truck Distribution

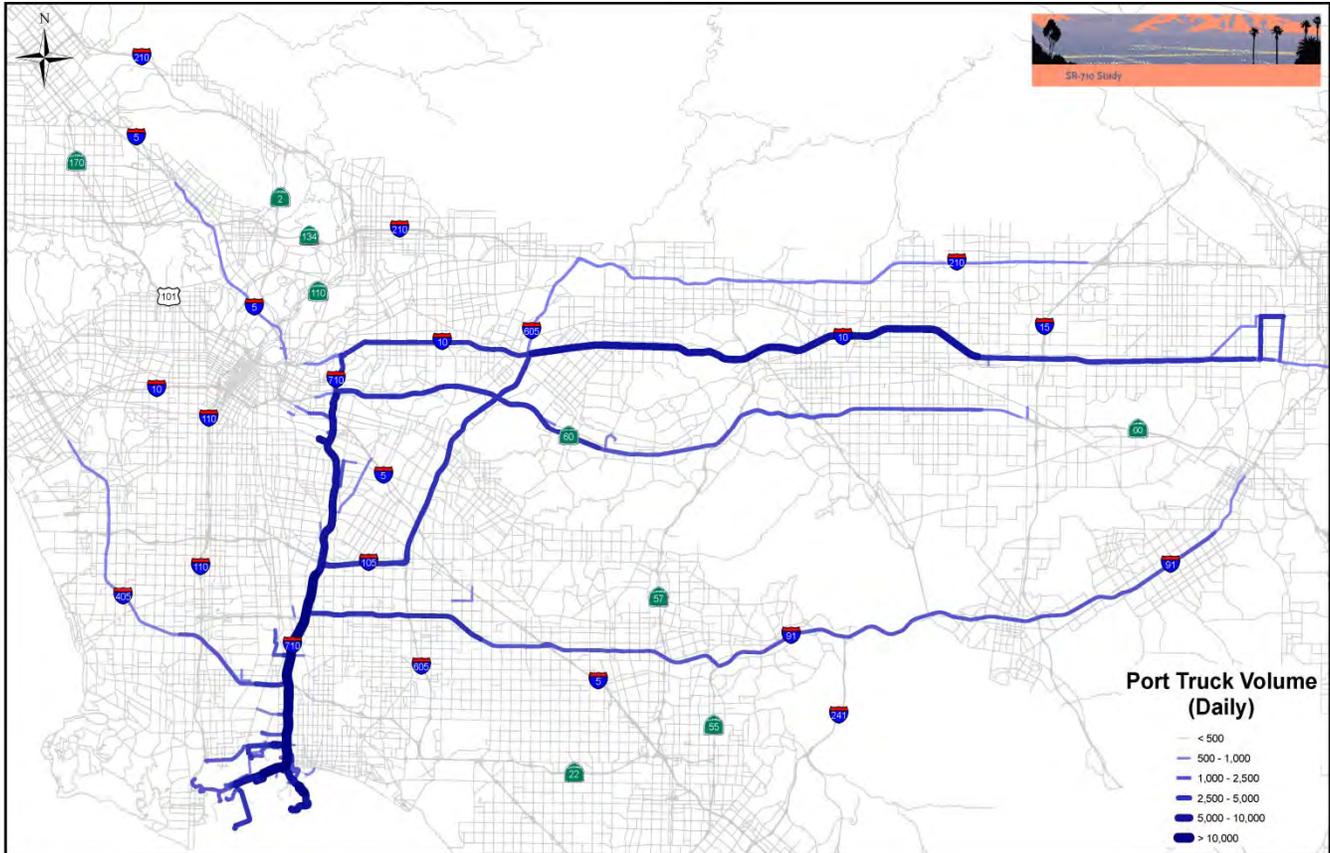


Source: Exhibit 2 from the Goods Movement Appendix of the 2012 RTP

The SCAG model was used to gain a better visual understanding of the Port truck distribution in the region. A select link process was completed to capture all of the truck trips which use I-710 at a location south of Pacific Coast Highway in Long Beach. The select link analysis shows the volume of trucks on all regional facilities that drive over either the northbound or southbound I-710 freeway at that location. Figure 8.7 is a map showing the

routes of the 2035 No Build alternative truck trips that travel on I-710 south of Pacific Coast Highway. The figure illustrates that the majority of the Port truck trips use the freeways to and from the east, with almost no Port traffic destined to the north and west.

FIGURE 8.7  
I-710 Select Link Truck Trips



Source: CH2M HILL select link evaluation using the SCAG 2008 RTP model files (08R35a3\_bl\_rev2 scenario).

SECTION 9

# Highway/Arterial Alternatives

In this section, the highway/arterial alternatives will be compared against the No Build alternative. There are two highway/arterial alternatives. The transit system for the highway/arterial alternatives is identical to the transit system in the No Build alternative.

Figures 9.1 and 9.2 are illustrations of the change in traffic volumes between the highway/arterial alternatives and the No Build alternative. Both alternatives show a change in study area travel on the freeway and arterial system. The magnitude of the changes is greater than those from the TSM/TDM, BRT, and LRT alternatives, but less than those from the freeway alternatives.

The H-2 and H-6 alternatives result in similar changes in traffic on arterials in the study area south of Huntington Drive. The H-2 alternative provides access to the west of Fair Oaks Avenue and uses Avenue 64 as a direct access to SR 134. The H-6 alternative continues to the north on Fair Oaks Avenue, Pasadena Avenue, and Saint John Avenue, providing a more direct path for vehicular travel to I-210 east and west of Pasadena. The H-6 alternative, and the H-2 alternative to a lesser degree, show a decrease in traffic on SR 2 between I-5 and I-210, and an increase in traffic on I-210 between SR 2 and SR 134. Both highway alternatives increase the travel speeds and mobility for the study area, primarily to the west of Del Mar Avenue.

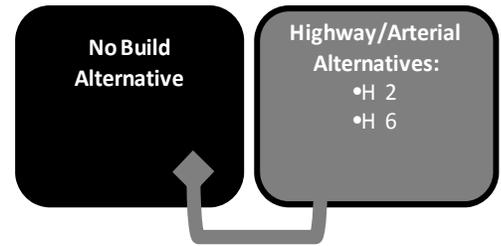


FIGURE 9.1  
H-2 Alternative PM Peak Period Volume Changes

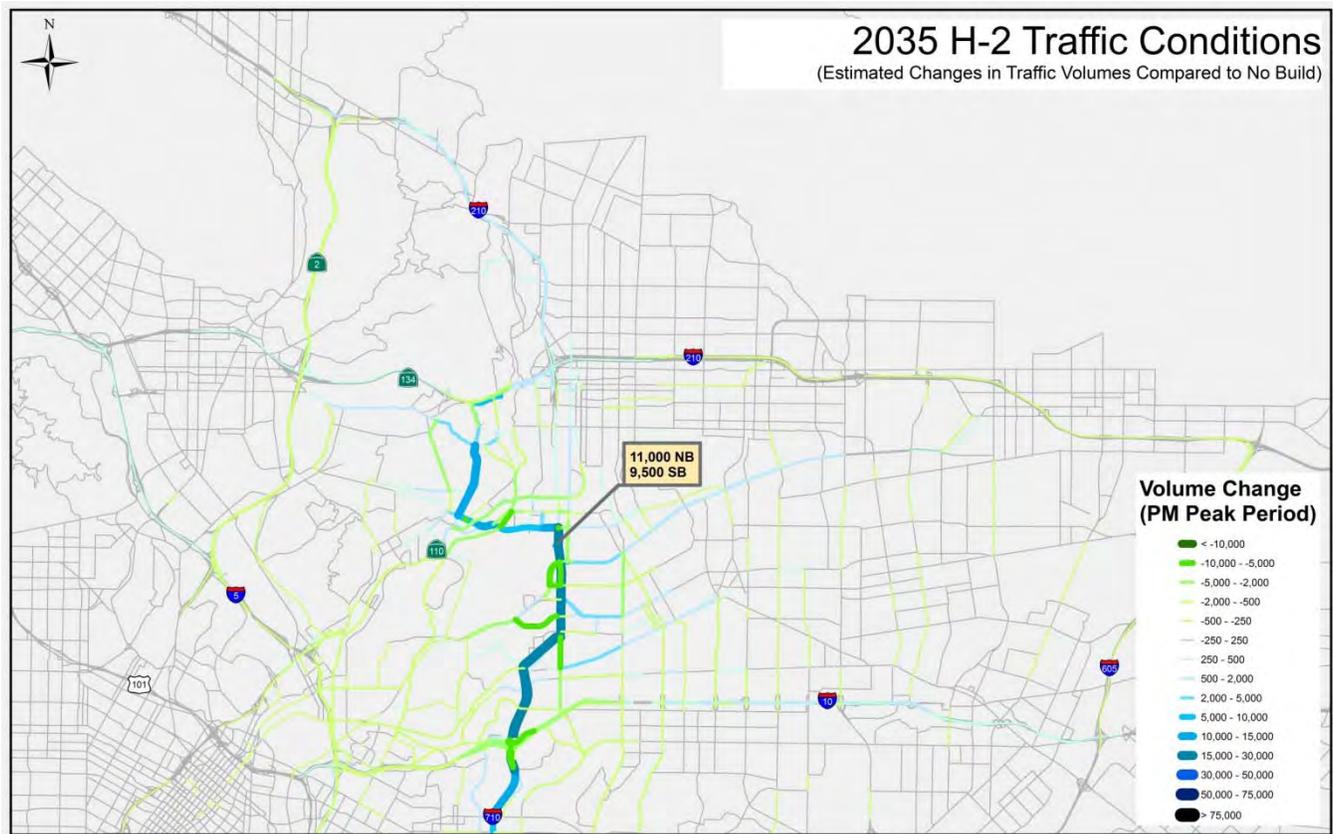
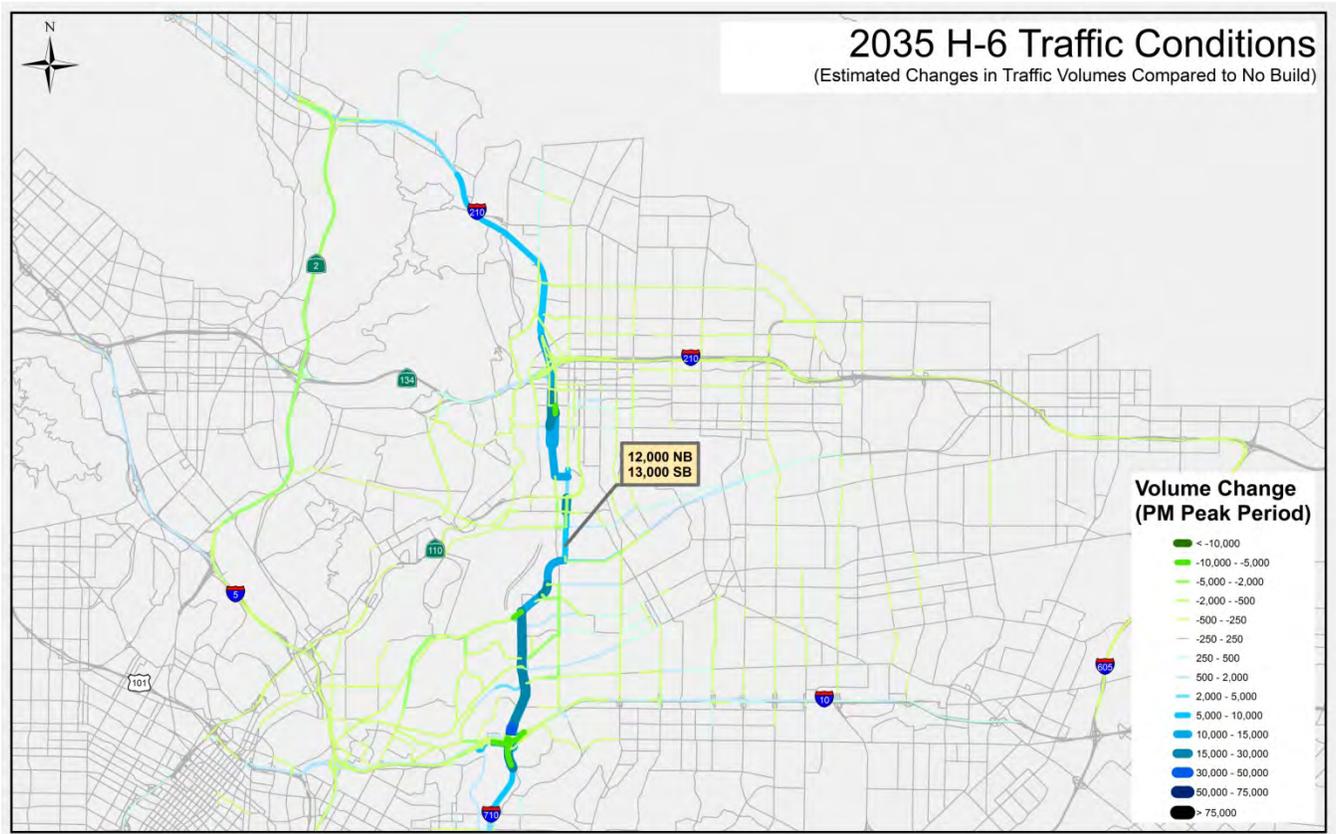


FIGURE 9.2  
H-6 Alternative PM Peak Period Volume Changes



## 9.1 Regional Transportation System Performance

The highway/arterial alternatives do not include any transit improvements. Due to the nature of travel in the region, with the primary mode of travel being vehicular travel, both highway/arterial alternatives show moderate changes in the performance of the regional transportation system.

### 9.1.1 Minimize Travel Time

There are improvements in several of the trip travel time performance measures when compared with the No Build alternative. Table 9.1 is a summary of the performance of the highway/arterial alternatives for the project objective of minimizing vehicular and transit travel time. Overall, the H-6 alternative performs better than the H-2 alternative for minimizing travel time when compared with the No Build alternative.

#### Trip Travel Time

- ❖ *The trip travel time measure is a projection of the normalized reduction in regional and study area point-to-point travel times from zero (worst) to 100 (best). An increase in travel time index equates to a decrease in travel time.*

For the highway/arterial alternatives, both the vehicular and transit indices show a reduction in travel times. The decreases in both vehicular and transit travel times are attributed to more capacity on the arterial street network, resulting in an increase in speeds. The H-6 alternative shows a larger decrease in vehicular and transit trip regional travel times. The H-2 alternative results in a relatively small change in vehicular or transit trip travel time compared with the No Build alternative.

## **Total Vehicular Travel Time**

- ❖ *The total vehicular travel time measure is the reduction in daily VHT in the AM and PM peak periods, and is reported as the change in total vehicular travel time from the No Build alternative.*

The highway/arterial alternatives result in a small reduction in VHT on the regional transportation system, which relates into a reduction in total vehicular travel time. The highway/arterial alternatives are designed to increase the efficiency of travel on the arterial system, and do not implicitly reduce the number of vehicle trips on the regional transportation system. The reduction in VHT compared with the No Build alternative shows a reduction in congestion in the region. The performance of the two highway/arterial alternatives is identical.

## **Travel Time Reliability**

- ❖ *The travel time reliability measure is based on a calculation of the percentage of travel on dedicated or managed lanes in the study area.*

For the highway/arterial alternatives, the improvements to the arterial system do not improve travel time reliability as defined by the performance measure.

TABLE 9.1  
**Highway/Arterial Alternative Performance Evaluation for Minimizing Travel Time**

Performance Measure	Performance Measure Calculation	No Build	H-2	H-6
<i>Trip Travel Time-Vehicle Travel Time Index</i>	Point-to-point travel times for a set of nine trip pairs in each of two types of origin-destination (O-D) pairs – regional (e.g., Long Beach to Stevenson Ranch) and study area (e.g., Union Station to La Cañada Flintridge). Peak period travel times are reported as the sum of the average regional and average study area travel times, and normalized from zero (worst) to 100 (best).	0	8	11
<i>Trip Travel Time - Transit Travel Time Index</i>	Point-to-point travel times for a set of nine trip pairs in each of two types of origin-destination (O-D) pairs – regional (e.g., Long Beach to Stevenson Ranch) and study area (e.g., Union Station to La Cañada Flintridge). Reported as the sum of the average regional and average study area travel times, and normalized from zero (worst) to 100 (best).	0	2	41
<i>Total Vehicular Travel Time</i>	Reduction in vehicle hours (in 1000s) of travel for all vehicular (auto and truck) trips in the region. Reported as the reduction in travel time (from the No Build alternative) for the total of the AM and PM peak periods.	0	9	9
<i>Travel Time Reliability</i>	Percentage of daily person hours of travel on facilities in the study area that have dedicated or managed lane operations (HOV facilities, or tolled facilities).	8.6%	8.6%	8.6%

Note: See Section 4.1.1 for a thorough description of the method of calculation for all performance measures described in this table.

## **9.1.2 Improve Connectivity and Mobility**

There is a moderate improvement in connectivity and mobility for the two highway/arterial alternatives compared with the No Build alternative. Table 9.2 is a summary of the performance of the freeway alternatives for the objective of improving connectivity and mobility in the region.

### **Access to Regional Freeway and Transit System**

- ❖ *The regional freeway and transit access quantifies the number of new directional interchanges between the existing facilities and new freeway systems or transfers with high frequency transit service.*

The highway/arterial alternatives increase the access to the regional freeway system for all of the alternatives. The H-6 alternative has an additional access point when compared to the H-2 alternative, and this is located in Pasadena at the connection between SR 710 and I-210. All highway/arterial alternatives have the same number of access points at the connection with I-10 (these are the same access points as in the freeway alternatives). The four access points at the new system interchange between SR 710 and I-10 are:

- 1 point for a through connection between SR 710 and I-710 to the south

- 1 point for a connection between SR 710 southbound and I-10 eastbound and westbound (two system interchange ramps)
- 1 point for a connection between I-10 eastbound and westbound (two system interchange ramps) and SR 710 northbound
- 1 point for the connection from SR 710 southbound to the westbound El Monte Busway (carpool lanes)

Both of the highway/arterial alternatives have different configurations at the north end of the alignment. The H-2 alternative provides two access points at the north end, and the H-6 alternative provides three access points at the north end. The difference in the number of connections is the additional access point provided in the H-6 alternative with the north connection to I-210 west of Pasadena.

### **Employment Accessibility**

- ❖ *The employment accessibility is the ratio of restored accessible jobs compared with the No Build alternative.*

The highway/arterial alternatives result in increases in accessibility of jobs that is gained back when compared with the existing year conditions. The highway/arterial alternatives add capacity to the No Build arterial system, which reduces congestion and delays on many of the local facilities in the study area, and thus improves travel times on many of the arterials. The increase in speeds on these local facilities results in travel times better than those in existing conditions. The result is a modest improvement in employment accessibility when comparing the highway/arterial alternatives to the No Build alternative. The H-6 alternative gains back nearly 60 percent of accessible jobs and the H-2 alternative gains back 45 percent.

### **North-South Transit Throughput**

- ❖ *The north-south transit throughput is calculated as the total daily boardings on transit routes crossing the east-west screenline.*

The north-south transit throughput for the highway/arterial alternatives is nearly identical to the No Build alternative. The slight reduction in results represents a negligible change in performance.

### **Volume Served**

- ❖ *The daily vehicle volume on the east-west screenline is calculated separately for arterials and freeways.*

The highway/arterial alternatives both result in an increase in volume served on arterials, and a decrease in volume served on the freeway system. The highway/arterial alternatives are designed to increase the traffic on arterials. The design of these alternatives does not perform well for this particular performance measure. The H-2 alternative results in more growth in arterial traffic, and less growth in volume served on freeways when compared with the H-6 alternative.

TABLE 9.2

#### **Highway/Arterial Alternative Performance Evaluation for Improving Connectivity and Mobility**

Performance Measure	Performance Measure Calculation	No Build	H-2	H-6
<i>Access to Regional Freeway and Transit System</i>	Number of new interchanges to the regional freeway system, and the number of new transit system transfer locations between high frequency service.	0	8	9
<i>Employment Accessibility</i>	The percentage ratio of the restored number of accessible jobs (the number of job accessible by the alternative compared with the No Build alternative) compared with the decrease in job accessibility from 2008 to 2035 (the number of accessible jobs lost between 2008 and the No Build alternative). A ratio of 100% indicates that all of the job accessibility "lost" by 2035 will be restored.	0.00%	44.74%	58.56%
<i>North-South Transit Throughput</i>	Total daily boardings on transit routes crossing the east-west screenline.	624,946	624,828	624,035

TABLE 9.2  
**Highway/Arterial Alternative Performance Evaluation for Improving Connectivity and Mobility**

Performance Measure	Performance Measure Calculation	No Build	H-2	H-6
<i>Volume Served – Arterials</i>	Daily volume on arterials crossing the east-west screenline.	940,610	962,550	954,150
<i>Volume Served – Freeways</i>	Daily volume on freeways crossing the east-west screenline.	985,170	965,870	980,730

Note: See Section 4.1.2 for a thorough description of the method of calculation for all performance measures described in this table.

## 9.2 Freeway System Performance

The highway/arterial alternatives increase the capacity of the arterials in the study area directly between SR 710 at Valley Boulevard and SR 710 at the terminus of SR 134 at I-120. The improved arterials result in a slight reduction in congestion on the study area freeways. Table 9.3 is a summary of the freeway system performance of the highway/arterial alternatives compared with the No Build alternative.

### Level of Severe Congestion

- ❖ *The level of severe congestion is calculated as the directional miles of roadways at LOS of F1, F2, or F3 in the study area.*

The highway/arterial alternatives increase the performance of the roadway system that operates in severe congestion. The H-2 alternative reduces the level of severe congestion by 12 percent, and the H-6 alternative reduces the level of severe congestion by 7 percent.

### Level of Moderate Congestion

- ❖ *The level of moderate congestion is calculated as the miles of facilities with LOS of E or F0 (not including severe congestion) in the study area.*

The highway/arterial alternatives improve the performance of the roadway system that operates in moderate congestion. Both highway/arterial alternatives result in a decrease in moderate congestion of approximately 2 percent.

Similar to the performance of the freeway alternatives, the performance for the highway/arterial alternatives shows a shift in severe congestion to moderate congestion, and a shift in moderate congestion to non-congestion (facilities with LOS of A through D). For this reason, the level of moderate congestion is muted, and does not show as much improvement as the values for the level of severe congestion. For example, the No Build alternative has 520.2 miles of facilities with moderate or severe congestion. The H-2 alternative reduces the total length of moderate and severe congestion by a total of 4 percent.

The reduction of 11.8 miles of severe congestion caused a shift to moderate congestion, and 21.1 miles (420.2 miles – 410.9 miles + 11.8 miles = 21.1 miles) of moderate congestion shifted to non-congested facilities.

### Travel in Congestion

- ❖ *The travel in congestion is the total daily VMT (in 1000s) on congested facilities (V/C>1.0) in the study area.*

The highway/arterial alternatives all decrease the total daily VHT on congested freeways. The H-2 alternative reduces VHT on congested facilities by 10 percent. The H-6 alternative reduces congestion by 5 percent.

TABLE 9.3  
**Highway/Arterial Alternative Performance on the Freeway System**

Performance Measure	Performance Measure Calculation	No Build	H-2	H-6
<i>Level of Severe Congestion</i>	Total directional miles of roadway facilities at LOS F1, F2, and F3 in the study area. This translates into facilities with LOS greater than or equal to 1.1.	100.0	88.2	93.1
<i>Level of Moderate Congestion</i>	Total directional miles of roadway facilities at LOS E or F0 in the study area (not including severe congestion). LOS E and F are calculated separately for freeways and arterials, and are calculated in accordance with the HCM 2000.	420.2	410.9	411.1
<i>Travel in Congestion (VMT)</i>	Total daily vehicular (auto and truck) VMT (in 1000s) on congested facilities (V/C > 1.0) in the study area.	1,550.5	1,397.9	1,472.1

Note: See Section 4.2 for a thorough description of the method of calculation for all performance measures described in this table.

## 9.3 Arterial System Performance

The highway/arterial alternatives are designed to add more arterial capacity along certain routes, which draws vehicle trips away from arterials with less capacity and onto the highway/arterial alternative alignments. The highway/arterial alternatives result in a reduction in arterial congestion. Table 9.4 is a summary of the arterial system performance of the highway/arterial alternatives compared with the No Build alternative.

### Local Arterial Traffic

- ❖ *The arterial traffic performance measure is the percentage of intersection approaches that are over capacity.*

The highway/arterial alternatives both decrease the congestion on the arterial approaches at heavily congested intersections. The H-2 alternative shows relatively no change (less than 1 percent). The H-6 alternative shows a reduction of nearly 17 percent. The H-6 alternative is a direct north-south alternative that connects to the frontage roads at SR 710 in Pasadena. This route is much more attractive than the H-2 alternative, and draws more traffic off of congested intersections in the Pasadena and South Pasadena neighborhoods.

### Arterial Congestion

- ❖ *The arterial congestion performance measure is the average of the AM and PM peak period V/C ratios on arterials crossing the east-west screenline.*

The highway/arterial alternatives both show negligible change from to the No Build alternative in the reduction of arterial congestion in the study area in the AM and PM peak periods in the north-south direction of travel. The H-2 alternative results in a minor decrease in congestion, and the H-6 alternative results in a minor increase. Both alternatives are within 1 percent of the No Build alternative performance.

### Traffic Diversion to Local Arterials

- ❖ *The traffic diversion to arterials performance measure is the change in VMT on the arterial system in the study area.*

The highway/arterial alternatives both show negligible reduction of traffic diversion onto the arterial system. Both alternatives are within 1 percent of the No Build alternative performance.

### Use of Local Arterials for Long Trips

- ❖ *The performance measure for the use of arterials for long trips is the percentage of the study area trips with origins and destinations outside of the study area. This measure is informally called the percentage of cut-through travel.*

The highway/arterial alternatives perform identically in reducing the percentage of cut-through travel. The reduction is less than 1 percent.

### **Daily Person Travel on Arterials**

- ❖ *The daily person travel on arterials performance measure is the total north-south person travel crossing the east-west screenline. Only travel in vehicles is included.*

Because of their design, the highway/arterial alternatives increase the north-south daily person travel on arterials in the study area. The reduction in person travel mainly occurs on higher-capacity facilities than in the No Build alternative. While there is a 3 percent increase in daily person travel, it does not result in a more congested arterial system. The performance measures for arterial traffic, arterial congestion, traffic diversion to arterials, and the use of arterials for long trips show the operational benefits for the arterials.

TABLE 9.4  
**Highway/Arterial Alternative Performance on the Arterial System**

Performance Measure	Performance Measure Calculation	No Build	H-2	H-6
<i>Local Arterial Traffic</i>	Percentage of intersection approaches with a V/C ratio greater than 1.0 in the PM peak period.	28.0%	27.9%	23.2%
<i>Arterial Congestion</i>	The maximum of the AM and PM peak period V/C ratios on the north-south arterials crossing the east-west screenline.	0.77	0.76	0.78
<i>Traffic Diversion to Arterials</i>	Daily arterial vehicle miles traveled (VMT) in the study area (reported in 1000s).	7.0	7.1	6.9
<i>Use of Local Arterials for Long Trip</i>	Percentage of PM peak period trips on arterials that have an origin and a destination outside of the study area.	24.9%	24.7%	24.7%
<i>Daily Person Travel on Arterials</i>	Total north-south travel served (daily person trips on arterials, in millions) crossing the east-west screenline.	1.27	1.31	1.30

Note: See Section 4.3 for a thorough description of the method of calculation for all performance measures described in this table.

## **9.4 Transit Performance**

The highway/arterial alternatives have the same transit network as the No Build alternative, and result in no difference in transit performance from the No Build alternative. Table 9.5 is a summary of the transit system performance of the highway/arterial alternatives compared with the No Build alternative.

### **New Transit Ridership**

- ❖ *The performance measure is the number of new transit riders compared with the No Build alternative.*

The highway/arterial alternatives do not increase the number of new riders, and perform identically to the No Build alternative.

### **Transit Accessibility**

- ❖ *The transit accessibility performance measure is the average percentage of the study area and population that is located within ¼ mile of a transit stop with high frequency service.*

The highway/arterial alternatives do not increase transit accessibility, and perform identically to the No Build alternative.

### **Transit Mode Split**

- ❖ *The transit mode split performance is the percentage of total daily person trips that use transit.*

The highway/arterial alternatives have a negligible increase in mode split.

TABLE 9.5  
**Highway/Arterial Alternative Performance on the Transit System**

<b>Performance Measure</b>	<b>Performance Measure Calculation</b>	<b>No Build</b>	<b>H-2</b>	<b>H-6</b>
<i>New Transit Ridership</i>	Increase in transit ridership (new daily riders).	0	0	0
<i>Transit Accessibility</i>	Percentage of study area population and employment within ¼-mile of a transit stop with high frequency service. Calculated independently for population and employment, and averaged together.	29.3%	29.3%	29.3%
<i>Transit Mode Split</i>	Transit percentage of daily trips (mode split) within in the study area.	3.73%	3.73%	3.75%

Note: See Section 4.4 for a thorough description of the method of calculation for all performance measures described in this table.

SECTION 10

# All Alternatives – Performance Comparison



All alternatives are compared with each other in this section of the report. The modeling results are used to show relative differences between alternatives and modes of travel.

Figure 10.1 is a summary of the detailed results of the performance evaluation discussed in Sections 5 through 9.

FIGURE 10.1  
(Part 1) Detailed Performance Evaluation Matrix

Primary Element of Need	Objective Statement	Evaluation Criterion	Performance Measure	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	Freeway 2	Freeway 5	Freeway 6	Freeway 7	Highway/ Arterial Improvements 2	Highway/ Arterial Improvements 6	
1) Regional Transportation System (regional travel speeds low; regional travel delays high; regional travel times are unpredictable)	1) Minimize travel time	Trip travel time	Point-to-point travel times for a set of 9 trip pairs - regional (e.g., Long Beach to Stevenson Ranch) and study area (e.g., Union Station to La Cañada Flintridge). Peak period travel times are calculated for highway (SOV, HOV-2, HOV-3+) and transit. Two measures are reported - normalized travel time for highway (line 1) and transit modes (line 2).	0	11	14	7	7	13	15	13	14	92	63	88	100	8	11	
			Reduction in vehicle hours (1000s) of travel for all automobile/truck trips in the region. Reported as the change in travel time (from no-build) for the total of AM/PM, then compared to no-build.	0	41	100	52	52	93	90	95	66	35	37	10	39	2	41	
		Travel time reliability	Percent of travel on facilities in study area with dedicated or managed operations, weighted by volume/use, for person-hours of daily travel.	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.7%	9.9%	8.8%	8.6%	8.6%
			Number of new interchanges connecting to existing highway facilities + new transit transfer points. Transit transfer points are between an exclusive new/existing transit facility.	0	0	1	1	2	3	3	3	2	5	6	14	7	8	9	
		2) Improve connectivity and mobility	Employment, health care, education accessibility	Assessment of the number of jobs reachable within 25.3 minutes in peak periods, for a set of 12 origins. Percentage of "lost" accessible jobs (due to 2035 congestion) gained back.	0.00%	3.38%	2.97%	3.38%	3.38%	5.20%	4.29%	4.00%	3.67%	98.43%	91.38%	184.04%	122.02%	44.74%	58.56%
				Total boardings on transit routes crossing an east/west screenline from US 101 to I-605. The screenline is approximately in the middle of South Pasadena.	624,946	648,051	649,428	654,475	654,475	655,759	655,233	655,553	656,319	624,180	625,582	624,032	627,027	624,828	624,035
	Volume served		Daily volume (1000s) on arterials (non-freeways) crossing the east-west Screenline	941	949	941	940	940	940	940	940	940	940	893	843	880	861	963	954
			Daily volume (1000s) on freeways crossing the east-west screenline	985	984	985	985	985	985	985	985	985	985	1,097	1,133	1,106	1,129	966	981

FIGURE 10.1  
(Part 2) Detailed Performance Evaluation Matrix

Primary Element of Need	Objective Statement	Evaluation Criterion	Performance Measure	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	Freeway 2	Freeway 5	Freeway 6	Freeway 7	Highway/Arterial Improvements 2	Highway/Arterial Improvements 6		
2) Freeway system in study area (over-capacity north/south travel demand affects mobility; high delays and unpredictable travel times on study area freeways; freeway system users take longer trips; high accident rates on freeways due to congestion)	3) Reduce congestion on freeway system	Level of congestion on study area freeways	Total directional miles of roadway facilities at LOS F1, F2, and F3 in the study area.	100.0	95.7	100.1	99.4	99.4	99.6	99.6	99.2	99.9	82.5	80.5	72.1	79.2	88.2	93.1		
			Total directional miles of roadway facilities at LOS E or F0 in the study area.	420.2	418.4	420.7	419.6	419.6	420.3	421.0	421.4	420.6	406.2	407.2	397.7	414.2	410.9	411.1		
			Total daily auto and truck VMT (in 1000s) on congested freeways (V/C > 1.0) in the study area	1550.5	1497.8	1533.3	1546.2	1546.2	1528.4	1545.9	1544.5	1546.6	1219.3	1400.6	1255.7	1292.4	1397.9	1472.1		
3) Local Street system (affected by excess freeway traffic; operates at low speeds; out-of-place freeway trips cause high levels of congestion)	4) Reduce congestion on local street system	Local arterials traffic operations	Percentage of intersections in the study area with congested approaches, with PM peak volume/capacity (v/c) ratio > 1.0.	28.0%	28.5%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	25.1%	23.2%	19.3%	21.7%	27.9%	23.2%		
			Average v/c ratio on north-south arterials at screenlines within the study area, using the maximum of the AM and PM peak hours.	0.77	0.78	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.73	0.72	0.71	0.72	0.76	0.78
			Arterial vehicle-miles traveled (VMT) in the study area - daily for all vehicle trips, in 1000s.	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.6	6.5	6.4	6.5	7.1	6.9
			Percentage of PM peak period trips on arterials that have an O-D outside of study area.	24.9%	25.2%	25.2%	25.3%	25.2%	25.2%	25.3%	25.3%	25.3%	25.3%	25.3%	17.1%	13.7%	15.5%	9.7%	24.7%	24.7%
			Total north/south travel served (daily person trips on arterials, in millions) crossing an east-west screenline through South Pasadena from US 101 to I-605.	1.27	1.29	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.19	1.14	1.12	1.15	1.31	1.30
4) Transit system in study area (operational deficiencies of the highway system affects transit; low travel speeds for buses and increased delay for peak hour trips; north/south transit network is constrained by slow speeds on the arterial network)	5) Increase transit ridership	New transit ridership	Increase in transit ridership (new daily riders).	0	16329	18690	19058	19058	20136	19806	19804	19762	0	0	0	0	0	0		
		Transit accessibility	Percentage of study area population/employment within 1/4 mile of transit stop with high frequency service.	29.3%	35.3%	34.7%	35.6%	35.6%	35.7%	35.7%	35.7%	35.7%	35.7%	29.3%	29.3%	29.3%	29.3%	29.3%	29.3%	
		Transit use	Transit percentage of total trips (mode split).	3.73%	3.89%	3.90%	3.91%	3.91%	3.92%	3.93%	3.92%	3.92%	3.92%	3.74%	3.75%	3.74%	3.75%	3.73%	3.75%	

## 10.1 Regional Transportation System Performance

The TSM/TDM, BRT, and LRT alternatives are stronger on the transit-based performance measures than the freeway and highway/arterial alternatives. The freeway and highway/arterial alternatives are stronger on the roadway-focused performance measures. Overall, the freeway alternatives show the greatest reduction in regional travel time and the greatest improvement in connectivity and mobility.

### 10.1.1 Minimize Travel Time

A reduction in regional travel time is the first objective of the regional transportation system primary elements of need. Three measures were used to provide a comparison of the alternative.

#### Trip Travel Time

- ❖ The trip travel time measure is a projection of the normalized reduction in regional and study area point-to-point travel times from zero (worst) to 100 (best). An increase in travel time index equates to a decrease in travel time.

Figures 10.2 and 10.3 show the relative performance of the vehicular and transit trip travel times for all of the alternatives. The TSM/TDM, BRT, and LRT alternatives primarily improve the transit trip travel time performance, and the freeway and highway/arterial alternatives primarily improve the vehicular trip travel time performance.

The improvements in vehicular trip travel times are greatest in alternatives F-2, F-6, and F-7, with a modest improvement in F-5, and relatively little improvement in any of the other alternatives. The transit trip travel times are improved primarily in the BRT-1 and LRT-4 alternatives, with moderate improvements in the LRT-6 alternative, and relatively little improvement in any of the other alternatives.

A thorough description of the calculation for vehicular and transit trip travel time is included in Performance Measure Technical Appendix, Section A.

FIGURE 10.2  
Vehicular Trip Travel Time

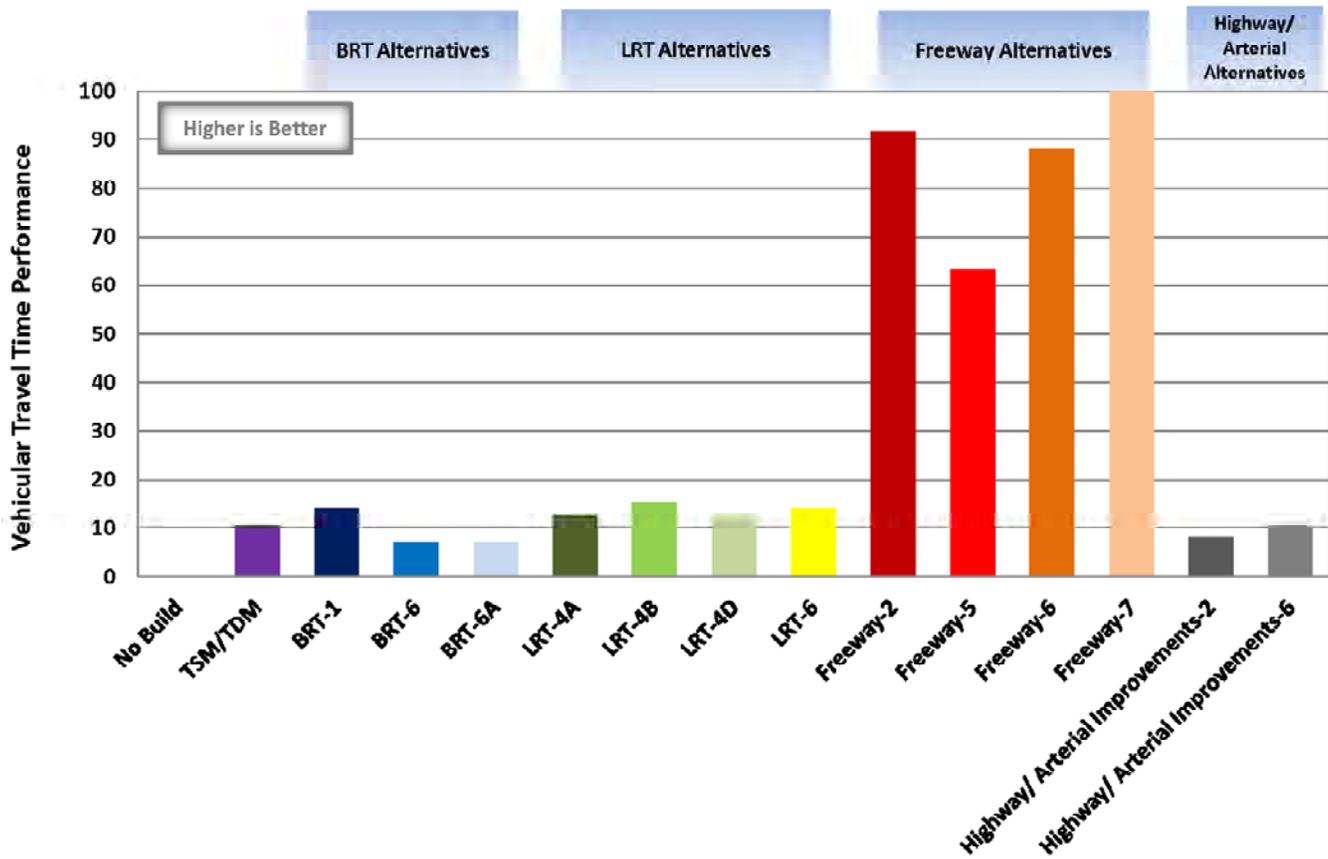
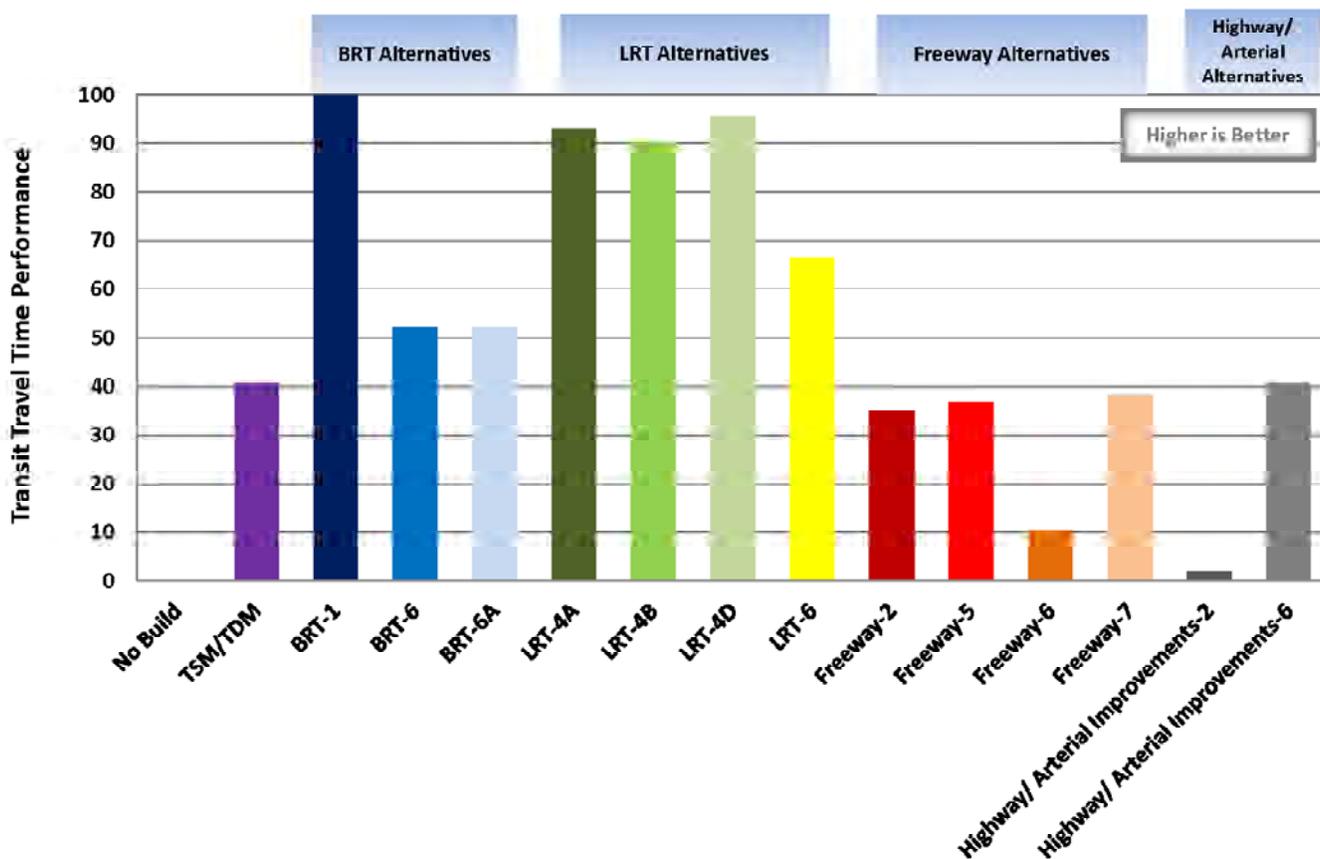


FIGURE 10.3  
**Transit Trip Travel Time**



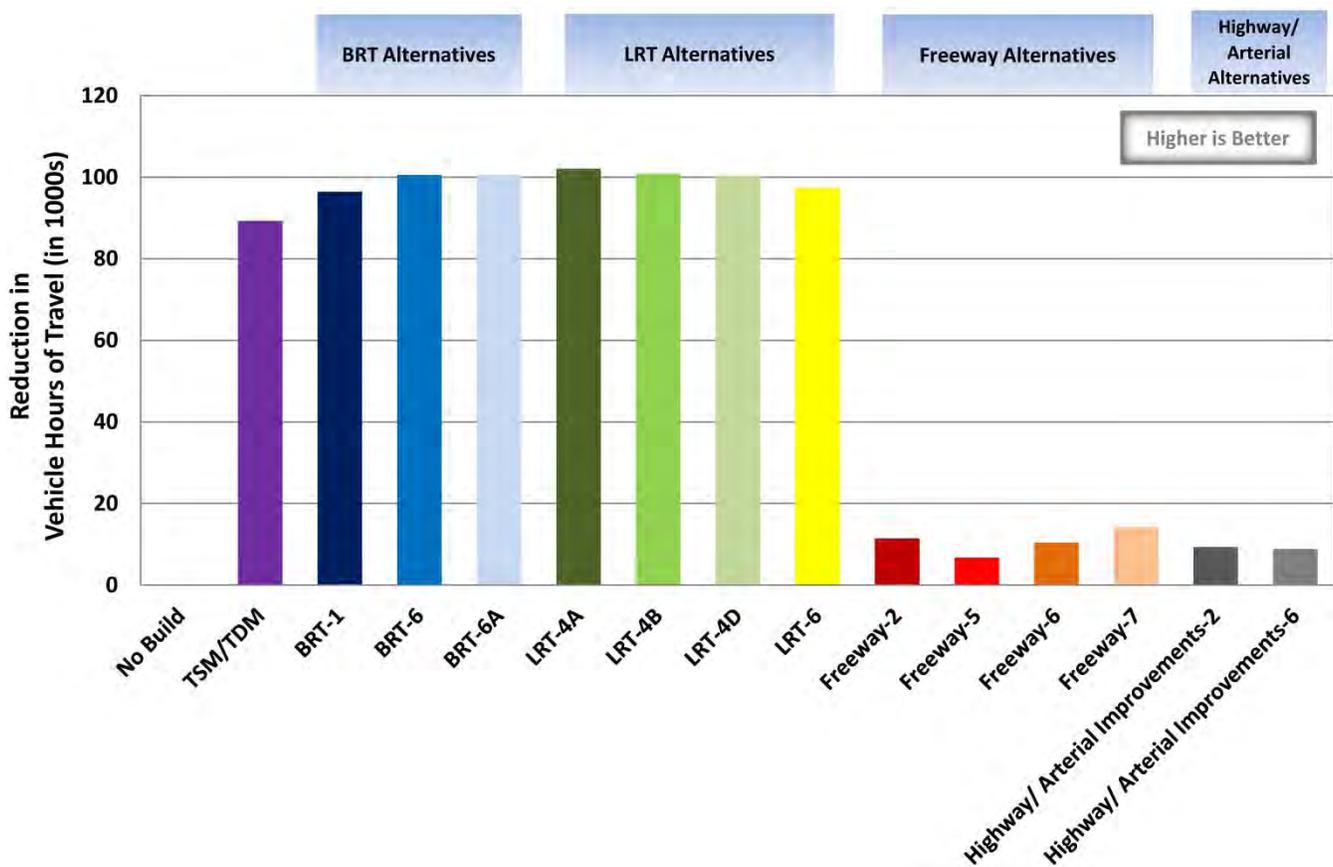
**Total Vehicular Travel Time**

- ❖ *The total vehicular travel time measure is the reduction in daily VHT in the AM and PM peak periods, and is reported as the change in total vehicular travel time from the No Build alternative.*

Figure 10.4 is the comparison of the reduction in daily VHT (shown in 1000s) for the region. All of the alternatives result in a reduction in VHT in the region. Due to the nature of the alternatives, the transit alternatives (including the TSM/TDM alternative) result in the greatest decrease in vehicle hours of travel on the roadway system in the region because those alternatives are shifting travelers from autos to transit. The reduction in VHT of approximately 100,000 vehicle hours, which is the performance of the BRT and LRT alternatives, represents a reduction of approximately 1 percent of the VHT in the No Build alternative.

A thorough description of the calculation for total vehicular travel time is included in Performance Measure Technical Appendix, Section B.

FIGURE 10.4

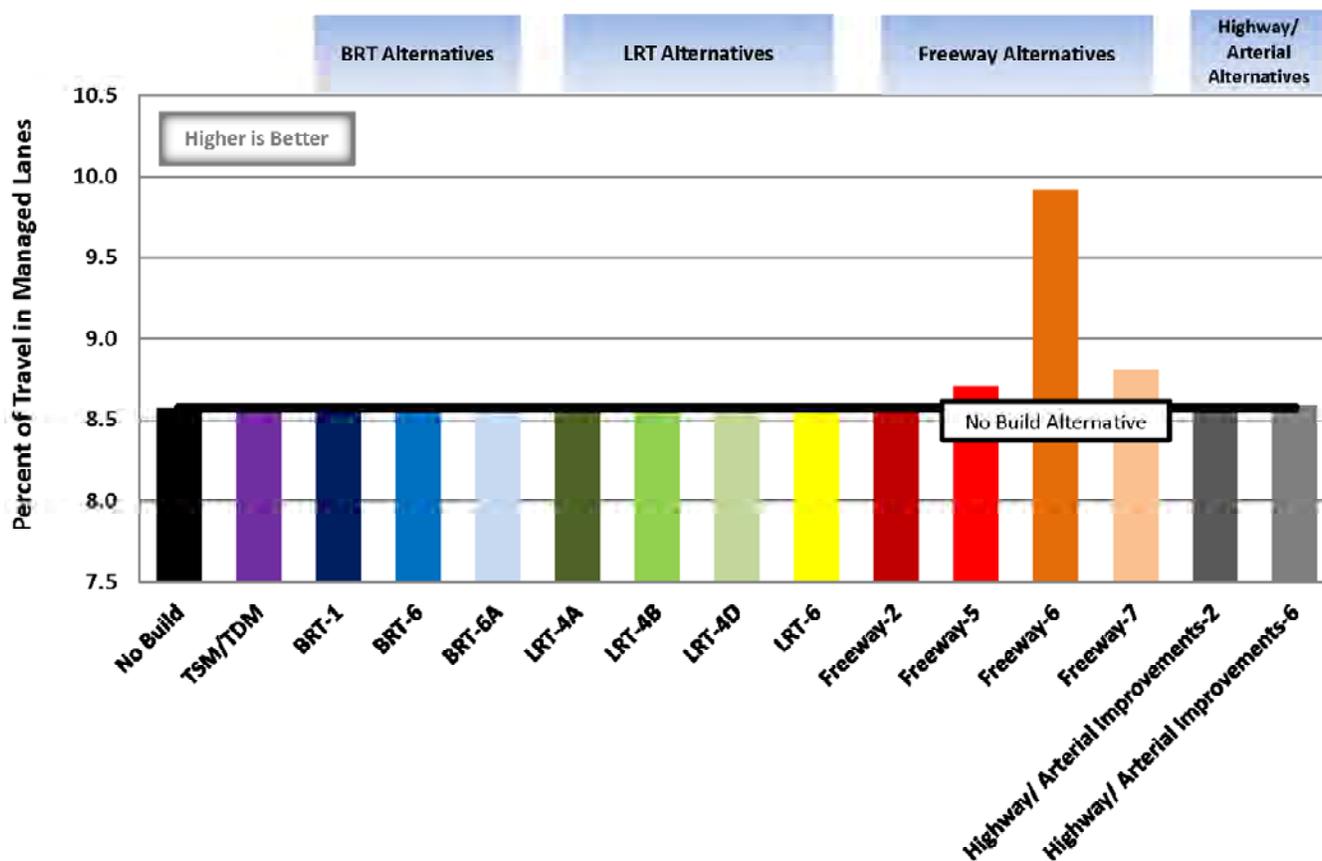
**Reduction in Vehicle Hours of Travel****Travel Time Reliability**

- ❖ *The travel time reliability measure is based on a calculation of the percentage of travel on dedicated or managed lanes in the study area.*

Figure 10.5 is the comparison of the percent of travel in managed lanes for all of the alternatives. Nearly all of the alternatives result in no change in travel time reliability by the measure used for the evaluation. Only the freeway alternatives will result in an increase in travel time reliability, and the F-6 alternative has the greatest increase. This is because the F-6 alternative is the only alternative that increases the lane miles of managed lane facilities in the region.

A thorough description of the calculation for travel time reliability is included in Performance Measure Technical Appendix, Section C.

FIGURE 10.5  
Travel Time Reliability



### 10.1.2 Improve Connectivity and Mobility

Improving the connectivity and mobility in the study area is the second objective of the regional transportation system primary element of need. Components include access to the regional system, employment accessibility, and regional volume served.

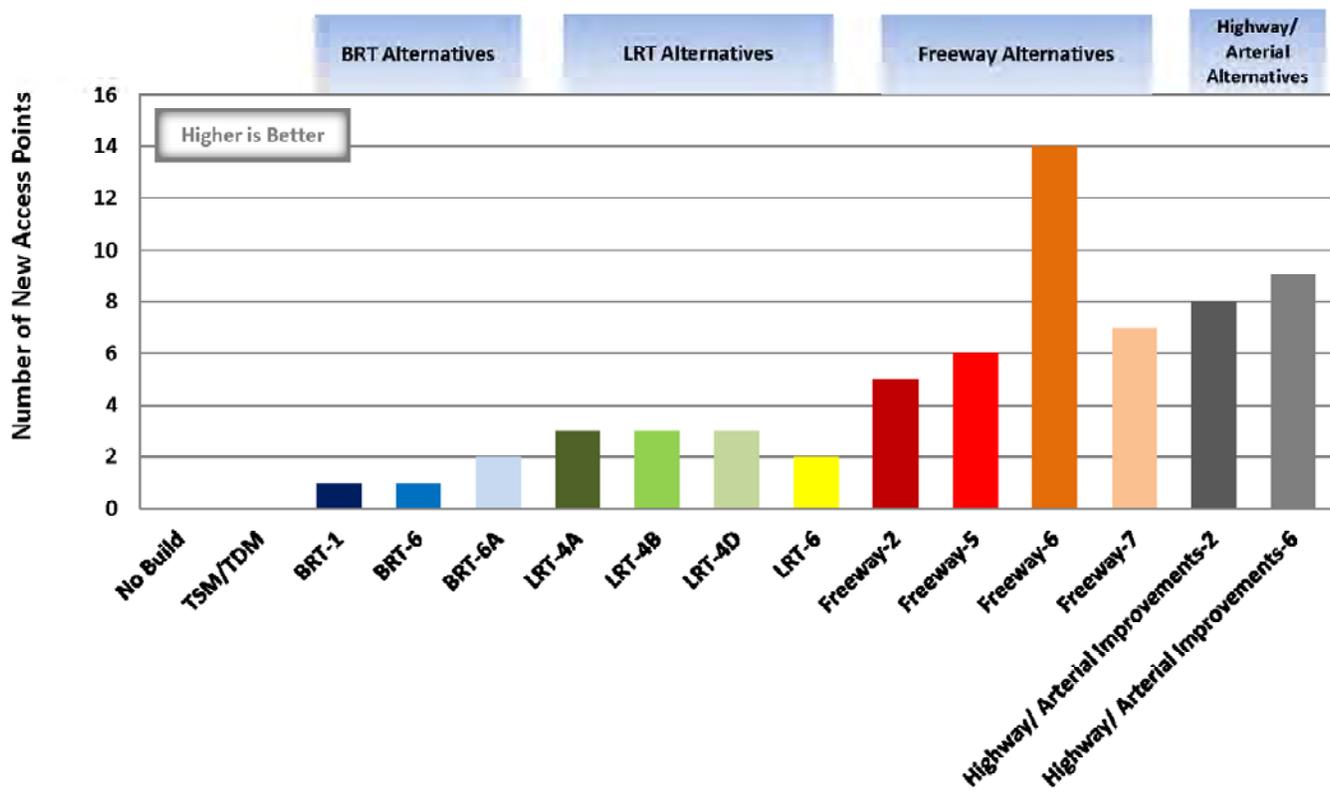
#### Access to Regional Freeway and Transit System

- ❖ *The regional freeway and transit access quantifies the number of new directional interchanges between the existing facilities and new freeway systems or transfers with high frequency transit service.*

The number of new interchanges connecting the existing highway and transit facilities to the existing highway and transit system is one way to measure improvements in system connectivity. Figure 10.6 is a comparison of the increase in the number of new interchanges connecting the alternatives to the existing highway and transit facilities in the region. The No Build and TSM/TDM alternatives do not increase the number of connections to either the freeway or transit system. The BRT and LRT alternatives all increase the number of transit transfer points between high frequency transit systems. The freeway and highway/arterial alternatives all increase the number of transfer points between new and existing freeway systems.

A thorough description of the calculation for access to the regional freeway and transit systems is included in Performance Measure Technical Appendix, Section D.

FIGURE 10.6  
New Access to Regional Freeway and Transit System



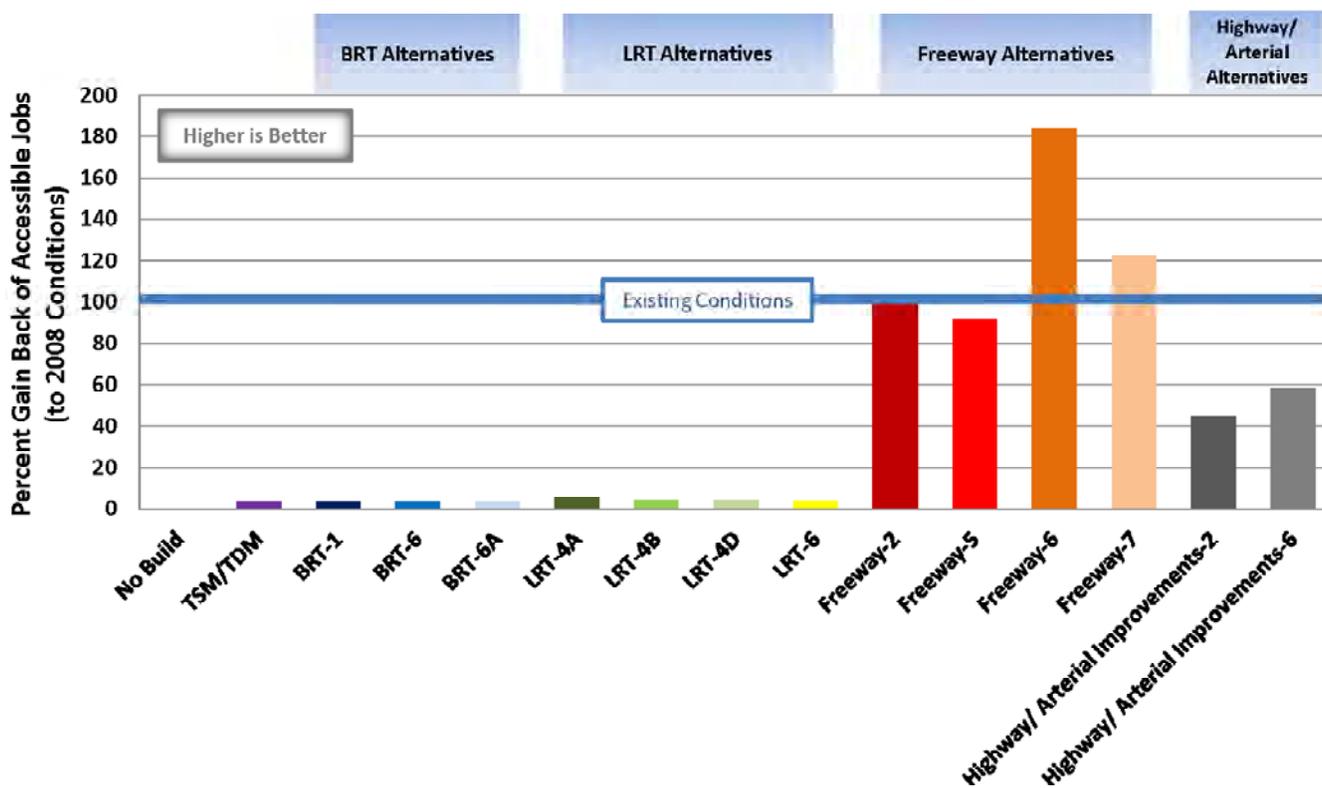
### Employment Accessibility

- ❖ *The employment accessibility is the ratio of restored accessible jobs compared with the No Build alternative.*

The number of jobs reachable within 25.3 minutes supports the primary project need of reducing the regional travel delays, reducing the regional travel times, and reducing the regional travel speeds. Figure 10.7 is a comparison of the gain-back percentage of jobs for all alternatives compared with the existing conditions (100 percent gain-back represents existing conditions). The TSM/TDM, BRT, and LRT alternatives result in a small increase in jobs accessible when compared with the No Build alternative. The highway/arterial alternatives have a modest increase in the number of jobs accessible, with a gain-back in jobs comparable to existing conditions of between 40 and 60 percent. The freeway alternatives perform the best for this measure, with most alternatives returning to existing conditions performance, and with the F-6 and F-7 alternatives performing better than existing.

A thorough description of the calculation for employment accessibility is included in Performance Measure Technical Appendix, Section E.

FIGURE 10.7  
**Gain-Back Percentage of Jobs Accessible for All Alternatives**



**North-South Transit Throughput**

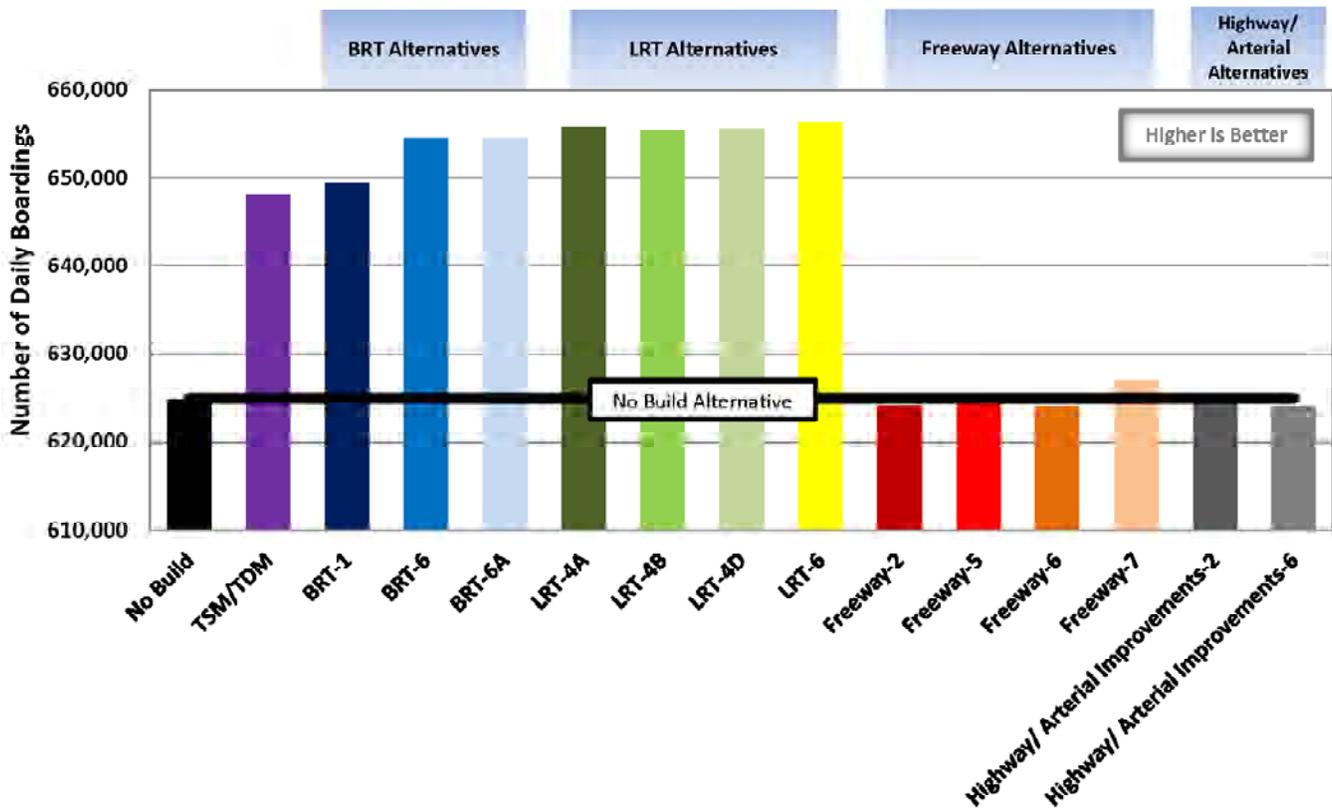
- ❖ *The north-south transit throughput is calculated as the total daily boardings on transit routes crossing the east-west screenline.*

Serving the north-south transit throughput is one way of addressing and measuring system performance for the primary element of need related to regional transit travel. The total daily boardings on routes crossing the east-west screenline is a measure of the performance of the regional transit system, primarily in the study area. Figure 10.8 is a comparison of the total north-south transit throughput served, calculated as the total boardings on transit routes crossing the east-west screenline from US 101 to I-605 through South Pasadena.

The freeway and highway/arterial alternatives do not improve the north-south transit throughput performance compared with the No Build alternative. The TSM/TDM and BRT-1 alternatives both increase the north-south transit throughput on the regional transit system by approximately 4 percent, and the BRT-6, LRT-4, and LRT-6 alternatives all increase the north-south transit throughput performance by approximately 5 percent, all compared with the No Build alternative.

A thorough description of the calculation for north-south transit throughput is included in Performance Measure Technical Appendix, Section F.

FIGURE 10.8  
North-South Transit Throughput Served



### Volume Served

- ❖ The daily vehicle volume (in 1000s) on the east-west screenline is calculated separately for arterials and freeways.

Serving the north-south volume on arterial and freeway trips is one way of measuring system performance for the primary element of need of the regional transportation system. Often with a congested freeway system, there is a shift from travel on freeways to travel on the arterial system. The travel on the arterial system reduces the speeds and increases the delays on the arterial system.

Figures 10.9 and 10.10 show the arterial and freeway north-south volumes served across the east-west screenline. These figures show that the TSM/TDM, BRT, and LRT alternatives all perform nearly the same as the No Build alternative for both the freeway and the arterial systems. The highway/arterial alternatives perform the worst of all of the alternatives for this measure by shifting vehicle trips from the freeway system to the arterial system. The freeway alternatives perform the best of all of the alternatives for this measure by moving vehicle trips off of the arterial system and onto the freeway system, thus reducing congestion on the arterial system.

A thorough description of the calculation for volume served on freeways and arterials is included in Performance Measure Technical Appendix, Section G.

FIGURE 10.9  
North-South Volume (in 1000s) Served on Arterials

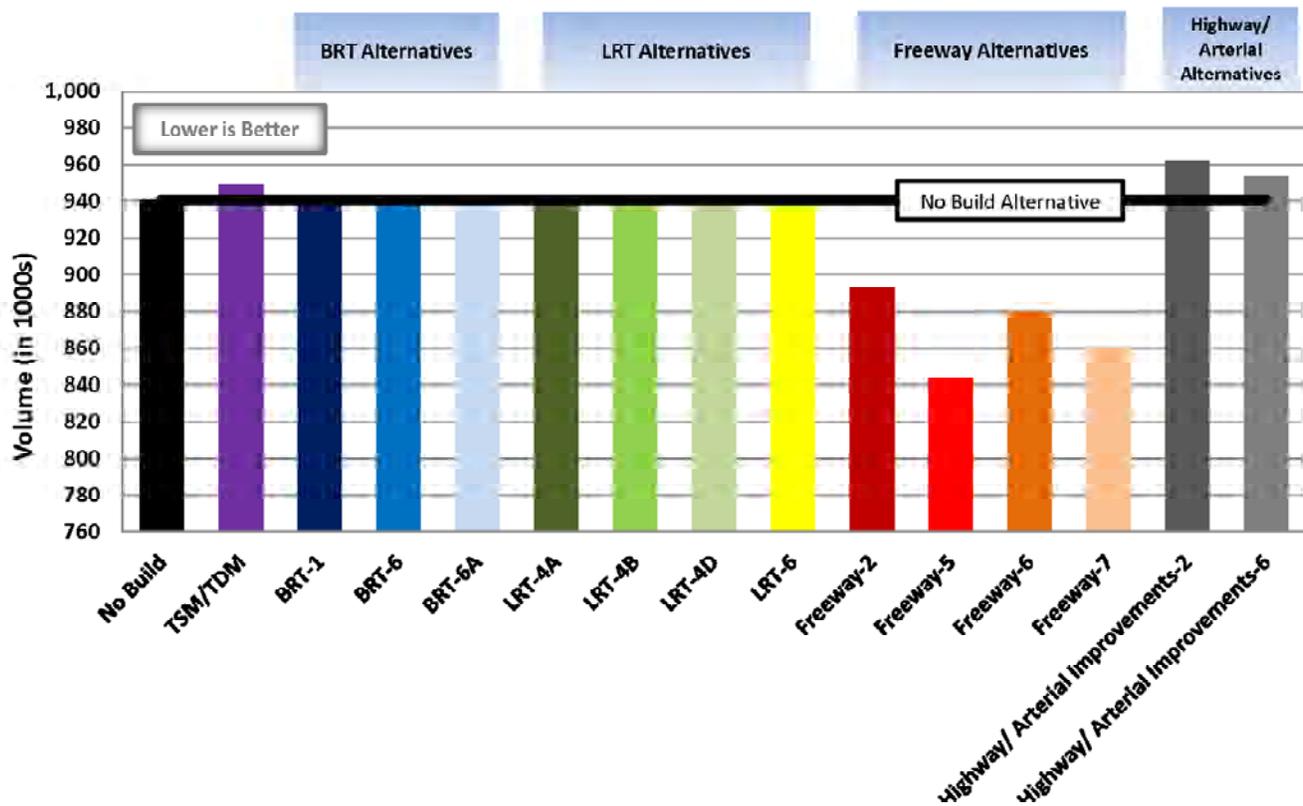
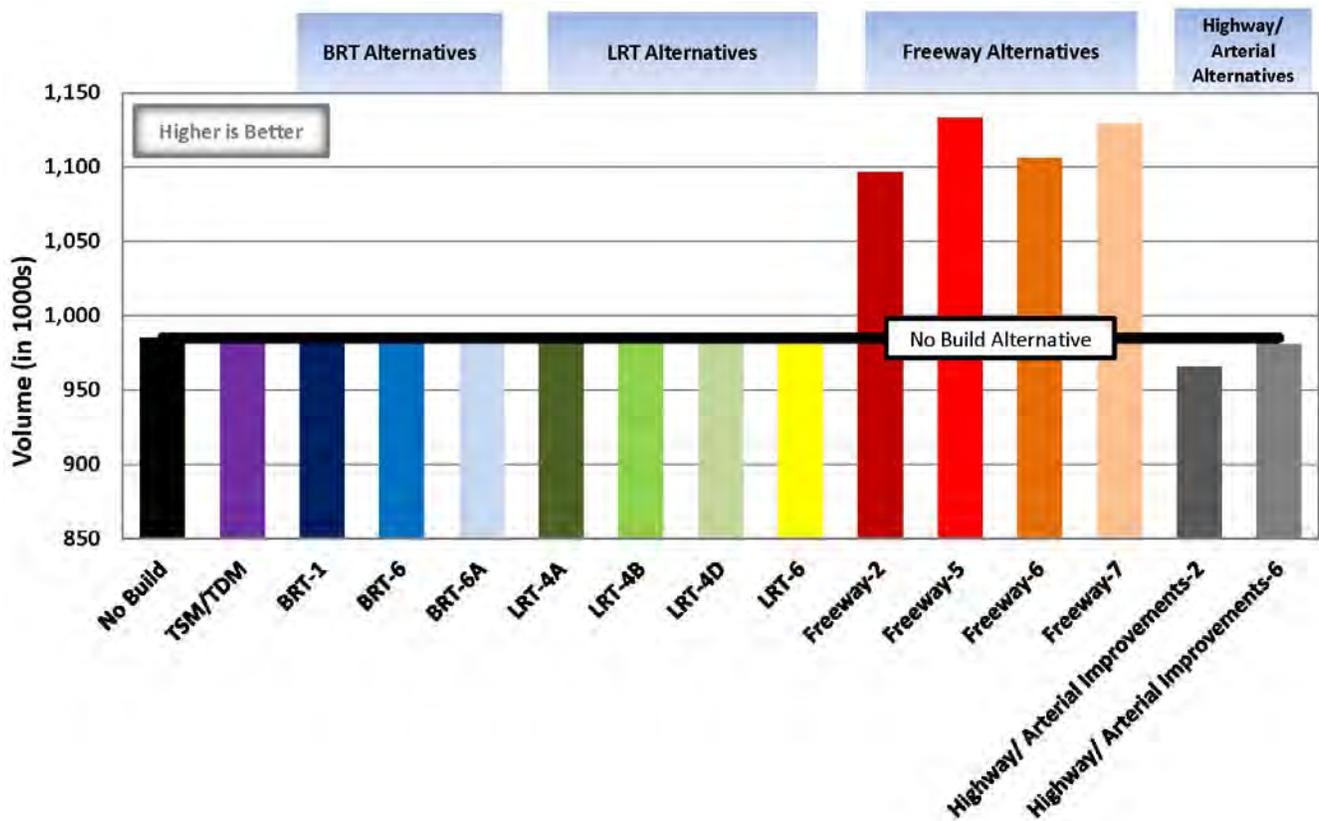


FIGURE 10.10  
North-South Volume (in 1000s) Served on Freeways



## 10.2 Freeway System Performance

The freeway alternatives show the greatest improvement in freeway system performance, particularly in reducing the severe congestion and the amount of vehicular travel in congestion. The highway/arterial alternatives have a moderate impact on the freeway system performance on the freeways in the study area, primarily on I-10 and I-5 in east LA. The TSM/TDM, BRT, and LRT alternatives have little impact on the freeway system performance measures.

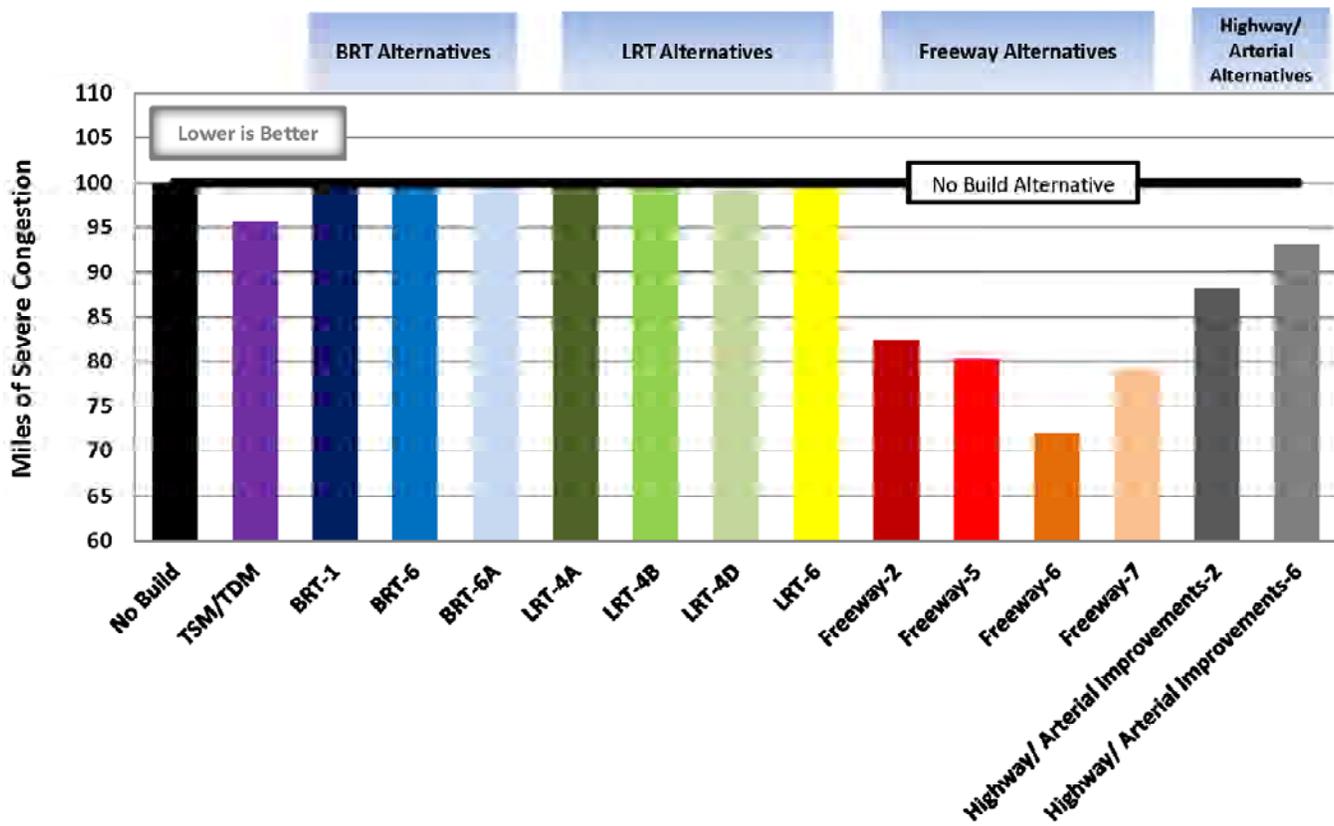
### Level of Severe Congestion

- ❖ *The level of severe congestion is calculated as the directional miles of roadways at LOS of F1, F2, or F3 in the study area.*

The level of severe congestion on all roadway facilities in the study area is calculated as the total directional miles of roadway facilities with a V/C ratio greater than or equal to 1.1. Figure 10.11 is a comparison of the length of roadway facilities with severe congestion. The BRT and LRT alternatives do not improve the level of severe congestion in the study area compared with the No Build. The TSM/TDM alternative reduces the level of congestion on the existing severely congested arterials in the study area, but does not perform as well as the freeway and highway/arterial alternatives. The highway/arterial alternatives slightly reduce the miles of severe congestion in the study area by adding specific routes with higher speeds and capacities to decrease the congestion on the arterial system. The freeway alternatives perform the best for this measure by reducing the level of severe congestion in the study area by almost 30 percent.

A thorough description of the calculation for the level of severe congestion is included in Performance Measure Technical Appendix, Section H.

FIGURE 10.11  
Level of Severe Congestion



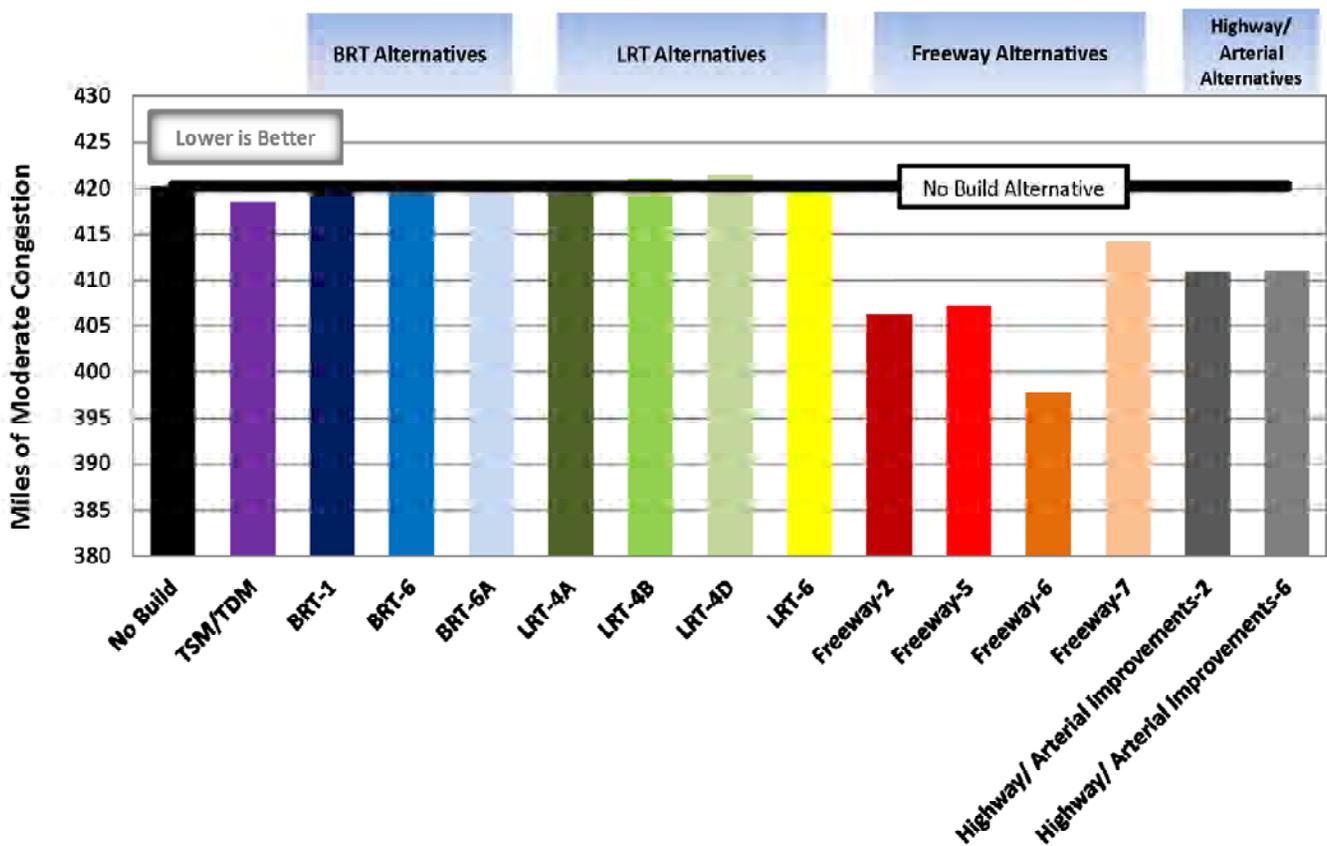
**Level of Moderate Congestion**

- ❖ *The level of moderate congestion is calculated as the miles of facilities with LOS of E or F0 (not including severe congestion) in the study area.*

Similar to reducing the level of severe congestion, reducing the level of moderate congestion on the roadway system in the study area is directly related to the mobility needs for the study area; high delays and unpredictable travel times on freeways. Figure 10.12 is a comparison of the length of roadway facilities with moderate congestion. The level of moderate congestion on all roadway facilities in the study area is calculated as the total directional miles of roadway facilities with a level of service of E or F, but with a V/C ratio less than 1.1 (severe congestion). The performance for all alternatives is similar to the performance of the level of severe congestion, but to a lesser extent. The BRT and LRT alternatives do not improve the level of moderate congestion in the study area compared with the No Build. The TSM/TDM alternative reduces the level of congestion slightly on the existing severely congested arterials in the study area, but does not perform as well as the freeway and highway/arterial alternatives. The highway/arterial alternatives reduce the miles of moderate congestion in the study area by adding specific routes with higher speeds and capacities to decrease the congestion on the arterial system. The freeway alternatives perform the best for this measure by reducing the level of severe congestion in the study area between 1 (the F-7 alternative) and 5 percent (the F-6 alternative).

A thorough description of the calculation for the level of moderate congestion is included in Performance Measure Technical Appendix, Section H.

FIGURE 10.12  
Level of Moderate Congestion



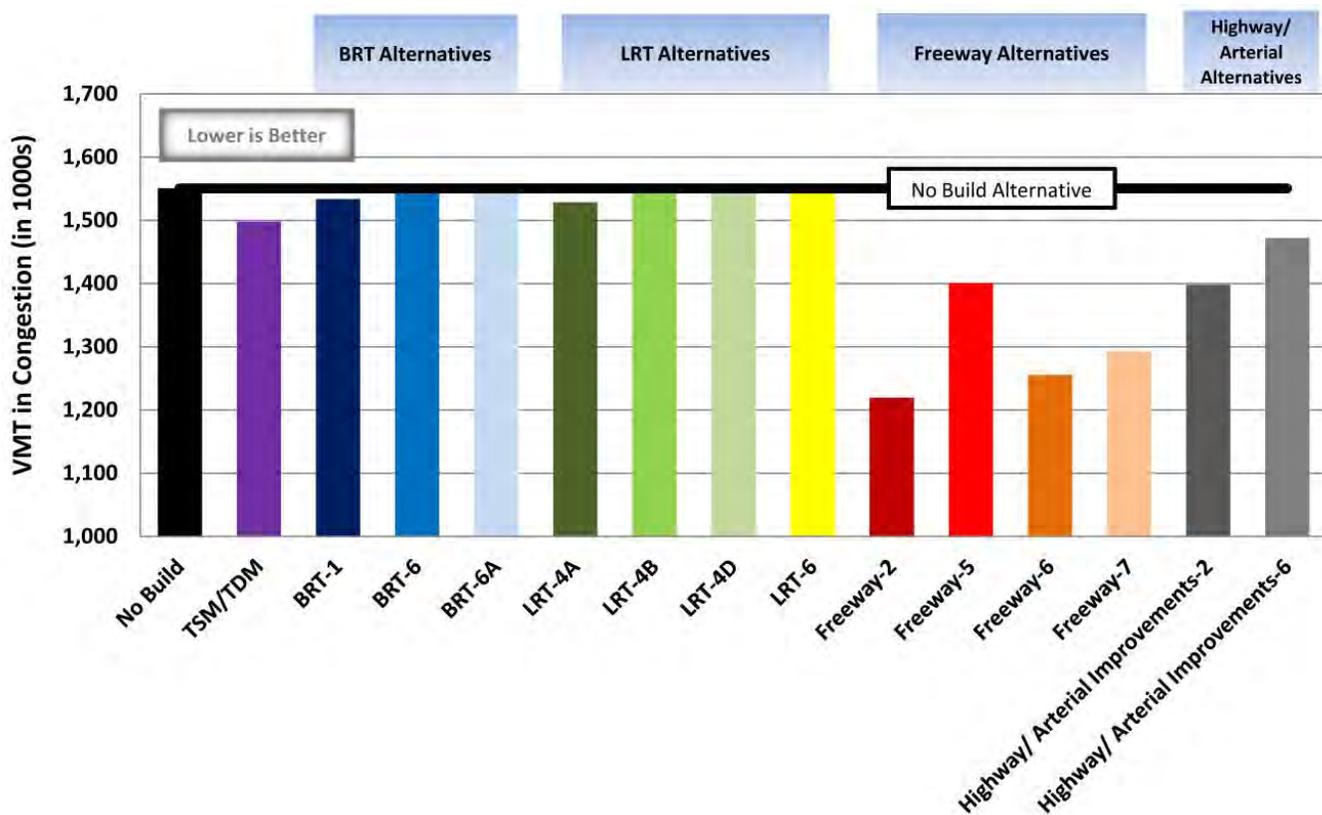
## Travel in Congestion

- ❖ *The travel in congestion is the total daily VMT (in 1000s) on congested facilities ( $V/C > 1.0$ ) in the study area.*

Similar to reducing the levels of severe and moderate congestion, reducing the total travel in congestion in the study area is directly related to the mobility needs for the study area. Figure 10.13 is a comparison of the total daily VMT on congested facilities. The roadway-focused alternatives (freeway and highway/arterial alternatives) show a greater reduction than all transit-focused alternatives (TSM/TDM, BRT, and LRT). The freeway alternatives reduce the greatest amount of travel on congested facilities in the study area between 10 (the F-5 alternative) and 20 percent (the F-2 alternative). The TSM/TDM, BRT, and LRT alternatives result in a slight reduction.

A thorough description of the calculation for the travel congestion is included in Performance Measure Technical Appendix, Section I.

FIGURE 10.13  
Travel in Congestion



## 10.3 Arterial System Performance

The TSM/TDM, BRT, and LRT alternatives provide little relief to the arterials, similar to the No Build alternative. The freeway alternatives draw vehicle trips away from the arterials and onto the freeway system, thereby greatly improving the arterials. The highway/arterial alternatives provide modest improvements to the arterials by adding capacity in defined corridors to provide direct access to the existing freeway system.

### Local Arterial Traffic

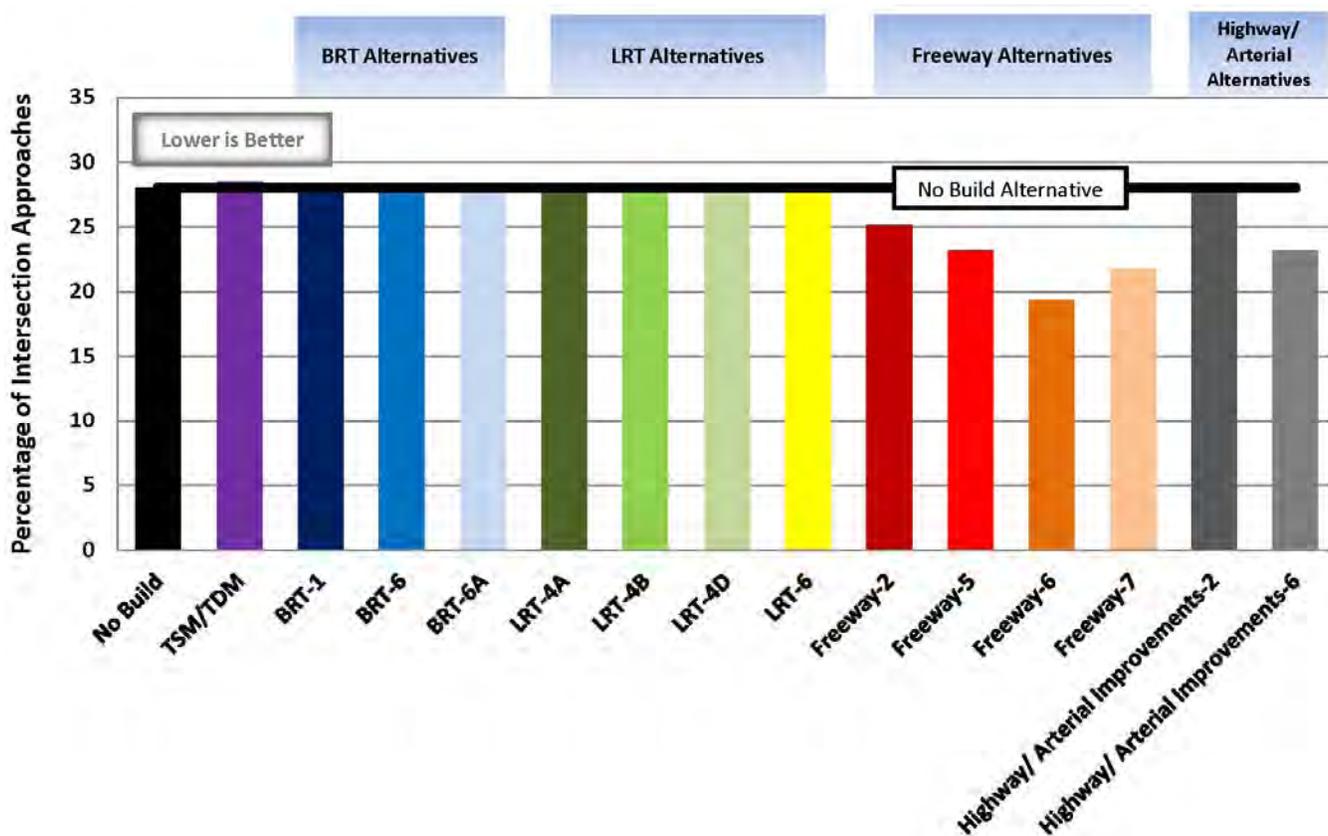
- ❖ *The arterial traffic performance measure is the percentage of intersection approaches that are over capacity.*

The measurement for arterial traffic is the percentage of intersection approaches in the study area that are congested (with a  $V/C$  ratio greater than 1.0) in the AM or PM peak period. Figure 10.14 is a comparison of the

reduction in congested intersection approaches in the study area. The freeway alternatives result in the greatest reduction in the percentage of congested intersection approaches. The H-2 alternative is virtually the same as the No Build alternative, but the H-6 alternative reduces the percentage similar to the freeway alternatives. The reduction in the freeway and highway/arterial alternatives is a result of shifting traffic to the new facilities (locations of increased capacities). The BRT and LRT alternatives do not change the percentage of congested intersection approaches. The TSM/TDM alternative slightly increases the percentage of intersections with congestion in the study area, and this primarily the result of a redistribution of trips in the study area at locations where capacity has been added and intersections have been modified.

A thorough description of the calculation for congested intersection approaches is included in Performance Measure Technical Appendix, Section J.

FIGURE 10.14  
Percentage of Congested Intersection Approaches



**Arterial Congestion**

- ❖ The arterial congestion performance measure is the average of the AM and PM peak period V/C ratios on arterials crossing the east-west screenline.

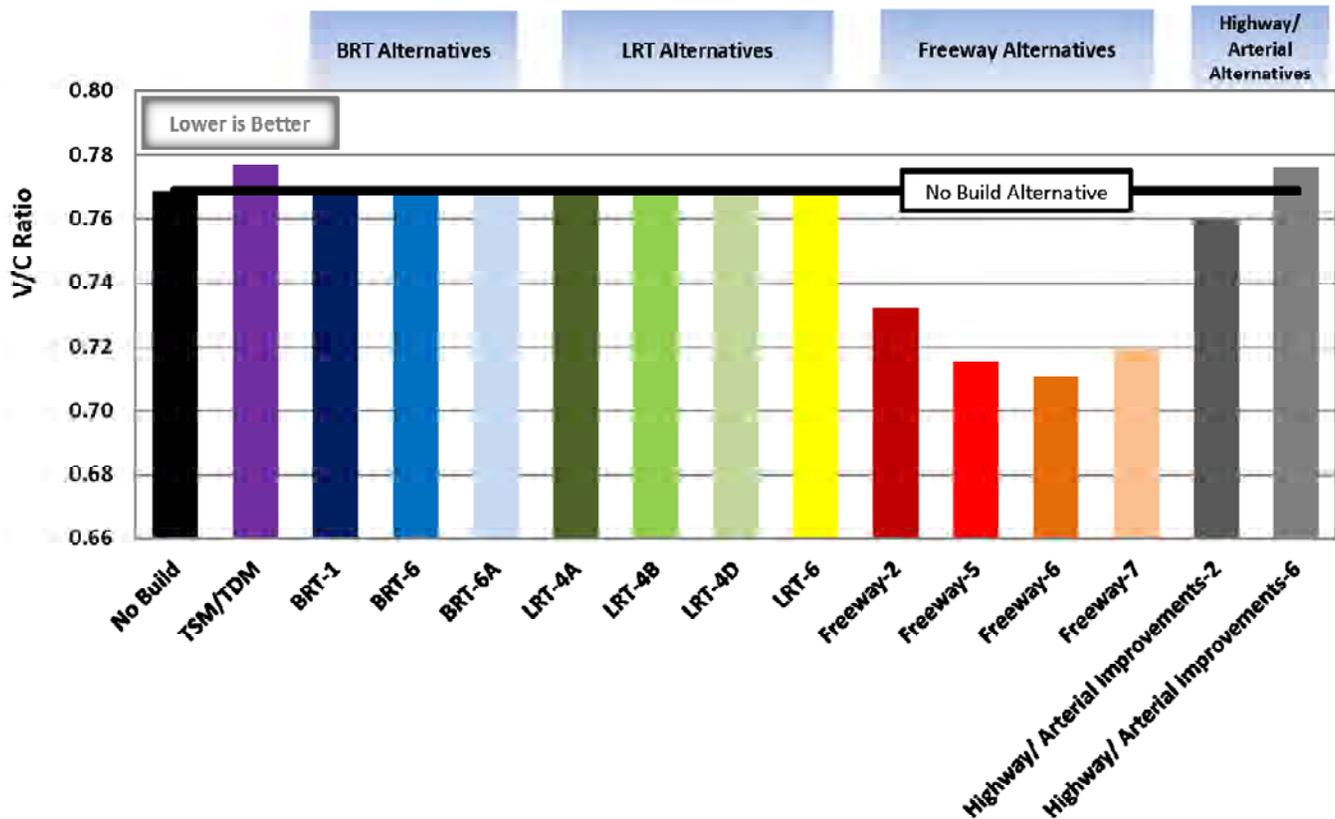
Arterial congestion is calculated as the average V/C ratio on the north-south arterials that cross the screenline, and is reported as the greatest of the AM and PM peak periods. The BRT, LRT, and highway/arterial alternatives all have little to no reduction in arterial congestion in the study area. The freeway alternatives all provide the greatest reduction in arterial congestion.

Figure 10.15 is a comparison of the average V/C ratio on north-south arterials crossing the east-west screenline. The freeway alternatives result in the greatest benefit on the arterial V/C ratios at the screenline, with the F-5, F-6, and F-7 alternatives being the most effective, lowering the V/C ratio by over five percent as compared with the No Build alternative. The H-2 alternative has a moderate reduction in the V/C ratio. The TSM/TDM and H-6 alternatives actually result in a V/C ratio on the screenline worse than the No Build alternative as a result of the

minor arterial improvements that increase the number of vehicles on the arterials at the screenlines. The BRT and LRT alternatives have little to no impact on the V/C ratios at the screenlines.

A thorough description of the calculation for arterial congested is included in Performance Measure Technical Appendix, Section K.

FIGURE 10.15  
Arterial V/C Ratio on the East-West Screenline



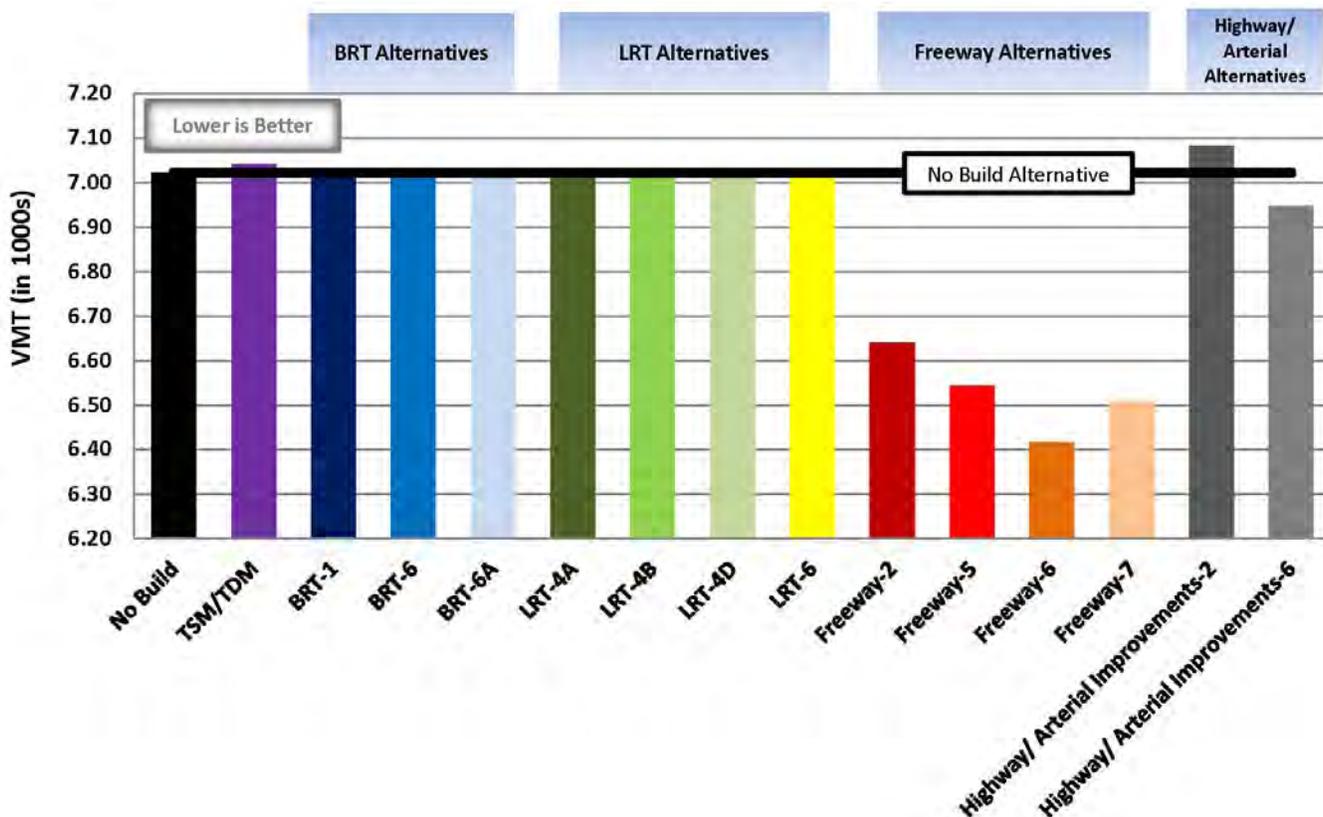
### Traffic Diversion to Local Arterials

- ❖ *The traffic diversion to arterials performance measure is the change in VMT on the arterial system in the study area.*

Traffic diversion onto the arterials is calculated as the total daily arterial VMT in the study area. A reduction in arterial VMT shows a desire for more trips to occur on higher-capacity facilities (freeways), thus opening up the arterial system to less-congested local travel. The performance for the alternatives for reporting the traffic diversion to arterials is nearly identical to the performance for the arterial congestion measure. Figure 10.16 is a comparison of the total daily VMT on arterials in the study area. The BRT, LRT, and highway/arterial alternatives all have little to no reduction in arterial congestion in the study area. The freeway alternatives all provide the greatest reduction in arterial congestion.

A thorough description of the calculation for traffic diversion to arterials is included in Performance Measure Technical Appendix, Section L.

FIGURE 10.16  
VMT on Arterials



**Use of Local Arterials for Long Trips**

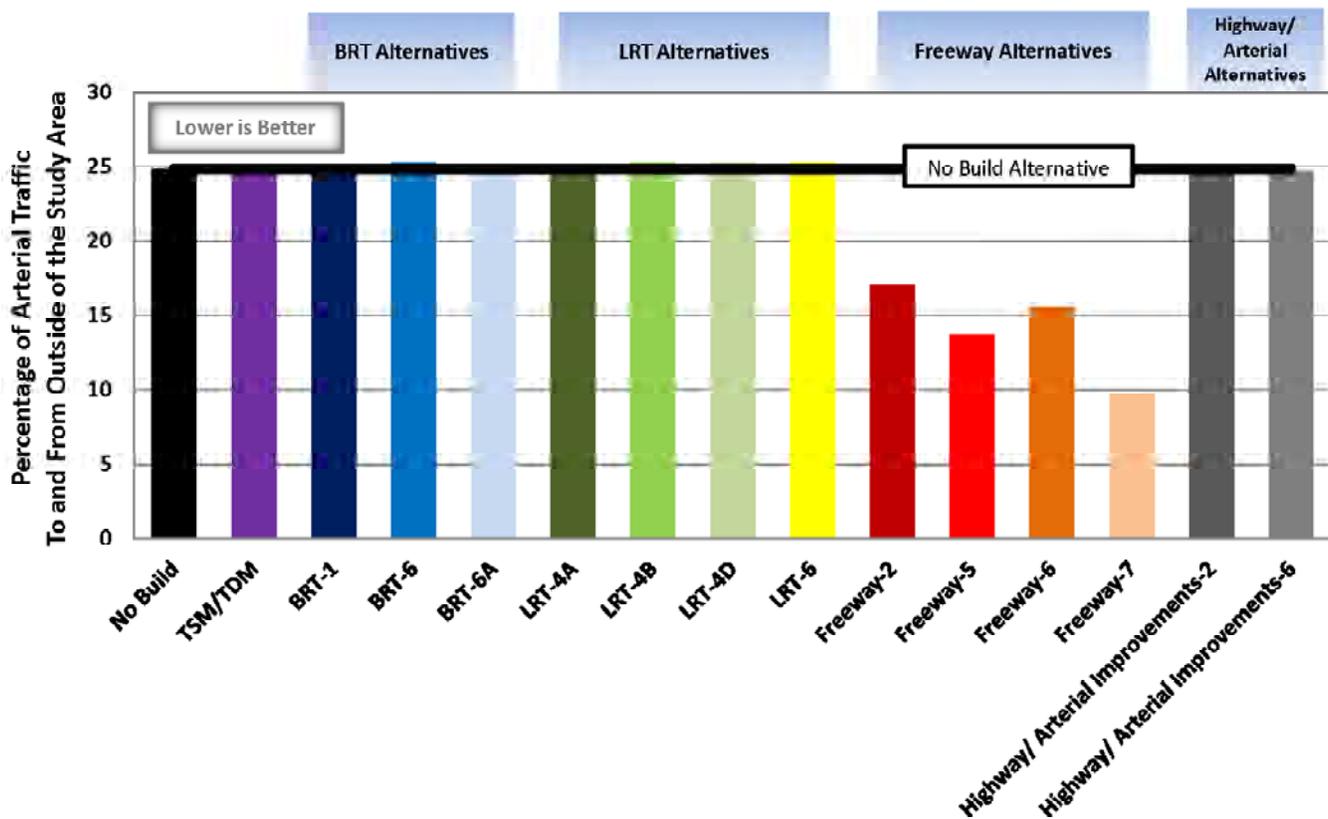
- ❖ *The performance measure for the use of arterials for long trips is the percentage of the study area trips with origins and destinations outside of the study area. This measure is informally called the percentage of cut-through travel.*

The use of the arterials for long trips (meaning trips that begin and end outside of the study area) increases the congestion on the arterial system. Reducing the percentage of the four-hour PM peak period trips on arterials that have origins and destinations outside of the study area will relieve arterial congestion and increase safety in the study area. Figure 10.17 is a comparison of the total percentage of cut-through travel in the study area. The only alternatives that show any change in the percentage of cut-through traffic on the arterial system are the freeway alternatives. The F-7 alternative has the greatest reduction in cut-through travel, reducing the cut-through trips on the arterial system in half (from one out of four trips to one out of ten trips).

A thorough description of the calculation for use of arterial for long trips is included in Performance Measure Technical Appendix, Section M.

FIGURE 10.17

## Percentage of Arterial Traffic to and From Outside of the Study Area

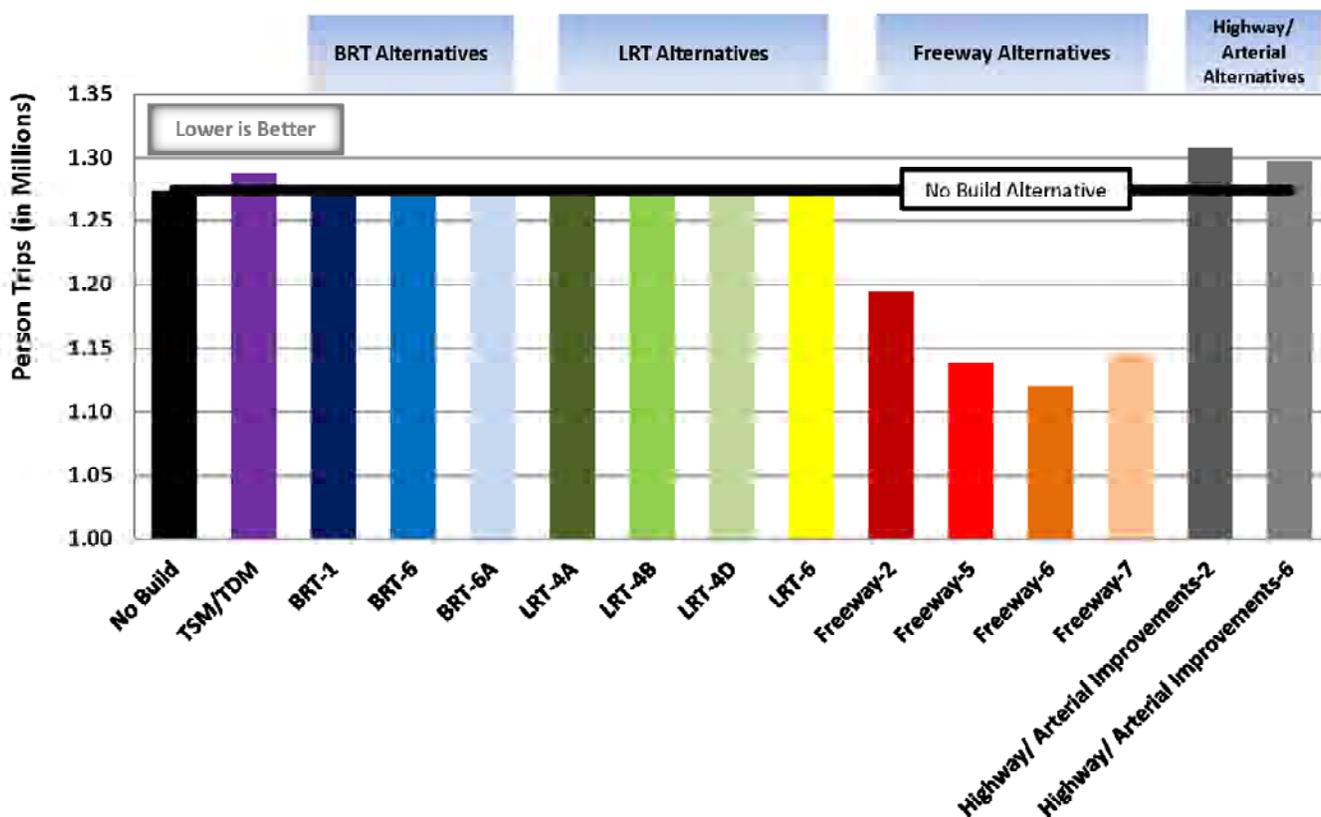
**Daily Person Travel on Arterials**

- ❖ *The daily person travel on arterials performance measure is the total north-south person travel crossing the east-west screenline. Only travel in vehicles is included.*

Daily person travel on the arterials is calculated as the north-south travel served (daily person trips on arterials) crossing the east-west screenline through South Pasadena from US 101 to I-605. Similar to the traffic diversion to arterials, a reduction in daily person travel on arterials shows a shift in travel from the arterial system onto the freeway system. Figure 10.18 is a comparison of the total percentage of cut-through travel in the study area. The BRT and LRT alternatives do not have any change from the No Build alternative. The TSM/TDM and highway/arterial alternatives slightly increase the daily person travel on the arterials, but that is to be expected due to the nature of the arterial improvements for these alternatives. The freeway alternatives result in the greatest reduction in the number of person trips on the arterials in the study area. The reason the freeway alternatives show the greatest reduction is because they shift arterial congestion onto the freeway system.

A thorough description of the calculation for daily person travel on arterials is included in Performance Measure Technical Appendix, Section N.

FIGURE 10.18  
Daily Person Travel on Arterials



## 10.4 Transit Performance

The TSM/TDM alternative increases peak period headways on multiple routes throughout the study area, and increases the transit ridership when compared with the No Build alternative. The BRT and LRT routes are built upon the TSM/TDM transit network, and have an even greater increase in transit ridership than the TSM/TDM alternative. The freeway and highway/arterials alternatives result in negligible change in the transit system performance and ridership in the study area.

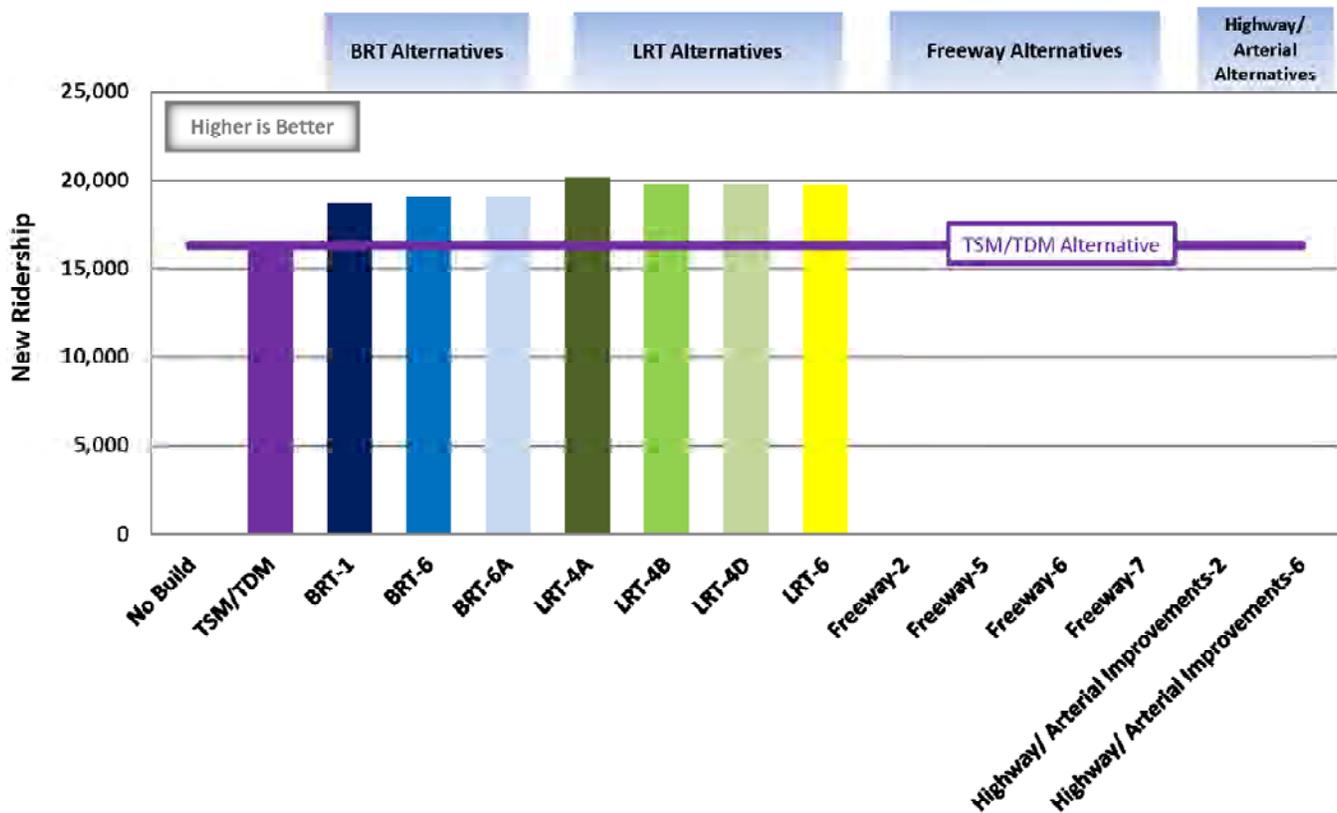
### New Transit Ridership

❖ *The performance measure is the number of new transit riders compared with the No Build alternative.*

Figure 10.19 is a comparison of the new ridership for the TSM/TDM, BRT, and LRT alternatives. Overall, the largest increase in ridership is a result of the TSM/TDM alternative. The BRT and LRT alternatives ridership estimates all include ridership related to the TSM/TDM alternative transit improvements. The BRT alternatives all provide roughly 18,000 new riders, and the LRT alternatives all provide roughly 19,500-20,000 new riders. The freeway and highway/arterial alternatives do not have increases in transit ridership compared with the No Build alternative. The LRT 4-A alternative results in the largest increase, with over 20,000 new riders.

A thorough description of the calculation for new transit ridership is included in Performance Measure Technical Appendix, Section O.

FIGURE 10.19  
New Transit Ridership



### Transit Accessibility

- ❖ *The transit accessibility performance measure is the average percentage of the study area and population that is located within ¼ mile of a transit stop with high frequency service.*

Transit accessibility is measured by the percent of the study area population and employment within ¼ mile of a transit stop with high frequency service. Figure 10.20 is a comparison of the increase in percentage of population and employment with transit accessibility. The TSM/TDM, BRT, and LRT alternatives provide approximately 35 percent transit accessibility compared with 29 percent in the No Build alternative. All of these alternatives increase transit accessibility by 20 to 22 percent. Because the highway and freeway alternatives do not change the transit network, there is no difference in the transit accessibility for those alternatives.

A thorough description of the calculation for transit accessibility is included in Performance Measure Technical Appendix, Section P.

### Transit Mode Split

- ❖ *The transit mode split performance is the percentage of total daily person trips that use transit.*

All of the alternatives show minor variations in transit mode share. Figure 10-21 is a comparison of the transit mode split. The TSM/TDM, BRT, and LRT alternatives show increases in transit share by 4 to 5 percent, and the freeway and highway/arterial alternatives result in negligible change.

A thorough description of the calculation for transit mode split is included in Performance Measure Technical Appendix, Section Q.

FIGURE 10.20  
Transit Accessibility

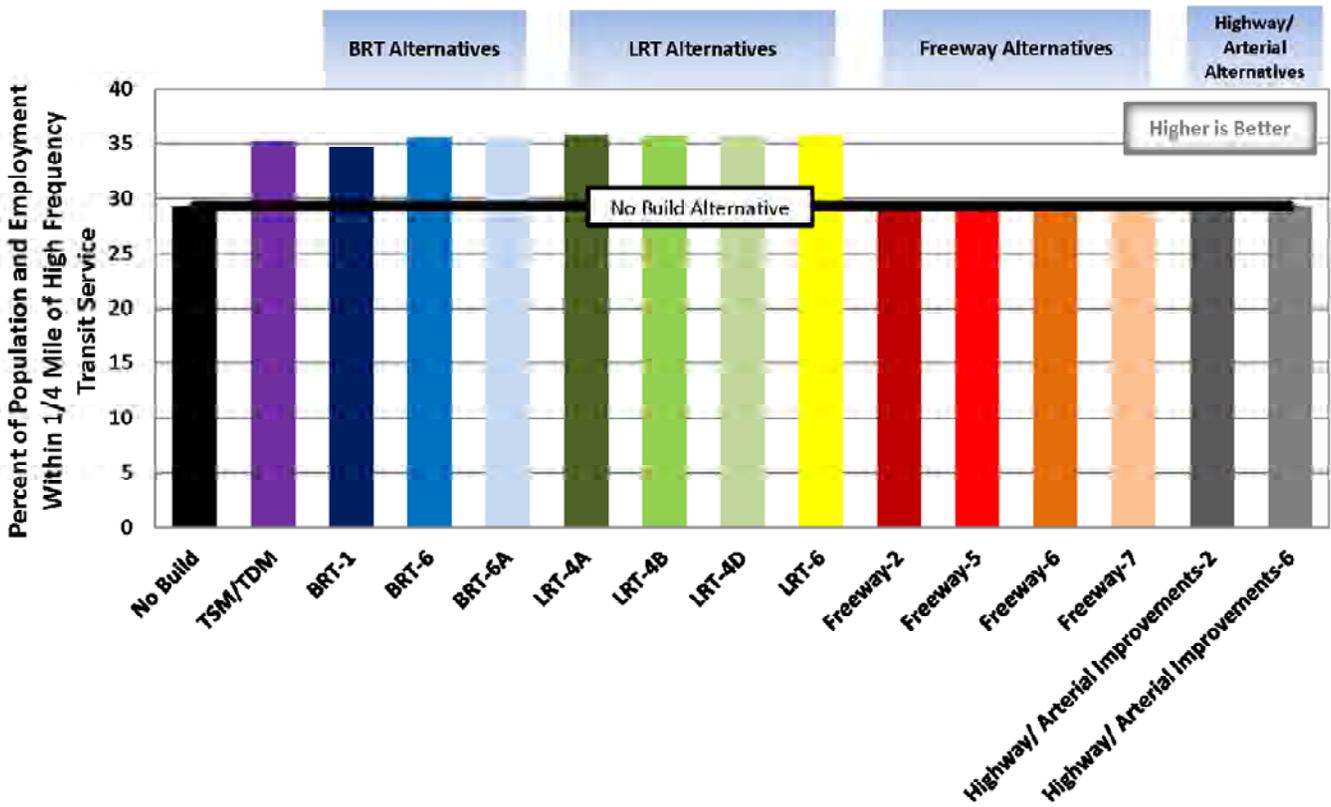
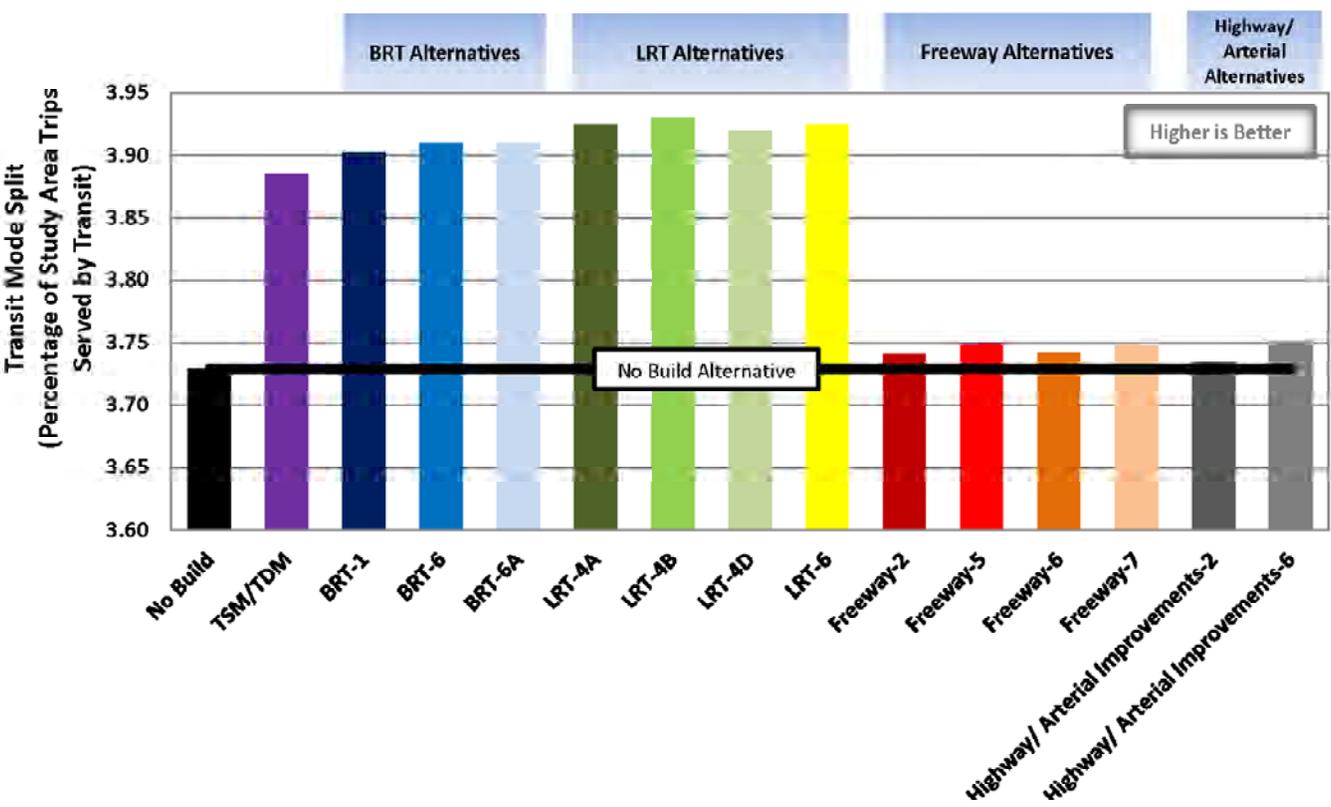


FIGURE 10.21  
Transit Mode Share



## Appendices

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## **Performance Measure Technical Appendix**

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## A. Trip Travel Time

### **Performance Measure Description**

The trip travel time performance measure was developed to compare representative trip travel times between alternatives. This metric averages point-to-point travel times for trips traversing the study area and the region in a variety of directions. Figure A.2 is a map of the regional and study area origin and destination locations used for the trip travel time performance measure. The locations were selected as representative locations throughout the region and study area that may be affected by the project alternatives without being overly representative of one alignment or alternative over another. Each location is represented by a model “centroid” of a Traffic Analysis Zone (TAZ). TAZs represent a geographic area of the model and are described by the geographic area they cover and the socioeconomic characteristics of that area.

The trip travel time performance measure calculation uses raw outputs from the model. Travel times (called skims) from the model were used to capture the peak travel time (in minutes) for regional and study area origin-destination (O-D) pairs for auto and transit modes. The final values for the performance measure were normalized from zero to 100 (slower to faster) to better understand the range of change between the alternatives. The No Build alternative has the longest travel time (thus scoring zero) and the alternative with the shortest travel time scores 100.

Travel time is calculated separately for transit and vehicular travel, resulting in two data points. Separate averages were developed for the region and the study area (one average of the nine regional O-D pairs, and one average of the nine study area O-D pairs). The trip travel time performance measure was reported as the sum of the average regional and average study area trip travel times.

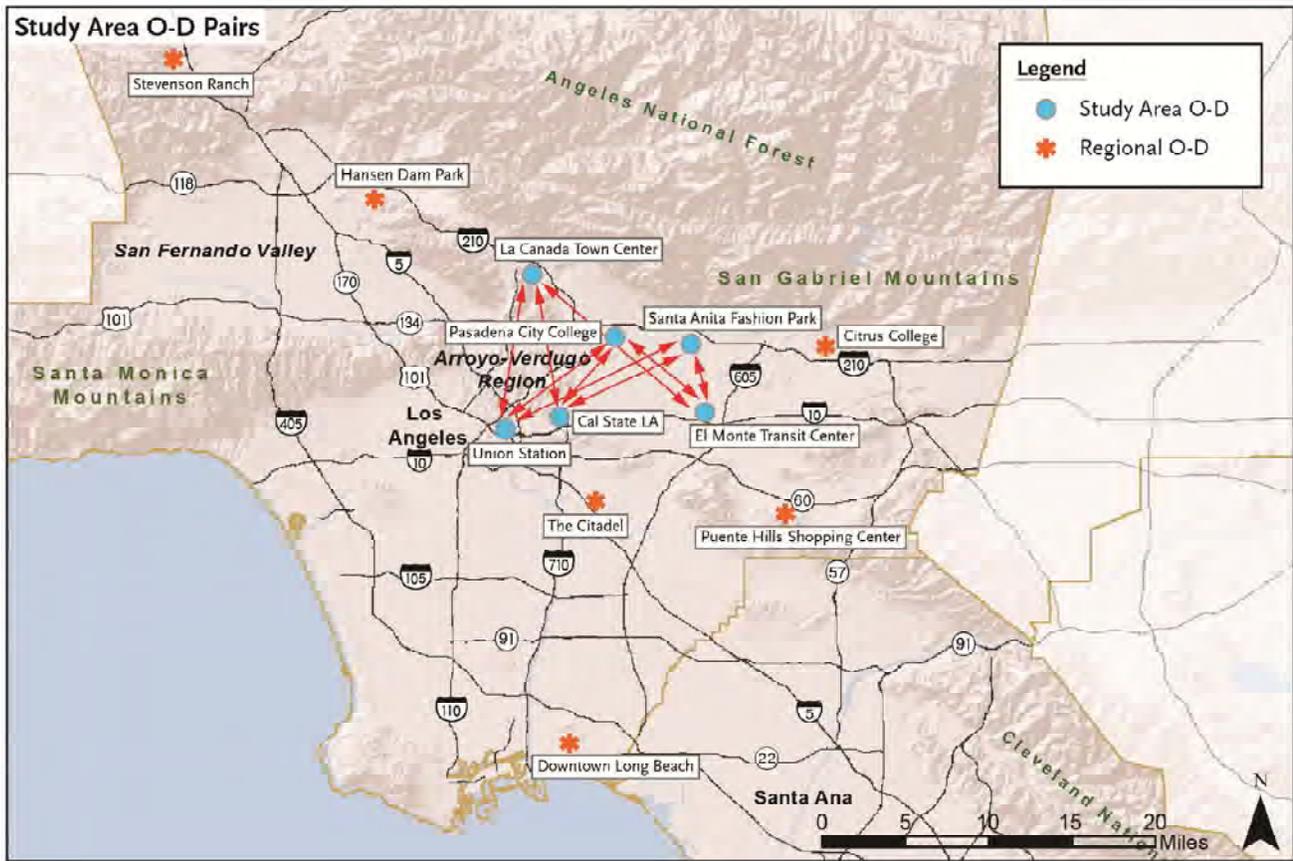
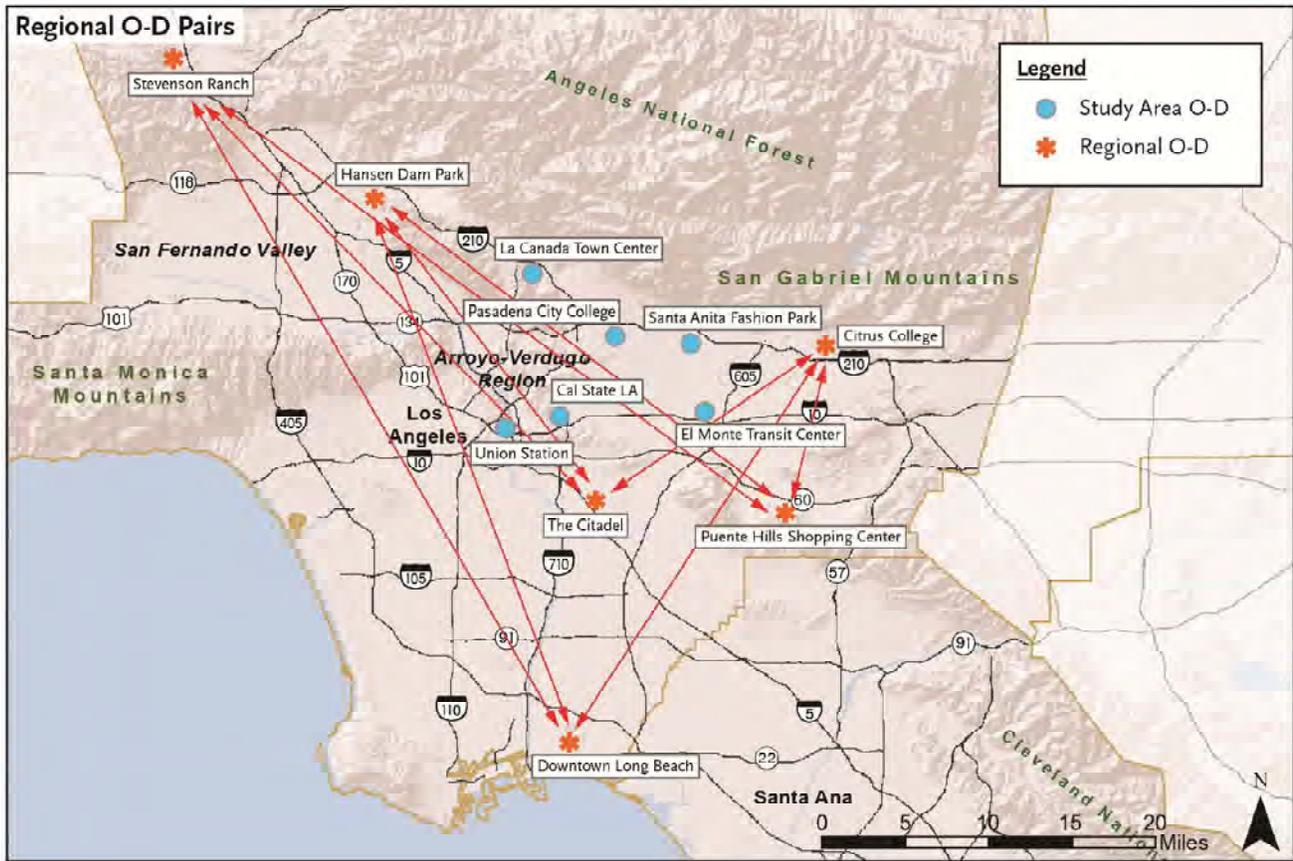
### **Calculation Process**

A four-step process was used to calculate the normalized trip travel times for vehicular and transit travel times between the regional and study area O-D pairs selected for this measure.

**Step 1:** The travel model skims were used directly to obtain the travel time between selected origins and destinations for the forecast trip time (in minutes). The vehicle trip times were obtained for multiple modes (drive alone, shared ride 2, shared ride 3, and transit). The model generates generic peak skims (travel times) between each zone in the entire Southern California Association of Governments (SCAG) region. For this performance measure, the maximum of the two interchanges (from A to B and from B to A) was used to obtain the peak direction travel time between each regional and study area O-D location for each of the three modes.

Tables A.1, A.2, A.3, and A.4 are summaries of the raw model travel time skim values for regional and study area O-D trips for drive alone, shared ride 2, shared ride 3+, and transit travel for the 18 O-D pairs. Although the only values used for the performance measure are the drive alone (Table A.1) and transit (Table A.4) travel times used for the final performance measure values, the supportive data for shared ride trips was collected. There are small differences between shared ride 2 and shared ride 3+ trips, and in general, the shared ride travel times are slightly faster in some locations than the drive alone travel times. This is a result of trips using high-occupancy vehicle (HOV) lanes, which often travel at speeds faster than general purpose lanes during times of congestion.

Figure A.2: Regional and Study Area O-D Locations for Trip Travel Time



**Step 2:** The raw skim values for each mode were averaged together to obtain average regional and average study area travel time. The average regional and study area travel times are listed in Table A.5. Although the drive alone and transit travel times are the only modes used for the final performance measure, the HOV (shared ride 3+) times are shown as a representation of the differences in drive alone and shared ride trips. The model skims show the changes in regional and study area trip travel times for shared ride trips versus drive alone trips. Because differences in travel time skims between drive alone and shared ride trips are similar, only the drive alone trip travel times were used in the performance measure for vehicular travel.

**Step 3:** A combined value for regional and study area trip travel times was used for the final performance measure value used in the normalization. The combined value was calculated by summing the regional and study area average travel times (Table A.5 values) for drive alone and transit trips. Table A.6 summarizes the combined regional and study area drive alone and transit trip times.

**Step 4:** The combined values resulting from step 3 were normalized on a scale from zero to 100 for all 2035 alternatives (meaning that the “Existing” value is shown for representative purposes, and was not used in the normalization process and therefore falls out of the zero to 100 range). The normalization is created by the following formula:

$$TT_{normalized} = 100 - 100 * \left( \frac{TT_i - TT_{min}}{TT_{max} - TT_{min}} \right)$$

### **Performance Measure Values**

Table A.7 summarizes the normalized trip travel times from zero to 100 for all scenarios.

None of the alternatives bring the vehicular travel time back to existing conditions because the best future year travel time is normalized to 100, and the existing value is 260. This means that the existing value is 2.6 times better than the spread between the future alternatives. If the travel time spread between the best alternative and the No Build alternative were larger (either by the No Build alternative having a longer travel time or the best alternative having a shorter travel time), the value of the existing normalized value would be smaller. However, because the existing transit travel times fall in the middle of the range of future alternatives, a more direct relationship between existing and future alternatives can be made.

**Table A.1: Travel Model O-D Drive Alone Peak Travel Times [Year 2035 Model Alternatives] (Minutes)**

Travel Model Evaluation	Performance Measures (Quantitative)	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6	
Average Peak Travel Time (Minutes per Trip) for a set of Drive Alone Trips	Regional Trips																	
	Downtown Long Beach - Stevenson Ranch	103	125	124	123	124	124	123	123	123	123	120	121	122	121	124	124	
	Downtown Long Beach - Hansen Dam Park	88	90	90	90	90	90	90	89	90	90	87	87	88	87	90	89	
	Downtown Long Beach - Citrus College	70	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	
	The Citadel - Stevenson Ranch	75	100	99	98	99	99	98	98	99	98	95	96	97	96	99	99	
	The Citadel - Hansen Dam Park	59	65	64	64	65	65	64	64	64	64	53	61	56	54	65	64	
	The Citadel - Citrus College	44	45	45	45	45	45	45	45	45	45	46	45	45	45	45	45	
	Puente Hills Shopping Center - Stevenson Ranch	93	118	117	116	117	117	117	116	117	116	116	119	120	114	117	118	
	Puente Hills Shopping Center - Hansen Dam Park	74	81	81	81	81	81	81	81	81	81	78	79	79	79	81	80	
	Puente Hills Shopping Center - Citrus College	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	
	Study Area Trips																	
	Union Station - La Canada Town Center	29	32	32	32	32	32	32	32	32	32	32	30	29	30	28	32	31
	Union Station - Pasadena City College	24	26	26	26	26	26	26	26	26	26	26	25	25	24	24	26	26
	Union Station - Santa Anita Fashion Park	31	32	32	32	32	32	32	32	32	32	32	31	31	31	31	32	32
	Cal State LA - La Canada Town Center	27	29	29	29	30	30	29	29	29	29	27	27	22	27	29	28	
	Cal State LA - Pasadena City College	20	21	21	21	21	21	21	21	21	21	21	20	20	17	20	21	21
	Cal State LA - Santa Anita Fashion Park	23	25	25	25	25	25	25	25	25	25	25	25	24	23	24	24	25
	El Monte Transit Center - La Canada Town Center	33	35	35	35	35	35	35	35	35	35	35	33	34	33	33	35	34
	El Monte Transit Center - Pasadena City College	20	21	21	21	21	21	21	21	21	21	21	20	20	20	20	20	20
El Monte Transit Center - Santa Anita Fashion Park	11	12	12	12	12	12	12	12	12	12	12	12	11	11	12	12	12	

**Table A.2: Travel Model O-D Shared Ride 2 Peak Travel Times [Year 2035 Model Alternatives] (Minutes)**

Travel Model Evaluation	Performance Measures (Quantitative)	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6	
Average Peak Travel Time (Minutes per Trip) for a set of Shared Ride 2 Trips	Regional Trips																	
	Downtown Long Beach - Stevenson Ranch	96	121	120	120	121	121	120	120	120	120	119	120	120	120	121	121	
	Downtown Long Beach - Hansen Dam Park	88	90	90	90	90	90	90	89	90	90	87	87	88	87	90	89	
	Downtown Long Beach - Citrus College	63	66	66	66	66	66	66	66	66	66	65	66	65	65	66	66	
	The Citadel - Stevenson Ranch	73	100	98	98	99	99	98	98	98	98	95	96	97	96	99	99	
	The Citadel - Hansen Dam Park	59	65	64	64	65	65	64	64	64	64	53	61	56	54	64	64	
	The Citadel - Citrus College	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	
	Puente Hills Shopping Center - Stevenson Ranch	92	114	112	112	113	113	112	112	112	112	116	116	117	114	113	114	
	Puente Hills Shopping Center - Hansen Dam Park	73	80	80	80	80	80	80	80	80	80	77	78	78	78	80	80	
	Puente Hills Shopping Center - Citrus College	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	
	Study Area Trips																	
	Union Station - La Canada Town Center	29	32	32	32	32	32	32	32	32	32	32	30	29	30	28	32	31
	Union Station - Pasadena City College	24	26	26	26	26	26	26	26	26	26	26	25	25	24	24	26	26
	Union Station - Santa Anita Fashion Park	31	32	32	32	32	32	32	32	32	32	32	31	31	31	31	32	32
	Cal State LA - La Canada Town Center	27	29	29	29	30	30	29	29	29	29	29	27	27	22	27	29	28
	Cal State LA - Pasadena City College	20	21	21	21	21	21	21	21	21	21	21	20	20	17	20	21	21
	Cal State LA - Santa Anita Fashion Park	23	25	25	25	25	25	25	25	25	25	25	25	24	23	24	24	25
	El Monte Transit Center - La Canada Town Center	31	34	34	34	34	34	34	34	34	34	34	32	33	32	32	34	33
	El Monte Transit Center - Pasadena City College	20	21	21	21	21	21	21	21	21	21	21	20	20	20	20	20	20
El Monte Transit Center - Santa Anita Fashion Park	11	12	12	12	12	12	12	12	12	12	12	12	11	11	12	12	12	

**Table A.3: Travel Model O-D Shared Ride 3+ Peak Travel Times [Year 2035 Model Alternatives] (Minutes)**

Travel Model Evaluation	Performance Measures (Quantitative)	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6	
Average Peak Travel Time (Minutes per Trip) for a set of Shared Ride 3 Trips	Regional Trips																	
	Downtown Long Beach - Stevenson Ranch	96	121	120	120	121	121	120	120	120	120	119	120	120	120	121	121	
	Downtown Long Beach - Hansen Dam Park	88	90	90	90	90	90	90	89	90	90	87	87	88	87	90	89	
	Downtown Long Beach - Citrus College	63	66	66	66	66	66	66	66	66	66	65	66	65	65	66	66	
	The Citadel - Stevenson Ranch	73	100	98	98	99	99	98	98	98	98	95	96	97	96	99	99	
	The Citadel - Hansen Dam Park	59	65	64	64	65	65	64	64	64	64	53	61	54	54	64	64	
	The Citadel - Citrus College	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	
	Puente Hills Shopping Center - Stevenson Ranch	92	114	112	112	113	113	112	112	112	112	116	116	114	114	113	114	
	Puente Hills Shopping Center - Hansen Dam Park	73	80	80	80	80	80	80	80	80	80	77	78	78	78	80	80	
	Puente Hills Shopping Center - Citrus College	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	
	Study Area Trips																	
	Union Station - La Canada Town Center	29	32	32	32	32	32	32	32	32	32	32	30	29	27	28	32	31
	Union Station - Pasadena City College	24	26	26	26	26	26	26	26	26	26	26	25	25	24	24	26	26
	Union Station - Santa Anita Fashion Park	31	32	32	32	32	32	32	32	32	32	32	31	31	31	31	32	32
	Cal State LA - La Canada Town Center	27	29	29	29	30	30	29	29	29	29	29	27	27	20	27	29	28
	Cal State LA - Pasadena City College	20	21	21	21	21	21	21	21	21	21	21	20	20	17	20	21	21
	Cal State LA - Santa Anita Fashion Park	23	25	25	25	25	25	25	25	25	25	25	25	24	23	24	24	25
	El Monte Transit Center - La Canada Town Center	31	34	34	34	34	34	34	34	34	34	34	32	33	32	32	34	33
	El Monte Transit Center - Pasadena City College	20	21	21	21	21	21	21	21	21	21	21	20	20	20	20	20	20
El Monte Transit Center - Santa Anita Fashion Park	11	12	12	12	12	12	12	12	12	12	12	12	11	11	12	12	12	

**Table A.4: Travel Model O-D Transit Peak Travel Times [Year 2035 Model Alternatives] (Minutes)**

Travel Model Evaluation	Performance Measures (Quantitative)	Existing	No Build	TSM/TDM	BRT-1	BRT-6	BRT-6A	LRT 4A	LRT-4B	LRT-4D	LRT 6	F 2	F-5	F 6	F-7	H 2	H-6	
Average Peak Travel Time (Minutes per Trip) for a set of Transit Trips	Regional Trips																	
	Downtown Long Beach - Stevenson Ranch	189	191	189	191	191	191	191	191	191	191	191	191	191	191	191	191	191
	Downtown Long Beach - Hansen Dam Park	159	161	159	161	161	161	161	161	161	161	161	161	161	161	161	161	161
	Downtown Long Beach - Citrus College	177	130	177	130	130	130	130	130	130	130	130	130	130	130	130	130	130
	The Citadel - Stevenson Ranch	188	178	188	178	178	178	178	178	178	178	178	178	178	178	178	178	178
	The Citadel - Hansen Dam Park	127	132	127	132	132	132	132	132	132	132	132	127	131	131	131	133	132
	The Citadel - Citrus College	111	122	111	120	113	113	90	91	88	105	122	120	120	119	122	122	122
	Puente Hills Shopping Center - Stevenson Ranch	194	208	194	208	208	208	208	208	208	208	208	208	208	208	208	208	208
	Puente Hills Shopping Center - Hansen Dam Park	143	160	143	160	160	160	160	160	160	160	160	159	159	159	160	160	160
	Puente Hills Shopping Center - Citrus College	85	100	85	97	97	97	97	97	97	97	97	100	99	100	99	100	100
	Study Area Trips																	
	Union Station - La Canada Town Center	95	97	95	85	97	97	97	97	97	97	97	95	96	96	95	97	97
	Union Station - Pasadena City College	61	63	61	60	64	64	64	64	64	64	64	62	61	63	60	64	64
	Union Station - Santa Anita Fashion Park	53	54	53	54	53	53	53	53	53	53	53	53	52	55	52	54	55
	Cal State LA - La Canada Town Center	101	102	101	88	102	102	102	102	102	102	102	100	102	104	102	103	102
	Cal State LA - Pasadena City College	57	60	57	60	60	60	60	60	60	60	60	56	53	55	52	56	56
	Cal State LA - Santa Anita Fashion Park	60	59	60	59	58	58	58	58	58	58	58	58	58	63	58	60	60
	El Monte Transit Center - La Canada Town Center	102	113	102	99	108	108	108	108	108	108	108	111	112	112	112	113	113
	El Monte Transit Center - Pasadena City College	55	61	55	56	56	56	56	56	56	56	56	60	60	60	60	61	61
	El Monte Transit Center - Santa Anita Fashion Park	45	44	45	39	38	38	38	38	38	38	38	44	43	44	43	44	44

**Table A.5: Average Travel Model Regional and Study Area Travel Model Skim Times [Year 2035 Model Alternatives] (Minutes)**

Travel Model Evaluation	Performance Measures (Quantitative)	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6	
Average Peak Travel Time (Minutes)	Regional Trips																	
	Drive Alone	70.3	80.4	80.0	79.9	80.1	80.1	79.9	79.8	79.9	79.8	77.2	78.7	78.7	77.4	80.2	80.1	
	HOV	68.2	78.5	78.0	77.9	78.2	78.2	78.0	77.8	78.0	77.9	75.9	77.4	76.3	76.1	78.3	78.3	
	Transit	152.4	153.6	153.1	153.1	152.3	152.3	149.7	150.0	149.7	151.5	152.9	153.1	153.1	153.1	153.6	153.5	
	Study Area Trips																	
	Drive Alone	24.3	25.7	25.7	25.7	25.7	25.7	25.7	25.7	25.7	25.7	25.7	24.8	24.6	23.5	24.3	25.6	25.6
	HOV	24.1	25.6	25.6	25.5	25.6	25.6	25.6	25.6	25.5	25.6	25.6	24.7	24.5	23.0	24.2	25.5	25.4
	Transit	69.7	72.6	70.4	66.5	70.4	70.4	70.4	70.3	70.3	70.4	70.9	70.7	72.3	70.5	72.4	72.4	

**Table A.6: Combined Regional and Study Area Vehicular and Transit Trip Travel Times**

Screen Level 2: Performance Measure	Travel Mode	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6
Point-to-point travel times (in minutes) for regional and study area O-D pairs. Values shown represent the sum of regional and study area average peak travel times.	Drive Alone	94.6	106.1	105.7	105.5	105.8	105.8	105.6	105.5	105.6	105.5	102.0	103.3	102.2	101.7	105.8	105.7
	Transit	222.1	226.1	223.5	219.6	222.7	222.7	220.1	220.3	220.0	221.8	223.9	223.7	225.5	223.6	226.0	225.9

**Table A.7: Normalized Vehicular and Transit Trip Travel Times**

Screen Level 2: Performance Measure	Travel Mode	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6
Normalized point-to-point travel times (in minutes) for regional and study area O-D pairs. Values shown represent the sum of regional and study area average peak travel times.	Drive Alone	260	0	11	14	7	7	13	15	13	14	92	63	88	100	8	11
	Transit	62	0	41	100	52	52	93	90	95	66	35	37	10	39	2	4

## B. Total Vehicular Travel Time

### **Performance Measure Description**

The total travel time performance measure was developed to quantify and compare the reduction in total travel time for each alternative by calculating the reduction in peak vehicle hours of travel (VHT) for all vehicular (automobile and truck) trips in the region.

### **Calculation Process**

The calculation for VHT in the region is completed using outputs from the model. The freeway-based alternatives (No Build, Freeway, and Highway/Arterial alternatives) were evaluated using a different method than the transit-based alternatives (Transportation System Management/Travel Demand Management [TSM/TDM], Bus Rapid Transit [BRT], and Light Rail Transit [LRT] alternatives) because the SCAG highway model does not provide enough sensitivity toward transit modeling. As a result of this constraint, the alternate method of calculation for transit-based alternatives was developed. The methods for calculating the VHT impacts for the highway-based and transit-based alternatives are described below.

### ***Highway-Based Alternatives Calculation***

The total VHT in the region is calculated separately for the AM (6:00 to 9:00) and PM (3:00 to 7:00) peak period trips, and then summed together to create one value for regional peak VHT. For this evaluation measure, the reported data are the change in travel time (reported in 1,000s) from the No Build alternative (the value for the No Build alternative is zero).

**Step 1:** Raw link volumes and travel times were used to calculate the VHT for all alternatives. This calculation was completed for each time period and for the SCAG region, LA County, and the study area.

**Step 2:** The resulting VHT from Step 1 was segregated into functional classification by time of day. Tables B.1 through B.15 summarize the VHT and vehicle hours per day (VHD) by functional classification by time of day for each of the alternatives analyzed, including the 2008 existing conditions. Tables B.3 through B.9 are the highway model results for the transit-based alternatives, but the values in the tables were not used directly for this measure. The performance measures for the transit-based alternatives were developed with a post-processing analysis, described after the tables.

**Table B.1: 2008 VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R08a3_PFA1 : Region							SR710GAP 08R08a3_PFA1 : Region						
Total Vehicle Hours Traveled (VHT) by Facility Classification							Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification						
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily		Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	
Freeway	899,341	1,389,062	1,267,311	742,796	4,298,510		Freeway	39.7%	39.1%	39.5%	47.4%	40.6%	
HOV	62,349	85,221	92,190	26,900	266,659		HOV	2.8%	2.4%	2.9%	1.7%	2.5%	
Expressway/Parkway	13,873	20,847	16,275	11,613	62,608		Expressway/Parkway	0.6%	0.6%	0.5%	0.7%	0.6%	
Principal Arterial	619,914	988,776	888,020	386,302	2,883,013		Principal Arterial	27.4%	27.8%	27.7%	24.6%	27.2%	
Minor Arterial	411,297	677,567	589,948	230,752	1,909,563		Minor Arterial	18.1%	19.1%	18.4%	14.7%	18.0%	
Major Collector	97,173	149,621	132,795	52,525	432,114		Major Collector	4.3%	4.2%	4.1%	3.4%	4.1%	
Minor Collector	10,244	17,087	14,582	5,935	47,849		Minor Collector	0.5%	0.5%	0.5%	0.4%	0.5%	
Ramp	152,119	225,611	208,636	110,983	697,349		Ramp	6.7%	6.3%	6.5%	7.1%	6.6%	
Trucks Only	0	0	0	0	0		Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%	
<b>Total</b>	<b>2,266,309</b>	<b>3,553,791</b>	<b>3,209,758</b>	<b>1,567,806</b>	<b>10,597,665</b>		<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	

SR710GAP 08R08a3_PFA1 : Region							SR710GAP 08R08a3_PFA1 : Region						
Total Vehicle Hours of Delay (VHD) by Facility Classification							Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification						
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily		Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	
Freeway	326,159	398,225	463,916	66,095	1,254,395		Freeway	48.3%	48.5%	48.2%	55.9%	48.7%	
HOV	20,985	21,208	31,832	2,138	76,163		HOV	3.1%	2.6%	3.3%	1.8%	3.0%	
Expressway/Parkway	3,510	4,563	3,837	1,090	13,001		Expressway/Parkway	0.5%	0.6%	0.4%	0.9%	0.5%	
Principal Arterial	166,956	202,762	243,006	23,613	636,338		Principal Arterial	24.7%	24.7%	25.3%	20.0%	24.7%	
Minor Arterial	69,819	90,540	101,304	8,185	269,848		Minor Arterial	10.3%	11.0%	10.5%	6.9%	10.5%	
Major Collector	13,279	14,592	16,980	1,376	46,227		Major Collector	2.0%	1.8%	1.8%	1.2%	1.8%	
Minor Collector	1,335	1,812	1,905	175	5,227		Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%	
Ramp	72,609	86,782	99,055	15,631	274,077		Ramp	10.8%	10.6%	10.3%	13.2%	10.6%	
Trucks Only	0	0	0	0	0		Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%	
<b>Total</b>	<b>674,652</b>	<b>820,484</b>	<b>961,836</b>	<b>118,303</b>	<b>2,575,276</b>		<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	

**Table B.2: 2035 No Build Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_NB_PFA1 : Region							SR710GAP 08R35a3_NB_PFA1 : Region						
Total Vehicle Hours Traveled (VHT) by Facility Classification							Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification						
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily		Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	
Freeway	1,271,639	1,851,544	1,799,416	966,237	5,888,837		Freeway	37.3%	36.6%	36.9%	45.1%	38.0%	
HOV	120,505	198,210	182,914	84,036	585,665		HOV	3.5%	3.9%	3.7%	3.9%	3.8%	
Expressway/Parkway	30,004	62,434	55,247	29,506	177,190		Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.1%	
Principal Arterial	852,826	1,284,256	1,217,795	487,379	3,842,257		Principal Arterial	25.0%	25.4%	24.9%	22.8%	24.8%	
Minor Arterial	639,481	1,014,886	949,645	334,988	2,939,000		Minor Arterial	18.8%	20.1%	19.4%	15.6%	19.0%	
Major Collector	244,677	315,157	336,671	90,678	987,183		Major Collector	7.2%	6.2%	6.9%	4.2%	6.4%	
Minor Collector	20,299	31,117	30,607	9,818	91,841		Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%	
Ramp	224,460	289,279	303,313	136,477	953,529		Ramp	6.6%	5.7%	6.2%	6.4%	6.2%	
Trucks Only	5,075	7,359	7,253	2,527	22,214		Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%	
<b>Total</b>	<b>3,408,966</b>	<b>5,054,241</b>	<b>4,882,862</b>	<b>2,141,646</b>	<b>15,487,715</b>		<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	

SR710GAP 08R35a3_NB_PFA1 : Region							SR710GAP 08R35a3_NB_PFA1 : Region						
Total Vehicle Hours of Delay (VHD) by Facility Classification							Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification						
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily		Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	
Freeway	587,343	635,044	820,950	101,073	2,144,410		Freeway	43.9%	44.0%	43.4%	51.0%	44.0%	
HOV	51,485	70,510	83,326	8,774	214,095		HOV	3.8%	4.9%	4.4%	4.4%	4.4%	
Expressway/Parkway	11,288	20,142	22,775	4,091	58,297		Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%	
Principal Arterial	311,182	333,683	434,907	39,478	1,119,251		Principal Arterial	23.2%	23.1%	23.0%	19.9%	23.0%	
Minor Arterial	167,782	194,597	255,343	17,907	635,630		Minor Arterial	12.5%	13.5%	13.5%	9.0%	13.1%	
Major Collector	71,907	56,031	88,315	3,871	220,123		Major Collector	5.4%	3.9%	4.7%	2.0%	4.5%	
Minor Collector	3,510	3,937	5,004	403	12,854		Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%	
Ramp	132,905	128,100	177,389	22,540	460,934		Ramp	9.9%	8.9%	9.4%	11.4%	9.5%	
Trucks Only	1,375	1,481	2,036	100	4,993		Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%	
<b>Total</b>	<b>1,338,778</b>	<b>1,443,524</b>	<b>1,890,046</b>	<b>198,237</b>	<b>4,870,586</b>		<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	

**Table B.3: 2035 TSM/TDM Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_NB_TSMTDM : Region						SR710GAP 08R35a3_NB_TSMTDM : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,268,326	1,851,247	1,796,476	965,341	5,881,390	Freeway	37.3%	36.6%	36.9%	45.1%	38.0%
HOV	120,000	198,169	182,233	84,549	584,951	HOV	3.5%	3.9%	3.7%	3.9%	3.8%
Expressway/Parkway	29,937	62,389	55,257	29,497	177,079	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.1%
Principal Arterial	851,437	1,283,586	1,215,193	488,004	3,838,220	Principal Arterial	25.0%	25.4%	24.9%	22.8%	24.8%
Minor Arterial	638,836	1,015,062	948,055	334,494	2,936,447	Minor Arterial	18.8%	20.1%	19.5%	15.6%	19.0%
Major Collector	242,601	314,722	334,943	90,356	982,622	Major Collector	7.1%	6.2%	6.9%	4.2%	6.4%
Minor Collector	20,250	31,133	30,594	9,800	91,778	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	223,773	289,468	302,845	136,654	952,740	Ramp	6.6%	5.7%	6.2%	6.4%	6.2%
Trucks Only	5,073	7,365	7,259	2,526	22,223	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>3,400,234</b>	<b>5,053,140</b>	<b>4,872,858</b>	<b>2,141,221</b>	<b>15,467,453</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_NB_TSMTDM : Region						SR710GAP 08R35a3_NB_TSMTDM : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	584,299	634,915	818,203	100,768	2,138,185	Freeway	43.8%	44.0%	43.5%	50.8%	44.0%
HOV	51,028	70,517	82,725	8,811	213,081	HOV	3.8%	4.9%	4.4%	4.4%	4.4%
Expressway/Parkway	11,228	20,107	22,782	4,088	58,205	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	310,411	333,150	433,221	39,787	1,116,569	Principal Arterial	23.3%	23.1%	23.0%	20.1%	23.0%
Minor Arterial	167,560	194,735	254,399	17,839	634,534	Minor Arterial	12.6%	13.5%	13.5%	9.0%	13.1%
Major Collector	70,857	55,852	87,512	3,836	218,057	Major Collector	5.3%	3.9%	4.6%	1.9%	4.5%
Minor Collector	3,503	3,937	5,000	396	12,835	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	132,246	128,326	176,947	22,744	460,263	Ramp	9.9%	8.9%	9.4%	11.5%	9.5%
Trucks Only	1,374	1,484	2,042	100	5,000	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>1,332,506</b>	<b>1,443,024</b>	<b>1,882,830</b>	<b>198,369</b>	<b>4,856,729</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table B.4: 2035 BRT-1 Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_BRT1 : Region						SR710GAP 08R35a3_BRT1 : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,268,786	1,850,706	1,796,181	965,773	5,881,447	Freeway	37.3%	36.6%	36.9%	45.1%	38.0%
HOV	119,964	199,164	182,483	84,188	585,798	HOV	3.5%	3.9%	3.7%	3.9%	3.8%
Expressway/Parkway	29,979	62,474	55,212	29,502	177,167	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.1%
Principal Arterial	850,545	1,283,439	1,216,127	487,930	3,838,040	Principal Arterial	25.0%	25.4%	25.0%	22.8%	24.8%
Minor Arterial	638,194	1,014,565	948,047	334,577	2,935,382	Minor Arterial	18.8%	20.1%	19.5%	15.6%	19.0%
Major Collector	242,839	315,193	334,859	90,348	983,239	Major Collector	7.1%	6.2%	6.9%	4.2%	6.4%
Minor Collector	20,252	31,129	30,609	9,824	91,813	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	224,437	288,843	302,443	136,355	952,078	Ramp	6.6%	5.7%	6.2%	6.4%	6.2%
Trucks Only	5,077	7,359	7,248	2,514	22,198	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>3,400,073</b>	<b>5,052,871</b>	<b>4,873,209</b>	<b>2,141,012</b>	<b>15,467,164</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_BRT1 : Region						SR710GAP 08R35a3_BRT1 : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	584,628	634,500	817,920	100,826	2,137,873	Freeway	43.9%	44.0%	43.4%	50.9%	44.0%
HOV	50,992	71,191	82,955	8,701	213,839	HOV	3.8%	4.9%	4.4%	4.4%	4.4%
Expressway/Parkway	11,267	20,179	22,741	4,089	58,276	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	309,583	333,013	433,981	39,746	1,116,322	Principal Arterial	23.2%	23.1%	23.0%	20.1%	23.0%
Minor Arterial	166,977	194,309	254,399	17,845	633,530	Minor Arterial	12.5%	13.5%	13.5%	9.0%	13.0%
Major Collector	71,136	56,121	87,435	3,832	218,524	Major Collector	5.3%	3.9%	4.6%	1.9%	4.5%
Minor Collector	3,503	3,926	5,000	400	12,829	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	132,926	127,729	176,546	22,438	459,638	Ramp	10.0%	8.9%	9.4%	11.3%	9.5%
Trucks Only	1,377	1,481	2,034	100	4,991	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>1,332,389</b>	<b>1,442,447</b>	<b>1,883,011</b>	<b>197,975</b>	<b>4,855,822</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table B.5: 2035 BRT-6 Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_BRT6 : Region						SR710GAP 08R35a3_BRT6 : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,268,701	1,851,216	1,796,182	965,880	5,881,979	Freeway	37.3%	36.6%	36.9%	45.1%	38.0%
HOV	120,026	198,975	182,188	84,166	585,355	HOV	3.5%	3.9%	3.7%	3.9%	3.8%
Expressway/Parkway	29,950	62,339	55,256	29,506	177,051	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.1%
Principal Arterial	851,521	1,283,088	1,215,311	488,188	3,838,108	Principal Arterial	25.0%	25.4%	24.9%	22.8%	24.8%
Minor Arterial	638,011	1,014,945	948,071	334,361	2,935,388	Minor Arterial	18.8%	20.1%	19.5%	15.6%	19.0%
Major Collector	242,864	315,030	335,054	90,264	983,212	Major Collector	7.1%	6.2%	6.9%	4.2%	6.4%
Minor Collector	20,250	31,128	30,651	9,864	91,893	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	224,024	288,812	302,908	136,605	952,348	Ramp	6.6%	5.7%	6.2%	6.4%	6.2%
Trucks Only	5,073	7,358	7,248	2,531	22,210	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>3,400,421</b>	<b>5,052,892</b>	<b>4,872,868</b>	<b>2,141,364</b>	<b>15,467,545</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_BRT6 : Region						SR710GAP 08R35a3_BRT6 : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	584,573	634,964	817,929	100,899	2,138,365	Freeway	43.9%	44.0%	43.4%	50.8%	44.0%
HOV	51,062	71,051	82,680	8,747	213,540	HOV	3.8%	4.9%	4.4%	4.4%	4.4%
Expressway/Parkway	11,240	20,065	22,782	4,089	58,175	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	310,448	332,866	433,278	39,898	1,116,490	Principal Arterial	23.3%	23.1%	23.0%	20.1%	23.0%
Minor Arterial	166,745	194,582	254,407	17,818	633,553	Minor Arterial	12.5%	13.5%	13.5%	9.0%	13.0%
Major Collector	71,094	55,986	87,601	3,825	218,507	Major Collector	5.3%	3.9%	4.7%	1.9%	4.5%
Minor Collector	3,501	3,939	5,012	397	12,849	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	132,512	127,695	177,002	22,698	459,907	Ramp	9.9%	8.9%	9.4%	11.4%	9.5%
Trucks Only	1,375	1,482	2,034	101	4,991	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>1,332,550</b>	<b>1,442,630</b>	<b>1,882,726</b>	<b>198,471</b>	<b>4,856,377</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table B.6: 2035 LRT-4A Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_LRT4A : Region						SR710GAP 08R35a3_LRT4A : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,268,234	1,851,517	1,797,118	965,606	5,882,475	Freeway	37.3%	36.6%	36.9%	45.1%	38.0%
HOV	120,050	198,141	182,369	84,246	584,806	HOV	3.5%	3.9%	3.7%	3.9%	3.8%
Expressway/Parkway	29,961	62,396	55,261	29,494	177,112	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.1%
Principal Arterial	850,919	1,283,015	1,214,663	488,002	3,836,599	Principal Arterial	25.0%	25.4%	24.9%	22.8%	24.8%
Minor Arterial	638,569	1,015,175	948,263	334,512	2,936,520	Minor Arterial	18.8%	20.1%	19.5%	15.6%	19.0%
Major Collector	242,563	314,802	334,503	90,345	982,213	Major Collector	7.1%	6.2%	6.9%	4.2%	6.4%
Minor Collector	20,228	31,149	30,586	9,821	91,783	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	224,091	289,181	303,024	136,513	952,809	Ramp	6.6%	5.7%	6.2%	6.4%	6.2%
Trucks Only	5,074	7,379	7,244	2,536	22,233	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>3,399,689</b>	<b>5,052,754</b>	<b>4,873,030</b>	<b>2,141,075</b>	<b>15,466,549</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4A : Region						SR710GAP 08R35a3_LRT4A : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	584,179	635,186	818,831	100,822	2,139,018	Freeway	43.9%	44.0%	43.5%	50.9%	44.0%
HOV	51,081	70,436	82,845	8,742	213,105	HOV	3.8%	4.9%	4.4%	4.4%	4.4%
Expressway/Parkway	11,249	20,112	22,782	4,086	58,229	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	309,944	332,742	432,657	39,793	1,115,136	Principal Arterial	23.3%	23.1%	23.0%	20.1%	23.0%
Minor Arterial	167,283	194,790	254,565	17,841	634,478	Minor Arterial	12.6%	13.5%	13.5%	9.0%	13.1%
Major Collector	70,902	55,920	87,272	3,834	217,928	Major Collector	5.3%	3.9%	4.6%	1.9%	4.5%
Minor Collector	3,495	3,946	4,992	398	12,830	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	132,580	128,092	177,136	22,612	460,422	Ramp	10.0%	8.9%	9.4%	11.4%	9.5%
Trucks Only	1,375	1,489	2,031	102	4,998	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>1,332,088</b>	<b>1,442,713</b>	<b>1,883,113</b>	<b>198,231</b>	<b>4,856,144</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table B.7: 2035 LRT-4B Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_LRT4B : Region						SR710GAP 08R35a3_LRT4B : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,268,977	1,851,660	1,797,167	965,390	5,883,193	Freeway	37.3%	36.6%	36.9%	45.1%	38.0%
HOV	120,044	198,617	182,474	84,557	585,692	HOV	3.5%	3.9%	3.7%	3.9%	3.8%
Expressway/Parkway	29,979	62,421	55,238	29,504	177,143	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.1%
Principal Arterial	850,651	1,283,142	1,214,642	488,081	3,836,516	Principal Arterial	25.0%	25.4%	24.9%	22.8%	24.8%
Minor Arterial	638,528	1,014,912	947,951	334,467	2,935,858	Minor Arterial	18.8%	20.1%	19.5%	15.6%	19.0%
Major Collector	242,971	315,086	334,763	90,341	983,161	Major Collector	7.1%	6.2%	6.9%	4.2%	6.4%
Minor Collector	20,233	31,123	30,644	9,838	91,838	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	224,137	289,467	303,280	136,622	953,506	Ramp	6.6%	5.7%	6.2%	6.4%	6.2%
Trucks Only	5,073	7,362	7,240	2,504	22,179	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>3,400,594</b>	<b>5,053,789</b>	<b>4,873,399</b>	<b>2,141,304</b>	<b>15,469,087</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4B : Region						SR710GAP 08R35a3_LRT4B : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	584,841	635,276	818,798	100,679	2,139,594	Freeway	43.9%	44.0%	43.5%	50.8%	44.0%
HOV	51,069	70,730	82,936	8,858	213,592	HOV	3.8%	4.9%	4.4%	4.5%	4.4%
Expressway/Parkway	11,267	20,139	22,764	4,089	58,259	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	309,640	332,764	432,524	39,819	1,114,746	Principal Arterial	23.2%	23.1%	23.0%	20.1%	22.9%
Minor Arterial	167,259	194,626	254,225	17,826	633,936	Minor Arterial	12.5%	13.5%	13.5%	9.0%	13.1%
Major Collector	71,188	56,058	87,397	3,838	218,482	Major Collector	5.3%	3.9%	4.6%	1.9%	4.5%
Minor Collector	3,496	3,931	5,003	399	12,828	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	132,628	128,350	177,384	22,703	461,066	Ramp	10.0%	8.9%	9.4%	11.4%	9.5%
Trucks Only	1,375	1,484	2,029	97	4,985	Trucks Only	0.1%	0.1%	0.1%	0.0%	0.1%
<b>Total</b>	<b>1,332,763</b>	<b>1,443,357</b>	<b>1,883,060</b>	<b>198,308</b>	<b>4,857,487</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table B.8: 2035 LRT-4D Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_LRT4D : Region						SR710GAP 08R35a3_LRT4D : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,268,603	1,850,229	1,797,241	965,401	5,881,474	Freeway	37.3%	36.6%	36.9%	45.1%	38.0%
HOV	120,107	198,543	182,352	84,470	585,472	HOV	3.5%	3.9%	3.7%	3.9%	3.8%
Expressway/Parkway	29,989	62,398	55,214	29,496	177,098	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.1%
Principal Arterial	851,625	1,283,235	1,215,147	488,037	3,838,043	Principal Arterial	25.0%	25.4%	24.9%	22.8%	24.8%
Minor Arterial	638,461	1,015,004	948,093	334,501	2,936,059	Minor Arterial	18.8%	20.1%	19.5%	15.6%	19.0%
Major Collector	242,625	315,041	334,519	90,366	982,550	Major Collector	7.1%	6.2%	6.9%	4.2%	6.4%
Minor Collector	20,248	31,123	30,632	9,810	91,813	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	223,643	289,129	302,786	136,558	952,116	Ramp	6.6%	5.7%	6.2%	6.4%	6.2%
Trucks Only	5,071	7,361	7,242	2,534	22,208	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>3,400,373</b>	<b>5,052,062</b>	<b>4,873,225</b>	<b>2,141,172</b>	<b>15,466,833</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4D : Region						SR710GAP 08R35a3_LRT4D : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	584,510	634,050	818,852	100,765	2,138,176	Freeway	43.9%	44.0%	43.5%	50.8%	44.0%
HOV	51,131	70,734	82,843	8,803	213,511	HOV	3.8%	4.9%	4.4%	4.5%	4.4%
Expressway/Parkway	11,277	20,120	22,747	4,088	58,232	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	310,549	332,838	433,142	39,798	1,116,327	Principal Arterial	23.3%	23.1%	23.0%	20.1%	23.0%
Minor Arterial	167,255	194,645	254,385	17,838	634,122	Minor Arterial	12.6%	13.5%	13.5%	9.0%	13.1%
Major Collector	70,928	56,011	87,209	3,839	217,986	Major Collector	5.3%	3.9%	4.6%	1.9%	4.5%
Minor Collector	3,501	3,935	5,002	397	12,835	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	132,134	127,976	176,890	22,642	459,642	Ramp	9.9%	8.9%	9.4%	11.4%	9.5%
Trucks Only	1,373	1,483	2,031	102	4,988	Trucks Only	0.1%	0.1%	0.1%	0.0%	0.1%
<b>Total</b>	<b>1,332,658</b>	<b>1,441,792</b>	<b>1,883,100</b>	<b>198,270</b>	<b>4,855,821</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table B.9: 2035 LRT-6 Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_LRT6 : Region						SR710GAP 08R35a3_LRT6 : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,268,109	1,852,034	1,796,822	966,222	5,883,187	Freeway	37.3%	36.6%	36.9%	45.1%	38.0%
HOV	120,141	198,201	182,200	83,756	584,299	HOV	3.5%	3.9%	3.7%	3.9%	3.8%
Expressway/Parkway	29,976	62,414	55,237	29,501	177,128	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.1%
Principal Arterial	850,928	1,283,550	1,215,391	487,927	3,837,796	Principal Arterial	25.0%	25.4%	24.9%	22.8%	24.8%
Minor Arterial	638,375	1,014,998	948,571	334,498	2,936,443	Minor Arterial	18.8%	20.1%	19.5%	15.6%	19.0%
Major Collector	242,694	314,854	334,942	90,355	982,846	Major Collector	7.1%	6.2%	6.9%	4.2%	6.4%
Minor Collector	20,247	31,132	30,633	9,842	91,855	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	224,518	289,021	302,521	136,871	952,930	Ramp	6.6%	5.7%	6.2%	6.4%	6.2%
Trucks Only	5,075	7,374	7,243	2,516	22,208	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>3,400,062</b>	<b>5,053,578</b>	<b>4,873,561</b>	<b>2,141,490</b>	<b>15,468,691</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT6 : Region						SR710GAP 08R35a3_LRT6 : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	584,049	635,580	818,515	100,982	2,139,127	Freeway	43.8%	44.0%	43.5%	50.9%	44.0%
HOV	51,147	70,501	82,703	8,583	212,934	HOV	3.8%	4.9%	4.4%	4.3%	4.4%
Expressway/Parkway	11,263	20,133	22,762	4,090	58,248	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	309,903	333,201	433,374	39,743	1,116,221	Principal Arterial	23.3%	23.1%	23.0%	20.0%	23.0%
Minor Arterial	167,161	194,663	254,833	17,834	634,490	Minor Arterial	12.5%	13.5%	13.5%	9.0%	13.1%
Major Collector	70,939	55,948	87,457	3,836	218,180	Major Collector	5.3%	3.9%	4.6%	1.9%	4.5%
Minor Collector	3,496	3,930	5,006	401	12,833	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	133,005	127,918	176,611	22,914	460,447	Ramp	10.0%	8.9%	9.4%	11.5%	9.5%
Trucks Only	1,375	1,486	2,031	100	4,993	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>1,332,339</b>	<b>1,443,361</b>	<b>1,883,291</b>	<b>198,483</b>	<b>4,857,473</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table B.10: 2035 F-2 Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_FT2 : Region						SR710GAP 08R35a3_FT2 : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,275,185	1,855,485	1,805,087	968,683	5,904,440	Freeway	37.5%	36.8%	37.0%	45.2%	38.2%
HOV	119,724	197,408	181,743	83,813	582,688	HOV	3.5%	3.9%	3.7%	3.9%	3.8%
Expressway/Parkway	30,031	62,352	55,249	29,509	177,140	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.1%
Principal Arterial	849,765	1,279,216	1,211,763	486,708	3,827,452	Principal Arterial	25.0%	25.3%	24.8%	22.7%	24.7%
Minor Arterial	635,202	1,009,209	943,853	334,245	2,922,509	Minor Arterial	18.7%	20.0%	19.4%	15.6%	18.9%
Major Collector	244,649	315,792	336,890	90,486	987,817	Major Collector	7.2%	6.3%	6.9%	4.2%	6.4%
Minor Collector	20,166	30,954	30,412	9,778	91,310	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	224,708	290,178	304,504	136,654	956,044	Ramp	6.6%	5.7%	6.2%	6.4%	6.2%
Trucks Only	5,294	7,699	7,456	2,606	23,054	Trucks Only	0.2%	0.2%	0.2%	0.1%	0.1%
<b>Total</b>	<b>3,404,723</b>	<b>5,048,293</b>	<b>4,876,957</b>	<b>2,142,482</b>	<b>15,472,456</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT2 : Region						SR710GAP 08R35a3_FT2 : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	587,186	631,739	821,257	100,738	2,140,921	Freeway	44.0%	44.0%	43.6%	51.0%	44.2%
HOV	50,976	69,960	82,445	8,629	212,010	HOV	3.8%	4.9%	4.4%	4.4%	4.4%
Expressway/Parkway	11,311	20,073	22,776	4,090	58,250	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	309,507	330,733	430,770	39,436	1,110,446	Principal Arterial	23.2%	23.1%	22.9%	20.0%	22.9%
Minor Arterial	165,575	192,313	252,524	17,832	628,245	Minor Arterial	12.4%	13.4%	13.4%	9.0%	13.0%
Major Collector	71,788	56,200	88,347	3,849	220,184	Major Collector	5.4%	3.9%	4.7%	1.9%	4.5%
Minor Collector	3,456	3,882	4,918	397	12,652	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	132,636	127,917	177,748	22,375	460,676	Ramp	9.9%	8.9%	9.4%	11.3%	9.5%
Trucks Only	1,475	1,593	2,133	106	5,307	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>1,333,910</b>	<b>1,434,411</b>	<b>1,882,918</b>	<b>197,452</b>	<b>4,848,691</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table B.11: 2035 F-5 Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_FT5 : Region						SR710GAP 08R35a3_FT5 : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,276,349	1,858,829	1,805,705	969,354	5,910,236	Freeway	37.5%	36.8%	37.0%	45.3%	38.2%
HOV	120,326	198,090	182,827	84,414	585,658	HOV	3.5%	3.9%	3.7%	3.9%	3.8%
Expressway/Parkway	29,934	62,382	55,236	29,512	177,064	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.1%
Principal Arterial	849,545	1,278,427	1,212,149	485,502	3,825,623	Principal Arterial	24.9%	25.3%	24.8%	22.7%	24.7%
Minor Arterial	634,952	1,008,885	944,543	333,797	2,922,178	Minor Arterial	18.6%	20.0%	19.4%	15.6%	18.9%
Major Collector	244,758	316,017	337,199	90,396	988,370	Major Collector	7.2%	6.3%	6.9%	4.2%	6.4%
Minor Collector	20,163	30,943	30,381	9,786	91,273	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	224,620	289,246	303,666	136,539	954,072	Ramp	6.6%	5.7%	6.2%	6.4%	6.2%
Trucks Only	5,306	7,702	7,483	2,558	23,049	Trucks Only	0.2%	0.2%	0.2%	0.1%	0.1%
<b>Total</b>	<b>3,405,953</b>	<b>5,050,522</b>	<b>4,879,191</b>	<b>2,141,858</b>	<b>15,477,523</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT5 : Region						SR710GAP 08R35a3_FT5 : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	588,906	636,020	822,833	101,020	2,148,778	Freeway	44.1%	44.2%	43.6%	51.1%	44.2%
HOV	51,367	70,407	83,325	8,800	213,898	HOV	3.8%	4.9%	4.4%	4.4%	4.4%
Expressway/Parkway	11,224	20,109	22,763	4,089	58,184	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	309,351	330,443	431,174	39,290	1,110,258	Principal Arterial	23.2%	23.0%	22.9%	19.9%	22.9%
Minor Arterial	165,435	192,328	253,202	17,813	628,778	Minor Arterial	12.4%	13.4%	13.4%	9.0%	12.9%
Major Collector	71,828	56,216	88,583	3,850	220,476	Major Collector	5.4%	3.9%	4.7%	1.9%	4.5%
Minor Collector	3,453	3,860	4,906	391	12,609	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	132,891	127,691	177,416	22,532	460,530	Ramp	9.9%	8.9%	9.4%	11.4%	9.5%
Trucks Only	1,479	1,591	2,146	98	5,315	Trucks Only	0.1%	0.1%	0.1%	0.0%	0.1%
<b>Total</b>	<b>1,335,932</b>	<b>1,438,665</b>	<b>1,886,349</b>	<b>197,882</b>	<b>4,858,827</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table B.12: 2035 F-6 Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_FS6 : Region						SR710GAP 08R35a3_FS6 : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,278,167	1,861,110	1,809,038	969,210	5,917,526	Freeway	37.6%	36.9%	37.1%	45.3%	38.3%
HOV	120,473	198,481	183,231	84,857	587,043	HOV	3.5%	3.9%	3.8%	4.0%	3.8%
Expressway/Parkway	29,983	62,370	55,233	29,504	177,090	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.1%
Principal Arterial	848,117	1,276,744	1,210,836	485,320	3,821,016	Principal Arterial	24.9%	25.3%	24.8%	22.7%	24.7%
Minor Arterial	633,748	1,008,075	942,210	333,326	2,917,360	Minor Arterial	18.6%	20.0%	19.3%	15.6%	18.9%
Major Collector	244,645	316,040	337,078	90,334	988,098	Major Collector	7.2%	6.3%	6.9%	4.2%	6.4%
Minor Collector	20,135	30,911	30,343	9,677	91,066	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	222,875	287,661	301,110	136,241	947,887	Ramp	6.5%	5.7%	6.2%	6.4%	6.1%
Trucks Only	5,307	7,749	7,466	2,630	23,152	Trucks Only	0.2%	0.2%	0.2%	0.1%	0.1%
<b>Total</b>	<b>3,403,451</b>	<b>5,049,140</b>	<b>4,876,546</b>	<b>2,141,100</b>	<b>15,470,238</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FS6 : Region						SR710GAP 08R35a3_FS6 : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	590,599	638,230	826,163	101,097	2,156,090	Freeway	44.3%	44.4%	43.8%	51.2%	44.4%
HOV	51,201	70,090	83,059	8,841	213,191	HOV	3.8%	4.9%	4.4%	4.5%	4.4%
Expressway/Parkway	11,267	20,095	22,758	4,088	58,208	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	308,535	329,542	430,671	39,314	1,108,063	Principal Arterial	23.1%	22.9%	22.8%	19.9%	22.8%
Minor Arterial	164,994	192,297	251,853	17,768	626,913	Minor Arterial	12.4%	13.4%	13.4%	9.0%	12.9%
Major Collector	71,826	56,225	88,596	3,833	220,479	Major Collector	5.4%	3.9%	4.7%	1.9%	4.5%
Minor Collector	3,442	3,846	4,874	381	12,543	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	131,206	126,373	175,060	22,088	454,727	Ramp	9.8%	8.8%	9.3%	11.2%	9.4%
Trucks Only	1,483	1,613	2,139	107	5,341	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>1,334,553</b>	<b>1,438,310</b>	<b>1,885,173</b>	<b>197,519</b>	<b>4,855,555</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table B.13: 2035 F-7 Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_FT7 : Region						SR710GAP 08R35a3_FT7 : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,278,148	1,860,464	1,809,211	969,816	5,917,639	Freeway	37.6%	36.8%	37.1%	45.3%	38.3%
HOV	119,460	196,890	181,873	84,196	582,419	HOV	3.5%	3.9%	3.7%	3.9%	3.8%
Expressway/Parkway	29,955	62,414	55,223	29,490	177,081	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.1%
Principal Arterial	847,876	1,278,653	1,211,393	485,880	3,823,802	Principal Arterial	24.9%	25.3%	24.8%	22.7%	24.7%
Minor Arterial	633,916	1,008,213	942,150	333,729	2,918,007	Minor Arterial	18.6%	20.0%	19.3%	15.6%	18.9%
Major Collector	244,079	316,343	336,388	90,343	987,154	Major Collector	7.2%	6.3%	6.9%	4.2%	6.4%
Minor Collector	20,138	30,954	30,435	9,832	91,360	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	222,280	288,023	300,631	136,766	947,700	Ramp	6.5%	5.7%	6.2%	6.4%	6.1%
Trucks Only	5,349	7,804	7,522	2,657	23,332	Trucks Only	0.2%	0.2%	0.2%	0.1%	0.2%
<b>Total</b>	<b>3,401,201</b>	<b>5,049,758</b>	<b>4,874,826</b>	<b>2,142,710</b>	<b>15,468,495</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT7 : Region						SR710GAP 08R35a3_FT7 : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	589,585	636,021	824,881	101,145	2,151,632	Freeway	44.2%	44.3%	43.8%	51.0%	44.3%
HOV	50,698	69,542	82,524	8,851	211,615	HOV	3.8%	4.8%	4.4%	4.5%	4.4%
Expressway/Parkway	11,243	20,123	22,755	4,086	58,207	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	308,374	330,481	431,296	39,364	1,109,516	Principal Arterial	23.1%	23.0%	22.9%	19.9%	22.9%
Minor Arterial	165,287	192,173	251,861	17,810	627,132	Minor Arterial	12.4%	13.4%	13.4%	9.0%	12.9%
Major Collector	71,613	56,283	88,239	3,843	219,977	Major Collector	5.4%	3.9%	4.7%	1.9%	4.5%
Minor Collector	3,446	3,870	4,922	397	12,634	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	130,831	127,032	174,870	22,666	455,400	Ramp	9.8%	8.8%	9.3%	11.4%	9.4%
Trucks Only	1,502	1,638	2,167	110	5,416	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>1,332,578</b>	<b>1,437,163</b>	<b>1,883,515</b>	<b>198,273</b>	<b>4,851,528</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table B.14: 2035 H-2 Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_H2A : Region						SR710GAP 08R35a3_H2A : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,270,834	1,852,801	1,799,476	966,393	5,889,504	Freeway	37.3%	36.7%	36.9%	45.1%	38.1%
HOV	120,290	198,257	182,704	83,836	585,087	HOV	3.5%	3.9%	3.7%	3.9%	3.8%
Expressway/Parkway	30,167	62,655	55,501	29,690	178,012	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.2%
Principal Arterial	853,014	1,286,617	1,219,079	489,718	3,848,428	Principal Arterial	25.1%	25.5%	25.0%	22.9%	24.9%
Minor Arterial	637,039	1,011,259	944,778	333,528	2,926,605	Minor Arterial	18.7%	20.0%	19.4%	15.6%	18.9%
Major Collector	244,187	315,162	336,271	90,411	986,031	Major Collector	7.2%	6.2%	6.9%	4.2%	6.4%
Minor Collector	20,304	31,229	30,587	9,830	91,950	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	223,061	287,998	301,126	136,326	948,511	Ramp	6.6%	5.7%	6.2%	6.4%	6.1%
Trucks Only	5,197	7,568	7,398	2,586	22,749	Trucks Only	0.2%	0.1%	0.2%	0.1%	0.1%
<b>Total</b>	<b>3,404,092</b>	<b>5,053,546</b>	<b>4,876,922</b>	<b>2,142,317</b>	<b>15,476,876</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_H2A : Region						SR710GAP 08R35a3_H2A : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	586,406	635,790	820,661	101,135	2,143,992	Freeway	43.9%	44.1%	43.5%	50.9%	44.1%
HOV	51,313	70,563	83,149	8,703	213,728	HOV	3.8%	4.9%	4.4%	4.4%	4.4%
Expressway/Parkway	11,299	20,113	22,817	4,104	58,333	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	310,621	333,809	435,128	39,954	1,119,511	Principal Arterial	23.3%	23.1%	23.1%	20.1%	23.0%
Minor Arterial	167,154	193,635	253,208	17,783	631,780	Minor Arterial	12.5%	13.4%	13.4%	9.0%	13.0%
Major Collector	71,747	55,947	88,096	3,837	219,627	Major Collector	5.4%	3.9%	4.7%	1.9%	4.5%
Minor Collector	3,498	3,950	4,984	390	12,823	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	131,706	127,146	175,404	22,574	456,830	Ramp	9.9%	8.8%	9.3%	11.4%	9.4%
Trucks Only	1,440	1,565	2,122	106	5,234	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>1,335,184</b>	<b>1,442,519</b>	<b>1,885,570</b>	<b>198,587</b>	<b>4,861,859</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table B.15: 2035 H-6 Alternative VHT and VHD by Functional Classification and Time of Day for SCAG Region**

SR710GAP 08R35a3_H6A : Region						SR710GAP 08R35a3_H6A : Region					
Total Vehicle Hours Traveled (VHT) by Facility Classification						Percent of Total Vehicle Hours Traveled (VHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,270,994	1,852,031	1,799,524	966,334	5,888,882	Freeway	37.3%	36.7%	36.9%	45.1%	38.1%
HOV	120,385	198,359	182,264	84,389	585,396	HOV	3.5%	3.9%	3.7%	3.9%	3.8%
Expressway/Parkway	30,169	62,718	55,516	29,649	178,051	Expressway/Parkway	0.9%	1.2%	1.1%	1.4%	1.2%
Principal Arterial	852,780	1,285,966	1,218,257	488,650	3,845,652	Principal Arterial	25.1%	25.5%	25.0%	22.8%	24.8%
Minor Arterial	636,889	1,012,111	946,681	334,063	2,929,744	Minor Arterial	18.7%	20.0%	19.4%	15.6%	18.9%
Major Collector	243,627	315,450	335,918	90,392	985,387	Major Collector	7.2%	6.2%	6.9%	4.2%	6.4%
Minor Collector	20,182	30,966	30,464	9,741	91,352	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	223,390	287,668	301,958	136,634	949,650	Ramp	6.6%	5.7%	6.2%	6.4%	6.1%
Trucks Only	5,087	7,422	7,266	2,569	22,344	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>3,403,502</b>	<b>5,052,690</b>	<b>4,877,846</b>	<b>2,142,420</b>	<b>15,476,458</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_H6A : Region						SR710GAP 08R35a3_H6A : Region					
Total Vehicle Hours of Delay (VHD) by Facility Classification						Percent of Total Vehicle Hours of Delay (VHD) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	586,305	634,968	820,742	101,039	2,143,054	Freeway	43.9%	44.0%	43.5%	50.9%	44.1%
HOV	51,367	70,570	82,753	8,841	213,530	HOV	3.8%	4.9%	4.4%	4.5%	4.4%
Expressway/Parkway	11,299	20,170	22,826	4,096	58,391	Expressway/Parkway	0.8%	1.4%	1.2%	2.1%	1.2%
Principal Arterial	310,936	334,062	435,112	39,816	1,119,927	Principal Arterial	23.3%	23.2%	23.1%	20.0%	23.0%
Minor Arterial	166,757	193,555	253,996	17,818	632,126	Minor Arterial	12.5%	13.4%	13.5%	9.0%	13.0%
Major Collector	71,409	56,104	87,976	3,845	219,334	Major Collector	5.3%	3.9%	4.7%	1.9%	4.5%
Minor Collector	3,486	3,892	4,965	389	12,732	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	131,970	126,695	176,214	22,655	457,534	Ramp	9.9%	8.8%	9.3%	11.4%	9.4%
Trucks Only	1,378	1,506	2,044	104	5,032	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>1,334,908</b>	<b>1,441,522</b>	<b>1,886,627</b>	<b>198,603</b>	<b>4,861,661</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Transit-Based Alternatives Calculation:**

The total VHT in the region is calculated separately for the AM (6:00 to 9:00) and PM (3:00 to 7:00) peak period trips, and then summed together to create one value for regional peak VHT. For this evaluation measure, the reported data are the change in travel time (reported in 1,000s) from the No Build alternative (the value for the No Build alternative is zero). Because of the sensitivity of the model to transit impacts, the corresponding highway VHT savings were calculated by estimating the VHT per additional transit trip by using the zone to zone highway skims for each additional transit trip.

The travel performance (VHT) for the transit-based alternatives was calculated using the 2035 No Build and alternative outputs from the Metro (transit) model. The Metro model trip tables were used to calculate the reduction in trips between zone pairs between the build and No Build alternatives. The VHT reduction was calculated using the highway skims from the model multiplied by the delta trip table (No Build trips minus alternative trips). The general processes for calculating the travel performance for the transit-based alternatives was:

- Calculate the Metro model delta trip tables
- Calculate the travel performance (highway skims) by time of day using the SCAG highway model

Step 1: Calculate Metro Model Delta Trip Tables:

The Metro model was used to calculate the delta trip tables between the No Build model and each transit-based alternative model (all run in the Metro model). Table B.16 summarizes the change in regional transit trips for the peak, off-peak, and daily time periods.

TABLE B. 16

**METRO MODEL REGIONAL TRANSIT TRIP DELTA FOR PEAK, OFF-PEAK, AND DAILY TIME PERIODS**

	TSM/TDM	BRT-1	BRT-6	LRT-4A	LRT-4B	LRT-4D	LRT-6
Delta Peak Period (AM and PM) Trips from Trip Table:	8,122	9,953	10,418	10,701	10,432	10,445	10,600
Delta Off-Peak Trips from Trip Table:	8,200	8,731	8,631	9,429	9,368	9,352	9,154
Delta Daily Trips from Trip Table:	16,321	18,684	19,049	20,130	19,800	19,798	19,754

Step 2: Calculate the Travel Performance by Time of Day using SCAG Model Assumptions:

The delta trip tables were determined on the SCAG model zone level. These delta trip tables were multiplied by the 2035 No Build travel model skims (for length and congested time) to calculate a reduction in regional VHT for the peak, off-peak, and daily time periods. On a zone-by-zone level for the entire regional SCAG model, reductions in VHT were calculated using the following equations:

- Reduction in Peak Period VHT = (Delta Peak Period) \* (Peak Period Shortest Path Drive Alone Time Skim)
- Reduction in Off-Peak Period VMT = (Delta Off-Peak Period) \* (Off-Peak Period Shortest Path Drive Alone Time Skim)

An assumption was made to use the drive alone time skims as representative times for the calculations for this step. To accommodate for shared ride vehicles shifting to transit trips, all of the resulting values were divided by 1.39, the average auto occupancy factor used in the 2008 SCAG RTP model. Table B.17 summarizes the raw calculations for the reduction in VHT using the SCAG regional travel model skims (divided by the average auto occupancy factor).

TABLE B.17

**Regional Reduction in Daily VHT**

Calculations:	TSM/TDM	BRT-1	BRT-6	LRT-4A	LRT-4B	LRT-4D	LRT-6
Reduction in Daily VHT	-372,976	-405,977	-423,698	-432,294	-426,361	-424,426	-411,753

Raw SCAG model values for the No Build model were obtained for the AM peak, PM peak, and daily time periods to use as a basis for VHT calculations for transit-based alternatives. The No Build VHT values that are used for calculations are summarized in Table B.18 (but are also shown in more detail in Table B.2). The calculations for Table B.18 are described as follows:

- *Row 1:* The data here are the daily VHT for each of the transit-based alternatives. For example, the daily VHT for the TSM/TDM alternative is calculated as the daily VHT for the No Build alternative (15,487,700) plus the daily reduction in VHT from Table B.17 for the TSM/TDM alternative (-372,976).
- *Row 3:* The AM peak period VHT is calculated using the No Build percentage of regional VHT in the AM peak period compared to the Daily time period ( $3,408,950/15,487,700=22.01\%$ ).
- *Row 5:* The PM peak period VHT is calculated using the No Build percentage of regional VHT in the AM peak period compared to the Daily time period ( $4,882,850/15,487,700=31.53\%$ ).

TABLE B.18

**Calculated VHT for AM Peak Period, and PM Peak Period for the SCAG Region**

	No Build	TSM/TDM	BRT-1	BRT-6	LRT-4A	LRT-4B	LRT-4D	LRT-6
Daily VHT	15,487,700	15,114,724	15,081,723	15,064,002	15,055,406	15,061,339	15,063,274	15,075,947
<i>Change in Daily VHT</i>	0	-372,976	-405,977	-423,698	-432,294	-426,361	-424,426	-411,753
AM Peak Period VHT	3,408,950	3,326,855	3,319,592	3,315,691	3,313,799	3,315,105	3,315,531	3,318,320
<i>Change in AM Peak Period VHT</i>	0	-82,095	-89,358	-93,259	-95,151	-93,845	-93,419	-90,630
PM Peak Period VHT	4,882,850	4,765,261	4,754,856	4,749,270	4,746,559	4,748,430	4,749,040	4,753,035
<i>Change in PM Peak Period VHT</i>	0	-117,589	-127,994	-133,580	-136,291	-134,420	-133,810	-129,815

**Step 4:** The fourth and final step was to calculate the reduction in peak periods (combined AM and PM peak periods) VHT. The reduction was calculated as the reduction from the No Build alternative. Table B.19 summarizes the AM and PM peak period vehicle hours of travel, and the resulting performance measure values for total travel time.

**Performance Measure Values**

Table B.20 summarizes the peak period (combination of AM and PM peak period) VHT reduction in the region. Although the values range from zero (the No Build alternative) to approximately 230 (the LRT 4A, B, and D alternatives) these values are not scaled. The total travel time performance measure is an absolute value of the number of thousands of vehicle hours per day saved over the No Build alternative for each alternative.

**Table B.19: AM and PM Peak Period VHT Reduction in the SCAG Region**

Travel Model Evaluation	Time Period	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6
Total vehicle hours of travel for all trips in the SCAG region.	AM Peak Period	2,266,300	3,408,950	3,326,850	3,319,600	3,315,700	3,315,700	3,313,800	3,315,100	3,315,550	3,318,300	3,404,700	3,405,950	3,403,450	3,401,200	3,404,100	3,403,500
	PM Peak Period	3,209,750	4,882,850	4,765,250	4,754,850	4,749,250	4,749,250	4,746,550	4,748,450	4,749,050	4,753,050	4,876,950	4,879,200	4,876,550	4,874,850	4,876,900	4,877,850
Change in peak period vehicle hours of travel for all trips in the SCAG region.	AM Peak Period	(1,142,650)		(82,100)	(89,350)	(93,250)	(93,250)	(95,150)	(93,850)	(93,400)	(90,650)	(4,250)	(3,000)	(5,500)	(7,750)	(4,850)	(5,450)
	PM Peak Period	(1,673,100)		(117,600)	(128,000)	(133,600)	(133,600)	(136,300)	(134,400)	(133,800)	(129,800)	(5,900)	(3,650)	(6,300)	(8,000)	(5,950)	(5,000)

**Table B.20: Peak Period VHT Reduction in the SCAG Region**

Screen Level 2: Performance Measure	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6
Reduction in vehicle hours (1000s) of travel for all automobile/truck trips in the region.	0	200	217	227	227	231	228	227	220	10	7	12	16	11	10

**Clarification:**

The numbers in this section of the report were adjusted from the original results reported for this performance measure in the SR 710 EIR/EIS System Performance Report, as summarized in Table B.21. During the development of this technical appendix, it was discovered that there was a data transfer error in compiling the overall performance matrix:

- The AM peak period VHT that was used for the highway-based alternatives came directly from Tables B.1 through B.15. The AM peak period VHT used for the transit-based alternatives was the calculated VHT using the transit-based calculation.
- The PM peak period data that was used for the calculation was the PM peak period VHD (vehicle hours of delay) from tables B.1 through B.15.

The correct VHT values for the Region, LA County, and the Study Area were used for air quality analysis.

The difference in performance between Tables B.20 and B.21 is not of consequence. In both tables, the transit and highway alternatives perform similarly when compared to one another by mode. Using the values in Table B.20 or B.21 does not change the scoring or assessment of the alternatives to bring forward into the EIR/EIS phase.

**Table B.21: Peak Period VHT Reduction in the SCAG Region**

Screen Level 2: Performance Measure	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6
Reduction in vehicle hours (1000s) of travel for all automobile/truck trips in the region.	0	89	96	101	101	102	101	100	97	11	7	10	14	9	9

## C. Travel Time Reliability

### Performance Measure Description

The travel time reliability performance measure was developed to calculate an index for the reliability for the facilities in the study area. The aggregate nature of the model does not provide enough detail to reflect congestion differences within the peak periods. The model represents a peak period using generic assumptions of the amount of travel within the peak period. To overcome this modeling limitation but still provide a performance measure for travel time reliability, the performance measure was defined as a percent of travel on facilities in the study area with dedicated or managed lane operations (HOV facilities or tolled facilities). Managed lanes typically have more predictable travel times than general purpose lanes, and are operated to keep traffic moving at a consistently high speed, typically 45 mph or higher.

### Calculation Process

The calculation for travel time reliability is the percentage of automobile person hours of travel (PHT) on facilities in the study area that have dedicated or managed lane operations as compared with the total automobile PHT in the study area. It was assumed that the SCAG model would be used to determine PHT on managed lane facilities for all of the alternatives.

A two-step process was used to calculate travel time reliability.

**Step 1:** Obtain the classified link loads (drive alone, shared ride 2, shared ride 3+, and truck) for each link in the network. Using the classified link loads and the travel time on each of the links in the network, calculate the PHT for each time period throughout the day using the auto occupancy factors obtained from the SCAG model. The auto occupancy factor for each of the modes is shown in Table C.1.

**Table C.1**  
**Auto and Truck Vehicle Occupancy**

Mode	Occupancy Factor
Drive Alone	1.00
Share Ride 2	2.00
Share Ride 3	3.20
Light, Medium, and Heavy Truck	1.00

**Step 2:** Once the PHT has been calculated for each of the links in the network for each of the five time periods, the values are summarized by functional classification of the roadway, and by time of day. Tables C.2 through C.16 summarize the PHT by functional classification and by time of day for each of the alternatives discussed in this report, including the 2008 existing conditions.

This metric applies only to automobile and truck trips and not transit trips. The travel time reliability performance measure is sensitive to the number of trips on managed facilities, the amount of the facilities (lane miles of managed facilities), and the average occupants in vehicles (because the model data used is PHT as opposed to vehicle miles traveled [VMT]).

### Performance Measure Values

Table C.17 summarizes the percent of PHT on managed lanes in the region, LA County, and the study area for all alternatives, and Table C.18 represents the final performance evaluation results. This table shows that there is little to no impact on this performance measure for most of the alternatives. The only alternative that shows a large change from the No Build alternative is the F-6 alternative, which includes 9 new miles of managed lanes.

**Table C.2: 2008 Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R08a3_PFA1 : Region						SR710GAP 08R08a3_PFA1 : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,259,019	2,270,438	1,910,746	1,109,678	6,549,881	Freeway	38.9%	40.5%	39.5%	48.0%	40.9%
HOV	156,750	227,297	239,839	70,552	694,438	HOV	4.8%	4.1%	5.0%	3.1%	4.3%
Expressway/Parkway	20,824	34,393	26,070	17,738	99,025	Expressway/Parkway	0.6%	0.6%	0.5%	0.8%	0.6%
Principal Arterial	855,142	1,459,127	1,276,675	540,579	4,131,524	Principal Arterial	26.4%	26.0%	26.4%	23.4%	25.8%
Minor Arterial	575,786	999,013	851,988	325,316	2,752,103	Minor Arterial	17.8%	17.8%	17.6%	14.1%	17.2%
Major Collector	141,832	233,760	199,870	77,321	652,784	Major Collector	4.4%	4.2%	4.1%	3.3%	4.1%
Minor Collector	15,012	27,144	21,949	9,144	73,249	Minor Collector	0.5%	0.5%	0.5%	0.4%	0.5%
Ramp	215,516	360,290	315,531	162,349	1,053,687	Ramp	6.7%	6.4%	6.5%	7.0%	6.6%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>3,239,882</b>	<b>5,611,462</b>	<b>4,842,669</b>	<b>2,312,678</b>	<b>16,006,690</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R08a3_PFA1 : LA County						SR710GAP 08R08a3_PFA1 : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	660,700	1,232,599	1,010,291	584,707	3,488,297	Freeway	37.8%	40.0%	38.3%	48.1%	40.2%
HOV	85,564	118,008	129,245	34,780	367,598	HOV	4.9%	3.8%	4.9%	2.9%	4.2%
Expressway/Parkway	2,230	5,253	3,751	2,229	13,463	Expressway/Parkway	0.1%	0.2%	0.1%	0.2%	0.2%
Principal Arterial	516,412	894,372	778,319	315,017	2,504,120	Principal Arterial	29.5%	29.1%	29.5%	25.9%	28.8%
Minor Arterial	310,869	531,093	463,916	153,151	1,459,029	Minor Arterial	17.8%	17.3%	17.6%	12.6%	16.8%
Major Collector	46,233	73,827	66,387	21,817	208,265	Major Collector	2.6%	2.4%	2.5%	1.8%	2.4%
Minor Collector	5,306	9,195	7,912	2,118	24,532	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	122,183	213,858	177,789	101,748	615,578	Ramp	7.0%	6.9%	6.7%	8.4%	7.1%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>1,749,497</b>	<b>3,078,206</b>	<b>2,637,611</b>	<b>1,215,568</b>	<b>8,680,881</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R08a3_PFA1 : Study Area						SR710GAP 08R08a3_PFA1 : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	74,375	132,703	113,440	62,042	382,559	Freeway	42.6%	42.9%	42.5%	50.6%	43.8%
HOV	13,081	23,853	22,152	7,304	66,391	HOV	7.5%	7.7%	8.3%	6.0%	7.6%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	33,035	58,507	49,990	20,576	162,108	Principal Arterial	18.9%	18.9%	18.7%	16.8%	18.6%
Minor Arterial	33,691	58,944	50,870	17,859	161,365	Minor Arterial	19.3%	19.0%	19.0%	14.6%	18.5%
Major Collector	1,285	2,173	1,916	577	5,952	Major Collector	0.7%	0.7%	0.7%	0.5%	0.7%
Minor Collector	858	1,642	1,325	446	4,270	Minor Collector	0.5%	0.5%	0.5%	0.4%	0.5%
Ramp	18,166	31,849	27,354	13,839	91,209	Ramp	10.4%	10.3%	10.2%	11.3%	10.4%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>174,491</b>	<b>309,672</b>	<b>267,047</b>	<b>122,644</b>	<b>873,854</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.3: 2035 No Build Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_NB_PFA1 : Region						SR710GAP 08R35a3_NB_PFA1 : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,762,930	2,955,780	2,670,243	1,372,790	8,761,744	Freeway	35.7%	36.4%	35.8%	43.1%	36.9%
HOV	305,339	530,508	477,379	221,587	1,534,813	HOV	6.2%	6.5%	6.4%	7.0%	6.5%
Expressway/Parkway	54,261	135,854	105,407	56,586	352,108	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,191,406	1,935,422	1,776,073	693,632	5,596,533	Principal Arterial	24.1%	23.8%	23.8%	21.8%	23.6%
Minor Arterial	908,145	1,537,754	1,395,536	482,426	4,323,861	Minor Arterial	18.4%	18.9%	18.7%	15.2%	18.2%
Major Collector	362,114	504,688	513,104	136,282	1,516,188	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,438	51,940	48,175	15,786	146,338	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	320,272	468,107	461,492	200,631	1,450,501	Ramp	6.5%	5.8%	6.2%	6.3%	6.1%
Trucks Only	6,758	10,799	10,751	3,438	31,746	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,941,663</b>	<b>8,130,854</b>	<b>7,458,160</b>	<b>3,183,157</b>	<b>23,713,834</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_NB_PFA1 : LA County						SR710GAP 08R35a3_NB_PFA1 : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	763,610	1,378,981	1,186,957	644,417	3,973,965	Freeway	33.5%	35.2%	34.1%	42.9%	35.6%
HOV	181,141	304,101	276,626	125,898	887,766	HOV	8.0%	7.8%	7.9%	8.4%	7.9%
Expressway/Parkway	101	244	122	165	632	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	646,863	1,095,178	988,270	376,351	3,106,662	Principal Arterial	28.4%	28.0%	28.4%	25.1%	27.8%
Minor Arterial	411,545	705,009	630,296	195,091	1,941,941	Minor Arterial	18.1%	18.0%	18.1%	13.0%	17.4%
Major Collector	104,867	149,075	154,981	36,416	445,339	Major Collector	4.6%	3.8%	4.4%	2.4%	4.0%
Minor Collector	6,895	11,511	10,304	2,557	31,267	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	156,432	258,843	225,172	118,086	758,534	Ramp	6.9%	6.6%	6.5%	7.9%	6.8%
Trucks Only	6,610	10,466	10,453	3,243	30,773	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,278,065</b>	<b>3,913,407</b>	<b>3,483,181</b>	<b>1,502,226</b>	<b>11,176,879</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_NB_PFA1 : Study Area						SR710GAP 08R35a3_NB_PFA1 : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	83,365	155,295	133,303	72,565	444,528	Freeway	40.7%	41.2%	40.7%	50.4%	42.2%
HOV	17,024	32,348	30,304	10,814	90,491	HOV	8.3%	8.6%	9.3%	7.5%	8.6%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	38,908	70,866	61,718	22,750	194,242	Principal Arterial	19.0%	18.8%	18.8%	15.8%	18.4%
Minor Arterial	42,242	76,320	66,539	21,006	206,106	Minor Arterial	20.6%	20.3%	20.3%	14.6%	19.6%
Major Collector	1,389	2,384	2,287	626	6,686	Major Collector	0.7%	0.6%	0.7%	0.4%	0.6%
Minor Collector	1,037	2,049	1,695	424	5,205	Minor Collector	0.5%	0.5%	0.5%	0.3%	0.5%
Ramp	20,974	37,550	31,766	15,806	106,096	Ramp	10.2%	10.0%	9.7%	11.0%	10.1%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>204,939</b>	<b>376,811</b>	<b>327,612</b>	<b>143,991</b>	<b>1,053,353</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.4: 2035 TSM/TDM Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_NB_TSMTDM : Region						SR710GAP 08R35a3_NB_TSMTDM : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,756,270	2,955,548	2,662,784	1,371,273	8,745,875	Freeway	35.7%	36.4%	35.8%	43.1%	36.9%
HOV	304,104	530,371	475,649	222,911	1,533,036	HOV	6.2%	6.5%	6.4%	7.0%	6.5%
Expressway/Parkway	54,140	135,758	105,438	56,561	351,898	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,189,282	1,934,685	1,771,962	694,631	5,590,560	Principal Arterial	24.1%	23.8%	23.8%	21.8%	23.6%
Minor Arterial	907,257	1,538,087	1,393,363	481,750	4,320,457	Minor Arterial	18.4%	18.9%	18.7%	15.1%	18.2%
Major Collector	358,982	504,119	511,202	135,729	1,510,033	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,364	51,977	48,165	15,755	146,262	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	318,913	468,410	460,290	200,723	1,448,335	Ramp	6.5%	5.8%	6.2%	6.3%	6.1%
Trucks Only	6,754	10,819	10,741	3,442	31,756	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,926,067</b>	<b>8,129,774</b>	<b>7,439,594</b>	<b>3,182,775</b>	<b>23,678,211</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_NB_TSMTDM : LA County						SR710GAP 08R35a3_NB_TSMTDM : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	758,606	1,378,314	1,181,352	642,807	3,961,080	Freeway	33.5%	35.2%	34.1%	42.8%	35.5%
HOV	179,862	303,670	275,175	127,604	886,311	HOV	7.9%	7.8%	7.9%	8.5%	8.0%
Expressway/Parkway	101	245	121	161	628	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	644,968	1,094,778	985,069	377,322	3,102,137	Principal Arterial	28.5%	28.0%	28.4%	25.1%	27.8%
Minor Arterial	411,052	705,554	628,771	194,395	1,939,772	Minor Arterial	18.1%	18.0%	18.1%	12.9%	17.4%
Major Collector	102,090	148,556	153,207	35,908	439,763	Major Collector	4.5%	3.8%	4.4%	2.4%	3.9%
Minor Collector	6,853	11,513	10,249	2,546	31,161	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	155,279	258,853	223,898	117,864	755,893	Ramp	6.9%	6.6%	6.5%	7.8%	6.8%
Trucks Only	6,604	10,464	10,446	3,238	30,752	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,265,416</b>	<b>3,911,948</b>	<b>3,468,288</b>	<b>1,501,845</b>	<b>11,147,497</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_NB_TSMTDM : Study Area						SR710GAP 08R35a3_NB_TSMTDM : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	83,253	155,367	133,082	72,490	444,191	Freeway	40.7%	41.2%	40.7%	50.3%	42.2%
HOV	17,011	32,349	30,275	10,798	90,432	HOV	8.3%	8.6%	9.3%	7.5%	8.6%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	38,863	70,908	61,630	22,785	194,186	Principal Arterial	19.0%	18.8%	18.8%	15.8%	18.4%
Minor Arterial	42,218	76,378	66,505	21,020	206,120	Minor Arterial	20.6%	20.3%	20.3%	14.6%	19.6%
Major Collector	1,397	2,384	2,301	632	6,714	Major Collector	0.7%	0.6%	0.7%	0.4%	0.6%
Minor Collector	1,034	2,050	1,679	422	5,186	Minor Collector	0.5%	0.5%	0.5%	0.3%	0.5%
Ramp	20,921	37,542	31,747	15,842	106,052	Ramp	10.2%	10.0%	9.7%	11.0%	10.1%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>204,697</b>	<b>376,977</b>	<b>327,218</b>	<b>143,989</b>	<b>1,052,881</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.5: 2035 BRT-1 Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3 BRT1 : Region						SR710GAP 08R35a3 BRT1 : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,758,152	2,954,231	2,663,761	1,371,973	8,748,118	Freeway	35.7%	36.3%	35.8%	43.1%	36.9%
HOV	303,970	533,025	476,276	221,998	1,535,270	HOV	6.2%	6.6%	6.4%	7.0%	6.5%
Expressway/Parkway	54,217	135,938	105,341	56,573	352,068	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,187,878	1,934,491	1,773,157	694,592	5,590,118	Principal Arterial	24.1%	23.8%	23.8%	21.8%	23.6%
Minor Arterial	906,190	1,537,506	1,393,464	481,871	4,319,032	Minor Arterial	18.4%	18.9%	18.7%	15.1%	18.2%
Major Collector	359,187	504,766	510,923	135,740	1,510,616	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,373	51,976	48,172	15,791	146,311	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	320,121	467,414	459,836	200,351	1,447,721	Ramp	6.5%	5.7%	6.2%	6.3%	6.1%
Trucks Only	6,760	10,819	10,737	3,433	31,749	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,926,848</b>	<b>8,130,167</b>	<b>7,441,667</b>	<b>3,182,320</b>	<b>23,681,002</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3 BRT1 : LA County						SR710GAP 08R35a3 BRT1 : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	760,829	1,377,276	1,182,356	643,227	3,963,689	Freeway	33.6%	35.2%	34.1%	42.8%	35.5%
HOV	179,716	305,727	275,559	127,155	888,157	HOV	7.9%	7.8%	7.9%	8.5%	8.0%
Expressway/Parkway	101	244	121	157	624	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	645,077	1,094,230	985,177	377,340	3,101,824	Principal Arterial	28.5%	28.0%	28.4%	25.1%	27.8%
Minor Arterial	410,081	704,970	628,769	194,424	1,938,245	Minor Arterial	18.1%	18.0%	18.1%	12.9%	17.4%
Major Collector	101,820	149,320	153,005	36,005	440,150	Major Collector	4.5%	3.8%	4.4%	2.4%	3.9%
Minor Collector	6,865	11,494	10,250	2,554	31,162	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	155,374	258,603	223,970	117,894	755,841	Ramp	6.9%	6.6%	6.5%	7.8%	6.8%
Trucks Only	6,610	10,465	10,437	3,237	30,749	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,266,473</b>	<b>3,912,330</b>	<b>3,469,646</b>	<b>1,501,992</b>	<b>11,150,441</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3 BRT1 : Study Area						SR710GAP 08R35a3 BRT1 : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	83,235	155,337	133,146	72,509	444,227	Freeway	40.7%	41.2%	40.7%	50.3%	42.2%
HOV	17,012	32,395	30,288	10,800	90,495	HOV	8.3%	8.6%	9.3%	7.5%	8.6%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	38,855	70,975	61,677	22,793	194,300	Principal Arterial	19.0%	18.8%	18.8%	15.8%	18.5%
Minor Arterial	42,224	76,335	66,504	21,030	206,093	Minor Arterial	20.6%	20.2%	20.3%	14.6%	19.6%
Major Collector	1,396	2,383	2,303	633	6,716	Major Collector	0.7%	0.6%	0.7%	0.4%	0.6%
Minor Collector	1,039	2,039	1,688	425	5,192	Minor Collector	0.5%	0.5%	0.5%	0.3%	0.5%
Ramp	20,934	37,619	31,678	15,849	106,080	Ramp	10.2%	10.0%	9.7%	11.0%	10.1%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>204,696</b>	<b>377,083</b>	<b>327,285</b>	<b>144,038</b>	<b>1,053,103</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.6: 2035 BRT-6 Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_BRT6 : Region						SR710GAP 08R35a3_BRT6 : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,756,447	2,955,262	2,662,537	1,372,246	8,746,492	Freeway	35.7%	36.4%	35.8%	43.1%	36.9%
HOV	304,164	532,473	475,505	221,980	1,534,121	HOV	6.2%	6.5%	6.4%	7.0%	6.5%
Expressway/Parkway	54,167	135,648	105,414	56,583	351,811	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,189,517	1,933,870	1,772,461	694,904	5,590,752	Principal Arterial	24.1%	23.8%	23.8%	21.8%	23.6%
Minor Arterial	906,043	1,538,030	1,393,209	481,528	4,318,810	Minor Arterial	18.4%	18.9%	18.7%	15.1%	18.2%
Major Collector	359,399	504,437	510,935	135,603	1,510,373	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,363	51,961	48,258	15,848	146,430	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	319,167	467,416	460,183	200,696	1,447,463	Ramp	6.5%	5.7%	6.2%	6.3%	6.1%
Trucks Only	6,754	10,799	10,739	3,443	31,735	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,926,020</b>	<b>8,129,895</b>	<b>7,439,241</b>	<b>3,182,832</b>	<b>23,677,988</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_BRT6 : LA County						SR710GAP 08R35a3_BRT6 : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	758,724	1,377,322	1,181,089	643,681	3,960,816	Freeway	33.5%	35.2%	34.1%	42.9%	35.5%
HOV	180,059	305,631	275,019	126,676	887,386	HOV	8.0%	7.8%	7.9%	8.4%	8.0%
Expressway/Parkway	101	244	121	155	621	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	645,569	1,093,497	985,093	377,512	3,101,671	Principal Arterial	28.5%	28.0%	28.4%	25.1%	27.8%
Minor Arterial	409,789	705,311	628,788	194,247	1,938,135	Minor Arterial	18.1%	18.0%	18.1%	12.9%	17.4%
Major Collector	102,199	149,191	152,802	35,911	440,104	Major Collector	4.5%	3.8%	4.4%	2.4%	3.9%
Minor Collector	6,859	11,525	10,295	2,559	31,239	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	154,940	258,454	223,844	117,942	755,180	Ramp	6.8%	6.6%	6.5%	7.9%	6.8%
Trucks Only	6,603	10,458	10,438	3,238	30,737	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,264,845</b>	<b>3,911,633</b>	<b>3,467,489</b>	<b>1,501,922</b>	<b>11,145,889</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_BRT6 : Study Area						SR710GAP 08R35a3_BRT6 : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	83,184	155,362	132,996	72,621	444,162	Freeway	40.7%	41.2%	40.7%	50.4%	42.2%
HOV	17,010	32,351	30,267	10,790	90,418	HOV	8.3%	8.6%	9.3%	7.5%	8.6%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	38,858	70,898	61,655	22,791	194,203	Principal Arterial	19.0%	18.8%	18.9%	15.8%	18.4%
Minor Arterial	42,191	76,279	66,449	21,006	205,924	Minor Arterial	20.6%	20.2%	20.3%	14.6%	19.6%
Major Collector	1,393	2,381	2,294	628	6,695	Major Collector	0.7%	0.6%	0.7%	0.4%	0.6%
Minor Collector	1,035	2,052	1,686	435	5,209	Minor Collector	0.5%	0.5%	0.5%	0.3%	0.5%
Ramp	20,912	37,544	31,674	15,851	105,982	Ramp	10.2%	10.0%	9.7%	11.0%	10.1%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>204,582</b>	<b>376,868</b>	<b>327,021</b>	<b>144,121</b>	<b>1,052,592</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.7: 2035 LRT-4A Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_LRT4A : Region						SR710GAP 08R35a3_LRT4A : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,756,933	2,956,213	2,665,208	1,372,084	8,750,438	Freeway	35.7%	36.4%	35.8%	43.1%	37.0%
HOV	304,198	530,302	475,957	222,109	1,532,566	HOV	6.2%	6.5%	6.4%	7.0%	6.5%
Expressway/Parkway	54,181	135,769	105,442	56,558	351,950	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,188,694	1,933,900	1,771,131	694,678	5,588,403	Principal Arterial	24.1%	23.8%	23.8%	21.8%	23.6%
Minor Arterial	906,772	1,538,405	1,393,650	481,781	4,320,608	Minor Arterial	18.4%	18.9%	18.7%	15.1%	18.2%
Major Collector	358,886	504,065	510,202	135,701	1,508,855	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,339	52,000	48,154	15,786	146,280	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	319,501	467,825	460,657	200,543	1,448,526	Ramp	6.5%	5.8%	6.2%	6.3%	6.1%
Trucks Only	6,759	10,857	10,729	3,455	31,801	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,926,265</b>	<b>8,129,336</b>	<b>7,441,130</b>	<b>3,182,696</b>	<b>23,679,426</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4A : LA County						SR710GAP 08R35a3_LRT4A : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	759,403	1,378,977	1,182,954	643,605	3,964,939	Freeway	33.5%	35.2%	34.1%	42.9%	35.6%
HOV	179,939	303,645	275,439	126,832	885,855	HOV	7.9%	7.8%	7.9%	8.4%	7.9%
Expressway/Parkway	101	244	121	161	627	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	645,422	1,093,950	984,886	377,290	3,101,548	Principal Arterial	28.5%	28.0%	28.4%	25.1%	27.8%
Minor Arterial	410,576	706,029	629,042	194,443	1,940,090	Minor Arterial	18.1%	18.0%	18.1%	12.9%	17.4%
Major Collector	101,741	148,744	152,587	35,911	438,984	Major Collector	4.5%	3.8%	4.4%	2.4%	3.9%
Minor Collector	6,863	11,541	10,238	2,555	31,198	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	155,109	258,393	223,879	117,828	755,209	Ramp	6.8%	6.6%	6.5%	7.8%	6.8%
Trucks Only	6,607	10,480	10,442	3,240	30,769	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,265,762</b>	<b>3,912,003</b>	<b>3,469,589</b>	<b>1,501,865</b>	<b>11,149,218</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4A : Study Area						SR710GAP 08R35a3_LRT4A : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	83,225	155,410	132,998	72,474	444,107	Freeway	40.7%	41.2%	40.7%	50.3%	42.2%
HOV	17,009	32,362	30,267	10,796	90,434	HOV	8.3%	8.6%	9.3%	7.5%	8.6%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	38,853	70,898	61,631	22,791	194,173	Principal Arterial	19.0%	18.8%	18.8%	15.8%	18.4%
Minor Arterial	42,209	76,362	66,508	21,013	206,093	Minor Arterial	20.6%	20.3%	20.3%	14.6%	19.6%
Major Collector	1,396	2,383	2,295	632	6,707	Major Collector	0.7%	0.6%	0.7%	0.4%	0.6%
Minor Collector	1,035	2,061	1,688	427	5,211	Minor Collector	0.5%	0.5%	0.5%	0.3%	0.5%
Ramp	20,933	37,596	31,686	15,839	106,054	Ramp	10.2%	10.0%	9.7%	11.0%	10.1%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>204,660</b>	<b>377,073</b>	<b>327,073</b>	<b>143,972</b>	<b>1,052,779</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.8: 2035 LRT-4B Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_LRT4B : Region						SR710GAP 08R35a3_LRT4B : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,758,401	2,955,583	2,665,760	1,370,877	8,750,621	Freeway	35.7%	36.4%	35.8%	43.1%	36.9%
HOV	304,175	531,523	476,218	222,976	1,534,892	HOV	6.2%	6.5%	6.4%	7.0%	6.5%
Expressway/Parkway	54,215	135,806	105,382	56,580	351,983	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,188,381	1,934,027	1,771,447	694,768	5,588,623	Principal Arterial	24.1%	23.8%	23.8%	21.8%	23.6%
Minor Arterial	906,678	1,537,941	1,393,320	481,685	4,319,624	Minor Arterial	18.4%	18.9%	18.7%	15.1%	18.2%
Major Collector	359,308	504,508	510,132	135,713	1,509,662	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,333	51,949	48,240	15,818	146,341	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	319,703	468,307	461,175	200,774	1,449,959	Ramp	6.5%	5.8%	6.2%	6.3%	6.1%
Trucks Only	6,758	10,814	10,720	3,414	31,706	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,927,953</b>	<b>8,130,459</b>	<b>7,442,395</b>	<b>3,182,605</b>	<b>23,683,412</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4B : LA County						SR710GAP 08R35a3_LRT4B : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	760,224	1,378,256	1,183,187	642,546	3,964,212	Freeway	33.5%	35.2%	34.1%	42.8%	35.5%
HOV	180,014	304,577	275,762	127,548	887,901	HOV	7.9%	7.8%	7.9%	8.5%	8.0%
Expressway/Parkway	101	245	121	155	622	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	645,199	1,093,936	985,453	377,462	3,102,051	Principal Arterial	28.5%	28.0%	28.4%	25.1%	27.8%
Minor Arterial	410,377	705,201	629,269	194,342	1,939,189	Minor Arterial	18.1%	18.0%	18.1%	12.9%	17.4%
Major Collector	102,206	149,265	152,188	35,953	439,612	Major Collector	4.5%	3.8%	4.4%	2.4%	3.9%
Minor Collector	6,850	11,507	10,272	2,547	31,175	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	155,382	258,756	224,063	118,114	756,316	Ramp	6.9%	6.6%	6.5%	7.9%	6.8%
Trucks Only	6,606	10,461	10,437	3,233	30,736	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,266,959</b>	<b>3,912,204</b>	<b>3,470,751</b>	<b>1,501,900</b>	<b>11,151,814</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4B : Study Area						SR710GAP 08R35a3_LRT4B : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	83,243	155,382	133,091	72,449	444,165	Freeway	40.7%	41.2%	40.7%	50.3%	42.2%
HOV	17,015	32,351	30,287	10,819	90,472	HOV	8.3%	8.6%	9.3%	7.5%	8.6%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	38,858	70,877	61,649	22,798	194,182	Principal Arterial	19.0%	18.8%	18.8%	15.8%	18.4%
Minor Arterial	42,217	76,359	66,517	21,022	206,115	Minor Arterial	20.6%	20.3%	20.3%	14.6%	19.6%
Major Collector	1,397	2,380	2,296	632	6,705	Major Collector	0.7%	0.6%	0.7%	0.4%	0.6%
Minor Collector	1,034	2,045	1,692	421	5,192	Minor Collector	0.5%	0.5%	0.5%	0.3%	0.5%
Ramp	20,913	37,549	31,692	15,819	105,974	Ramp	10.2%	10.0%	9.7%	11.0%	10.1%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>204,678</b>	<b>376,942</b>	<b>327,225</b>	<b>143,960</b>	<b>1,052,805</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.9: 2035 LRT-4D Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_LRT4D : Region						SR710GAP 08R35a3_LRT4D : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,757,022	2,953,302	2,664,667	1,371,271	8,746,261	Freeway	35.7%	36.3%	35.8%	43.1%	36.9%
HOV	304,370	531,319	475,999	222,714	1,534,403	HOV	6.2%	6.5%	6.4%	7.0%	6.5%
Expressway/Parkway	54,234	135,775	105,342	56,560	351,911	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,189,637	1,934,144	1,771,767	694,681	5,590,228	Principal Arterial	24.1%	23.8%	23.8%	21.8%	23.6%
Minor Arterial	906,531	1,538,138	1,393,194	481,730	4,319,593	Minor Arterial	18.4%	18.9%	18.7%	15.1%	18.2%
Major Collector	358,823	504,562	510,148	135,745	1,509,278	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,364	51,957	48,212	15,769	146,301	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	318,640	467,746	460,242	200,592	1,447,220	Ramp	6.5%	5.8%	6.2%	6.3%	6.1%
Trucks Only	6,754	10,823	10,725	3,454	31,756	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,926,373</b>	<b>8,127,765</b>	<b>7,440,298</b>	<b>3,182,516</b>	<b>23,676,951</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4D : LA County						SR710GAP 08R35a3_LRT4D : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	758,921	1,377,391	1,182,692	643,024	3,962,028	Freeway	33.5%	35.2%	34.1%	42.8%	35.5%
HOV	180,253	304,891	275,498	127,261	887,902	HOV	8.0%	7.8%	7.9%	8.5%	8.0%
Expressway/Parkway	102	245	121	160	628	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	645,284	1,094,132	984,911	377,285	3,101,613	Principal Arterial	28.5%	28.0%	28.4%	25.1%	27.8%
Minor Arterial	410,321	705,338	628,593	194,425	1,938,677	Minor Arterial	18.1%	18.0%	18.1%	12.9%	17.4%
Major Collector	101,824	149,055	152,381	35,950	439,210	Major Collector	4.5%	3.8%	4.4%	2.4%	3.9%
Minor Collector	6,868	11,511	10,262	2,547	31,189	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	155,293	258,417	223,802	117,875	755,387	Ramp	6.9%	6.6%	6.5%	7.8%	6.8%
Trucks Only	6,603	10,457	10,435	3,237	30,731	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,265,469</b>	<b>3,911,437</b>	<b>3,468,696</b>	<b>1,501,765</b>	<b>11,147,366</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4D : Study Area						SR710GAP 08R35a3_LRT4D : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	83,185	155,260	133,074	72,481	444,000	Freeway	40.7%	41.2%	40.7%	50.3%	42.2%
HOV	17,010	32,361	30,280	10,783	90,435	HOV	8.3%	8.6%	9.3%	7.5%	8.6%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	38,858	70,945	61,626	22,792	194,221	Principal Arterial	19.0%	18.8%	18.8%	15.8%	18.5%
Minor Arterial	42,211	76,378	66,505	21,017	206,110	Minor Arterial	20.6%	20.3%	20.3%	14.6%	19.6%
Major Collector	1,395	2,382	2,294	632	6,703	Major Collector	0.7%	0.6%	0.7%	0.4%	0.6%
Minor Collector	1,035	2,045	1,691	421	5,193	Minor Collector	0.5%	0.5%	0.5%	0.3%	0.5%
Ramp	20,929	37,554	31,692	15,840	106,016	Ramp	10.2%	10.0%	9.7%	11.0%	10.1%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>204,624</b>	<b>376,925</b>	<b>327,162</b>	<b>143,967</b>	<b>1,052,678</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.10: 2035 LRT-6 Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_LRT6 : Region						SR710GAP 08R35a3_LRT6 : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,756,531	2,956,349	2,664,439	1,372,824	8,750,144	Freeway	35.7%	36.4%	35.8%	43.1%	36.9%
HOV	304,413	530,478	475,584	220,857	1,531,331	HOV	6.2%	6.5%	6.4%	6.9%	6.5%
Expressway/Parkway	54,215	135,792	105,408	56,570	351,986	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,188,804	1,934,690	1,772,261	694,564	5,590,319	Principal Arterial	24.1%	23.8%	23.8%	21.8%	23.6%
Minor Arterial	906,571	1,538,012	1,394,157	481,702	4,320,442	Minor Arterial	18.4%	18.9%	18.7%	15.1%	18.2%
Major Collector	359,018	504,174	511,113	135,723	1,510,028	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,353	51,965	48,198	15,818	146,333	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	320,177	467,611	459,920	201,091	1,448,799	Ramp	6.5%	5.8%	6.2%	6.3%	6.1%
Trucks Only	6,755	10,849	10,732	3,430	31,766	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,926,837</b>	<b>8,129,921</b>	<b>7,441,813</b>	<b>3,182,578</b>	<b>23,681,149</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT6 : LA County						SR710GAP 08R35a3_LRT6 : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	759,235	1,378,243	1,182,228	644,114	3,963,820	Freeway	33.5%	35.2%	34.1%	42.9%	35.6%
HOV	180,147	304,129	275,325	125,956	885,557	HOV	7.9%	7.8%	7.9%	8.4%	7.9%
Expressway/Parkway	101	244	121	157	624	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	645,628	1,094,256	984,828	377,343	3,102,056	Principal Arterial	28.5%	28.0%	28.4%	25.1%	27.8%
Minor Arterial	410,407	705,386	629,417	194,346	1,939,557	Minor Arterial	18.1%	18.0%	18.1%	12.9%	17.4%
Major Collector	101,999	148,939	153,158	35,930	440,026	Major Collector	4.5%	3.8%	4.4%	2.4%	3.9%
Minor Collector	6,857	11,493	10,266	2,555	31,170	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	155,405	258,519	223,952	118,123	755,999	Ramp	6.9%	6.6%	6.5%	7.9%	6.8%
Trucks Only	6,606	10,486	10,434	3,238	30,764	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,266,387</b>	<b>3,911,695</b>	<b>3,469,729</b>	<b>1,501,761</b>	<b>11,149,572</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT6 : Study Area						SR710GAP 08R35a3_LRT6 : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	83,246	155,394	133,110	72,495	444,245	Freeway	40.7%	41.2%	40.7%	50.3%	42.2%
HOV	17,011	32,361	30,288	10,811	90,470	HOV	8.3%	8.6%	9.3%	7.5%	8.6%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	38,844	70,904	61,653	22,780	194,182	Principal Arterial	19.0%	18.8%	18.8%	15.8%	18.4%
Minor Arterial	42,218	76,339	66,501	21,012	206,070	Minor Arterial	20.6%	20.3%	20.3%	14.6%	19.6%
Major Collector	1,397	2,383	2,301	632	6,713	Major Collector	0.7%	0.6%	0.7%	0.4%	0.6%
Minor Collector	1,034	2,034	1,682	424	5,174	Minor Collector	0.5%	0.5%	0.5%	0.3%	0.5%
Ramp	20,928	37,501	31,678	15,840	105,947	Ramp	10.2%	9.9%	9.7%	11.0%	10.1%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>204,676</b>	<b>376,917</b>	<b>327,213</b>	<b>143,995</b>	<b>1,052,801</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.11: 2035 F-2 Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_FT2 : Region						SR710GAP 08R35a3_FT2 : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,768,410	2,968,485	2,680,618	1,378,062	8,795,575	Freeway	35.8%	36.5%	36.0%	43.3%	37.1%
HOV	303,582	528,678	474,728	221,140	1,528,128	HOV	6.2%	6.5%	6.4%	6.9%	6.4%
Expressway/Parkway	54,311	135,650	105,422	56,587	351,970	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,187,143	1,927,879	1,767,072	692,811	5,574,906	Principal Arterial	24.1%	23.7%	23.7%	21.7%	23.5%
Minor Arterial	902,342	1,529,112	1,387,009	481,432	4,299,895	Minor Arterial	18.3%	18.8%	18.6%	15.1%	18.1%
Major Collector	362,189	505,713	513,708	135,982	1,517,592	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,257	51,700	47,926	15,725	145,607	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	320,730	469,383	463,202	200,794	1,454,110	Ramp	6.5%	5.8%	6.2%	6.3%	6.1%
Trucks Only	7,105	11,617	11,088	3,571	33,381	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,936,068</b>	<b>8,128,217</b>	<b>7,450,773</b>	<b>3,186,106</b>	<b>23,701,164</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT2 : LA County						SR710GAP 08R35a3_FT2 : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	769,362	1,391,092	1,197,279	649,298	4,007,031	Freeway	33.9%	35.6%	34.4%	43.1%	35.9%
HOV	178,918	300,863	274,032	125,971	879,783	HOV	7.9%	7.7%	7.9%	8.4%	7.9%
Expressway/Parkway	102	245	121	161	630	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	642,945	1,087,572	980,221	375,615	3,086,353	Principal Arterial	28.3%	27.8%	28.2%	25.0%	27.6%
Minor Arterial	405,742	696,304	622,134	194,113	1,918,293	Minor Arterial	17.9%	17.9%	17.9%	12.9%	17.2%
Major Collector	105,082	150,152	155,736	36,117	447,086	Major Collector	4.6%	3.8%	4.5%	2.4%	4.0%
Minor Collector	6,726	11,299	9,975	2,530	30,529	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	156,434	259,788	226,308	118,028	760,559	Ramp	6.9%	6.6%	6.5%	7.8%	6.8%
Trucks Only	6,957	11,214	10,776	3,375	32,322	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,272,269</b>	<b>3,908,528</b>	<b>3,476,581</b>	<b>1,505,207</b>	<b>11,162,585</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT2 : Study Area						SR710GAP 08R35a3_FT2 : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	89,319	164,354	141,314	75,265	470,252	Freeway	44.2%	44.0%	43.7%	51.6%	45.0%
HOV	16,668	32,377	29,840	10,719	89,604	HOV	8.2%	8.7%	9.2%	7.4%	8.6%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	35,758	65,637	56,661	21,754	179,810	Principal Arterial	17.7%	17.6%	17.5%	14.9%	17.2%
Minor Arterial	38,041	69,813	59,819	20,573	188,246	Minor Arterial	18.8%	18.7%	18.5%	14.1%	18.0%
Major Collector	1,233	2,141	1,986	602	5,960	Major Collector	0.6%	0.6%	0.6%	0.4%	0.6%
Minor Collector	929	1,900	1,436	391	4,656	Minor Collector	0.5%	0.5%	0.4%	0.3%	0.4%
Ramp	20,297	37,183	32,037	16,421	105,938	Ramp	10.0%	10.0%	9.9%	11.3%	10.1%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>202,244</b>	<b>373,403</b>	<b>323,092</b>	<b>145,725</b>	<b>1,044,465</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.12: 2035 F-5 Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_FT5 : Region						SR710GAP 08R35a3_FT5 : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,768,991	2,970,947	2,680,002	1,377,319	8,797,260	Freeway	35.8%	36.6%	36.0%	43.3%	37.1%
HOV	305,058	530,630	477,525	222,693	1,535,908	HOV	6.2%	6.5%	6.4%	7.0%	6.5%
Expressway/Parkway	54,133	135,724	105,401	56,594	351,852	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,186,761	1,925,646	1,767,093	690,980	5,570,480	Principal Arterial	24.0%	23.7%	23.7%	21.7%	23.5%
Minor Arterial	901,990	1,528,559	1,388,113	480,698	4,299,360	Minor Arterial	18.3%	18.8%	18.6%	15.1%	18.1%
Major Collector	361,771	505,642	513,580	135,742	1,516,735	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,254	51,691	47,828	15,739	145,512	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	320,646	467,860	461,850	200,478	1,450,834	Ramp	6.5%	5.8%	6.2%	6.3%	6.1%
Trucks Only	7,123	11,591	11,135	3,592	33,440	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,936,728</b>	<b>8,128,292</b>	<b>7,452,528</b>	<b>3,183,834</b>	<b>23,701,381</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT5 : LA County						SR710GAP 08R35a3_FT5 : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	770,408	1,392,833	1,197,339	648,716	4,009,297	Freeway	33.9%	35.6%	34.4%	43.2%	35.9%
HOV	180,476	303,767	276,437	127,306	887,986	HOV	7.9%	7.8%	7.9%	8.5%	8.0%
Expressway/Parkway	102	244	122	160	628	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	642,320	1,085,003	979,614	373,668	3,080,604	Principal Arterial	28.3%	27.8%	28.2%	24.9%	27.6%
Minor Arterial	405,328	695,948	622,775	193,408	1,917,459	Minor Arterial	17.8%	17.8%	17.9%	12.9%	17.2%
Major Collector	104,692	150,237	155,509	35,997	446,435	Major Collector	4.6%	3.8%	4.5%	2.4%	4.0%
Minor Collector	6,713	11,232	9,937	2,489	30,371	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	156,092	258,451	225,266	117,709	757,518	Ramp	6.9%	6.6%	6.5%	7.8%	6.8%
Trucks Only	6,973	11,250	10,844	3,410	32,477	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,273,104</b>	<b>3,908,964</b>	<b>3,477,842</b>	<b>1,502,864</b>	<b>11,162,774</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT5 : Study Area						SR710GAP 08R35a3_FT5 : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	89,537	166,556	142,154	76,578	474,825	Freeway	44.4%	44.8%	44.1%	53.4%	45.7%
HOV	17,078	32,651	30,128	10,605	90,462	HOV	8.5%	8.8%	9.3%	7.4%	8.7%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	34,682	63,003	54,978	19,908	172,570	Principal Arterial	17.2%	16.9%	17.1%	13.9%	16.6%
Minor Arterial	37,962	69,171	59,952	19,822	186,907	Minor Arterial	18.8%	18.6%	18.6%	13.8%	18.0%
Major Collector	1,250	2,173	2,044	586	6,053	Major Collector	0.6%	0.6%	0.6%	0.4%	0.6%
Minor Collector	894	1,829	1,372	364	4,459	Minor Collector	0.4%	0.5%	0.4%	0.3%	0.4%
Ramp	20,165	36,513	31,791	15,657	104,127	Ramp	10.0%	9.8%	9.9%	10.9%	10.0%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>201,568</b>	<b>371,895</b>	<b>322,419</b>	<b>143,521</b>	<b>1,039,403</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.13: 2035 F-6 Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_FS6 : Region						SR710GAP 08R35a3_FS6 : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,773,035	2,973,355	2,685,766	1,376,320	8,808,476	Freeway	35.9%	36.6%	36.0%	43.2%	37.2%
HOV	305,232	532,081	478,749	224,103	1,540,164	HOV	6.2%	6.5%	6.4%	7.0%	6.5%
Expressway/Parkway	54,216	135,691	105,376	56,582	351,864	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,184,949	1,923,108	1,765,448	690,684	5,564,189	Principal Arterial	24.0%	23.7%	23.7%	21.7%	23.5%
Minor Arterial	900,099	1,527,143	1,384,674	480,015	4,291,930	Minor Arterial	18.2%	18.8%	18.6%	15.1%	18.1%
Major Collector	361,848	505,706	513,988	135,688	1,517,231	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,215	51,628	47,799	15,565	145,207	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	318,343	464,593	457,907	199,993	1,440,836	Ramp	6.5%	5.7%	6.1%	6.3%	6.1%
Trucks Only	7,159	11,682	11,128	3,671	33,640	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,935,096</b>	<b>8,124,986</b>	<b>7,450,834</b>	<b>3,182,622</b>	<b>23,693,537</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FS6 : LA County						SR710GAP 08R35a3_FS6 : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	774,081	1,395,169	1,203,148	648,004	4,020,401	Freeway	34.1%	35.7%	34.6%	43.1%	36.0%
HOV	180,734	305,286	277,792	128,662	892,474	HOV	8.0%	7.8%	8.0%	8.6%	8.0%
Expressway/Parkway	102	245	122	158	626	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	641,282	1,082,852	977,852	373,085	3,075,071	Principal Arterial	28.2%	27.7%	28.1%	24.8%	27.6%
Minor Arterial	403,691	694,149	619,527	192,690	1,910,057	Minor Arterial	17.8%	17.8%	17.8%	12.8%	17.1%
Major Collector	104,704	150,399	155,983	35,862	446,946	Major Collector	4.6%	3.9%	4.5%	2.4%	4.0%
Minor Collector	6,679	11,207	9,899	2,416	30,201	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	153,647	255,064	221,224	117,616	747,551	Ramp	6.8%	6.5%	6.4%	7.8%	6.7%
Trucks Only	7,011	11,317	10,840	3,449	32,617	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,271,930</b>	<b>3,905,687</b>	<b>3,476,386</b>	<b>1,501,941</b>	<b>11,155,945</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FS6 : Study Area						SR710GAP 08R35a3_FS6 : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	92,169	168,985	146,235	75,149	482,539	Freeway	45.8%	45.6%	45.5%	53.0%	46.6%
HOV	18,992	37,214	34,249	12,165	102,620	HOV	9.4%	10.1%	10.6%	8.6%	9.9%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	33,798	61,255	53,322	19,185	167,560	Principal Arterial	16.8%	16.5%	16.6%	13.5%	16.2%
Minor Arterial	36,836	66,965	57,937	19,272	181,009	Minor Arterial	18.3%	18.1%	18.0%	13.6%	17.5%
Major Collector	1,194	2,052	1,972	515	5,733	Major Collector	0.6%	0.6%	0.6%	0.4%	0.6%
Minor Collector	855	1,775	1,313	284	4,226	Minor Collector	0.4%	0.5%	0.4%	0.2%	0.4%
Ramp	17,351	32,021	26,609	15,257	91,237	Ramp	8.6%	8.6%	8.3%	10.8%	8.8%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>201,194</b>	<b>370,267</b>	<b>321,636</b>	<b>141,826</b>	<b>1,034,924</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.14: 2035 F-7 Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_FT7 : Region						SR710GAP 08R35a3_FT7 : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,772,543	2,975,571	2,686,977	1,378,822	8,813,913	Freeway	36.0%	36.6%	36.1%	43.3%	37.2%
HOV	302,941	527,587	475,111	222,049	1,527,689	HOV	6.1%	6.5%	6.4%	7.0%	6.4%
Expressway/Parkway	54,173	135,794	105,368	56,538	351,873	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,184,588	1,926,194	1,765,736	691,505	5,568,024	Principal Arterial	24.0%	23.7%	23.7%	21.7%	23.5%
Minor Arterial	900,568	1,527,513	1,384,444	480,604	4,293,128	Minor Arterial	18.3%	18.8%	18.6%	15.1%	18.1%
Major Collector	360,897	505,968	512,952	135,699	1,515,516	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,223	51,699	47,927	15,804	145,653	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	317,153	465,426	456,958	200,781	1,440,317	Ramp	6.4%	5.7%	6.1%	6.3%	6.1%
Trucks Only	7,209	11,787	11,210	3,665	33,872	Trucks Only	0.1%	0.1%	0.2%	0.1%	0.1%
<b>Total</b>	<b>4,930,295</b>	<b>8,127,539</b>	<b>7,446,684</b>	<b>3,185,467</b>	<b>23,689,985</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT7 : LA County						SR710GAP 08R35a3_FT7 : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	773,584	1,398,089	1,204,401	649,615	4,025,690	Freeway	34.1%	35.8%	34.7%	43.2%	36.1%
HOV	178,486	300,751	274,324	126,793	880,353	HOV	7.9%	7.7%	7.9%	8.4%	7.9%
Expressway/Parkway	102	245	121	159	628	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	640,306	1,085,618	977,599	374,105	3,077,629	Principal Arterial	28.2%	27.8%	28.1%	24.9%	27.6%
Minor Arterial	404,266	694,534	619,678	193,263	1,911,740	Minor Arterial	17.8%	17.8%	17.8%	12.9%	17.1%
Major Collector	103,913	150,529	155,017	36,029	445,489	Major Collector	4.6%	3.9%	4.5%	2.4%	4.0%
Minor Collector	6,721	11,292	9,998	2,534	30,545	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	153,423	255,677	221,091	117,906	748,097	Ramp	6.8%	6.5%	6.4%	7.8%	6.7%
Trucks Only	7,059	11,404	10,913	3,468	32,843	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,267,859</b>	<b>3,908,140</b>	<b>3,473,143</b>	<b>1,503,873</b>	<b>11,153,014</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT7 : Study Area						SR710GAP 08R35a3_FT7 : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	92,812	170,817	148,277	76,160	488,066	Freeway	46.1%	46.0%	46.0%	53.2%	47.0%
HOV	17,164	33,057	30,524	10,617	91,362	HOV	8.5%	8.9%	9.5%	7.4%	8.8%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	34,417	62,943	54,416	20,205	171,982	Principal Arterial	17.1%	17.0%	16.9%	14.1%	16.6%
Minor Arterial	37,275	68,114	58,775	19,825	183,989	Minor Arterial	18.5%	18.4%	18.2%	13.8%	17.7%
Major Collector	1,189	2,078	1,940	588	5,795	Major Collector	0.6%	0.6%	0.6%	0.4%	0.6%
Minor Collector	901	1,854	1,368	387	4,510	Minor Collector	0.4%	0.5%	0.4%	0.3%	0.4%
Ramp	17,503	32,203	27,148	15,475	92,329	Ramp	8.7%	8.7%	8.4%	10.8%	8.9%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>201,260</b>	<b>371,067</b>	<b>322,448</b>	<b>143,257</b>	<b>1,038,032</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.15: 2035 H-2 Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_H2A : Region						SR710GAP 08R35a3_H2A : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,761,489	2,958,944	2,668,705	1,373,508	8,762,646	Freeway	35.7%	36.4%	35.8%	43.1%	37.0%
HOV	304,832	530,750	476,837	221,086	1,533,505	HOV	6.2%	6.5%	6.4%	6.9%	6.5%
Expressway/Parkway	54,487	136,175	105,812	56,865	353,339	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,191,295	1,939,385	1,778,237	697,227	5,606,144	Principal Arterial	24.1%	23.9%	23.9%	21.9%	23.7%
Minor Arterial	904,959	1,532,468	1,388,567	480,405	4,306,399	Minor Arterial	18.3%	18.8%	18.6%	15.1%	18.2%
Major Collector	360,812	504,418	513,044	135,823	1,514,097	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,447	52,104	48,151	15,797	146,500	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	318,281	465,929	457,763	200,352	1,442,325	Ramp	6.5%	5.7%	6.1%	6.3%	6.1%
Trucks Only	6,948	11,187	10,985	3,517	32,639	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,933,551</b>	<b>8,131,361</b>	<b>7,448,101</b>	<b>3,184,581</b>	<b>23,697,594</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_H2A : LA County						SR710GAP 08R35a3_H2A : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	762,946	1,380,789	1,186,742	644,691	3,975,168	Freeway	33.6%	35.3%	34.2%	42.9%	35.6%
HOV	180,730	303,751	276,184	125,616	886,280	HOV	8.0%	7.8%	7.9%	8.4%	7.9%
Expressway/Parkway	352	771	506	419	2,048	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	647,670	1,099,376	990,145	379,656	3,116,847	Principal Arterial	28.5%	28.1%	28.5%	25.3%	27.9%
Minor Arterial	408,494	699,446	623,855	193,022	1,924,817	Minor Arterial	18.0%	17.9%	18.0%	12.8%	17.2%
Major Collector	103,430	149,041	154,856	36,027	443,354	Major Collector	4.6%	3.8%	4.5%	2.4%	4.0%
Minor Collector	6,936	11,636	10,252	2,548	31,371	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	154,245	256,290	221,652	117,530	749,717	Ramp	6.8%	6.6%	6.4%	7.8%	6.7%
Trucks Only	6,795	10,809	10,673	3,310	31,588	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,271,597</b>	<b>3,911,909</b>	<b>3,474,866</b>	<b>1,502,819</b>	<b>11,161,191</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_H2A : Study Area						SR710GAP 08R35a3_H2A : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	82,950	154,584	132,645	71,907	442,087	Freeway	40.9%	41.3%	41.0%	50.1%	42.3%
HOV	16,963	32,363	30,192	10,726	90,243	HOV	8.4%	8.6%	9.3%	7.5%	8.6%
Expressway/Parkway	251	526	385	261	1,423	Expressway/Parkway	0.1%	0.1%	0.1%	0.2%	0.1%
Principal Arterial	41,787	76,421	65,944	24,756	208,908	Principal Arterial	20.6%	20.4%	20.4%	17.2%	20.0%
Minor Arterial	39,288	71,117	61,697	19,790	191,892	Minor Arterial	19.4%	19.0%	19.0%	13.8%	18.4%
Major Collector	1,420	2,469	2,338	632	6,860	Major Collector	0.7%	0.7%	0.7%	0.4%	0.7%
Minor Collector	1,080	2,218	1,696	424	5,417	Minor Collector	0.5%	0.6%	0.5%	0.3%	0.5%
Ramp	19,236	34,753	28,986	15,127	98,102	Ramp	9.5%	9.3%	8.9%	10.5%	9.4%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>202,975</b>	<b>374,451</b>	<b>323,882</b>	<b>143,623</b>	<b>1,044,932</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.16: 2035 H-6 Person Hours of Travel by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_H6A : Region						SR710GAP 08R35a3_H6A : Region					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	1,760,742	2,956,766	2,668,304	1,372,419	8,758,231	Freeway	35.7%	36.4%	35.8%	43.1%	37.0%
HOV	305,113	531,055	475,832	222,589	1,534,589	HOV	6.2%	6.5%	6.4%	7.0%	6.5%
Expressway/Parkway	54,486	136,292	105,852	56,803	353,433	Expressway/Parkway	1.1%	1.7%	1.4%	1.8%	1.5%
Principal Arterial	1,191,178	1,938,445	1,776,782	695,617	5,602,021	Principal Arterial	24.2%	23.8%	23.9%	21.8%	23.6%
Minor Arterial	904,510	1,533,511	1,391,130	481,100	4,310,250	Minor Arterial	18.3%	18.9%	18.7%	15.1%	18.2%
Major Collector	360,210	504,829	512,073	135,786	1,512,899	Major Collector	7.3%	6.2%	6.9%	4.3%	6.4%
Minor Collector	30,277	51,723	47,971	15,664	145,635	Minor Collector	0.6%	0.6%	0.6%	0.5%	0.6%
Ramp	318,508	465,191	458,966	200,750	1,443,415	Ramp	6.5%	5.7%	6.2%	6.3%	6.1%
Trucks Only	6,775	10,934	10,764	3,471	31,944	Trucks Only	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>4,931,799</b>	<b>8,128,746</b>	<b>7,447,674</b>	<b>3,184,198</b>	<b>23,692,417</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_H6A : LA County						SR710GAP 08R35a3_H6A : LA County					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	762,371	1,379,772	1,186,238	643,544	3,971,925	Freeway	33.6%	35.3%	34.1%	42.8%	35.6%
HOV	180,878	303,942	275,398	127,238	887,456	HOV	8.0%	7.8%	7.9%	8.5%	8.0%
Expressway/Parkway	380	787	543	393	2,102	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	647,379	1,097,874	989,000	378,109	3,112,362	Principal Arterial	28.5%	28.1%	28.5%	25.2%	27.9%
Minor Arterial	408,300	700,790	626,388	193,814	1,929,293	Minor Arterial	18.0%	17.9%	18.0%	12.9%	17.3%
Major Collector	103,118	149,445	154,019	36,008	442,589	Major Collector	4.5%	3.8%	4.4%	2.4%	4.0%
Minor Collector	6,788	11,289	10,032	2,422	30,531	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	154,415	256,281	222,829	117,891	751,417	Ramp	6.8%	6.6%	6.4%	7.8%	6.7%
Trucks Only	6,628	10,582	10,481	3,296	30,987	Trucks Only	0.3%	0.3%	0.3%	0.2%	0.3%
<b>Total</b>	<b>2,270,257</b>	<b>3,910,763</b>	<b>3,474,927</b>	<b>1,502,715</b>	<b>11,158,662</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_H6A : Study Area						SR710GAP 08R35a3_H6A : Study Area					
Total Person Hours Traveled (PHT) by Facility Classification						Percent of Total Person Hours Traveled (PHT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	84,063	155,797	133,779	72,472	446,110	Freeway	41.6%	41.8%	41.3%	50.6%	42.8%
HOV	17,082	32,470	30,352	10,812	90,716	HOV	8.5%	8.7%	9.4%	7.5%	8.7%
Expressway/Parkway	278	542	421	239	1,481	Expressway/Parkway	0.1%	0.1%	0.1%	0.2%	0.1%
Principal Arterial	39,639	72,596	62,695	22,857	197,787	Principal Arterial	19.6%	19.5%	19.4%	16.0%	19.0%
Minor Arterial	39,907	72,593	63,357	20,423	196,280	Minor Arterial	19.7%	19.5%	19.6%	14.3%	18.8%
Major Collector	1,241	2,104	2,101	521	5,968	Major Collector	0.6%	0.6%	0.6%	0.4%	0.6%
Minor Collector	938	1,847	1,472	300	4,557	Minor Collector	0.5%	0.5%	0.5%	0.2%	0.4%
Ramp	19,006	34,896	29,602	15,611	99,116	Ramp	9.4%	9.4%	9.1%	10.9%	9.5%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>202,154</b>	<b>372,845</b>	<b>323,780</b>	<b>143,235</b>	<b>1,042,014</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table C.17: Percentage of Vehicular Person Hours Traveled on Dedicated or Managed Lanes in the Region, LA County, and Study Area**

Travel Model Evaluation	Geographic Area	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6
Percent of daily person hours of travel (PHT) on managed lane facilities, weighted by volume/use.	SCAG Region	4.3%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.4%	6.5%	6.5%	6.4%	6.5%	6.5%
	LA County	4.2%	7.9%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	7.9%	8.0%	8.0%	7.9%	7.9%	8.0%
	Study Area	7.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.7%	9.9%	8.8%	8.6%	8.7%

**Table C.18: Percentage of Vehicular Person Hours Traveled on Dedicated or Managed Lanes in the Study Area**

Screen Level 2: Performance Measure	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6
Percent of travel on facilities in study area with dedicated or managed operations, weighted by volume/use, for person-hours of daily travel.	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.7%	9.9%	8.8%	8.6%	8.7%

## D. Access to Regional Freeway and Transit System

### **Performance Measure Description**

The access to the regional freeway and transit system performance measure was developed to quantify the increase in the directional interchanges between the surface roadway network with the freeway system and between local and fixed-guideway transit systems. Travel on freeways is typically at a faster speed, and often provides a more direct route to destinations. In addition, in a more efficient system, roadway users are able to choose among alternative routes, allowing traffic to be distributed more evenly and reducing the amount of travel that must take place on congested facilities. For transit, having more connections among routes with high-frequency service provides riders with more options to reach their destinations and reduces transfer and travel time. This is particularly relevant in a dense transportation system, such as the one in LA County.

### **Calculation Process**

The access to the regional freeway and transit system performance measure includes counting the number of directional interchanges to and from new freeway facilities to measure new access to the regional freeway system. Each new system interchange ramp received 1 point and each new full interchange at a surface street received 2 points. Conversely, if existing movements were removed, points were subtracted, although not at the same rate. Typically the movements being removed were reduced at a level  $\frac{1}{2}$  of the new connections to reflect that the movements being removed typically did not serve the area as well. The only connections proposed to be removed are at SR 710 and Del Mar Blvd and California Blvd. For the transit system, a measure of new transit connections is simply the number of new transfer points between any new high-quality, high-frequency transit service and existing fixed-guideway service in the study area (the Metro Gold Line, Metrolink, and the El Monte Busway).

The performance measure is the difference in total freeway access points and high-frequency transit transfer locations between the No Build alternative and each build alternative (the value for the No Build alternative is zero). Figure D.1 provides schematics of the freeway and highway alternatives showing the new freeway access points.

Transit access is unchanged in the highway alternatives. Similarly, the TSM/TDM alternative does not increase the number of access points to high-frequency transit service. The location and number of new transit access points are summarized in Table D.1.

Table D.2 shows the total access points to the freeway and transit systems by alternative.

### **Performance Measure Values**

Table D.3 summarizes the total freeway and transit access point changes as compared to the No Build alternative. The F-6 alternative has the most new connection points, including Valley Boulevard, Mission Road, and Huntington Drive.

Figure D.1: Freeway Access Schematics

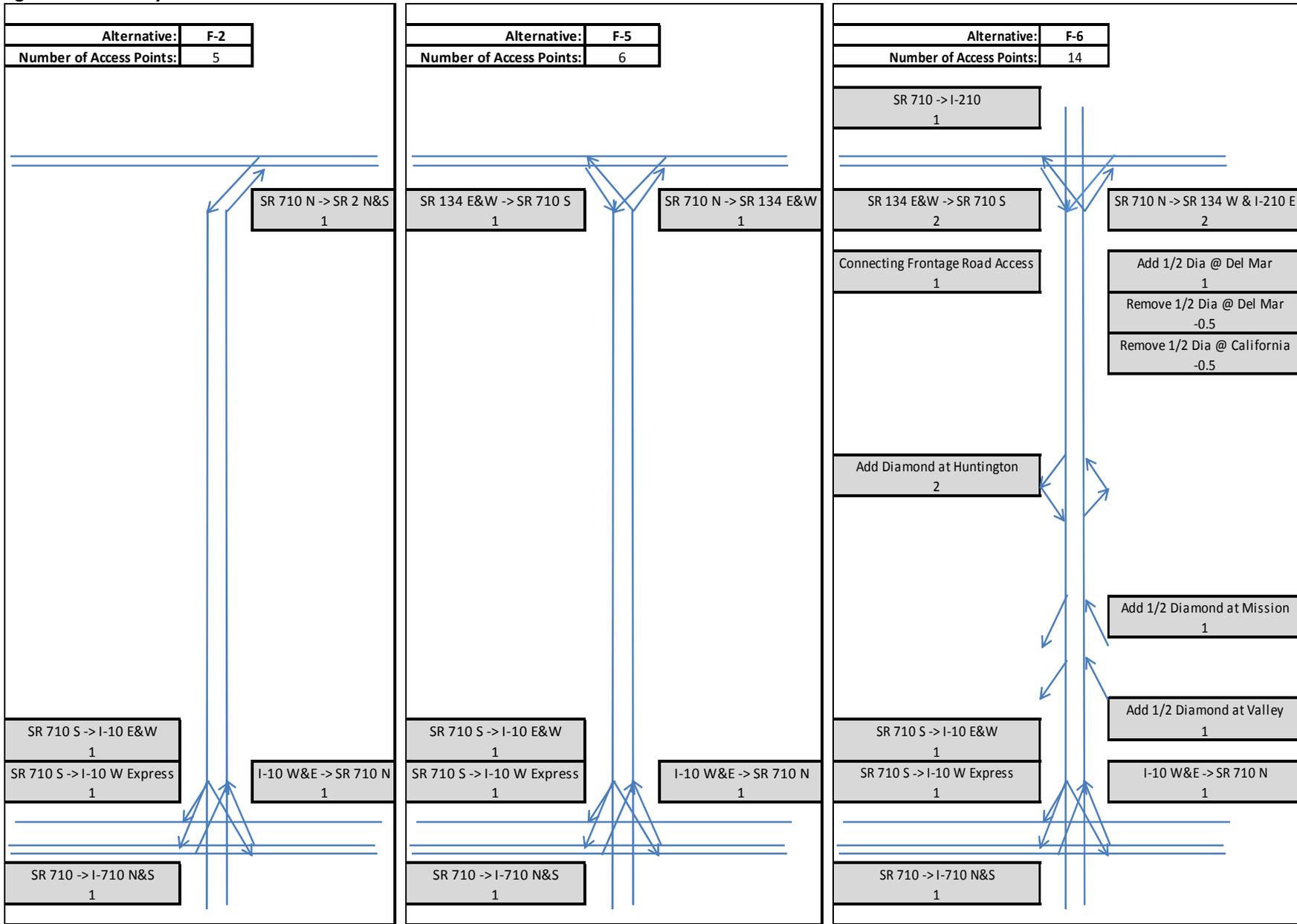
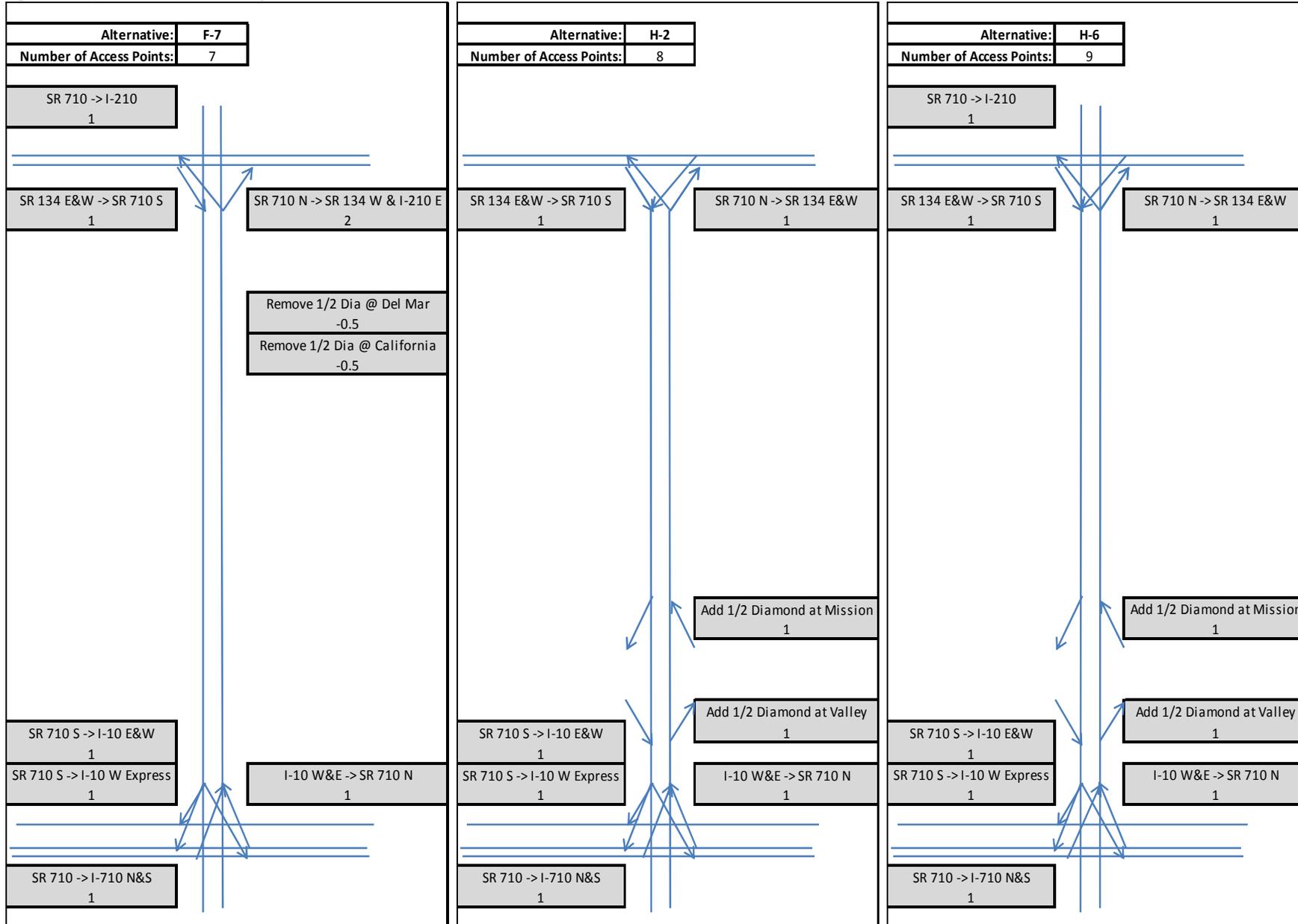


Figure D.1 (Continued): Freeway Access Schematics



**Table D.1: New Transit Access Points by Alternative**

Screen Level 2: Performance Measure	Additional Access Points	Count of Additional Access Points
BRT 1	Los Angeles Union Station	1
BRT 6	Gold Line Atlantic Station/Pomona	1
BRT 6A	Gold Line Atlantic Station/Pomona, Gold Line Fillmore Station	2
LRT 4A	East Los Angeles Civic Center, Cal State LA Metrolink Station, Gold Line Fillmore Station	3
LRT-4B	East Los Angeles Civic Center, Cal State LA Metrolink Station, Gold Line Fillmore Station	3
LRT-4D	Gold Line Atlantic Station/Beverly, Cal State LA Metrolink Station, Gold Line Fillmore Station	3
LRT-6	Gold Line Atlantic Station/Pomona, Gold Line Fillmore Station	2

**Table D.2: Freeway and Transit Access Points**

Travel Model Evaluation	Travel Mode	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F-6	F 7	H 2	H 6
Number of new interchanges connecting to existing highway facilities + new transit transfer points. Transit transfer points are between an exclusive new/existing transit facility.	Highway	0	0	0	0	0	0	0	0	0	5	6	14	7	8	9
	Transit	0	0	1	1	2	3	3	3	2	0	0	0	0	0	0

**Table D.3: Access to Regional Freeway and Transit System**

Screen Level 2: Performance Measure	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6

# E. Employment Accessibility

## Performance Measure Description

The employment accessibility performance measure was derived to quantify how many jobs are accessible to residents within a defined time interval from multiple locations. A map showing the origins that were used to determine the employment accessibility is provided in Figure E.1. With increasing population, employment, and the resulting increase in traffic and congestion, the number of accessible jobs will decrease between 2008 and the 2035 No Build alternative. The difference between the 2008 employment and the 2035 No Build alternative employment by origin location is shown in Figure E.2

Figure E.1: Map of Employment Accessibility Origins

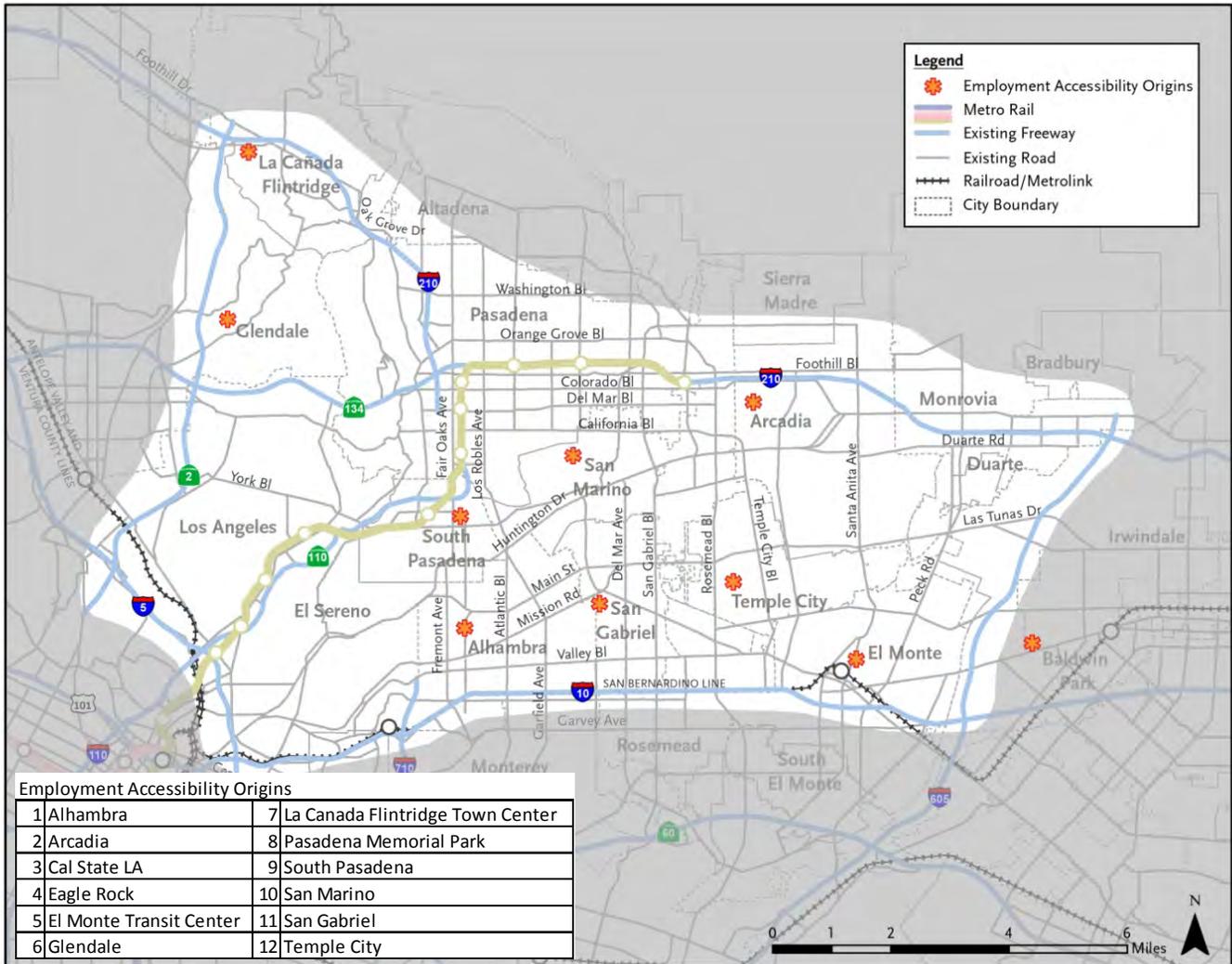
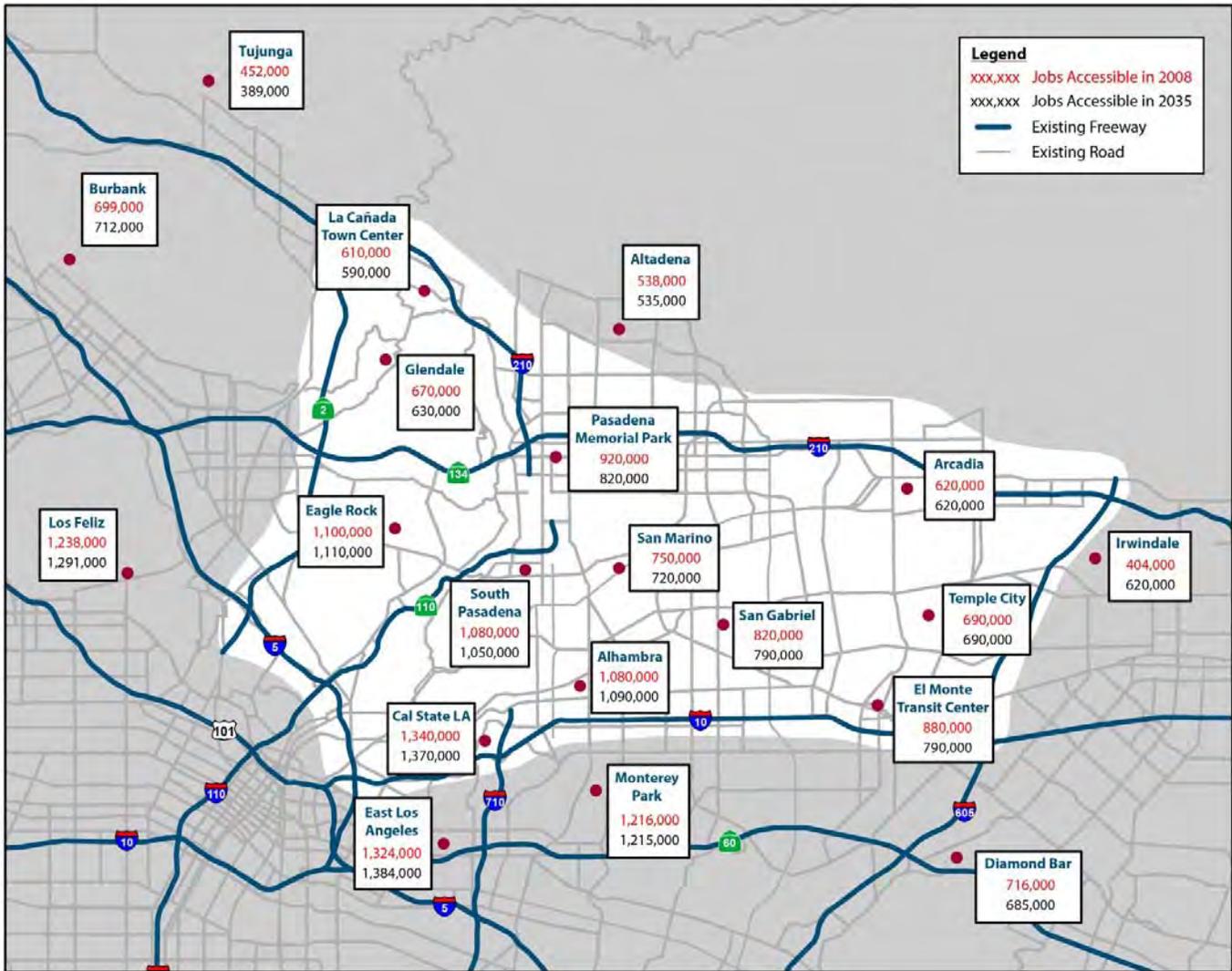


Figure E.2: Job Accessibility, 2008 and 2035



**Calculation Process**

A four-step process was used to calculate the average employment accessibility from the 12 origins in the study area by auto and transit. The calculation for employment accessibility used the 12 origin locations provided in Figure E.1 and sums the number of jobs accessible to residents. Raw model output skims (travel times) were used to calculate the travel time from the 12 origins to all TAZs by auto and transit. The number of jobs accessible is the average number of jobs accessible from all 12 origin areas by vehicular and transit modes of travel.

**Step 1:** Sensitivity testing was completed to determine the length of time used for this performance measure. The national average travel time to work is 25.3 minutes for 2011, according to the U.S. Census Bureau for 2011. The average travel time to work in LA County is 29.4 minutes for all modes of travel (<http://factfinder2.census.gov>; LA County means of transportation to work by selected characteristics, 2011 American Community Survey 1-year estimates). The same report for LA County also shows statistics for other mode-specific travel times. The average journey to work is 27.8 minutes for drive alone, 31.0 minutes for carpool, and 49.3 minutes for public transportation. On average, the average travel time in LA County is approximately 4.1 minutes (or 16 percent) longer than the national average of 25.3 minutes.

Table E.1 shows the average number of jobs accessible from the 12 origins in the study area, and the difference between all of the 2035 alternatives and the No Build alternative. The sensitivity testing results show differences of 5 percent for 25.3- and 29.4-minute journey to work travel times. However, the performance of the 45-minute journey to work travel times shows a change of only 3 percent when compared to the No Build alternative.

Sensitivity testing was completed for auto trips only, and not for transit trips. The national average travel time (25.3 minutes) was used for the final performance measure.

**Step 2:** Calculate the employment accessible from each of the 12 origin locations by automobile and transit for 2008 existing conditions and for each of the future alternatives. The employment for each origin was summed by auto and transit separately, and then combined so no job is double-counted. Tables E.2, E.3, and E.4 summarize the number of jobs accessible by auto, transit, and the combination of automobile and transit. In no instances are jobs accessible by transit services that are not accessible by automobiles. Tables E.2 and E.4 have identical results.

**Step 3:** Average the employment accessible from each of the 12 origins for each alternative. The results from Table E.4 (the combination of auto and transit job accessibility) were averaged to determine the average number of jobs accessible within 25.3 minutes. Table E.5 summarizes the average number of jobs accessible within 25.3 minutes for existing and for each future alternative.

**Step 4:** Calculate the ratio of alternative employment over No Build to existing employment over No Build, as shown in the following equation:

$$\text{Employment Accessibility \%} = \frac{(\text{Emp}_i - \text{Emp}_{2035 \text{ NB}})}{(\text{Emp}_{2008} - \text{Emp}_{2035 \text{ NB}})} \times 100$$

Where:

- $\text{Emp}_i$  is the average sum of employment for alternative  $i$
- $\text{Emp}_{2035 \text{ NB}}$  is the average sum of employment for the 2035 No Build alternative
- $\text{Emp}_{2008}$  is the average sum of employment for the 2008 Existing model.

The alternatives will increase job accessibility compared with the No Build alternative because the additional capacity or transit service will improve mobility. The employment accessibility performance measure is reported as the ratio of the restored number of accessible jobs (the number of jobs accessible by the alternative minus the number of jobs accessible in the No Build alternative) compared with the decrease in job accessibility from 2008 to 2035 (the number of accessible jobs lost between 2008 and the No Build alternative).

For example, if the 2008 average number of jobs accessible from the 12 origins was 100,000, and the No Build alternative was 85,000, and the 2035 build alternative value was 95,000, then the performance measure would be  $(95,000 - 85,000) / (100,000 - 85,000) * 100 = 67\%$ . If the alternative returned the average of the accessible jobs to 2008 levels, the value of the performance measure would be 100, and if the alternative increased the average number of jobs accessible to a value greater than the 2008 levels, the performance measure would be greater than 100 percent.

### **Performance Measure Values**

The employment accessibility performance measure results are shown in Table E.6.

**Table E.1: Job Accessibility Sensivity Testing**

Screen Level 2: Performance Measure	Travel Time	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H 2	H 6
Average Number of Jobs Accessible from 12 Origins in the Study Area by Auto	25.3 Minutes	856,460	857,280	857,180	857,280	857,280	857,720	857,500	857,430	857,350	880,330	878,620	901,090	886,050	867,310	870,660
	29.4 Minutes	1,224,860	1,226,910	1,228,560	1,226,680	1,226,680	1,228,140	1,228,540	1,227,570	1,228,930	1,264,270	1,264,720	1,291,030	1,277,230	1,235,040	1,242,800
	45 Minutes	2,808,180	2,812,810	2,812,470	2,812,660	2,812,660	2,812,480	2,811,750	2,812,860	2,812,010	2,858,070	2,866,910	2,896,290	2,869,200	2,832,050	2,837,340
Difference in Average Number of Jobs Accessible Compared to the No Build Alternative	25.3 Minutes		100.1%	100.1%	100.1%	100.1%	100.1%	100.1%	100.1%	100.1%	102.8%	102.6%	105.2%	103.5%	101.3%	101.7%
	29.4 Minutes		100.2%	100.3%	100.1%	100.1%	100.3%	100.3%	100.2%	100.3%	103.2%	103.3%	105.4%	104.3%	100.8%	101.5%
	45 Minutes		100.2%	100.2%	100.2%	100.2%	100.2%	100.1%	100.2%	100.1%	101.8%	102.1%	103.1%	102.2%	100.9%	101.0%

**Table E.2: Jobs Accessible by Auto within 25.3 Minutes for Each Origin**

Screen Level 2: Performance Measure	Travel Mode	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H 2	H 6
Jobs accessible by Auto within 25.3 Minutes for each Origin location.	Glendale	631,047	631,047	631,047	631,047	631,047	631,047	631,047	631,047	631,047	649,143	652,874	689,234	669,857	623,517	633,565
	Eagle Rock	1,108,724	1,116,008	1,116,008	1,116,008	1,116,008	1,116,765	1,116,008	1,116,765	1,116,765	1,123,519	1,128,045	1,154,010	1,142,526	1,110,946	1,120,276
	Cal State LA	1,371,926	1,375,637	1,375,253	1,375,637	1,375,637	1,375,637	1,375,637	1,375,637	1,375,637	1,405,374	1,396,132	1,413,495	1,390,158	1,399,353	1,388,780
	La Canada Town Center	588,189	588,189	588,189	588,189	588,189	588,189	589,646	588,189	588,189	577,542	597,354	656,560	624,737	589,034	612,870
	South Pasadena	1,054,586	1,056,606	1,052,351	1,056,606	1,056,606	1,056,606	1,056,606	1,056,606	1,056,606	1,087,145	1,088,460	1,125,389	1,098,659	1,058,847	1,069,895
	Pasadena Memorial Park	823,367	820,220	823,581	820,220	820,220	823,581	820,220	820,220	820,220	904,791	852,322	902,740	899,446	812,088	828,870
	Alhambra	1,091,102	1,091,709	1,091,709	1,091,709	1,091,709	1,091,709	1,091,709	1,091,709	1,091,709	1,129,295	1,130,507	1,174,657	1,132,142	1,155,085	1,150,677
	San Marino	716,844	716,844	716,844	716,844	716,844	716,844	716,844	716,765	716,844	730,386	736,000	773,435	729,931	718,346	713,394
	San Gabriel	790,414	789,316	789,316	789,316	789,316	790,414	790,414	790,414	789,316	811,296	803,053	788,929	809,096	802,654	798,360
	El Monte Transit Center	791,184	791,184	791,184	791,184	791,184	791,184	791,184	791,184	791,184	825,842	827,762	804,615	804,944	820,410	820,318
	Temple City	691,974	692,450	692,450	692,450	692,450	692,450	692,450	692,450	692,450	697,662	702,902	701,242	702,242	700,247	693,250
Arcadia	618,176	618,176	618,176	618,176	618,176	618,176	618,176	618,176	618,176	618,176	622,000	628,085	628,827	628,827	617,153	617,686

**Table E.3: Jobs Accessible by Transit within 25.3 Minutes for Each Origin**

Screen Level 2: Performance Measure	Travel Mode	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H 2	H 6
Jobs accessible by Transit within 25.3 Minutes for each Origin location.	Glendale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Eagle Rock	875	875	875	875	875	875	875	875	875	875	875	875	875	875	875
	Cal State LA	116,236	89,087	116,236	116,236	116,236	116,236	116,236	116,236	116,236	116,236	116,236	116,236	116,236	116,236	116,236
	La Canada Town Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	South Pasadena	76,337	66,707	76,337	76,337	76,337	76,337	76,337	76,337	76,337	135,761	76,337	76,337	76,337	76,337	76,337
	Pasadena Memorial Park	96,723	80,289	96,723	96,723	96,723	96,723	96,723	96,723	96,723	92,221	96,723	96,723	96,723	96,723	96,723
	Alhambra	46,216	35,930	46,216	46,216	46,216	46,216	46,216	46,216	46,216	42,351	46,216	46,216	46,216	46,216	46,216
	San Marino	7,697	7,454	7,697	7,697	7,697	7,697	7,697	7,697	7,697	3,499	7,697	7,697	7,697	7,697	7,697
	San Gabriel	8,032	0	8,032	8,032	8,032	8,032	8,032	8,032	8,032	9,439	8,032	8,032	8,032	8,032	8,032
	El Monte Transit Center	38,546	31,884	38,546	38,546	38,546	38,546	38,546	38,546	38,546	103,862	38,546	38,546	38,546	38,546	38,546
	Temple City	5,276	1,407	5,276	5,276	5,276	5,276	5,276	5,276	5,276	37,160	5,276	5,276	5,276	5,276	5,276
Arcadia	3,292	3,086	3,292	3,292	3,292	3,292	3,292	3,292	3,292	39,222	3,292	3,292	3,292	3,292	3,292	

**Table E.4: Jobs Accessible by Auto and Transit within 25.3 Minutes for Each Origin**

Screen Level 2: Performance Measure	Travel Mode	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H 2	H 6
Jobs accessible by Auto within 25.3 Minutes for each Origin location.	Glendale	631,047	631,047	631,047	631,047	631,047	631,047	631,047	631,047	631,047	649,143	652,874	689,234	669,857	623,517	633,565
	Eagle Rock	1,108,724	1,116,008	1,116,008	1,116,008	1,116,008	1,116,765	1,116,008	1,116,765	1,116,765	1,123,519	1,128,045	1,154,010	1,142,526	1,110,946	1,120,276
	Cal State LA	1,371,926	1,375,637	1,375,253	1,375,637	1,375,637	1,375,637	1,375,637	1,375,637	1,375,637	1,405,374	1,396,132	1,413,495	1,390,158	1,399,353	1,388,780
	La Canada Town Center	588,189	588,189	588,189	588,189	588,189	588,189	589,646	588,189	588,189	577,542	597,354	656,560	624,737	589,034	612,870
	South Pasadena	1,054,586	1,056,606	1,052,351	1,056,606	1,056,606	1,056,606	1,056,606	1,056,606	1,056,606	1,087,145	1,088,460	1,125,389	1,098,659	1,058,847	1,069,895
	Pasadena Memorial Park	823,367	820,220	823,581	820,220	820,220	823,581	820,220	820,220	820,220	904,791	852,322	902,740	899,446	812,088	828,870
	Alhambra	1,091,102	1,091,709	1,091,709	1,091,709	1,091,709	1,091,709	1,091,709	1,091,709	1,091,709	1,129,295	1,130,507	1,174,657	1,132,142	1,155,085	1,150,677
	San Marino	716,844	716,844	716,844	716,844	716,844	716,844	716,844	716,765	716,844	730,386	736,000	773,435	729,931	718,346	713,394
	San Gabriel	790,414	789,316	789,316	789,316	789,316	790,414	790,414	790,414	789,316	811,296	803,053	788,929	809,096	802,654	798,360
	El Monte Transit Center	791,184	791,184	791,184	791,184	791,184	791,184	791,184	791,184	791,184	825,842	827,762	804,615	804,944	820,410	820,318
	Temple City	691,974	692,450	692,450	692,450	692,450	692,450	692,450	692,450	692,450	697,662	702,902	701,242	702,242	700,247	693,250
Arcadia	618,176	618,176	618,176	618,176	618,176	618,176	618,176	618,176	618,176	622,000	628,085	628,827	628,827	617,153	617,686	

**Table E.5: Average Jobs Accessible by Auto and Transit within 25.3 Minutes**

Performance Measures (Quantitative)	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT-4A	LRT-4B	LRT-4D	LRT-6	F 2	F-5	F 6	F-7	H 2	H 6
Average Number of Jobs Accessible Within 25.3 Minutes from 12 Origins in the Study Area by Auto	880,710	856,460	857,280	857,180	857,280	857,280	857,720	857,500	857,430	857,350	880,330	878,620	901,090	886,050	867,310	870,660

**Table E.6: Percentage of Jobs Gained Back by Each Alternative**

Screen Level 2: Performance Measure	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6
Assessment of the number of jobs reachable within 25.3 minutes in peak periods, for a set of 12 origins. Percentage of "lost" accessible jobs (due to 2035 congestion) gained back.	0.00%	3.38%	2.97%	3.38%	3.38%	5.20%	4.29%	4.00%	3.67%	98.43%	91.38%	184.04%	122.02%	44.74%	58.56%



**Table F.1: Total Boardings on Transit Modes in Peak and Off-Peak Time Periods that Cross the East-West Screenline**

Travel Model Evaluation and Mode	Time Period	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H 2	H 6
Total boardings on Local Bus routes that cross the east-west screenline.	Peak Period	186,091	187,550	181,842	180,119	180,119	186,817	187,042	187,094	186,847	189,855	190,748	190,341	192,061	186,466	188,059
	Off-Peak Period	81,129	79,825	76,447	85,225	85,225	79,545	79,544	79,506	79,626	81,407	81,471	80,999	81,400	80,749	80,626
	Total	267,220	267,375	258,289	265,344	265,344	266,362	266,586	266,600	266,473	271,262	272,219	271,340	273,461	267,215	268,685
Total boardings on Express Bus routes that cross the east-west screenline.	Peak Period	19,436	19,309	19,199	19,279	19,279	19,322	19,306	19,295	19,300	20,029	19,828	19,954	19,885	19,542	19,683
	Off-Peak Period	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	19,436	19,309	19,199	19,279	19,279	19,322	19,306	19,295	19,300	20,029	19,828	19,954	19,885	19,542	19,683
Total boardings on Commuter Rail routes that cross the east-west screenline.	Peak Period	27,375	27,383	27,265	27,375	27,375	27,453	27,452	27,450	27,455	26,757	26,803	27,117	27,018	27,621	27,599
	Off-Peak Period	1,697	1,698	1,685	1,697	1,697	1,673	1,674	1,676	1,687	1,685	1,685	1,696	1,694	1,683	1,692
	Total	29,072	29,081	28,950	29,072	29,072	29,126	29,126	29,126	29,142	28,442	28,488	28,813	28,712	29,304	29,291
Total boardings on Urban Rail routes that cross the east-west screenline.	Peak Period	186,210	185,022	184,318	185,098	185,098	191,494	190,796	191,166	191,988	183,931	183,703	182,846	183,579	187,564	185,696
	Off-Peak Period	77,820	76,896	77,010	76,782	76,782	79,706	79,547	79,572	79,814	77,705	77,630	77,282	77,362	78,019	77,648
	Total	264,030	261,918	261,328	261,880	261,880	271,200	270,343	270,738	271,802	261,636	261,333	260,128	260,941	265,583	263,344
Total boardings on Rapid Bus routes that cross the east-west screenline.	Peak Period	26,646	41,366	49,019	50,660	50,660	41,103	41,143	41,133	40,992	25,188	25,824	25,832	26,154	25,404	25,352
	Off-Peak Period	11,484	21,953	25,801	21,361	21,361	21,782	21,805	21,749	21,726	10,398	10,428	10,427	10,376	10,396	10,372
	Total	38,130	63,319	74,820	72,021	72,021	62,885	62,948	62,882	62,718	35,586	36,252	36,259	36,530	35,800	35,724
Total boardings on Transitway routes that cross the east-west screenline.	Peak Period	5,060	5,475	5,201	5,352	5,352	5,310	5,367	5,353	5,329	5,189	5,324	5,444	5,373	5,331	5,248
	Off-Peak Period	1,998	1,574	1,641	1,527	1,527	1,554	1,557	1,559	1,555	2,036	2,138	2,094	2,125	2,053	2,060
	Total	7,058	7,049	6,842	6,879	6,879	6,864	6,924	6,912	6,884	7,225	7,462	7,538	7,498	7,384	7,308

**Table F.2: Total Boardings on Transit Lines that Cross the East-West Screenline**

Screen Level 2: Performance Measure	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6

## G. Volume Served

### **Performance Measure Definition**

The performance measure volume served is defined as regional north-south vehicular throughput on the freeway and arterial systems. Comparing the volumes on freeways and arterials across the east-west screenline (see Figure F.1) provides a metric of the traffic moving through the study area. Typically, longer distance trips use the freeway system, and not the arterial system. Often, with a congested freeway system, there is a shift in travel from freeways to travel on the arterial system. The travel on the arterial system is induced by freeway congestion, and thus reduces the speeds and increases the delays on the arterials.

### **Calculation Process**

The calculation for vehicle throughput was measured separately for the arterial and the freeway systems. The measurement is calculated as the volume of vehicles that cross the east-west screenline. Table G.1 summarizes the detailed arterial and freeway volumes and freeways by facility. The performance measure is calculated by summing the arterials and freeway links respectively for each alternative.

### **Performance Measure Values**

The performance measure values are summarized in Table G.2.

**Table G.1: Volume Served Performance Measure Values for Arterials and Freeways**

Performance Measures (Quantitative)	Facility Type	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6
Daily Volume Crossing the East-West Screenline	Arterials	774,420	940,610	949,080	940,560	939,850	939,850	940,060	940,140	940,050	940,230	892,610	843,240	879,600	860,810	962,550	954,150
	Freeways	780,640	985,170	983,820	984,850	984,790	984,790	984,830	984,750	984,730	985,090	1,097,050	1,133,250	1,106,300	1,128,920	965,870	980,730
	All Facilities	1,555,060	1,925,780	1,932,900	1,925,410	1,924,640	1,924,640	1,924,890	1,924,890	1,924,780	1,925,320	1,989,660	1,976,480	1,985,900	1,989,730	1,928,410	1,934,880
Daily Capacity Crossing the East-West Screenline	Arterials	2,469,020	2,734,900	2,734,900	2,734,900	2,734,900	2,734,900	2,734,900	2,734,900	2,734,900	2,734,900	2,734,900	2,734,900	2,826,900	2,734,900	2,831,440	2,788,270
	Freeways	1,414,500	1,782,500	1,782,500	1,782,500	1,782,500	1,782,500	1,782,500	1,782,500	1,782,500	1,782,500	2,150,500	2,150,500	2,058,500	2,150,500	1,782,500	1,782,500
	All Facilities	3,883,520	4,517,400	4,517,400	4,517,400	4,517,400	4,517,400	4,517,400	4,517,400	4,517,400	4,517,400	4,885,400	4,885,400	4,885,400	4,885,400	4,613,940	4,570,770

**Table G.2: Volume Served Performance Measure Values for Arterials and Freeways**

Screen Level 2: Performance Measure	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6
Daily volume (1000s) on arterials (non-freeways) crossing the east-west Screenline	774	941	949	941	940	940	940	940	940	940	893	843	880	861	963	954
Daily volume (1000s) on freeways crossing the east-west screenline	781	985	984	985	985	985	985	985	985	985	1,097	1,133	1,106	1,129	966	981

## H. Level of Service Performance Measures

Two different performance measures were developed using level of service (LOS) values: level of severe, and level of moderate congestion. The LOS performance for each of the alternatives was developed using the highway travel model outputs. The level of congestion is the ratio of volume (V) to the available capacity (C) on a facility. The V/C ratio is then converted to a LOS. LOS uses a letter range from A to F to rate congestion levels. The letters have quantitative limits based on V/C ratio and also qualitative descriptions that relate how a driver can move in traffic. The LOS criteria are then used to summarize total directional miles at different levels of congestion. The LOS criteria used to assign congestion levels on all roadways in the travel model are shown in Table H.1.

TABLE H.1  
LOS Criteria for Freeway and Arterial Congestion

LOS	Qualitative Description**	Freeways		Expressways, Arterials, and Collectors	
		From V/C	To V/C	From V/C	To V/C
<b>LOS A</b>	Describes completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by geometric features and by driver preferences. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.	0.00	0.30	0.00	0.26
<b>LOS B</b>	Indicates free-flow conditions, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver. Minor disruptions are still easily absorbed, although local deterioration in LOS will be more obvious.	0.30	0.49	0.26	0.43
<b>LOS C</b>	The influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. Minor disruptions can cause serious local deterioration in service, and queues will form behind any significant traffic disruption.	0.49	0.70	0.43	0.62
<b>LOS D</b>	The ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.	0.70	0.90	0.62	0.82
<b>LOS E</b>	Represents operations at or near capacity, an unstable level. Vehicles are operating with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily, often causing queues to form and service to deteriorate to LOS F.	0.90	1.00	0.82	1.00
<b>LOS F</b>	Represents forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds the computed capacity of a planned facility. Although operations at these points – and on sections immediately downstream – appear to be at capacity queues form behind these breakdowns.	1.00	1.10	1.00	1.10
<b>LOS F1</b>	See LOS F qualitative description.	1.10	1.20	1.10	1.20
<b>LOS F2</b>	See LOS F qualitative description.	1.20	1.30	1.20	1.30
<b>LOS F3</b>	See LOS F qualitative description.	1.30		1.30	

Note: V/C Criteria are from HCM 2000 Exhibit 21-2 for multilane highways. Freeways assume a free-flow speed of 60 mph. Expressways, arterials, and collectors assume a free-flow speed of 45 mph.

\*\*Source: HCM 2000, Chapter 12 – Highway Concepts for Multilane Highways.

Following the discussion about the two performance measures, Tables H.6 through H.20 summarize the overall travel performance on congested facilities by time of day for the study area for all alternatives. The values from Tables H.6 through H.20 are used for the two performance measures discussed below.

## Level of Severe Congestion

### **Performance Measure Definition**

The level of severe congestion performance measure was defined to compare the length of facilities in the study area that are operating at a level of severe congestion. The level of severe congestion is determined using the LOS criteria in Table H.1. Severe congestion is defined as facilities with a LOS of F1, F2, or F3. The reported value for the miles of facilities is the greatest value between the AM and PM peak periods.

### **Calculation Process**

The calculation for the level of severe congestion is the ratio of volume (V) to the available capacity (C) on each link in the highway network for the AM and PM peak periods individually. Each link is assigned to the corresponding LOS bucket and the length of facilities in the network for each LOS bucket was summed. The measurement (in miles) of heavily congested facilities (with a V/C ratio greater than 1.1) was used to quantify the level of severe congestion.

Table H.2 summarizes the total centerline miles of facilities in the study area that operate in severe congestion in the AM and PM peak periods.

### **Performance Measure Values**

The highest V/C ratio (worst congestion) for each link for the AM and PM period is the reported value for the miles of facilities in severe congestion. The performance measure values are summarized in Table H.3.

## Level of Moderate Congestion

### **Performance Measure Definition**

The level of moderate congestion performance measure was defined to compare the length of facilities in the study area that are approaching a level of severe congestion. Similar to the level of severe congestion, the level of moderate congestion is determined using the LOS criteria in Table H.1. Moderate congestion is defined as facilities with a LOS of E or F, but not including severe congestion. The reported value for the miles of facilities is the greatest value between the AM and PM peak periods.

### **Calculation Process**

The calculation for the level of moderate congestion is the ratio of volume (V) to the available capacity (C) on each link in the highway network for the AM and PM peak periods individually. The length of each link that falls within the V/C ration of 0.90 to 1.10 is summed to develop the performance measure. The reported value for the miles of facilities is the greatest value between the AM and PM peak periods.

Table H.4 summarizes the total centerline miles of facilities in the study area that operate in moderate congestion in the AM and PM peak periods.

### **Performance Measure Values**

The highest V/C ratio (worst congestion) for each link for the AM and PM period is the reported value for the miles of facilities in moderate congestion. The performance measure values are summarized in Table H.5.

**Table H.2: AM and PM Centerline Miles in Severe Congestion**

Travel Model Evaluation	Time Period	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6
Total Centerline Miles of Facilities in the Study Area with Congestion Equivalent to LOS F1, F2, and F3	AM Peak Period	54.2	81.3	77.9	80.8	81.1	81.1	80.5	81.1	81.1	81.4	66.8	63.6	55.2	59.8	70.6	70.9
	PM Peak Period	63.9	100.0	95.7	100.1	99.4	99.4	99.6	99.6	99.2	99.9	82.5	80.5	72.1	79.2	88.2	93.1
	Greatest between AM and PM Peak Period	63.9	100.0	95.7	100.1	99.4	99.4	99.6	99.6	99.2	99.9	82.5	80.5	72.1	79.2	88.2	93.1

**Table H.3: Total Centerline Miles in Severe Congestion**

Screen Level 2: Performance Measure	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT-4A	LRT-4B	LRT-4D	LRT-6	F 2	F-5	F 6	F-7	H 2	H 6
Total directional miles of roadway facilities at LOS F1, F2, and F3 in the study area.	63.9	100.0	95.7	100.1	99.4	99.4	99.6	99.6	99.2	99.9	82.5	80.5	72.1	79.2	88.2	93.1

**Table H.4: AM and PM Centerline Miles in Moderate Congestion**

Travel Model Evaluation	Time Period	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6
Total Centerline Miles of Facilities in the Study Area with Congestion Equivalent to LOS E or F0	AM Peak Period	262.9	335.6	335.1	334.3	334.2	334.2	334.3	333.4	333.8	333.5	327.2	324.1	317.6	324.8	320.3	321.6
	PM Peak Period	315.7	420.2	418.4	420.7	419.6	419.6	420.3	421.0	421.4	420.6	406.2	407.1	397.7	414.2	410.9	411.1
	Greatest between AM and PM Peak Period	315.7	420.2	418.4	420.7	419.6	419.6	420.3	421.0	421.4	420.6	406.2	407.1	397.7	414.2	410.9	411.1

**Table H.5: Total Centerline Miles in Moderate Congestion**

Screen Level 2: Performance Measure	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT-4A	LRT-4B	LRT-4D	LRT-6	F 2	F-5	F 6	F-7	H 2	H 6
Total directional miles of roadway facilities at LOS E or F0 in the study area.	315.7	420.2	418.4	420.7	419.6	419.6	420.3	421.0	421.4	420.6	406.2	407.2	397.7	414.2	410.9	411.1

**Table H.6: 2008 Existing Level of Service Performance**

SCAG SR710GAP 08R08a3_PFA1 StudyArea							
One-Way Centerline Miles of Facility							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	406	458	341	1,158	620	49%	
LOS B	-	-	-	-	-	0%	
LOS C	247	309	250	87	373	30%	
LOS D	288	281	289	11	206	16%	
LOS E	191	146	226	1	47	4%	
LOS F	72	41	90	0	10	1%	
LOS F1	29	12	32	0	2	0%	
LOS F2	12	5	16	0	1	0%	
LOS F3	14	7	16	0	1	0%	
<b>Total Travel</b>	<b>1,259</b>	<b>1,259</b>	<b>1,259</b>	<b>1,259</b>	<b>1,259</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>48%</b>	<b>39%</b>	<b>53%</b>	<b>1%</b>	<b>21%</b>	<b>21%</b>	
<b>% LOS E or worse</b>	<b>25%</b>	<b>17%</b>	<b>30%</b>	<b>0%</b>	<b>5%</b>	<b>5%</b>	
<b>% LOS F</b>	<b>10%</b>	<b>5%</b>	<b>12%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
Note: Freeway s, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R08a3_PFA1 StudyArea							
One-Way Centerline Miles of Freeway							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	7	9	3	100	16	12%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	9	30	10	31	48	37%	
LOS D (0.73<= V/C <0.93)	45	45	38	0	61	47%	
LOS E (0.93<= V/C <1.00)	48	42	55	-	6	5%	
LOS F (1.00<= V/C <1.10)	15	5	19	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	6	1	5	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	-	1	-	-	0%	
LOS F3 (1.30>= V/C)	0	-	0	-	-	0%	
<b>Total Travel</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>88%</b>	<b>71%</b>	<b>90%</b>	<b>0%</b>	<b>51%</b>	<b>51%</b>	
<b>% LOS E or worse</b>	<b>53%</b>	<b>36%</b>	<b>61%</b>	<b>0%</b>	<b>5%</b>	<b>5%</b>	
<b>% LOS F</b>	<b>17%</b>	<b>4%</b>	<b>19%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R08a3_PFA1 StudyArea							
One-Way Centerline Miles of Expressway/Arterial							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	270	308	222	791	441	53%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	186	230	194	35	242	29%	
LOS D (0.81<= V/C <0.91)	190	165	192	7	110	13%	
LOS E (0.91<= V/C <1.00)	108	85	123	1	32	4%	
LOS F (1.00<= V/C <1.10)	45	30	58	0	8	1%	
LOS F1 (1.10<= V/C <1.20)	17	8	22	0	2	0%	
LOS F2 (1.20<= V/C <1.30)	8	4	12	-	1	0%	
LOS F3 (1.30>= V/C)	12	6	13	0	1	0%	
<b>Total Travel</b>	<b>836</b>	<b>836</b>	<b>836</b>	<b>836</b>	<b>836</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>45%</b>	<b>36%</b>	<b>50%</b>	<b>1%</b>	<b>18%</b>	<b>18%</b>	
<b>% LOS E or worse</b>	<b>23%</b>	<b>16%</b>	<b>27%</b>	<b>0%</b>	<b>5%</b>	<b>5%</b>	
<b>% LOS F</b>	<b>10%</b>	<b>6%</b>	<b>13%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
SCAG SR710GAP 08R08a3_PFA1 StudyArea							
One-Way Centerline Miles of Collector							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	71	75	64	88	83	90%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	12	10	14	4	4	5%	
LOS D (0.81<= V/C <0.91)	4	2	7	1	2	2%	
LOS E (0.91<= V/C <1.00)	2	2	3	-	1	2%	
LOS F (1.00<= V/C <1.10)	2	2	2	-	1	2%	
LOS F1 (1.10<= V/C <1.20)	0	-	0	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	0	1	-	-	0	0%	
LOS F3 (1.30>= V/C)	1	1	2	-	0	0%	
<b>Total Travel</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>11%</b>	<b>8%</b>	<b>16%</b>	<b>1%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS E or worse</b>	<b>6%</b>	<b>6%</b>	<b>8%</b>	<b>0%</b>	<b>3%</b>	<b>3%</b>	
<b>% LOS F</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	

**Table H.7: 2035 No Build Level of Service Performance**

SCAG SR710GAP 08R35a3_NB_PFA1							
StudyArea :							
One-Way Centerline Miles of Facility							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	332	365	274	1,113	528	42%	
LOS B	-	-	-	-	-	0%	
LOS C	233	290	221	122	367	29%	
LOS D	278	317	246	22	272	22%	
LOS E	239	183	281	3	72	6%	
LOS F	96	59	139	0	16	1%	
LOS F1	34	24	39	-	3	0%	
LOS F2	21	12	26	0	1	0%	
LOS F3	26	12	35	0	1	0%	
<b>Total Travel</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>55%</b>	<b>48%</b>	<b>61%</b>	<b>2%</b>	<b>29%</b>	<b>29%</b>	
<b>% LOS E or worse</b>	<b>33%</b>	<b>23%</b>	<b>41%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>8%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_NB_PFA1							
StudyArea :							
One-Way Centerline Miles of Freeway							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	6	6	2	74	14	10%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	7	19	9	53	42	32%	
LOS D (0.73<= V/C <0.93)	34	47	28	4	67	51%	
LOS E (0.93<= V/C <1.00)	56	51	50	-	8	6%	
LOS F (1.00<= V/C <1.10)	20	5	31	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	8	2	8	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	0	2	-	-	0%	
LOS F3 (1.30>= V/C)	1	-	0	-	-	0%	
<b>Total Travel</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>90%</b>	<b>81%</b>	<b>91%</b>	<b>3%</b>	<b>57%</b>	<b>57%</b>	
<b>% LOS E or worse</b>	<b>65%</b>	<b>45%</b>	<b>70%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>22%</b>	<b>5%</b>	<b>31%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_NB_PFA1							
StudyArea :							
One-Way Centerline Miles of Expressway/Arterial							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	218	241	169	781	369	44%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	180	224	172	46	262	31%	
LOS D (0.81<= V/C <0.91)	180	190	179	12	140	17%	
LOS E (0.91<= V/C <1.00)	143	104	163	2	53	6%	
LOS F (1.00<= V/C <1.10)	64	48	84	0	15	2%	
LOS F1 (1.10<= V/C <1.20)	19	16	25	-	2	0%	
LOS F2 (1.20<= V/C <1.30)	16	10	21	0	1	0%	
LOS F3 (1.30>= V/C)	23	10	30	0	1	0%	
<b>Total Travel</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>53%</b>	<b>45%</b>	<b>60%</b>	<b>2%</b>	<b>25%</b>	<b>25%</b>	
<b>% LOS E or worse</b>	<b>31%</b>	<b>22%</b>	<b>38%</b>	<b>0%</b>	<b>9%</b>	<b>9%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>10%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
SCAG SR710GAP 08R35a3_NB_PFA1							
StudyArea :							
One-Way Centerline Miles of Collector							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	56	61	52	83	72	84%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	14	15	12	2	8	9%	
LOS D (0.81<= V/C <0.91)	9	4	10	1	3	3%	
LOS E (0.91<= V/C <1.00)	2	3	6	0	2	2%	
LOS F (1.00<= V/C <1.10)	1	1	3	-	0	1%	
LOS F1 (1.10<= V/C <1.20)	2	1	1	-	0	1%	
LOS F2 (1.20<= V/C <1.30)	-	0	0	-	0	0%	
LOS F3 (1.30>= V/C)	1	1	2	-	0	0%	
<b>Total Travel</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>18%</b>	<b>12%</b>	<b>25%</b>	<b>1%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS E or worse</b>	<b>8%</b>	<b>8%</b>	<b>13%</b>	<b>0%</b>	<b>4%</b>	<b>4%</b>	
<b>% LOS F</b>	<b>5%</b>	<b>4%</b>	<b>6%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

**Table H.8: 2035 TSM/TDM Level of Service Performance**

SCAG SR710GAP 08R35a3_NB_TSMTDM							
Study Area :							
One-Way Centerline Miles of Facility							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	333	367	271	1,113	528	42%	
LOS B	-	-	-	-	-	0%	
LOS C	235	291	224	125	368	29%	
LOS D	278	317	250	20	273	22%	
LOS E	238	182	277	1	73	6%	
LOS F	97	62	142	0	15	1%	
LOS F1	34	19	39	-	1	0%	
LOS F2	22	14	25	0	1	0%	
LOS F3	22	8	32	0	1	0%	
<b>Total Travel</b>	<b>1,260</b>	<b>1,260</b>	<b>1,260</b>	<b>1,260</b>	<b>1,260</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>55%</b>	<b>48%</b>	<b>61%</b>	<b>2%</b>	<b>29%</b>	<b>29%</b>	
<b>% LOS E or worse</b>	<b>33%</b>	<b>23%</b>	<b>41%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>8%</b>	<b>19%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_NB_TSMTDM							
Study Area :							
One-Way Centerline Miles of Freeway							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	6	6	2	73	14	10%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	6	19	10	53	42	32%	
LOS D (0.73<= V/C <0.93)	35	47	27	4	67	51%	
LOS E (0.93<= V/C <1.00)	55	51	51	-	8	6%	
LOS F (1.00<= V/C <1.10)	20	5	31	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	7	2	7	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	0	2	-	-	0%	
LOS F3 (1.30>= V/C)	1	-	0	-	-	0%	
<b>Total Travel</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>91%</b>	<b>81%</b>	<b>90%</b>	<b>3%</b>	<b>58%</b>	<b>58%</b>	
<b>% LOS E or worse</b>	<b>64%</b>	<b>45%</b>	<b>70%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>22%</b>	<b>5%</b>	<b>31%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_NB_TSMTDM							
Study Area :							
One-Way Centerline Miles of Expressway/Arterial							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	216	243	167	782	366	43%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	184	224	172	48	266	32%	
LOS D (0.81<= V/C <0.91)	181	192	183	11	141	17%	
LOS E (0.91<= V/C <1.00)	142	102	161	1	54	6%	
LOS F (1.00<= V/C <1.10)	64	50	86	0	13	2%	
LOS F1 (1.10<= V/C <1.20)	20	13	25	-	1	0%	
LOS F2 (1.20<= V/C <1.30)	18	12	20	-	1	0%	
LOS F3 (1.30>= V/C)	19	7	28	-	1	0%	
<b>Total Travel</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>53%</b>	<b>45%</b>	<b>60%</b>	<b>1%</b>	<b>25%</b>	<b>25%</b>	
<b>% LOS E or worse</b>	<b>31%</b>	<b>22%</b>	<b>38%</b>	<b>0%</b>	<b>8%</b>	<b>8%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>10%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
SCAG SR710GAP 08R35a3_NB_TSMTDM							
Study Area :							
One-Way Centerline Miles of Collector							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	58	59	51	83	74	87%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	13	17	13	2	5	6%	
LOS D (0.81<= V/C <0.91)	7	3	11	1	3	4%	
LOS E (0.91<= V/C <1.00)	2	3	5	0	2	2%	
LOS F (1.00<= V/C <1.10)	3	2	3	-	1	1%	
LOS F1 (1.10<= V/C <1.20)	1	0	0	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	0	0	1	-	0	0%	
LOS F3 (1.30>= V/C)	1	1	1	-	0	0%	
<b>Total Travel</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>16%</b>	<b>11%</b>	<b>25%</b>	<b>1%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS E or worse</b>	<b>8%</b>	<b>8%</b>	<b>12%</b>	<b>0%</b>	<b>3%</b>	<b>3%</b>	
<b>% LOS F</b>	<b>5%</b>	<b>4%</b>	<b>6%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

**Table H.9: 2035 BRT-1 Level of Service Performance**

SCAG SR710GAP 08R35a3_BRT1 StudyArea							
One-Way Centerline Miles of Facility							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	331	365	274	1,112	527	42%	
LOS B	-	-	-	-	-	0%	
LOS C	232	291	221	123	367	29%	
LOS D	283	316	245	22	272	22%	
LOS E	237	183	280	2	73	6%	
LOS F	97	59	141	0	17	1%	
LOS F1	34	23	40	0	2	0%	
LOS F2	21	12	25	0	1	0%	
LOS F3	27	12	35	0	1	0%	
<b>Total Travel</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>55%</b>	<b>48%</b>	<b>61%</b>	<b>2%</b>	<b>29%</b>	<b>29%</b>	
<b>% LOS E or worse</b>	<b>33%</b>	<b>23%</b>	<b>41%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>8%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_BRT1 StudyArea							
One-Way Centerline Miles of Freeway							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	6	6	2	74	14	10%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	7	20	9	53	42	32%	
LOS D (0.73<= V/C <0.93)	36	46	28	4	67	51%	
LOS E (0.93<= V/C <1.00)	53	51	51	-	8	6%	
LOS F (1.00<= V/C <1.10)	20	5	31	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	7	2	8	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	0	2	-	-	0%	
LOS F3 (1.30>= V/C)	1	-	0	-	-	0%	
<b>Total Travel</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>90%</b>	<b>80%</b>	<b>91%</b>	<b>3%</b>	<b>58%</b>	<b>58%</b>	
<b>% LOS E or worse</b>	<b>63%</b>	<b>45%</b>	<b>69%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>22%</b>	<b>5%</b>	<b>31%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_BRT1 StudyArea							
One-Way Centerline Miles of Expressway/Arterial							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	217	241	169	781	368	44%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	178	224	171	47	263	31%	
LOS D (0.81<= V/C <0.91)	182	190	178	12	140	17%	
LOS E (0.91<= V/C <1.00)	143	104	162	2	53	6%	
LOS F (1.00<= V/C <1.10)	65	48	87	0	15	2%	
LOS F1 (1.10<= V/C <1.20)	19	15	25	0	1	0%	
LOS F2 (1.20<= V/C <1.30)	16	11	21	0	1	0%	
LOS F3 (1.30>= V/C)	24	10	31	0	1	0%	
<b>Total Travel</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>53%</b>	<b>45%</b>	<b>60%</b>	<b>2%</b>	<b>25%</b>	<b>25%</b>	
<b>% LOS E or worse</b>	<b>32%</b>	<b>22%</b>	<b>39%</b>	<b>0%</b>	<b>9%</b>	<b>9%</b>	
<b>% LOS F</b>	<b>15%</b>	<b>10%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
SCAG SR710GAP 08R35a3_BRT1 StudyArea							
One-Way Centerline Miles of Collector							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	56	60	52	83	73	85%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	14	15	13	2	7	8%	
LOS D (0.81<= V/C <0.91)	8	4	10	1	3	3%	
LOS E (0.91<= V/C <1.00)	2	3	6	0	2	2%	
LOS F (1.00<= V/C <1.10)	1	1	3	-	0	1%	
LOS F1 (1.10<= V/C <1.20)	2	1	1	-	0	1%	
LOS F2 (1.20<= V/C <1.30)	0	0	0	-	0	0%	
LOS F3 (1.30>= V/C)	1	1	2	-	0	0%	
<b>Total Travel</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>18%</b>	<b>12%</b>	<b>24%</b>	<b>1%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS E or worse</b>	<b>8%</b>	<b>8%</b>	<b>13%</b>	<b>0%</b>	<b>4%</b>	<b>4%</b>	
<b>% LOS F</b>	<b>5%</b>	<b>4%</b>	<b>6%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

**Table H.10: 2035 BRT-6 Level of Service Performance**

SCAG SR710GAP 08R35a3_BRT6 StudyArea							
: One-Way Centerline Miles of Facility							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	332	366	274	1,112	529	42%	
LOS B	-	-	-	-	-	0%	
LOS C	233	289	223	123	366	29%	
LOS D	281	316	245	22	272	22%	
LOS E	238	184	280	3	73	6%	
LOS F	96	59	140	0	16	1%	
LOS F1	34	24	39	-	2	0%	
LOS F2	21	12	26	0	1	0%	
LOS F3	26	12	35	0	1	0%	
<b>Total Travel</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>55%</b>	<b>48%</b>	<b>61%</b>	<b>2%</b>	<b>29%</b>	<b>29%</b>	
<b>% LOS E or worse</b>	<b>33%</b>	<b>23%</b>	<b>41%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>8%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_BRT6 StudyArea							
: One-Way Centerline Miles of Freeway							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	6	6	2	73	14	10%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	7	19	9	53	42	32%	
LOS D (0.73<= V/C <0.93)	36	47	28	4	67	51%	
LOS E (0.93<= V/C <1.00)	53	51	51	-	8	6%	
LOS F (1.00<= V/C <1.10)	20	5	31	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	8	2	8	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	0	2	-	-	0%	
LOS F3 (1.30>= V/C)	1	-	0	-	-	0%	
<b>Total Travel</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>90%</b>	<b>81%</b>	<b>91%</b>	<b>3%</b>	<b>58%</b>	<b>58%</b>	
<b>% LOS E or worse</b>	<b>63%</b>	<b>45%</b>	<b>69%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>22%</b>	<b>5%</b>	<b>31%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_BRT6 StudyArea							
: One-Way Centerline Miles of Expressway/Arterial							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	217	241	169	781	368	44%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	180	223	173	47	263	31%	
LOS D (0.81<= V/C <0.91)	180	190	177	12	140	17%	
LOS E (0.91<= V/C <1.00)	144	104	161	2	53	6%	
LOS F (1.00<= V/C <1.10)	64	48	86	0	15	2%	
LOS F1 (1.10<= V/C <1.20)	19	16	24	-	1	0%	
LOS F2 (1.20<= V/C <1.30)	16	11	21	0	1	0%	
LOS F3 (1.30>= V/C)	23	10	31	0	1	0%	
<b>Total Travel</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>53%</b>	<b>45%</b>	<b>59%</b>	<b>2%</b>	<b>25%</b>	<b>25%</b>	
<b>% LOS E or worse</b>	<b>32%</b>	<b>22%</b>	<b>38%</b>	<b>0%</b>	<b>8%</b>	<b>8%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>10%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
SCAG SR710GAP 08R35a3_BRT6 StudyArea							
: One-Way Centerline Miles of Collector							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	56	61	52	83	73	85%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	14	15	13	2	7	8%	
LOS D (0.81<= V/C <0.91)	8	4	10	1	3	3%	
LOS E (0.91<= V/C <1.00)	3	3	6	0	2	2%	
LOS F (1.00<= V/C <1.10)	1	1	3	-	0	1%	
LOS F1 (1.10<= V/C <1.20)	2	1	1	-	0	1%	
LOS F2 (1.20<= V/C <1.30)	-	0	0	-	0	0%	
LOS F3 (1.30>= V/C)	1	1	2	-	0	0%	
<b>Total Travel</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>18%</b>	<b>12%</b>	<b>24%</b>	<b>1%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS E or worse</b>	<b>8%</b>	<b>8%</b>	<b>13%</b>	<b>0%</b>	<b>4%</b>	<b>4%</b>	
<b>% LOS F</b>	<b>5%</b>	<b>4%</b>	<b>6%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

**Table H.11: 2035 LRT-4A Level of Service Performance**

SCAG SR710GAP 08R35a3_LRT4 StudyArea							
: One-Way Centerline Miles of Facility							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	330	365	272	1,114	527	42%	
LOS B	-	-	-	-	-	0%	
LOS C	233	289	222	121	368	29%	
LOS D	282	317	246	22	272	22%	
LOS E	237	183	280	2	73	6%	
LOS F	97	60	140	0	16	1%	
LOS F1	34	23	39	-	3	0%	
LOS F2	20	12	26	0	1	0%	
LOS F3	27	12	35	0	1	0%	
<b>Total Travel</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>55%</b>	<b>48%</b>	<b>61%</b>	<b>2%</b>	<b>29%</b>	<b>29%</b>	
<b>% LOS E or worse</b>	<b>33%</b>	<b>23%</b>	<b>41%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>8%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_LRT4 StudyArea							
: One-Way Centerline Miles of Freeway							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	6	6	2	74	14	10%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	7	19	9	53	42	32%	
LOS D (0.73<= V/C <0.93)	36	47	28	4	67	52%	
LOS E (0.93<= V/C <1.00)	53	51	51	-	8	6%	
LOS F (1.00<= V/C <1.10)	20	5	31	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	7	2	8	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	0	2	-	-	0%	
LOS F3 (1.30>= V/C)	1	-	0	-	-	0%	
<b>Total Travel</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>90%</b>	<b>81%</b>	<b>91%</b>	<b>3%</b>	<b>58%</b>	<b>58%</b>	
<b>% LOS E or worse</b>	<b>63%</b>	<b>45%</b>	<b>69%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>22%</b>	<b>5%</b>	<b>31%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_LRT4 StudyArea							
: One-Way Centerline Miles of Expressway/Arterial							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	216	240	168	783	367	44%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	180	223	172	45	264	31%	
LOS D (0.81<= V/C <0.91)	181	191	179	12	139	17%	
LOS E (0.91<= V/C <1.00)	143	103	163	2	53	6%	
LOS F (1.00<= V/C <1.10)	64	49	85	0	15	2%	
LOS F1 (1.10<= V/C <1.20)	19	14	25	-	2	0%	
LOS F2 (1.20<= V/C <1.30)	15	11	21	0	1	0%	
LOS F3 (1.30>= V/C)	24	10	31	0	1	0%	
<b>Total Travel</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>53%</b>	<b>45%</b>	<b>60%</b>	<b>2%</b>	<b>25%</b>	<b>25%</b>	
<b>% LOS E or worse</b>	<b>32%</b>	<b>22%</b>	<b>38%</b>	<b>0%</b>	<b>9%</b>	<b>9%</b>	
<b>% LOS F</b>	<b>15%</b>	<b>10%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
SCAG SR710GAP 08R35a3_LRT4 StudyArea							
: One-Way Centerline Miles of Collector							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	56	61	52	83	73	85%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	14	15	13	2	7	8%	
LOS D (0.81<= V/C <0.91)	8	4	10	1	3	3%	
LOS E (0.91<= V/C <1.00)	2	3	6	0	2	2%	
LOS F (1.00<= V/C <1.10)	1	1	3	-	0	1%	
LOS F1 (1.10<= V/C <1.20)	2	1	1	-	0	1%	
LOS F2 (1.20<= V/C <1.30)	0	0	0	-	0	0%	
LOS F3 (1.30>= V/C)	1	1	2	-	0	0%	
<b>Total Travel</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>18%</b>	<b>12%</b>	<b>24%</b>	<b>1%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS E or worse</b>	<b>8%</b>	<b>7%</b>	<b>13%</b>	<b>0%</b>	<b>4%</b>	<b>4%</b>	
<b>% LOS F</b>	<b>5%</b>	<b>4%</b>	<b>6%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

**Table H.12: 2035 LRT-4B Level of Service Performance**

SCAG SR710GAP 08R35a3_LRT4B							
StudyArea :							
One-Way Centerline Miles of Facility							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	330	365	272	1,114	528	42%	
LOS B	-	-	-	-	-	0%	
LOS C	233	291	221	122	368	29%	
LOS D	283	317	247	21	272	22%	
LOS E	237	182	281	2	72	6%	
LOS F	96	60	140	0	17	1%	
LOS F1	34	23	39	0	3	0%	
LOS F2	20	12	26	0	1	0%	
LOS F3	27	12	35	0	1	0%	
<b>Total Travel</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>55%</b>	<b>48%</b>	<b>61%</b>	<b>2%</b>	<b>29%</b>	<b>29%</b>	
<b>% LOS E or worse</b>	<b>33%</b>	<b>23%</b>	<b>41%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>8%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_LRT4B							
StudyArea :							
One-Way Centerline Miles of Freeway							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	6	6	2	74	14	10%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	7	19	9	53	42	32%	
LOS D (0.73<= V/C <0.93)	36	47	28	4	67	51%	
LOS E (0.93<= V/C <1.00)	53	51	51	-	8	6%	
LOS F (1.00<= V/C <1.10)	20	5	31	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	8	2	8	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	0	2	-	-	0%	
LOS F3 (1.30>= V/C)	1	-	0	-	-	0%	
<b>Total Travel</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>90%</b>	<b>81%</b>	<b>91%</b>	<b>3%</b>	<b>57%</b>	<b>57%</b>	
<b>% LOS E or worse</b>	<b>63%</b>	<b>45%</b>	<b>69%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>22%</b>	<b>5%</b>	<b>31%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_LRT4B							
StudyArea :							
One-Way Centerline Miles of Expressway/Arterial							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	216	240	168	783	368	44%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	180	225	172	46	264	31%	
LOS D (0.81<= V/C <0.91)	181	190	179	12	140	17%	
LOS E (0.91<= V/C <1.00)	144	104	164	2	53	6%	
LOS F (1.00<= V/C <1.10)	64	49	85	0	15	2%	
LOS F1 (1.10<= V/C <1.20)	19	15	25	0	2	0%	
LOS F2 (1.20<= V/C <1.30)	15	11	20	0	1	0%	
LOS F3 (1.30>= V/C)	24	10	31	0	1	0%	
<b>Total Travel</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>53%</b>	<b>45%</b>	<b>60%</b>	<b>2%</b>	<b>25%</b>	<b>25%</b>	
<b>% LOS E or worse</b>	<b>32%</b>	<b>22%</b>	<b>39%</b>	<b>0%</b>	<b>9%</b>	<b>9%</b>	
<b>% LOS F</b>	<b>15%</b>	<b>10%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
SCAG SR710GAP 08R35a3_LRT4B							
StudyArea :							
One-Way Centerline Miles of Collector							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	56	61	52	83	73	85%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	14	15	13	2	7	8%	
LOS D (0.81<= V/C <0.91)	8	4	10	1	3	3%	
LOS E (0.91<= V/C <1.00)	2	3	6	0	2	2%	
LOS F (1.00<= V/C <1.10)	1	1	3	-	0	1%	
LOS F1 (1.10<= V/C <1.20)	2	1	1	-	0	1%	
LOS F2 (1.20<= V/C <1.30)	0	0	0	-	0	0%	
LOS F3 (1.30>= V/C)	1	1	2	-	0	0%	
<b>Total Travel</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>18%</b>	<b>12%</b>	<b>24%</b>	<b>1%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS E or worse</b>	<b>8%</b>	<b>8%</b>	<b>13%</b>	<b>0%</b>	<b>4%</b>	<b>4%</b>	
<b>% LOS F</b>	<b>5%</b>	<b>4%</b>	<b>6%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

**Table H.13: 2035 LRT-4D Level of Service Performance**

SCAG SR710GAP 08R35a3_LRT4D							
StudyArea :							
One-Way Centerline Miles of Facility							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	330	365	272	1,114	528	42%	
LOS B	-	-	-	-	-	0%	
LOS C	232	291	223	121	367	29%	
LOS D	283	315	245	22	271	22%	
LOS E	237	184	280	2	73	6%	
LOS F	96	60	141	0	17	1%	
LOS F1	34	23	39	0	2	0%	
LOS F2	20	12	25	0	1	0%	
LOS F3	27	12	35	0	1	0%	
<b>Total Travel</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>55%</b>	<b>48%</b>	<b>61%</b>	<b>2%</b>	<b>29%</b>	<b>29%</b>	
<b>% LOS E or worse</b>	<b>33%</b>	<b>23%</b>	<b>41%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>8%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_LRT4D							
StudyArea :							
One-Way Centerline Miles of Freeway							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	6	6	2	74	14	10%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	6	19	9	53	42	32%	
LOS D (0.73<= V/C <0.93)	37	47	28	4	67	51%	
LOS E (0.93<= V/C <1.00)	53	51	51	-	8	6%	
LOS F (1.00<= V/C <1.10)	20	5	31	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	8	2	8	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	-	2	-	-	0%	
LOS F3 (1.30>= V/C)	1	-	0	-	-	0%	
<b>Total Travel</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>91%</b>	<b>81%</b>	<b>91%</b>	<b>3%</b>	<b>58%</b>	<b>58%</b>	
<b>% LOS E or worse</b>	<b>63%</b>	<b>45%</b>	<b>69%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>22%</b>	<b>5%</b>	<b>31%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_LRT4D							
StudyArea :							
One-Way Centerline Miles of Expressway/Arterial							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	216	240	168	783	368	44%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	180	224	173	45	264	31%	
LOS D (0.81<= V/C <0.91)	181	190	178	12	139	16%	
LOS E (0.91<= V/C <1.00)	144	104	162	2	54	6%	
LOS F (1.00<= V/C <1.10)	64	49	86	0	15	2%	
LOS F1 (1.10<= V/C <1.20)	20	14	24	0	1	0%	
LOS F2 (1.20<= V/C <1.30)	15	11	20	0	1	0%	
LOS F3 (1.30>= V/C)	24	10	31	0	1	0%	
<b>Total Travel</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>53%</b>	<b>45%</b>	<b>60%</b>	<b>2%</b>	<b>25%</b>	<b>25%</b>	
<b>% LOS E or worse</b>	<b>32%</b>	<b>22%</b>	<b>38%</b>	<b>0%</b>	<b>9%</b>	<b>9%</b>	
<b>% LOS F</b>	<b>15%</b>	<b>10%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
SCAG SR710GAP 08R35a3_LRT4D							
StudyArea :							
One-Way Centerline Miles of Collector							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	56	61	52	83	73	85%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	14	15	13	2	7	8%	
LOS D (0.81<= V/C <0.91)	9	4	10	1	3	3%	
LOS E (0.91<= V/C <1.00)	2	3	6	0	2	2%	
LOS F (1.00<= V/C <1.10)	2	1	3	-	0	1%	
LOS F1 (1.10<= V/C <1.20)	1	1	1	-	0	1%	
LOS F2 (1.20<= V/C <1.30)	0	0	0	-	0	0%	
LOS F3 (1.30>= V/C)	1	1	2	-	0	0%	
<b>Total Travel</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>18%</b>	<b>12%</b>	<b>24%</b>	<b>1%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS E or worse</b>	<b>8%</b>	<b>8%</b>	<b>13%</b>	<b>0%</b>	<b>4%</b>	<b>4%</b>	
<b>% LOS F</b>	<b>5%</b>	<b>4%</b>	<b>6%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

**Table H.14: 2035 LRT-6 Level of Service Performance**

SCAG SR710GAP 08R35a3_LRT6 StudyArea							
: One-Way Centerline Miles of Facility							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	330	365	273	1,114	527	42%	
LOS B	-	-	-	-	-	0%	
LOS C	233	290	222	122	368	29%	
LOS D	282	318	246	22	273	22%	
LOS E	237	182	280	2	72	6%	
LOS F	96	59	141	0	17	1%	
LOS F1	35	23	39	-	2	0%	
LOS F2	20	12	26	0	1	0%	
LOS F3	27	12	35	0	1	0%	
<b>Total Travel</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>55%</b>	<b>48%</b>	<b>61%</b>	<b>2%</b>	<b>29%</b>	<b>29%</b>	
<b>% LOS E or worse</b>	<b>33%</b>	<b>23%</b>	<b>41%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>8%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_LRT6 StudyArea							
: One-Way Centerline Miles of Freeway							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	6	6	2	74	14	10%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	7	19	9	53	42	32%	
LOS D (0.73<= V/C <0.93)	36	47	28	4	67	52%	
LOS E (0.93<= V/C <1.00)	53	51	50	-	8	6%	
LOS F (1.00<= V/C <1.10)	20	5	31	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	8	2	8	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	0	2	-	-	0%	
LOS F3 (1.30>= V/C)	1	-	0	-	-	0%	
<b>Total Travel</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>90%</b>	<b>81%</b>	<b>91%</b>	<b>3%</b>	<b>58%</b>	<b>58%</b>	
<b>% LOS E or worse</b>	<b>63%</b>	<b>45%</b>	<b>69%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>22%</b>	<b>5%</b>	<b>31%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_LRT6 StudyArea							
: One-Way Centerline Miles of Expressway/Arterial							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	216	240	168	783	367	44%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	180	224	172	46	263	31%	
LOS D (0.81<= V/C <0.91)	181	191	178	12	140	17%	
LOS E (0.91<= V/C <1.00)	144	104	163	2	53	6%	
LOS F (1.00<= V/C <1.10)	64	48	86	0	15	2%	
LOS F1 (1.10<= V/C <1.20)	20	15	25	-	1	0%	
LOS F2 (1.20<= V/C <1.30)	15	11	20	0	1	0%	
LOS F3 (1.30>= V/C)	23	10	31	0	1	0%	
<b>Total Travel</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>53%</b>	<b>45%</b>	<b>60%</b>	<b>2%</b>	<b>25%</b>	<b>25%</b>	
<b>% LOS E or worse</b>	<b>32%</b>	<b>22%</b>	<b>39%</b>	<b>0%</b>	<b>9%</b>	<b>9%</b>	
<b>% LOS F</b>	<b>15%</b>	<b>10%</b>	<b>19%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
SCAG SR710GAP 08R35a3_LRT6 StudyArea							
: One-Way Centerline Miles of Collector							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	56	61	52	83	73	85%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	14	15	13	2	7	8%	
LOS D (0.81<= V/C <0.91)	8	4	10	1	3	3%	
LOS E (0.91<= V/C <1.00)	2	3	6	0	2	2%	
LOS F (1.00<= V/C <1.10)	1	1	3	-	0	1%	
LOS F1 (1.10<= V/C <1.20)	2	1	1	-	0	1%	
LOS F2 (1.20<= V/C <1.30)	0	0	0	-	0	0%	
LOS F3 (1.30>= V/C)	1	1	2	-	0	0%	
<b>Total Travel</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>18%</b>	<b>12%</b>	<b>24%</b>	<b>1%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS E or worse</b>	<b>8%</b>	<b>7%</b>	<b>13%</b>	<b>0%</b>	<b>4%</b>	<b>4%</b>	
<b>% LOS F</b>	<b>5%</b>	<b>4%</b>	<b>6%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

**Table H.15: 2035 F-2 Level of Service Performance**

SCAG SR710GAP 08R35a3_FT2 Study Area :		One-Way Centerline Miles of Facility					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	343	381	288	1,141	545	42%	
LOS B	-	-	-	-	-	0%	
LOS C	267	312	225	125	393	31%	
LOS D	283	308	285	17	269	21%	
LOS E	243	197	276	3	63	5%	
LOS F	84	53	130	1	13	1%	
LOS F1	31	19	38	-	2	0%	
LOS F2	19	7	21	-	1	0%	
LOS F3	17	10	24	0	0	0%	
<b>Total Travel</b>	<b>1,286</b>	<b>1,286</b>	<b>1,286</b>	<b>1,286</b>	<b>1,286</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>53%</b>	<b>46%</b>	<b>60%</b>	<b>2%</b>	<b>27%</b>	<b>27%</b>	
<b>% LOS E or worse</b>	<b>31%</b>	<b>22%</b>	<b>38%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>12%</b>	<b>7%</b>	<b>17%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_FT2 Study Area :		One-Way Centerline Miles of Freeway					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	1	1	1	101	6	4%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	23	32	8	54	56	36%	
LOS D (0.73<= V/C <0.93)	30	51	42	1	88	56%	
LOS E (0.93<= V/C <1.00)	81	69	66	-	6	4%	
LOS F (1.00<= V/C <1.10)	15	2	30	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	5	1	8	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	2	-	1	-	-	0%	
LOS F3 (1.30>= V/C)	0	-	0	-	-	0%	
<b>Total Travel</b>	<b>156</b>	<b>156</b>	<b>156</b>	<b>156</b>	<b>156</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>85%</b>	<b>79%</b>	<b>94%</b>	<b>1%</b>	<b>60%</b>	<b>60%</b>	
<b>% LOS E or worse</b>	<b>66%</b>	<b>46%</b>	<b>68%</b>	<b>0%</b>	<b>4%</b>	<b>4%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>2%</b>	<b>25%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_FT2 Study Area :		One-Way Centerline Miles of Expressway/Arterial					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	233	260	184	784	394	47%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	193	234	179	46	259	31%	
LOS D (0.81<= V/C <0.91)	191	179	200	11	130	15%	
LOS E (0.91<= V/C <1.00)	123	98	140	2	46	5%	
LOS F (1.00<= V/C <1.10)	55	45	80	1	11	1%	
LOS F1 (1.10<= V/C <1.20)	21	13	25	-	1	0%	
LOS F2 (1.20<= V/C <1.30)	14	5	15	-	1	0%	
LOS F3 (1.30>= V/C)	14	9	20	0	0	0%	
<b>Total Travel</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>49%</b>	<b>41%</b>	<b>57%</b>	<b>2%</b>	<b>22%</b>	<b>22%</b>	
<b>% LOS E or worse</b>	<b>27%</b>	<b>20%</b>	<b>33%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>12%</b>	<b>9%</b>	<b>17%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
SCAG SR710GAP 08R35a3_FT2 Study Area :		One-Way Centerline Miles of Collector					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	58	62	55	83	74	86%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	18	15	13	2	7	8%	
LOS D (0.81<= V/C <0.91)	5	3	9	1	2	3%	
LOS E (0.91<= V/C <1.00)	1	2	6	-	2	2%	
LOS F (1.00<= V/C <1.10)	3	2	2	-	1	1%	
LOS F1 (1.10<= V/C <1.20)	0	1	0	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	0	-	1	-	-	0%	
LOS F3 (1.30>= V/C)	1	1	1	-	0	0%	
<b>Total Travel</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>12%</b>	<b>10%</b>	<b>22%</b>	<b>1%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS E or worse</b>	<b>7%</b>	<b>7%</b>	<b>11%</b>	<b>0%</b>	<b>4%</b>	<b>4%</b>	
<b>% LOS F</b>	<b>5%</b>	<b>4%</b>	<b>5%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

**Table H.16: 2035 F-5 Level of Service Performance**

SCAG SR710GAP 08R35a3_FT5 Study Area :		One-Way Centerline Miles of Facility					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	345	381	287	1,147	560	44%	
LOS B	-	-	-	-	-	0%	
LOS C	254	315	223	119	383	30%	
LOS D	297	320	286	15	264	21%	
LOS E	239	180	294	3	64	5%	
LOS F	85	58	113	0	11	1%	
LOS F1	31	15	37	-	1	0%	
LOS F2	17	7	21	-	1	0%	
LOS F3	16	7	22	-	0	0%	
<b>Total Travel</b>	<b>1,283</b>	<b>1,283</b>	<b>1,283</b>	<b>1,283</b>	<b>1,283</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>53%</b>	<b>46%</b>	<b>60%</b>	<b>1%</b>	<b>27%</b>	<b>27%</b>	
<b>% LOS E or worse</b>	<b>30%</b>	<b>21%</b>	<b>38%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>12%</b>	<b>7%</b>	<b>15%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_FT5 Study Area :		One-Way Centerline Miles of Freeway					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	6	7	2	93	12	8%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	8	23	9	59	49	32%	
LOS D (0.73<= V/C <0.93)	38	56	37	2	82	53%	
LOS E (0.93<= V/C <1.00)	71	60	71	-	11	7%	
LOS F (1.00<= V/C <1.10)	19	6	21	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	8	2	11	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	3	-	1	-	-	0%	
LOS F3 (1.30>= V/C)	0	-	0	-	-	0%	
<b>Total Travel</b>	<b>154</b>	<b>154</b>	<b>154</b>	<b>154</b>	<b>154</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>91%</b>	<b>81%</b>	<b>92%</b>	<b>1%</b>	<b>61%</b>	<b>61%</b>	
<b>% LOS E or worse</b>	<b>66%</b>	<b>45%</b>	<b>68%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>20%</b>	<b>6%</b>	<b>22%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_FT5 Study Area :		One-Way Centerline Miles of Expressway/Arterial					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	229	251	180	797	401	48%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	199	251	175	37	261	31%	
LOS D (0.81<= V/C <0.91)	194	181	210	7	128	15%	
LOS E (0.91<= V/C <1.00)	126	96	149	2	42	5%	
LOS F (1.00<= V/C <1.10)	54	44	74	0	8	1%	
LOS F1 (1.10<= V/C <1.20)	17	10	21	-	1	0%	
LOS F2 (1.20<= V/C <1.30)	10	5	16	-	1	0%	
LOS F3 (1.30>= V/C)	13	6	18	-	0	0%	
<b>Total Travel</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>49%</b>	<b>41%</b>	<b>58%</b>	<b>1%</b>	<b>21%</b>	<b>21%</b>	
<b>% LOS E or worse</b>	<b>26%</b>	<b>19%</b>	<b>33%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>11%</b>	<b>8%</b>	<b>15%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
SCAG SR710GAP 08R35a3_FT5 Study Area :		One-Way Centerline Miles of Collector					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	58	64	56	83	74	86%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	17	13	12	2	7	8%	
LOS D (0.81<= V/C <0.91)	5	4	9	1	3	3%	
LOS E (0.91<= V/C <1.00)	2	2	7	0	2	2%	
LOS F (1.00<= V/C <1.10)	3	2	1	-	1	1%	
LOS F1 (1.10<= V/C <1.20)	0	0	0	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	0	0	0	-	-	0%	
LOS F3 (1.30>= V/C)	1	1	1	-	0	0%	
<b>Total Travel</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>13%</b>	<b>11%</b>	<b>22%</b>	<b>1%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS E or worse</b>	<b>7%</b>	<b>6%</b>	<b>12%</b>	<b>0%</b>	<b>3%</b>	<b>3%</b>	
<b>% LOS F</b>	<b>5%</b>	<b>4%</b>	<b>4%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

**Table H.17: 2035 F-6 Level of Service Performance**

SCAG SR710GAP 08R35a3_FS6 Study Area :							
One-Way Centerline Miles of Facility							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	356	398	299	1,153	570	44%	
LOS B	-	-	-	-	-	0%	
LOS C	263	307	234	116	374	29%	
LOS D	290	307	279	12	276	22%	
LOS E	226	195	276	1	51	4%	
LOS F	91	49	121	-	10	1%	
LOS F1	27	14	33	-	1	0%	
LOS F2	16	6	20	-	0	0%	
LOS F3	13	6	19	-	0	0%	
<b>Total Travel</b>	<b>1,282</b>	<b>1,282</b>	<b>1,282</b>	<b>1,282</b>	<b>1,282</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>52%</b>	<b>45%</b>	<b>58%</b>	<b>1%</b>	<b>26%</b>	<b>26%</b>	
<b>% LOS E or worse</b>	<b>29%</b>	<b>21%</b>	<b>37%</b>	<b>0%</b>	<b>5%</b>	<b>5%</b>	
<b>% LOS F</b>	<b>11%</b>	<b>6%</b>	<b>15%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_FS6 Study Area :							
One-Way Centerline Miles of Freeway							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	4	8	4	74	11	8%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	7	18	9	63	32	23%	
LOS D (0.73<= V/C <0.93)	33	39	24	3	87	62%	
LOS E (0.93<= V/C <1.00)	58	68	58	-	9	7%	
LOS F (1.00<= V/C <1.10)	28	5	32	-	1	1%	
LOS F1 (1.10<= V/C <1.20)	7	2	11	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	1	2	-	-	0%	
LOS F3 (1.30>= V/C)	2	-	1	-	-	0%	
<b>Total Travel</b>	<b>141</b>	<b>141</b>	<b>141</b>	<b>141</b>	<b>141</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>92%</b>	<b>81%</b>	<b>91%</b>	<b>2%</b>	<b>69%</b>	<b>69%</b>	
<b>% LOS E or worse</b>	<b>68%</b>	<b>54%</b>	<b>74%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>27%</b>	<b>6%</b>	<b>33%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
SCAG SR710GAP 08R35a3_FS6 Study Area :							
One-Way Centerline Miles of Expressway/Arterial							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	237	263	187	806	407	48%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	203	246	188	32	262	31%	
LOS D (0.81<= V/C <0.91)	188	179	206	5	130	15%	
LOS E (0.91<= V/C <1.00)	127	99	140	1	34	4%	
LOS F (1.00<= V/C <1.10)	52	38	74	-	7	1%	
LOS F1 (1.10<= V/C <1.20)	14	9	17	-	1	0%	
LOS F2 (1.20<= V/C <1.30)	12	5	15	-	0	0%	
LOS F3 (1.30>= V/C)	11	5	16	-	0	0%	
<b>Total Travel</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>48%</b>	<b>40%</b>	<b>55%</b>	<b>1%</b>	<b>21%</b>	<b>21%</b>	
<b>% LOS E or worse</b>	<b>25%</b>	<b>18%</b>	<b>31%</b>	<b>0%</b>	<b>5%</b>	<b>5%</b>	
<b>% LOS F</b>	<b>10%</b>	<b>7%</b>	<b>14%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
SCAG SR710GAP 08R35a3_FS6 Study Area :							
One-Way Centerline Miles of Collector							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	59	62	54	83	74	87%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	15	14	12	2	5	6%	
LOS D (0.81<= V/C <0.91)	6	3	11	0	3	4%	
LOS E (0.91<= V/C <1.00)	2	2	4	0	1	1%	
LOS F (1.00<= V/C <1.10)	2	2	1	-	1	1%	
LOS F1 (1.10<= V/C <1.20)	0	0	0	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	0	1	-	0	0%	
LOS F3 (1.30>= V/C)	1	1	1	-	0	0%	
<b>Total Travel</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>13%</b>	<b>10%</b>	<b>22%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS E or worse</b>	<b>6%</b>	<b>6%</b>	<b>9%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
<b>% LOS F</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

**Table H.18: 2035 F-7 Level of Service Performance**

SCAG SR710GAP 08R35a3_FT7 StudyArea :							
One-Way Centerline Miles of Facility							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	349	390	293	1,148	562	44%	
LOS B	-	-	-	-	-	0%	
LOS C	255	312	224	115	376	29%	
LOS D	293	300	272	15	272	21%	
LOS E	237	200	293	3	59	5%	
LOS F	88	49	121	0	11	1%	
LOS F1	30	17	37	-	2	0%	
LOS F2	16	8	21	-	1	0%	
LOS F3	14	7	21	-	0	0%	
<b>Total Travel</b>	<b>1,282</b>	<b>1,282</b>	<b>1,282</b>	<b>1,282</b>	<b>1,282</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>53%</b>	<b>45%</b>	<b>60%</b>	<b>1%</b>	<b>27%</b>	<b>27%</b>	
<b>% LOS E or worse</b>	<b>30%</b>	<b>22%</b>	<b>38%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>12%</b>	<b>6%</b>	<b>16%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_FT7 StudyArea :							
One-Way Centerline Miles of Freeway							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	4	9	4	96	11	8%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	8	24	9	55	43	28%	
LOS D (0.73<= V/C <0.93)	36	39	22	2	90	59%	
LOS E (0.93<= V/C <1.00)	71	75	70	-	8	5%	
LOS F (1.00<= V/C <1.10)	24	4	37	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	8	2	11	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	-	1	-	-	0%	
LOS F3 (1.30>= V/C)	0	-	-	-	-	0%	
<b>Total Travel</b>	<b>153</b>	<b>153</b>	<b>153</b>	<b>153</b>	<b>153</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>92%</b>	<b>79%</b>	<b>92%</b>	<b>1%</b>	<b>64%</b>	<b>64%</b>	
<b>% LOS E or worse</b>	<b>69%</b>	<b>53%</b>	<b>77%</b>	<b>0%</b>	<b>5%</b>	<b>5%</b>	
<b>% LOS F</b>	<b>22%</b>	<b>4%</b>	<b>32%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_FT7 StudyArea :							
One-Way Centerline Miles of Expressway/Arterial							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	235	259	185	796	404	48%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	200	246	179	38	261	31%	
LOS D (0.81<= V/C <0.91)	193	179	206	7	126	15%	
LOS E (0.91<= V/C <1.00)	124	97	147	2	41	5%	
LOS F (1.00<= V/C <1.10)	52	39	71	0	8	1%	
LOS F1 (1.10<= V/C <1.20)	16	11	21	-	1	0%	
LOS F2 (1.20<= V/C <1.30)	11	7	16	-	1	0%	
LOS F3 (1.30>= V/C)	12	6	18	-	0	0%	
<b>Total Travel</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>843</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>48%</b>	<b>40%</b>	<b>57%</b>	<b>1%</b>	<b>21%</b>	<b>21%</b>	
<b>% LOS E or worse</b>	<b>26%</b>	<b>19%</b>	<b>32%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>11%</b>	<b>7%</b>	<b>15%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
SCAG SR710GAP 08R35a3_FT7 StudyArea :							
One-Way Centerline Miles of Collector							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	58	64	57	83	75	87%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	16	12	10	2	5	6%	
LOS D (0.81<= V/C <0.91)	6	4	10	1	2	3%	
LOS E (0.91<= V/C <1.00)	1	2	6	0	2	2%	
LOS F (1.00<= V/C <1.10)	3	2	1	-	1	1%	
LOS F1 (1.10<= V/C <1.20)	0	1	0	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	0	-	1	-	-	0%	
LOS F3 (1.30>= V/C)	1	1	1	-	0	0%	
<b>Total Travel</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>13%</b>	<b>11%</b>	<b>22%</b>	<b>1%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS E or worse</b>	<b>6%</b>	<b>6%</b>	<b>11%</b>	<b>0%</b>	<b>3%</b>	<b>3%</b>	
<b>% LOS F</b>	<b>5%</b>	<b>4%</b>	<b>4%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

**Table H.19: 2035 H-2 Level of Service Performance**

SCAG SR710GAP 08R35a3_H2A Study Area : One-Way Centerline Miles of Facility							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	353	382	295	1,130	544	43%	
LOS B	-	-	-	-	-	0%	
LOS C	233	296	214	118	367	29%	
LOS D	292	314	261	18	277	22%	
LOS E	219	179	275	1	65	5%	
LOS F	102	60	136	0	14	1%	
LOS F1	30	19	37	-	1	0%	
LOS F2	19	9	24	-	1	0%	
LOS F3	21	9	27	-	0	0%	
<b>Total Travel</b>	<b>1,269</b>	<b>1,269</b>	<b>1,269</b>	<b>1,269</b>	<b>1,269</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>54%</b>	<b>47%</b>	<b>60%</b>	<b>2%</b>	<b>28%</b>	<b>28%</b>	
<b>% LOS E or worse</b>	<b>31%</b>	<b>22%</b>	<b>39%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>8%</b>	<b>18%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_H2A Study Area : One-Way Centerline Miles of Freeway							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	4	4	0	72	12	9%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	6	21	11	55	42	32%	
LOS D (0.73<= V/C <0.93)	39	47	28	4	69	53%	
LOS E (0.93<= V/C <1.00)	51	52	53	-	8	6%	
LOS F (1.00<= V/C <1.10)	23	6	30	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	6	2	8	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	-	1	-	-	0%	
LOS F3 (1.30>= V/C)	0	-	0	-	-	0%	
<b>Total Travel</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>92%</b>	<b>81%</b>	<b>92%</b>	<b>3%</b>	<b>59%</b>	<b>59%</b>	
<b>% LOS E or worse</b>	<b>62%</b>	<b>45%</b>	<b>70%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>23%</b>	<b>5%</b>	<b>30%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_H2A Study Area : One-Way Centerline Miles of Expressway/Arterial							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	233	253	186	794	378	45%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	181	228	162	41	264	31%	
LOS D (0.81<= V/C <0.91)	186	188	193	9	141	17%	
LOS E (0.91<= V/C <1.00)	129	100	156	1	47	6%	
LOS F (1.00<= V/C <1.10)	65	47	82	0	12	1%	
LOS F1 (1.10<= V/C <1.20)	19	12	22	-	1	0%	
LOS F2 (1.20<= V/C <1.30)	15	8	19	-	1	0%	
LOS F3 (1.30>= V/C)	18	8	24	-	0	0%	
<b>Total Travel</b>	<b>844</b>	<b>844</b>	<b>844</b>	<b>844</b>	<b>844</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>51%</b>	<b>43%</b>	<b>59%</b>	<b>1%</b>	<b>24%</b>	<b>24%</b>	
<b>% LOS E or worse</b>	<b>29%</b>	<b>21%</b>	<b>36%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>9%</b>	<b>17%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
SCAG SR710GAP 08R35a3_H2A Study Area : One-Way Centerline Miles of Collector							
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	60	64	56	88	78	85%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	14	17	14	3	6	7%	
LOS D (0.81<= V/C <0.91)	11	4	9	0	4	4%	
LOS E (0.91<= V/C <1.00)	2	3	6	0	2	2%	
LOS F (1.00<= V/C <1.10)	3	2	3	0	1	1%	
LOS F1 (1.10<= V/C <1.20)	1	1	1	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	0	0	1	-	0	0%	
LOS F3 (1.30>= V/C)	1	1	1	-	0	0%	
<b>Total Travel</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>19%</b>	<b>12%</b>	<b>23%</b>	<b>0%</b>	<b>8%</b>	<b>8%</b>	
<b>% LOS E or worse</b>	<b>8%</b>	<b>7%</b>	<b>14%</b>	<b>0%</b>	<b>4%</b>	<b>4%</b>	
<b>% LOS F</b>	<b>6%</b>	<b>5%</b>	<b>7%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

Table H.20: 2035 H-6 Level of Service Performance

SCAG SR710GAP 08R35a3_H6A Study Area :		One-Way Centerline Miles of Facility					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A	350	383	286	1,118	539	43%	
LOS B	-	-	-	-	-	0%	
LOS C	226	282	220	123	366	29%	
LOS D	293	312	252	19	272	22%	
LOS E	221	185	278	2	68	5%	
LOS F	101	62	133	0	14	1%	
LOS F1	30	17	39	-	2	0%	
LOS F2	19	11	23	-	1	0%	
LOS F3	22	10	31	-	1	0%	
<b>Total Travel</b>	<b>1,262</b>	<b>1,262</b>	<b>1,262</b>	<b>1,262</b>	<b>1,262</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>54%</b>	<b>47%</b>	<b>60%</b>	<b>2%</b>	<b>28%</b>	<b>28%</b>	
<b>% LOS E or worse</b>	<b>31%</b>	<b>23%</b>	<b>40%</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>8%</b>	<b>18%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	
Note: Freeway ays, HOV, Ramps, and Truck Only lanes use Freeway LOS V/C Criteria. All other links use Arterial/Collector LOS V/C Criteria.							
SCAG SR710GAP 08R35a3_H6A Study Area :		One-Way Centerline Miles of Freeway					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.33)	8	8	4	75	14	11%	
LOS B (0.33<= V/C <0.51)	-	-	-	-	-	0%	
LOS C (0.51<= V/C <0.73)	4	17	9	54	40	30%	
LOS D (0.73<= V/C <0.93)	37	47	25	4	70	53%	
LOS E (0.93<= V/C <1.00)	53	54	54	-	8	6%	
LOS F (1.00<= V/C <1.10)	22	5	31	-	-	0%	
LOS F1 (1.10<= V/C <1.20)	7	2	8	-	-	0%	
LOS F2 (1.20<= V/C <1.30)	1	-	2	-	-	0%	
LOS F3 (1.30>= V/C)	0	-	0	-	-	0%	
<b>Total Travel</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>133</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>91%</b>	<b>81%</b>	<b>90%</b>	<b>3%</b>	<b>59%</b>	<b>59%</b>	
<b>% LOS E or worse</b>	<b>63%</b>	<b>46%</b>	<b>71%</b>	<b>0%</b>	<b>6%</b>	<b>6%</b>	
<b>% LOS F</b>	<b>24%</b>	<b>5%</b>	<b>31%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	
SCAG SR710GAP 08R35a3_H6A Study Area :		One-Way Centerline Miles of Expressway/Arterial					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	231	253	179	784	378	45%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	179	222	172	49	263	31%	
LOS D (0.81<= V/C <0.91)	191	189	189	9	135	16%	
LOS E (0.91<= V/C <1.00)	128	101	153	1	52	6%	
LOS F (1.00<= V/C <1.10)	64	50	81	0	12	1%	
LOS F1 (1.10<= V/C <1.20)	18	11	25	-	1	0%	
LOS F2 (1.20<= V/C <1.30)	14	9	18	-	1	0%	
LOS F3 (1.30>= V/C)	19	9	27	-	1	0%	
<b>Total Travel</b>	<b>844</b>	<b>844</b>	<b>844</b>	<b>844</b>	<b>844</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>51%</b>	<b>44%</b>	<b>58%</b>	<b>1%</b>	<b>24%</b>	<b>24%</b>	
<b>% LOS E or worse</b>	<b>29%</b>	<b>21%</b>	<b>36%</b>	<b>0%</b>	<b>8%</b>	<b>8%</b>	
<b>% LOS F</b>	<b>14%</b>	<b>9%</b>	<b>18%</b>	<b>0%</b>	<b>2%</b>	<b>2%</b>	
SCAG SR710GAP 08R35a3_H6A Study Area :		One-Way Centerline Miles of Collector					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	
LOS A (V/C <0.51)	57	62	53	82	72	85%	
LOS B (0.51<= V/C <0.66)	-	-	-	-	-	0%	
LOS C (0.66<= V/C <0.81)	13	11	12	1	7	8%	
LOS D (0.81<= V/C <0.91)	8	4	8	1	4	5%	
LOS E (0.91<= V/C <1.00)	2	4	7	1	1	1%	
LOS F (1.00<= V/C <1.10)	2	1	2	-	0	1%	
LOS F1 (1.10<= V/C <1.20)	1	0	0	-	0	1%	
LOS F2 (1.20<= V/C <1.30)	0	0	1	-	0	0%	
LOS F3 (1.30>= V/C)	1	1	1	-	0	0%	
<b>Total Travel</b>	<b>84</b>	<b>84</b>	<b>84</b>	<b>84</b>	<b>84</b>	<b>100%</b>	
<b>% LOS D or worse</b>	<b>17%</b>	<b>13%</b>	<b>23%</b>	<b>1%</b>	<b>7%</b>	<b>7%</b>	
<b>% LOS E or worse</b>	<b>8%</b>	<b>8%</b>	<b>13%</b>	<b>1%</b>	<b>2%</b>	<b>2%</b>	
<b>% LOS F</b>	<b>5%</b>	<b>3%</b>	<b>5%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	

# I. Travel in Congestion

## **Performance Measure Definition**

The travel in congestion performance measure is defined as the total vehicular (automobile and truck) miles of travel (VMT) on congested facilities. For this performance measure, congested facilities are defined as facilities with a V/C ratio greater than 1.0. In a more efficient system, travel on congested freeways in the study area will decrease. In a more efficient system, roadway users are able to choose among alternative routes, allowing traffic to be distributed more evenly and reducing the amount of travel that must take place on congested facilities.

## **Calculation Process**

The performance for the travel in congestion uses raw model outputs to calculate the total travel in congestion. The calculation for the travel in congestion performance measure is the sum of the VMT (travel time in hours multiplied by the number of vehicles) of all links in the study area with a V/C ratio greater than 1.0.

Table I.1 summarizes the AM and PM peak period VMT on congested facilities in the study area.

## **Performance Measure Values**

The performance measure values are shown in Table I.2. Tables I.3 through I.17 are a comprehensive summary of the travel in congestion in the study area.

**Table I.1: VMT in Congestion by Time of Day in the Study Area**

Travel Model Evaluation	Time Period	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6
Total VMT (in 1000s) on Congested Facilities (V/C > 1.0) in the Study Area	AM Peak Period	314.7	453.9	444.4	439.3	453.2	453.2	437.9	453.5	454.1	453.8	340.6	446.8	362.5	379.4	403.1	428.4
	PM Peak Period	446.6	718.7	704.1	718.8	715.2	715.2	717.1	717.2	715.1	718.2	630.8	713.0	672.9	681.2	679.1	710.7
	Daily	931.2	1550.5	1497.8	1533.3	1546.2	1546.2	1528.4	1545.9	1544.5	1546.6	1219.3	1400.6	1255.7	1292.4	1397.9	1472.1

**Table I.2: Daily VMT in Congestion in the Study Area**

Screen Level 2: Performance Measure	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT-4A	LRT-4B	LRT-4D	LRT-6	F 2	F-5	F 6	F-7	H 2	H 6
Total daily VMT (in 1000s) on congested facilities (V/C > 1.0) in the study area	931.2	1550.5	1497.8	1533.3	1546.2	1546.2	1528.4	1545.9	1544.5	1546.6	1219.3	1400.6	1255.7	1292.4	1397.9	1472.1

**Table I.3: 2008 Existing Travel in Congestion Performance**

SCAG SR710GAP 08R08a3_PFA1 StudyArea :							SCAG SR710GAP 08R08a3_PFA1 StudyArea :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	528	528	528	528	528	23%	Freeways	131	131	131	131	131	10%
HOV	70	70	70	70	70	3%	HOV	70	70	70	70	70	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	565	565	568	565	566	24%	Principal Arterials	272	272	272	272	272	22%
Minor Arterials	864	864	864	862	864	37%	Minor Arterials	564	564	564	564	564	45%
Major Collectors	72	72	72	72	72	3%	Major Collectors	46	46	46	46	46	4%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	176	176	176	176	176	8%	Ramps	128	128	128	128	128	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,322</b>	<b>2,322</b>	<b>2,325</b>	<b>2,320</b>	<b>2,322</b>	<b>100%</b>	<b>Total</b>	<b>1,259</b>	<b>1,259</b>	<b>1,259</b>	<b>1,259</b>	<b>1,259</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R08a3_PFA1 StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities							SCAG SR710GAP 08R08a3_PFA1 StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	171.5	47.6	196.1	-	415.3	50%	Freeways	-	-	10.0	-	10.0	10%
HOV	0.9	1.5	1.2	-	3.6	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	63.7	49.4	94.5	1.7	209.4	25%	Principal Arterials	11.5	12.2	26.6	0.1	50.3	48%
Minor Arterials	30.3	24.3	63.5	-	118.2	14%	Minor Arterials	11.7	7.2	13.8	-	32.7	31%
Major Collectors	0.1	-	0.3	-	0.4	0%	Major Collectors	0.3	0.5	0.4	-	1.1	1%
Minor Collectors	1.4	2.7	1.1	-	5.2	1%	Minor Collectors	1.4	2.7	2.7	-	6.8	7%
Ramps	21.5	19.0	34.1	0.6	75.2	9%	Ramps	0.5	0.5	2.1	-	3.0	3%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>289.5</b>	<b>144.6</b>	<b>390.9</b>	<b>2.2</b>	<b>827.2</b>	<b>100%</b>	<b>Total Travel</b>	<b>25.2</b>	<b>23.1</b>	<b>55.7</b>	<b>0.1</b>	<b>104.0</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R08a3_PFA1 StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities							SCAG SR710GAP 08R08a3_PFA1 StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	6.8	1.9	8.1	-	16.8	40%	Freeways	-	-	0.7	-	0.7	7%
HOV	0.1	0.3	0.2	-	0.7	2%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	3.3	2.5	4.9	0.1	10.9	26%	Principal Arterials	0.8	0.9	2.0	0.0	3.8	40%
Minor Arterials	1.7	1.4	3.5	-	6.6	16%	Minor Arterials	0.9	0.6	1.2	-	2.8	29%
Major Collectors	0.0	-	0.0	-	0.0	0%	Major Collectors	0.0	0.1	0.1	-	0.2	2%
Minor Collectors	0.1	0.2	0.1	-	0.3	1%	Minor Collectors	0.1	0.2	0.2	-	0.5	5%
Ramps	2.1	1.6	3.3	0.1	7.1	17%	Ramps	0.4	0.5	0.8	-	1.7	18%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>14.1</b>	<b>7.9</b>	<b>20.1</b>	<b>0.2</b>	<b>42.4</b>	<b>100%</b>	<b>Total Travel</b>	<b>2.3</b>	<b>2.3</b>	<b>5.0</b>	<b>0.0</b>	<b>9.5</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.4: 2035 No Build Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_NB_PFA1 StudyArea :							SCAG SR710GAP 08R35a3_NB_PFA1 StudyArea :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	528	528	528	528	528	23%	Freeways	131	131	131	131	131	10%
HOV	71	71	71	71	71	3%	HOV	71	71	71	71	71	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	566	564	569	564	566	24%	Principal Arterials	270	270	270	270	270	21%
Minor Arterials	885	885	885	883	885	38%	Minor Arterials	573	573	573	573	573	45%
Major Collectors	60	60	60	60	60	3%	Major Collectors	40	40	40	40	40	3%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	176	176	176	176	176	8%	Ramps	129	129	129	129	129	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,334</b>	<b>2,331</b>	<b>2,336</b>	<b>2,329</b>	<b>2,333</b>	<b>100%</b>	<b>Total</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_NB_PFA1 StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities Moderate Congestion 1<V/C<1.25							SCAG SR710GAP 08R35a3_NB_PFA1 StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	214.2	106.8	312.0	-	633.0	48%	Freeways	-	-	10.5	-	10.5	4%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	95.3	137.5	133.5	1.8	368.1	28%	Principal Arterials	27.3	30.2	72.9	0.1	130.4	54%
Minor Arterials	49.2	45.4	97.4	-	192.1	15%	Minor Arterials	28.1	14.9	41.4	-	84.5	35%
Major Collectors	0.5	-	0.8	-	1.3	0%	Major Collectors	0.3	0.5	0.4	-	1.2	0%
Minor Collectors	2.3	6.4	1.7	-	10.4	1%	Minor Collectors	2.2	1.7	3.0	-	6.9	3%
Ramps	32.9	31.6	39.4	0.3	104.1	8%	Ramps	1.6	0.5	5.4	0.3	7.8	3%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>394.4</b>	<b>327.7</b>	<b>585.1</b>	<b>2.1</b>	<b>1,309.3</b>	<b>100%</b>	<b>Total Travel</b>	<b>59.5</b>	<b>47.8</b>	<b>133.5</b>	<b>0.3</b>	<b>241.2</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_NB_PFA1 StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities Moderate Congestion 1<V/C<1.25							SCAG SR710GAP 08R35a3_NB_PFA1 StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	9.3	4.5	13.4	-	27.2	39%	Freeways	-	-	0.9	-	0.9	4%
HOV	-	-	0.1	-	0.1	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	5.1	7.0	7.0	0.1	19.1	28%	Principal Arterials	1.9	2.2	5.3	0.0	9.4	44%
Minor Arterials	2.8	2.6	5.5	-	10.8	16%	Minor Arterials	2.2	1.4	3.4	-	6.9	32%
Major Collectors	0.0	-	0.0	-	0.1	0%	Major Collectors	0.0	0.1	0.1	-	0.2	1%
Minor Collectors	0.1	0.4	0.1	-	0.6	1%	Minor Collectors	0.1	0.1	0.2	-	0.5	2%
Ramps	3.5	3.2	4.6	0.1	11.4	16%	Ramps	0.9	0.7	1.7	0.1	3.5	16%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>20.8</b>	<b>17.7</b>	<b>30.7</b>	<b>0.2</b>	<b>69.3</b>	<b>100%</b>	<b>Total Travel</b>	<b>5.2</b>	<b>4.5</b>	<b>11.5</b>	<b>0.1</b>	<b>21.3</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.5: 2035 TSM/TDM Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_NB_TSMTDM Study Area :							SCAG SR710GAP 08R35a3_NB_TSMTDM Study Area :						
Functional Classification	Lane Miles						Functional Classification	One-Way Centerline Miles					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities		AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	528	528	528	528	528	23%	Freeways	131	131	131	131	131	10%
HOV	71	71	71	71	71	3%	HOV	71	71	71	71	71	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	571	569	574	569	571	24%	Principal Arterials	270	270	270	270	270	21%
Minor Arterials	881	881	881	879	880	38%	Minor Arterials	573	573	573	573	573	45%
Major Collectors	59	59	59	59	59	3%	Major Collectors	39	39	39	39	39	3%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	176	176	176	176	176	8%	Ramps	129	129	129	129	129	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,334</b>	<b>2,331</b>	<b>2,337</b>	<b>2,329</b>	<b>2,333</b>	<b>100%</b>	<b>Total</b>	<b>1,260</b>	<b>1,260</b>	<b>1,260</b>	<b>1,260</b>	<b>1,260</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_NB_TSMTDM Study Area :							SCAG SR710GAP 08R35a3_NB_TSMTDM Study Area :						
Functional Classification	Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities						Functional Classification	Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities		AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	204.9	106.9	295.9	-	607.7	47%	Freeways	-	-	10.4	-	10.4	5%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	97.5	125.4	144.0	-	367.0	29%	Principal Arterials	23.6	19.7	66.6	-	109.8	51%
Minor Arterials	51.9	48.0	97.4	-	197.4	15%	Minor Arterials	25.8	12.0	40.6	-	78.4	36%
Major Collectors	0.5	-	0.8	-	1.3	0%	Major Collectors	0.3	0.5	0.4	-	1.2	1%
Minor Collectors	1.2	1.7	0.7	-	3.6	0%	Minor Collectors	1.6	3.2	2.8	-	7.7	4%
Ramps	35.5	30.7	38.8	0.3	105.4	8%	Ramps	1.6	0.5	5.4	0.3	7.8	4%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>391.6</b>	<b>312.8</b>	<b>577.9</b>	<b>0.3</b>	<b>1,282.6</b>	<b>100%</b>	<b>Total Travel</b>	<b>52.9</b>	<b>35.9</b>	<b>126.1</b>	<b>0.3</b>	<b>215.2</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_NB_TSMTDM Study Area :							SCAG SR710GAP 08R35a3_NB_TSMTDM Study Area :						
Functional Classification	Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities						Functional Classification	Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities		AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	9.1	4.5	12.8	-	26.4	39%	Freeways	-	-	0.8	-	0.8	4%
HOV	-	-	0.1	-	0.1	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	5.2	6.6	7.5	-	19.3	28%	Principal Arterials	1.7	1.6	4.9	-	8.2	42%
Minor Arterials	2.9	2.7	5.5	-	11.1	16%	Minor Arterials	2.0	1.1	3.2	-	6.3	33%
Major Collectors	0.0	-	0.0	-	0.1	0%	Major Collectors	0.0	0.1	0.1	-	0.2	1%
Minor Collectors	0.1	0.1	0.0	-	0.2	0%	Minor Collectors	0.1	0.2	0.2	-	0.5	3%
Ramps	3.7	3.1	4.6	0.1	11.4	17%	Ramps	0.9	0.7	1.6	0.1	3.4	17%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>20.9</b>	<b>17.0</b>	<b>30.5</b>	<b>0.1</b>	<b>68.5</b>	<b>100%</b>	<b>Total Travel</b>	<b>4.8</b>	<b>3.7</b>	<b>10.8</b>	<b>0.1</b>	<b>19.5</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.6: 2035 BRT-1 Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_BRT1 StudyArea :							SCAG SR710GAP 08R35a3_BRT1 StudyArea :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	528	528	528	528	528	23%	Freeways	131	131	131	131	131	10%
HOV	71	71	71	71	71	3%	HOV	71	71	71	71	71	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	566	564	569	566	566	24%	Principal Arterials	270	270	270	270	270	21%
Minor Arterials	885	885	885	883	885	38%	Minor Arterials	573	573	573	573	573	45%
Major Collectors	60	60	60	60	60	3%	Major Collectors	40	40	40	40	40	3%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	176	176	176	176	176	8%	Ramps	129	129	129	129	129	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,334</b>	<b>2,331</b>	<b>2,336</b>	<b>2,329</b>	<b>2,333</b>	<b>100%</b>	<b>Total</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_BRT1 StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities Moderate Congestion 1<V/C<1.25							SCAG SR710GAP 08R35a3_BRT1 StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	198.6	106.9	311.9	-	617.4	48%	Freeways	-	-	10.4	-	10.4	4%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	95.5	132.6	133.8	3.8	365.7	28%	Principal Arterials	27.3	30.2	72.9	0.1	130.4	55%
Minor Arterials	50.5	46.5	97.7	-	194.7	15%	Minor Arterials	26.8	13.8	41.4	-	81.9	34%
Major Collectors	0.5	-	0.8	-	1.3	0%	Major Collectors	0.3	0.5	0.4	-	1.2	0%
Minor Collectors	2.3	6.4	1.7	-	10.3	1%	Minor Collectors	2.2	1.7	3.0	-	6.9	3%
Ramps	33.8	31.6	39.2	0.3	104.9	8%	Ramps	1.6	0.5	5.4	0.3	7.8	3%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>381.2</b>	<b>324.0</b>	<b>585.4</b>	<b>4.1</b>	<b>1,294.6</b>	<b>100%</b>	<b>Total Travel</b>	<b>58.2</b>	<b>46.7</b>	<b>133.4</b>	<b>0.3</b>	<b>238.6</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_BRT1 StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities Moderate Congestion 1<V/C<1.25							SCAG SR710GAP 08R35a3_BRT1 StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	8.7	4.6	13.3	-	26.6	39%	Freeways	-	-	0.8	-	0.8	4%
HOV	-	-	0.1	-	0.1	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	5.1	6.8	7.0	0.2	19.1	28%	Principal Arterials	1.9	2.2	5.3	0.0	9.4	45%
Minor Arterials	2.8	2.6	5.5	-	11.0	16%	Minor Arterials	2.1	1.3	3.4	-	6.7	32%
Major Collectors	0.0	-	0.0	-	0.1	0%	Major Collectors	0.0	0.1	0.1	-	0.2	1%
Minor Collectors	0.1	0.4	0.1	-	0.6	1%	Minor Collectors	0.1	0.1	0.2	-	0.5	2%
Ramps	3.5	3.2	4.6	0.1	11.4	17%	Ramps	0.9	0.7	1.7	0.1	3.5	16%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>20.3</b>	<b>17.5</b>	<b>30.6</b>	<b>0.3</b>	<b>68.7</b>	<b>100%</b>	<b>Total Travel</b>	<b>5.1</b>	<b>4.4</b>	<b>11.4</b>	<b>0.1</b>	<b>21.1</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.7: 2035 BRT-6 Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_BRT6 StudyArea :							SCAG SR710GAP 08R35a3_BRT6 StudyArea :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	528	528	528	528	528	23%	Freeways	131	131	131	131	131	10%
HOV	71	71	71	71	71	3%	HOV	71	71	71	71	71	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	566	564	569	564	566	24%	Principal Arterials	270	270	270	270	270	21%
Minor Arterials	885	885	885	883	885	38%	Minor Arterials	573	573	573	573	573	45%
Major Collectors	60	60	60	60	60	3%	Major Collectors	40	40	40	40	40	3%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	176	176	176	176	176	8%	Ramps	129	129	129	129	129	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,334</b>	<b>2,331</b>	<b>2,336</b>	<b>2,329</b>	<b>2,333</b>	<b>100%</b>	<b>Total</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_BRT6 StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities							SCAG SR710GAP 08R35a3_BRT6 StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	214.1	106.8	311.8	-	632.7	48%	Freeways	-	-	10.4	-	10.4	4%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	95.2	137.5	131.1	1.7	365.6	28%	Principal Arterials	27.3	30.1	72.8	0.1	130.3	54%
Minor Arterials	49.0	46.9	98.3	-	194.2	15%	Minor Arterials	28.1	13.3	40.6	-	82.0	34%
Major Collectors	0.5	-	0.8	-	1.3	0%	Major Collectors	0.3	0.5	0.4	-	1.2	0%
Minor Collectors	2.3	4.7	1.7	-	8.7	1%	Minor Collectors	2.2	3.4	3.0	-	8.6	4%
Ramps	32.6	31.5	38.8	0.3	103.3	8%	Ramps	1.6	0.5	5.4	0.3	7.8	3%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>393.7</b>	<b>327.5</b>	<b>582.7</b>	<b>2.1</b>	<b>1,305.9</b>	<b>100%</b>	<b>Total Travel</b>	<b>59.4</b>	<b>47.9</b>	<b>132.5</b>	<b>0.3</b>	<b>240.2</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_BRT6 StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities							SCAG SR710GAP 08R35a3_BRT6 StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	9.3	4.5	13.3	-	27.1	39%	Freeways	-	-	0.8	-	0.8	4%
HOV	-	-	0.1	-	0.1	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	5.1	7.0	6.8	0.1	19.0	28%	Principal Arterials	1.9	2.2	5.3	0.0	9.4	44%
Minor Arterials	2.7	2.7	5.6	-	11.0	16%	Minor Arterials	2.2	1.2	3.3	-	6.7	32%
Major Collectors	0.0	-	0.0	-	0.1	0%	Major Collectors	0.0	0.1	0.1	-	0.2	1%
Minor Collectors	0.1	0.3	0.1	-	0.5	1%	Minor Collectors	0.1	0.2	0.2	-	0.6	3%
Ramps	3.5	3.1	4.5	0.1	11.2	16%	Ramps	0.9	0.7	1.7	0.1	3.5	16%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>20.7</b>	<b>17.6</b>	<b>30.5</b>	<b>0.2</b>	<b>69.0</b>	<b>100%</b>	<b>Total Travel</b>	<b>5.2</b>	<b>4.5</b>	<b>11.4</b>	<b>0.1</b>	<b>21.2</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.8: 2035 LRT-4A Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_LRT4 StudyArea :							SCAG SR710GAP 08R35a3_LRT4 StudyArea :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	528	528	528	528	528	23%	Freeways	131	131	131	131	131	10%
HOV	71	71	71	71	71	3%	HOV	71	71	71	71	71	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	566	564	569	566	566	24%	Principal Arterials	270	270	270	270	270	21%
Minor Arterials	885	885	885	883	885	38%	Minor Arterials	573	573	573	573	573	45%
Major Collectors	60	60	60	60	60	3%	Major Collectors	40	40	40	40	40	3%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	176	176	176	176	176	8%	Ramps	129	129	129	129	129	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,334</b>	<b>2,331</b>	<b>2,336</b>	<b>2,329</b>	<b>2,333</b>	<b>100%</b>	<b>Total</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_LRT4 StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities							SCAG SR710GAP 08R35a3_LRT4 StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	198.6	107.0	311.7	-	617.3	48%	Freeways	-	-	10.4	-	10.4	4%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	95.2	132.9	132.2	1.8	362.0	28%	Principal Arterials	27.3	30.1	72.8	0.1	130.3	54%
Minor Arterials	50.5	45.0	100.3	-	195.8	15%	Minor Arterials	26.8	15.2	39.1	-	81.1	34%
Major Collectors	0.5	-	0.8	-	1.3	0%	Major Collectors	0.3	0.5	0.4	-	1.2	0%
Minor Collectors	2.3	4.7	1.7	-	8.7	1%	Minor Collectors	2.2	3.4	3.0	-	8.7	4%
Ramps	32.6	31.5	39.1	0.3	103.6	8%	Ramps	1.6	0.5	5.4	0.3	7.8	3%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>379.7</b>	<b>321.1</b>	<b>586.0</b>	<b>2.1</b>	<b>1,289.0</b>	<b>100%</b>	<b>Total Travel</b>	<b>58.1</b>	<b>49.8</b>	<b>131.1</b>	<b>0.3</b>	<b>239.4</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_LRT4 StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities							SCAG SR710GAP 08R35a3_LRT4 StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	8.7	4.6	13.3	-	26.6	39%	Freeways	-	-	0.8	-	0.8	4%
HOV	-	-	0.1	-	0.1	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	5.1	6.8	6.9	0.1	18.9	28%	Principal Arterials	1.9	2.2	5.3	0.0	9.4	44%
Minor Arterials	2.8	2.5	5.7	-	11.0	16%	Minor Arterials	2.1	1.4	3.2	-	6.7	32%
Major Collectors	0.0	-	0.0	-	0.1	0%	Major Collectors	0.0	0.1	0.1	-	0.2	1%
Minor Collectors	0.1	0.3	0.1	-	0.5	1%	Minor Collectors	0.1	0.2	0.2	-	0.6	3%
Ramps	3.5	3.1	4.6	0.1	11.3	16%	Ramps	0.9	0.7	1.7	0.1	3.5	16%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>20.2</b>	<b>17.3</b>	<b>30.6</b>	<b>0.2</b>	<b>68.3</b>	<b>100%</b>	<b>Total Travel</b>	<b>5.1</b>	<b>4.6</b>	<b>11.3</b>	<b>0.1</b>	<b>21.1</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.9: 2035 LRT-4B Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_LRT4B StudyArea :							SCAG SR710GAP 08R35a3_LRT4B StudyArea :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	528	528	528	528	528	23%	Freeways	131	131	131	131	131	10%
HOV	71	71	71	71	71	3%	HOV	71	71	71	71	71	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	566	564	569	566	566	24%	Principal Arterials	270	270	270	270	270	21%
Minor Arterials	885	885	885	883	885	38%	Minor Arterials	573	573	573	573	573	45%
Major Collectors	60	60	60	60	60	3%	Major Collectors	40	40	40	40	40	3%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	176	176	176	176	176	8%	Ramps	129	129	129	129	129	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,334</b>	<b>2,331</b>	<b>2,336</b>	<b>2,329</b>	<b>2,333</b>	<b>100%</b>	<b>Total</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_LRT4B StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities Moderate Congestion 1<V/C<1.25							SCAG SR710GAP 08R35a3_LRT4B StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	214.2	106.9	311.8	-	632.9	49%	Freeways	-	-	10.4	-	10.4	4%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	95.3	130.3	132.1	3.8	361.6	28%	Principal Arterials	27.2	32.6	72.8	0.1	132.7	54%
Minor Arterials	49.2	45.0	99.0	-	193.3	15%	Minor Arterials	28.1	15.2	40.5	-	83.7	34%
Major Collectors	0.5	-	0.8	-	1.3	0%	Major Collectors	0.3	0.5	0.4	-	1.2	0%
Minor Collectors	2.3	4.7	1.7	-	8.7	1%	Minor Collectors	2.2	3.4	3.0	-	8.6	4%
Ramps	32.6	31.5	39.0	0.3	103.5	8%	Ramps	1.6	0.5	5.4	0.3	7.8	3%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>394.1</b>	<b>318.6</b>	<b>584.7</b>	<b>4.1</b>	<b>1,301.5</b>	<b>100%</b>	<b>Total Travel</b>	<b>59.4</b>	<b>52.2</b>	<b>132.4</b>	<b>0.3</b>	<b>244.4</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_LRT4B StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities Moderate Congestion 1<V/C<1.25							SCAG SR710GAP 08R35a3_LRT4B StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	9.3	4.5	13.3	-	27.2	40%	Freeways	-	-	0.8	-	0.8	4%
HOV	-	-	0.1	-	0.1	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	5.1	6.7	6.9	0.2	18.8	27%	Principal Arterials	1.9	2.3	5.3	0.0	9.5	44%
Minor Arterials	2.8	2.5	5.6	-	10.9	16%	Minor Arterials	2.2	1.4	3.3	-	6.8	32%
Major Collectors	0.0	-	0.0	-	0.1	0%	Major Collectors	0.0	0.1	0.1	-	0.2	1%
Minor Collectors	0.1	0.3	0.1	-	0.5	1%	Minor Collectors	0.1	0.2	0.2	-	0.6	3%
Ramps	3.5	3.1	4.6	0.1	11.2	16%	Ramps	0.9	0.7	1.7	0.1	3.4	16%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>20.8</b>	<b>17.1</b>	<b>30.6</b>	<b>0.3</b>	<b>68.7</b>	<b>100%</b>	<b>Total Travel</b>	<b>5.2</b>	<b>4.7</b>	<b>11.3</b>	<b>0.1</b>	<b>21.4</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.10: 2035 LRT-4D Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_LRT4D StudyArea :							SCAG SR710GAP 08R35a3_LRT4D StudyArea :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	528	528	528	528	528	23%	Freeways	131	131	131	131	131	10%
HOV	71	71	71	71	71	3%	HOV	71	71	71	71	71	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	566	564	569	566	566	24%	Principal Arterials	270	270	270	270	270	21%
Minor Arterials	885	885	885	883	885	38%	Minor Arterials	573	573	573	573	573	45%
Major Collectors	60	60	60	60	60	3%	Major Collectors	40	40	40	40	40	3%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	176	176	176	176	176	8%	Ramps	129	129	129	129	129	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,334</b>	<b>2,331</b>	<b>2,336</b>	<b>2,329</b>	<b>2,333</b>	<b>100%</b>	<b>Total</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_LRT4D StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities Moderate Congestion 1<V/C<1.25							SCAG SR710GAP 08R35a3_LRT4D StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	214.1	106.7	311.8	-	632.6	48%	Freeways	-	-	10.4	-	10.4	4%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	95.7	133.9	130.2	3.8	363.5	28%	Principal Arterials	27.3	28.9	72.8	0.1	129.0	55%
Minor Arterials	51.5	47.1	98.9	-	197.5	15%	Minor Arterials	26.8	13.6	40.5	-	80.9	34%
Major Collectors	0.5	-	0.8	-	1.3	0%	Major Collectors	0.3	0.5	0.4	-	1.2	1%
Minor Collectors	1.6	6.4	1.7	-	9.6	1%	Minor Collectors	2.2	1.7	3.0	-	6.9	3%
Ramps	32.6	31.6	39.0	0.3	103.5	8%	Ramps	1.6	0.5	5.4	0.3	7.8	3%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>395.9</b>	<b>325.6</b>	<b>582.6</b>	<b>4.1</b>	<b>1,308.3</b>	<b>100%</b>	<b>Total Travel</b>	<b>58.2</b>	<b>45.2</b>	<b>132.4</b>	<b>0.3</b>	<b>236.2</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_LRT4D StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities Moderate Congestion 1<V/C<1.25							SCAG SR710GAP 08R35a3_LRT4D StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	9.3	4.5	13.3	-	27.1	39%	Freeways	-	-	0.8	-	0.8	4%
HOV	-	-	0.1	-	0.1	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	5.1	6.9	6.8	0.2	18.9	27%	Principal Arterials	1.9	2.1	5.3	0.0	9.3	45%
Minor Arterials	2.9	2.7	5.6	-	11.1	16%	Minor Arterials	2.1	1.3	3.3	-	6.7	32%
Major Collectors	0.0	-	0.0	-	0.1	0%	Major Collectors	0.0	0.1	0.1	-	0.2	1%
Minor Collectors	0.1	0.4	0.1	-	0.6	1%	Minor Collectors	0.1	0.1	0.2	-	0.5	2%
Ramps	3.5	3.2	4.6	0.1	11.3	16%	Ramps	0.9	0.7	1.7	0.1	3.4	16%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>20.9</b>	<b>17.6</b>	<b>30.5</b>	<b>0.3</b>	<b>69.2</b>	<b>100%</b>	<b>Total Travel</b>	<b>5.1</b>	<b>4.3</b>	<b>11.4</b>	<b>0.1</b>	<b>20.9</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.11: 2035 LRT-6 Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_LRT6 StudyArea :							SCAG SR710GAP 08R35a3_LRT6 StudyArea :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	528	528	528	528	528	23%	Freeways	131	131	131	131	131	10%
HOV	71	71	71	71	71	3%	HOV	71	71	71	71	71	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	566	564	569	566	566	24%	Principal Arterials	270	270	270	270	270	21%
Minor Arterials	885	885	885	883	885	38%	Minor Arterials	573	573	573	573	573	45%
Major Collectors	60	60	60	60	60	3%	Major Collectors	40	40	40	40	40	3%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	176	176	176	176	176	8%	Ramps	129	129	129	129	129	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,334</b>	<b>2,331</b>	<b>2,336</b>	<b>2,329</b>	<b>2,333</b>	<b>100%</b>	<b>Total</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>1,261</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_LRT6 StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities Moderate Congestion 1<V/C<1.25							SCAG SR710GAP 08R35a3_LRT6 StudyArea : Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	214.1	107.0	311.9	-	633.0	48%	Freeways	-	-	10.4	-	10.4	4%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	95.6	134.2	133.7	1.8	365.3	28%	Principal Arterials	27.3	30.1	72.9	0.1	130.3	54%
Minor Arterials	49.2	45.3	97.6	-	192.2	15%	Minor Arterials	28.1	14.9	41.3	-	84.3	35%
Major Collectors	0.5	-	0.8	-	1.3	0%	Major Collectors	0.3	0.5	0.4	-	1.2	0%
Minor Collectors	2.3	6.4	1.7	-	10.4	1%	Minor Collectors	2.2	1.7	3.0	-	6.9	3%
Ramps	32.6	31.5	38.9	0.3	103.3	8%	Ramps	1.6	0.5	5.4	0.3	7.8	3%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>394.4</b>	<b>324.4</b>	<b>584.9</b>	<b>2.1</b>	<b>1,305.7</b>	<b>100%</b>	<b>Total Travel</b>	<b>59.4</b>	<b>47.8</b>	<b>133.3</b>	<b>0.3</b>	<b>240.9</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_LRT6 StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities Moderate Congestion 1<V/C<1.25							SCAG SR710GAP 08R35a3_LRT6 StudyArea : Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	9.3	4.6	13.3	-	27.2	39%	Freeways	-	-	0.8	-	0.8	4%
HOV	-	-	0.1	-	0.1	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	5.1	6.9	7.0	0.1	19.0	28%	Principal Arterials	1.9	2.2	5.3	0.0	9.4	44%
Minor Arterials	2.8	2.6	5.5	-	10.8	16%	Minor Arterials	2.2	1.4	3.3	-	6.9	32%
Major Collectors	0.0	-	0.0	-	0.1	0%	Major Collectors	0.0	0.1	0.1	-	0.2	1%
Minor Collectors	0.1	0.4	0.1	-	0.6	1%	Minor Collectors	0.1	0.1	0.2	-	0.5	2%
Ramps	3.5	3.1	4.6	0.1	11.2	16%	Ramps	0.9	0.8	1.7	0.1	3.5	16%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>20.8</b>	<b>17.5</b>	<b>30.6</b>	<b>0.2</b>	<b>69.0</b>	<b>100%</b>	<b>Total Travel</b>	<b>5.2</b>	<b>4.5</b>	<b>11.4</b>	<b>0.1</b>	<b>21.2</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.12: 2035 F-2 Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_FT2 Study Area :							SCAG SR710GAP 08R35a3_FT2 Study Area :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	579	579	579	579	579	24%	Freeways	156	156	156	156	156	12%
HOV	72	72	72	72	72	3%	HOV	72	72	72	72	72	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	567	564	569	564	566	24%	Principal Arterials	270	270	270	270	270	21%
Minor Arterials	885	885	885	883	885	37%	Minor Arterials	573	573	573	573	573	45%
Major Collectors	60	60	60	60	60	3%	Major Collectors	40	40	40	40	40	3%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	176	176	176	176	176	7%	Ramps	129	129	129	129	129	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,386</b>	<b>2,384</b>	<b>2,389</b>	<b>2,382</b>	<b>2,385</b>	<b>100%</b>	<b>Total</b>	<b>1,286</b>	<b>1,286</b>	<b>1,286</b>	<b>1,286</b>	<b>1,286</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_FT2 Study Area :							SCAG SR710GAP 08R35a3_FT2 Study Area :						
Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities							Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	145.5	58.8	302.8	-	507.1	48%	Freeways	10.4	-	10.3	-	20.7	13%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	81.5	90.5	114.9	0.1	286.9	27%	Principal Arterials	16.7	15.7	46.5	-	78.8	50%
Minor Arterials	46.9	36.9	81.2	-	165.0	16%	Minor Arterials	10.8	11.4	21.5	-	43.7	27%
Major Collectors	0.3	0.2	0.7	-	1.2	0%	Major Collectors	0.3	0.6	0.4	-	1.2	1%
Minor Collectors	1.3	3.4	0.7	-	5.3	1%	Minor Collectors	0.8	1.7	2.9	-	5.4	3%
Ramps	24.4	26.9	41.8	-	93.1	9%	Ramps	1.8	1.9	5.7	-	9.4	6%
Trucks Only	-	-	1.2	-	1.2	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>299.8</b>	<b>216.7</b>	<b>543.5</b>	<b>0.1</b>	<b>1,060.0</b>	<b>100%</b>	<b>Total Travel</b>	<b>40.8</b>	<b>31.1</b>	<b>87.3</b>	<b>-</b>	<b>159.3</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_FT2 Study Area :							SCAG SR710GAP 08R35a3_FT2 Study Area :						
Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities							Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	6.1	2.3	12.2	-	20.6	38%	Freeways	1.1	-	0.8	-	1.9	13%
HOV	-	-	0.0	-	0.0	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	4.2	4.6	5.9	0.0	14.8	27%	Principal Arterials	1.2	1.2	3.4	-	5.8	40%
Minor Arterials	2.6	2.1	4.5	-	9.1	17%	Minor Arterials	1.0	1.0	1.9	-	3.9	27%
Major Collectors	0.0	0.0	0.0	-	0.1	0%	Major Collectors	0.1	0.1	0.1	-	0.2	2%
Minor Collectors	0.1	0.2	0.0	-	0.3	1%	Minor Collectors	0.1	0.1	0.2	-	0.4	2%
Ramps	2.6	2.7	4.5	-	9.8	18%	Ramps	0.5	0.5	1.3	-	2.2	15%
Trucks Only	-	-	0.1	-	0.1	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>15.5</b>	<b>11.9</b>	<b>27.4</b>	<b>0.0</b>	<b>54.8</b>	<b>100%</b>	<b>Total Travel</b>	<b>3.8</b>	<b>2.9</b>	<b>7.6</b>	<b>-</b>	<b>14.3</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.13: 2035 F-5 Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_FT5 Study Area :							SCAG SR710GAP 08R35a3_FT5 Study Area :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	573	573	573	573	573	24%	Freeways	154	154	154	154	154	12%
HOV	71	71	71	71	71	3%	HOV	71	71	71	71	71	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	566	564	569	566	566	24%	Principal Arterials	270	270	270	270	270	21%
Minor Arterials	885	885	885	883	885	37%	Minor Arterials	573	573	573	573	573	45%
Major Collectors	60	60	60	60	60	3%	Major Collectors	40	40	40	40	40	3%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	176	176	176	176	176	7%	Ramps	129	129	129	129	129	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,380</b>	<b>2,378</b>	<b>2,383</b>	<b>2,376</b>	<b>2,379</b>	<b>100%</b>	<b>Total</b>	<b>1,283</b>	<b>1,283</b>	<b>1,283</b>	<b>1,283</b>	<b>1,283</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_FT5 Study Area :							SCAG SR710GAP 08R35a3_FT5 Study Area :						
Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities							Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	287.8	88.7	414.7	-	791.3	62%	Freeways	-	-	10.4	-	10.4	8%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	68.9	64.9	104.8	-	238.5	19%	Principal Arterials	9.9	11.4	36.2	-	57.5	47%
Minor Arterials	40.7	28.4	79.2	-	148.4	12%	Minor Arterials	9.9	11.2	20.0	-	41.1	33%
Major Collectors	0.3	-	0.7	-	1.0	0%	Major Collectors	0.3	0.5	0.4	-	1.2	1%
Minor Collectors	1.2	2.3	2.3	-	5.9	0%	Minor Collectors	0.8	1.6	1.1	-	3.6	3%
Ramps	22.9	31.8	35.8	-	90.5	7%	Ramps	3.9	-	5.9	-	9.8	8%
Trucks Only	-	-	1.3	-	1.3	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>421.9</b>	<b>216.1</b>	<b>639.0</b>	<b>-</b>	<b>1,277.0</b>	<b>100%</b>	<b>Total Travel</b>	<b>24.9</b>	<b>24.7</b>	<b>74.0</b>	<b>-</b>	<b>123.6</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_FT5 Study Area :							SCAG SR710GAP 08R35a3_FT5 Study Area :						
Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities							Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	11.3	3.4	16.8	-	31.5	49%	Freeways	-	-	0.8	-	0.8	7%
HOV	-	-	0.0	-	0.0	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	3.6	3.2	5.4	-	12.2	19%	Principal Arterials	0.7	0.9	2.6	-	4.2	35%
Minor Arterials	2.3	1.6	4.4	-	8.3	13%	Minor Arterials	0.9	1.1	1.9	-	3.9	32%
Major Collectors	0.0	-	0.0	-	0.1	0%	Major Collectors	0.0	0.1	0.1	-	0.2	2%
Minor Collectors	0.1	0.1	0.1	-	0.3	1%	Minor Collectors	0.1	0.1	0.1	-	0.2	2%
Ramps	2.5	4.0	4.7	-	11.3	18%	Ramps	1.2	-	1.5	-	2.7	22%
Trucks Only	-	-	0.2	-	0.2	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>19.7</b>	<b>12.4</b>	<b>31.7</b>	<b>-</b>	<b>63.9</b>	<b>100%</b>	<b>Total Travel</b>	<b>2.9</b>	<b>2.2</b>	<b>7.0</b>	<b>-</b>	<b>12.1</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.14: 2035 F-6 Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_FS6 Study Area :							SCAG SR710GAP 08R35a3_FS6 Study Area :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	559	559	559	559	559	24%	Freeways	141	141	141	141	141	11%
HOV	81	81	81	81	81	3%	HOV	81	81	81	81	81	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	566	564	569	566	566	24%	Principal Arterials	270	270	270	270	270	21%
Minor Arterials	885	885	885	883	885	37%	Minor Arterials	573	573	573	573	573	45%
Major Collectors	60	60	60	60	60	3%	Major Collectors	40	40	40	40	40	3%
Minor Collectors	45	45	45	45	45	2%	Minor Collectors	45	45	45	45	45	4%
Ramps	181	181	181	181	181	8%	Ramps	132	132	132	132	132	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,379</b>	<b>2,377</b>	<b>2,382</b>	<b>2,375</b>	<b>2,378</b>	<b>100%</b>	<b>Total</b>	<b>1,282</b>	<b>1,282</b>	<b>1,282</b>	<b>1,282</b>	<b>1,282</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_FS6 Study Area :							SCAG SR710GAP 08R35a3_FS6 Study Area :						
Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities							Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	217.8	97.6	407.3	-	722.7	63%	Freeways	8.0	-	18.2	-	26.2	23%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	61.5	61.5	95.0	-	218.0	19%	Principal Arterials	6.8	4.7	30.8	-	42.3	37%
Minor Arterials	37.9	26.0	68.4	-	132.3	12%	Minor Arterials	10.6	9.6	20.0	-	40.1	35%
Major Collectors	0.2	-	0.6	-	0.8	0%	Major Collectors	0.3	0.5	0.4	-	1.2	1%
Minor Collectors	1.2	1.6	2.3	-	5.1	0%	Minor Collectors	0.8	1.6	1.1	-	3.5	3%
Ramps	17.1	17.3	26.6	-	61.0	5%	Ramps	0.2	-	2.1	-	2.3	2%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>335.7</b>	<b>204.0</b>	<b>600.3</b>	<b>-</b>	<b>1,140.0</b>	<b>100%</b>	<b>Total Travel</b>	<b>26.8</b>	<b>16.4</b>	<b>72.5</b>	<b>-</b>	<b>115.7</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_FS6 Study Area :							SCAG SR710GAP 08R35a3_FS6 Study Area :						
Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities							Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	9.4	4.8	16.8	-	31.1	55%	Freeways	0.9	-	1.6	-	2.5	25%
HOV	-	-	0.0	-	0.0	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	3.2	3.1	4.9	-	11.2	20%	Principal Arterials	0.5	0.4	2.2	-	3.1	31%
Minor Arterials	2.1	1.5	3.8	-	7.4	13%	Minor Arterials	0.9	0.9	1.7	-	3.6	35%
Major Collectors	0.0	-	0.0	-	0.0	0%	Major Collectors	0.0	0.1	0.1	-	0.2	2%
Minor Collectors	0.1	0.1	0.1	-	0.3	1%	Minor Collectors	0.0	0.1	0.1	-	0.2	2%
Ramps	1.7	1.7	2.8	-	6.2	11%	Ramps	0.0	-	0.6	-	0.6	6%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>16.5</b>	<b>11.2</b>	<b>28.6</b>	<b>-</b>	<b>56.3</b>	<b>100%</b>	<b>Total Travel</b>	<b>2.5</b>	<b>1.5</b>	<b>6.2</b>	<b>-</b>	<b>10.3</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.15: 2035 F-7 Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_FT7 StudyArea :							SCAG SR710GAP 08R35a3_FT7 StudyArea :						
Functional Classification	Lane Miles						Functional Classification	One-Way Centerline Miles					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities		AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	573	573	573	573	573	24%	Freeways	153	153	153	153	153	12%
HOV	72	72	72	72	72	3%	HOV	72	72	72	72	72	6%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	572	569	574	569	571	24%	Principal Arterials	271	271	271	271	271	21%
Minor Arterials	883	883	883	881	882	37%	Minor Arterials	572	572	572	572	572	45%
Major Collectors	60	60	60	60	60	3%	Major Collectors	40	40	40	40	40	3%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	173	173	173	173	173	7%	Ramps	128	128	128	128	128	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,379</b>	<b>2,376</b>	<b>2,381</b>	<b>2,374</b>	<b>2,377</b>	<b>100%</b>	<b>Total</b>	<b>1,282</b>	<b>1,282</b>	<b>1,282</b>	<b>1,282</b>	<b>1,282</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_FT7 StudyArea :							SCAG SR710GAP 08R35a3_FT7 StudyArea :						
Functional Classification	Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities						Functional Classification	Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities		AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	227.1	69.4	384.5	-	680.9	58%	Freeways	-	-	10.3	-	10.3	9%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	67.9	77.0	103.5	-	248.4	21%	Principal Arterials	7.8	11.0	36.7	-	55.5	48%
Minor Arterials	42.6	35.8	81.9	-	160.3	14%	Minor Arterials	9.6	10.5	21.6	-	41.8	36%
Major Collectors	0.3	-	0.6	-	0.9	0%	Major Collectors	0.3	0.5	0.4	-	1.2	1%
Minor Collectors	1.2	3.2	2.4	-	6.8	1%	Minor Collectors	0.8	1.6	1.2	-	3.6	3%
Ramps	20.7	22.6	35.1	-	78.4	7%	Ramps	1.1	-	1.8	-	2.9	3%
Trucks Only	-	-	1.2	-	1.2	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>359.8</b>	<b>208.0</b>	<b>609.3</b>	<b>-</b>	<b>1,177.1</b>	<b>100%</b>	<b>Total Travel</b>	<b>19.6</b>	<b>23.7</b>	<b>72.0</b>	<b>-</b>	<b>115.3</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_FT7 StudyArea :							SCAG SR710GAP 08R35a3_FT7 StudyArea :						
Functional Classification	Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities						Functional Classification	Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities					
	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities		AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	9.2	2.7	14.9	-	26.8	47%	Freeways	-	-	0.8	-	0.8	8%
HOV	-	-	0.0	-	0.0	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	3.5	3.8	5.3	-	12.6	22%	Principal Arterials	0.6	0.9	2.7	-	4.2	42%
Minor Arterials	2.4	1.9	4.5	-	8.9	16%	Minor Arterials	0.9	1.0	1.9	-	3.8	39%
Major Collectors	0.0	-	0.0	-	0.1	0%	Major Collectors	0.0	0.1	0.1	-	0.2	2%
Minor Collectors	0.1	0.2	0.1	-	0.4	1%	Minor Collectors	0.1	0.1	0.1	-	0.2	2%
Ramps	2.0	2.3	3.6	-	7.8	14%	Ramps	0.2	-	0.5	-	0.7	7%
Trucks Only	-	-	0.1	-	0.1	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>17.1</b>	<b>11.0</b>	<b>28.6</b>	<b>-</b>	<b>56.7</b>	<b>100%</b>	<b>Total Travel</b>	<b>1.8</b>	<b>2.1</b>	<b>6.0</b>	<b>-</b>	<b>9.9</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.16: 2035 H-2 Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_H2A Study Area :							SCAG SR710GAP 08R35a3_H2A Study Area :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	527	527	527	527	527	22%	Freeways	131	131	131	131	131	10%
HOV	71	71	71	71	71	3%	HOV	71	71	71	71	71	6%
Expressway/Parkway	3	3	3	3	3	0%	Expressway/Parkway	1	1	1	1	1	0%
Principal Arterials	596	593	598	593	595	25%	Principal Arterials	277	277	277	277	277	22%
Minor Arterials	876	876	876	875	876	37%	Minor Arterials	567	567	567	567	567	45%
Major Collectors	59	59	59	59	59	3%	Major Collectors	39	39	39	39	39	3%
Minor Collectors	53	53	53	53	53	2%	Minor Collectors	53	53	53	53	53	4%
Ramps	177	177	177	177	177	7%	Ramps	129	129	129	129	129	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,362</b>	<b>2,360</b>	<b>2,365</b>	<b>2,358</b>	<b>2,361</b>	<b>100%</b>	<b>Total</b>	<b>1,269</b>	<b>1,269</b>	<b>1,269</b>	<b>1,269</b>	<b>1,269</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_H2A Study Area :							SCAG SR710GAP 08R35a3_H2A Study Area :						
Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities							Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	170.7	72.0	290.9	-	533.6	45%	Freeways	-	-	10.4	-	10.4	5%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	106.5	142.9	149.0	-	398.3	34%	Principal Arterials	36.3	21.1	75.7	-	133.0	63%
Minor Arterials	39.7	34.5	78.2	-	152.5	13%	Minor Arterials	16.3	12.3	28.6	-	57.2	27%
Major Collectors	0.5	0.3	0.8	-	1.6	0%	Major Collectors	0.4	0.5	0.4	-	1.3	1%
Minor Collectors	1.4	3.7	2.7	-	7.8	1%	Minor Collectors	1.8	2.0	3.1	-	6.9	3%
Ramps	27.9	26.3	37.4	-	91.6	8%	Ramps	1.6	0.1	1.8	-	3.5	2%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>346.8</b>	<b>279.6</b>	<b>559.2</b>	<b>-</b>	<b>1,185.6</b>	<b>100%</b>	<b>Total Travel</b>	<b>56.3</b>	<b>36.1</b>	<b>120.0</b>	<b>-</b>	<b>212.3</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_H2A Study Area :							SCAG SR710GAP 08R35a3_H2A Study Area :						
Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities							Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	7.5	3.0	12.5	-	23.1	36%	Freeways	-	-	0.8	-	0.8	5%
HOV	-	-	0.0	-	0.0	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	5.5	7.4	7.8	-	20.7	33%	Principal Arterials	2.5	1.6	5.3	-	9.3	55%
Minor Arterials	2.3	2.1	4.5	-	8.8	14%	Minor Arterials	1.4	1.2	2.5	-	5.1	30%
Major Collectors	0.0	0.0	0.0	-	0.1	0%	Major Collectors	0.1	0.1	0.1	-	0.2	1%
Minor Collectors	0.1	0.2	0.2	-	0.5	1%	Minor Collectors	0.1	0.1	0.2	-	0.5	3%
Ramps	2.9	2.8	4.5	-	10.2	16%	Ramps	0.6	0.1	0.5	-	1.1	7%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>18.4</b>	<b>15.5</b>	<b>29.5</b>	<b>-</b>	<b>63.4</b>	<b>100%</b>	<b>Total Travel</b>	<b>4.6</b>	<b>3.0</b>	<b>9.3</b>	<b>-</b>	<b>17.0</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

**Table I.17: 2035 H-6 Travel in Congestion Performance**

SCAG SR710GAP 08R35a3_H6A Study Area :							SCAG SR710GAP 08R35a3_H6A Study Area :						
Lane Miles							One-Way Centerline Miles						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily	Average Daily % of Facilities
Freeways	533	533	533	533	533	23%	Freeways	133	133	133	133	133	11%
HOV	72	72	72	72	72	3%	HOV	72	72	72	72	72	6%
Expressway/Parkway	3	3	3	3	3	0%	Expressway/Parkway	1	1	1	1	1	0%
Principal Arterials	576	574	579	574	576	25%	Principal Arterials	272	272	272	272	272	22%
Minor Arterials	880	880	880	879	880	38%	Minor Arterials	571	571	571	571	571	45%
Major Collectors	57	57	57	57	57	2%	Major Collectors	38	38	38	38	38	3%
Minor Collectors	46	46	46	46	46	2%	Minor Collectors	46	46	46	46	46	4%
Ramps	175	175	175	175	175	7%	Ramps	128	128	128	128	128	10%
Trucks Only	1	1	1	1	1	0%	Trucks Only	1	1	1	1	1	0%
<b>Total</b>	<b>2,343</b>	<b>2,340</b>	<b>2,346</b>	<b>2,338</b>	<b>2,342</b>	<b>100%</b>	<b>Total</b>	<b>1,262</b>	<b>1,262</b>	<b>1,262</b>	<b>1,262</b>	<b>1,262</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_H6A Study Area :							SCAG SR710GAP 08R35a3_H6A Study Area :						
Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities							Congestion Index - Auto and Truck VMT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	207.7	97.2	307.1	-	611.9	49%	Freeways	-	-	10.4	-	10.4	5%
HOV	-	-	0.2	-	0.2	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	94.5	116.4	149.7	-	360.6	29%	Principal Arterials	31.2	22.2	60.4	-	113.9	53%
Minor Arterials	43.2	48.6	94.8	-	186.6	15%	Minor Arterials	22.4	11.9	38.7	-	73.0	34%
Major Collectors	0.5	-	0.8	-	1.3	0%	Major Collectors	0.3	0.5	0.4	-	1.2	1%
Minor Collectors	1.1	2.3	0.7	-	4.1	0%	Minor Collectors	1.8	1.7	2.9	-	6.5	3%
Ramps	23.3	32.1	35.6	-	91.0	7%	Ramps	2.5	-	9.0	-	11.5	5%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>370.2</b>	<b>296.6</b>	<b>588.9</b>	<b>-</b>	<b>1,255.7</b>	<b>100%</b>	<b>Total Travel</b>	<b>58.1</b>	<b>36.4</b>	<b>121.9</b>	<b>-</b>	<b>216.4</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						
SCAG SR710GAP 08R35a3_H6A Study Area :							SCAG SR710GAP 08R35a3_H6A Study Area :						
Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities							Congestion Index - Auto and Truck VHT (in 1000s) on Congested Facilities						
Moderate Congestion 1<V/C<1.25							Heavy Congestion V/C>=1.25						
Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities	Functional Classification	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Daily	Daily % of Facilities
Freeways	8.8	4.1	13.0	-	25.9	40%	Freeways	-	-	0.8	-	0.8	5%
HOV	-	-	0.1	-	0.1	0%	HOV	-	-	-	-	-	0%
Expressway/Parkway	-	-	-	-	-	0%	Expressway/Parkway	-	-	-	-	-	0%
Principal Arterials	5.0	5.9	7.8	-	18.6	29%	Principal Arterials	2.1	1.7	4.4	-	8.2	46%
Minor Arterials	2.5	2.7	5.3	-	10.4	16%	Minor Arterials	1.7	1.1	3.1	-	5.9	33%
Major Collectors	0.0	-	0.0	-	0.1	0%	Major Collectors	0.0	0.1	0.1	-	0.2	1%
Minor Collectors	0.1	0.1	0.0	-	0.2	0%	Minor Collectors	0.1	0.1	0.2	-	0.5	3%
Ramps	2.4	3.1	3.7	-	9.3	14%	Ramps	0.5	-	1.8	-	2.2	12%
Trucks Only	-	-	-	-	-	0%	Trucks Only	-	-	-	-	-	0%
<b>Total Travel</b>	<b>18.7</b>	<b>15.9</b>	<b>29.9</b>	<b>-</b>	<b>64.6</b>	<b>100%</b>	<b>Total Travel</b>	<b>4.5</b>	<b>3.0</b>	<b>10.3</b>	<b>-</b>	<b>17.8</b>	<b>100%</b>
*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.							*Note: Travel statistics do not include travel on centroids or local roads which are not included in the model.						

## J. Local Arterial Traffic

### **Performance Measure Definition**

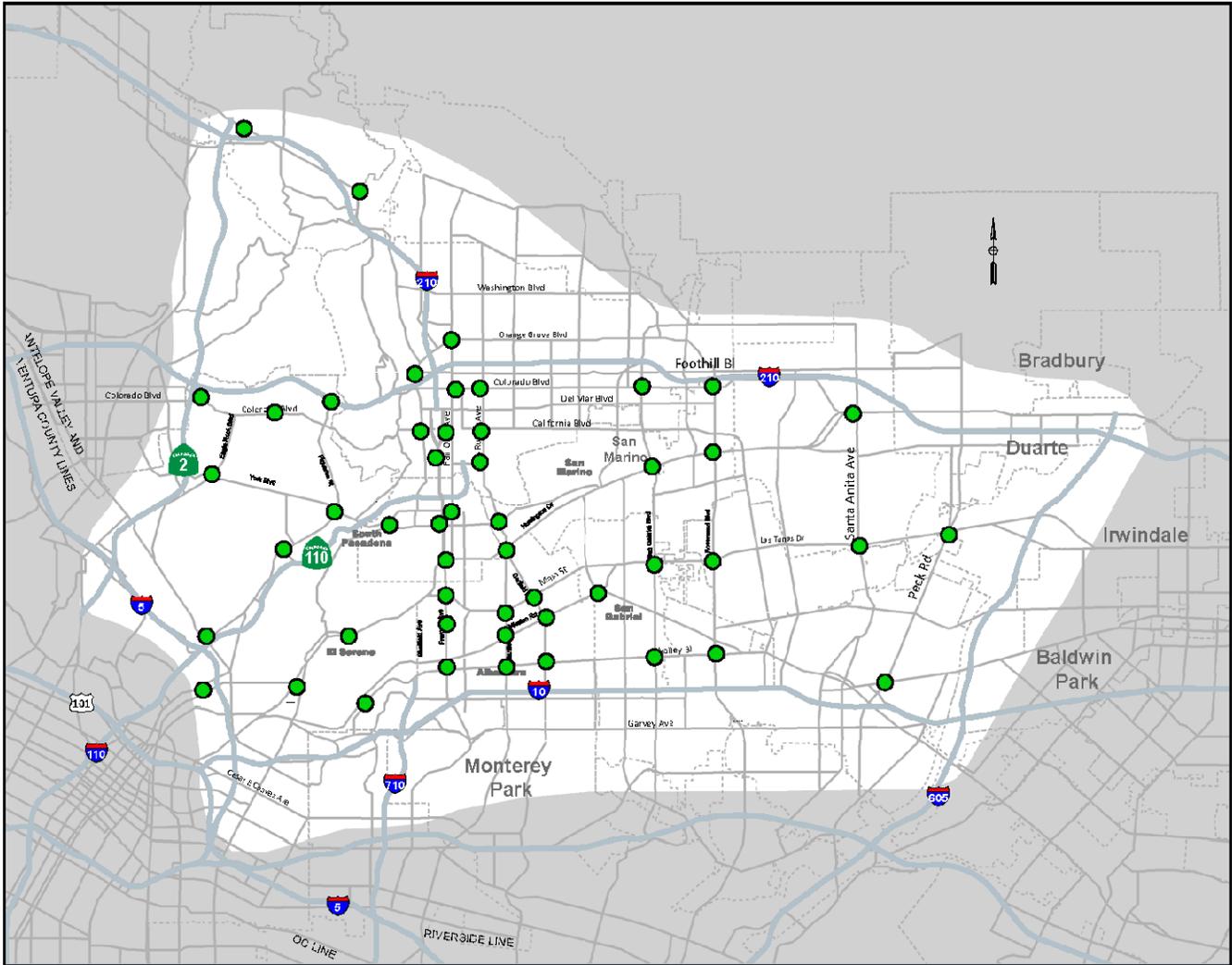
The performance of local arterial traffic can be quantified by calculating the number of congested intersection approaches in the study area. For this performance measure, 50 representative intersections were selected. The intersections included in the evaluation are:

- Arroyo Parkway at Colorado Boulevard
- Atlantic Boulevard at Main Street, Mission Road, and Valley Boulevard
- California Boulevard at Orange Grove Boulevard
- Colorado Boulevard at N. Broadway and Eagle Vista Drive
- Eagle Rock Boulevard at York Boulevard
- Eastern Avenue at Huntington Drive
- Fair Oaks Avenue at California Boulevard, Mission Street, and Orange Grove Boulevard
- Figueroa Street at Cypress Avenue, N. Avenue 52, York Boulevard
- Foothill Boulevard at Alta Canyon Road
- Fremont Avenue at Concord Avenue, Huntington Drive, and Main Street
- Fremont Avenue at Monterey Road and Valley Boulevard
- Garfield Avenue at Huntington Drive, Mission Road, Main Street, and Valley Boulevard
- Los Robles Avenue at California Boulevard, Colorado Boulevard, Monterey Road, and Wallis Street
- Marianna Avenue at Valley Boulevard
- Mission Drive at Mission Road
- Mission Road at N. Broadway
- N. Avenue 64 at Colorado Boulevard
- Oak Grove Drive at Foothill Boulevard
- Pasadena Avenue at Monterey Road and Saint John Avenue
- Peck Road at Live Oak Avenue and Ramona Boulevard
- Rosemead Boulevard at Colorado Boulevard, Huntington Drive, Las Tunas Drive, and Valley Boulevard
- San Gabriel Boulevard at Colorado Boulevard, Huntington Drive, Las Tunas Drive, and Valley Boulevard
- Santa Anita Avenue at Huntington Drive and Live Oak Avenue
- Spring Street at N. Broadway
- Walnut Street at Orange Grove Boulevard

Figure J.1 is a map of the 50 intersections selected for this evaluation.

The local arterial traffic performance measure used model volumes and capacities from the four-hour PM peak period to calculate the percentage of intersection approaches with a V/C ratio greater than 1.0.

**Figure J.1 – Local Intersections Selected for Calculating Congested Approaches**



**Calculation Process**

The performance measure for local arterial traffic used raw model data from the PM peak period to calculate the number of intersection approaches with V/C ratios greater than 1.0. Tables J.1 through J.15 summarize the full set of intersection performance analysis for the entire study area.

Table J.16 summarizes the total number of approaches and the number of approaches in the AM and PM peak periods with a V/C ratio greater than 1.0.

**Performance Measure Values**

The final performance measure is the percentage of total approaches that have a V/C ratio greater than 1.0. The performance measure values are shown in Table J.17.

**Table J.1: 2008 Existing Conditions Intersection Approach Performance**

SCAG SR710GAP 08R08a3 PFA1-Final					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	33	25	41	2	7
Percent of Approaches with V/C >1.0	15.9%	12.1%	19.8%	1.0%	3.4%
SCAG SR710GAP 08R08a3 PFA1-Final					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Capacity Range - 0 to 400 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	1	1	1	-	-
Percent of Approaches with V/C >1.0	8.3%	8.3%	8.3%	0.0%	-
Capacity Range - 400 to 600 vehicles/lane/hour					
Total number of Approaches	26	26	26	26	26
Number of Approaches with V/C >1.0	14	12	15	1	1
Percent of Approaches with V/C >1.0	53.8%	46.2%	57.7%	3.8%	3.8%
Capacity Range - 600 to 800 vehicles/lane/hour					
Total number of Approaches	150	150	150	150	150
Number of Approaches with V/C >1.0	13	5	16	-	-
Percent of Approaches with V/C >1.0	8.7%	3.3%	10.7%	0.0%	0.0%
Capacity Range - 800 to 1000 vehicles/lane/hour					
Total number of Approaches	15	15	15	15	15
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Capacity Range - 1000 to 2000 vehicles/lane/hour					
Total number of Approaches	3	3	3	3	3
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
SCAG SR710GAP 08R08a3 PFA1-Final					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Number of Approaches with V/C <=0.2					
Principal Arterials	20	21	18	102	37
Minor Arterials	10	13	5	41	15
Collectors	1	1	1	4	3
Number of Approaches with V/C >0.2 and <=0.4					
Principal Arterials	30	45	30	37	48
Minor Arterials	10	8	14	5	19
Collectors	2	2	2	-	-
Number of Approaches with V/C >0.4 and <=0.6					
Principal Arterials	35	28	28	10	36
Minor Arterials	12	16	8	1	9
Collectors	-	-	1	2	1
Number of Approaches with V/C >0.6 and <=0.8					
Principal Arterials	24	25	33	2	23
Minor Arterials	8	4	11	-	2
Collectors	-	1	-	-	-
Number of Approaches with V/C >0.8 and <=1.0					
Principal Arterials	22	21	20	2	4
Minor Arterials	4	4	4	-	2
Collectors	1	-	-	-	2
Number of Approaches with V/C >1.0					
Principal Arterials	23	14	25	1	6
Minor Arterials	3	2	5	-	-
Collectors	2	2	2	-	-
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

SCAG SR710GAP 08R08a3 PFA1-Final					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Alhambra					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	8	5	12	-	-
Percent of Approaches with V/C >1.0	21.1%	13.2%	31.6%	0.0%	0.0%
El Monte					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Los Angeles					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	5	3	5	-	1
Percent of Approaches with V/C >1.0	13.2%	7.9%	13.2%	0.0%	2.6%
Pasadena					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	3	1	5	-	-
Percent of Approaches with V/C >1.0	7.1%	2.4%	11.9%	0.0%	0.0%

**Table J.2: 2035 No Build Intersection Approach Performance**

SCAG SR710GAP 08R35a3_NB_PFA1					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	47	39	58	2	8
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>22.7%</b>	<b>18.8%</b>	<b>28.0%</b>	<b>1.0%</b>	<b>3.9%</b>
SCAG SR710GAP 08R35a3_NB_PFA1					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Capacity Range - 0 to 400 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Capacity Range - 400 to 600 vehicles/lane/hour					
Total number of Approaches	35	35	35	35	35
Number of Approaches with V/C >1.0	22	19	24	2	2
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>62.9%</b>	<b>54.3%</b>	<b>68.6%</b>	<b>5.7%</b>	
Capacity Range - 600 to 800 vehicles/lane/hour					
Total number of Approaches	141	141	141	141	141
Number of Approaches with V/C >1.0	25	20	34	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>17.7%</b>	<b>14.2%</b>	<b>24.1%</b>	<b>0.0%</b>	
Capacity Range - 800 to 1000 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
Capacity Range - 1000 to 2000 vehicles/lane/hour					
Total number of Approaches	7	7	7	7	7
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
SCAG SR710GAP 08R35a3_NB_PFA1					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Number of Approaches with V/C <=0.2					
Principal Arterials	21	18	15	91	28
Minor Arterials	7	6	5	44	14
Collectors	1	1	1	1	1
Number of Approaches with V/C >0.2 and <=0.4					
Principal Arterials	17	32	18	42	42
Minor Arterials	10	13	11	5	13
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.4 and <=0.6					
Principal Arterials	31	33	24	12	33
Minor Arterials	9	9	8	1	15
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.6 and <=0.8					
Principal Arterials	25	22	33	6	22
Minor Arterials	13	11	11	-	8
Collectors	-	-	-	-	-
Number of Approaches with V/C >0.8 and <=1.0					
Principal Arterials	23	13	16	1	22
Minor Arterials	3	10	7	-	-
Collectors	-	-	-	-	1
Number of Approaches with V/C >1.0					
Principal Arterials	37	36	48	2	7
Minor Arterials	8	1	8	-	-
Collectors	2	2	2	-	1
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

SCAG SR710GAP 08R35a3_NB_PFA1					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Alhambra					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	16	15	17	-	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>41.0%</b>	<b>38.5%</b>	<b>43.6%</b>	<b>0.0%</b>	<b>2.6%</b>
El Monte					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Los Angeles					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	6	4	9	-	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>15.8%</b>	<b>10.5%</b>	<b>23.7%</b>	<b>0.0%</b>	<b>2.6%</b>
Pasadena					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	4	2	7	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>9.5%</b>	<b>4.8%</b>	<b>16.7%</b>	<b>0.0%</b>	<b>0.0%</b>

**Table J.3: 2035 TSM/TDM Intersection Approach Performance**

SCAG SR710GAP 08R35a3_NB_TSMTDM					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	48	37	59	2	8
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>23.2%</b>	<b>17.9%</b>	<b>28.5%</b>	<b>1.0%</b>	<b>3.9%</b>
SCAG SR710GAP 08R35a3_NB_TSMTDM					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Capacity Range - 0 to 400 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Capacity Range - 400 to 600 vehicles/lane/hour					
Total number of Approaches	35	35	35	35	35
Number of Approaches with V/C >1.0	22	20	24	2	2
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>62.9%</b>	<b>57.1%</b>	<b>68.6%</b>	<b>5.7%</b>	
Capacity Range - 600 to 800 vehicles/lane/hour					
Total number of Approaches	141	141	141	141	141
Number of Approaches with V/C >1.0	26	17	35	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>18.4%</b>	<b>12.1%</b>	<b>24.8%</b>	<b>0.0%</b>	
Capacity Range - 800 to 1000 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
Capacity Range - 1000 to 2000 vehicles/lane/hour					
Total number of Approaches	7	7	7	7	7
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
SCAG SR710GAP 08R35a3_NB_TSMTDM					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Number of Approaches with V/C <=0.2					
Principal Arterials	21	19	16	92	27
Minor Arterials	7	6	5	46	15
Collectors	1	1	1	1	1
Number of Approaches with V/C >0.2 and <=0.4					
Principal Arterials	15	30	17	41	43
Minor Arterials	10	13	11	3	12
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.4 and <=0.6					
Principal Arterials	32	35	22	14	33
Minor Arterials	9	11	8	1	15
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.6 and <=0.8					
Principal Arterials	24	21	32	4	23
Minor Arterials	13	10	11	-	7
Collectors	-	-	-	-	-
Number of Approaches with V/C >0.8 and <=1.0					
Principal Arterials	25	16	18	1	21
Minor Arterials	2	8	7	-	1
Collectors	-	-	-	-	1
Number of Approaches with V/C >1.0					
Principal Arterials	37	33	49	2	7
Minor Arterials	9	2	8	-	-
Collectors	2	2	2	-	1
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

SCAG SR710GAP 08R35a3_NB_TSMTDM					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Alhambra					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	16	15	17	-	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>41.0%</b>	<b>38.5%</b>	<b>43.6%</b>	<b>0.0%</b>	<b>2.6%</b>
El Monte					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Los Angeles					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	6	4	9	-	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>15.8%</b>	<b>10.5%</b>	<b>23.7%</b>	<b>0.0%</b>	<b>2.6%</b>
Pasadena					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	4	2	7	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>9.5%</b>	<b>4.8%</b>	<b>16.7%</b>	<b>0.0%</b>	<b>0.0%</b>

**Table J.4: 2035 BRT-1 Intersection Approach Performance**

SCAG SR710GAP 08R35a3_BRT1					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	47	39	58	2	8
Percent of Approaches with V/C >1.0	22.7%	18.8%	28.0%	1.0%	3.9%
SCAG SR710GAP 08R35a3_BRT1					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Capacity Range - 0 to 400 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Capacity Range - 400 to 600 vehicles/lane/hour					
Total number of Approaches	35	35	35	35	35
Number of Approaches with V/C >1.0	22	19	24	2	2
Percent of Approaches with V/C >1.0	62.9%	54.3%	68.6%	5.7%	5.7%
Capacity Range - 600 to 800 vehicles/lane/hour					
Total number of Approaches	141	141	141	141	141
Number of Approaches with V/C >1.0	25	20	34	-	-
Percent of Approaches with V/C >1.0	17.7%	14.2%	24.1%	0.0%	0.0%
Capacity Range - 800 to 1000 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Capacity Range - 1000 to 2000 vehicles/lane/hour					
Total number of Approaches	7	7	7	7	7
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
SCAG SR710GAP 08R35a3_BRT1					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Number of Approaches with V/C <=0.2					
Principal Arterials	21	18	16	92	28
Minor Arterials	7	6	5	45	14
Collectors	1	1	1	1	1
Number of Approaches with V/C >0.2 and <=0.4					
Principal Arterials	17	32	17	41	43
Minor Arterials	10	13	10	4	13
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.4 and <=0.6					
Principal Arterials	32	35	23	13	32
Minor Arterials	9	10	9	1	15
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.6 and <=0.8					
Principal Arterials	24	20	34	5	22
Minor Arterials	13	10	11	-	8
Collectors	-	-	-	-	-
Number of Approaches with V/C >0.8 and <=1.0					
Principal Arterials	23	13	16	1	22
Minor Arterials	3	10	7	-	-
Collectors	-	-	-	-	1
Number of Approaches with V/C >1.0					
Principal Arterials	37	36	48	2	7
Minor Arterials	8	1	8	-	-
Collectors	2	2	2	-	1
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

SCAG SR710GAP 08R35a3_BRT1					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Alhambra					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	16	15	17	-	1
Percent of Approaches with V/C >1.0	41.0%	38.5%	43.6%	0.0%	2.6%
El Monte					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Los Angeles					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	6	4	9	-	1
Percent of Approaches with V/C >1.0	15.8%	10.5%	23.7%	0.0%	2.6%
Pasadena					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	4	2	7	-	-
Percent of Approaches with V/C >1.0	9.5%	4.8%	16.7%	0.0%	0.0%

**Table J.5: 2035 BRT-6 Intersection Approach Performance**

SCAG SR710GAP 08R35a3_BRT6					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	47	39	58	2	8
Percent of Approaches with V/C >1.0	22.7%	18.8%	28.0%	1.0%	3.9%
SCAG SR710GAP 08R35a3_BRT6					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Capacity Range - 0 to 400 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Capacity Range - 400 to 600 vehicles/lane/hour					
Total number of Approaches	35	35	35	35	35
Number of Approaches with V/C >1.0	22	19	24	2	2
Percent of Approaches with V/C >1.0	62.9%	54.3%	68.6%	5.7%	5.7%
Capacity Range - 600 to 800 vehicles/lane/hour					
Total number of Approaches	141	141	141	141	141
Number of Approaches with V/C >1.0	25	20	34	-	-
Percent of Approaches with V/C >1.0	17.7%	14.2%	24.1%	0.0%	0.0%
Capacity Range - 800 to 1000 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Capacity Range - 1000 to 2000 vehicles/lane/hour					
Total number of Approaches	7	7	7	7	7
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
SCAG SR710GAP 08R35a3_BRT6					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Number of Approaches with V/C <=0.2					
Principal Arterials	21	18	16	92	28
Minor Arterials	7	6	5	45	14
Collectors	1	1	1	1	1
Number of Approaches with V/C >0.2 and <=0.4					
Principal Arterials	17	32	18	41	43
Minor Arterials	10	13	11	4	13
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.4 and <=0.6					
Principal Arterials	31	35	23	14	32
Minor Arterials	9	10	8	1	15
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.6 and <=0.8					
Principal Arterials	25	20	33	4	22
Minor Arterials	13	10	11	-	8
Collectors	-	-	-	-	-
Number of Approaches with V/C >0.8 and <=1.0					
Principal Arterials	23	13	16	1	22
Minor Arterials	3	10	7	-	-
Collectors	-	-	-	-	1
Number of Approaches with V/C >1.0					
Principal Arterials	37	36	48	2	7
Minor Arterials	8	1	8	-	-
Collectors	2	2	2	-	1
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

SCAG SR710GAP 08R35a3_BRT6					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Alhambra					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	16	15	17	-	1
Percent of Approaches with V/C >1.0	41.0%	38.5%	43.6%	0.0%	2.6%
El Monte					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Los Angeles					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	6	4	9	-	1
Percent of Approaches with V/C >1.0	15.8%	10.5%	23.7%	0.0%	2.6%
Pasadena					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	4	2	7	-	-
Percent of Approaches with V/C >1.0	9.5%	4.8%	16.7%	0.0%	0.0%

**Table J.6: 2035 LRT-4A Intersection Approach Performance**

SCAG SR710GAP 08R35a3_LRT4A					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	47	39	58	2	8
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>22.7%</b>	<b>18.8%</b>	<b>28.0%</b>	<b>1.0%</b>	<b>3.9%</b>
SCAG SR710GAP 08R35a3_LRT4A					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Capacity Range - 0 to 400 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Capacity Range - 400 to 600 vehicles/lane/hour					
Total number of Approaches	35	35	35	35	35
Number of Approaches with V/C >1.0	22	19	24	2	2
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>62.9%</b>	<b>54.3%</b>	<b>68.6%</b>	<b>5.7%</b>	
Capacity Range - 600 to 800 vehicles/lane/hour					
Total number of Approaches	141	141	141	141	141
Number of Approaches with V/C >1.0	25	20	34	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>17.7%</b>	<b>14.2%</b>	<b>24.1%</b>	<b>0.0%</b>	
Capacity Range - 800 to 1000 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
Capacity Range - 1000 to 2000 vehicles/lane/hour					
Total number of Approaches	7	7	7	7	7
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
SCAG SR710GAP 08R35a3_LRT4A					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Number of Approaches with V/C <=0.2					
Principal Arterials	21	18	16	92	28
Minor Arterials	7	6	5	45	14
Collectors	1	1	1	1	1
Number of Approaches with V/C >0.2 and <=0.4					
Principal Arterials	17	32	17	41	44
Minor Arterials	10	13	11	4	13
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.4 and <=0.6					
Principal Arterials	32	35	24	14	31
Minor Arterials	9	10	8	1	15
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.6 and <=0.8					
Principal Arterials	24	20	33	4	23
Minor Arterials	13	10	11	-	8
Collectors	-	-	-	-	-
Number of Approaches with V/C >0.8 and <=1.0					
Principal Arterials	23	13	16	1	21
Minor Arterials	3	10	7	-	-
Collectors	-	-	-	-	1
Number of Approaches with V/C >1.0					
Principal Arterials	37	36	48	2	7
Minor Arterials	8	1	8	-	-
Collectors	2	2	2	-	1
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

SCAG SR710GAP 08R35a3_LRT4A					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Alhambra					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	16	15	17	-	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>41.0%</b>	<b>38.5%</b>	<b>43.6%</b>	<b>0.0%</b>	<b>2.6%</b>
El Monte					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Los Angeles					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	6	4	9	-	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>15.8%</b>	<b>10.5%</b>	<b>23.7%</b>	<b>0.0%</b>	<b>2.6%</b>
Pasadena					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	4	2	7	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>9.5%</b>	<b>4.8%</b>	<b>16.7%</b>	<b>0.0%</b>	<b>0.0%</b>

**Table J.7: 2035 LRT-4B Intersection Approach Performance**

SCAG SR710GAP 08R35a3_LRT4B					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	47	39	58	2	7
Percent of Approaches with V/C >1.0	22.7%	18.8%	28.0%	1.0%	3.4%
SCAG SR710GAP 08R35a3_LRT4B					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Capacity Range - 0 to 400 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Capacity Range - 400 to 600 vehicles/lane/hour					
Total number of Approaches	35	35	35	35	35
Number of Approaches with V/C >1.0	22	19	24	2	2
Percent of Approaches with V/C >1.0	62.9%	54.3%	68.6%	5.7%	5.7%
Capacity Range - 600 to 800 vehicles/lane/hour					
Total number of Approaches	141	141	141	141	141
Number of Approaches with V/C >1.0	25	20	34	-	-
Percent of Approaches with V/C >1.0	17.7%	14.2%	24.1%	0.0%	0.0%
Capacity Range - 800 to 1000 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Capacity Range - 1000 to 2000 vehicles/lane/hour					
Total number of Approaches	7	7	7	7	7
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
SCAG SR710GAP 08R35a3_LRT4B					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Number of Approaches with V/C <=0.2					
Principal Arterials	21	18	16	91	28
Minor Arterials	7	6	5	45	14
Collectors	1	1	1	1	1
Number of Approaches with V/C >0.2 and <=0.4					
Principal Arterials	17	32	17	42	43
Minor Arterials	10	13	10	4	13
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.4 and <=0.6					
Principal Arterials	32	35	24	14	32
Minor Arterials	9	9	9	1	15
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.6 and <=0.8					
Principal Arterials	24	20	33	4	22
Minor Arterials	13	11	11	-	8
Collectors	-	-	-	-	-
Number of Approaches with V/C >0.8 and <=1.0					
Principal Arterials	23	13	16	1	23
Minor Arterials	3	10	7	-	-
Collectors	-	-	-	-	1
Number of Approaches with V/C >1.0					
Principal Arterials	37	36	48	2	6
Minor Arterials	8	1	8	-	-
Collectors	2	2	2	-	1
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

SCAG SR710GAP 08R35a3_LRT4B					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Alhambra					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	16	15	17	-	-
Percent of Approaches with V/C >1.0	41.0%	38.5%	43.6%	0.0%	0.0%
El Monte					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Los Angeles					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	6	4	9	-	1
Percent of Approaches with V/C >1.0	15.8%	10.5%	23.7%	0.0%	2.6%
Pasadena					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	4	2	7	-	-
Percent of Approaches with V/C >1.0	9.5%	4.8%	16.7%	0.0%	0.0%

**Table J.8: 2035 LRT-4D Intersection Approach Performance**

SCAG SR710GAP 08R35a3_LRT4D					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	47	39	58	2	8
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>22.7%</b>	<b>18.8%</b>	<b>28.0%</b>	<b>1.0%</b>	<b>3.9%</b>
SCAG SR710GAP 08R35a3_LRT4D					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Capacity Range - 0 to 400 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Capacity Range - 400 to 600 vehicles/lane/hour					
Total number of Approaches	35	35	35	35	35
Number of Approaches with V/C >1.0	22	19	24	2	2
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>62.9%</b>	<b>54.3%</b>	<b>68.6%</b>	<b>5.7%</b>	
Capacity Range - 600 to 800 vehicles/lane/hour					
Total number of Approaches	141	141	141	141	141
Number of Approaches with V/C >1.0	25	20	34	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>17.7%</b>	<b>14.2%</b>	<b>24.1%</b>	<b>0.0%</b>	
Capacity Range - 800 to 1000 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
Capacity Range - 1000 to 2000 vehicles/lane/hour					
Total number of Approaches	7	7	7	7	7
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
SCAG SR710GAP 08R35a3_LRT4D					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Number of Approaches with V/C <=0.2					
Principal Arterials	21	18	16	91	28
Minor Arterials	7	6	5	45	14
Collectors	1	1	1	1	1
Number of Approaches with V/C >0.2 and <=0.4					
Principal Arterials	17	32	17	42	44
Minor Arterials	10	13	11	4	13
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.4 and <=0.6					
Principal Arterials	32	35	23	14	31
Minor Arterials	9	10	8	1	15
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.6 and <=0.8					
Principal Arterials	24	20	34	4	22
Minor Arterials	13	10	11	-	8
Collectors	-	-	-	-	-
Number of Approaches with V/C >0.8 and <=1.0					
Principal Arterials	23	13	16	1	22
Minor Arterials	3	10	7	-	-
Collectors	-	-	-	-	1
Number of Approaches with V/C >1.0					
Principal Arterials	37	36	48	2	7
Minor Arterials	8	1	8	-	-
Collectors	2	2	2	-	1
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

SCAG SR710GAP 08R35a3_LRT4D					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Alhambra					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	16	15	17	-	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>41.0%</b>	<b>38.5%</b>	<b>43.6%</b>	<b>0.0%</b>	<b>2.6%</b>
El Monte					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Los Angeles					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	6	4	9	-	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>15.8%</b>	<b>10.5%</b>	<b>23.7%</b>	<b>0.0%</b>	<b>2.6%</b>
Pasadena					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	4	2	7	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>9.5%</b>	<b>4.8%</b>	<b>16.7%</b>	<b>0.0%</b>	<b>0.0%</b>

**Table J.9: 2035 LRT-6 Intersection Approach Performance**

SCAG SR710GAP 08R35a3_LRT6					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	47	39	58	2	7
Percent of Approaches with V/C >1.0	22.7%	18.8%	28.0%	1.0%	3.4%
SCAG SR710GAP 08R35a3_LRT6					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
<b>Capacity Range - 0 to 400 vehicles/lane/hour</b>					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Capacity Range - 400 to 600 vehicles/lane/hour</b>					
Total number of Approaches	35	35	35	35	35
Number of Approaches with V/C >1.0	22	19	24	2	2
Percent of Approaches with V/C >1.0	62.9%	54.3%	68.6%	5.7%	
<b>Capacity Range - 600 to 800 vehicles/lane/hour</b>					
Total number of Approaches	141	141	141	141	141
Number of Approaches with V/C >1.0	25	20	34	-	-
Percent of Approaches with V/C >1.0	17.7%	14.2%	24.1%	0.0%	
<b>Capacity Range - 800 to 1000 vehicles/lane/hour</b>					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Capacity Range - 1000 to 2000 vehicles/lane/hour</b>					
Total number of Approaches	7	7	7	7	7
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
SCAG SR710GAP 08R35a3_LRT6					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
<b>Number of Approaches with V/C &lt;=0.2</b>					
Principal Arterials	21	18	16	92	28
Minor Arterials	7	6	5	45	14
Collectors	1	1	1	1	1
<b>Number of Approaches with V/C &gt;0.2 and &lt;=0.4</b>					
Principal Arterials	17	32	17	41	43
Minor Arterials	10	13	10	4	13
Collectors	-	-	-	1	-
<b>Number of Approaches with V/C &gt;0.4 and &lt;=0.6</b>					
Principal Arterials	32	35	23	14	32
Minor Arterials	9	10	9	1	15
Collectors	-	-	-	1	-
<b>Number of Approaches with V/C &gt;0.6 and &lt;=0.8</b>					
Principal Arterials	24	20	34	4	22
Minor Arterials	13	10	11	-	8
Collectors	-	-	-	-	1
<b>Number of Approaches with V/C &gt;0.8 and &lt;=1.0</b>					
Principal Arterials	23	13	16	1	23
Minor Arterials	3	10	7	-	-
Collectors	-	-	-	-	-
<b>Number of Approaches with V/C &gt;1.0</b>					
Principal Arterials	37	36	48	2	6
Minor Arterials	8	1	8	-	-
Collectors	2	2	2	-	1
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

SCAG SR710GAP 08R35a3_LRT6					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
<b>Alhambra</b>					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	16	15	17	-	-
Percent of Approaches with V/C >1.0	41.0%	38.5%	43.6%	0.0%	0.0%
<b>El Monte</b>					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Los Angeles</b>					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	6	4	9	-	1
Percent of Approaches with V/C >1.0	15.8%	10.5%	23.7%	0.0%	2.6%
<b>Pasadena</b>					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	4	2	7	-	-
Percent of Approaches with V/C >1.0	9.5%	4.8%	16.7%	0.0%	0.0%

**Table J.10: 2035 F-2 Intersection Approach Performance**

<b>SCAG SR710GAP 08R35a3 FT2</b>					
<b>Intersection Approach with V/C Ratio &gt; 1.0</b>					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	37	26	52	1	5
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>17.9%</b>	<b>12.6%</b>	<b>25.1%</b>	<b>0.5%</b>	<b>2.4%</b>
<b>SCAG SR710GAP 08R35a3 FT2</b>					
<b>Intersection Approach with V/C Ratio &gt; 1.0 by Capacity Range</b>					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
<b>Capacity Range - 0 to 400 vehicles/lane/hour</b>					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
<b>Capacity Range - 400 to 600 vehicles/lane/hour</b>					
Total number of Approaches	35	35	35	35	35
Number of Approaches with V/C >1.0	17	16	22	1	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>48.6%</b>	<b>45.7%</b>	<b>62.9%</b>	<b>2.9%</b>	
<b>Capacity Range - 600 to 800 vehicles/lane/hour</b>					
Total number of Approaches	141	141	141	141	141
Number of Approaches with V/C >1.0	20	10	30	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>14.2%</b>	<b>7.1%</b>	<b>21.3%</b>	<b>0.0%</b>	
<b>Capacity Range - 800 to 1000 vehicles/lane/hour</b>					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
<b>Capacity Range - 1000 to 2000 vehicles/lane/hour</b>					
Total number of Approaches	7	7	7	7	7
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
<b>SCAG SR710GAP 08R35a3 FT2</b>					
<b>Intersection Approach by V/C Ratio and Facility Type</b>					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
<b>Number of Approaches with V/C &lt;=0.2</b>					
Principal Arterials	22	21	17	95	30
Minor Arterials	7	10	7	46	15
Collectors	1	1	1	2	1
<b>Number of Approaches with V/C &gt;0.2 and &lt;=0.4</b>					
Principal Arterials	23	35	21	41	47
Minor Arterials	12	9	10	2	16
Collectors	-	-	-	-	-
<b>Number of Approaches with V/C &gt;0.4 and &lt;=0.6</b>					
Principal Arterials	28	30	28	12	35
Minor Arterials	13	14	8	2	14
Collectors	-	-	-	1	1
<b>Number of Approaches with V/C &gt;0.6 and &lt;=0.8</b>					
Principal Arterials	32	24	28	4	24
Minor Arterials	8	9	14	-	4
Collectors	-	-	-	-	-
<b>Number of Approaches with V/C &gt;0.8 and &lt;=1.0</b>					
Principal Arterials	19	21	16	1	13
Minor Arterials	4	6	4	-	1
Collectors	1	1	1	-	1
<b>Number of Approaches with V/C &gt;1.0</b>					
Principal Arterials	30	23	44	1	5
Minor Arterials	6	2	7	-	-
Collectors	1	1	1	-	-
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

<b>SCAG SR710GAP 08R35a3 FT2</b>					
<b>Intersection Approach with V/C Ratio &gt; 1.0 by City</b>					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
<b>Alhambra</b>					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	12	8	16	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>30.8%</b>	<b>20.5%</b>	<b>41.0%</b>	<b>0.0%</b>	<b>0.0%</b>
<b>El Monte</b>					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
<b>Los Angeles</b>					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	5	4	8	-	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>13.2%</b>	<b>10.5%</b>	<b>21.1%</b>	<b>0.0%</b>	<b>2.6%</b>
<b>Pasadena</b>					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	2	2	5	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>4.8%</b>	<b>4.8%</b>	<b>11.9%</b>	<b>0.0%</b>	<b>0.0%</b>

**Table J.11: 2035 F-5 Intersection Approach Performance**

SCAG SR710GAP 08R35a3_FT5					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	32	22	48	-	5
Percent of Approaches with V/C >1.0	15.5%	10.6%	23.2%	0.0%	2.4%
SCAG SR710GAP 08R35a3_FT5					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Capacity Range - 0 to 400 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Capacity Range - 400 to 600 vehicles/lane/hour					
Total number of Approaches	35	35	35	35	35
Number of Approaches with V/C >1.0	16	14	24	-	-
Percent of Approaches with V/C >1.0	45.7%	40.0%	68.6%	0.0%	0.0%
Capacity Range - 600 to 800 vehicles/lane/hour					
Total number of Approaches	141	141	141	141	141
Number of Approaches with V/C >1.0	16	8	24	-	-
Percent of Approaches with V/C >1.0	11.3%	5.7%	17.0%	0.0%	0.0%
Capacity Range - 800 to 1000 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Capacity Range - 1000 to 2000 vehicles/lane/hour					
Total number of Approaches	7	7	7	7	7
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
SCAG SR710GAP 08R35a3_FT5					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Number of Approaches with V/C <=0.2					
Principal Arterials	20	20	15	100	28
Minor Arterials	7	6	5	46	14
Collectors	1	1	1	2	1
Number of Approaches with V/C >0.2 and <=0.4					
Principal Arterials	18	27	20	40	48
Minor Arterials	9	14	11	3	18
Collectors	-	-	-	-	-
Number of Approaches with V/C >0.4 and <=0.6					
Principal Arterials	35	42	25	9	40
Minor Arterials	14	13	9	1	11
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.6 and <=0.8					
Principal Arterials	30	25	31	3	22
Minor Arterials	10	10	10	-	7
Collectors	-	-	-	-	1
Number of Approaches with V/C >0.8 and <=1.0					
Principal Arterials	24	21	24	2	11
Minor Arterials	7	6	8	-	-
Collectors	-	-	-	-	1
Number of Approaches with V/C >1.0					
Principal Arterials	27	19	39	-	5
Minor Arterials	3	1	7	-	-
Collectors	2	2	2	-	-
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

SCAG SR710GAP 08R35a3_FT5					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Alhambra					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	9	5	13	-	-
Percent of Approaches with V/C >1.0	23.1%	12.8%	33.3%	0.0%	0.0%
El Monte					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Los Angeles					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	4	3	7	-	1
Percent of Approaches with V/C >1.0	10.5%	7.9%	18.4%	0.0%	2.6%
Pasadena					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	3	2	5	-	-
Percent of Approaches with V/C >1.0	7.1%	4.8%	11.9%	0.0%	0.0%

**Table J.12: 2035 F-6 Intersection Approach Performance**

SCAG SR710GAP 08R35a3_FS6					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	25	18	40	-	3
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>12.1%</b>	<b>8.7%</b>	<b>19.3%</b>	<b>0.0%</b>	<b>1.4%</b>
SCAG SR710GAP 08R35a3_FS6					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Capacity Range - 0 to 400 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	
Number of Approaches with V/C >1.0	-	-	-	-	
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
Capacity Range - 400 to 600 vehicles/lane/hour					
Total number of Approaches	35	35	35	35	
Number of Approaches with V/C >1.0	14	11	20	-	
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>40.0%</b>	<b>31.4%</b>	<b>57.1%</b>	<b>0.0%</b>	
Capacity Range - 600 to 800 vehicles/lane/hour					
Total number of Approaches	141	141	141	141	
Number of Approaches with V/C >1.0	11	7	20	-	
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>7.8%</b>	<b>5.0%</b>	<b>14.2%</b>	<b>0.0%</b>	
Capacity Range - 800 to 1000 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	
Number of Approaches with V/C >1.0	-	-	-	-	
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
Capacity Range - 1000 to 2000 vehicles/lane/hour					
Total number of Approaches	7	7	7	7	
Number of Approaches with V/C >1.0	-	-	-	-	
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
SCAG SR710GAP 08R35a3_FS6					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Number of Approaches with V/C <=0.2					
Principal Arterials	22	23	15	107	27
Minor Arterials	7	8	5	48	18
Collectors	1	1	1	2	1
Number of Approaches with V/C >0.2 and <=0.4					
Principal Arterials	23	34	20	35	55
Minor Arterials	14	15	12	1	17
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.4 and <=0.6					
Principal Arterials	36	37	32	9	37
Minor Arterials	10	13	9	1	11
Collectors	-	-	-	-	1
Number of Approaches with V/C >0.6 and <=0.8					
Principal Arterials	34	26	32	3	24
Minor Arterials	9	9	11	-	4
Collectors	1	-	-	-	-
Number of Approaches with V/C >0.8 and <=1.0					
Principal Arterials	18	18	22	-	8
Minor Arterials	7	4	8	-	-
Collectors	-	1	-	-	1
Number of Approaches with V/C >1.0					
Principal Arterials	21	16	33	-	3
Minor Arterials	3	1	5	-	-
Collectors	1	1	2	-	-
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

SCAG SR710GAP 08R35a3_FS6					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Alhambra					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	6	4	11	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>15.4%</b>	<b>10.3%</b>	<b>28.2%</b>	<b>0.0%</b>	<b>0.0%</b>
El Monte					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Los Angeles					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	4	3	7	-	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>10.5%</b>	<b>7.9%</b>	<b>18.4%</b>	<b>0.0%</b>	<b>2.6%</b>
Pasadena					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	2	2	3	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>4.8%</b>	<b>4.8%</b>	<b>7.1%</b>	<b>0.0%</b>	<b>0.0%</b>

**Table J.13: 2035 F-7 Intersection Approach Performance**

SCAG SR710GAP 08R35a3_FT7					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	207	207	207	207	207
Number of Approaches with V/C >1.0	33	25	45	1	5
Percent of Approaches with V/C >1.0	15.9%	12.1%	21.7%	0.5%	2.4%
SCAG SR710GAP 08R35a3_FT7					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Capacity Range - 0 to 400 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Capacity Range - 400 to 600 vehicles/lane/hour					
Total number of Approaches	35	35	35	35	35
Number of Approaches with V/C >1.0	15	16	20	1	1
Percent of Approaches with V/C >1.0	42.9%	45.7%	57.1%	2.9%	2.9%
Capacity Range - 600 to 800 vehicles/lane/hour					
Total number of Approaches	141	141	141	141	141
Number of Approaches with V/C >1.0	17	9	25	-	-
Percent of Approaches with V/C >1.0	12.1%	6.4%	17.7%	0.0%	0.0%
Capacity Range - 800 to 1000 vehicles/lane/hour					
Total number of Approaches	12	12	12	12	12
Number of Approaches with V/C >1.0	1	-	-	-	-
Percent of Approaches with V/C >1.0	8.3%	0.0%	0.0%	0.0%	0.0%
Capacity Range - 1000 to 2000 vehicles/lane/hour					
Total number of Approaches	7	7	7	7	7
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
SCAG SR710GAP 08R35a3_FT7					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Number of Approaches with V/C <=0.2					
Principal Arterials	22	20	15	97	28
Minor Arterials	6	7	5	47	14
Collectors	1	1	1	2	1
Number of Approaches with V/C >0.2 and <=0.4					
Principal Arterials	19	34	19	42	49
Minor Arterials	12	16	12	1	19
Collectors	-	-	-	-	-
Number of Approaches with V/C >0.4 and <=0.6					
Principal Arterials	33	34	32	10	37
Minor Arterials	13	11	9	2	11
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.6 and <=0.8					
Principal Arterials	30	25	25	4	22
Minor Arterials	8	9	13	-	4
Collectors	-	-	-	-	1
Number of Approaches with V/C >0.8 and <=1.0					
Principal Arterials	23	20	26	-	13
Minor Arterials	7	5	5	-	2
Collectors	-	-	-	-	1
Number of Approaches with V/C >1.0					
Principal Arterials	27	21	37	1	5
Minor Arterials	4	2	6	-	-
Collectors	2	2	2	-	-
<b>Total Number of Approaches</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>	<b>207</b>

SCAG SR710GAP 08R35a3_FT7					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Alhambra					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	9	6	13	-	-
Percent of Approaches with V/C >1.0	23.1%	15.4%	33.3%	0.0%	0.0%
El Monte					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
Percent of Approaches with V/C >1.0	0.0%	0.0%	0.0%	0.0%	0.0%
Los Angeles					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	5	5	8	-	1
Percent of Approaches with V/C >1.0	13.2%	13.2%	21.1%	0.0%	2.6%
Pasadena					
Total number of Approaches	42	42	42	42	42
Number of Approaches with V/C >1.0	2	2	2	-	-
Percent of Approaches with V/C >1.0	4.8%	4.8%	4.8%	0.0%	0.0%

**Table J.14: 2035 H-2 Intersection Approach Performance**

SCAG SR710GAP 08R35a3_H2A					
Intersection Approach with V/C Ratio > 1.0					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Total number of Approaches	179	179	179	179	179
Number of Approaches with V/C >1.0	37	24	50	-	2
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>20.7%</b>	<b>13.4%</b>	<b>27.9%</b>	<b>0.0%</b>	<b>1.1%</b>
SCAG SR710GAP 08R35a3_H2A					
Intersection Approach with V/C Ratio > 1.0 by Capacity Range					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Capacity Range - 0 to 400 vehicles/lane/hour					
Total number of Approaches	9	9	9	9	
Number of Approaches with V/C >1.0	-	-	-	-	
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
Capacity Range - 400 to 600 vehicles/lane/hour					
Total number of Approaches	27	27	27	27	
Number of Approaches with V/C >1.0	15	13	19	-	
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>55.6%</b>	<b>48.1%</b>	<b>70.4%</b>	<b>0.0%</b>	
Capacity Range - 600 to 800 vehicles/lane/hour					
Total number of Approaches	131	131	131	131	
Number of Approaches with V/C >1.0	22	11	31	-	
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>16.8%</b>	<b>8.4%</b>	<b>23.7%</b>	<b>0.0%</b>	
Capacity Range - 800 to 1000 vehicles/lane/hour					
Total number of Approaches	8	8	8	8	
Number of Approaches with V/C >1.0	-	-	-	-	
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
Capacity Range - 1000 to 2000 vehicles/lane/hour					
Total number of Approaches	4	4	4	4	
Number of Approaches with V/C >1.0	-	-	-	-	
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
SCAG SR710GAP 08R35a3_H2A					
Intersection Approach by V/C Ratio and Facility Type					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Number of Approaches with V/C <=0.2					
Principal Arterials	16	14	12	85	22
Minor Arterials	6	5	4	38	13
Collectors	1	1	1	2	1
Number of Approaches with V/C >0.2 and <=0.4					
Principal Arterials	15	30	14	37	41
Minor Arterials	8	11	10	4	12
Collectors	-	-	-	1	-
Number of Approaches with V/C >0.4 and <=0.6					
Principal Arterials	30	31	20	10	33
Minor Arterials	9	10	5	1	11
Collectors	-	-	-	-	-
Number of Approaches with V/C >0.6 and <=0.8					
Principal Arterials	20	21	32	-	27
Minor Arterials	13	9	10	-	7
Collectors	-	-	-	-	1
Number of Approaches with V/C >0.8 and <=1.0					
Principal Arterials	23	17	15	1	8
Minor Arterials	1	6	6	-	-
Collectors	-	-	-	-	1
Number of Approaches with V/C >1.0					
Principal Arterials	29	20	40	-	2
Minor Arterials	6	2	8	-	-
Collectors	2	2	2	-	-
<b>Total Number of Approaches</b>	<b>179</b>	<b>179</b>	<b>179</b>	<b>179</b>	<b>179</b>

SCAG SR710GAP 08R35a3_H2A					
Intersection Approach with V/C Ratio > 1.0 by City					
Intersection Statistics	AM Peak Period (6-9 AM)	Mid-Day (9AM -3PM)	PM Peak Period (3-7 PM)	Night Time (7PM-6AM)	Average Daily
Alhambra					
Total number of Approaches	30	30	30	30	30
Number of Approaches with V/C >1.0	11	8	14	-	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>36.7%</b>	<b>26.7%</b>	<b>46.7%</b>	<b>0.0%</b>	<b>3.3%</b>
El Monte					
Total number of Approaches	4	4	4	4	4
Number of Approaches with V/C >1.0	-	-	-	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Los Angeles					
Total number of Approaches	38	38	38	38	38
Number of Approaches with V/C >1.0	7	3	10	-	1
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>18.4%</b>	<b>7.9%</b>	<b>26.3%</b>	<b>0.0%</b>	<b>2.6%</b>
Pasadena					
Total number of Approaches	39	39	39	39	39
Number of Approaches with V/C >1.0	6	3	8	-	-
<b>Percent of Approaches with V/C &gt;1.0</b>	<b>15.4%</b>	<b>7.7%</b>	<b>20.5%</b>	<b>0.0%</b>	<b>0.0%</b>



**Table J.16: AM and PM Peak Period Intersection Congestion Performance Criteria**

Travel Model Evaluation	Evaluation Criteria	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6	
Intersection congestion (V/C>=1.0) using the ratio for the number of congested approaches to the total number of approaches at the selected intersections.	Number of AM Approaches with V/C>=1.0	33	47	48	47	47	47	47	47	47	47	37	32	25	33	37	43	
	Number of PM Approaches with V/C>=1.0	41	58	59	58	58	58	58	58	58	58	52	48	40	45	50	49	
	Total Number of Approaches	207	207	207	207	207	207	207	207	207	207	207	207	207	207	207	179	211
	AM Peak Period	15.9%	22.7%	23.2%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%	17.9%	15.5%	12.1%	15.9%	20.7%	20.4%
	PM Peak Period	19.8%	28.0%	28.5%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	25.1%	23.2%	19.3%	21.7%	27.9%	23.2%

**Table J.17: Intersection Congestion Performance Measure**

Screen Level 2: Performance Measure	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT-4A	LRT-4B	LRT-4D	LRT-6	F 2	F-5	F 6	F-7	H 2	H 6
Percentage of intersections in the study area with congested approaches, with PM peak volume/capacity (v/c) ratio > 1.0.	19.8%	28.0%	28.5%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	25.1%	23.2%	19.3%	21.7%	27.9%	23.2%

## K. Arterial Congestion

### Performance Measure Description

An arterial congestion performance measure was calculated for north-south arterial traffic crossing the east-west screenline. A map of the east-west screenline can be found in Figure F.1. The arterial congestion performance measure is defined as the maximum of the average AM and PM V/C ratios on the north-south arterial crossing the east-west screenline shown in Figure F.1.

### Calculation Process

The calculation for the arterial congestion is a two-step process.

**Step 1:** The first step was to calculate the AM and PM volumes and capacities for all links crossing the east-west screenline. Table K.1 summarizes the resulting values from Step 1 for all alternatives, including the existing condition. The existing condition is used for comparative analysis, and was not used in the performance measure.

**Step 2:** The second step was to calculate the weighted V/C ratio. The V/C ratio is weighted by link volume to give a greater weight to more heavily used arterials. For example, consider the following attributes of three two-way, four-lane (two lanes in each direction) links as opposed to all links crossing the screenline.

Capacity on each arterial = 1,000 vehicles per hour per lane

Northbound Volume - AM pk prd = (1) 5,000 (2) 5,500 (3) 4,000; PM pk prd = (1) 9,600 (2) 10,000 (3) 8,700

Southbound Volume - AM pk prd = (1) 6,600 (2) 7,000 (3) 5,900; PM pk prd = (1) 7,500 (2) 7,200 (3) 5,900

(Note: the AM peak period is 3 hours, from 6:00 - 9:00 AM. The PM peak period is 4 hours, from 3:00 - 7:00 PM.)

The resulting V/C ratios are calculated as follows:

Northbound AM:  $V/C = 5000 / (1000v/h/l * 2 \text{ lanes} * 3 \text{ hours}) = 5000/6000 = 0.83$ , (similarly (2) = 0.92, (3) = 0.67)

Northbound PM:  $V/C = 9600 / (1000v/h/l * 2 \text{ lanes} * 4 \text{ hours}) = 9600/8000 = 1.20$ , (similarly (2) = 1.25, (3) = 1.09)

Southbound AM:  $V/C = 6600 / (1000v/h/l * 2 \text{ lanes} * 3 \text{ hours}) = 6600/6000 = 1.10$ , (similarly (2) = 1.17, (3) = 0.98)

Southbound PM:  $V/C = 7500 / (1000v/h/l * 2 \text{ lanes} * 4 \text{ hours}) = 7500/8000 = 0.94$ , (similarly (2) = 0.90, (3) = 0.74)

So the AM weighted V/C ratio would be the V/C ratio for each facility in the northbound and southbound direction multiplied by the volume on that link, divided by the sum of the volume.

AM Weighted V/C =  $(0.83*5000 + 0.92*5500 + 0.67*4000 + 1.10*6600 + 1.17*7000 + 0.98*5900) / (5000+5500+4000+6600+7000+5900) = 33122/34000 = 0.974$

Table K.2 summarizes the resulting AM and PM peak period weighted V/C ratio on arterials for Step 2.

### Performance Measure Values

The final performance measure is the maximum of the AM and PM peak period weighted V/C ratios from Step 2. The performance measure values are shown in Table K.3.

**Table K.1 – AM and PM Peak Period Volumes and Capacities on Arterials Crossing the East-West Screenline**

Performance Measures (Quantitative)	Time Period	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6
Peak Period Volume on Arterials Crossing the East-West Screenline	AM Peak Period	156,540	190,150	192,490	190,230	190,130	190,130	190,120	190,120	190,130	190,170	178,790	172,680	176,800	173,150	195,080	192,800
	PM Peak Period	227,040	277,740	280,570	277,900	277,610	277,610	277,810	277,900	277,830	277,820	263,820	255,590	261,860	255,350	284,290	282,400
Peak Period Capacities on Arterials Crossing the East-West Screenline	AM Peak Period	326,750	361,430	361,430	361,430	361,430	361,430	361,430	361,430	361,430	361,430	361,430	361,430	373,430	361,430	374,020	368,390
	PM Peak Period	431,100	477,340	477,340	477,340	477,340	477,340	477,340	477,340	477,340	477,340	477,340	477,340	493,340	477,340	494,130	486,630

**Table K.2 – AM and PM Peak Period Weighted V/C Ratio on Arterials Crossing the East-West Screenline**

Performance Measures (Quantitative)	Time Period	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6
Weighed Average Peak Period V/C Ratio on Arterials Crossing the East-West Screenline	AM Peak Period	0.65	0.71	0.72	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.67	0.65	0.65	0.66	0.70	0.72
	PM Peak Period	0.70	0.77	0.78	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.73	0.72	0.71	0.72	0.76	0.78

**Table K.3 – Maximum Peak Period Weighted V/C Ratio on Arterials Crossing the East-West Screenline**

Screen Level 2: Performance Measure	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT-4A	LRT-4B	LRT-4D	LRT-6	F 2	F-5	F 6	F-7	H 2	H 6
Average v/c ratio on north-south arterials at screenlines within the study area, using the maximum of the AM and PM peak hours.	0.70	0.77	0.78	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.73	0.72	0.71	0.72	0.76	0.78

## L. Traffic Diversion to Local Arterials

### **Performance Measure Description**

The traffic diversion to local arterials performance measure was developed to calculate the volume of traffic that shifts between the freeway system and the arterial system as a result of changes in congestion levels from the implementation of various alternatives. In a regional transportation system, it is preferred to have a majority of the regional traffic occur on the freeway system, allowing the arterial street network to serve shorter distance trips and to provide access to houses, office buildings, and shops.

### **Calculation Process**

The calculation for the traffic diversion to local arterials performance measure uses model outputs to calculate the VMT on the arterial system in the study area. Comparing between alternatives shows the traffic diversion from arterials to the freeway system.

**Step 1:** Calculate the VMT by time of day for all facility types by geography (the SCAG region, LA County, and the study area). Only the study area VMT is used in this performance measure. Tables L.1 through L.15 summarize the VMT performance calculated directly from model outputs for the multiple time periods and areas. Table L.16 summarizes the total daily VMT in the study area by facility type for each alternative.

**Step 2:** Summarize the VMT for arterials and collectors. Arterials are classified as both “Principal Arterials” and “Minor Arterials” in the regional travel model. Similarly, collectors are classified as both “Major Collectors” and “Minor Collectors.” Table L.17 summarizes the total daily vehicle miles of travel on arterials and collectors in the study area.

### **Performance Measure Values**

Table L.18 summarizes the total daily arterial and collector VMT in the study area for all vehicle trips, in millions.

**Table L.1: 2008 VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R08a3_PFA1 : Region						SR710GAP 08R08a3_PFA1 : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	37,381,076	64,575,973	52,438,304	44,082,596	198,477,948	Freeway	50.0%	50.4%	49.7%	60.6%	52.1%
HOV	2,649,627	4,109,723	3,876,910	1,597,958	12,234,218	HOV	3.5%	3.2%	3.7%	2.2%	3.2%
Expressway/Parkway	643,326	1,010,169	766,711	654,751	3,074,958	Expressway/Parkway	0.9%	0.8%	0.7%	0.9%	0.8%
Principal Arterial	16,744,305	29,041,663	23,856,811	13,691,240	83,334,019	Principal Arterial	22.4%	22.7%	22.6%	18.8%	21.9%
Minor Arterial	11,651,208	19,941,320	16,610,068	7,783,114	55,985,710	Minor Arterial	15.6%	15.6%	15.8%	10.7%	14.7%
Major Collector	3,019,369	4,810,554	4,149,420	1,835,606	13,814,948	Major Collector	4.0%	3.8%	3.9%	2.5%	3.6%
Minor Collector	269,589	454,353	381,008	173,403	1,278,352	Minor Collector	0.4%	0.4%	0.4%	0.2%	0.3%
Ramp	2,447,665	4,253,301	3,352,593	2,936,478	12,990,036	Ramp	3.3%	3.3%	3.2%	4.0%	3.4%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>74,806,165</b>	<b>128,197,055</b>	<b>105,431,824</b>	<b>72,755,146</b>	<b>381,190,190</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R08a3_PFA1 : LA County						SR710GAP 08R08a3_PFA1 : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	18,045,548	31,556,891	24,762,384	22,244,709	96,609,532	Freeway	48.5%	49.4%	47.6%	61.7%	51.1%
HOV	1,470,409	2,144,696	2,130,072	789,068	6,534,245	HOV	4.0%	3.4%	4.1%	2.2%	3.5%
Expressway/Parkway	26,108	50,956	35,918	46,989	159,972	Expressway/Parkway	0.1%	0.1%	0.1%	0.1%	0.1%
Principal Arterial	9,526,994	16,467,514	13,590,012	7,374,179	46,958,700	Principal Arterial	25.6%	25.8%	26.1%	20.4%	24.8%
Minor Arterial	5,630,400	9,595,643	8,098,766	3,283,946	26,608,755	Minor Arterial	15.1%	15.0%	15.6%	9.1%	14.1%
Major Collector	910,579	1,359,258	1,251,271	463,319	3,984,427	Major Collector	2.4%	2.1%	2.4%	1.3%	2.1%
Minor Collector	88,455	143,751	121,695	40,332	394,232	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,470,970	2,563,265	2,000,307	1,833,939	7,868,481	Ramp	4.0%	4.0%	3.8%	5.1%	4.2%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>37,169,463</b>	<b>63,881,974</b>	<b>51,990,425</b>	<b>36,076,482</b>	<b>189,118,344</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R08a3_PFA1 : Study Area						SR710GAP 08R08a3_PFA1 : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,177,656	3,716,900	3,010,190	2,461,671	11,366,418	Freeway	56.6%	56.0%	55.6%	66.0%	57.9%
HOV	207,181	384,378	322,780	152,260	1,066,598	HOV	5.4%	5.8%	6.0%	4.1%	5.4%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	608,876	1,055,657	866,273	461,152	2,991,958	Principal Arterial	15.8%	15.9%	16.0%	12.4%	15.2%
Minor Arterial	591,145	1,027,632	851,389	374,872	2,845,038	Minor Arterial	15.4%	15.5%	15.7%	10.1%	14.5%
Major Collector	21,341	34,499	30,456	10,249	96,545	Major Collector	0.6%	0.5%	0.6%	0.3%	0.5%
Minor Collector	12,217	22,392	17,995	7,852	60,455	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	231,653	393,886	316,270	260,646	1,202,454	Ramp	6.0%	5.9%	5.8%	7.0%	6.1%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>3,850,069</b>	<b>6,635,343</b>	<b>5,415,353</b>	<b>3,728,702</b>	<b>19,629,467</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.2: 2035 No Build Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_NB_PFA1 : Region						SR710GAP 08R35a3_NB_PFA1 : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	44,787,614	79,650,370	64,103,988	56,655,962	245,197,933	Freeway	45.8%	46.4%	45.3%	57.0%	48.1%
HOV	4,425,488	8,210,152	6,396,651	4,858,484	23,890,775	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,173,877	2,670,076	2,046,531	1,608,647	7,499,131	Expressway/Parkway	1.2%	1.6%	1.4%	1.6%	1.5%
Principal Arterial	20,459,287	35,934,179	29,646,204	17,418,152	103,457,823	Principal Arterial	20.9%	21.0%	21.0%	17.5%	20.3%
Minor Arterial	16,904,744	29,355,706	24,944,752	11,727,950	82,933,152	Minor Arterial	17.3%	17.1%	17.6%	11.8%	16.3%
Major Collector	6,358,130	9,476,396	9,161,748	3,202,543	28,198,816	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	530,684	854,956	839,495	304,253	2,529,388	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,837,838	4,978,727	3,886,577	3,536,482	15,239,624	Ramp	2.9%	2.9%	2.7%	3.0%	3.0%
Trucks Only	240,476	382,047	339,108	157,752	1,119,382	Trucks Only	0.2%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,718,138</b>	<b>171,512,608</b>	<b>141,365,053</b>	<b>99,470,225</b>	<b>510,066,024</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_NB_PFA1 : LA County						SR710GAP 08R35a3_NB_PFA1 : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,660,911	34,685,321	27,314,015	25,590,006	107,250,253	Freeway	44.8%	45.3%	43.8%	57.7%	47.2%
HOV	2,573,991	4,728,081	3,702,337	2,771,408	13,775,816	HOV	5.9%	6.2%	5.9%	6.2%	6.1%
Expressway/Parkway	5,518	12,507	6,440	9,240	33,705	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,918,942	19,061,676	15,768,764	8,721,474	54,470,856	Principal Arterial	24.9%	24.9%	25.3%	19.7%	24.0%
Minor Arterial	6,980,363	12,230,545	10,292,277	4,208,541	33,711,726	Minor Arterial	15.9%	16.0%	16.5%	9.5%	14.8%
Major Collector	1,807,142	2,516,573	2,562,558	769,069	7,655,342	Major Collector	4.1%	3.3%	4.1%	1.7%	3.4%
Minor Collector	102,130	167,555	148,589	47,173	465,448	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,604,961	2,844,675	2,197,479	2,087,384	8,734,499	Ramp	3.7%	3.7%	3.5%	4.7%	3.8%
Trucks Only	234,166	369,781	328,474	149,114	1,081,534	Trucks Only	0.5%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>43,888,125</b>	<b>76,616,714</b>	<b>62,320,932</b>	<b>44,353,409</b>	<b>227,179,179</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_NB_PFA1 : Study Area						SR710GAP 08R35a3_NB_PFA1 : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,296,445	4,000,209	3,205,360	2,828,918	12,330,932	Freeway	54.3%	53.9%	53.2%	65.9%	56.1%
HOV	252,857	487,960	392,791	223,720	1,357,329	HOV	6.0%	6.6%	6.5%	5.2%	6.2%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	685,602	1,197,520	995,614	499,551	3,378,288	Principal Arterial	16.2%	16.1%	16.5%	11.6%	15.4%
Minor Arterial	713,665	1,264,125	1,052,015	435,470	3,465,275	Minor Arterial	16.9%	17.0%	17.4%	10.1%	15.8%
Major Collector	23,104	37,919	35,388	11,024	107,434	Major Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Minor Collector	14,494	26,710	22,431	7,225	70,861	Minor Collector	0.3%	0.4%	0.4%	0.2%	0.3%
Ramp	241,360	413,554	326,879	288,233	1,270,026	Ramp	5.7%	5.6%	5.4%	6.7%	5.8%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,227,528</b>	<b>7,427,997</b>	<b>6,030,479</b>	<b>4,294,141</b>	<b>21,980,145</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.3: 2035 TSM/TDM Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_NB_TSMTDM - Region						SR710GAP 08R35a3_NB_TSMTDM - Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	44,769,885	79,639,679	64,090,859	56,617,112	245,117,535	Freeway	45.9%	46.4%	45.4%	56.9%	48.1%
HOV	4,422,917	8,207,694	6,391,474	4,888,818	23,910,902	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,173,475	2,669,418	2,046,733	1,608,324	7,497,949	Expressway/Parkway	1.2%	1.6%	1.4%	1.6%	1.5%
Principal Arterial	20,436,498	35,929,780	29,612,409	17,439,130	103,417,817	Principal Arterial	20.9%	21.0%	21.0%	17.5%	20.3%
Minor Arterial	16,892,190	29,358,647	24,922,143	11,709,963	82,882,944	Minor Arterial	17.3%	17.1%	17.6%	11.8%	16.3%
Major Collector	6,323,892	9,467,050	9,130,589	3,191,217	28,112,748	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	529,830	855,518	839,770	303,943	2,529,060	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,836,943	4,977,268	3,885,738	3,534,761	15,234,710	Ramp	2.9%	2.9%	2.8%	3.0%	3.0%
Trucks Only	240,409	382,260	339,150	157,686	1,119,505	Trucks Only	0.2%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,626,039</b>	<b>171,487,314</b>	<b>141,258,865</b>	<b>99,450,953</b>	<b>509,823,171</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_NB_TSMTDM - LA County						SR710GAP 08R35a3_NB_TSMTDM - LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,646,969	34,675,432	27,306,927	25,553,158	107,182,486	Freeway	44.8%	45.3%	43.9%	57.6%	47.2%
HOV	2,570,935	4,725,750	3,697,412	2,804,755	13,798,852	HOV	5.9%	6.2%	5.9%	6.3%	6.1%
Expressway/Parkway	5,523	12,529	6,433	9,077	33,562	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,901,591	19,061,181	15,739,512	8,740,329	54,442,613	Principal Arterial	24.9%	24.9%	25.3%	19.7%	24.0%
Minor Arterial	6,972,875	12,235,753	10,278,870	4,190,377	33,677,875	Minor Arterial	15.9%	16.0%	16.5%	9.5%	14.8%
Major Collector	1,777,607	2,508,788	2,533,045	759,063	7,578,502	Major Collector	4.1%	3.3%	4.1%	1.7%	3.3%
Minor Collector	101,600	167,605	147,688	47,135	464,028	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,604,529	2,843,460	2,197,108	2,086,257	8,731,353	Ramp	3.7%	3.7%	3.5%	4.7%	3.8%
Trucks Only	234,052	369,753	328,424	148,723	1,080,951	Trucks Only	0.5%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>43,815,680</b>	<b>76,600,250</b>	<b>62,235,419</b>	<b>44,338,874</b>	<b>226,990,222</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_NB_TSMTDM - Study Area						SR710GAP 08R35a3_NB_TSMTDM - Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,296,192	4,000,526	3,204,795	2,828,349	12,329,862	Freeway	54.3%	53.8%	53.2%	65.8%	56.1%
HOV	252,731	488,014	392,638	223,445	1,356,828	HOV	6.0%	6.6%	6.5%	5.2%	6.2%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	684,396	1,198,590	994,219	500,453	3,377,657	Principal Arterial	16.2%	16.1%	16.5%	11.7%	15.4%
Minor Arterial	713,454	1,265,093	1,051,552	435,800	3,465,899	Minor Arterial	16.9%	17.0%	17.4%	10.1%	15.8%
Major Collector	23,238	37,919	35,602	11,131	107,890	Major Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Minor Collector	14,470	26,707	22,214	7,200	70,591	Minor Collector	0.3%	0.4%	0.4%	0.2%	0.3%
Ramp	241,259	413,644	326,847	288,941	1,270,690	Ramp	5.7%	5.6%	5.4%	6.7%	5.8%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,225,739</b>	<b>7,430,493</b>	<b>6,027,866</b>	<b>4,295,319</b>	<b>21,979,417</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.4: 2035 BRT-1 Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_BRT1 : Region						SR710GAP 08R35a3_BRT1 : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	44,778,385	79,631,657	64,090,265	56,641,887	245,142,195	Freeway	45.9%	46.4%	45.4%	56.9%	48.1%
HOV	4,422,744	8,228,106	6,392,830	4,872,723	23,916,403	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,173,624	2,670,382	2,046,487	1,608,537	7,499,030	Expressway/Parkway	1.2%	1.6%	1.4%	1.6%	1.5%
Principal Arterial	20,432,887	35,926,793	29,619,281	17,437,069	103,416,029	Principal Arterial	20.9%	20.9%	21.0%	17.5%	20.3%
Minor Arterial	16,889,225	29,356,693	24,921,862	11,712,978	82,879,757	Minor Arterial	17.3%	17.1%	17.6%	11.8%	16.3%
Major Collector	6,323,126	9,473,490	9,130,030	3,190,746	28,117,391	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	529,837	855,864	840,354	304,684	2,530,738	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,836,467	4,976,933	3,885,870	3,535,031	15,234,302	Ramp	2.9%	2.9%	2.8%	3.6%	3.0%
Trucks Only	240,553	382,062	338,899	156,954	1,118,468	Trucks Only	0.2%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,626,848</b>	<b>171,500,981</b>	<b>141,265,877</b>	<b>99,460,609</b>	<b>509,854,314</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_BRT1 : LA County						SR710GAP 08R35a3_BRT1 : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,657,257	34,671,932	27,308,948	25,564,536	107,202,674	Freeway	44.9%	45.3%	43.9%	57.6%	47.2%
HOV	2,570,375	4,739,849	3,699,435	2,796,200	13,805,859	HOV	5.9%	6.2%	5.9%	6.3%	6.1%
Expressway/Parkway	5,521	12,511	6,435	8,914	33,380	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,898,002	19,054,664	15,743,010	8,741,091	54,436,766	Principal Arterial	24.9%	24.9%	25.3%	19.7%	24.0%
Minor Arterial	6,970,224	12,234,118	10,276,684	4,190,919	33,671,945	Minor Arterial	15.9%	16.0%	16.5%	9.5%	14.8%
Major Collector	1,775,320	2,519,740	2,533,714	760,961	7,589,735	Major Collector	4.1%	3.3%	4.1%	1.7%	3.3%
Minor Collector	101,745	167,501	148,052	47,206	464,504	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,604,388	2,844,015	2,197,447	2,086,702	8,732,552	Ramp	3.7%	3.7%	3.5%	4.7%	3.8%
Trucks Only	234,182	369,731	328,252	148,635	1,080,800	Trucks Only	0.5%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>43,817,014</b>	<b>76,614,060</b>	<b>62,241,976</b>	<b>44,345,164</b>	<b>227,018,215</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_BRT1 : Study Area						SR710GAP 08R35a3_BRT1 : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,296,013	3,999,978	3,205,216	2,828,877	12,330,084	Freeway	54.3%	53.8%	53.2%	65.8%	56.1%
HOV	252,753	488,400	392,714	223,480	1,357,346	HOV	6.0%	6.6%	6.5%	5.2%	6.2%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	684,519	1,199,450	994,793	500,687	3,379,448	Principal Arterial	16.2%	16.1%	16.5%	11.7%	15.4%
Minor Arterial	713,512	1,264,787	1,051,447	436,012	3,465,758	Minor Arterial	16.9%	17.0%	17.4%	10.1%	15.8%
Major Collector	23,227	37,935	35,641	11,153	107,956	Major Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Minor Collector	14,493	26,677	22,255	7,254	70,678	Minor Collector	0.3%	0.4%	0.4%	0.2%	0.3%
Ramp	241,200	413,949	326,688	289,006	1,270,842	Ramp	5.7%	5.6%	5.4%	6.7%	5.8%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,225,716</b>	<b>7,431,175</b>	<b>6,028,753</b>	<b>4,296,468</b>	<b>21,982,112</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.5: 2035 BRT-6 Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_BRT6 : Region						SR710GAP 08R35a3_BRT6 : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	44,776,458	79,634,468	64,089,694	56,644,509	245,145,130	Freeway	45.9%	46.4%	45.4%	57.0%	48.1%
HOV	4,422,252	8,225,327	6,391,310	4,868,268	23,907,157	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,173,590	2,668,950	2,046,656	1,608,751	7,497,948	Expressway/Parkway	1.2%	1.6%	1.4%	1.6%	1.5%
Principal Arterial	20,438,456	35,918,291	29,614,727	17,442,527	103,414,002	Principal Arterial	20.9%	20.9%	21.0%	17.5%	20.3%
Minor Arterial	16,891,596	29,360,120	24,923,026	11,704,756	82,879,498	Minor Arterial	17.3%	17.1%	17.6%	11.8%	16.3%
Major Collector	6,325,373	9,472,509	9,131,511	3,187,646	28,117,038	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	529,745	855,209	840,929	306,315	2,532,198	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,836,408	4,977,016	3,886,085	3,534,764	15,234,272	Ramp	2.9%	2.9%	2.8%	3.0%	3.0%
Trucks Only	240,414	381,970	338,868	157,986	1,119,238	Trucks Only	0.2%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,634,291</b>	<b>171,493,862</b>	<b>141,262,805</b>	<b>99,455,523</b>	<b>509,846,482</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_BRT6 : LA County						SR710GAP 08R35a3_BRT6 : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,654,715	34,670,359	27,305,112	25,573,249	107,203,436	Freeway	44.9%	45.3%	43.9%	57.7%	47.2%
HOV	2,570,654	4,740,344	3,697,569	2,786,596	13,795,163	HOV	5.9%	6.2%	5.9%	6.3%	6.1%
Expressway/Parkway	5,522	12,501	6,435	8,810	33,268	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,901,713	19,046,899	15,740,370	8,743,581	54,432,564	Principal Arterial	24.9%	24.9%	25.3%	19.7%	24.0%
Minor Arterial	6,970,507	12,236,737	10,278,829	4,186,236	33,672,309	Minor Arterial	15.9%	16.0%	16.5%	9.4%	14.8%
Major Collector	1,777,307	2,518,499	2,532,920	758,980	7,587,706	Major Collector	4.1%	3.3%	4.1%	1.7%	3.3%
Minor Collector	101,642	167,656	148,086	47,413	464,796	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,604,053	2,842,843	2,197,066	2,086,206	8,730,167	Ramp	3.7%	3.7%	3.5%	4.7%	3.8%
Trucks Only	234,055	369,654	328,298	148,940	1,080,947	Trucks Only	0.5%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>43,820,168</b>	<b>76,605,493</b>	<b>62,234,685</b>	<b>44,340,010</b>	<b>227,000,357</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_BRT6 : Study Area						SR710GAP 08R35a3_BRT6 : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,296,011	4,000,679	3,204,517	2,832,034	12,333,241	Freeway	54.3%	53.8%	53.2%	65.9%	56.1%
HOV	252,744	488,008	392,627	223,286	1,356,664	HOV	6.0%	6.6%	6.5%	5.2%	6.2%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	684,845	1,198,859	995,156	500,770	3,379,631	Principal Arterial	16.2%	16.1%	16.5%	11.6%	15.4%
Minor Arterial	713,249	1,264,241	1,051,242	435,617	3,464,349	Minor Arterial	16.9%	17.0%	17.4%	10.1%	15.8%
Major Collector	23,184	37,870	35,514	11,050	107,618	Major Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Minor Collector	14,472	26,760	22,274	7,413	70,920	Minor Collector	0.3%	0.4%	0.4%	0.2%	0.3%
Ramp	241,303	413,471	326,631	289,060	1,270,466	Ramp	5.7%	5.6%	5.4%	6.7%	5.8%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,225,808</b>	<b>7,429,889</b>	<b>6,027,961</b>	<b>4,299,230</b>	<b>21,982,889</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.6: 2035 LRT-4A Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_LRT4A : Region						SR710GAP 08R35a3_LRT4A : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	44,771,742	79,639,313	64,091,885	56,630,916	245,133,855	Freeway	45.9%	46.4%	45.4%	56.9%	48.1%
HOV	4,422,771	8,211,061	6,392,479	4,873,776	23,900,087	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,173,658	2,669,503	2,047,053	1,608,243	7,498,457	Expressway/Parkway	1.2%	1.6%	1.4%	1.6%	1.5%
Principal Arterial	20,434,852	35,922,353	29,612,847	17,438,575	103,408,627	Principal Arterial	20.9%	20.9%	21.0%	17.5%	20.3%
Minor Arterial	16,892,766	29,361,409	24,924,475	11,710,615	82,889,266	Minor Arterial	17.3%	17.1%	17.6%	11.8%	16.3%
Major Collector	6,321,351	9,467,236	9,122,533	3,190,722	28,101,843	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	529,299	855,701	839,595	304,599	2,529,194	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,836,332	4,975,593	3,885,328	3,534,027	15,231,280	Ramp	2.9%	2.9%	2.8%	3.6%	3.0%
Trucks Only	240,451	382,793	338,835	158,214	1,120,293	Trucks Only	0.2%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,623,223</b>	<b>171,484,962</b>	<b>141,255,030</b>	<b>99,449,686</b>	<b>509,812,901</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4A : LA County						SR710GAP 08R35a3_LRT4A : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,649,707	34,676,437	27,306,628	25,564,310	107,197,081	Freeway	44.8%	45.3%	43.9%	57.7%	47.2%
HOV	2,570,643	4,727,435	3,698,992	2,790,968	13,788,038	HOV	5.9%	6.2%	5.9%	6.3%	6.1%
Expressway/Parkway	5,525	12,503	6,432	9,070	33,531	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,899,955	19,052,645	15,740,447	8,739,776	54,432,824	Principal Arterial	24.9%	24.9%	25.3%	19.7%	24.0%
Minor Arterial	6,972,903	12,240,830	10,279,148	4,191,258	33,684,140	Minor Arterial	15.9%	16.0%	16.5%	9.5%	14.8%
Major Collector	1,774,073	2,511,805	2,529,241	759,263	7,574,382	Major Collector	4.0%	3.3%	4.1%	1.7%	3.3%
Minor Collector	101,572	167,776	147,809	47,260	464,416	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,604,236	2,942,570	2,196,819	2,065,508	8,729,132	Ramp	3.7%	3.7%	3.5%	4.7%	3.8%
Trucks Only	234,067	370,026	328,297	148,893	1,081,283	Trucks Only	0.5%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>43,812,680</b>	<b>76,602,027</b>	<b>62,233,813</b>	<b>44,336,306</b>	<b>226,984,827</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4A : Study Area						SR710GAP 08R35a3_LRT4A : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,295,590	4,000,680	3,204,313	2,827,791	12,328,374	Freeway	54.3%	53.8%	53.2%	65.8%	56.1%
HOV	252,720	488,127	392,556	223,410	1,356,813	HOV	6.0%	6.6%	6.5%	5.2%	6.2%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	684,486	1,198,525	994,340	500,608	3,377,959	Principal Arterial	16.2%	16.1%	16.5%	11.7%	15.4%
Minor Arterial	713,386	1,264,895	1,051,887	435,635	3,465,803	Minor Arterial	16.9%	17.0%	17.5%	10.1%	15.8%
Major Collector	23,228	37,911	35,517	11,133	107,788	Major Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Minor Collector	14,466	26,739	22,302	7,285	70,792	Minor Collector	0.3%	0.4%	0.4%	0.2%	0.3%
Ramp	241,296	413,275	326,617	288,834	1,270,022	Ramp	5.7%	5.6%	5.4%	6.7%	5.8%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,225,172</b>	<b>7,430,151</b>	<b>6,027,532</b>	<b>4,294,697</b>	<b>21,977,551</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.7: 2035 LRT-4B Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_LRT4B : Region						SR710GAP 08R35a3_LRT4B : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	44,776,905	79,642,731	64,097,355	56,626,857	245,143,848	Freeway	45.9%	46.4%	45.4%	56.9%	48.1%
HOV	4,422,945	8,221,956	6,393,181	4,886,774	23,924,856	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,173,651	2,669,529	2,046,732	1,608,560	7,498,472	Expressway/Parkway	1.2%	1.6%	1.4%	1.6%	1.5%
Principal Arterial	20,435,432	35,924,288	29,618,342	17,440,681	103,418,743	Principal Arterial	20.9%	20.9%	21.0%	17.5%	20.3%
Minor Arterial	16,891,379	29,358,132	24,924,258	11,708,896	82,882,665	Minor Arterial	17.3%	17.1%	17.6%	11.8%	16.3%
Major Collector	6,325,564	9,471,667	9,128,045	3,190,361	28,115,638	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	259,409	855,444	840,753	305,327	2,530,933	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,836,289	4,977,170	3,885,758	3,535,788	15,235,005	Ramp	2.9%	2.9%	2.8%	3.6%	3.0%
Trucks Only	240,411	382,113	338,698	156,421	1,117,642	Trucks Only	0.2%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,631,985</b>	<b>171,503,031</b>	<b>141,273,122</b>	<b>99,459,664</b>	<b>509,867,802</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4B : LA County						SR710GAP 08R35a3_LRT4B : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,654,220	34,680,614	27,307,882	25,555,309	107,198,025	Freeway	44.9%	45.3%	43.9%	57.6%	47.2%
HOV	2,571,462	4,734,369	3,700,072	2,802,586	13,808,489	HOV	5.9%	6.2%	5.9%	6.3%	6.1%
Expressway/Parkway	5,525	12,529	6,437	8,829	33,320	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,899,404	19,055,073	15,745,215	8,743,792	54,443,484	Principal Arterial	24.9%	24.9%	25.3%	19.7%	24.0%
Minor Arterial	6,971,368	12,233,625	10,280,782	4,189,291	33,675,066	Minor Arterial	15.9%	16.0%	16.5%	9.4%	14.8%
Major Collector	1,778,382	2,518,397	2,531,176	759,498	7,587,453	Major Collector	4.1%	3.3%	4.1%	1.7%	3.3%
Minor Collector	101,616	167,539	148,076	47,114	464,345	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,604,128	2,843,283	2,196,691	2,068,160	8,732,262	Ramp	3.7%	3.7%	3.5%	4.7%	3.8%
Trucks Only	234,036	369,656	328,161	148,490	1,080,343	Trucks Only	0.5%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>43,820,141</b>	<b>76,615,086</b>	<b>62,244,491</b>	<b>44,343,068</b>	<b>227,022,786</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4B : Study Area						SR710GAP 08R35a3_LRT4B : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,295,887	4,000,250	3,205,036	2,826,915	12,328,088	Freeway	54.3%	53.8%	53.2%	65.8%	56.1%
HOV	252,771	488,011	392,708	223,861	1,357,351	HOV	6.0%	6.6%	6.5%	5.2%	6.2%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	684,648	1,198,610	994,521	500,699	3,378,477	Principal Arterial	16.2%	16.1%	16.5%	11.7%	15.4%
Minor Arterial	713,428	1,265,011	1,051,983	435,827	3,466,248	Minor Arterial	16.9%	17.0%	17.4%	10.1%	15.8%
Major Collector	23,238	37,885	35,524	11,118	107,765	Major Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Minor Collector	14,461	26,665	22,361	7,194	70,681	Minor Collector	0.3%	0.4%	0.4%	0.2%	0.3%
Ramp	241,280	413,429	326,724	288,524	1,269,957	Ramp	5.7%	5.6%	5.4%	6.7%	5.8%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,225,714</b>	<b>7,429,861</b>	<b>6,028,856</b>	<b>4,294,136</b>	<b>21,978,567</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.8: 2035 LRT-4D Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_LRT4D : Region						SR710GAP 08R35a3_LRT4D : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	44,774,363	79,629,505	64,098,732	56,621,287	245,123,887	Freeway	45.9%	46.4%	45.4%	56.9%	48.1%
HOV	4,422,916	8,217,845	6,391,121	4,884,314	23,916,196	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,173,700	2,669,311	2,046,211	1,608,261	7,497,482	Expressway/Parkway	1.2%	1.6%	1.4%	1.6%	1.5%
Principal Arterial	20,439,302	35,926,698	29,613,587	17,440,020	103,419,607	Principal Arterial	20.9%	20.9%	21.0%	17.5%	20.3%
Minor Arterial	16,888,745	29,360,532	24,924,557	11,710,105	82,883,938	Minor Arterial	17.3%	17.1%	17.6%	11.8%	16.3%
Major Collector	6,322,308	9,472,613	9,125,013	3,191,376	28,111,310	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	529,692	855,287	840,717	304,285	2,529,981	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,836,297	4,977,758	3,885,581	3,535,140	15,234,776	Ramp	2.9%	2.9%	2.8%	3.3%	3.0%
Trucks Only	240,355	382,121	338,744	158,071	1,119,291	Trucks Only	0.2%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,627,678</b>	<b>171,491,668</b>	<b>141,264,264</b>	<b>99,452,860</b>	<b>509,836,469</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4D : LA County						SR710GAP 08R35a3_LRT4D : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,649,871	34,671,399	27,311,592	25,559,593	107,192,455	Freeway	44.8%	45.3%	43.9%	57.6%	47.2%
HOV	2,571,782	4,735,523	3,697,954	2,798,004	13,803,263	HOV	5.9%	6.2%	5.9%	6.3%	6.1%
Expressway/Parkway	5,528	12,527	6,433	9,056	33,544	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,902,661	19,056,670	15,740,422	8,739,909	54,439,662	Principal Arterial	24.9%	24.9%	25.3%	19.7%	24.0%
Minor Arterial	6,968,169	12,236,253	10,279,259	4,191,118	33,674,798	Minor Arterial	15.9%	16.0%	16.5%	9.5%	14.8%
Major Collector	1,776,199	2,514,631	2,529,465	759,733	7,580,029	Major Collector	4.1%	3.3%	4.1%	1.7%	3.3%
Minor Collector	101,769	167,588	148,019	47,137	464,513	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,604,041	2,844,052	2,197,102	2,086,605	8,731,801	Ramp	3.7%	3.7%	3.5%	4.7%	3.8%
Trucks Only	233,990	369,503	328,135	148,709	1,080,338	Trucks Only	0.5%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>43,814,011</b>	<b>76,608,145</b>	<b>62,238,381</b>	<b>44,339,865</b>	<b>227,000,402</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT4D : Study Area						SR710GAP 08R35a3_LRT4D : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,295,601	4,000,316	3,204,587	2,828,137	12,328,642	Freeway	54.3%	53.8%	53.2%	65.8%	56.1%
HOV	252,729	488,125	392,665	223,139	1,356,659	HOV	6.0%	6.6%	6.5%	5.2%	6.2%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	684,576	1,198,939	994,355	500,609	3,378,479	Principal Arterial	16.2%	16.1%	16.5%	11.7%	15.4%
Minor Arterial	713,394	1,265,117	1,051,862	435,721	3,466,094	Minor Arterial	16.9%	17.0%	17.4%	10.1%	15.8%
Major Collector	23,221	37,892	35,499	11,131	107,743	Major Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Minor Collector	14,469	26,699	22,311	7,191	70,669	Minor Collector	0.3%	0.4%	0.4%	0.2%	0.3%
Ramp	241,274	413,480	326,746	288,895	1,270,395	Ramp	5.7%	5.6%	5.4%	6.7%	5.8%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,225,263</b>	<b>7,430,569</b>	<b>6,028,025</b>	<b>4,294,824</b>	<b>21,978,682</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.9: 2035 LRT-6 Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_LRT6 : Region						SR710GAP 08R35a3_LRT6 : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	44,771,969	79,647,638	64,093,198	56,661,016	245,173,820	Freeway	45.9%	46.4%	45.4%	57.0%	48.1%
HOV	4,424,409	8,210,901	6,390,590	4,852,604	23,878,504	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,173,698	2,669,411	2,046,769	1,608,433	7,498,311	Expressway/Parkway	1.2%	1.6%	1.4%	1.6%	1.5%
Principal Arterial	20,436,784	35,924,064	29,613,438	17,438,152	103,412,438	Principal Arterial	20.9%	20.9%	21.0%	17.5%	20.3%
Minor Arterial	16,889,470	29,360,005	24,925,665	11,710,074	82,885,214	Minor Arterial	17.3%	17.1%	17.6%	11.8%	16.3%
Major Collector	6,324,681	9,467,476	9,132,514	3,190,817	28,115,487	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	529,840	855,797	840,590	305,355	2,531,582	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,836,373	4,976,524	3,886,196	3,537,057	15,236,150	Ramp	2.9%	2.9%	2.8%	3.6%	3.0%
Trucks Only	240,446	382,691	338,774	157,091	1,119,002	Trucks Only	0.2%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,627,671</b>	<b>171,494,507</b>	<b>141,267,735</b>	<b>99,460,596</b>	<b>509,850,509</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT6 : LA County						SR710GAP 08R35a3_LRT6 : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,650,699	34,680,483	27,307,513	25,586,899	107,225,594	Freeway	44.8%	45.3%	43.9%	57.7%	47.2%
HOV	2,572,132	4,728,753	3,698,381	2,774,185	13,773,451	HOV	5.9%	6.2%	5.9%	6.3%	6.1%
Expressway/Parkway	5,523	12,500	6,437	8,913	33,374	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,901,091	19,053,572	15,740,498	8,741,629	54,436,790	Principal Arterial	24.9%	24.9%	25.3%	19.7%	24.0%
Minor Arterial	6,970,081	12,237,346	10,280,295	4,190,072	33,677,795	Minor Arterial	15.9%	16.0%	16.5%	9.4%	14.8%
Major Collector	1,776,579	2,514,949	2,535,920	759,448	7,586,896	Major Collector	4.1%	3.3%	4.1%	1.7%	3.3%
Minor Collector	101,812	167,512	148,165	47,222	464,712	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,604,090	2,843,129	2,197,189	2,068,647	8,733,055	Ramp	3.7%	3.7%	3.5%	4.7%	3.8%
Trucks Only	234,099	370,309	328,172	148,715	1,081,295	Trucks Only	0.5%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>43,816,107</b>	<b>76,608,553</b>	<b>62,242,571</b>	<b>44,345,731</b>	<b>227,012,962</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_LRT6 : Study Area						SR710GAP 08R35a3_LRT6 : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,296,004	4,000,678	3,204,723	2,829,132	12,330,537	Freeway	54.3%	53.8%	53.2%	65.9%	56.1%
HOV	252,728	488,121	392,688	223,728	1,357,264	HOV	6.0%	6.6%	6.5%	5.2%	6.2%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	684,348	1,198,523	994,302	500,354	3,377,527	Principal Arterial	16.2%	16.1%	16.5%	11.6%	15.4%
Minor Arterial	713,490	1,264,754	1,051,461	435,623	3,465,328	Minor Arterial	16.9%	17.0%	17.4%	10.1%	15.8%
Major Collector	23,243	37,928	35,594	11,133	107,898	Major Collector	0.6%	0.5%	0.6%	0.3%	0.5%
Minor Collector	14,455	26,625	22,208	7,233	70,521	Minor Collector	0.3%	0.4%	0.4%	0.2%	0.3%
Ramp	241,330	413,143	326,765	288,872	1,270,110	Ramp	5.7%	5.6%	5.4%	6.7%	5.8%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,225,598</b>	<b>7,429,772</b>	<b>6,027,741</b>	<b>4,296,074</b>	<b>21,979,185</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.10: 2035 F-2 Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_FT2 : Region						SR710GAP 08R35a3_FT2 : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	45,031,402	80,127,395	64,456,570	56,846,001	246,461,368	Freeway	46.0%	46.6%	45.5%	57.1%	48.2%
HOV	4,409,006	8,195,455	6,378,559	4,852,856	23,835,876	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,174,145	2,669,257	2,046,647	1,608,825	7,498,874	Expressway/Parkway	1.2%	1.6%	1.4%	1.6%	1.5%
Principal Arterial	20,412,033	35,860,799	29,581,314	17,403,599	103,257,745	Principal Arterial	20.9%	20.9%	20.9%	17.5%	20.2%
Minor Arterial	16,844,351	29,257,473	24,857,234	11,704,447	82,663,505	Minor Arterial	17.2%	17.0%	17.6%	11.7%	16.2%
Major Collector	6,358,211	9,489,202	9,164,006	3,196,265	28,207,683	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	528,699	851,940	837,435	303,183	2,521,256	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,854,023	5,012,268	3,913,603	3,547,525	15,327,418	Ramp	2.9%	2.9%	2.8%	3.0%	3.0%
Trucks Only	248,266	396,870	345,971	162,498	1,153,605	Trucks Only	0.3%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,860,136</b>	<b>171,860,658</b>	<b>141,581,338</b>	<b>99,625,199</b>	<b>510,927,331</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT2 : LA County						SR710GAP 08R35a3_FT2 : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,906,423	35,158,068	27,670,849	25,776,054	108,511,393	Freeway	45.2%	45.7%	44.2%	57.9%	47.6%
HOV	2,555,167	4,706,267	3,684,462	2,769,683	13,715,579	HOV	5.8%	6.1%	5.9%	6.2%	6.0%
Expressway/Parkway	5,558	12,538	6,432	9,073	33,602	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,872,860	18,988,619	15,704,257	8,707,831	54,273,567	Principal Arterial	24.7%	24.7%	25.1%	19.6%	23.8%
Minor Arterial	6,919,670	12,131,782	10,205,841	4,185,169	33,442,462	Minor Arterial	15.7%	15.8%	16.3%	9.4%	14.7%
Major Collector	1,809,771	2,531,011	2,567,314	762,619	7,670,715	Major Collector	4.1%	3.3%	4.1%	1.7%	3.4%
Minor Collector	100,187	165,079	144,647	46,822	456,735	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,621,755	2,878,160	2,224,962	2,098,289	8,823,166	Ramp	3.7%	3.7%	3.6%	4.7%	3.9%
Trucks Only	241,933	384,207	335,315	153,608	1,115,063	Trucks Only	0.5%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>44,033,324</b>	<b>76,955,730</b>	<b>62,544,080</b>	<b>44,509,149</b>	<b>228,042,282</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT2 : Study Area						SR710GAP 08R35a3_FT2 : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,502,436	4,370,824	3,498,742	2,962,636	13,334,638	Freeway	57.6%	56.9%	56.3%	67.1%	58.9%
HOV	249,213	486,707	390,242	221,396	1,347,558	HOV	5.7%	6.3%	6.3%	5.0%	5.9%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	650,245	1,145,209	948,427	484,051	3,227,932	Principal Arterial	15.0%	14.9%	15.3%	11.0%	14.2%
Minor Arterial	662,011	1,186,955	977,874	427,473	3,254,313	Minor Arterial	15.2%	15.5%	15.7%	9.7%	14.4%
Major Collector	20,085	33,394	30,736	10,609	94,824	Major Collector	0.5%	0.4%	0.5%	0.2%	0.4%
Minor Collector	13,337	25,343	19,545	6,763	64,988	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	250,270	433,540	343,603	303,710	1,331,122	Ramp	5.8%	5.6%	5.5%	6.9%	5.9%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,347,596</b>	<b>7,681,971</b>	<b>6,209,169</b>	<b>4,416,638</b>	<b>22,655,375</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.11: 2035 F-5 Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_FT5 : Region						SR710GAP 08R35a3_FT5 : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	44,994,058	80,064,798	64,392,814	56,877,902	246,329,572	Freeway	46.0%	46.6%	45.5%	57.1%	48.2%
HOV	4,422,030	8,209,679	6,391,318	4,880,096	23,903,123	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,173,557	2,668,957	2,046,624	1,609,040	7,498,178	Expressway/Parkway	1.2%	1.6%	1.4%	1.6%	1.5%
Principal Arterial	20,408,610	35,845,762	29,579,646	17,369,672	103,203,689	Principal Arterial	20.9%	20.9%	20.9%	17.4%	20.2%
Minor Arterial	16,842,975	29,247,544	24,859,540	11,692,516	82,642,575	Minor Arterial	17.2%	17.0%	17.6%	11.7%	16.2%
Major Collector	6,360,381	9,495,888	9,167,084	3,192,471	28,215,824	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	528,597	852,712	836,609	303,969	2,521,887	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,844,415	4,992,619	3,898,855	3,540,212	15,276,101	Ramp	2.9%	2.9%	2.8%	3.6%	3.0%
Trucks Only	248,757	397,206	346,890	159,883	1,152,736	Trucks Only	0.3%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,823,380</b>	<b>171,775,165</b>	<b>141,519,378</b>	<b>99,625,761</b>	<b>510,743,684</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT5 : LA County						SR710GAP 08R35a3_FT5 : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,871,518	35,094,896	27,608,052	25,802,783	108,377,248	Freeway	45.2%	45.7%	44.2%	58.0%	47.6%
HOV	2,568,625	4,724,942	3,695,928	2,795,246	13,784,741	HOV	5.8%	6.1%	5.9%	6.3%	6.0%
Expressway/Parkway	5,553	12,509	6,443	9,071	33,576	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,866,415	18,971,554	15,702,360	8,672,264	54,212,592	Principal Arterial	24.7%	24.7%	25.1%	19.5%	23.8%
Minor Arterial	6,917,380	12,124,181	10,206,708	4,173,696	33,421,965	Minor Arterial	15.7%	15.8%	16.3%	9.4%	14.7%
Major Collector	1,809,721	2,539,618	2,569,702	762,308	7,681,349	Major Collector	4.1%	3.3%	4.1%	1.7%	3.4%
Minor Collector	100,089	164,966	145,184	46,250	456,488	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,611,696	2,859,312	2,209,801	2,091,018	8,771,828	Ramp	3.7%	3.7%	3.5%	4.7%	3.8%
Trucks Only	242,397	384,918	336,303	151,659	1,115,277	Trucks Only	0.6%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>43,993,394</b>	<b>76,876,897</b>	<b>62,480,480</b>	<b>44,504,293</b>	<b>227,855,064</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT5 : Study Area						SR710GAP 08R35a3_FT5 : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,488,050	4,351,978	3,468,778	3,007,977	13,316,783	Freeway	57.6%	57.1%	56.3%	68.4%	59.2%
HOV	254,183	490,192	393,376	219,341	1,357,092	HOV	5.9%	6.4%	6.4%	5.0%	6.0%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	639,741	1,122,982	936,348	449,321	3,148,392	Principal Arterial	14.8%	14.7%	15.2%	10.2%	14.0%
Minor Arterial	661,725	1,180,586	979,811	412,984	3,235,106	Minor Arterial	15.3%	15.5%	15.9%	9.4%	14.4%
Major Collector	20,914	34,678	32,110	10,310	98,012	Major Collector	0.5%	0.5%	0.5%	0.2%	0.4%
Minor Collector	13,011	24,649	18,996	6,325	62,981	Minor Collector	0.3%	0.3%	0.3%	0.1%	0.3%
Ramp	243,519	418,264	333,521	289,794	1,285,098	Ramp	5.6%	5.5%	5.4%	6.6%	5.7%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,321,144</b>	<b>7,623,327</b>	<b>6,162,939</b>	<b>4,396,053</b>	<b>22,503,463</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.12: 2035 F-6 Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_FS6 : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	45,003,384	80,071,361	64,394,257	56,864,841	246,333,842
HOV	4,442,658	8,256,283	6,435,774	4,906,260	24,040,976
Expressway/Parkway	1,173,894	2,669,026	2,046,765	1,608,618	7,498,302
Principal Arterial	20,387,939	35,819,869	29,552,941	17,367,913	103,128,662
Minor Arterial	16,819,494	29,229,641	24,831,553	11,679,372	82,560,060
Major Collector	6,356,643	9,494,689	9,162,435	3,191,400	28,205,167
Minor Collector	528,242	851,980	836,232	300,622	2,517,077
Ramp	2,839,794	4,979,455	3,889,098	3,541,549	15,249,895
Trucks Only	248,554	398,845	346,271	164,025	1,157,695
<b>Total</b>	<b>97,800,602</b>	<b>171,771,147</b>	<b>141,495,326</b>	<b>99,624,600</b>	<b>510,691,676</b>

SR710GAP 08R35a3_FS6 : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,877,980	35,099,452	27,609,488	25,797,905	108,384,824
HOV	2,589,876	4,773,395	3,740,568	2,820,732	13,924,572
Expressway/Parkway	5,539	12,526	6,446	8,941	33,452
Principal Arterial	10,848,186	18,948,505	15,673,826	8,664,094	54,134,612
Minor Arterial	6,895,743	12,102,374	10,179,021	4,159,838	33,336,976
Major Collector	1,807,812	2,539,383	2,566,118	759,049	7,672,362
Minor Collector	99,942	164,861	144,674	45,302	454,778
Ramp	1,607,133	2,845,275	2,200,077	2,092,193	8,744,678
Trucks Only	242,189	386,351	335,745	154,337	1,118,622
<b>Total</b>	<b>43,974,400</b>	<b>76,872,123</b>	<b>62,455,962</b>	<b>44,502,390</b>	<b>227,804,875</b>

SR710GAP 08R35a3_FS6 : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,486,285	4,341,058	3,457,428	2,980,041	13,264,813
HOV	283,291	557,472	447,105	249,405	1,537,274
Expressway/Parkway	0	0	0	0	0
Principal Arterial	630,741	1,104,450	920,017	437,998	3,093,206
Minor Arterial	647,986	1,155,183	960,838	403,949	3,167,956
Major Collector	19,953	32,735	31,005	9,264	92,958
Minor Collector	12,693	24,414	18,606	5,137	60,850
Ramp	237,057	400,271	320,620	285,675	1,243,623
Trucks Only	0	0	0	0	0
<b>Total</b>	<b>4,318,007</b>	<b>7,615,584</b>	<b>6,155,619</b>	<b>4,371,470</b>	<b>22,460,680</b>

SR710GAP 08R35a3_FS6 : Region					
Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	46.0%	46.6%	45.5%	57.1%	48.2%
HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1.2%	1.6%	1.4%	1.6%	1.5%
Principal Arterial	20.8%	20.9%	20.9%	17.4%	20.2%
Minor Arterial	17.2%	17.0%	17.5%	11.7%	16.2%
Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2.9%	2.9%	2.7%	3.6%	3.0%
Trucks Only	0.3%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FS6 : LA County					
Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	45.2%	45.7%	44.2%	58.0%	47.6%
HOV	5.9%	6.2%	6.0%	6.3%	6.1%
Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	24.7%	24.6%	25.1%	19.5%	23.8%
Minor Arterial	15.7%	15.7%	16.3%	9.3%	14.6%
Major Collector	4.1%	3.3%	4.1%	1.7%	3.4%
Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	3.7%	3.7%	3.5%	4.7%	3.8%
Trucks Only	0.6%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FS6 : Study Area					
Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	57.6%	57.0%	56.2%	68.2%	59.1%
HOV	6.6%	7.3%	7.3%	5.7%	6.8%
Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	14.6%	14.5%	14.9%	10.0%	13.8%
Minor Arterial	15.0%	15.2%	15.6%	9.2%	14.1%
Major Collector	0.5%	0.4%	0.5%	0.2%	0.4%
Minor Collector	0.3%	0.3%	0.3%	0.1%	0.3%
Ramp	5.5%	5.3%	5.2%	6.5%	5.5%
Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L. 13: 2035 F-7 Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_FT7 : Region						SR710GAP 08R35a3_FT7 : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	45,067,828	80,172,797	64,488,526	56,897,906	246,627,057	Freeway	46.1%	46.7%	45.6%	57.1%	48.3%
HOV	4,409,917	8,188,863	6,382,018	4,862,672	23,843,470	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,173,693	2,670,011	2,046,315	1,608,005	7,498,025	Expressway/Parkway	1.2%	1.6%	1.4%	1.6%	1.5%
Principal Arterial	20,382,079	35,848,588	29,546,743	17,380,091	103,157,502	Principal Arterial	20.8%	20.9%	20.9%	17.4%	20.2%
Minor Arterial	16,816,332	29,235,687	24,828,137	11,690,573	82,570,729	Minor Arterial	17.2%	17.0%	17.5%	11.7%	16.2%
Major Collector	6,344,627	9,502,282	9,150,852	3,190,386	28,188,146	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	528,336	852,396	837,692	305,317	2,523,740	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,841,883	4,986,787	3,893,393	3,553,366	15,275,429	Ramp	2.9%	2.9%	2.8%	3.6%	3.0%
Trucks Only	250,056	400,780	348,126	165,580	1,164,541	Trucks Only	0.3%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,814,751</b>	<b>171,858,191</b>	<b>141,521,801</b>	<b>99,653,896</b>	<b>510,848,639</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT7 : LA County						SR710GAP 08R35a3_FT7 : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,944,551	35,201,170	27,703,005	25,815,456	108,664,183	Freeway	45.3%	45.7%	44.3%	58.0%	47.7%
HOV	2,556,661	4,705,285	3,687,892	2,785,928	13,735,766	HOV	5.8%	6.1%	5.9%	6.3%	6.0%
Expressway/Parkway	5,549	12,537	6,439	9,048	33,573	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,844,662	18,975,088	15,672,174	8,681,520	54,173,444	Principal Arterial	24.6%	24.7%	25.1%	19.5%	23.8%
Minor Arterial	6,894,813	12,107,796	10,180,201	4,170,161	33,352,970	Minor Arterial	15.7%	15.7%	16.3%	9.4%	14.6%
Major Collector	1,797,970	2,545,000	2,555,676	762,358	7,661,004	Major Collector	4.1%	3.3%	4.1%	1.7%	3.4%
Minor Collector	100,289	165,377	145,632	46,983	458,281	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,609,945	2,851,846	2,204,609	2,103,330	8,769,731	Ramp	3.7%	3.7%	3.5%	4.7%	3.8%
Trucks Only	243,743	388,176	337,459	157,140	1,126,517	Trucks Only	0.6%	0.5%	0.5%	0.4%	0.5%
<b>Total</b>	<b>43,998,181</b>	<b>76,952,276</b>	<b>62,493,088</b>	<b>44,531,925</b>	<b>227,975,471</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_FT7 : Study Area						SR710GAP 08R35a3_FT7 : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,534,502	4,410,047	3,530,649	2,989,617	13,464,815	Freeway	58.3%	57.6%	57.0%	68.0%	59.6%
HOV	254,636	493,792	396,020	219,669	1,364,117	HOV	5.9%	6.4%	6.4%	5.0%	6.0%
Expressway/Parkway	0	0	0	0	0	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	636,933	1,123,921	930,685	455,980	3,147,519	Principal Arterial	14.6%	14.7%	15.0%	10.4%	13.9%
Minor Arterial	652,782	1,168,449	969,012	414,365	3,204,609	Minor Arterial	15.0%	15.3%	15.6%	9.4%	14.2%
Major Collector	19,931	33,327	30,731	10,416	94,405	Major Collector	0.5%	0.4%	0.5%	0.2%	0.4%
Minor Collector	13,097	24,937	18,882	6,688	63,604	Minor Collector	0.3%	0.3%	0.3%	0.2%	0.3%
Ramp	237,714	404,366	322,949	297,443	1,262,472	Ramp	5.5%	5.3%	5.2%	6.8%	5.6%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,349,595</b>	<b>7,658,839</b>	<b>6,198,928</b>	<b>4,394,178</b>	<b>22,601,541</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.14: 2035 H-2 Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3_H2A : Region						SR710GAP 08R35a3_H2A : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	44,798,029	79,687,928	64,128,398	56,666,570	245,280,925	Freeway	45.9%	46.4%	45.4%	56.9%	48.1%
HOV	4,422,852	8,209,764	6,394,482	4,849,688	23,876,785	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,180,985	2,681,509	2,056,592	1,616,672	7,535,757	Expressway/Parkway	1.2%	1.6%	1.5%	1.6%	1.5%
Principal Arterial	20,493,642	36,031,662	29,696,022	17,506,771	103,728,097	Principal Arterial	21.0%	21.0%	21.0%	17.6%	20.3%
Minor Arterial	16,851,506	29,279,456	24,862,602	11,680,883	82,674,447	Minor Arterial	17.2%	17.1%	17.6%	11.7%	16.2%
Major Collector	6,346,492	9,477,479	9,156,050	3,192,989	28,173,010	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	531,189	857,621	839,822	304,997	2,533,629	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,830,820	4,968,122	3,879,616	3,530,373	15,208,930	Ramp	2.9%	2.9%	2.7%	3.0%	3.0%
Trucks Only	244,172	390,162	342,933	161,186	1,138,453	Trucks Only	0.2%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,699,686</b>	<b>171,583,702</b>	<b>141,356,516</b>	<b>99,510,129</b>	<b>510,150,033</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_H2A : LA County						SR710GAP 08R35a3_H2A : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,674,943	34,717,222	27,345,821	25,598,247	107,336,232	Freeway	44.8%	45.3%	43.9%	57.7%	47.2%
HOV	2,571,567	4,726,028	3,700,573	2,766,716	13,764,885	HOV	5.9%	6.2%	5.9%	6.2%	6.1%
Expressway/Parkway	12,614	25,226	16,103	16,656	70,598	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,956,983	19,160,814	15,819,805	8,804,958	54,742,559	Principal Arterial	25.0%	25.0%	25.4%	19.8%	24.1%
Minor Arterial	6,930,061	12,151,653	10,214,144	4,161,915	33,457,774	Minor Arterial	15.8%	15.8%	16.4%	9.4%	14.7%
Major Collector	1,797,999	2,522,714	2,555,088	761,813	7,637,614	Major Collector	4.1%	3.3%	4.1%	1.7%	3.4%
Minor Collector	102,932	169,531	148,242	47,407	468,112	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,598,690	2,834,136	2,190,460	2,081,186	8,704,471	Ramp	3.6%	3.7%	3.5%	4.7%	3.8%
Trucks Only	237,787	377,482	332,204	152,028	1,099,501	Trucks Only	0.5%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>43,883,575</b>	<b>76,684,805</b>	<b>62,322,440</b>	<b>44,390,927</b>	<b>227,281,747</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3_H2A : Study Area						SR710GAP 08R35a3_H2A : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,303,924	4,010,013	3,215,729	2,812,131	12,341,798	Freeway	54.3%	53.7%	53.1%	65.3%	55.9%
HOV	252,405	488,417	392,984	222,093	1,355,899	HOV	5.9%	6.5%	6.5%	5.2%	6.1%
Expressway/Parkway	7,098	12,701	9,660	7,690	37,149	Expressway/Parkway	0.2%	0.2%	0.2%	0.2%	0.2%
Principal Arterial	738,735	1,298,572	1,069,477	557,619	3,664,403	Principal Arterial	17.4%	17.4%	17.7%	12.9%	16.6%
Minor Arterial	671,044	1,191,287	988,806	411,778	3,262,915	Minor Arterial	15.8%	16.0%	16.3%	9.6%	14.8%
Major Collector	23,938	39,706	36,451	11,576	111,670	Major Collector	0.6%	0.5%	0.6%	0.3%	0.5%
Minor Collector	15,304	29,160	22,722	7,324	74,509	Minor Collector	0.4%	0.4%	0.4%	0.2%	0.3%
Ramp	233,445	398,108	316,309	279,501	1,227,363	Ramp	5.5%	5.3%	5.2%	6.5%	5.6%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,245,893</b>	<b>7,467,963</b>	<b>6,052,138</b>	<b>4,309,712</b>	<b>22,075,706</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.15: 2035 H-6 Alternative VMT by Functional Classification and Time of Day for SCAG Region, LA County, and the Study Area**

SR710GAP 08R35a3 H6A : Region						SR710GAP 08R35a3 H6A : Region					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	44,813,284	79,688,251	64,124,766	56,665,875	245,292,176	Freeway	45.9%	46.4%	45.4%	56.9%	48.1%
HOV	4,425,383	8,215,822	6,391,470	4,876,543	23,909,219	HOV	4.5%	4.8%	4.5%	4.9%	4.7%
Expressway/Parkway	1,181,053	2,681,750	2,056,806	1,614,919	7,534,527	Expressway/Parkway	1.2%	1.6%	1.5%	1.6%	1.5%
Principal Arterial	20,470,459	35,989,571	29,658,851	17,466,867	103,585,748	Principal Arterial	21.0%	21.0%	21.0%	17.6%	20.3%
Minor Arterial	16,859,299	29,309,373	24,899,016	11,698,890	82,766,578	Minor Arterial	17.3%	17.1%	17.6%	11.8%	16.2%
Major Collector	6,338,487	9,482,765	9,145,923	3,192,427	28,159,602	Major Collector	6.5%	5.5%	6.5%	3.2%	5.5%
Minor Collector	528,414	852,339	837,393	302,966	2,521,112	Minor Collector	0.5%	0.5%	0.6%	0.3%	0.5%
Ramp	2,836,377	4,977,664	3,884,784	3,542,782	15,241,608	Ramp	2.9%	2.9%	2.7%	3.6%	3.0%
Trucks Only	241,090	384,529	339,460	160,193	1,125,272	Trucks Only	0.2%	0.2%	0.2%	0.2%	0.2%
<b>Total</b>	<b>97,693,848</b>	<b>171,582,064</b>	<b>141,338,468</b>	<b>99,521,461</b>	<b>510,135,842</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3 H6A : LA County						SR710GAP 08R35a3 H6A : LA County					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	19,689,188	34,724,843	27,342,080	25,591,353	107,347,463	Freeway	44.9%	45.3%	43.9%	57.6%	47.2%
HOV	2,573,689	4,729,107	3,698,577	2,795,655	13,797,028	HOV	5.9%	6.2%	5.9%	6.3%	6.1%
Expressway/Parkway	12,835	25,162	16,545	15,707	70,249	Expressway/Parkway	0.0%	0.0%	0.0%	0.0%	0.0%
Principal Arterial	10,932,272	19,115,183	15,785,063	8,766,428	54,598,947	Principal Arterial	24.9%	24.9%	25.3%	19.7%	24.0%
Minor Arterial	6,937,830	12,184,422	10,250,342	4,180,746	33,553,340	Minor Arterial	15.8%	15.9%	16.5%	9.4%	14.8%
Major Collector	1,790,788	2,526,648	2,548,674	761,515	7,627,626	Major Collector	4.1%	3.3%	4.1%	1.7%	3.4%
Minor Collector	100,456	164,889	145,008	45,254	455,608	Minor Collector	0.2%	0.2%	0.2%	0.1%	0.2%
Ramp	1,604,230	2,844,057	2,195,936	2,093,211	8,737,434	Ramp	3.7%	3.7%	3.5%	4.7%	3.8%
Trucks Only	234,786	372,141	328,941	151,945	1,087,813	Trucks Only	0.5%	0.5%	0.5%	0.3%	0.5%
<b>Total</b>	<b>43,876,073</b>	<b>76,686,452</b>	<b>62,311,167</b>	<b>44,401,814</b>	<b>227,275,507</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

SR710GAP 08R35a3 H6A : Study Area						SR710GAP 08R35a3 H6A : Study Area					
Total Vehicle Miles Traveled (VMT) by Facility Classification						Percent of Vehicle Miles Traveled (VMT) by Facility Classification					
Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily	Functional Classification	AM Peak Period 6 AM to 9 AM	Midday Period 9 AM to 3 PM	PM Peak Period 3 PM to 7 PM	Nighttime Period 7 PM to 6 AM	Total Daily
Freeway	2,319,350	4,026,037	3,228,807	2,828,863	12,403,056	Freeway	54.8%	54.1%	53.5%	65.7%	56.3%
HOV	253,613	489,576	394,429	223,665	1,361,282	HOV	6.0%	6.6%	6.5%	5.2%	6.2%
Expressway/Parkway	7,303	12,649	10,107	6,903	36,962	Expressway/Parkway	0.2%	0.2%	0.2%	0.2%	0.2%
Principal Arterial	697,651	1,228,536	1,011,079	511,504	3,448,770	Principal Arterial	16.5%	16.5%	16.8%	11.9%	15.7%
Minor Arterial	683,493	1,217,449	1,015,022	425,258	3,341,222	Minor Arterial	16.1%	16.4%	16.8%	9.9%	15.2%
Major Collector	20,580	33,223	32,345	9,266	95,415	Major Collector	0.5%	0.4%	0.5%	0.2%	0.4%
Minor Collector	13,011	24,076	19,358	5,225	61,670	Minor Collector	0.3%	0.3%	0.3%	0.1%	0.3%
Ramp	238,725	408,775	323,483	292,767	1,263,750	Ramp	5.6%	5.5%	5.4%	6.8%	5.7%
Trucks Only	0	0	0	0	0	Trucks Only	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4,233,726</b>	<b>7,440,320</b>	<b>6,034,630</b>	<b>4,303,451</b>	<b>22,012,127</b>	<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table L.16: Total Daily VMT by Functional Classification in the Study Area**

Travel Model Evaluation	Facility Type	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H 2	H 6
Total daily vehicle miles of travel (VMT).	Freeways	11,366,418	12,330,932	12,329,862	12,330,084	12,333,241	12,333,241	12,328,374	12,328,088	12,328,642	12,330,537	13,334,638	13,316,783	13,264,813	13,464,815	12,341,798	12,403,056
	HOV	1,066,598	1,357,329	1,356,828	1,357,346	1,356,664	1,356,664	1,356,813	1,357,351	1,356,659	1,357,264	1,347,558	1,357,092	1,537,274	1,364,117	1,355,899	1,361,282
	Principal Arterial	2,991,958	3,378,288	3,377,657	3,379,448	3,379,631	3,379,631	3,377,959	3,378,477	3,378,479	3,377,527	3,227,932	3,148,392	3,093,206	3,147,519	3,664,403	3,448,770
	Minor Arterial	2,845,038	3,465,275	3,465,899	3,465,758	3,464,349	3,464,349	3,465,803	3,466,248	3,466,094	3,465,328	3,254,313	3,235,106	3,167,956	3,204,609	3,262,915	3,341,222
	Major Collector	96,545	107,434	107,890	107,956	107,618	107,618	107,788	107,765	107,743	107,898	94,824	98,012	92,958	94,405	111,670	95,415
	Minor Collector	60,455	70,861	70,591	70,678	70,920	70,920	70,792	70,681	70,669	70,521	64,988	62,981	60,850	63,604	74,509	61,670
	Ramps	1,202,454	1,270,026	1,270,690	1,270,842	1,270,466	1,270,466	1,270,022	1,269,957	1,270,395	1,270,110	1,331,122	1,285,098	1,243,623	1,262,472	1,227,363	1,263,750
	<b>Total</b>	<b>19,629,467</b>	<b>21,980,145</b>	<b>21,979,417</b>	<b>21,982,112</b>	<b>21,982,889</b>	<b>21,982,889</b>	<b>21,977,551</b>	<b>21,978,567</b>	<b>21,978,682</b>	<b>21,979,185</b>	<b>22,655,375</b>	<b>22,503,463</b>	<b>22,460,680</b>	<b>22,601,541</b>	<b>22,075,706</b>	<b>22,012,127</b>

**Table L.17: Total Daily Arterial and Collector VMT in the Study Area**

Travel Model Evaluation	Facility Type	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H 2	H 6
Total daily vehicle miles of travel (VMT) on arterials and collectors.	Arterials	5,836,996	6,843,563	6,843,556	6,845,206	6,843,980	6,843,980	6,843,761	6,844,726	6,844,573	6,842,855	6,482,245	6,383,497	6,261,163	6,352,128	6,927,319	6,789,992
	Collectors	157,000	178,295	178,481	178,634	178,538	178,538	178,580	178,446	178,413	178,419	159,812	160,993	153,808	158,010	186,179	157,085
	Arterials and Collectors	5,993,997	7,021,858	7,022,037	7,023,840	7,022,518	7,022,518	7,022,342	7,023,172	7,022,986	7,021,274	6,642,056	6,544,490	6,414,970	6,510,137	7,113,498	6,947,077

**Table L.18: Total Daily Arterial and Collector VMT (in 1,000,000s) in the Study Area**

Screen Level 2: Performance Measure	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6
Arterial vehicle-miles traveled (VMT) in the study area - daily for all vehicle trips, in millions.	6.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.6	6.5	6.4	6.5	7.1	6.9

## M. Use of Local Arterials for Long Trips

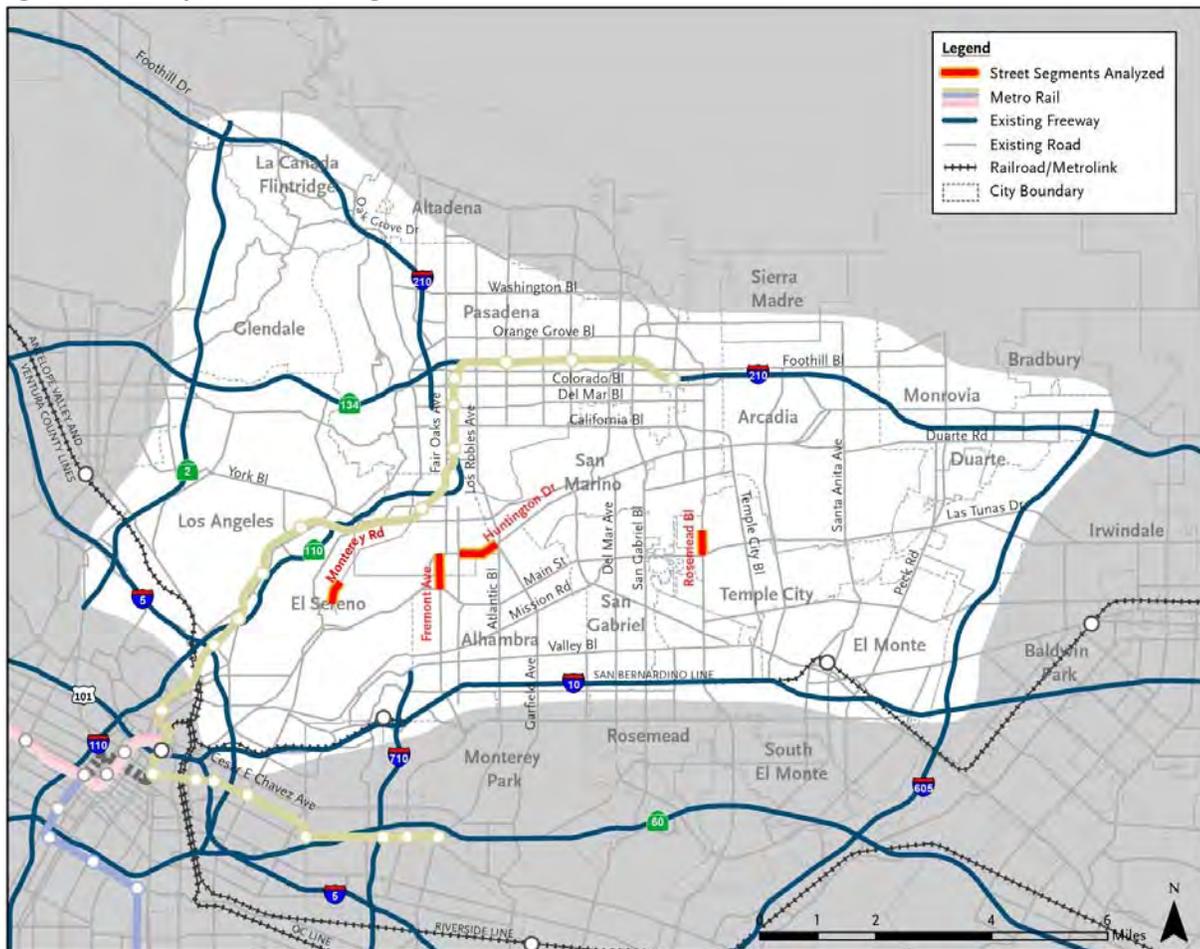
### Performance Measure Description

The performance measure to calculate the use of local arterials for long trips captures the percentage of the trips that have both an origin and a destination outside of the study area. These trips represent cut-through travel on the arterial system that would be best served by the freeway system. The resulting congestion on the arterial system is partially due vehicle trips using arterials for long distance trips.

Four major arterials were selected as heavily used and representative of north-south and east-west travel in the study area. The four major arterials selected are illustrated in Figure M.1. The locations used for the cut-through travel calculation are:

- Huntington Road east of Fremont Avenue
- Monterey Road south of SR 110
- Fremont Road south of Huntington Drive
- Rosemead Drive south of Huntington Drive

Figure M.1: Study Area Cut-Through Travel Locations



### Calculation Process

The method for quantifying cut-through travel uses model outputs to calculate the percentage of trips on arterials with both an origin and a destination outside of the study area in the four-hour PM peak period. The origin and destination of the trip was determined using a “Select Link” analysis in the modeling software TransCAD. The

select link analysis develops a trip table for all the trips that use that link. By identifying all the origin and destination pairs and the number of trips between each, the percentage of traffic from outside to outside the study area on these links can be determined. The percentages were weighted by the traffic on the links and combined into one value for each of the AM and PM periods, and for daily. The performance for the AM peak period, PM peak period, and daily travel on the selected arterials was calculated, and is summarized in Table M.1.

### **Performance Measure Values**

The PM peak period was selected as the representative performance for the cut-through travel on the selected arterials. Table M.2 summarizes the PM peak period cut-through travel on arterials in the study area.

**Table M.1: Cut-Through Travel Calculations by Time of Day**

Travel Model Evaluation	Time Period	Location	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT-4B	LRT-4D	LRT 6	F 2	F-5	F 6	F-7	H 2	H 6	
Local Arterial cut-through travel is determined using select link assignment information on 4 representative arterials in the study area: Huntington Road East of Fremont, Monterey Road south of SR 110, Fremont Road South of Huntington Drive, Rosemead Drive south of Huntington Drive.	AM Peak Period	Weighted Total	20.3%	26.0%	26.2%	26.3%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	18.7%	15.2%	16.4%	10.4%	24.3%	24.3%	
		Huntington East of Fremont	10.5%	13.7%	13.7%	13.7%	13.8%	13.8%	13.5%	13.5%	13.5%	13.5%	13.5%	9.7%	9.4%	10.5%	3.6%	18.4%	18.4%
		Fremont South of Huntington	18.7%	30.9%	31.9%	32.2%	32.8%	32.8%	32.3%	32.3%	32.3%	32.3%	32.3%	14.9%	3.0%	2.5%	0.4%	11.8%	11.8%
		Rosemead between I-10 and I-210	40.4%	47.0%	47.2%	47.5%	47.6%	47.6%	47.8%	47.8%	47.8%	47.8%	47.8%	38.4%	34.4%	36.1%	29.4%	45.9%	45.9%
		Monterey between I-10 and SR 134	3.6%	3.4%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.1%	0.7%	0.1%	0.0%	4.8%	4.8%
	PM Peak Period	Weighted Total	18.8%	24.9%	25.2%	25.2%	25.2%	25.2%	25.2%	25.2%	25.3%	25.3%	25.3%	17.1%	13.7%	15.5%	9.7%	24.7%	24.7%
		Huntington East of Fremont	8.0%	13.0%	12.9%	13.0%	12.9%	12.9%	12.9%	12.9%	12.9%	12.9%	12.9%	7.6%	7.7%	9.8%	2.2%	20.0%	20.0%
		Fremont South of Huntington	17.3%	26.6%	27.7%	28.2%	27.5%	27.5%	27.7%	27.7%	27.7%	27.7%	27.7%	13.6%	2.5%	2.9%	0.1%	10.5%	10.5%
		Rosemead between I-10 and I-210	39.2%	47.5%	48.1%	48.3%	48.3%	48.3%	48.4%	48.4%	48.4%	48.4%	48.4%	37.6%	32.5%	33.9%	29.0%	45.4%	45.4%
		Monterey between I-10 and SR 134	4.3%	6.2%	6.2%	6.2%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	4.7%	1.1%	0.6%	0.0%	5.5%	5.5%
	Daily	Weighted Total	18.6%	23.7%	23.7%	23.9%	23.8%	23.8%	23.8%	23.8%	23.8%	23.8%	23.8%	16.6%	13.1%	14.6%	9.2%	22.3%	22.3%
		Huntington East of Fremont	7.7%	11.5%	11.4%	11.7%	11.6%	11.6%	11.4%	11.4%	11.4%	11.4%	11.4%	7.9%	8.0%	9.2%	2.2%	18.5%	18.5%
		Fremont South of Huntington	18.6%	25.2%	25.5%	25.6%	25.4%	25.4%	25.2%	25.2%	25.2%	25.2%	25.2%	12.1%	1.7%	1.8%	0.1%	8.7%	8.7%
		Rosemead between I-10 and I-210	34.3%	41.6%	41.6%	41.8%	41.7%	41.7%	41.9%	41.9%	41.9%	41.9%	41.9%	33.4%	29.0%	29.8%	24.9%	39.7%	39.7%
		Monterey between I-10 and SR 134	3.3%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	3.4%	0.6%	0.2%	0.0%	4.0%	4.0%

**Table M.2: PM Peak Period Cut-Through Travel Performance**

Screen Level 2: Performance Measure	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT-4A	LRT-4B	LRT-4D	LRT-6	F 2	F-5	F 6	F-7	H 2	H 6
Percentage of PM peak period trips on arterials that have an O-D outside of study area.	18.8%	24.9%	25.2%	25.2%	25.3%	25.3%	25.2%	25.3%	25.3%	25.3%	17.1%	13.7%	15.5%	9.7%	24.7%	24.7%

## N. Person Travel on Arterials

### **Performance Measure Description**

The person travel on arterials performance measure was developed to quantify the total north-south travel (person trips on arterials, in millions) crossing an east-west screenline (see Figure F.1) through South Pasadena from US 101 to I-605.

### **Calculation Process**

Person travel on arterials was calculated using the volume of vehicle trips for drive alone and shared-ride vehicles. Vehicle occupancy factors were used to calculate the number of person trips. The occupancy factors that were used for this calculation were obtained from the SCAG regional travel demand model, and are summarized in Table N.1.

**Table N.1**  
**Auto and Truck Vehicle Occupancy**

<b>Mode</b>	<b>Occupancy Factor</b>
Drive Alone	1.00
Share Ride 2	2.00
Share Ride 3	3.20
Light, Medium, and Heavy Truck	1.00

Table N.2 summarizes the daily person trips on all north-south arterials crossing the east-west screenline by mode.

### **Performance Measure Values**

The reported value was the total north-south person trips on arterials crossing the east-west screenline. Table N.3 summarizes the total daily person trips on all north-south arterials (in millions).

**Table N.2 Total Daily Person Trips on Arterials Crossing the East-West Screenline by Mode**

Travel Model Evaluation	Travel Mode	Existing	No Build	TSM/TDM	BRT-1	BRT 6	BRT-6A	LRT-4A	LRT 4B	LRT-4D	LRT-6	F 2	F-5	F 6	F 7	H 2	H-6
Daily person travel on all North-South arterials crossing the East-West screenline.	Drive Alone	519,458	601,795	607,875	601,837	601,895	601,895	601,635	601,741	601,725	601,680	575,577	556,217	545,934	557,581	613,141	609,816
	Shared Ride 2	269,826	319,430	322,832	319,368	319,344	319,344	319,512	319,480	319,422	319,432	300,086	287,638	282,604	289,008	328,148	324,956
	Shared Ride 3	254,547	325,834	329,898	325,619	325,536	325,536	325,843	325,843	325,744	325,738	294,096	279,123	266,787	278,058	338,541	333,731
	Truck	25,172	27,234	27,552	27,228	27,238	27,238	27,239	27,249	27,246	27,231	23,259	21,629	20,418	21,406	28,134	28,695
	Total	1,069,000	1,274,300	1,288,150	1,274,050	1,274,000	1,274,000	1,274,250	1,274,300	1,274,150	1,274,100	1,193,000	1,144,600	1,115,750	1,146,050	1,307,950	1,297,200

**Table N.3 Total Daily Person Trips on Arterials Crossing the East-West Screenline (in Millions)**

Screen Level 2: Performance Measure	Existing	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT-4A	LRT-4B	LRT-4D	LRT-6	F 2	F-5	F 6	F-7	H 2	H 6
Total north/south travel served (daily person trips on arterials, in millions) crossing an east-west screenline through South Pasadena from US 101 to I-605.	1.07	1.27	1.29	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.19	1.14	1.12	1.15	1.31	1.30

## O. New Transit Ridership

### **Performance Measure Description**

Ridership on a transit system can be caused by multiple factors, including increased service (reduction of headways), all new services that improve the transit options to travelers, or increased automobile trip time and/or costs. A new transit rider is defined as a person trip that elects to use transit services that would have otherwise used a different mode for travel (most likely a personal vehicle). This new rider is determined by linked transit trips, which are trips that may include more than one transit route, and thus multiple boardings. This performance measure uses the linked trip, which is independent of the number of boardings made on the overall trip.

### **Calculation Process**

New transit ridership is defined as the change in linked transit trips compared with the No Build alternative (the value for the No Build alternative was zero). The number of riders is obtained from model output files in origin to destination trip tables by mode (local bus, express bus, commuter rail, urban rail, etc).

Table O.1 summarizes the peak and off-peak transit ridership by transit mode in the region.

### **Performance Measure Values**

Table O.2 summarizes the regional daily increase in transit ridership compared to the No Build alternative.

**Table O.1: Linked Transit Trips by Mode by Time of Day in the SCAG Region**

Travel Model Evaluation	Time of Day	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H 2	H 6
Average Weekday Local Bus Trips	Peak	555,477	555,789	554,373	553,996	553,996	555,033	555,132	555,121	554,878	555,477	555,477	555,477	555,477	555,477	555,477
	Off-Peak	378,283	379,831	377,632	381,520	381,520	379,450	379,466	379,463	379,448	378,283	378,283	378,283	378,283	378,283	378,283
	Total Daily	933,760	935,620	932,005	935,516	935,516	934,483	934,598	934,584	934,326	933,760	933,760	933,760	933,760	933,760	933,760
Average Weekday Express Bus Trips	Peak	37,249	37,205	37,376	37,277	37,277	37,195	37,194	37,196	37,194	37,249	37,249	37,249	37,249	37,249	37,249
	Off-Peak	10,240	10,153	10,235	10,148	10,148	10,132	10,132	10,133	10,135	10,240	10,240	10,240	10,240	10,240	10,240
	Total Daily	47,489	47,358	47,611	47,425	47,425	47,327	47,326	47,329	47,329	47,489	47,489	47,489	47,489	47,489	47,489
Average Weekday Transitway Trips	Peak	70,139	69,958	70,132	69,771	69,771	69,868	69,896	69,905	69,913	70,139	70,139	70,139	70,139	70,139	70,139
	Off-Peak	21,788	21,390	21,549	21,287	21,287	21,371	21,373	21,376	21,390	21,788	21,788	21,788	21,788	21,788	21,788
	Total Daily	91,927	91,348	91,681	91,058	91,058	91,239	91,269	91,281	91,303	91,927	91,927	91,927	91,927	91,927	91,927
Average Weekday Rapid Bus Trips	Peak	105,755	114,875	118,558	118,741	118,741	114,755	114,774	114,786	114,803	105,755	105,755	105,755	105,755	105,755	105,755
	Off-Peak	58,272	66,204	68,561	65,119	65,119	66,113	66,117	66,118	66,115	58,272	58,272	58,272	58,272	58,272	58,272
	Total Daily	164,027	181,079	187,119	183,860	183,860	180,868	180,891	180,904	180,918	164,027	164,027	164,027	164,027	164,027	164,027
Average Weekday BRT Bus Trips	Peak	14,669	14,666	14,660	14,637	14,637	14,662	14,661	14,661	14,666	14,669	14,669	14,669	14,669	14,669	14,669
	Off-Peak	9,443	9,457	9,502	9,439	9,439	9,469	9,469	9,469	9,469	9,443	9,443	9,443	9,443	9,443	9,443
	Total Daily	24,112	24,123	24,162	24,076	24,076	24,131	24,130	24,130	24,135	24,112	24,112	24,112	24,112	24,112	24,112
Average Weekday Commuter Rail Trips	Peak	66,673	66,581	66,344	66,564	66,564	66,815	66,816	66,816	66,831	66,673	66,673	66,673	66,673	66,673	66,673
	Off-Peak	10,019	9,961	9,951	9,960	9,960	9,993	9,994	9,996	10,010	10,019	10,019	10,019	10,019	10,019	10,019
	Total Daily	76,692	76,542	76,295	76,524	76,524	76,808	76,810	76,812	76,841	76,692	76,692	76,692	76,692	76,692	76,692
Average Weekday Urban Rail Trips	Peak	271,177	270,181	269,639	270,567	270,567	273,508	273,093	273,096	273,448	271,177	271,177	271,177	271,177	271,177	271,177
	Off-Peak	136,140	135,385	135,488	135,343	135,343	137,086	137,003	136,982	136,772	136,140	136,140	136,140	136,140	136,140	136,140
	Total Daily	407,317	405,566	405,127	405,910	405,910	410,594	410,096	410,078	410,220	407,317	407,317	407,317	407,317	407,317	407,317

**Table O.2: Linked Transit Trips by Mode by Time of Day**

Screen Level 2: Performance Measure	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6
Increase in transit ridership (new daily riders).	0	16,329	18,690	19,058	19,058	20,136	19,806	19,804	19,762	0	0	0	0	0	0

## P. Transit Accessibility

### **Performance Measure Description**

Improvements in transit service can be assessed with an increase in transit accessibility. The transit accessibility performance measure was defined as the percentage of the study area population and employment located within  $\frac{1}{4}$  mile of a transit stop with high-frequency service (headways less than 15 minutes). Higher percentages of population and employment within a  $\frac{1}{4}$  mile (maximum typical assumed walking distance to transit services) buffer of high-frequency service can increase transit ridership.

### **Calculation Process**

The amount of population and employment within  $\frac{1}{4}$  mile of high-frequency stops was developed using geographic information system (GIS) layers and the socioeconomic data at the TAZ level from the travel model. Quarter-mile buffers were created around all high-frequency service stops and the GIS program calculates the amount of the TAZ that is covered by the buffers. This percentage is then multiplied by the zonal population and employment. This method assumes that the population and employment are evenly distributed across the TAZ.

The calculations for population and employment were calculated independently, and the average of the two was reported as the transit accessibility percentage. Table P.1 summarizes the percentage of population and employment within  $\frac{1}{4}$  mile of a transit stop with high-frequency service.

### **Performance Measure Values**

The final performance measure averages the percentage of population and employment within  $\frac{1}{4}$  mile of high-frequency transit service. Table P.2 summarizes the performance of each of the alternatives for transit accessibility.

**Table P.1: Population and Employment Percentage of Study Area Within ¼ Mile of High-frequency Service**

Travel Model Evaluation	Category	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H 2	H 6
Percentage of study area within 1/4 mile of transit stop with high frequency service.	Population	27.9%	33.0%	32.5%	33.2%	33.2%	33.2%	33.2%	33.2%	33.2%	27.9%	27.9%	27.9%	27.9%	27.9%	27.9%
	Employment	30.7%	37.5%	36.9%	37.9%	37.9%	38.2%	38.1%	38.1%	38.1%	30.7%	30.7%	30.7%	30.7%	30.7%	30.7%

**Table P.2: Percentage of Study Area Within ¼ Mile of High-frequency Service**

Screen Level 2: Performance Measure	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6
Percentage of study area population/employment within 1/4 mile of transit stop with high frequency service.	29.3%	35.3%	34.7%	35.6%	35.6%	35.7%	35.7%	35.7%	35.7%	29.3%	29.3%	29.3%	29.3%	29.3%	29.3%

## Q. Transit Mode Split

### **Performance Measure Description**

Transit mode split was determined as a ratio of transit trips to total person trips within the study area. A higher mode split for transit indicates an increase in transit usage and effectiveness in the overall transportation system. Transit mode split was calculated for daily trips within the study area, as an indicator of how attractive the transit system is compared to other modes of travel.

### **Calculation Process**

The transit mode split uses output from the Metro travel model. The transit mode split is calculated by dividing the number of linked transit trips in the study area by the total number of linked trips in the study area.

### **Performance Measure Values**

Table Q.1 summarizes the transit mode split for the study area.

**Table Q.1: Transit Mode Split in the Study Area**

Screen Level 2: Performance Measure	No Build	TSM/TDM	BRT 1	BRT 6	BRT 6A	LRT 4A	LRT 4B	LRT 4D	LRT 6	F 2	F 5	F 6	F 7	H-2	H 6
Transit percentage of total trips (mode split).	3.74%	3.89%	3.90%	3.91%	3.91%	3.92%	3.93%	3.92%	3.92%	3.74%	3.75%	3.74%	3.75%	3.73%	3.75%

## Freeway Truck Volume Technical Appendix

## AA. Truck Performance

This section describes the assessment of trucks in the SR 710 EIR/EIS study area. The traffic operations and environmental impact analysis described in the System Performance Report implicitly consider the effects of trucks. Because trucks are a relatively small percentage of total traffic (generally less than 10 percent on the freeways and less than 5 percent on the arterials), they are not a primary element of the needs statement. Therefore, no performance measures are focused solely on trucks.

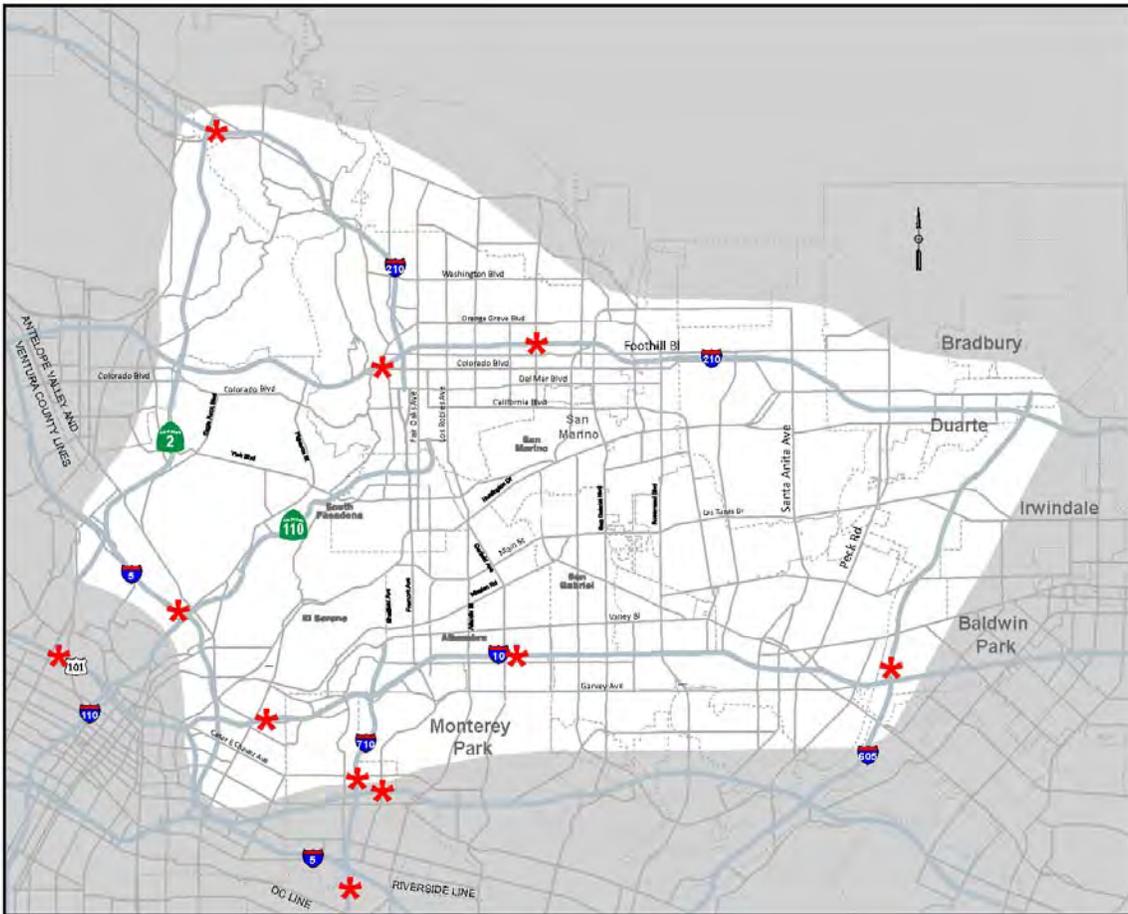
However, stakeholders have expressed an interest in truck data and the impacts of trucks in the study area. The analysis of trucks is particularly relevant for the freeway alternatives, where there will be shifts in traffic patterns on the freeways, which have the highest volumes of trucks. To provide additional information on trucks, truck data were extracted from the travel demand models and are reported in this section. The data include truck volumes and percentages on specific freeway segments, and truck miles traveled (TMT) on regional freeways and local arterials in the study area.

### AA.1 Truck Volumes on Freeways

Future truck volumes on study area freeways were calculated using existing count data and model forecasts. Existing truck and vehicle average daily traffic (ADT) counts were obtained from the *2010 Annual Average Truck Traffic on the California State Highway System*, located on the Caltrans website: <http://traffic-counts.dot.ca.gov/>. The truck volume counts and model forecasts were evaluated at 11 freeway locations. The freeway locations selected are illustrated in Figure AA.1 and are as follows:

- I-10 between I-5 and SR 710 (east of North Soto Street)
- I-10 east of SR 710 in Alhambra (east of Garfield Avenue)
- I-210 east of SR 2 (at Foothill Boulevard)
- I-210 east of SR 710/SR 134 (at North Hill Avenue)
- I-5 north of SR 110 (north of San Fernando Boulevard)
- I-605 north of I-10 (south of Ramona Boulevard)
- I-710 north of SR 60 (at East 1<sup>st</sup> Street)
- I-710 south of I-5 (north of Washington Boulevard)
- SR 134 west of SR 710/I-210 (east of Linda Vista Avenue)
- SR 60 east of I-710 (at Mednik Avenue)
- US 101 west of SR 110 (west of Glendale Boulevard)

Figure AA.1: Existing Truck ADT Count Locations



Future (2035) No Build alternative truck volumes were estimated using the existing field ADT data (truck and total vehicle counts), and multiplying the existing (2010) trucks by the ratio of trucks forecast in the 2035 No Build alternative to the trucks forecast in the 2008 model. The 2035 estimated truck percentage was obtained using the calculated truck volume and the total volume on the roadway forecast by the 2035 No Build travel model. Table AA.1 is a summary of the ADT field counts for 2008, and the estimated 2035 No Build alternative truck volumes and percentages.

The average truck percentage of total vehicular travel on the freeways in the study area increases from 5.3 percent to 6.4 percent. The greatest growth in truck percentage (1.9 percent) is projected to occur at three locations:

- I-210 east of SR 710/SR 134 (at North Hill Avenue), an increase from 4.5 percent to 6.4 percent
- I-710 south of I-5 (north of Washington Boulevard), an increase from 8.0 percent to 9.9 percent
- SR 60 east of I-710 (at Mednik Avenue), an increase from 6.7 percent to 8.6 percent

These increases are consistent with the overall growth in regional truck traffic projected by SCAG.

The build alternatives truck volumes were estimated using a ratio of trucks in the build alternatives travel model outputs versus the No Build alternative travel model outputs. The ratio was calculated using raw model volumes at the selected freeway locations. Table AA.2 is a summary of the build alternative trucks to the No Build alternative truck ratios. The average truck volumes between build and No Build alternatives are similar (ratios of 0.97 to 1.03), since the same trucks are being served. However, the ratios at specific locations can vary significantly between alternatives.

TABLE AA.1  
**Estimated No Build Volumes and Trucks Percentages on Freeway Segments**

Location	Field Count Truck Volumes (2010)	Field Count ADT (2010)	Field Count Truck Percentage	Ratio of Trucks: 2035 vs. 2008	Estimated 2035 Truck Volumes	Estimated 2035 Truck Percentage
I-210 east of SR 2	9,500	115,000	8.3%	1.80	17,100	9.8%
I-210 east of SR 710/SR 134	13,200	294,000	4.5%	1.64	21,600	6.4%
SR 134 west of SR 710/I-210	4,900	206,000	2.4%	1.47	7,200	2.5%
I-5 north of SR 110	13,100	286,000	4.6%	1.37	18,000	5.4%
I-10 between I-5 and SR 710	7,600	236,000	3.2%	1.51	11,500	4.3%
I-10 east of SR 710	10,900	214,000	5.1%	1.57	17,100	5.8%
I-605 north of I-10	12,700	185,000	6.9%	1.20	15,200	8.6%
*US 101 west of SR 110	8,700	259,000	3.4%	1.21	10,500	3.5%
*I-710 north of SR 60	6,300	125,000	5.0%	1.50	9,400	5.4%
*I-710 south of I-5	16,900	212,000	8.0%	1.84	31,100	9.9%
*SR 60 east of I-710	16,300	245,000	6.7%	1.52	24,700	8.6%
<b>Average</b>	10,918	216,091	5.3%	1.51	16,673	6.4%

\* Note: These locations are outside of the project study area, but are included in this summary because they help in understanding the regional truck movements in and around the study area on the regional freeway system.

TABLE AA.2  
**Ratio of Trucks in Build Alternatives Versus No Build Alternative**

Location	2035 Build vs. No Build Truck Ratio			
	F-2	F-5	F-6	F-7
I-210 east of SR 2	0.93	1.06	1.25	1.38
I-210 east of SR 710/SR 134	0.94	0.93	0.96	0.96
SR 134 west of SR 710/I-210	0.95	1.09	1.00	0.99
I-5 north of SR 110	0.76	0.92	0.92	0.86
I-10 between I-5 and SR 710	0.84	0.87	0.91	0.89
I-10 east of SR 710	1.00	0.99	0.98	0.99
I-605 north of I-10	0.99	1.01	0.97	0.96
*US 101 west of SR 110	0.91	0.92	0.93	0.92
*I-710 north of SR 60	1.33	1.07	1.13	1.35
*I-710 south of I-5	1.02	0.99	1.01	1.03
*SR 60 east of I-710	1.05	1.04	1.04	1.04
<b>Average</b>	0.97	0.99	1.01	1.03

\* Note: These locations are outside of the project study area, but are included in this summary because they help in understanding the regional truck movements in and around the study area on the regional freeway system.

The next step was to use the ratios for the build alternatives versus the No Build alternative to calculate the estimated volume and percentage of trucks in the 2035 build alternatives. The ratios were multiplied by the estimated No Build alternative truck volumes to estimate the build alternative truck volumes at the selected locations on the freeway system. The resulting truck percentages were then calculated using the estimated truck volume and the raw model total vehicle volume at these locations. Table AA.3 is a summary of the estimated truck volumes and percentages. The table is separated into four sections:

- New alignment (tunnel or surface freeway): Row 1
- Freeway locations in the study area: Rows 2 through 8
- Freeway locations outside of the study area: Rows 9 through 12
- Average of all locations: Row 13

The blue numbers indicate increases of at least 200 trucks/day compared to the No Build alternative, and the green numbers indicate decreases of at least 200 trucks/day.

TABLE AA.3  
2035 Estimated Truck Volumes and Percentages

Row	Location	Estimated No-Build 2035 Truck Volume (Percentage)	F-2 Truck Volume (Percentage)	F-5 Truck Volume (Percentage)	F-6 Truck Volume (Percentage)	F-7 Truck Volume (Percentage)
1	New alignment (tunnel or freeway)	N/A	11,300 (6.4%)	10,700 (5.4%)	10,200 (5.0%)	11,300 (6.1%)
2	I-210 east of SR 2	17,100 (9.8%)	15,900 (9.6%)	18,100 (9.9%)	21,300 (10.4%)	23,600 (11.3%)
3	I-210 east of SR 710/SR 134	21,600 (6.4%)	20,200 (6.2%)	20,200 (6.2%)	20,700 (6.2%)	20,800 (6.2%)
4	SR 134 west of SR 710/I-210	7,200 (2.5%)	6,800 (2.4%)	7,900 (2.4%)	7,200 (2.4%)	7,100 (2.4%)
5	I-5 north of SR 110	18,000 (5.4%)	13,700 (4.5%)	16,500 (5.2%)	16,600 (5.2%)	15,500 (4.8%)
6	I-10 between I-5 and SR 710	11,500 (4.3%)	9,700 (3.9%)	10,000 (4.0%)	10,400 (4.0%)	10,300 (3.9%)
7	I-10 east of SR 710	17,100 (5.8%)	17,000 (5.6%)	16,900 (5.6%)	16,700 (5.6%)	16,900 (5.6%)
8	I-605 north of I-10	15,200 (8.6%)	15,100 (8.7%)	15,400 (9.0%)	14,800 (8.7%)	14,700 (8.7%)
9	*US 101 west of SR 110	10,500 (3.5%)	9,500 (3.2%)	9,600 (3.3%)	9,700 (3.3%)	9,700 (3.3%)
10	*I-710 north of SR 60	9,400 (5.4%)	12,500 (5.2%)	10,000 (4.4%)	10,700 (4.6%)	12,700 (5.2%)
11	*I-710 south of I-5	31,100 (9.9%)	31,800 (9.8%)	30,700 (9.4%)	31,300 (9.5%)	32,100 (9.7%)
12	*SR 60 east of I-710	24,700 (8.6%)	25,800 (8.7%)	25,800 (8.8%)	25,600 (8.7%)	25,600 (8.7%)
13	<b>Average</b>	16,673 (6.4%)	15,775 (6.2%)	15,983 (6.1%)	16,267 (6.1%)	16,697 (6.3%)

\* Note: These locations are outside of the project study area, but are included in this summary because they help in understanding the regional truck movements in and around the study area on the regional freeway system.

The average truck percentage for the No Build alternative is 6.4 percent. Each of the build alternatives results in slight decreases in the overall average truck percentage on the 12 freeway segments, but the changes vary by alternative.

- The F-2 alternative results in decreases in truck volumes on most of the study area freeway segments. There are decreases of more than 200 trucks/day on five freeway segments within the study area, and two freeway segments in the study area have a negligible change in truck traffic.
- The F-5 alternative results in a mix of increases and decreases in truck volumes. There are projected decreases on I-210 in Pasadena, I-5, and I-10. There are projected increases on I-210, SR 134, and I-605. The increases are relatively small, and only have a minor effect on truck percentage (less than 0.4%).
- The F-6 alternative results in decreases in truck volumes everywhere except on I-210 west of SR 134. The increases are relatively small, and only have a minor effect on truck percentage (generally negative, but always less than 0.6%).
- The truck volume changes for the F-7 alternative are almost identical to the F-6 alternative, which is logical because they have nearly the same horizontal alignment.

## AA.2 Truck Miles Traveled

TMT is calculated in the same way as VMT, but only for trucks. TMT was used to assess the shift in truck travel from the arterial system to the freeway system. A reduction in TMT on arterials indicates a shift in trip patterns to a freeway that is better suited to their trips.

Tables AA.4 and AA.5 summarize the VMT and TMT for the study area and for the region for all alternatives compared with the No Build alternative. There was a negligible change in regional VMT and TMT on all facilities for all freeway alternatives compared with the No Build alternative. Within the study area, there is a shift in TMT from arterials to the freeway system. The greatest reduction in arterial truck travel occurs in the F-6 alternative, which reduces almost 20 percent of the truck travel on arterials, and shifts the TMT to the freeway system.

TABLE AA.4  
Auto and Truck VMT in the SCAG Region

	No Build	F-2	F-5	F-6	F-7
Auto/Truck VMT (All Facilities)	510,066,000	510,927,000	510,744,000	510,692,000	510,849,000
TMT (All Facilities)	49,896,000	49,917,000	49,909,000	49,907,000	49,926,000
Change in TMT from No-Build (All Facilities)		0.0%	0.0%	0.0%	0.1%
Auto/Truck VMT (Freeways)	245,198,000	246,461,000	246,330,000	246,334,000	246,627,000
TMT (Freeways)	38,590,000	38,660,000	38,668,000	38,679,000	38,688,000
Change in TMT from No-Build (Freeways)		0.2%	0.2%	0.2%	0.3%
Auto/Truck VMT (Arterials)	217,119,000	216,650,000	216,584,000	216,411,000	216,440,000
TMT (Arterials)	9,068,000	9,021,000	9,019,000	9,010,000	9,013,000
Change in TMT from No-Build (Arterials)		-0.5%	-0.5%	-0.6%	-0.6%

TABLE AA.5  
**Auto and Truck VMT in the Study Area**

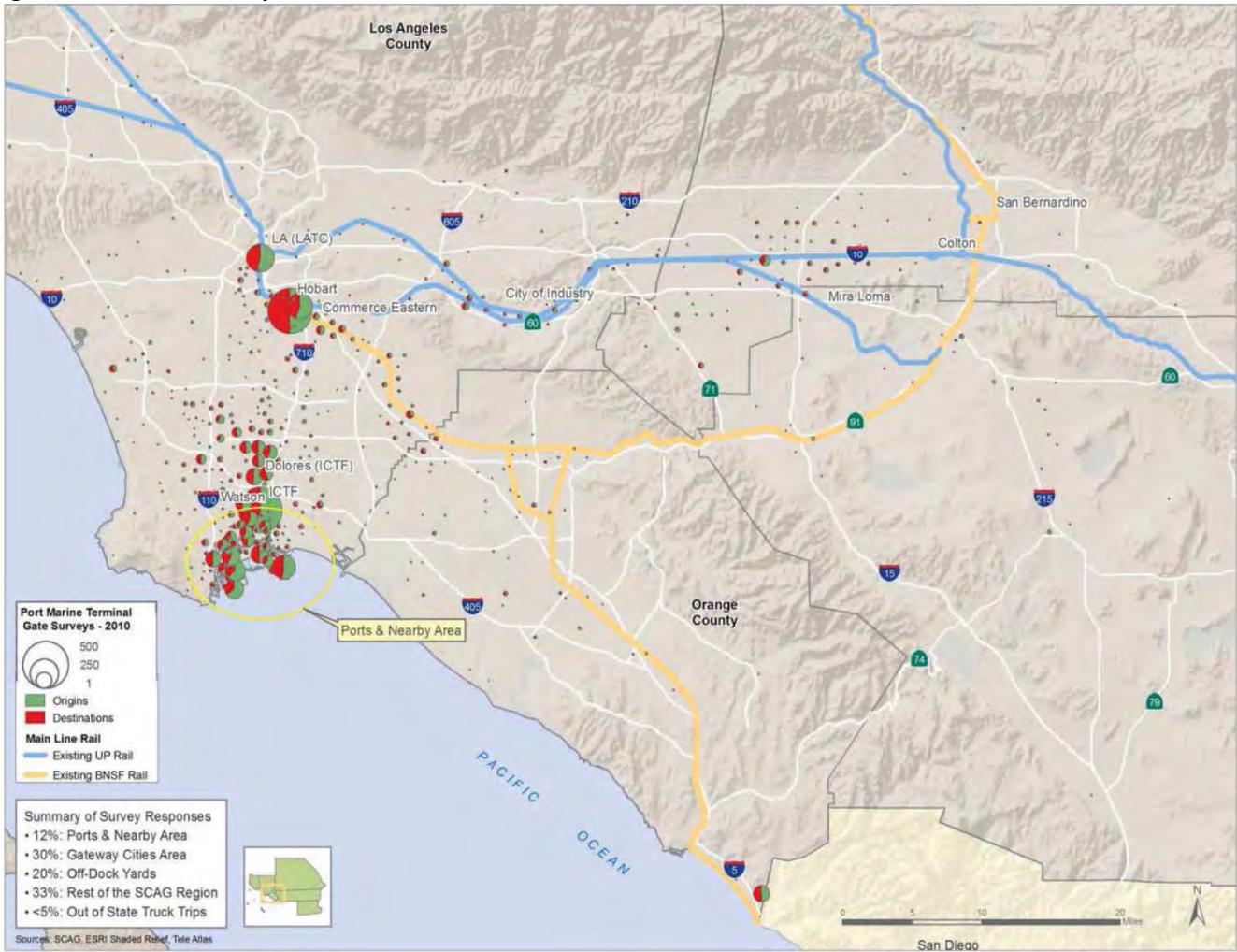
	No Build	F-2	F-5	F-6	F-7
Auto/Truck VMT (All Facilities)	21,980,000	22,655,000	22,503,000	22,461,000	22,602,000
TMT (All Facilities)	1,873,000	1,930,000	1,899,000	1,900,000	1,930,000
Change in TMT from No-Build (All Facilities)		3.0%	1.4%	1.4%	3.0%
Auto/Truck VMT (Freeways)	12,331,000	13,335,000	13,317,000	13,265,000	13,465,000
TMT (Freeways)	1,551,000	1,629,000	1,610,000	1,631,000	1,655,000
Change in TMT from No-Build (Freeways)		5.0%	3.8%	5.2%	6.7%
Auto/Truck VMT (Arterials)	7,022,000	6,642,000	6,544,000	6,415,000	6,510,000
TMT (Arterials)	218,000	191,000	186,000	175,000	180,000
Change in TMT from No-Build (Arterials)		-12.4%	-14.7%	-19.7%	-17.4%

### AA.3 Port Trucks

Although trucks have noticeable operational effects on the south part of I-710 (toward the ports of Long Beach and Los Angeles), they are not a major cause of congestion on the freeways in the study area. Most of the truck destinations from the Port area are south and east of the study area, and less than 15 percent of the truck trips in the six-county Southern California Association of Governments (SCAG) region leave Southern California (SCAG 2012 Regional Transportation Plan [RTP] Goods Movement Appendix, Exhibit 2). Figure AA.2 is a map of the truck origins and destinations of Port truck trips in the SCAG region. Overall, Port trucks constitute less than 4 percent of truck trips region-wide and less than 8 percent in Los Angeles County (Table 5 of the Goods Movement Appendix to the 2012 RTP, page 14).

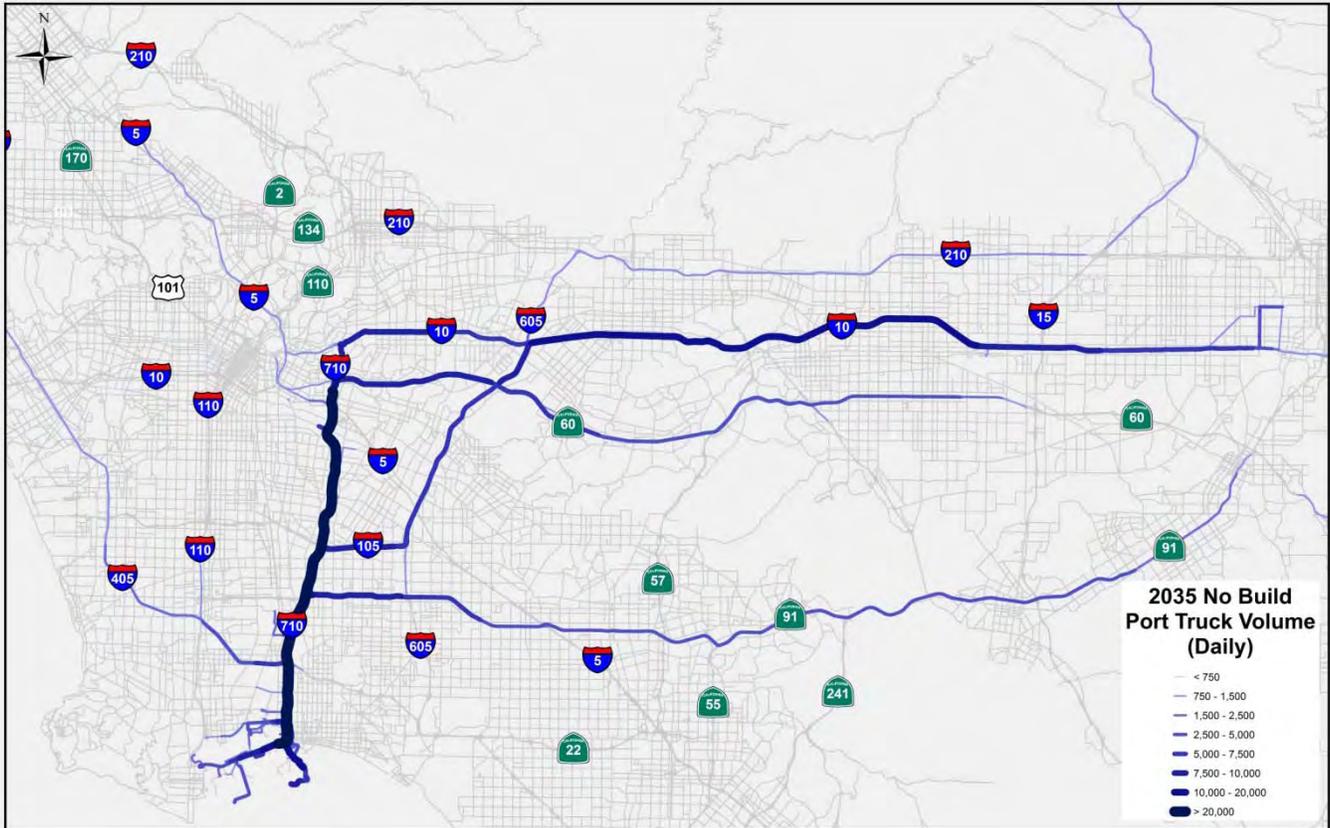
The SCAG model was used to achieve a better visual understanding of the Port truck distribution. A select link process was completed to capture all of the truck trips that use I-710 at a location south of Pacific Coast Highway in Long Beach. The select link analysis shows the volume of trucks on all regional facilities that drive over either the northbound or southbound I-710 freeway at that location. Figure AA.3 is a map showing the routes of the 2035 No Build alternative truck trips that travel on I-710 south of Pacific Coast Highway. The figure shows that the majority of the Port truck trips use the freeways to and from the east, with almost no Port traffic destined to the north and west.

Figure AA.2: San Pedro Bay Ports Truck Distribution



Source: Exhibit 2 from the Goods Movement Appendix of the 2012 RTP

Figure AA.3: I-710 Select Link Truck Trips



Source: CH2M HILL select link evaluation using the SCAG 2008 RTP model files (08R35a3\_bl\_rev2 scenario).