

Appendix F

Model Development Report

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WESTSIDE Mobility Plan

Westside Mobility Plan
Model Development Report

December 2015

WESTSIDE MOBILITY PLAN

MODEL DEVELOPMENT REPORT

December 2015

Originally Prepared in 2011; Updated in 2015 for CTCSP & West LA EIR

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1. INTRODUCTION

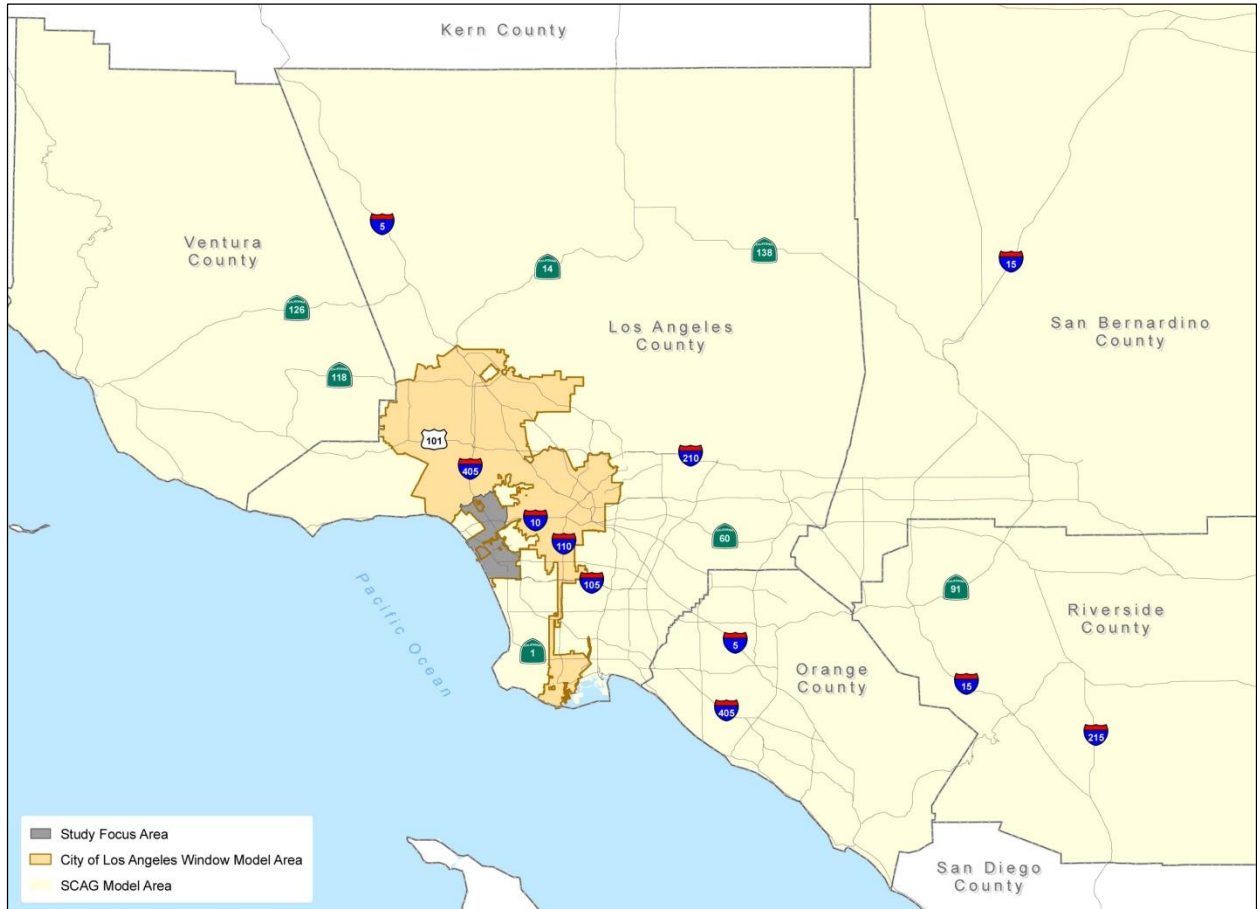
The City of Los Angeles Travel Demand Forecasting (TDF) Model provides the ability to evaluate the transportation system, use performance indicators for land use and transportation alternatives, provide information on regional pass-through traffic versus locally generated trips, and graphically display these results. The model is sensitive to emerging land use trends through improved sensitivity to built environment variables referred to as the 4Ds. In essence, the travel demand model serves as a tool to implement, manage and monitor the City of Los Angeles' transportation plans, projects, and programs, providing a suitable starting point for additional refinement as part of a more local application, such as the Westside Mobility Plan and proposed amendments to the Coastal Transportation Corridor Specific Plan (CTCSP) and West Los Angeles Transportation Improvement and Mitigation Specific Plan (WLA TIMP).

Fehr & Peers developed a travel demand model for the City of Los Angeles as part of the Transportation Strategic Plan Study. The City of Los Angeles TDF Model provided the starting point for creating a more detailed, locally valid model for the Westside Mobility Plan and Specific Plan amendments to which future roadway improvements and land use assumptions could be added. Starting with a regionally valid model ensured the model captured regional traffic flow patterns and transit ridership while the additional detail and model refinements from the City of Los Angeles Model development process allowed the model to more accurately capture travel patterns within the City boundary. To develop a model for the Westside, land use and roadway network detail were added within and around the study area. Additional modifications were also made to key model components based on data provided by the City of Los Angeles to allow the model to more accurately capture traffic patterns within and around the Westside. The SCAG model area, encompassing a six-county region and representing the starting point for the model, is shown on Figure 1 along with the City of Los Angeles windowed model area and the Westside Mobility Plan model focus area.

This report documents the model structure and methodological approach to the development of the travel demand model for the Westside Mobility Plan and Specific Plan amendments, including the assumptions and sources of data used to develop key model inputs and refine model components. A summary of how well the model performed against validation thresholds established by the California Transportation Commission is also provided. The additional refinement and model enhancements for the Westside Mobility Plan TDF Model comply with the 2010 California Regional Transportation Plan Guidelines, which outline model development expectations and validation tests for all travel demand models used by public agencies in California. Compliance with these guidelines indicates that the model is suitable for developing traffic volume forecasts to evaluate future land use changes and transportation system improvements within the Westside study area. Having a locally valid model is a critical step in ensuring a high level of confidence for traffic volume forecasts.



Figure 1 – Model Focus Area





2. MODEL DEVELOPMENT

OVERVIEW

The Westside Mobility Plan TDF model was based on the City of Los Angeles Model, which utilizes the TransCAD Version 4.8 Build 500 modeling software. The model was designed to produce AM and PM peak period vehicle and transit flows on roadways within the Westside study area based on comprehensive land use and socio-economic data (SED). The model utilizes a conventional four-step process consisting of trip generation, trip distribution, modal split, and assignment. The model components, including key model inputs and outputs, are summarized on Figure 2. Additional detail regarding the grandparent SCAG TDF model can be obtained in the *User's Guide for the SCAG Planning Model* (Southern California Association of Governments, June, 2008), and additional detail regarding the parent City of Los Angeles Model can be obtained in the *City of Los Angeles Model Draft Model Development Report* (Fehr & Peers, December, 2010). The roadway and transit networks along with the traffic analysis zone (TAZ) structure were modified within and around the Westside study area to ensure the model produced traffic forecasts that reasonably resembled observed traffic counts and transit ridership data.

Following validation of base year (2008) forecasts and transit ridership, the modifications to the base year TDF model are applied to the future year (2035) TDF model to produce forecasts of future vehicle and transit flows within and around the Westside study area.

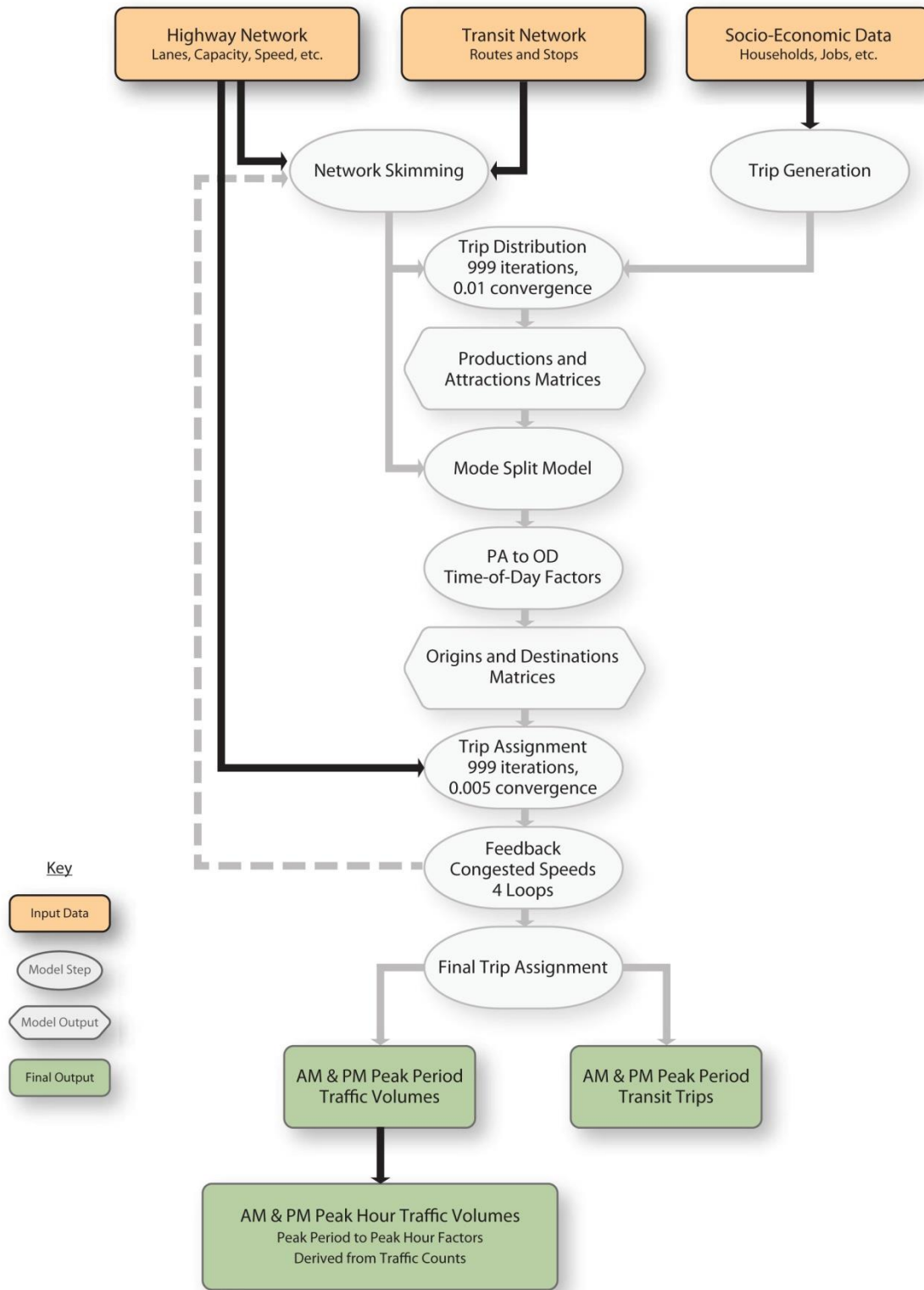
This section summarizes the roadway network, transit network, TAZ structure, and model component changes made to the base year (2008) model to develop a refined sub-area model for the Westside Mobility Plan and Specific Plan amendments.

ROADWAY NETWORK

The roadway network within the City of Los Angeles boundary was refined to reflect the Circulation Plans for each of the current Community Plan Areas. The majority of additional roadway network detail represents collector roadways, which are not typically included in regional models. However, they were included in the City of Los Angeles and Westside Mobility Plan models to improve forecast sensitivity and accuracy for these types of roadways. The inclusion of collector roadways also improves the loading of traffic onto arterials and highways, providing a more detailed representation of traffic flows and increasing the accuracy of the resulting traffic volume forecasts. As part of the Westside Mobility Plan, an additional 25 roadway link miles were added within the Westside study area.



Figure 2 – Components of the Travel Demand Model





A comparison of the base year SCAG 2008 RTP model roadway network and the base year (2008) Westside Mobility Plan sub-area model roadway network is shown on Figure 3.

The roadway network within adjacent cities and geographic areas such as Santa Monica, Culver City and the South Bay were also verified using aerial photography and field work collected for other recent studies conducted by Fehr & Peers.

Roadway Network Attribute Data

Roadway segment attribute data such as the number of lanes, roadway classification, and travel speed were checked against field data provided by LADOT and SCAG as well as field data collected by Fehr & Peers within and around the City of Los Angeles. Field data collected for the projects listed above was included along with the data provided by SCAG as part of the SCAG Regional Highway Network Study. The following link attributes were checked to ensure the model matched observed data:

- Number of lanes (including peak hour parking restrictions)
- Facility type (used to determine capacity)
- Length
- Free-flow travel speed
- Travel modes allowed

This data was also used to determine peak period parking restrictions on roadway segments included in the model since peak period parking restrictions were not included in the SCAG RTP model. The number of all-day travel lanes for roadways within the Westside study area is shown on Figure 4. Roadway segments with a peak period parking restriction in either one or both directions are shown on Figure 5.

Node attribute data was also checked to ensure the model matched observed conditions. Attribute data, such as intersection type and node type, were checked for nodes representing intersections, traffic analysis zones (TAZs), park and ride lots, Metrolink stations, and urban rail stations. Additionally, intersection turn prohibitions were added to the model to ensure the appropriate loading of vehicles onto the roadway network.



Figure 3 – Roadway Network Modifications

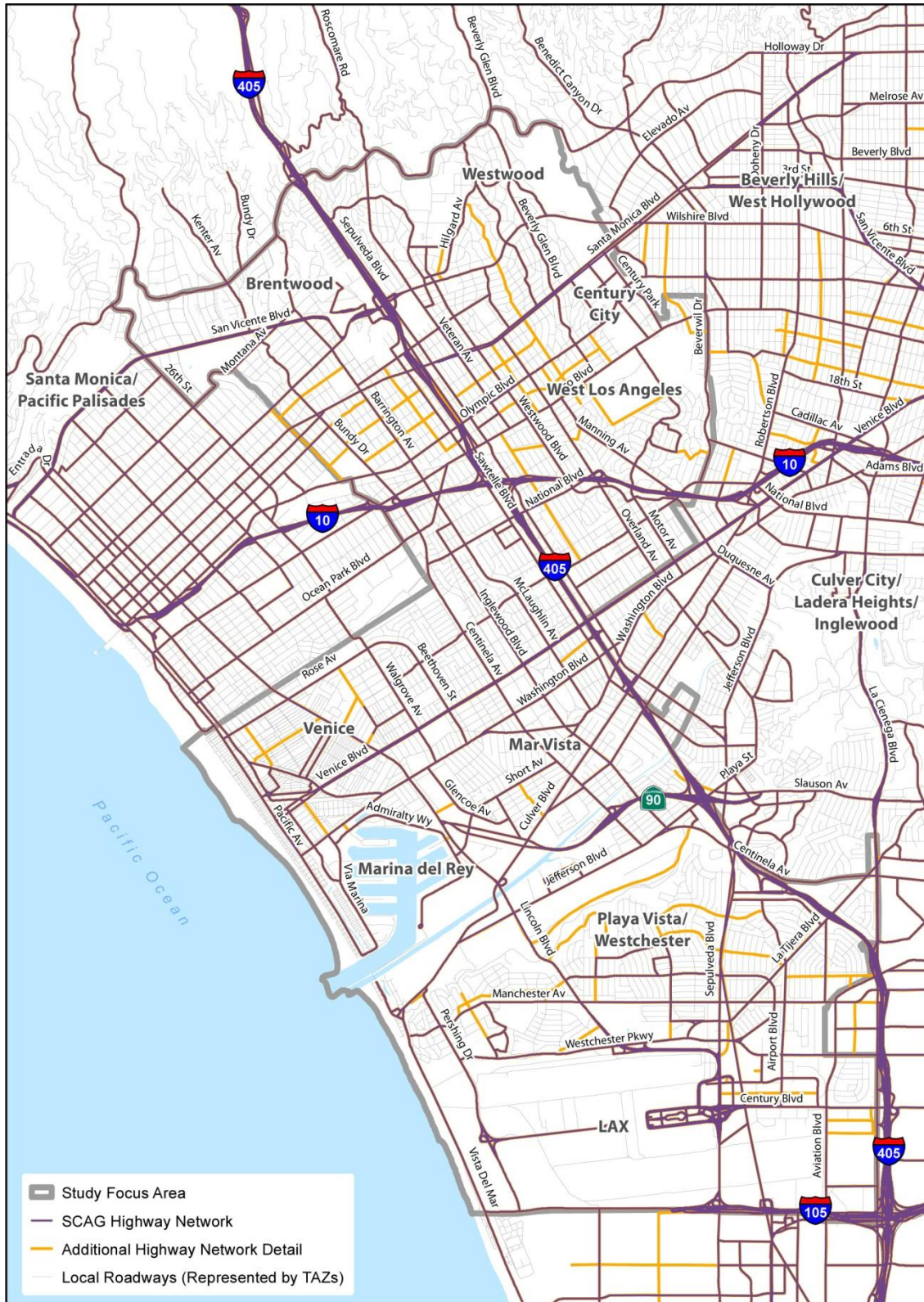




Figure 4 – All-Day Travel Lanes

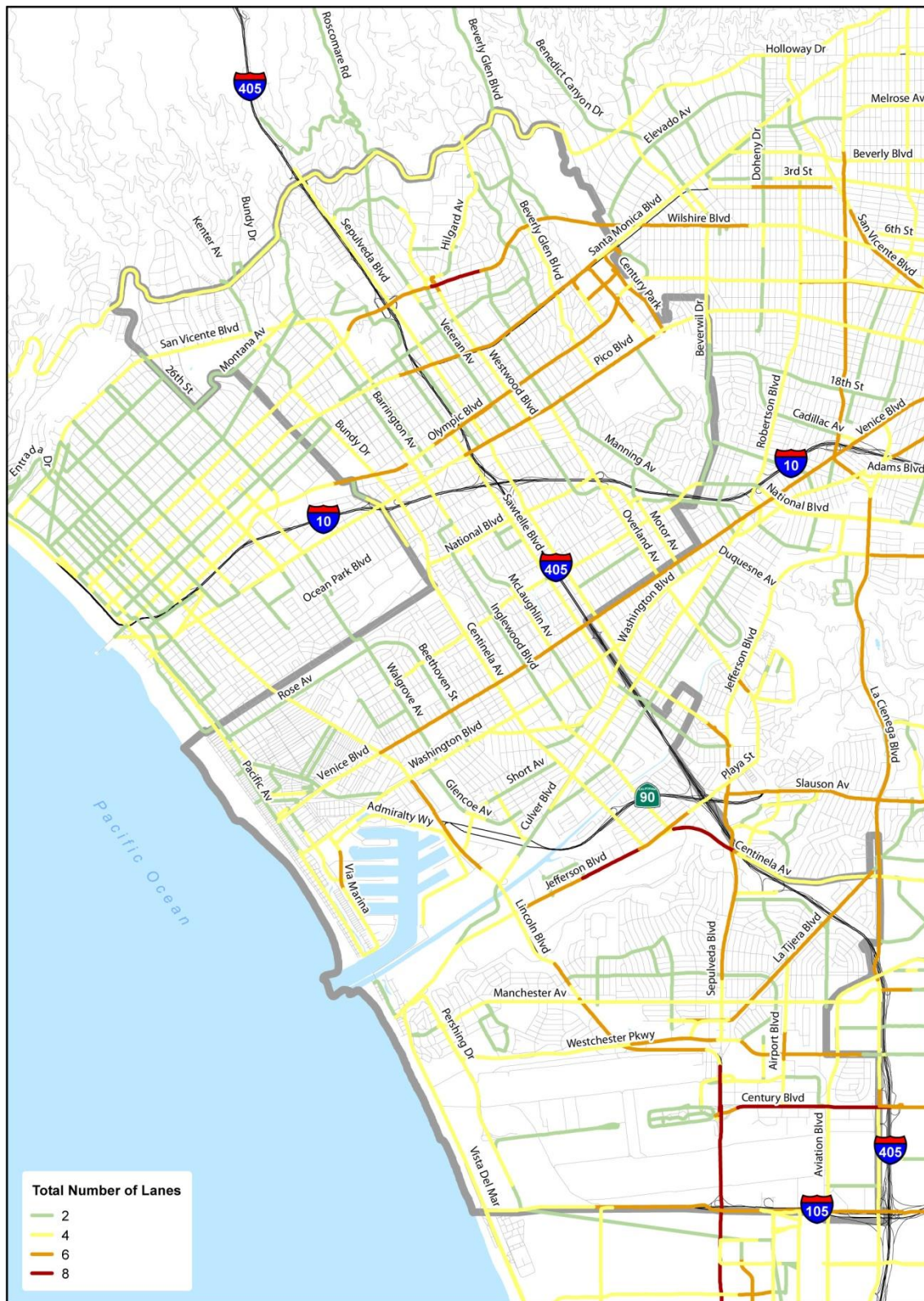




Figure 5 – Peak Period Parking Restrictions





Centroid Connector Reconfiguration

As part of the Westside Mobility Plan TDF model development, the number and placement of centroid connectors was further refined to load trips onto the roadway network at an even more localized level for TAZs within the Westside study area and adjacent cities such as Santa Monica and Culver City. Centroid connectors typically represent local streets and determine how trips originating or terminating at TAZs access the collectors and arterials included in the roadway network. Therefore, the location, configuration, and number of centroid connectors have a significant impact on how traffic is assigned to the network. The majority of centroid connectors in the original SCAG RTP model load traffic to the nearest intersection of a collector or arterial roadway rather than at mid-block locations where local streets typically connect to the street system. To load trips onto the roadway network at a more localized level, centroid connectors associated with TAZs were modified to load at mid-block locations. The number and placement of centroid connectors was also modified to reflect the location of local streets and how they interact with collector and arterial roadways.

Highway Network Checks

A series of highway network tests were conducted to ensure the highway network and the associated attribute data was accurately coded. These tests included a connectivity check for all roadway links within the City of Los Angeles using the “line layer connectivity tool” in TransCAD. This tool checks every roadway link in the network and indicates every location where roadway links cross as well as whether they intersect or are grade-separated. This tool is also useful in identifying locations where roadway links or centroid connectors appeared to connect to the highway network but did not.

A series of shortest path checks in TransCAD were performed using the “shortest path toolbox” which returns the shortest path/distance between two points in the highway network. This tool was used to check if the distance between two selected locations was correct and to ascertain if the route chosen was reasonable based on a combination of travel distance and speed to determine uncongested travel time. For example, the model was reviewed to ensure that freeways were preferred to local streets for longer distance trips under free-flow conditions. The resulting travel distance data was also compared to data from aerial images and the resulting travel time data was checked for reasonableness against empirical congested travel time data.

Finally, a test highway network skim (representing travel time) and a test traffic assignment were performed to check the highway network from a system-wide perspective. Skim values from the test highway network were checked for reasonableness against observed travel distances and times. For the traffic assignment, an origin-destination matrix, where every possible origin-destination pair was filled with one vehicle trip, was used to ensure traffic from each TAZ could be assigned to every TAZ in the model. These checks ensured that the roadway network was properly coded prior to the calibration/validation of the travel demand model.

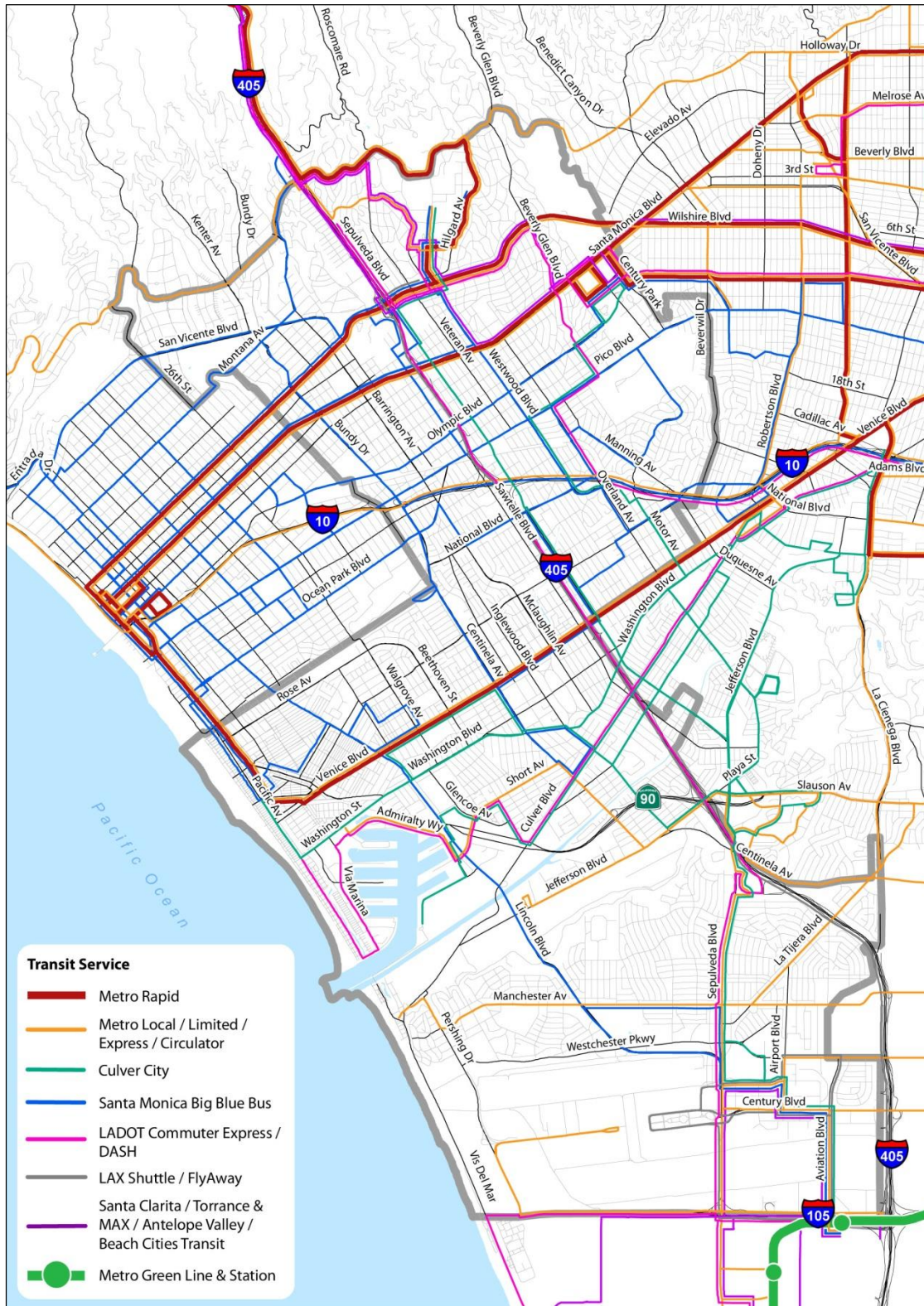


TRANSIT NETWORK

The SCAG RTP Model includes an extensive transit network of routes and stops, which is used to help determine the number of person trips utilizing various modes of transit in the model. The model includes approximately 1,645 transit routes for the entire six-county SCAG region. The model reflects numerous modes of transit, such as local bus, express bus, rapid bus, commuter rail, light rail, and heavy rail. Each route contains attribute data, such as route name, carrier, and peak and off-peak headway times. The model also includes approximately 55,840 transit stops, which are used to access and associate a fare with the corresponding transit route.

All transit routes with a stop within a mile of the City of Los Angeles boundary were included along with all stops along the selected route. The portion of the selected transit routes as well as the corresponding stops extending outside the City of Los Angeles boundary were also included in the model. The resulting transit network consists of approximately 800 transit routes and 30,960 transit stops, representing nearly half the transit facilities within the SCAG region. For the Westside Mobility Plan model, it was determined that 155 transit routes have a stop within the Westside study area with a total of 1,570 stops, representing approximately 20 percent of the transit routes within the City of Los Angeles. Figure 6 shows the transit routes within and around the Westside study area by transit carrier at the time of model calibration (Year 2008).

Figure 6 – Westside Transit Network





TAZ STRUCTURE

The SCAG RTP model TAZ structure was used as the basis for the City of Los Angeles Model's TAZ structure, and was further disaggregated as part of the Westside Mobility Plan TAZ system development. TAZ disaggregation allows the model to more accurately capture the flow of person trips through the model and the modes in which they travel. Aside from more accurately representing the spatial location of land use, TAZ disaggregation reduces the size of TAZs in the model. This helps to reduce the number of trips internalized by each zone by providing additional access to the roadway network as well as a smaller amount of land use to potentially interact. For instance, a home-based work trip may not be assigned to the roadway network if it can be satisfied within the zone from which it is based. If the zone were split into a zone with jobs and a zone with households, the trip would be forced to travel from one zone to the other using the roadway network. This trip would now be accounted for on the roadway network and used to calculate congested speeds for use in the assignment and feedback iterations as well as to calculate performance measures such as vehicle miles of travel and emissions.

The reduction of intra-zonal trips also has a direct impact on the number of auto, walk, bike, and transit trips estimated by the model. This is because the mode choice component of the model is performed after the trip distribution stage and is based on various mode choice variables including distance and travel time. Since the number of intra-zonal trips have already been determined during the trip distribution stage and do not have distance or travel time associated with them, a default calculation must be performed. Therefore, intra-zonal trips for very large TAZs have their travel time calculated the same way as the travel time for intra-zonal trips for very small TAZs when in actuality an intra-zonal trip in a very large TAZ could be traveling much further. Increasing the number of TAZs reduces the number of intra-zonal trips that occur simply due to large TAZ sizes and enhances the model's mode choice component.

The SCAG RTP model contained approximately 890 TAZs within the City of Los Angeles. These TAZs were disaggregated to a total of 1,385 TAZs for the City of Los Angeles model. For the Westside Mobility Plan, an additional 52 TAZs were added within the City of Los Angeles and 17 TAZs in nearby jurisdictions. Within the Westside study area, the SCAG RTP model contained 99 TAZs which were disaggregated to a total of 270 TAZs for the Westside Mobility Plan and Specific Plan amendments. Mid-block connections were then used to facilitate the loading of vehicle and transit trips to the roadway and transit networks. The additional disaggregation further improves vehicle and transit trip loading but also allows for the detailed incorporation of future land use patterns in areas that are expected to experience significant changes. As shown on Figure 7, the 99 existing TAZs in the Westside study area were typically split along major roadways or physical boundaries.

Potential trips relating to TAZs not included in the City of Los Angeles model were reflected as internal-to-external (I-X), external-to-internal (X-I), or external-to-external (X-X) trips associated with new external stations created at the City of Los Angeles model boundary. Table 1 provides a summary of the SCAG RTP model TAZ structure compared to the modified TAZ structure for the City of Los Angeles and Westside Mobility Plan models.



Figure 7 – Traffic Analysis Zone Modifications

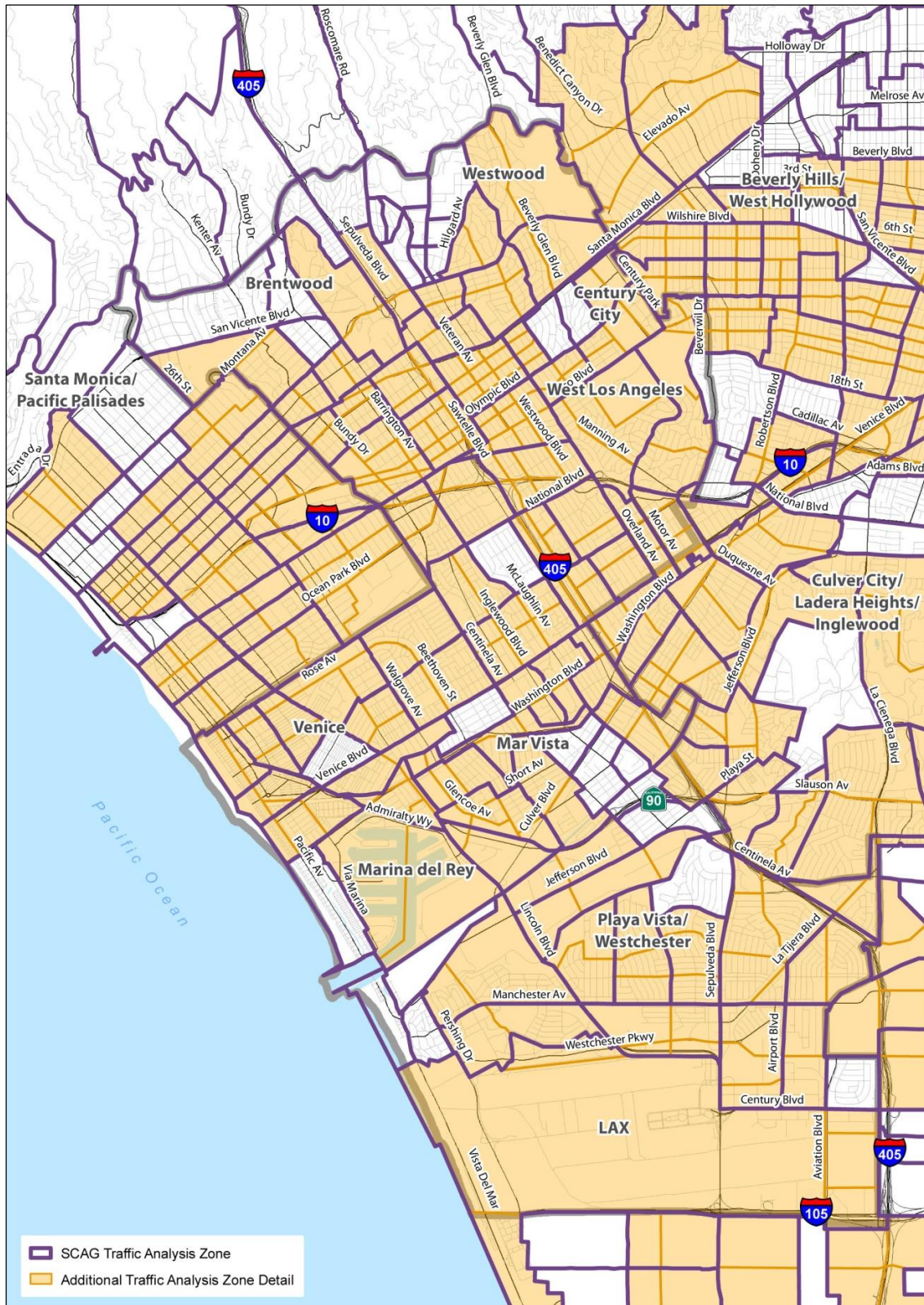




TABLE 1 MODEL TAZ STRUCTURE COMPARISON		
Category	Westside Mobility Plan Sub-Area Model	SCAG 2008 RTP Model
Internal Zones	2,717	4,109
External Zones	9	40
Air and Port Zones	43	43

Socio-Economic Data

Since TAZs are used to tabulate demographic and employment data, socio-economic data (SED) from the SCAG RTP model was modified by reallocating demographic and employment assumptions from the original SCAG TAZ system to the modified TAZ system. The data for each new TAZ was allocated from its corresponding SCAG TAZ based on aerial photography, field observations, work on other projects within the City of Los Angeles, and input from the City of Los Angeles Department of City Planning (LADCP). Base year (2008) land use changes from the LADCP are provided in Appendix A.

Table 2 presents the SED for the Westside TDF model within the CTCSP and WLA TIMP Specific Plan areas. Detailed base year (2008) SED estimates for the Westside study area are provided in Appendix B.

TABLE 2 WESTSIDE STUDY AREA SOCIOECONOMIC DATA		
SED Data	Location	Model Calibration Year 2008
Households	CTCSP Area	68,383
	WLA TIMP Area	88,903
	Project Area	157,286
Employment	CTCSP Area	87,679
	WLA TIMP Area	197,840
	Project Area	285,519
Population	CTCSP Area	157,466
	WLA TIMP Area	197,190
	Project Area	354,656

Socio-economic data for TAZs outside the City of Los Angeles boundary were checked for reasonableness against aerial photography, field observations, and work on other projects. One such project was the update of the City of Santa Monica General Plan’s Land Use and Circulation Element (LUCE). As part of this project, base year (2008) socio-economic data was obtained for the City of Santa Monica. This data was compared to base year (2008) land



use from the City of Los Angeles Model. As shown in Table 3, the population, household, and employment estimates for the City of Santa Monica are within 1 percent, while student estimates are within 3 percent. Additionally, the City of Los Angeles Model daily trip productions and peak hour vehicle trip generation are within approximately 1 percent.

TABLE 3 CITY OF SANTA MONICA MODEL BASE YEAR (2008) LAND USE COMPARISON				
Category	City of Los Angeles Model (2008)	Santa Monica Model (2008)	Delta	% Difference
Population	95,766	95,120	646	0.7%
Households	48,757	48,602	155	0.3%
Jobs	90,224	89,353	871	1.0%
K-12 Students	13,008	12,539	469	3.7%
College Students	30,624	30,000	624	2.1%
Daily Trip Productions	473,004	470,114	2,890	0.6%
AM Vehicle Trips	32,559	32,973	-414	-1.3%
PM Vehicle Trips	38,110	37,792	318	0.8%

Trip Tables

External-to-External Trip Tables

Once the City of Los Angeles model roadway network, transit network, and TAZ system were developed, a full model run was performed to obtain origin-destination (OD) matrices for the entire SCAG region. The resulting OD matrices contain all the vehicle trips in the model, including the vehicle trips corresponding to pass-through traffic originating and terminating outside the City of Los Angeles model area (referred to as external-to-external trips). Since these types of vehicle trips are generally not affected by land use or transportation changes within the City of Los Angeles, they are not calculated by the City of Los Angeles model directly and were obtained for the model study area by performing a sub-area model run. The sub-area model run created a sub-area OD matrix for external-to-external vehicle trips that was checked for reasonableness against traffic count data.

Internal-to-External and External-to-Internal Trip Tables

In the original SCAG RTP model, vehicle trips originating in the SCAG region with a destination outside the SCAG region and vehicle trips originating outside the SCAG region with a destination within the SCAG region are not calculated by the core model procedures. Alternatively, they are accounted for in separate trip tables appended to the trip tables calculated by the model. To make the City of Los Angeles and Westside Mobility Plan models sensitive to changes in internal-to-external and external-to-internal trips associated with changes in land use or transportation



infrastructure within the City of Los Angeles, TAZs outside the model area were aggregated into larger zones encompassing most of the SED not included in TAZs within the model area. SED not included in the City of Los Angeles Model was accounted for by modifying the separate trip tables, which become appended to the trip tables calculated by the model, based on information from the sub-area model run.

Internal-to-external and external-to-internal trips associated with the 70 TAZs added as part of the Westside Mobility Plan TDF model were estimated based on information from the sub-area run. Internal-to-external and external-to-internal trips associated with the 270 TAZs within the Westside study area were checked for reasonableness against observed average trip lengths from the SCAG sponsored 2000 Post-Census Regional Travel Survey.

Special Generator Trip Tables

In the SCAG RTP model, vehicle trips associated with special generating uses such as air and sea ports are not calculated by the core model procedures. Alternatively, they are accounted for in separate trip tables and appended to the trip tables calculated by the model. Trip tables corresponding to special generator vehicle trips were obtained through the sub-area model run procedure as described above.

Within the Westside study area, the resulting OD matrices associated with Los Angeles International Airport (LAX) were further modified to match trip generation and trip distribution data obtained from the 2006 LAX Air Passenger Survey and traffic counts collected in 2008 at the driveways of LAX facilities.



3. MODEL COMPONENT MODIFICATIONS



Upon review of the SCAG RTP model, it was determined that enhancements to key model components could be made to further refine observed travel patterns within the City of Los Angeles and the Westside study area. In general, the structure of the model was not modified as all four primary stages (trip generation, trip distribution, modal split, and trip assignment) of the SCAG RTP model were included with all their sub-procedures. Instead, key model input files and criteria for various model processes were modified so the model could replicate 2008 traffic conditions as discussed below, and replicate trip generation, trip distribution, modal split, and assignment characteristics. The refinement of the model components is discussed below.

INITIALIZATION

The SCAG RTP model uses a lookup table to determine the capacity of roadway segments based on roadway classification, number of lanes, and number of lanes crossing the roadway segment at the nearest intersection (i.e., a roadway segment's capacity will be lower on a link adjacent to an intersecting major arterial than on a link adjacent to an intersecting minor collector). The capacity lookup table associated with the model was reviewed and found to reflect the general hierarchy of street functional classes in the City of Los Angeles.

The model also utilizes a lookup table to determine the travel speed on roadway segments based on the posted speed and facility type to ensure the reasonableness of travel speeds on all model roadway segments. A review of the speed lookup table was performed and it was determined that speeds in the cross-classification table were reasonable and generally matched speed data collected by Fehr & Peers within the Westside study area.

NETWORK SKIMMING

The SCAG RTP model uses two static variables – “value of time” and “auto operating cost” – to develop link costs associated with each roadway segment. The variables are used to test various routes and modes of travel to determine the lowest cost combination to travel between desired origins and destinations. This data is stored in a matrix, which is used by the trip distribution and modal split stages of the model to distribute person trips and determine the likely mode of travel for each person trip. Consequently, changes to either of these variables directly affect the average trip length as well as the mode split percentages for the model. Due to the static nature of these variables for the entire SCAG region, the default values may not be suitable for modeling travel patterns and modal share for the City of Los Angeles and Westside study area.

A sensitivity analysis was performed on these variables to determine whether the model responded reasonably to changes. Based on this sensitivity analysis, it was determined that the model responded in the correct direction. Doubling “auto operating cost” resulted in an increase in transit and walk/bike trips and a decrease in auto trips; likewise, halving “auto operating cost” resulted in a similar decrease in transit and walk/bike trips and an increase in auto trips. Doubling “value of time” resulted in a slight increase in auto trips and a slight decrease in transit and walk/bike trips; likewise, halving “value of time” resulted in a slight decrease in auto trips and a slight decrease in transit and walk/bike trips. Therefore, it was determined that “auto operating cost” was the appropriate variable to



modify should the average vehicle trip length, mode split percentages, or transit ridership need to be modified due to the model’s sensitivity to changes in the “auto operating cost” variable.

To determine the appropriate value for the “auto operating cost” variable, the base year Westside Mobility Plan sub-area model daily bus ridership was compared to 2010 daily bus ridership data on individual Metro routes. Based on this comparison, it was determined that the model was overestimating bus ridership by approximately 25 percent. Therefore, “auto operating cost” was iteratively adjusted to obtain Metro bus ridership forecasts that were closer to observed data. The “auto operating cost” was modified from 60 cents per mile to 20 cents per mile. As shown in Table 4 and in more detail in Appendix C, the Westside Mobility Plan sub-area model with the modified roadway network, transit network, TAZ structure, and “auto operating cost” underestimated Metro bus ridership by 6 percent, overestimated Metro rail ridership by 5 percent, and underestimated total transit ridership by 4 percent. Additionally, with the 2010 daily bus ridership data the base year (2003) SCAG 2008 RTP model underestimated Metro bus ridership by 10 percent.

TABLE 4				
DAILY TRANSIT RIDERSHIP COMPARISON TO 2010 METRO DATA				
Transit Type	Daily Transit Ridership			
	2010 Metro Data	Westside Model	Delta	% Change
Metro Bus Lines	1,071,350	1,006,828	-64,522	-6%
Metro Rail Lines	284,084	297,746	13,662	5%
All Metro Transit	1,355,434	1,304,574	-50,860	-4%

Since increasing transit ridership in the model may result in unrealistic transit mode share percentages, a peak period comparison of the base year (2008) Westside Mobility Plan sub-area model’s transit mode share percentage to the base year (2006) Metro Model’s (which is based on the SCAG 2004 RTP model) transit mode share percentage was performed. As shown in Appendix C, the home-base-work (HBW) transit mode share percentage is 8.8 percent compared to 10.4 percent in the Metro model, an underestimation of 1.6 percent. Additionally, the transit mode share percentage for all trip purposes matched the 4.4 percent estimated by the Metro model.

TRIP GENERATION

The SCAG RTP model uses a vehicle availability model to determine the number of autos available to each household based on a cross-classification table that includes the households’ income, workers, persons, employment, and head of household age. The output values of the cross-classification table for the SCAG 2008 RTP model were estimated using SCAG 2001 Travel Survey data for the entire SCAG region. However, the average household auto ownership varies across the SCAG region and the output values may need to be adjusted for the City of Los Angeles and Westside Mobility Plan models. Therefore, average auto ownership for the entire SCAG region was compared to the average auto ownership in Los Angeles County based on data from the SCAG 2001 Travel Survey. Based on this data, the existing output values were determined to be suitable for estimating the number of vehicles available to each



household within the City of Los Angeles and the Westside, and the cross-classification table associated with the auto availability model was not modified. As shown in Table 5, the City of Los Angeles model estimates that the average household produces 4.5 automobile trips per day, compared to 4.3 in the SCAG 2001 Travel Survey. Given that underreporting can occur in household travel surveys because of the self-reporting nature of traditional survey methods, this difference is acceptable.

TABLE 5 HOUSEHOLD TRIP GENERATION DATA FOR LOS ANGELES COUNTY			
Data	Westside Model for Los Angeles County	SCAG Survey for Los Angeles County	Delta
Households	3,153,289	--	--
Home-Based Person Trips	24,226,711	--	--
HB Person Trips Per HH	7.7	7.3	0.4
Auto Trips (No Trucks)	14,269,533	--	--
Auto Trips Per HH	4.5	4.3	0.2
VMT	167,905,117	--	--
VMT Per HH	53.2	--	--

Person trip production rates for the SCAG region were also developed using cross-classification tables. These cross-classification tables utilize various SED along with the number of autos available to a household determined by the vehicle availability model. The output values for the cross-classification tables were compared with SCAG data to determine if daily person trip production rates are reasonable for households within the City of Los Angeles and the Westside.

Based on the survey data, it was determined that the home-based work person trip production for households with zero autos was approximately 50 percent higher in Los Angeles County than the SCAG region. Since households with zero autos utilize alternative modes of travel, it was necessary to modify the home-based work person trip production rates associated with zero auto households to more accurately estimate trip generation. The other comparisons of Los Angeles County data to SCAG regional data were reasonable. As shown in Table 5, the City of Los Angeles model estimates that the average household produces 7.7 home-based person trips per day, compared to 7.3 in the SCAG Travel Survey. Given that underreporting can occur in household travel surveys because of the self-reporting nature of traditional survey methods, this difference is acceptable.

After person trip productions are calculated, they are allocated to peak and off-peak time periods based on time-of-day factors for each trip purpose. These factors were adjusted by determining the time-of-day factors for all trip purposes included in the SCAG Travel Survey data. Additionally, daily traffic count data provided by LADOT was used to determine if the overall peak and off-peak percentages were reasonable. As shown in Table 6, the model



estimates 53 percent of person trips are generated in the peak period, compared to 52 percent in the SCAG Travel Survey.

TABLE 6 PEAK AND OFF-PEAK PERSON TRIP PRODUCTION FOR LOS ANGELES COUNTY				
Time Period	Los Angeles County Person Trips	Los Angeles County Person Trips %	SCAG Survey Person Trips %	Delta
Peak (7-Hour)	18,279,352	53%	52%	1%
Off-Peak (17-Hour)	16,123,427	47%	48%	-1%
Total	34,402,779	100%	100%	0%

TRIP DISTRIBUTION

The SCAG RTP model uses a standard gravity model to estimate the number of person trips from each TAZ to every other TAZ in the SCAG region. The gravity model utilizes the outputs from the network skimming stage along with friction factor tables for both peak and off-peak conditions regardless of the location of the TAZ. The gravity model was adjusted as part of the Westside Mobility Plan model development process. The number of gravity model iterations was increased to a maximum limit of 999 and the convergence criterion was reduced from 0.1 to 0.01. This helps with the consistency of results between model runs. The gravity model stage of the model meets the modified convergence criteria of 0.01 for all trip purposes.

To account for varying trip lengths by region, a matrix of K-factors is applied to the gravity model results to adjust the attractiveness of one TAZ to another. The friction factor tables along with the K-factor tables were not modified in the model because the average vehicle trip travel time for Los Angeles County was within two minutes of the average vehicle trip travel time for the SCAG region in the SCAG Travel Survey.

A model trip distribution summary is provided in Table 7 and more detail is provided in Appendix D, which includes average trip time, average trip length, and average trip speed for peak and off-peak commute and non-commute trips in the Westside Mobility Plan TDF model.



TABLE 7
TRIP DISTRIBUTION SUMMARY FOR LOS ANGELES COUNTY

Trip Type	Average Trip Time (Minutes)		Average Trip Length (Miles)	Average Travel Speed (Miles per Hour)
	Westside Model	SCAG Survey		
Commute	28.5	27.5	11.4	24
Non-Commute	20.7	21.4	8.2	24
All	22.8	--	9.0	24

MODAL SPLIT

The SCAG RTP model utilizes a multi-variable (logit) modal choice model to allocate TAZ to TAZ person trips from the trip distribution model to various travel modes including single-occupancy vehicle, dual-occupancy vehicle, three or more occupancy vehicle, walk, bike, and transit. Mode split percentages from the Westside Mobility Plan sub-area model were compared with mode split percentages from the SCAG Travel Survey data for Los Angeles County to ensure the mode split model was appropriately allocating person trips to the various modes of travel included in the model. As shown in Table 8, the Westside Mobility Plan TDF model mode split percentages for Los Angeles County are nearly identical to the mode split percentages from the SCAG Travel Survey. Total person trips and mode split percentages for each mode of travel are shown in Appendix E for the Westside study area.

TABLE 8
MODE SPLIT COMPARISON FOR LOS ANGELES COUNTY

Mode	Westside Mobility Plan Sub-Area Model	SCAG Survey
Auto	81%	80%
Total Non-Auto	19%	20%
<i>Transit</i>	3%	3%
<i>Walk/Bike</i>	16%	17%

An additional test was performed to ensure the mode split model was properly allocating person trips to the various modes of travel included in the model. As shown previously in Table 5 from the trip generation discussion, the City of Los Angeles model estimates the average household produces 4.5 auto trips per day, compared to 4.3 in the SCAG Travel Survey. Given that underreporting can occur in household travel surveys because of the self-reporting nature of traditional survey methods, this difference is acceptable.

Additionally, average auto occupancy for the Westside Mobility Plan TDF model was compared with SCAG Travel Survey data to ensure the mode split model was reasonably allocating motorized person trips between single-occupancy and multi-occupancy vehicles. As shown in Table 9, the Westside Mobility Plan TDF model estimates the



average peak period (i.e., 7-10 AM and 3-7 PM) auto occupancy is 1.64 persons per vehicle for all trip purposes, compared to 1.58 persons per vehicle in the SCAG Travel Survey, a difference of less than 4 percent.

TABLE 9 AVERAGE AUTO OCCUPANCY			
Time Period	Westside Mobility Plan Sub-Area Model	SCAG Travel Survey	Delta
Peak (7-Hour)	1.64	1.58	0.06
Off-Peak (17-Hour)	2.25	--	--

PRODUCTION/ATTRACTION (PA) TO ORIGIN/DESTINATION (OD)

The PA to OD stage of the SCAG RTP model converts motorized vehicle person trips and transit person trips from PA matrices broken down by trip purpose into OD matrices broken down by mode of travel. The model then converts the OD matrices into AM and PM peak period matrices by using one set of time-of-day (diurnal) factors for the entire SCAG region. Therefore, these time-of-day values were adjusted to match time of day data from the SCAG Travel Survey data. As shown in Table 10, the time-of-day data from the Westside Mobility Plan sub-area model are nearly identical to the time-of-day data from the SCAG Travel Survey.

TABLE 10 VEHICLE TIME-OF-TRAVEL SUMMARY			
Time Period	Westside Mobility Plan Sub-Area Model	SCAG Survey	Delta
AM (3-Hour)	22%	22%	0%
PM (4-Hour)	31%	30%	1%

TRIP ASSIGNMENT

The vehicle trip assignment model consists of a series of multi-class simultaneous equilibrium assignments for six classes of vehicles for the AM and PM peak periods. The model currently utilizes 40 iterations with a convergence criterion of 0.01. However, based on sensitivity testing it was determined that the AM and PM peak period assignment procedures did not reach the specified convergence criteria with additional highway network and TAZ detail included in the model. Additionally, since the model will serve as a tool to implement, manage and monitor the City of Los Angeles' transportation plans, projects, and programs, it was determined that a lower convergence criterion was more appropriate for local applications of the model where additional roadway network and TAZ detail may be added, such as the Westside Mobility Plan.



Given the 40+ hour run time of the SCAG RTP model and the desire to limit the run time to less than 20 hours, the City of Los Angeles Model and Westside Mobility Plan sub-area model utilize 999 iterations with a convergence criterion of 0.005. The AM peak period assignment procedure reaches the specified convergence criterion in 125 iterations and the PM peak period assignment reaches the specified convergence criterion in 156 iterations. A summary of trip assignment statistics is provided in Table 11.

Time Period	Westside Mobility Plan Sub-Area Model	SCAG 2008 RTP Model
Max Assignment Iterations	999	40
Assignment Convergence Criterion	.005	.01
Total Model Run Time	13 Hours	40+ Hours
Classes of Vehicles	6	6

The highway assignment model was also modified to include turn prohibitions and provide AM and PM peak period turning movement volumes at specified intersections. The ability to perform select link/zone analyzes was also included in the model.

A summary of highway network performance measures for Los Angeles County is shown in Table 12 and additional detail is provided in Appendix F. As shown in Table 12, the base year (2008) Westside Mobility Plan TDF model estimates that approximately 167,900,000 vehicle miles are traveled on Los Angeles County roadways on an average weekday. Additionally, the model estimates that approximately 8.4 million hours are spent in vehicles on Los Angeles County roadways on an average weekday, with approximately 4.3 million hours caused by congestion.

Performance Measure	AM Peak Period (3-Hour)	PM Peak Period (4-Hour)	Daily
Vehicle Miles Traveled	40,600,000	58,100,000	167,900,000
Vehicle Hours Traveled	2,400,000	3,600,000	8,400,000
Vehicle Hours of Delay	1,400,000	2,100,000	4,300,000
Average Speed (Mph)	17	16	20
VMT Per HH + Jobs	5.44	7.77	22.45

The model estimated vehicle miles of travel on Los Angeles County roadways was compared to vehicle miles of travel data from the Highway Performance Monitoring System (HPMS), a nationwide FHWA inventory system that includes data for all of the nation’s public road mileage, to ensure the base year model estimated vehicle miles of travel was



reasonable. This is an important step in the development of the model since vehicle miles of travel estimates from the Westside Mobility Plan TDF model will be used as an input for vehicle emission modeling. A summary of the HPMS comparison is shown in Table 13 and additional detail is provided in Appendix F.

Performance Measure	HPMS (2009)	Westside Model (2008)	Delta	% Difference
Miles of Roadway	21,678	18,232	-3,446	-16%
Vehicle Miles Traveled	214,236,850	188,135,811	-26,101,039	-12%
Gas and Diesel Sold in 2009 (Gallons)	4,378,110,000	4,378,110,000	--	--
Average Miles Per Gallon	20.4	23.3	2.8	14%

As shown in Table 13, the 2008 Westside Mobility Plan sub-area model (with all Los Angeles County roadways including centroid connectors to represent local streets) underestimates 2009 vehicle miles of travel by 12 percent. However, a majority of roadways in Palmdale, Lancaster, and unincorporated portions of Los Angeles County were removed and the TAZs aggregated to reduce model run time, resulting in 16 percent fewer miles of roadway accounted for in the VMT calculation.

Due to the one year difference in comparison years and the extensive model aggregation performed to develop the model, vehicle miles of travel data from the original base year SCAG 2008 RTP model was also compared to 2009 HPMS data. As shown in Appendix F, the original base year SCAG 2008 RTP model only underestimates vehicle miles of travel by 4 percent. Additionally, when the vehicle miles of travel data from the base year SCAG 2008 RTP model was factored up to 2009 conditions (based on an observed vehicle trip growth of 0.6 percent from the base year SCAG model to the future year (2035) SCAG model) the model was found to only underestimate vehicle miles of travel by 1 percent. The two sets of comparisons suggest the daily VMT estimates from the Westside Mobility Plan sub-area model are reasonable and appropriate for air quality and greenhouse gas analysis.

A summary of transit ridership in the City of Los Angeles model is also provided in Appendix F. As shown in Appendix F, the City of Los Angeles model estimates that approximately 1,400,000 patrons board the bus system on an average weekday, and that approximately 320,000 patrons board the rail system on an average weekday. As mentioned above, only transit routes with a stop within the City of Los Angeles were included in the Westside Mobility Plan TDF model.

FEEDBACK STAGE

The SCAG RTP model uses a model feedback stage to input estimated congested travel speeds from the vehicle assignment stage of the initial model loop back into the network skimming stage of the model to refine estimates from the trip generation, trip distribution, modal split, and PA to OD stages of the model. The resulting OD matrices



are once again assigned to the roadway network to produce a new set of assignment results and congested speeds. Sensitivity testing was performed to determine the appropriate number of feedback loops for the Westside Mobility Plan TDF model.

The first sensitivity test performed for the Westside Mobility Plan sub-area model was to run the base year SCAG RTP model with the number of feedback loops recommended by SCAG to determine the relative change in the network skim matrices from one feedback loop to another. The results from this comparison indicated that the relative change in RMSE falls below one percent after four feedback loops and remains relatively constant up to the SCAG recommended number of feedback loops. Since the network skim matrices directly affect the trip assignment outputs, the second sensitivity test compared the trip assignment results from one feedback loop to another. The results from this comparison indicated that the resulting traffic volumes from four feedback loops are within one percent of the traffic volumes from the SCAG recommended number of feedback loops. Therefore, the Westside Mobility Plan TDF model utilizes four feedback loops.

MODEL RUN TIME

In general, the structure of the Westside Mobility Plan TDF model was not modified as all four primary stages of the SCAG RTP model were included with all their sub-procedures. Instead, the following modifications were made to key model input files to reduce the model run time without compromising the accuracy of the results.

- The number of TAZs outside the City of Los Angeles was condensed, reducing the total number of TAZs in the City of Los Angeles model from 4,109 to 2,717. This results in smaller OD matrices and hence the number of zone to zone interactions.
- Selected roadways outside the City of Los Angeles were included in the City of Los Angeles model, reducing the “create vehicle skim matrices” procedure run time as well as the “gravity model” procedure run time and the “vehicle assignment” procedure run time.
- Transit routes without a stop within the City of Los Angeles were not included in the City of Los Angeles model, reducing the “create transit skim matrices” procedure run time as well as the “transit assignment” procedure run time.
- The number of feedback loop iterations was set to four.

As shown in Table 11, the base year (2008) City of Los Angeles model has a run time of approximately 13 hours running on a computer with Windows 7 32-bit, an Intel Core i7 central processing unit at 3.07 gigahertz, 4 gigabytes of random access memory, and a 120 gigabyte solid-state hard drive.

PEAK HOUR TRAFFIC VOLUMES

The Westside Mobility Plan TDF model produces AM (7:00 to 10:00 AM) and PM (3:00 to 7:00 PM) peak period OD matrices that are assigned to the roadway network resulting in AM and PM peak period traffic volumes. Since the model does not directly produce AM and PM peak hour traffic volumes, the peak hour volumes need to be developed



post model run using peak period to peak hour conversion factors. The conversion factors were developed based on 24-hour traffic counts provided by LADOT. The peak period to peak hour conversion factors are shown in Table 14.

Area	AM Factor	PM Factor
San Fernando Valley	0.43	0.28
Gateway Cities	0.41	0.28
Central Los Angeles	0.42	0.27
Westside Cities	0.44	0.27
Westside Study Area	0.37	0.27
Freeways	0.36	0.26

A post-processor excel file was developed to factor AM and PM peak period assigned model volumes to AM and PM peak hour factored traffic volumes. Model users should note that this peak hour post-processor method has the following limitations:

- The factors are based on traffic counts, which only capture vehicle trips that passed the count location during the specified time period. Vehicles in queue are not accounted for so peak hour demand levels could be higher. This condition occurs on many Los Angeles roadways during peak hours.
- The use of fixed factors makes the model insensitive to variables that might influence future individual travel behavior during the peak hours. Congestion, tolls, and parking pricing are just some of the variables that could change over time yet the model would still forecast the same proportion of peak hour traffic.



4. STATIC MODEL VALIDATION

Following the modification of the roadway network, transit network and TAZ structure, and enhancements to key model components, the model was validated for the Westside study area to ensure it replicated 2008 traffic conditions and responded in the correct direction and magnitude when making changes to land use and the roadway and transit networks. The validation process involved the calibration of model parameters in the land use and roadway network files, as well as other key model components. The parameters were iteratively adjusted until the model attained validation criteria established by the California Transportation Commission. Two types of model validation were performed – static validation and dynamic validation. As part of the validation process, AM and PM peak period vehicle flows were developed based on 24-hour traffic volumes from counts collected by Fehr & Peers for various projects in the City of Los Angeles and from counts provided by LADOT. Traffic counts on freeway facilities were obtained from the California Department of Transportation (Caltrans) Traffic Data Branch and the Performance Measurement System (PeMS) which is conducted by the Department of Electrical Engineering and Computer Sciences at the University of California at Berkeley.

The SCAG RTP model produces traffic volumes for each roadway segment represented in the model for the AM (6:00 to 9:00 AM) and PM (3:00 to 7:00 PM) peak periods. However, the peak period of travel for the entire SCAG region may differ from the peak period of travel for the City of Los Angeles or the Westside. Therefore, individual traffic counts collected for the City of Los Angeles model validation process were aggregated by hour to determine the peak hours and periods of travel in the City of Los Angeles. The analysis indicated that the AM peak hour of travel in the City of Los Angeles is generally from 7 AM to 8 AM and the PM peak hour of travel in the City of Los Angeles is generally from 5 PM to 6 PM. Additionally, 6 AM to 9 AM represents the AM peak period of travel in the City of Los Angeles and 3 PM to 7 PM represents the PM peak period of travel in the City of Los Angeles, matching the peak periods forecasted by the SCAG RTP model.

To determine the peak period of travel in the Westside, individual traffic counts collected for the Westside Mobility Plan TDF model validation process were aggregated by hour to determine the peak hours and periods of travel in the Westside. The results are summarized in Table 15 with light grey shading indicating the AM and PM peak periods and bold indicating the AM and PM peak hours of travel in the Westside.



Hour	Local Streets	Freeway Facilities	All Roadways
6 AM to 7 AM	224,745	78,166	302,911
7 AM to 8 AM	468,934	88,061	556,995
8 AM to 9 AM	569,966	83,825	653,791
9 AM to 10 AM	497,026	76,649	573,675
3 PM to 4 PM	534,840	81,732	616,572
4 PM to 5 PM	560,995	81,587	642,582
5 PM to 6 PM	606,834	81,762	688,596
6 PM to 7 PM	577,617	78,987	656,604

A comparison of the model time periods for the SCAG RTP model, the City of Los Angeles Model, and the Westside Mobility Plan sub-area model are shown in Table 16. As shown, the AM peak hour of travel in the Westside is 8 AM to 9 AM, one hour later than in the City of Los Angeles, and the PM peak hour of travel in the Westside is 5 PM to 6 PM, the same as in the City of Los Angeles. Additionally, 7 AM to 10 AM represents the AM peak period of travel in the Westside, one hour later than in the City of Los Angeles, and 3 PM to 7 PM represents the PM peak period of travel in the Westside, the same as in the City of Los Angeles. Therefore, the Westside Mobility Plan sub-area model was modified to produce traffic volumes for each roadway segment represented in the model for the AM (7 to 10 AM) and PM (3 to 7 PM) peak periods.

Time Period	SCAG 2008 RTP Model	City of Los Angles Model	Westside Model
AM Peak Period (3-Hour)	6 AM to 9 AM	6 AM to 9 AM	7 AM to 10 AM
AM Peak Hour	7 AM to 8 AM	7 AM to 8 AM	8 AM to 9 AM
PM Peak Period (4-Hour)	3 PM to 7 PM	3 PM to 7 PM	3 PM to 7 PM
PM Peak Hour	5 PM to 6 PM	5 PM to 6 PM	5 PM to 6 PM



Due to these additional model refinements and modifications and the desire for a locally valid model suitable for the Westside Mobility Plan, the model was statically and dynamically validated to observed data within and around the Westside study area. The validation procedures and results are summarized below.

MODEL VALIDATION

Static validation measures how well the model's base year traffic and transit volume forecasts replicate base year counts. For the Westside Mobility Plan TDF model, the static validation consisted of 643 roadway link locations within and around the Westside study area and 238 transit routes. The 342 traffic count locations are shown on Figure 8 and the traffic count sheets are provided in Appendix G. Model volumes were also compared to peak period traffic counts along 11 model validation screenlines, as shown on Figure 9.

The California Transportation Commission has established guidelines for determining whether a model is valid and acceptable for forecasting future year traffic and transit volumes. The sub-area validation results were compared to the validation thresholds discussed in *2010 California Regional Transportation Plan Guidelines* (California Transportation Commission, January, 2011).

Traffic Forecasts

- The two-way sum of the volumes on all roadway links for which counts are available should be within 10 percent of the counts.
- All of the roadway screenlines should be within the maximum desirable deviation of at least 75 percent.
- At least 75 percent of the roadway links for which counts are available should be within the maximum desirable deviation, which ranges from approximately 14 to 68 percent depending on total volume (the larger the volume, the less deviation is permitted).
- The correlation coefficient between the actual ground counts and the estimated traffic volumes should be greater than 88 percent.
- The percent root mean square (RMSE) should not exceed 40 percent.

Transit Forecasts

- The difference between actual counts to model results for a given year by route group (i.e., Local Bus, Express Bus, etc.) should be within 20 percent of the counts.
- The difference between actual counts to model results for a given year by transit mode (i.e., Light Rail, Bus, etc.) should be within 10 percent of the counts.



Figure 8 – Static Model Validation Traffic Count Locations

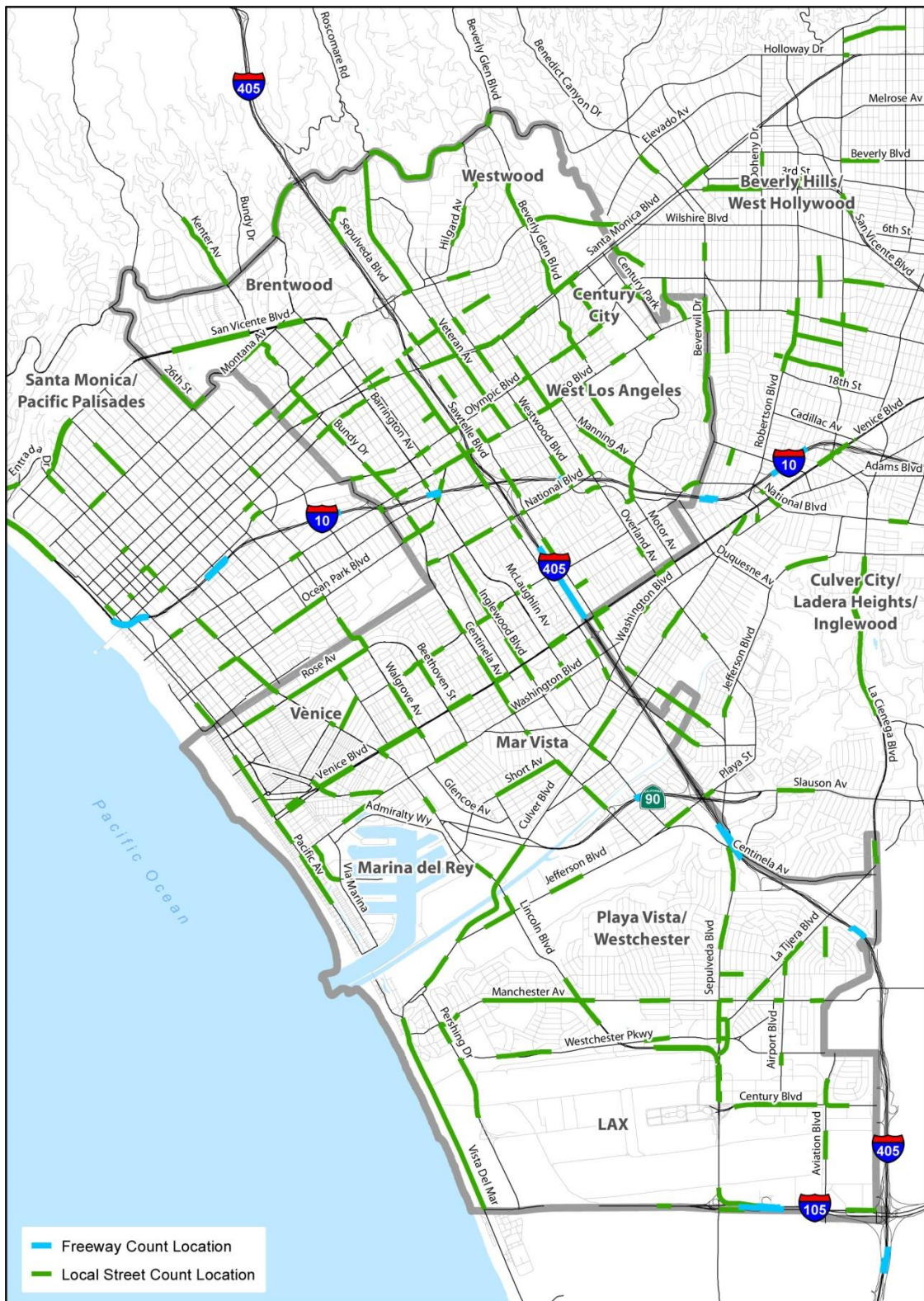




Figure 9 – Static Model Validation Screenlines





Highway Static Model Validation (AM and PM Peak Period Conditions)

The highway static validation process began with the unmodified base year SCAG 2008 RTP model. The model was then refined as part of the City of Los Angeles Model and Westside Mobility Plan sub-area model development process in which land use, roadway and transit network, and model component changes were made. The results for AM (7 AM to 10 AM) and PM (3 PM to 7 PM) peak period traffic conditions for the original SCAG RTP model, the City of Los Angeles Model, and the Westside Mobility Plan sub-area model for traffic counts collected within the Westside study area are shown in Tables 17, 18, and 19, respectively. Red shading indicates the acceptance criterion was not met while green shading indicates the acceptance criterion was met.

TABLE 17			
RESULTS OF PEAK PERIOD HIGHWAY STATIC MODEL VALIDATION WITHIN THE WESTSIDE STUDY AREA:			
SCAG 2008 RTP MODEL			
Validation Statistic	Criterion for Acceptance	Model Results	
		AM (3-Hour)	PM (4-Hour)
% of Links within Caltrans Standard Deviations	75%	62%	56%
% of Screenlines within Caltrans Standard Deviations	100%	76%	71%
2-way Sum of All Links Counted	Within 10%	0%	19%
Correlation Coefficient	Greater than 88%	95%	95%
RMSE	40% or less	40%	52%



TABLE 18			
RESULTS OF PEAK PERIOD HIGHWAY STATIC MODEL VALIDATION WITHIN THE WESTSIDE STUDY AREA:			
CITY OF LOS ANGELES MODEL			
Validation Statistic	Criterion for Acceptance	Model Results	
		AM (3-Hour)	PM (4-Hour)
% of Links within Caltrans Standard Deviations	75%	70%	71%
% of Screenlines within Caltrans Standard Deviations	100%	82%	86%
2-way Sum of All Links Counted	Within 10%	-2%	1%
Correlation Coefficient	Greater than 88%	96%	96%
RMSE	40% or less	36%	36%





TABLE 19
RESULTS OF PEAK PERIOD HIGHWAY STATIC MODEL VALIDATION WITHIN THE WESTSIDE STUDY AREA:
WESTSIDE MOBILITY PLAN SUB-AREA MODEL

Validation Statistic	Criterion for Acceptance	Model Results	
		AM (3-Hour)	PM (4-Hour)
% of Links within Caltrans Standard Deviations	75%	79%	82%
% of Screenlines within Caltrans Standard Deviations	100%	100%	100%
2-way Sum of All Links Counted	Within 10%	5%	8%
Correlation Coefficient	Greater than 88%	97%	97%
RMSE	40% or less	30%	31%

As shown in Table 17, the unmodified base year SCAG RTP model did not meet all of the guidelines for model accuracy in the AM or PM peak periods. However, this model served as the starting point for the model development process and did not contain any of the roadway network, transit network, TAZ structure, or model component changes made as part of the City of Los Angeles or Westside Mobility Plan model development processes.

As shown in Table 18, the City of Los Angeles Model also did not meet all of the guidelines for model accuracy in the AM or PM peak periods within the Westside study area. However, this model did meet all of the guidelines for model accuracy in the AM and PM peak periods within the City of Los Angeles and provided the basis for additional roadway network, transit network, TAZ structure, and model component changes to develop a locally valid model for the Westside Mobility Plan.

The results for AM (7 AM to 10 AM) and PM (3 PM to 7 PM) peak period conditions for the final run of the Westside Mobility Plan TDF model are summarized in Table 19, while the detailed static model validation spreadsheets are presented in Appendix H. This model run contained all roadway network, transit network, TAZ structure, and model component changes made to the SCAG RTP model to develop a travel demand model for the City of Los Angeles and the Westside Mobility Plan and Specific Plan amendments.

As shown in Table 19, the Westside Mobility Plan model meets or exceeds the guidelines for model accuracy in the AM and PM peak periods. Therefore, the Westside Mobility Plan base year (2008) model is considered to be valid to 2008 traffic conditions. Additionally, the two-way sum of all link volumes estimated by the model was 5 to 8 percent higher than observed traffic counts. This is appropriate for a demand model that should overestimate constrained (counted) volumes on congested portions of the network. To determine if the model was overestimating on the appropriate roadway segments, the counted roadway segments were divided into groupings of “uncongested” and “congested” locations based on field observation and travel speed data. As shown in Table 20, the model overestimated demand by 1 percent or less on roadway segments that were determined to be uncongested during the peak periods. However, as desired, the model’s demand volumes are higher than the constrained peak period counts by 9 percent and 14 percent in the AM and PM peak periods, respectively, on



roadway segments that were determined to be congested during the peak periods. Additionally, the model's demand volumes are higher by 15 percent in the AM peak period and 16 percent in the PM peak period on freeway segments determined to be congested during the peak periods according to the Caltrans 2008 HICOMP Report.

TABLE 20
RESULTS WITHIN THE WESTSIDE STUDY AREA FOR CONGESTED AND UNCONGESTED LOCATIONS:
WESTSIDE MOBILITY PLAN SUB-AREA MODEL

Validation Statistic	Model Results	
	AM (3-Hour)	PM (4-Hour)
<i>Uncongested Locations</i>		
2-way Sum of All Links Counted	<1%	1%
% of Links within Caltrans Standard Deviations	83%	86%
<i>Congested Locations</i>		
2-way Sum of All Links Counted	9%	14%
% of Links within Caltrans Standard Deviations	73%	75%

As shown in previous tables, validating along all screenlines indicates the directionality of inbound and outbound trips along major corridors in the study area is appropriate.

Highway Static Model Validation (Daily Conditions)

Since the base year Westside Mobility Plan TDF model was shown to produce reasonable estimates of 2009 vehicle miles of travel through comparison to HPMS data, the model is suitable for estimating changes in daily vehicle miles of travel based on land use and transportation system changes. However, the model was only validated to AM peak period (3-hour) and PM peak period (4-hour) conditions while vehicle emission modeling is typically performed using daily vehicle miles of travel estimates. Therefore, the base year Westside Mobility Plan TDF model daily forecasts were compared to 2008 daily traffic count data provided by LADOT for the Westside study area.



TABLE 21
RESULTS OF DAILY HIGHWAY STATIC MODEL VALIDATION WITHIN THE WESTSIDE STUDY AREA:
WESTSIDE MOBILITY PLAN SUB-AREA MODEL

Validation Statistic	Criterion for Acceptance	Model Results	
		Daily	
% of Links within Caltrans Standard Deviations	75%	77%	
% of Screenlines within Caltrans Standard Deviations	100%	100%	
2-way Sum of All Links Counted	Within 10%	-2%	
Correlation Coefficient	Greater than 88%	98%	
RMSE	40% or less	29%	

As shown in Table 21, the Westside Mobility Plan TDF model meets or exceeds the guidelines for model accuracy under daily conditions. Furthermore, the 2-way sum of all links counted being within 2 percent with a %RMSE of less than 30 percent indicates the model is suitable for estimating vehicle miles of travel within and around the Westside study area.

Transit Static Model Validation (Peak Period Conditions)

The results for peak period (7-hour) transit conditions for the unmodified base year SCAG RTP model are summarized in Table 22 below. This model run did not contain any of the roadway network, transit network, TAZ structure, or model component changes made to the unmodified base year SCAG RTP model to develop a travel demand model for the City of Los Angeles or the Westside Mobility Plan.

TABLE 22
RESULTS OF PEAK PERIOD TRANSIT STATIC MODEL VALIDATION WITHIN THE WESTSIDE STUDY AREA:
SCAG 2008 RTP MODEL

Validation Statistic	Criterion for Acceptance	Peak Period (7-Hour) Model Results	
		Entire Model	Westside Study Area
Sum of All Transit Boardings by Route Group	--	--	--
Local Bus	Within 20%	1.2%	4.3%
Express Bus	Within 20%	35.0%	4.8%
Transitway	Within 20%	--	--
Sum of All Transit Boardings by Transit Mode	Within 10%	5.3%	4.4%



As shown in Table 22, the unmodified base year SCAG RTP model did not meet all of the guidelines for model accuracy in the peak period (7-hour) for transit routes across the entire model. However, the model did meet all of the guidelines for model accuracy for transit routes with a stop within the Westside study area.

The results for peak period (7-Hour) transit conditions for the final run of the Westside Mobility Plan TDF model are summarized in Table 23 below, while the detailed transit static model validation spreadsheets are presented in Appendix H. This model run contained all roadway network, transit network, TAZ structure, and model component changes made to the unmodified base year SCAG RTP model to develop a travel demand model for the City of Los Angeles and the Westside Mobility Plan.

Validation Statistic	Criterion for Acceptance	Peak Period (7-Hour) Model Results	
		Entire Model	Westside Study Area
Sum of All Transit Boardings by Route Group	--	--	--
Local Bus	Within 20%	-1.9%	1.5%
Express Bus	Within 20%	6.1%	-1.0%
Transitway	Within 20%	7.3%	--
Sum of All Transit Boardings by Transit Mode	Within 10%	-0.7%	1.0%

As shown in Table 23, the Westside Mobility Plan TDF model meets or exceeds the guidelines for model accuracy in the peak period (7-hour) by Route Group and Transit Mode for transit routes across the entire model and transit routes with a stop within the Westside study area. Therefore, the base year Westside Mobility Plan sub-area model is considered to be valid to 2008 transit conditions. However, as shown in Appendix H, the %RMSE for individual transit routes is 66 percent and the correlation coefficient is 78 percent.

No formal transit static validation criteria has been established by Caltrans for individual transit routes. However, the validation results could suggest limited sensitivity at the corridor level and that future year (2035) corridor-level transit forecasts should be carefully inspected due to potential differences between base year transit forecasts and counts. Therefore, to ensure the model forecasted corridor-level transit boardings were reasonable and that the model was suitable for future year (2035) forecasting, transit routes with a transit stop within a half-mile of each of the Westside study corridors were grouped and the total model estimated transit boardings were compared against traffic counts. No formal transit static validation criteria has been established by the California Transportation Commission for individual transit corridors so the Route Group criteria of 20 percent was chosen to measure the



model estimated transit boardings against because it provides a relatively conservative criteria since route groups are a more aggregate level than corridors. The results of the corridor-level comparison are show in Table 24.

TABLE 24
PEAK PERIOD TRANSIT BOARDINGS FOR ROUTES ALONG THE WESTSIDE STUDY CORRIDORS

Westside Study Corridor	# of Transit Routes with a Stop within a Half-Mile of the Study Corridor	Peak Period (7-Hour) Transit Boardings (Total Boardings along the Entire Route)			
		Model	Count	Delta	% Difference
Centinela Avenue	27	115,910	117,860	-1,950	-2%
Culver Boulevard	13	35,859	33,635	2,224	7%
Expo Phase I	152	372,279	444,115	-71,836	-16%
Expo Phase II	34	97,125	97,778	-653	-1%
Jefferson Boulevard	12	46,940	43,385	3,555	8%
Lincoln Boulevard	38	160,028	146,428	13,600	9%
Olympic Boulevard	23	28,002	33,716	-5,714	-17%
Overland Avenue	19	41,017	46,519	-5,502	-12%
Pico Boulevard	21	39,841	40,337	-496	-1%
Santa Monica Boulevard	33	72,615	78,549	-5,934	-8%
Sawtelle Boulevard	24	43,690	51,269	-7,580	-15%
Sepulveda Boulevard	68	215,089	196,305	18,784	10%
Subway to the Sea Phase I	46	139,907	143,962	-4,055	-3%
Venice Boulevard	17	29,490	31,014	-1,524	-5%
Washington Boulevard	13	35,859	33,635	2,224	7%
Wilshire Boulevard	30	75,648	76,729	-1,081	-1%

As shown in Table 24, the Westside Mobility Plan sub-area model meets or exceeds the Route Group guideline for model accuracy (corridor-level transit boardings within 20%) in the peak period (7-hour) for each Westside study corridor.



5. DYNAMIC MODEL VALIDATION

The traditional approach to the validation of travel demand models is to compare the roadway segment volumes for the model's base year to actual traffic counts collected in the same year. This approach provides information on a model's ability to reproduce a static condition. However, models are seldom used for static applications. By far the most common use of models is to forecast how a change in inputs would result in a change in traffic conditions. Therefore, another test of a model's accuracy is to focus on the model's ability to predict realistic differences in outputs as inputs are changed; in other words, "dynamic" validation rather than static validation.

Dynamic validation determines a model's sensitivity to changes in land uses and the transportation system. These tests are recommended in *2010 California Regional Transportation Plan Guidelines* (California Transportation Commission, January, 2011). The results of dynamic validation tests are inspected for reasonableness in the direction and magnitude of the changes.

The Westside Mobility Plan TDF model was developed to be used as a tool in the evaluation of land use scenarios and transportation system alternatives, as well as to provide vehicle-miles traveled estimates. Therefore, the following tests were conducted on the statically validated base year Westside Mobility Plan TDF model for daily, AM peak period, and PM peak period conditions. A discussion of the reasonableness of the direction and magnitude of the changes is also presented for each test. The detailed results are presented in Appendix I.

LAND USE TESTS

To determine if the Westside Mobility Plan TDF model would respond reasonably to changes in land use, a series of land use tests were conducted that involved modifying the validated base year model's land use inputs. The results were then compared to the validated base year model's outputs to determine if the magnitude and directionality of the changes were appropriate. Sensitivity tests were also conducted to determine the model's sensitivity to the density built environment variable to ensure changes made as part of the 4D model refinement process were appropriate.

To control for as many external variables as possible (surrounding land uses, available transit service, nearby roadway capacity, congestion levels, etc.), land use modifications at various magnitudes were made to a single TAZ in the validated base year (2008) model's SED table. TAZ 2302 located in the West Los Angeles Community Plan area was selected for this analysis due to its central location in the Westside study area as well as its average income, auto ownership, and household size, which generally reflect typical development in the Westside study area. The existing SED associated with TAZ 2302 was removed and replaced with the scenarios discussed below.

Add 10, 100, 5,000, and 10,000 Households to a TAZ in the Model

As shown in Appendix I, when varying magnitudes of households are added to TAZ 2302, the per-household person trip rate (expressed as productions and attractions) remains relatively constant under peak period (7-hour), off-peak period (17-hour), and daily conditions. The daily per-household person trip rate of approximately 9.2 was then



compared to data published in the SCAG Regional Travel Survey, which reports an average of 7.3 person trips per household in Los Angeles County. Given that underreporting can occur in household travel surveys because of the self-reporting nature of traditional survey methods, this difference is acceptable.

The per-household vehicle trip rate (expressed as origins and destinations) also remains relatively constant under AM (3-hour), PM (4-hour), midday (6-hour), night-time (11-hour), and daily conditions. The daily per-household vehicle trip rate of approximately 6.4 was then compared to data published in the SCAG Regional Travel Survey, which reports an average 4.3 vehicle trips per household in Los Angeles County, to determine if the magnitude was appropriate. Given that underreporting can occur in household travel surveys because of the self-reporting nature of traditional survey methods, this difference is acceptable.

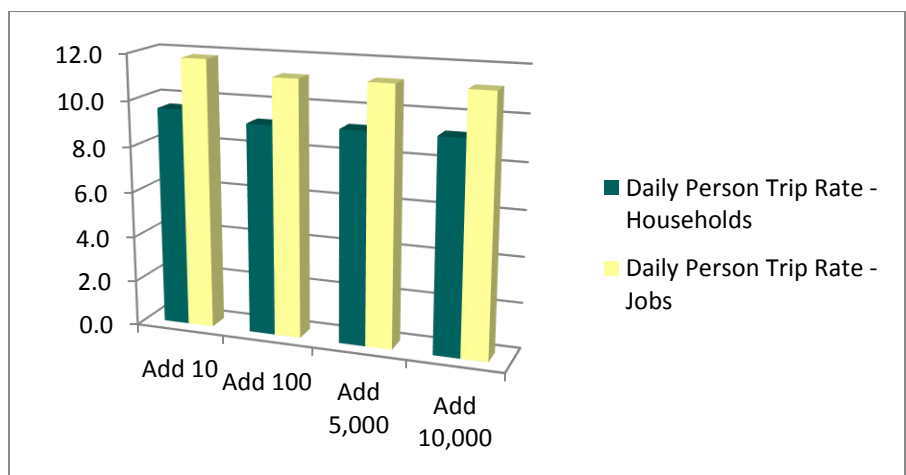
Additionally, approximately 68 percent of model person trips are allocated to vehicle trips by the mode split component of the model, compared to 59 percent reported in the Regional Travel Survey.

Add 10, 100, 5,000, and 10,000 Jobs to a TAZ in the Model

As shown in Appendix I, when varying magnitudes of jobs are added to TAZ 2302 the per-job person trip rate (expressed as productions and attractions) remains relatively constant as does the per-job vehicle trip rate (expressed as origins and destinations) under peak period (7-hour), off-peak period (17-hour), and daily conditions. Unfortunately, the SCAG Regional Travel Survey does not provide employment related data, which could be used to determine if the magnitude of the changes were appropriate. However, given that retail, office, and industrial jobs were added to TAZ 2302, it was expected that the per-job trip rates would be roughly 10-20 percent higher than the per-household trip rates.

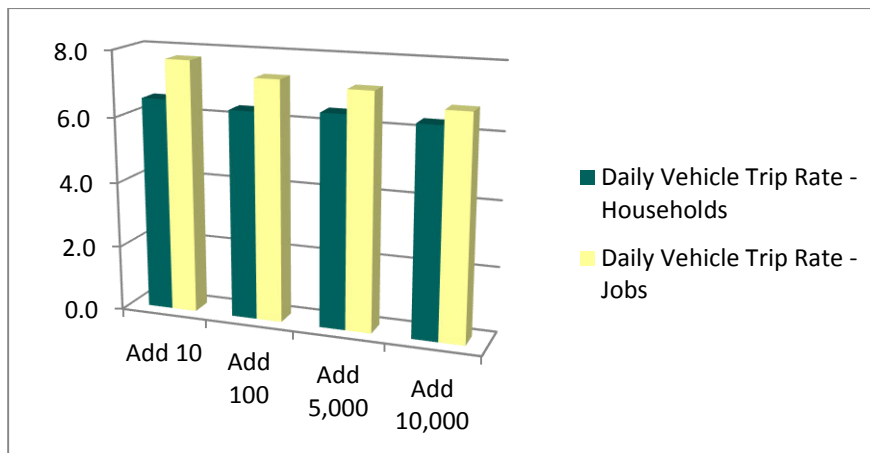
Add Land Use Summary

The estimated daily person trip generation rates for households and jobs are summarized in the chart below.





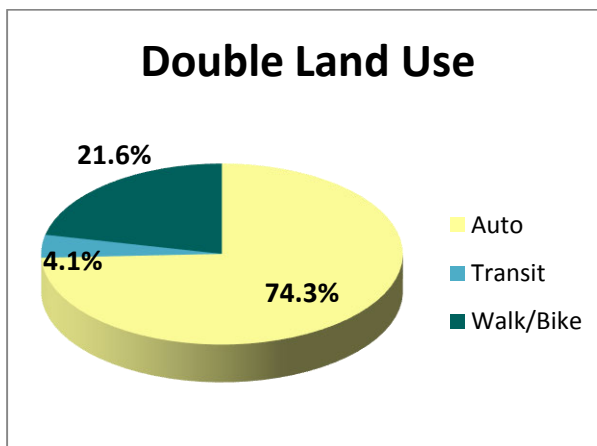
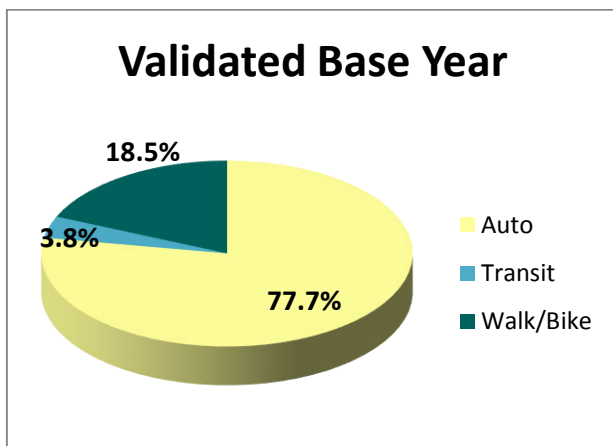
The estimated daily vehicle trip generation rates for households and jobs are summarized in the chart below.



Sensitivity to the Density Built Environment Variable

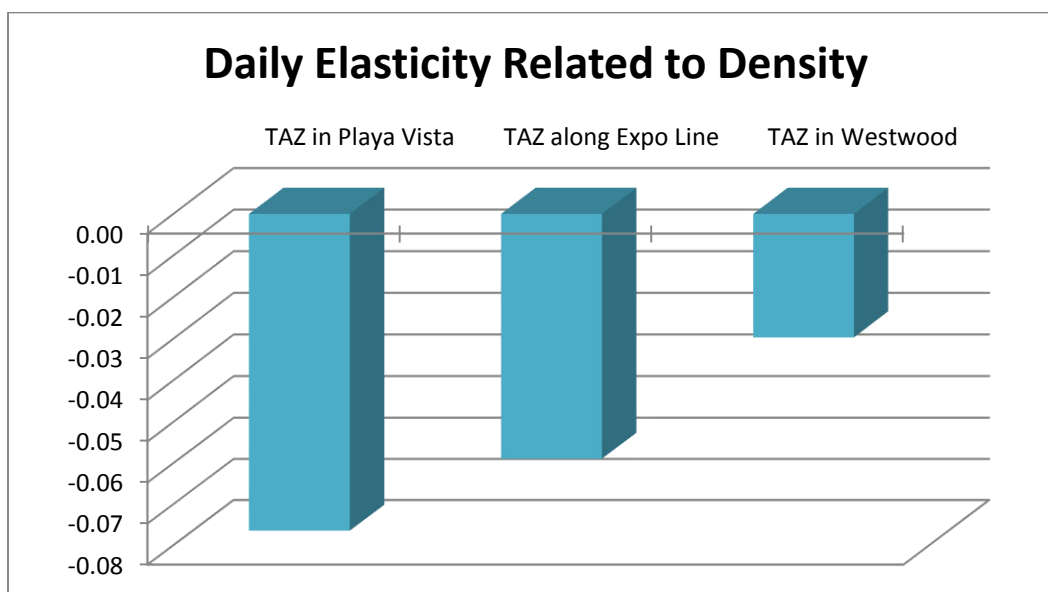
Two sets of sensitivity tests were conducted to determine the sensitivity of the Westside Mobility Plan TDF model to the density built environment variable. The first test was to double the land use/SED in the entire model to determine the change in total vehicle trips. This test essentially doubles the land use density across the entire model, which, based on the literature on travel behavior, should influence vehicle travel demand. Based on this literature, a 100 percent change in density in the model should result in a -4 percent change in vehicle trip generation with the corresponding person trips shifting to higher-occupancy vehicles or to other modes of travel such as walk, bike, and transit.

The base year model produced approximately 18,700,000 vehicle trips. If the model were not sensitive to density and relied on a static vehicle trip generation rate, approximately 37,400,000 vehicle trips would be expected if the land use were doubled. However, only approximately 36,200,000 vehicle trips were produced by the model, roughly 3 percent lower than the expected number of vehicle trips, indicating the model shows some sensitivity to an overall increase in density. Overall, total trips did not decrease and instead shifted to transit and walk/bike trips as the literature suggests. As shown in the charts below, the auto mode share decreased by 3.4 percent.





The second test performed to determine the model’s sensitivity to built environment variables was to double the density of individual TAZs in various parts of the Westside to see if the model was sensitive to density changes at the local level. The SED associated with three separate TAZs was doubled in independent model runs and the results were compared to the base model. As shown in Appendix I, the resulting vehicle trip reductions were generally larger than the vehicle trip reduction from the model wide test. For instance, doubling the land use in TAZ 525 (Playa Vista) resulted in roughly 8 percent fewer vehicle trips than expected, an elasticity larger than the elasticity from the model-wide test and the observed elasticity related to density. However, this result is not realistic given the existing density and jobs in the vicinity of Playa Vista as well as the presence of transit and existing congestion levels, which make vehicle trips less desirable under existing conditions. Alternatively, doubling the land use in TAZ 2327 (located in a mostly residential part of Westwood) resulted in roughly 3 percent fewer vehicle trips than expected, an elasticity equal to the elasticity from the model wide test and 25 percent lower than the observed elasticity related to density. The results for all three TAZs are summarized in the chart below.



Overall, the model shows some sensitivity to changes in density, suggesting the 4D elasticity value related to the density variable should be reduced to account for the model’s sensitivity to a change in density.

HIGHWAY NETWORK TESTS

To determine if the Westside Mobility Plan TDF model would respond reasonably to changes in the highway network, a series of highway network tests were conducted that involved modifying the validated base year model’s highway network. The results were then compared to the validated base year model’s outputs to determine if the magnitude and directionality of the changes were appropriate. The following tests were performed and the results are shown in Appendix I.



Increase/Decrease Posted Speeds

To determine if the model was sensitive to changes in “posted speeds” on individual highway network links, a series of “posted speed” adjustments were made to select highway links within the Westside study area. In general, the “posted speed” highway link field is intended to represent the posted or free-flow travel speed on a given roadway segment. However, when calibrating/validating travel demand models these speeds may be adjusted in order for the model to more accurately assign traffic volumes to the highway network link. For instance, the posted speed limit on a roadway segment may be 35 mph but due to on-street parking, a steep grade, or closely spaced traffic control devices the actual free flow travel speed across the segment may only be 30 mph when delay is taken into account. As a result, the “posted speed” for that highway network link would need to be adjusted accordingly so the model does not overestimate travel demand.

As shown in Appendix I, when the “posted speed” on a highway link is increased, the traffic volume on the highway link generally increases. Similarly, when the “posted speed” on a highway link is decreased, the traffic volume on the highway link generally decreases, and when the “posted speed” on a highway link is left unmodified the traffic volume on the highway link generally remains the same. For example, when the “posted speed” on 14th Street from Wilshire Boulevard to San Vicente Boulevard is left unmodified the traffic volume only slightly changes due to “posted speed” changes to nearby facilities. However, when the “posted speed” is decreased to 25 mph the traffic volume decreases by approximately 75 vehicles, and when the “posted speed” is decreased to 20 mph the traffic volume decreases by approximately 150 vehicles.

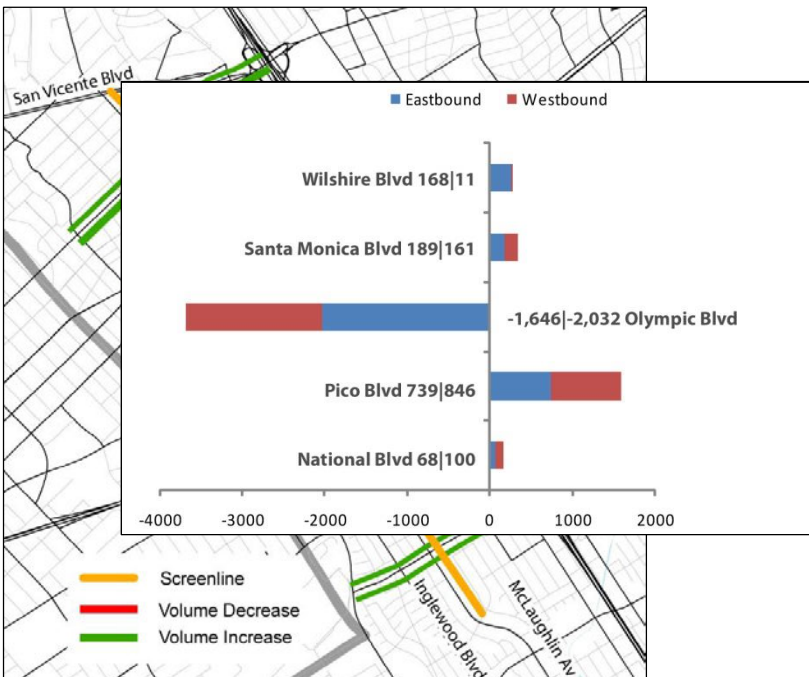
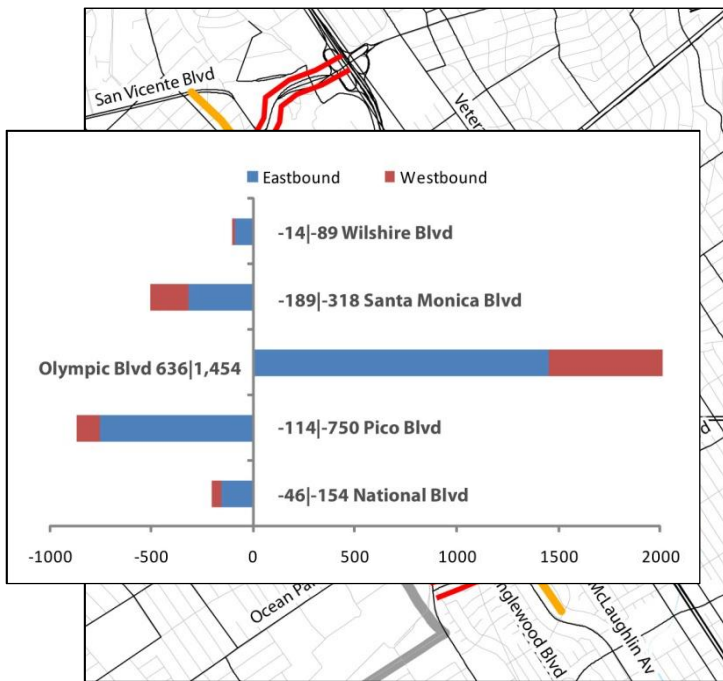
Add/Remove Highway Network Capacity

To determine if the model was sensitive to highway network capacity changes, roadway modifications were made to select links within the Westside study area and the effects were measured across a screenline, which captured parallel facilities where traffic would likely divert to/from. This represents an important dynamic test to determine how the model responds to roadway network improvements that could potentially be constructed within and around the Westside study area. This controlled test helps to determine whether the model will respond reasonably to capacity changes, ensuring a high level of confidence in the future year (2035) traffic volume forecasts.

As shown on Figure 10, when a lane of capacity was added to Olympic Boulevard, traffic shifts from adjacent parallel facilities and traffic along the overall screenline generally increases. When a lane of capacity was removed from Olympic Boulevard, traffic shifts to adjacent parallel facilities and traffic along the overall screenline generally decreases. Additionally, the closer the parallel facility was to Olympic Boulevard the more it was influenced by the change in capacity, such as Pico Boulevard.



Figure 10 – Dynamic Validation Test – Add/Remove Highway Network Capacity



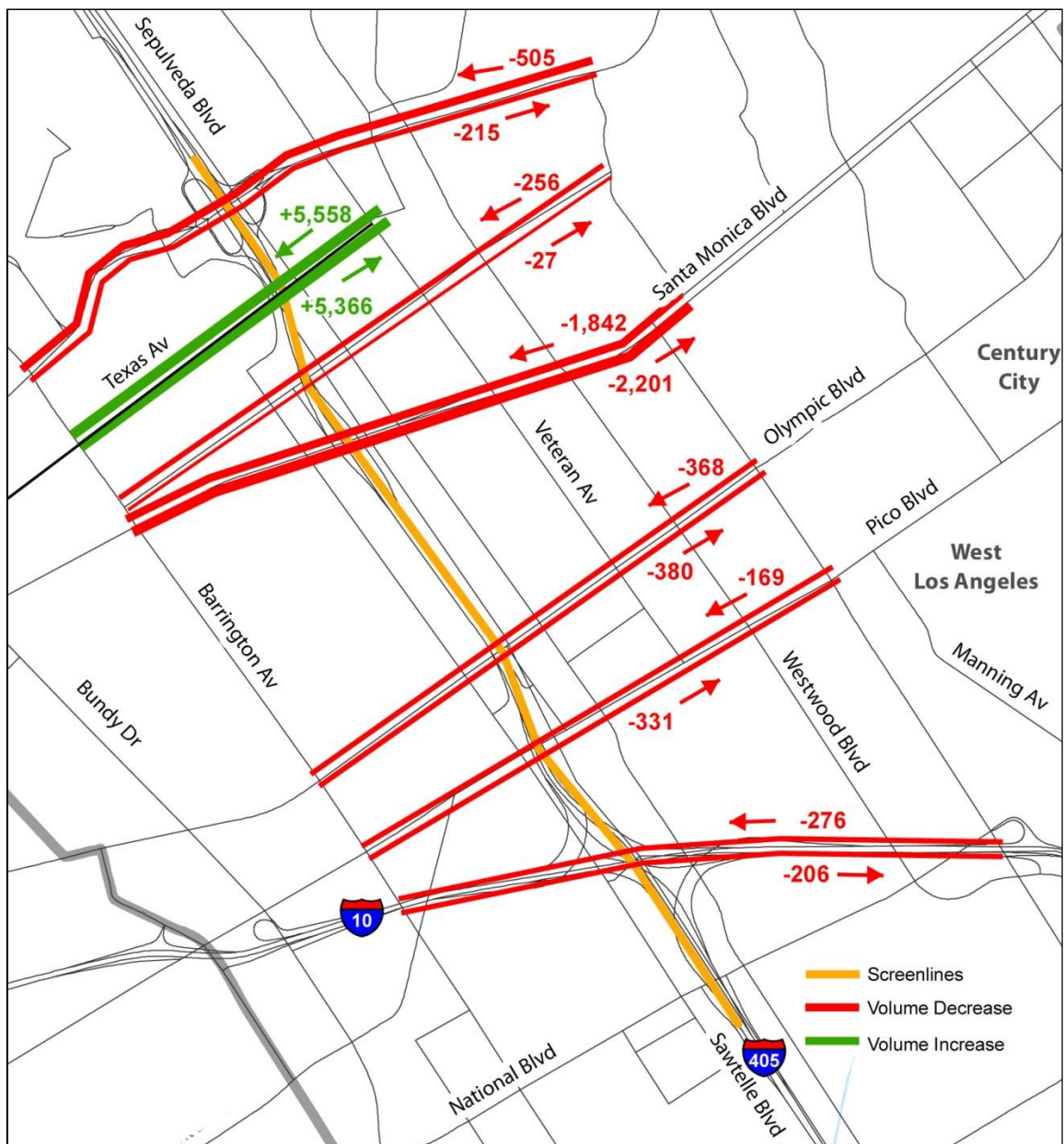


Due to the importance of determining the model's sensitivity to highway network capacity changes, two additional sets of dynamic tests were performed each with their own screenline in a different part of the Westside study area. The first test added two lanes of capacity on a different portion of Olympic Boulevard, then removed two lanes of capacity on a portion of Santa Monica Boulevard, and finally added a new parallel roadway facility between Wilshire Boulevard and Ohio Avenue. The screenline for all three tests generally runs just east of Barrington Avenue from San Vicente Boulevard to I-10. As shown in Appendix I, when two lanes of capacity were added to Olympic Boulevard, traffic shifts from adjacent parallel facilities and traffic along the overall screenline generally increases. When two lanes of capacity were removed from Santa Monica Boulevard, traffic shifts to adjacent parallel facilities and traffic along the overall screenline generally decreases.

As shown in Figure 11, when a parallel roadway facility is extended across I-405 between Wilshire Boulevard and Ohio Avenue, traffic shifts from adjacent parallel routes and traffic along the overall screenline generally increases. However, it appears a majority of traffic shifts from Santa Monica Boulevard rather than the two closest parallel facilities, a somewhat counter-intuitive response. However, a more thorough inspection of travel patterns revealed that traffic on Wilshire Boulevard traveling across I-405 rather than utilizing Wilshire Boulevard to access I-405 shifted to the new roadway segment. This freed up capacity along Wilshire Boulevard causing traffic accessing I-405 from Santa Monica Boulevard to shift to Wilshire Boulevard due to the additional I-405 ramp capacity at Wilshire Boulevard.



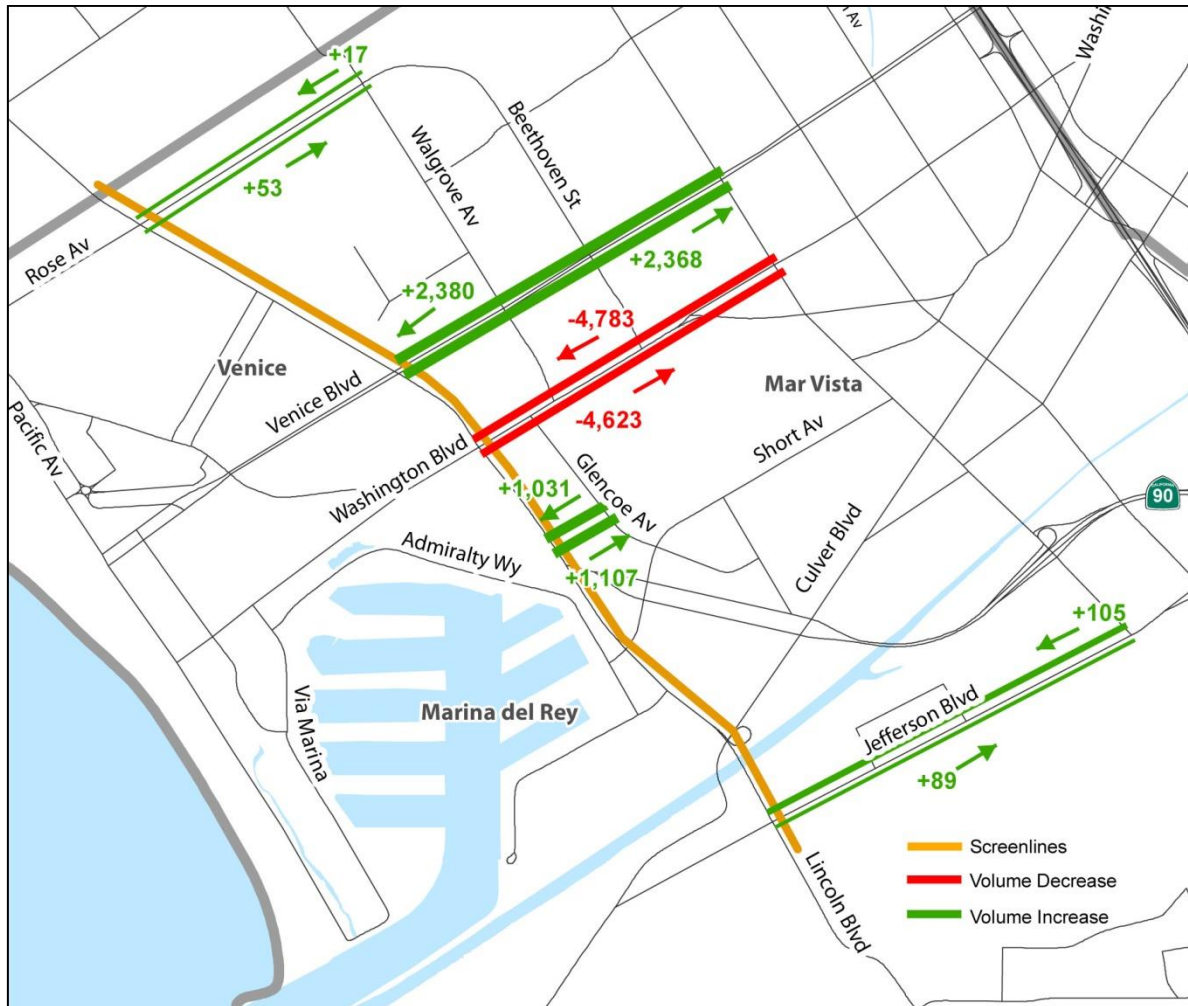
Figure 11 – Dynamic Validation Test – Add a Link





The second additional test removed a highway network link representing the portion of Washington Boulevard just east of Lincoln Boulevard. As shown on Figure 12, traffic shifts from the “deleted” facility to adjacent parallel facilities and traffic along the overall screenline generally decreases. Additionally, the parallel facilities on either side of Washington Boulevard experience the largest increase in traffic volume, whereas parallel facilities further away experience very little change.

Figure 12 – Dynamic Validation Test – Delete a Link





Increase/Decrease Functional Class

To determine if the model was sensitive to highway network functional class changes, a series of highway network changes were made to portions of W. Manchester Avenue and Venice Boulevard within the Westside study area and the effects were measured across screenlines to capture parallel facilities where traffic would likely divert to/from. The screenline for increasing the functional class of W. Manchester Avenue generally runs west of Sepulveda Boulevard from W. 76th Street to Lincoln Boulevard and the screenline for decreasing the functional class of Venice Boulevard generally runs west of Sawtelle Boulevard from National Boulevard to Braddock Drive.

As shown in Appendix I, when the functional class of W. Manchester Avenue was increased from a principal arterial to an expressway, traffic shifts from adjacent parallel facilities and traffic along the overall screenline generally increases. When the functional class of Venice Boulevard was decreased from a principal arterial to a minor arterial, traffic shifts to adjacent parallel facilities and traffic along the overall screenline generally decreases. Additionally, the traffic volume changes along the modified corridors increase/decrease at an appropriate magnitude. For example, traffic volumes along the modified portion of W. Manchester Avenue, a moderately congested corridor, increase by approximately 105 to 129 vehicles per hour per lane. The traffic volumes along the modified portion of Venice Boulevard, a congested corridor, decrease by approximately 66 to 83 vehicles per hour per lane, much less than when adding capacity due to the congestion levels.

TRANSIT NETWORK TESTS

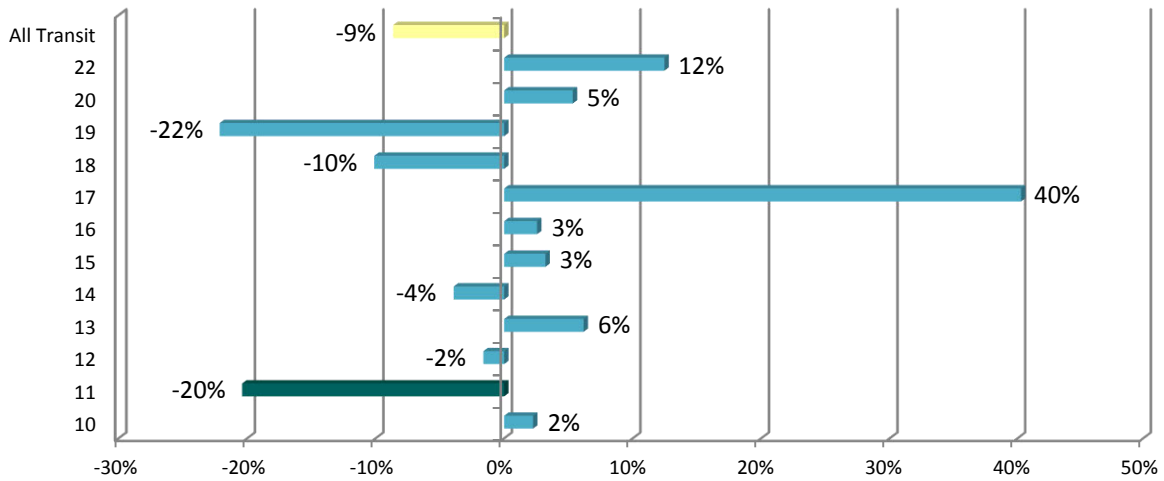
To determine if the Westside Mobility Plan sub-area model would respond reasonably to changes in the transit network, a series of transit network tests were conducted that involved modifying the validated base year (2008) model's transit network. The results were then compared to the validated base year (2008) model's outputs to determine if the magnitude and directionality of the changes were appropriate. The following tests were performed and the results are shown in Appendix I.

Increase/Decrease Transit Fare for a Transit Mode

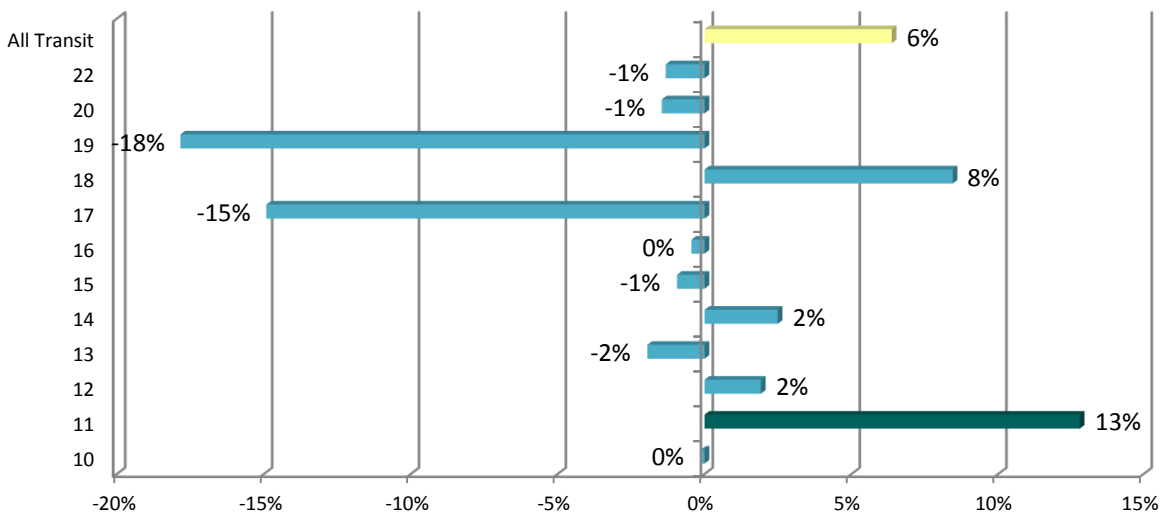
To determine if the model was sensitive to transit fare changes, the transit fare for transit mode 11 (Metro Local Bus) was doubled and halved. The peak period, off-peak period, and daily boardings decrease by 20 percent when the transit fare is doubled and the total model transit ridership decreases by 14 percent, indicating that a portion of transit patrons shift to other modes of transit, such as mode 13 (Urban Rail), especially during the peak period, while other transit patrons shift to other modes of travel as expected. When the transit fare is halved, transit ridership on mode 11 increases by 13 percent and the total model transit ridership increases by 7 percent, indicating that a portion of transit patrons shift to mode 11 from other modes due to the lower cost of travel as expected. The results are summarized in the charts below with the changes in mode 11 boardings shown in green and the changes in total model transit boardings shown in yellow.



% Change in Daily Boardings by Mode - Double Mode 11 Fare



% Change in Daily Boardings by Mode - Halve Mode 11 Fare



The absolute elasticity for doubling/halving model transit fare ranges from 0.20 to 0.27, within the range of observed elasticities from the Traveler's Response Handbook which provides an absolute elasticity range of 0.14 to 0.35, suggesting the model responded appropriately.

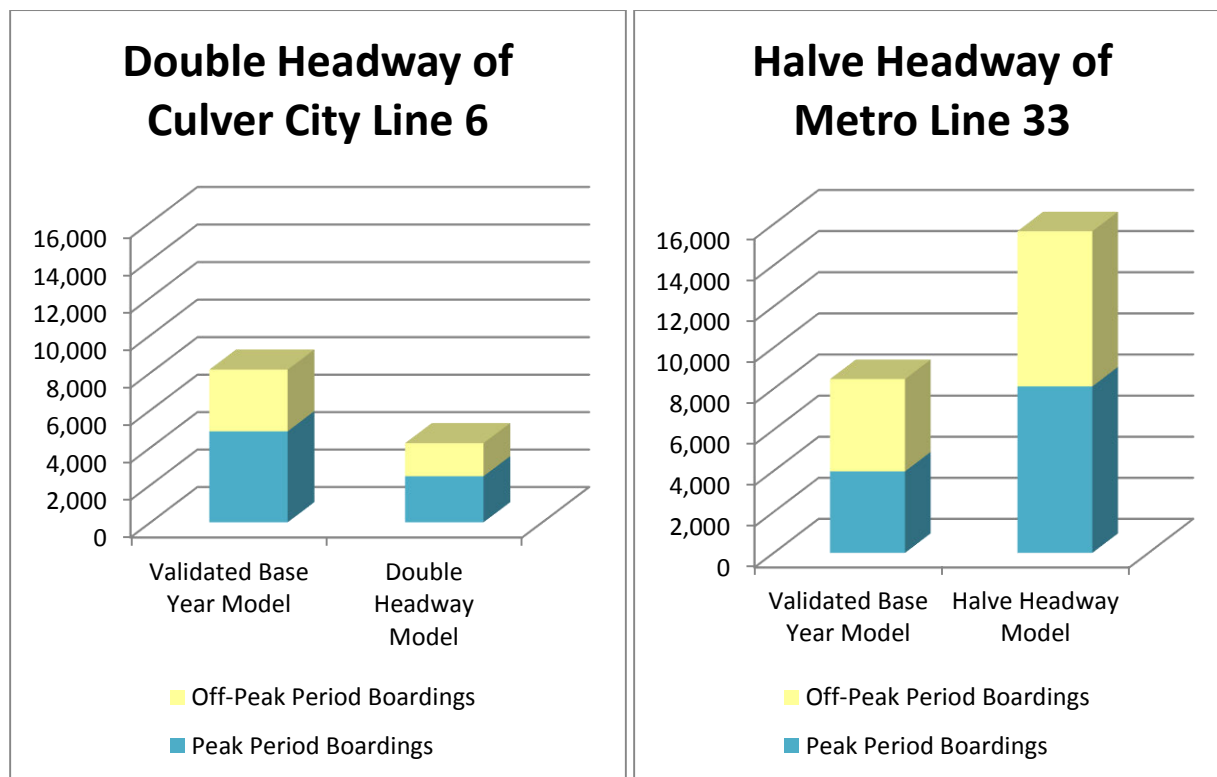


Increase/Decrease Transit Headway of a Transit Line

To determine if the model was sensitive to transit headway changes, the transit headway for transit line 114/115 Culver City 6 was doubled and the transit headway for transit line 997/998 Metro 33 was halved. The resulting transit boardings for each line were compared to the transit boardings from the validated base year (2008) model.

As shown in Appendix I and in the charts below, the peak period, off-peak period, and daily boardings decrease by almost 50 percent, roughly 4,000 daily boardings, when the transit headway of transit line 114/115 Culver City 6 was doubled. The total model transit boardings decreases by 218, indicating that a majority of transit patrons shift to other transit lines as expected. Additionally, the daily transit boardings on parallel transit line 439 N/S Metro 439 increases by 119 to capture the additional daily ridership.

When the transit headway of transit line 997/998 Metro 33 was halved, the peak period transit boardings increase by 104 percent, off-peak period transit boardings increase by 68 percent, and daily transit boardings increase by 85 percent, roughly 7,000 daily boardings. The total model transit boardings increases by almost 4,700, indicating that more than half of the new transit patrons shifted from another mode of travel, such as auto, and the remaining riders shifted from other transit lines as expected. Additionally, the daily transit boardings on parallel transit line 999/1000 Metro 33 decreased by 1,103 due to the increased headway. The results of doubling and halving the transit headway of a transit line are summarized in the charts below.





The absolute elasticity for doubling/halving model transit line headways ranges from 0.7 to 1.0. This is within the range of observed elasticities from the Traveler's Response Handbook, which provides an absolute elasticity range of 0.3 to 1.0, suggesting the model responded appropriately.

INDUCED AND SUPPRESSED DEMAND TESTS

The phenomenon where additional capacity leads to additional demand for travel is known as "induced travel." Induced travel occurs when the cost of travel is reduced, such as a travel time reduction due to additional capacity, causing an increase in travel demand on not only the facility where the capacity was added, but potentially on nearby routes due to the overall increase in roadway lane miles in the area. The reduction in travel time causes various responses by travelers, including diversion from other routes, changes in destination, changes in travel mode, changes in departure time (possibly from off-peak to peak conditions), and potentially the creation of new trips all together.

The Westside Mobility Plan TDF model is capable of accounting for some of the factors that influence induced travel (i.e., changes in route, mode, and destination), but it cannot account for changes in departure time and can only marginally account for the creation of new trips due to the use of an accessibility and auto availability model in the trip generation stage. Due to the structural limitations of the model, a series of tests were conducted to determine the extent to which the Westside Mobility Plan TDF model was sensitive to "induced travel."

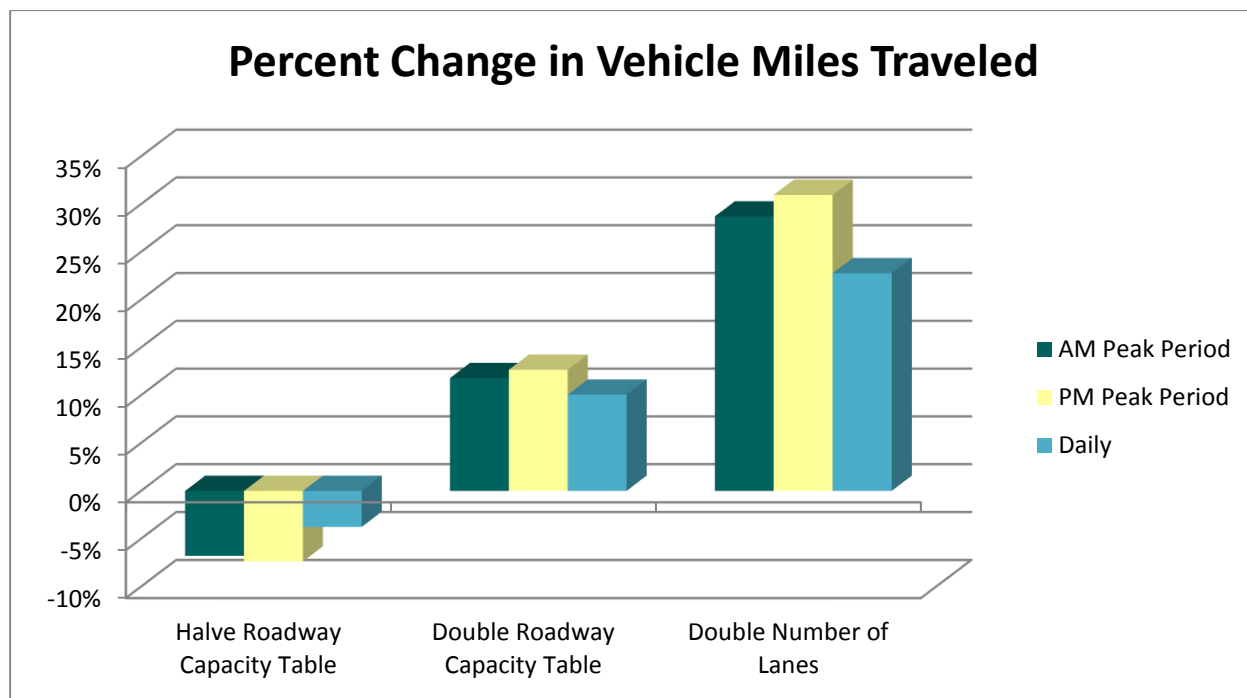
To ensure the effects of induced demand were not understated, the tests relied on full runs of the model to not only capture potential vehicle routing changes, but also potential changes in person trip generation, mode choice, and destination. The first test performed was a model-wide test to determine if the model was sensitive to overall changes in lane miles and capacity. The results were then analyzed to determine if the model responded in an appropriate direction and magnitude. In other words, did changes in lane miles either induce or suppress trips (suppression would likely occur in the event capacity was removed), which is typically measured through an examination of vehicle-miles traveled (VMT).

Model-Wide Tests

The Westside Mobility Plan TDF model utilizes a cross classification table to determine the roadway capacity of each link. Input variables such as facility type, area type, number of lanes, and number of lanes crossing the link are used to determine the final capacity. Therefore, it was thought that doubling and halving the final capacity lookup values would simulate the doubling and halving of model lane miles. However, as shown in Appendix I, doubling the roadway capacity values resulted in only a 10 percent increase in daily VMT and halving the roadway capacity table values resulted in only a 4 percent reduction in daily VMT. This suggests that if you were to close half of the lanes in Los Angeles County the VMT would decrease by 4 percent and the number of vehicle trips would decrease by 3 percent. These results were found to be unrealistic; therefore; an additional inspection of the model structure was performed and it was determined that modifications to the roadway capacity table were influenced by ceiling and floor capacities for each facility type in the model script, especially for freeways where a substantial amount of VMT occurs.



Therefore, a secondary test was performed where the number of lanes on each link in the highway network was doubled, simulating a doubling of roadway miles. It was not possible to halve the number of lanes on each link in the highway network due to roadways with only one lane in each direction. As shown in Appendix I, the model estimated a 23 percent increase in VMT and an 8 percent increase in vehicle trips. Given that the land use was held static, a 100 percent increase in VMT or vehicle trips would not be expected and these results were found to be reasonable. Additionally, the SCAG Regional Travel Survey indicates that approximately 81 percent of person trips in Los Angeles County are in vehicles, suggesting that the largest increase in vehicle trips that could be expected would be roughly 20 percent if every household in Los Angeles County owned at least one vehicle. Overall, these results suggest the model is sensitive to changes in highway network capacity when changing the number of travel lanes in the highway network, but not when modifying the highway network capacity lookup table. The results of all three tests are summarized in the chart below.



The next test performed to determine if the model was sensitive to the effects of induced and suppressed demand was to model the future year (2035) land use assumptions on the base year (2008) highway network, simulating a scenario where no capacity was added to the highway network over the next 25 or so years. One would expect a substantial reduction in vehicle trips and VMT due to the increased highway network congestion, and a slight reduction in person trips due to trip suppression causing trips not to be made. As shown in Appendix I, the total lane miles were effectively reduced by 5,000 miles, a 3.2 percent reduction, resulting in a daily vehicle trip reduction of roughly 420,000, a daily VMT reduction of roughly 1,475,000, and a reduction of 2,300 daily person trips indicating the model was slightly sensitive to the trip suppression effect of causing trips not to be made.

Additionally, over the past few decades research has been conducted on the elasticity of travel demand in an attempt to statistically relate changes in lane miles to changes in VMT. The research data suggests a short-term



elasticity range of 0.2 to 0.5 and a long-term elasticity of 0.8 with roughly half of that attributed to changes in land use. Since this test utilized a future year analysis period and land use was held static with only the total lane miles being modified, a short-term elasticity of 0.39 was used for comparison purposes. As shown in Appendix I, the estimated elasticity of travel demand was 0.32, very closely resembling the observed elasticity.

Local-Level Tests

The final test performed to determine if the model was sensitive to the effects of induced and suppressed demand was at the corridor level rather than at the model-wide level. For this test, the number of travel lanes on Santa Monica Boulevard was doubled in each direction from Centinela Avenue to Wilshire Boulevard under base year (2008) conditions to determine the short-term effect of the change in lane miles, and under future year (2035) conditions to determine the long-term effect of the change in lanes miles. The total lane miles and VMT results from each run were then compared to the validated base year (2008) model to determine the elasticity of travel demand estimated by the model. These short-term and long-term elasticities were then compared to research conducted by Professor Robert Cervero. Cervero's 2002 study on induced travel demand is likely the most relevant to this test because it focused on 24 freeway corridors in California and provided short- and long-term elasticities.

As shown in Appendix I, the resulting short-term elasticity of travel demand from the model ranged from 0.22 under daily conditions to 0.32 in the AM peak period, falling within the short-term elasticity range of 0.2 to 0.5 from Cervero. The resulting long-term elasticity of travel demand from the model ranged from 0.84 in the AM peak hour to 1.28 in the PM peak hour. This is higher than Cervero's observed long-term elasticity of 0.8, indicating the model may be overly sensitive in the long-term. However, Cervero points out in his research that other factors such as land use, density, income, and gas prices play a role in determining the long-term elasticity of travel demand, some of which the model takes into account but some of which the model is unable to account for. The results of the local-level tests are shown on Figure 13.

AUTO TRIP VARIABLES TESTS

The final set of tests performed on the Westside Mobility Plan TDF model were to determine the model's sensitivity to changes in auto operating cost, the cost of parking, and transit frequency. The model utilizes an auto operating cost variable to estimate the per mile cost of traveling by auto through the model. This cost is then added to other costs associated with auto trips such as parking and time costs. The resulting total cost of an auto trip is then compared to the total model estimated cost associated with making the same trip using another mode of travel, such as transit in which transit frequency is a key variable, during the mode splits stage. During this stage a nested logit model is used to determine the final mode of travel for each person trip in the model.

To test the sensitivity of the model to each of the three variables, three separate model runs were performed (one for each variable) in which model input values associated with each variable were doubled. In the case of transit frequency, the headway was halved to simulate transit arrivals twice as often. The resulting model outputs were then compared to the validated base year (2008) model and analyzed to determine if the model responded in an appropriate direction and magnitude. Additionally, elasticities relating to changes in each of the three variables to



changes in vehicle or transit trips were then calculated and compared to observed data presented in the Travelers Response Handbook and on the Sacramento Area Council of Governments (SACOG) wiki page.

As shown in Appendix I, when the model auto operating cost was doubled, the number of vehicle trips decreased by 6.9 percent. This results in an elasticity of -0.07, which falls at the lower end of the gas price elasticity range of -0.07 to -0.17. When the headway of each model transit line was halved, the number of vehicle trips decreased by 0.6 percent and the overall model transit ridership increased by 19.2 percent. This results in an elasticity of 0.2, which falls just below the transit frequency elasticity range of 0.3 to 1.0 from the Traveler's Response Handbook. When the parking cost associated with each TAZ in the model is doubled, the number of vehicle trips decrease by 0.3 percent. This results in an elasticity of -0.003, which is well below the parking cost elasticity range of -0.08 to -0.23 in the Traveler's Response Handbook.

However, not every TAZ in the model has an associated parking cost. Therefore, an additional run was performed where only TAZs in the Westside study area had their parking cost doubled. Additionally, only data associated with the modified TAZs was compared to the validated base year (2008) model. As shown in Appendix I, the resulting elasticity was -0.04 for the 74 TAZs, still well below the observed elasticity range of -0.08 to -0.23. Local knowledge however suggests that perhaps the model predicted elasticity should be lower than the data observed in other parts of the country due to a locally observed tolerance for congestion and high parking prices.

SUMMARY OF DYNAMIC VALIDATION TESTING RESULTS

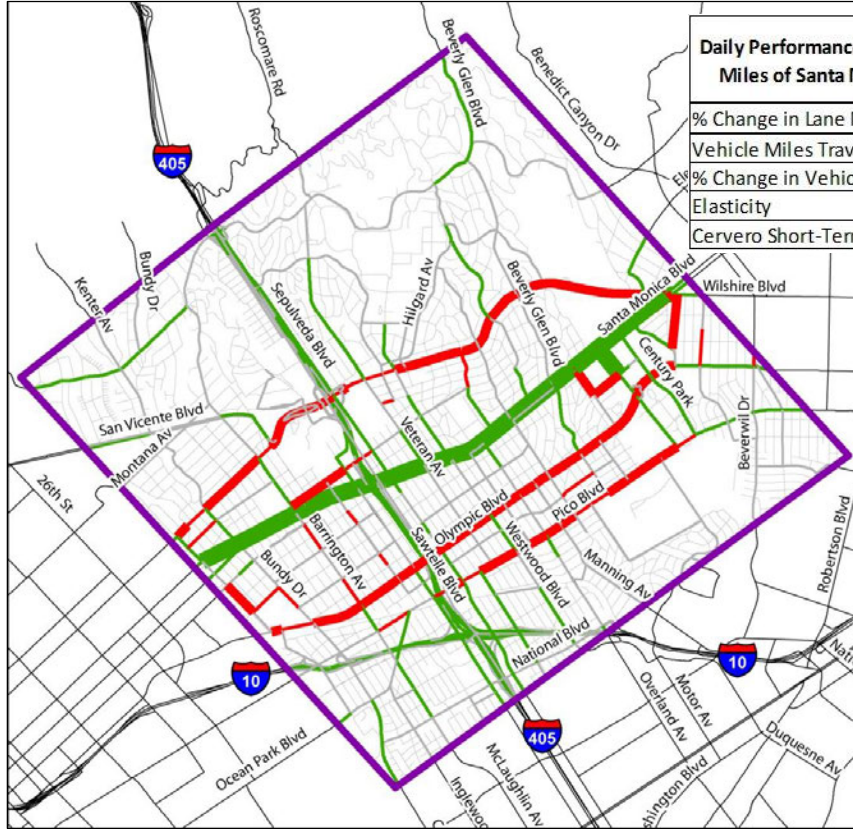
The following is a summary of the dynamic validation testing results, indicating whether or not the Westside Mobility Plan sub-area model responded appropriately in terms of magnitude and direction.

- The model responded appropriately in terms of magnitude and direction at both the person and vehicle trip level when land use of various magnitudes and types was added to the model.
- At the model-wide level, the model responded appropriately in terms of direction and magnitude to changes in density, with resulting elasticity values similar to the observed elasticity. At the project- or TAZ-level, the model responded in the appropriate direction but at varying magnitudes due to the variance in land use, congestion, and transit accessibility in the vicinity of the selected TAZs. Upon a more thorough inspection of the areas around the selected TAZs it was determined that the magnitude of change was appropriate and the model was sensitive to the effects of density. Therefore, the elasticity related to density in the 4D model component was modified (discussed in further detail in Chapter 6).

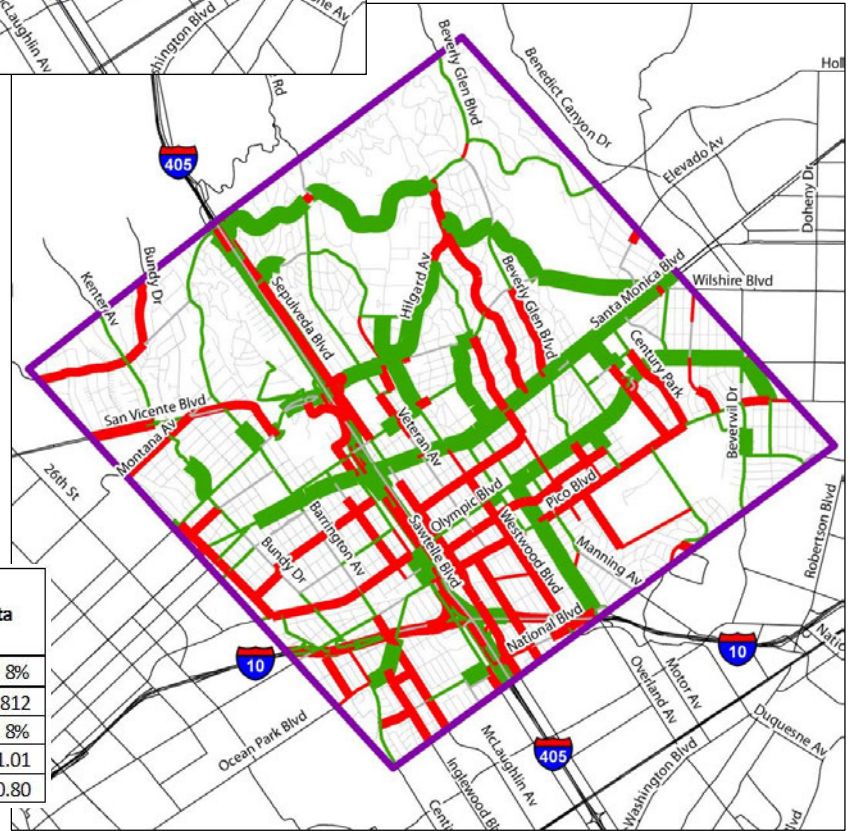


Figure 13 – Dynamic Validation Test – Induced Demand

Short-Term: Base Year Model



Daily Performance Measure Within 2 Miles of Santa Monica Boulevard	Validated Base Year	Double Number of Lanes (Base)	Delta
% Change in Lane Miles	380	403	6%
Vehicle Miles Traveled	2,984,549	3,024,462	39,913
% Change in Vehicle Miles Traveled	--	--	1%
Elasticity	--	--	0.22
Cervero Short-Term Elasticity (0.2-0.5)	--	--	0.30



Daily Performance Measure Within 2 Miles of Santa Monica Boulevard	Validated Base Year	Double Number of Lanes (2035)	Delta
% Change in Lane Miles	380	411	8%
Vehicle Miles Traveled	2,984,549	3,230,361	245,812
% Change in Vehicle Miles Traveled	--	--	8%
Elasticity	--	--	1.01
Cervero Long-Term Elasticity (0.8)	--	--	0.80



- The model responded appropriately in terms of magnitude and direction related to changes in model highway network link speeds, capacities, and facility classes.
- The absolute elasticity for doubling/halving model transit fare was within the range of observed elasticities from the Traveler's Response Handbook, indicating the model is suitable for forecasting the effects of modifying transit fares.
- The absolute elasticity for doubling/halving model transit headway was within the range of observed elasticities from the Traveler's Response Handbook, indicating the model is suitable for forecasting the effects of modifying transit headways.
- The model estimated short-term elasticity of travel demand for the entire model was 0.32, very closely resembling the observed short-term elasticity of 0.39 provided by Professor Robert Cervero, suggesting the model is sensitive to some of the effects of induced and suppressed demand.
- The model estimated short-term elasticity of travel demand along a corridor fell within the short-term elasticity range provided by Professor Robert Cervero. The model estimated long-term elasticity of travel demand along a corridor ranged from 0.84 in the AM peak hour to 1.28 in the PM peak hour, higher than Professor Cervero's observed long-term elasticity of 0.8, indicating the model may be overly sensitive to changes in lane miles in the long-term at the corridor level.
- The model estimated gas price elasticity fell at the lower end of the gas price elasticity range, indicating the model may be suitable for testing various gas price alternatives but may understate the effects.
- The model estimated transit frequency elasticity fell just below the transit frequency elasticity range from the Traveler's Response Handbook, indicating the model may understate the effects of changes to transit frequency.
- The model estimated parking cost elasticity was -0.04 for TAZs in the Westside with an existing parking cost, below the observed elasticity range of -0.08 to -0.23 from the Traveler's Response Handbook. However, local knowledge suggests that perhaps the model predicted elasticity should be lower than the elasticity from the observed data, which was collected based on data from other parts of the United States and Europe, due to a locally observed tolerance for congestion and high parking prices.

CONCLUSIONS

Based on the static and dynamic validation results, the Westside Mobility Plan TDF model is appropriate for future year scenario forecasting of traffic volumes on roadway segments and transit boardings by route group. Furthermore, the use of the model ensures a high level of confidence in the resulting traffic and transit volume forecasts that will be used in the evaluation of transportation system improvement scenarios to be considered under the Westside Mobility Plan.



6. THE 4D PROCESS



This chapter documents the implementation of the 4D process within the model architecture and describes the analysis used to identify the model’s responsiveness to built environment variables. This section also introduces the Ds methodology, explains how the Ds would affect the model outputs, compares the current model to anticipated results, and identifies how the model was enhanced to account for the Ds.

INTRODUCTION TO THE “D”S

The literature on neighborhood characteristics that affect trip generation is constantly evolving and additional variables that affect travel behaviors are being investigated. The variables described below define key land use and development characteristics that can be tied to a particular geographic area and that have been shown (through analysis of travel surveys and other empirical research) to affect trip-making and mode choice. These are suitable to be addressed in a regional TDF model.

Net Residential and Employment Density – Density is defined as the amount of land use within a certain (measurable) area, or how intense the development is within a confined area. This variable is measured in dwelling units or employment per developed acre. A wide body of research suggests that, all else being equal, denser developments generate fewer vehicle-trips per dwelling unit than less dense developments. Change in density is measured according to the following formula:

$$\text{Change in Density} = \text{Percent Change in } [(Population + Employment) \text{ per Square Mile}]$$

Jobs/Housing Diversity – Diversity is the land use mix within a particular area, whether it is a homogenous residential neighborhood or a mixed-use area with apartments atop ground-floor retail. Research suggests that having residences and jobs in close proximity will reduce the vehicle-trips generated by each, by allowing some trips to be made on foot or by bicycle. This variable measures how closely the neighborhood in question matches the “ideal” mix of jobs and households, which is assumed to be the ratio of jobs to households measured across the region as a whole. Change in diversity is measured using the following formula:

$$\text{Change in Diversity} = \text{Percent Change in } \{1 - [ABS(b * population - employment) / (b * population + employment)]\}$$

Where: ABS = absolute value; b = regional employment/regional population

Walkable Design – Design is an indicator for the accessibility for pedestrians and bicyclists to access a given area. Many pedestrian and bicycle improvement projects are based on the assumption that improving the walking/biking environment will result in more non-auto trips and a reduction in auto travel. The difficulty with using this variable in an equation is that there are many factors that influence the pedestrian experience, and it is difficult to identify a single definition that captures them all. The walkable design variable, when isolated, usually has the weakest influence on the overall adjustment of the “D” variables; although; it also seems to have important synergistic effects in conjunction with density and diversity. Change in design is measured as a percent change in design index as follows:



$$\text{Design Index} = 0.0195 * \text{street network density} + 1.18 * \text{sidewalk completeness} + 3.63 * \text{route directness}$$

Destination Accessibility – Accessibility is an indicator of a location’s proximity to major destinations and access to those locations. Research shows that, all else being equal, households situated near the regional center of activity generate fewer auto trips and VMT than households located far from destination centers. When comparing different potential sites for the same type of development, this variable is very important. This variable can be quantified by estimating the total travel time to all destinations/attractions. Sensitivity to variations in regional accessibility is a characteristic of most calibrated and validated TDF models. Changes in destination accessibility are measured as follows:

$$\text{Destinations (accessibility)} = \text{Percent Change in Gravity Model denominator for study TAZs "I"} : \frac{\text{Sum}[\text{Attractions (j)} * \text{Travel Impedance}(l,j)] \text{ for all regional TAZs "j"}{}$$

The most recent RTP guidelines identify the inclusion of the Ds as a model post-processor to improve sensitivity to changes in travel behavior and emissions as a result of changes to land use in a model area. Furthermore, Regional Targets Advisory Committee (RTAC) identifies the 4Ds as variables with empirical evidence to be included in target-setting for SB375 best practices. Thus, it is important to identify sensitivity to the Ds and to apply enhancements to these variables, rather than other indicators of land use change.

“D” ELASTICITY VALUES

“Elasticity” is the percentage change in one variable that results from a percentage change in another variable. The “D” elasticities are defined to reflect the percentage change in vehicle trips or vehicle miles of travel given a percentage change in density, diversity, design, and regional destination. A minus (-) in front of an elasticity number indicates a reduction in vehicle trips or vehicle miles traveled (VMT); otherwise, the elasticity identified increases with the increase of a “D” variable.

Recommended Elasticity Values

When selecting appropriate elasticity values, it is important to consider the locational context and existing travel behavior. Although changing land use according to smart growth principles affects travel behavior, there are other factors, such as job types and the regional built form, which will also have an impact on how and where trips are made. While placing office buildings near residents can change the travel behavior for office workers, an agricultural employee’s travel behavior would not change since the location of that job type is location-specific. Likewise, an existing urban center may show smaller changes in travel behavior with the implementation of the 4Ds since residents may already be using alternative transit modes. Therefore, it is important to be cognizant of the City of Los Angeles’ employment profile and select an elasticity value that would reflect foreseeable changes in travel behavior. The recommended starting elasticity values for the “D”s in the Westside Mobility Plan sub-area model are shown in Table 25.



TABLE 25
INITIAL ELASTICITIES – 4D MODEL ENHANCEMENTS FOR WESTSIDE MOBILITY PLAN TDF MODEL

D Variable	Vehicle Trip Elasticity
Density	-0.04
Diversity	-0.06
Design	-0.02

INITIAL SENSITIVITY TESTS

Before applying elasticity values to the model, tests were conducted to determine the model’s sensitivity to 4D changes. The initial review of the model documentation and structure did not indicate built-in sensitivity to the Ds; however, it was determined that the model was already sensitive to changes in destination accessibility due to the nature of the gravity model.

The model is structured such that tests could be conducted for determining the model’s sensitivity to density and diversity. However, since the model does not include pedestrian design factors, such as sidewalk completeness, it was not possible to conduct a design test. Three sensitivity tests were conducted to examine the two aforementioned “Ds:” uniform changes in density, changes in density in a select area, and balanced land use (diversity).

Model Test #1: Uniform Changes in Density in All TAZs

This test was conducted to evaluate the model’s sensitivity to density. This variable is measured in dwelling units or employment per acre. A wide body of research suggests that, all else being equal, denser developments generate fewer vehicle trips per dwelling unit than less dense developments.

For this particular test, uniform changes in density were applied throughout the model. This creates an “infill” scenario for the City of Los Angeles, whereby the land use in each TAZ is increased by the same percentage. Each land use category was increased by 100 percent, so as not to disrupt the existing balance of land uses for the diversity to remain unchanged. To conduct this test, the households, jobs, and students in the model SED file were increased by 100 percent. Table 26 identifies the changes to the model’s vehicle trip and VMT outputs for the base model and test model.

Based on the 4D elasticity values, a 100 percent increase in overall density should result in a 4 percent reduction in the rate of vehicle trip generation. As shown in Table 26, the base model produced approximately 18.7 million peak period vehicle trips. Therefore, doubling the SED should have resulted in approximately 37.4 million vehicle trips but instead resulted in approximately 36.2 million vehicle trips, a difference of approximately -1.2 million vehicle trips or -3.1 percent, indicating that the model is sensitive to changes in density but not to the degree research data has shown. Furthermore, this data suggests the 4D elasticity value related to the Density variable should be reduced



by 75 percent (from -0.04 to -0.01) to account for the model’s sensitivity to a change in density. The change in density also increased VMT by 50 percent and vehicle minutes traveled by 124 percent.

TABLE 26			
TEST #1: UNIFORM DENSITY INCREASE			
PEAK PERIOD (7-HOUR) TRAVEL OUTPUTS			
	Base Model	Test 1 Model	Change (Test 1 Minus Base)
<i>Vehicle Trips</i>	18,682,696	36,192,162	+17,509,467 (+94%)
<i>Transit Trips</i>	906,601	1,990,463	+1,083,862 (+120%)
<i>Walk/Bike Trips</i>	4,451,990	10,520,794	+6,068,804 (+136%)
Total Trips	24,041,287	48,703,420	+24,662,133 (+103%)
<i>Vehicle Miles Traveled</i>	89,234,144	134,013,972	+44,779,828 (+50%)
<i>Vehicle Minutes Traveled</i>	183,992,844	411,265,440	+227,272,596 (+124%)
VMT / VT (Average Trip Length)	4.78	3.70	-1.08 (-22.6%)

Model Test #2: Changes in Density in a Select Area

This test was conducted to quantify the model’s sensitivity to specific changes in development density. This was undertaken by changing SED in one specific area, rather than throughout the entire model. The balance of land uses remained constant for all tests to determine the model’s sensitivity to changes in density at the local level.

Three versions of this test were conducted to compare the results. In the first sensitivity test, land use in a TAZ was zeroed out and 10 households and 10 jobs were added to use as a comparison scenario. For the second test, the land use was zeroed out, and 100 households and 100 jobs were added to the model and the results were compared to the first test. For the final test, the land use was zeroed out, and 1,000 households and 1,000 jobs were added and the results were compared to the first test. To maintain a consistent land use diversity mix, the same number of households and jobs were added to the same TAZ for each of the three tests. Table 27 identifies the changes to the model’s vehicle trip outputs for the three sensitivity tests.

Based on the 4D elasticity values, a 100 percent increase in overall density should result in a 4 percent reduction in the rate of vehicle trip generation. The second sensitivity test increases the number of households and jobs by 1,000 percent over the first sensitivity test, which should result in a 40 percent reduction in vehicle trips based on the 4D elasticity values. The third sensitivity test increases the number of households and jobs by 10,000 percent over the first sensitivity test, which should result in a 400 percent reduction in vehicle trips based on the 4D elasticity values. However, with the application of ceiling and floor values, no single D variable can result in a vehicle trip reduction of



more than 30 percent. Therefore, as shown in Table 27, the expected percent reduction in vehicle trips from the 4D elasticity values is 30 percent.

The model estimates a 22 percent vehicle trip reduction from Test 1 to Test 2 and a 23 percent vehicle trip reduction from Test 1 to Test 3, indicating that the model is sensitive to changes in density but not to the degree research data has shown. Furthermore, this data suggests the 4D elasticity value related to the Density variable should be reduced by 75 percent (from -0.04 to -0.01) to account for the model’s sensitivity to a change in density.

TABLE 27 TEST #2: DENSITY INCREASE IN A SELECT AREA						
PEAK PERIOD (7-HOUR) TRAVEL OUTPUTS						
Test	Model Vehicle Trips	Model Growth In Vehicle Trips	Expected Growth in Vehicle Trips	Difference (Model – Expected)	% Difference (Model – Expected)	% Vehicle Trip Reduction Expected From 4D Elasticity Values
<i>Test 1: 10 HH + 10 Jobs</i>	100	--	--	--	--	--
<i>Test 2: 100 HH + 100 Jobs</i>	875	775	1,000	-225	-22%	-30%
<i>Test 3: 1,000 HH + 1,000 Jobs</i>	7,822	7,722	10,000	-2,278	-23%	-30%

Model Test #3: Optimizing Land Use Mix (Diversity) of a Single Area

Model Test 3 is a test for diversity. Research suggests that having residences and jobs in close proximity will reduce the vehicle trips generated by allowing some trips to be made on foot or by bicycle. This variable measures how closely the neighborhood in question matches the “ideal” mix of jobs and households, which is assumed to be the ratio of jobs to households measured across the region as a whole.

To ascertain the degree to which the model was sensitive to the changes in diversity, test were conducted to measure changes in vehicle trips by balancing land use to an optimal mix of employment and residential land uses. A change in the ratio of internal trips to external trips would indicate that the model is sensitive to changes in diversity. If an area is mixed-use in nature, a sensitive model would internalize a greater percentage of trips compared to an area that has only one type of land use. This is because in a mixed-use area, a resident could work and shop in the immediate vicinity, while in a homogenous area the resident would need to travel outside of the TAZ to work or shop.

This test was conducted in the area around the Los Angeles State Historic Park due to the current employment-to-population imbalance and limited roadway access. The selected TAZs had an employment-to-population ratio of 1.44 under base year conditions, more than three times higher than the regional average of 0.43. The SED was then



modified to match the employment-to-population ratio to the regional average while maintaining the existing density level in the area to determine the model's sensitivity to diversity at the local level (the total population + employment remained constant between the base and test model).

To determine changes in trip types, we used the assignment trip matrices to determine how many trips both originated and terminated in the test area, and how many vehicle trips left the test area. Table 28 identifies the SED changes and results.

Based on the 4D elasticity values, a 100 percent increase in overall diversity should result in a 6 percent reduction in vehicle trips. As shown in Table 28, the base model's employment-to-population ratio was improved to match the regional average of 0.43 by adding 1,154 households and removing 3,890 jobs. Based on these SED changes, the diversity formula resulted in a 117 percent change in the diversity variable. Applying the diversity elasticity of -0.06 results in an expected 7 percent decrease in external vehicle trips.

As shown in Table 28, the base model produced 8,700 external vehicle trips in the PM peak hour. With the changes in SED, a total of 6,390 external vehicle trips were expected based on the model vehicle trip generation. However, the model estimated 6,170 external vehicle trips, a difference of -220 vehicle trips or -3.5 percent, indicating that the model is sensitive to changes in diversity but not to the degree research data has shown. Furthermore, this data suggests the 4D elasticity value related to the Diversity variable should be reduced by 50 percent (from -0.06 to -0.03) to account for the model's sensitivity to a change in diversity.



TABLE 28 TEST #3: BALANCING LAND USE IN A SINGLE AREA				
LAND USE INPUTS				
	Population	Households	Jobs	Employment- to-Population Ratio
<i>Base Model</i>	5,512	1,635	7,940	1.44
<i>Test 3 Model</i>	9,402	2,789	4,050	0.43
<i>Change (Test 3 Minus Base)</i>	+3,890	+1,154	-3,890	-1.01
PM PEAK HOUR TRAVEL OUTPUTS				
	Base Model	Test 3 Model	Change (Test 3 Minus Base)	
<i>Internal Trips</i>	860	1,060	+200	
<i>External Trips</i>	8,700	6,170	-2,529	
<i>Internal Trips as Percent of Total Trips</i>	9%	15%	+6%	

Summary of Sensitivity Tests

Our results of the 4D sensitivity tests are as follows:

- The model shows some sensitivity to overall increases in density. As a result, this data suggests the 4D elasticity value related to the density variable should be reduced by 75 percent (from -0.04 to -0.01).
- The model shows some sensitivity to changes in density in selected TAZs. As a result, this data reaffirmed that the 4D elasticity value related to the Density variable should be reduced by 75 percent (from -0.04 to -0.01).
- The model is sensitive to changes in diversity; with balanced land use, internal trips account for a greater proportion of total trips. As a result, this data suggests the 4D elasticity value related to the Diversity variable should be reduced by 50 percent (from -0.06 to -0.03).

MODEL INTEGRATION

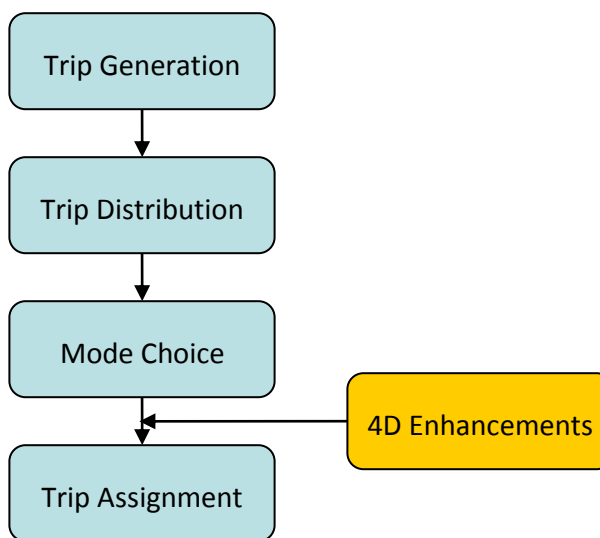
The sensitivity tests that were completed for the Westside Mobility Plan sub-area model indicated that the model was not adequately sensitive to changes in density and diversity. As a result, the model enhancement effort focused on improving the model’s sensitivity to changes in density and diversity.



Structure of Model Enhancements

The 4D enhancement process was developed as a script that runs in line with the full Westside Mobility Plan sub-area model. The script was first tested as a stand-alone script and then integrated into the full model script. The 4D process occurs after the Mode Choice step and before Trip Assignment, as shown on Figure 14 below.

Figure 14 – 4D Enhancement Model Integration



At this stage in the model process, person trip tables have been created by trip purpose (Home-Based Work, School, etc.) and have been separated by mode choice. The trip tables are then converted to origin and destination matrices prior to the trip routing being determined in the trip assignment step.

As noted, the model elasticity values being used for the enhancements are consistent with empirical research but have been calibrated based on the results of the sensitivity testing. The calibrated elasticity values and how they are included in the model scripting process are identified in Table 29.



TABLE 29
FINAL 4D ELASTICITIES FOR WESTSIDE MOBILITY PLAN TDF MODEL

D Variable	Selected Elasticity (VT)	Embedded in Script?
Density	-0.01	Yes
Diversity	-0.03	Yes
Design	-0.02	No – data unavailable
Destination	-0.04	No – model already sensitive



7. AMENDMENTS TO CTCSP & WLA TIMP



The Westside TDF model was used to analyze the operational impacts associated with the proposed amendments to the CTCSP and WLA TIMP. The Specific Plan amendments would not, itself, entitle or otherwise approve any transportation projects or create any operational changes to transportation and mobility. Individual transportation improvements would be studied in further detail prior to implementation. Nevertheless, the amendments would result in a new list of potential transportation improvements for both the CTCSP and WLA TIMP areas, and these projects were analyzed in the EIR prepared for the proposed amendments to the Specific Plans.

SCAG RTP CONSISTENCY

Since the development of the original development of the Westside TDF model in 2011, SCAG adopted the 2012-2035 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). The RTP/SCS is a planning document required under state and federal statute that encompasses the SCAG region, including six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The RTP/SCS forecasts long-term transportation demands and identifies policies, actions, and funding sources to accommodate these demands. The RTP/SCS consists of the construction of new transportation facilities, transportation systems management strategies, transportation demand management and land use strategies. The RTIP, also prepared by SCAG based on the RTP/SCS, lists all of the regional funded/programmed improvements over a six year period.

As part of the updates to the CTCSP and WLA TIMP Specific Plans, the socioeconomic data (SED) for the Westside TDF model was updated to reflect the most recent growth forecasts in 2012-2035 RTP/SCS within the SCAG region. Within the project area, the latest growth forecasts were verified from the Los Angeles Department of City Planning. Table 30 provides a summary of the SED within the Specific Plan areas.



TABLE 30
WESTSIDE STUDY AREA SOCIOECONOMIC DATA

SED Data	Location	Model Calibration Year ¹	Future (2035)	Growth	% Growth
Households	CTCSP Area	68,383	84,552	16,169	24%
	WLA TIMP Area	88,903	107,467	18,564	21%
	Project Area	157,286	192,019	34,733	22%
Employment	CTCSP Area	87,679	111,904	24,225	28%
	WLA TIMP Area	197,840	217,980	20,140	10%
	Project Area	285,519	329,884	44,365	16%
Population	CTCSP Area	157,466	182,305	24,839	16%
	WLA TIMP Area	197,190	219,330	22,140	11%
	Project Area	354,656	401,635	46,979	13%

Notes:
 1. The Westside Travel Demand Forecasting Model was originally developed, calibrated and validated to 2008 conditions. 2008 is the most recent year in which a consistent data set of population, employment and households is available for the SCAG region (reported at the traffic analysis zone (TAZ) level of detail) for use in the model calibration process. A new TAZ data set will be available when SCAG produces its 2016 RTP update, which will reflect year 2012 conditions as a baseline. While the model calibration year reflects 2008, Year 2014 is used for the reporting of Existing Conditions in the impact analysis for the proposed amendments to the Specific Plans.
Source: Westside Travel Demand Forecasting Model, 2015.

In addition to the SED updates in the project area, land use growth projected by SCAG was also updated citywide, as follows:

- Future Year Land Use/SED: The Westside TDF model future (year 2035) land use and socio-economic data (SED) was updated to reflect the growth in the 2012 SCAG RTP.

SED	Future Model Data	
	City of LA Model	SCAG 2012 RTP Model
Households	1.6 million	1.6 million
Employment	1.9 million	1.9 million

The Westside TDF future transportation network was updated to include the following improvements expected to be implemented by year 2035 from the 2012-2035 RTP/SCS (financially constrained) Model.

PROJECT LIST UPDATES

The proposed CTCSP and WLA TIMP amendments include updating the list of transportation improvements funded in part by the traffic impact fees in each specific plan area. The updated Project Lists are aimed at improving the transportation network, enhancing system capacity, reducing vehicle trips and VMT, and improving transit connectivity.



The Specific Plan amendments would not, itself, entitle or otherwise approve any transportation projects. Nevertheless, the proposed amendments would result in a new list of transportation improvements for both the CTCSP and WLA TIMP areas. The types of projects and programs that would be included as transportation improvements for each specific plan are described below in Table 31. The projects and programs in this table are representative of the types of improvements proposed for inclusion in the Specific Plan amendments. The Westside TDF model was updated to reflect these potential transportation improvements (Project Lists). Projects that could potentially alter the existing roadway network (i.e., change vehicle capacity or eliminate on-street parking) and the modeling assumptions used to quantify potential impacts are noted in the table.



TABLE 31 POTENTIAL TRANSPORTATION IMPROVEMENTS (PROJECT LIST UPDATES)

Transit

All-Day Center Running Bus Rapid Transit (BRT):

- Lincoln BRT (CTCSP): Center Running BRT on Lincoln Boulevard from the border of the City of Santa Monica to 96th Street Transit Station
- Sepulveda BRT (CTCSP & WLA TIMP): Center Running BRT on Sepulveda Boulevard from Wilshire Boulevard to 96th Street Transit Station

For the purposes of reporting potential traffic impacts, this project type was analyzed as providing all-day center-running bus-only lanes. Parking would be removed from one side of the street along the corridor and from both sides of the street at station locations. In areas where parking is not provided on-street, or prohibited during peak periods, a vehicle lane reduction would be required. Some raised medians along the corridor and left-turn pockets at minor streets would likely need to be removed. The BRT would also include higher frequency peak period service and stop improvements.

Peak Period BRT:

- Santa Monica Boulevard BRT (WLA TIMP): Curb-running peak hour bus-only lanes within the WLA TIMP boundary with enhanced bus stop amenities

For the purposes of reporting potential traffic impacts, this project type was analyzed as the buses utilizing the vehicle travel lane closest to the curb during peak travel hours resulting in reduced vehicle capacity.

Rapid Bus Enhancements:

- Olympic Rapid Bus Enhancements (WLA TIMP): Extend the Rapid bus service along Olympic Boulevard from its current terminus in Century City to the future Metro Exposition Line station at Westwood Boulevard
- Pico Rapid Bus Enhancements (WLA TIMP): Improve existing Rapid bus service on Pico Boulevard through increased frequency, stop improvements, and construction of a new rapid stop in Century City
- Venice Rapid Bus Enhancements (CTCSP & WLA TIMP): Rebrand existing Rapid bus service on Venice Boulevard to serve Venice Beach area, increase service frequency, and implement stop improvements.

For the purposes of reporting potential traffic impacts, the rapid bus improvements included higher frequency peak period service, extension of service hours, and rapid stop improvements. Rapid bus enhancements would not require vehicle capacity reductions, such as travel lane conversions.

Local Bus Enhancements & Circulator Routes:

Circulator bus/shuttle to connect activity centers to major transit stations:

- Sawtelle service between Wilshire Blvd and the Expo Sepulveda Station (WLA TIMP)
- Bundy service between Brentwood, the Expo Bundy Station, and National Blvd (WLA TIMP)
- Palms Circulator to connect to Expo Station (WLA TIMP)
- Century City Circulator to connect to Expo Station (WLA TIMP)
- Loyola Marymount / Westchester Circulator (CTCSP)
- Venice / Playa Vista / Fox Hills Circulator (CTCSP)
- Venice Circulator (CTCSP)



The circulator routes and local bus improvements would travel in mixed-flow lanes with vehicles and would not result in the removal of a vehicle travel lane to the existing roadway network.

Bicycle and Pedestrian

Mobility Hubs

- In both CTCSP and WLA TIMP, install a full-service Mobility Hub at or adjacent to major transit stations and Satellite Hubs surrounding the stations. A hub may include secure bike parking and car/bike sharing to bridge the first/last mile of a transit user's commute.

Streetscape Improvements

- Venice Boulevard (CTCSP) between Lincoln Boulevard and Inglewood Boulevard
- Centinela Avenue (CTCSP) between Washington Boulevard and Jefferson Boulevard
- Olympic Boulevard (WLA TIMP) from Centinela Avenue to Barrington Avenue
- Bundy Drive (WLA TIMP) from Missouri Avenue to Pico Boulevard
- Sepulveda Boulevard (WLA TIMP) from Olympic Boulevard to National Boulevard
- National Boulevard (WLA TIMP) from Castle Heights Avenue to Mentone Avenue
- Palms Boulevard (WLA TIMP) from Motor Avenue to National Boulevard
- Pico Boulevard (WLA TIMP) from I-405 to Patricia Avenue
- Pico Boulevard (WLA TIMP) from Centinela Avenue to I-405
- Motor Avenue (WLA TIMP) from I-10 to Venice Boulevard

Streetscape improvements could include amenities such as landscaping, pedestrian crossing enhancements, median treatments and street lighting. These improvements would occur within the existing right-of-way and are not expected to result in reduced vehicle capacity or material removal of on-street parking.

Multi-Use Paths

- Centinela Creek Multi-Use Path: Centinela Creek path from Ballona Creek to Centinela Avenue east of I-405 (CTCSP)
- Sepulveda Channel Multi-Use Path: Sepulveda Channel path from Ballona Creek to Washington Boulevard (CTCSP)
- Exposition Light Railway Greenway Improvement Project: Transform existing city-owned vacant parcels into a neighborhood greenway that includes construction of a multi-use path with drought tolerant landscaping, simulated stream to treat urban runoff, educational amenities and interpretive signs along Exposition Boulevard between Westwood and Overland along future Expo LRT Westwood Station. (WLA TIMP)

Multi-use paths would be as an off-street network of facilities and are not expected to result in reduced vehicle capacity or removal of on-street parking.

Neighborhood Enhanced Networks (NEN)

- Beethoven Street / McConnell Avenue NEN (CTCSP)
- Prosser/Westholme Avenue NEN (WLA TIMP)
- Veteran Avenue NEN (WLA TIMP)



- Gayley Avenue/Montana Avenue (east of I-405) NEN (WLA TIMP)
- Montana Avenue (west of I-405) NEN (WLA TIMP)
- Barrington Avenue/McLaughlin Avenue NEN (CTCSP)
- Ohio Avenue NEN (WLA TIMP)
- Other corridors identified in City Bicycle Plan/MP 2035 (CTCSP & WLA TIMP)

The streets identified as part of the NEN would receive treatments focused on reducing vehicle speeds and providing a safe and convenient place to walk and bike. These treatments are not expected to require the removal of a travel lane or material removal of on-street parking.

Cycle Tracks

- Venice Boulevard Cycle Track (CTCSP and WLA TIMP): Venice Boulevard throughout the CTCSP area. For the purposes of reporting potential traffic impacts, the Venice Boulevard cycle track is assumed to replace the existing bicycle lane to provide a protected bicycle facility in the project area.
- Santa Monica Boulevard Cycle Track (WLA TIMP): Santa Monica Boulevard in the “parkway” section east of Sepulveda Boulevard. The cycle track would replace the existing bicycle lane.
- Washington Boulevard Cycle Track (CTCSP): Washington Boulevard from Admiralty Way to Pacific Avenue. The cycle track would replace the existing bicycle lane.
- Lincoln Boulevard Cycle Track (CTCSP): Lincoln Boulevard from Jefferson Boulevard to Fiji Way. Additional right-of-way to accommodate cycle track would result from Lincoln Bridge Project.

On-Street Bicycle Lanes

- Culver Boulevard Bike Lane (CTCSP): Culver Boulevard from McConnell Avenue to Playa del Rey
- Gateway Boulevard (CTCSP): Gateway Boulevard to Ocean Park Boulevard gap closure
- Other corridors identified in MP 2035 (CTCSP & WLA TIMP)

Bicycle Transit Centers

- In both CTCSP and WLA TIMP, install bike transit centers that offer bicycle parking, bike rentals, bike repair shops, lockers, showers and transit information and amenities.

Bikesharing

- In both CTCSP and WLA TIMP, provide public bicycle rental in "pods" located throughout the specific plan areas.

Enhance Pedestrian Access to Major Transit Stations

- Implement pedestrian connectivity improvements at major Metro transit stations by providing enhanced sidewalk amenities, such as landscaping, shading, lighting, directional signage, shelters, curb extensions, enhanced crosswalks, as feasible. (CTCSP).

Sidewalk Network & Pedestrian Enhancements

- Sepulveda Boulevard (CTCSP): Implement sidewalk and streetscape improvements, bus stop lighting at transit stops, and enhanced crosswalks on Sepulveda Boulevard between 76th Street and 80th Street.
- In CTCSP and WLA TIMP, complete gaps in the sidewalk network and provide pedestrian enhancements.



Complete Streets

- Westwood Boulevard (WLA TIMP): Improvements along Westwood Boulevard between the future Expo LRT station, Westwood Village, and UCLA could include transit, bicycle and pedestrian enhancements (that do not require removal of vehicular travel lanes or on-street parking) or bicycle enhancements on parallel roadways.

Roadway & ITS

Roadway Capacity Improvements

- Lincoln Boulevard Bridge Enhancement (CTCSP): Partnering with Caltrans and LA County, improve Lincoln Boulevard between Jefferson Boulevard and Fiji Way to remove the existing bottleneck by replacing the existing bridge with a wider bridge with additional southbound lane, transit lanes and on-street bike lanes. Improvements to serve all modes of travel were assumed to be implemented as follows: 1) an additional southbound lane for vehicles would be provided (currently, Lincoln narrows from three to two travel lanes in the southbound direction just south of Fiji Way whereas three travel lanes are provided in the northbound direction), 2) bus-only lanes would be provided in the median, 3) cycle tracks would be provided on both sides of the roadway to connect the existing bicycle lanes to the south with the Ballona Creek bicycle path, and 4) sidewalks would be provided on both sides of the street (the existing bridge does not provide sidewalks).
- Culver Boulevard Corridor (CTCSP): Improve traffic flow along Culver Boulevard between Centinela Avenue and I-405 Freeway including providing left-turn lanes at key signalized intersections (including Inglewood Boulevard).
- Access Improvements to LAX (CTCSP): On-going coordination with LAWA on airport related improvements, which may include a combination of roadway capacity enhancements, streetscape improvements, and multi-modal improvements. For the purposes of modeling potential impacts, improvements already identified in the RTP/SCS in proximity of the airport were included in the Westside TDF model.
- Sunset Boulevard Operations (WLA TIMP): Implement operational improvements along Sunset Boulevard. Improvements could include the following: ITS corridor improvements; signal upgrades as part of the next evolution of ATSAC; intersection improvements, such as turn-lane or safety improvements.
- Olympic Boulevard Operations (WLA TIMP): Implement operational improvements along Olympic Boulevard between I-405 and Purdue Avenue (to the west of I-405). Improvements were assumed to include the following: Convert one westbound travel lane into an eastbound travel lane just west of I-405 by 1) In the westbound direction, provide two travel lanes (three during peak periods with on-street parking restrictions); 2) In the eastbound direction, provide three travel lanes (four during peak periods with on-street parking restrictions); and 3) Remove eastbound and westbound left-turn lanes at Beloit Avenue and eastbound center turn lane at Cotner Avenue to provide additional through lane capacity.
- Bundy Drive/I-10 Ramp (WLA TIMP): Operational improvements at the I-10 ramp connections to Bundy Drive.
- Major Intersection Improvements (CTCSP and WLA TIMP): Spot intersection improvements, such as turn-lane or safety improvements.

Neighborhood Protection Program

- In CTCSP and WLA TIMP, the objective of this Program is to discourage through-traffic from using local streets and to encourage, instead, use of the arterial street system. The Program will establish measures to make the primary arterial routes more attractive and local routes less attractive for through traffic, and establish measures designed to facilitate vehicular and pedestrian egress from local streets in the adjacent neighborhoods onto the primary arterial street and highways system.

Technology Improvements



- ITS Corridor & Signal Upgrades (CTCSP & WLA TIMP): Install ITS improvements along major corridors. Install signal upgrades as part of the next evolution of ATSAC, including detector loops for traffic volume data and monitoring
- Congestion Monitoring (CTCSP & WLA TIMP): Install CCTV cameras and necessary infrastructure to improve DOT's ability to monitor and respond to real-time traffic conditions

Trip Reduction Programs

Parking Management

- ExpressPark (CTCSP & WLA TIMP): Implement an on-street intelligent parking program that includes vehicle sensors, dynamic demand-based pricing and a real-time parking guidance system to reduce VMT and congestion and improve flow for cars/buses
- Strategic Parking Program (CTCSP & WLA TIMP): Implement a Westside parking program and update parking requirements to reflect mixed-use developments, shared parking opportunities, and parking needs at developments adjacent to major transit stations
- Parking Utilization Improvements & Reduced Congestion (CTCSP & WLA TIMP): Develop an on-line system for real-time parking information, including GIS database and mapping. Improve parking, wayfinding and guidance throughout commercial areas.

Demand Management

- Rideshare Toolkit (CTCSP & WLA TIMP): Develop an online Transportation Demand Management (TDM) Toolkit with information for transit users, cyclists, and pedestrians as well as ridesharing. Include incentive programs for employers, schools, and residents. Toolkit would be specific to City businesses, employees, and visitors and would integrate traveler information and also include carpooling/vanpooling and alternative work schedules.
- Transportation Demand Management Program (CTCSP & WLA TIMP): The program would provide start-up costs for Transportation Management Organizations/Associations (TMOs/TMAs) as well as provide guidance and implementation of a TDM program

CTCSP & WLA TIMP IMPACT ANALYSIS

Since the proposed amendments to the specific plans do not include any land use changes, the transportation impact analysis reflected the same land use and growth assumptions for both with and without project conditions. The background growth reflected in the Westside TDF model accounts for the expected increased activity levels in the region and study area. If the transportation analysis were to strictly evaluate project-related environmental conditions in the future without including future background growth, and then were to compare that project-related future condition to the existing conditions in 2014, the analysis would not account for the overall cumulative nature of the potential impacts and could understate the expected future conditions.

The updated Westside TDF model was used to generate the baseline (Existing Year 2014) and future (Year 2035) conditions data for the proposed amendments to the CTCSP and WLA TIMP. Given the programmatic nature of the impact analysis and large study area, the Westside TDF model reflects the most recent and applicable data at a specific plan level to report baseline and future transportation characteristics. Through the model development and calibration process along with the updates described in this report, the Westside TDF model is consistent with the



growth and transportation improvements in the adopted SCAG 2012-2035 RTP/SCS, which reflects both the City of LA and SCAG region. Appendix J contains model plots illustrating AM and PM peak period traffic operations under Existing, Future without Project and Future with Project conditions.

The model simulates base year conditions and can forecast future year conditions for the network, with and without the effects of the proposed Specific Plan amendments, allowing for evaluation of a range of performance measures. Because the travel demand model itself is not sensitive to certain effects of travel demand management (TDM) policies or of changes in bicycle and pedestrian infrastructure defined in the proposed updates to the CTCSP and WLA TIMP Project Lists, a mode split adjustment tool (MSAT) is applied to the model results to quantify the effect of these programs and projects on automobile travel. The MSAT applies mode share elasticities and vehicle trip reduction factors gathered from relevant academic and practitioner literature at the TAZ level to calculate the effects of TDM and active transportation network improvements on mode share and the level of vehicle trip-making.

Used together, the travel demand model and mode split adjustment tool outputs provide information on the performance of the transportation system for the overall study area, including:

- Travel mode shares (mode split)
- Vehicle miles traveled
- Vehicle trips
- Roadway operations (e.g., volume-to-capacity ratios)

The analysis tools used to forecast future travel patterns, such as the Westside TDF model, are long range models of travel demand. Their primary focus is on forecasting driving with some additional sensitivity to other ways of traveling. This is consistent with how most cities forecast traffic and how transportation professionals have operated for decades. However, new trends in how we travel have emerged in recent years. Experts are debating what may be driving these trends and how durable they may or may not be. Many forces are pulling in various directions, including recessionary effects on employment, changes in millennial interest in driving and vehicle ownership, baby boomer retirement choices and their continued participation in the workforce and preferences for urban living, fuel prices, new delivery of goods and services through providers like Amazon, and greater travel options through autonomous vehicles and shared use mobility (e.g. Lyft, Uber, bikeshare programs).

The transportation analysis approach applied to the Specific Plan amendments included using the established traffic forecasting tools and increasing their sensitivity to the trends that have been empirically proven and previously accepted under CEQA. However, these may prove to be conservative if some of the recent trends in travel persist. It is not clear what direction the trends will take us at this point. VMT per capita has been generally dropping since around 2004, increased for many decades prior, and has now begun to climb again since January 2014. Trends in LA are also pulling in multiple directions. If the trends toward higher levels of walking, bicycling, and transit use exceed what is forecast with the Specific Plan amendments, this could result in fewer driving related impacts than the plan conservatively accounts for in the association transportation impact analysis.



**APPENDIX A:
LADCP BASE YEAR LAND USE CHANGES**

Westside Model Base Year (2008) Land Use Changes from LADCP						
Area	TAZ	HH		Jobs		Notes
		Model	LADCP	Model	LADCP	
Playa Vista	525	679	2,600	826	826	
Palms/Mar Vista	527	--	--	17	100	
Palms/Mar Vista	2176	--	--	371	190	
Palms/Mar Vista	519	--	--	0	190	
Palms/Mar Vista	2292	--	--	0	50	
Palms/Mar Vista	2406	--	--	23	90	
Palms/Mar Vista	500	--	--	452	550	
Venice	485	--	--	x	x	reduce by 50 jobs
Venice	481	--	--	x	x	reduce by 50 jobs
Venice	474	--	--	x	x	reduce by 50 jobs
Venice	466	--	--	x	x	reduce by 50 jobs
Venice	471	--	--	x	x	reduce by 50 jobs
Venice	475	--	--	x	x	reduce by 50 jobs
Venice	487	--	--	x	x	reduce by 50 jobs
Venice	496	--	--	x	x	reduce by 50 jobs
Venice	497	--	--	x	x	reduce by 50 jobs
Venice	486	--	--	x	x	reduce by 50 jobs
Venice	493	--	--	x	x	reduce by 50 jobs
Venice	2289	--	--	x	x	reduce by 50 jobs
West LA	2395	77	200	--	--	
West LA	2389	0	50	--	--	
West LA	2279	214	500	--	--	
West LA	2287	261	500	0	300	
West LA	2328	13	40	--	--	
West LA	2356	353	600	--	--	
West LA	2368	0	40	--	--	
West LA	2440	0	100	--	--	
West LA	554	766	850	5,789	3,000	
West LA	2447	0	200	--	--	
West LA	2326	--	--	297	900	
West LA	551	--	--	0	1,000	
West LA	2498	--	--	0	400	
West LA	2332	--	--	942	x	Shift to TAZs 2460, 577, 2346, and 2382
	Total	2,363	5,680	8,717	8,538	
	Delta	--	3,317	--	-779	



**APPENDIX B:
SOCIO-ECONOMIC DATA**



**APPENDIX C:
NETWORK SKIMMING**

Comparison of 2010 Metro Transit Ridership to 2003 SCAG 2008 RTP Model Transit Ridership

Transit Type	Number of Lines			Daily Ridership			
	Metro (2008) ¹	SCAG (2003)	Delta	Metro (2010) ¹	SCAG (2003)	Delta	% Delta
MTA Bus	190	181	-9	1,071,350	967,962	-103,388	-10%
MTA Rail	7	7	0	284,084	226,132	-57,952	-20%
MTA All Transit	197	188	-9	1,355,434	1,194,093	-161,341	-12%

¹ Source: Metro

Comparison of 2010 Metro Transit Ridership to 2008 City of Los Angeles Model Transit Ridership

Transit Type	Number of Lines			Daily Ridership			
	Metro (2008) ¹	TSP Model 2008	Delta	Metro (2010) ¹	TSP Model 2008	Delta	% Delta
MTA Bus	190	181	-9	1,071,350	1,006,828	-64,522	-6%
MTA Rail	7	7	0	284,084	297,746	13,662	5%
MTA All Transit	197	188	-9	1,355,434	1,304,574	-50,860	-4%

¹ Source: Metro

Comparison of Peak Period Transit Ridership in Metro's 2006 Travel Demand Forecasting Model to the 2008 City of Los Angeles Model

Table with columns for District #, Metro District, and various transit metrics. The main heading is 'Peak Period (7-Hour) Trips'. The table lists 76 districts and their corresponding Metro Districts, along with TSP, TSP HBW Transit, Delta, and Total Transit metrics for both the 2006 model and the 2008 model. A 'Total' row is provided at the bottom.



**APPENDIX D:
TRIP DISTRIBUTION**

2008 City of Los Angeles Model Trip Distribution Summary

Average Trip Time, Trip Length, and Travel Speed

Trip Purpose	Average Trip Time	Average Trip Length (Miles)	LA County	Weighted Average Trip Time (Min)	Weighted Average Trip Length (Miles)	Average Travel Speed (Mph)
			Productions + Attractions			
HBWD1 PK	26.9	9.0	949,251	25,487,381	8,543,256	20
HBWD2 PK	28.8	9.4	1,810,089	52,148,672	16,942,436	19
HBWD3 PK	37.0	12.9	4,353,406	161,032,481	56,289,537	21
HBWS1 PK	23.7	7.6	281,163	6,663,565	2,125,593	19
HBWS2 PK	30.2	9.6	534,092	16,124,247	5,148,650	19
HBWS3 PK	37.3	12.2	1,281,204	47,814,547	15,566,633	20
HBSP PK	21.7	6.2	5,678,805	123,286,853	35,322,166	17
HBSC PK	22.6	7.2	3,929,317	88,802,571	28,408,964	19
HBCU PK	28.3	10.0	440,052	12,466,663	4,404,917	21
HBSH PK	23.2	6.9	2,331,794	54,120,929	16,159,329	18
HBSR PK	28.2	8.8				19
HBO PK	27.7	8.7	5,689,527	157,542,998	49,612,674	19
OBO PK	25.9	9.4	6,920,889	179,112,618	65,194,778	22
WBO PK	30.5	12.2	2,386,171	72,778,230	29,039,707	24
HBWD1 OP	17.4	8.6	484,453	8,405,256	4,156,605	30
HBWD2 OP	19.4	9.9	924,064	17,880,635	9,166,713	31
HBWD3 OP	22.9	12.3	2,227,030	51,088,068	27,347,928	32
HBWS1 OP	16.5	8.0	169,946	2,795,616	1,352,772	29
HBWS2 OP	17.6	8.7	323,531	5,703,856	2,821,192	30
HBWS3 OP	22.3	11.6	778,535	17,384,690	9,054,364	31
HBSP OP	14.3	6.8	3,061,039	43,681,021	20,692,621	28
HBSC OP	14.5	7.0	1,387,704	20,121,706	9,741,681	29
HBCU OP	18.3	9.2	362,334	6,619,851	3,315,360	30
HBSH OP	14.6	6.8	3,435,310	50,155,527	23,360,108	28
HBSR OP	17.9	8.8				29
HBO OP	15.7	7.5	8,050,475	126,070,434	60,620,074	29
OBO OP	19.7	10.4	8,986,568	176,945,533	93,370,446	32
WBO OP	21.3	11.4	2,071,209	44,096,041	23,528,935	32
All Trips			68,847,959	22.8	9.0	24
Commuter Trips			18,574,145	28.5	11.4	24
Non-Commuter Trips			50,273,814	20.7	8.2	24



**APPENDIX E:
MODE SPLIT**

2008 City of Los Angeles Model Peak Period Mode Split Percentages

#	Area	Peak Period (7-Hour) Mode Split Percentages													
		HBW Auto Person Trips	HBW Auto %	HBW Transit Person Trips	HBW Transit %	HBW Walk/Bike Person Trips	HBW Walk/Bike %	Total Auto Person Trips	Total Auto %	Total Transit Person Trips	Total Transit %	Total Walk/Bike Person Trips	Total Walk/Bike %	Total Non-Auto Person Trips	Total Non-Auto %
1	TSP Model	12,725,295	86.3%	561,481	3.8%	1,462,722	9.9%	47,879,687	81.2%	940,711	1.6%	10,127,463	17.2%	11,068,173	18.8%
2	LA County	7,059,251	85.4%	554,114	6.7%	648,314	7.8%	26,569,728	81.0%	930,937	2.8%	5,298,233	16.2%	6,229,171	19.0%
3	LA City	2,928,651	83.8%	287,504	8.2%	279,576	8.0%	11,260,381	80.6%	463,162	3.3%	2,247,552	16.1%	2,710,714	19.4%
4	Westside Study Area	434,325	85.3%	29,886	5.9%	44,743	8.8%	1,359,021	79.9%	47,968	2.8%	293,840	17.3%	341,808	20.1%
5	Santa Monica	132,942	85.5%	8,234	5.3%	14,296	9.2%	420,966	78.9%	13,657	2.6%	98,685	18.5%	112,342	21.1%



**APPENDIX F:
TRIP ASSIGNMENT**

2008 City of Los Angeles Model Highway Performance Measures

LA County Highway Performance Measures - 2008 City of Los Angeles Model

Speed Bin	AM Peak Period			MD Peak Period			PM Peak Period			NT Peak Period			Daily	Daily %
	AB	BA	Total	AB	BA	Total	AB	BA	Total	AB	BA	Total		
0-5	420,796	139,164	559,960	142,897	35,047	177,944	590,283	156,843	747,125	1,331	0	1,331	1,486,361	0.9%
5-10	1,123,751	674,601	1,798,352	355,782	122,916	478,699	2,435,738	778,461	3,214,199	13,115	1,159	14,274	5,505,524	3.3%
10-15	4,069,182	2,206,364	6,275,547	757,952	312,307	1,070,258	7,796,309	3,214,312	11,010,620	100,687	10,523	111,210	18,467,635	11.0%
15-20	7,007,949	3,845,826	10,853,775	2,775,730	1,946,260	4,721,990	12,197,879	5,008,640	17,206,519	564,274	283,184	847,458	33,629,742	20.0%
20-25	8,042,679	3,070,673	11,113,352	5,483,037	3,825,462	9,308,499	9,580,565	3,739,212	13,319,778	1,521,888	1,176,399	2,698,288	36,439,916	21.7%
25-30	4,420,904	731,519	5,152,423	6,031,090	2,482,797	8,513,887	5,377,833	1,062,045	6,439,878	1,710,423	1,292,528	3,002,951	23,109,139	13.8%
30-35	2,187,661	88,163	2,275,825	6,363,322	548,840	6,912,162	2,973,782	150,000	3,123,782	1,685,032	1,046,349	2,731,381	15,043,148	9.0%
35-40	1,177,754	23,586	1,201,340	5,007,356	108,267	5,115,623	1,633,441	58,713	1,692,154	1,249,389	302,708	1,552,097	9,561,213	5.7%
40-45	880,128	3,649	883,777	3,562,858	20,201	3,583,059	855,755	4,659	860,414	1,390,146	55,796	1,445,942	6,773,192	4.0%
45-50	356,977	397	357,375	2,143,954	3,109	2,147,062	380,541	648	381,189	4,314,675	21,076	4,335,751	7,221,376	4.3%
50-55	117,064	1	117,065	1,362,322	1	1,362,323	84,116	1	84,117	4,634,016	2	4,634,018	6,197,523	3.7%
55-60	74,911	0	74,911	500,238	0	500,239	72,004	1	72,005	2,570,467	9	2,570,476	3,217,629	1.9%
60-65	1,064	0	1,064	76,859	0	76,859	1,953	0	1,953	1,102,541	0	1,102,541	1,182,417	0.7%
>65	0	0	0	0	0	0	0	0	0	70,300	0	70,300	70,300	0.0%
Total VMT	29,880,819	10,783,943	40,664,763	34,563,397	9,405,207	43,968,604	43,980,198	14,173,534	58,153,732	20,928,284	4,189,734	25,118,018	167,905,117	100.0%
Miles of Roadway	10,313	7,776	18,088	10,313	7,776	18,088	10,313	7,776	18,088	10,313	7,776	18,088	18,088	--
VMT Per Mile of Roadway	2,897	1,387	2,248	3,351	1,210	2,431	4,265	1,823	3,215	2,029	539	1,389	9,282	--
Total VHT	99,914,426	43,945,168	143,859,594	76,509,815	27,485,559	103,995,374	160,467,221	55,328,759	215,795,979	31,715,341	9,355,692	41,071,033	504,721,980	--
Total Free-Flow VHT	40,835,468	20,919,642	61,755,110	44,942,410	17,983,186	62,925,596	61,587,331	27,659,735	89,247,066	25,573,917	7,804,414	33,378,331	247,306,104	--
Total VHD	59,078,958	23,025,526	82,104,484	31,567,405	9,502,372	41,069,778	98,879,889	27,669,023	126,548,913	6,141,424	1,551,278	7,692,702	257,415,876	--
Average Speed	18	15	17	27	21	25	16	15	16	40	27	37	20	--
HH in LA County	--	--	3,156,606	--	--	3,156,606	--	--	3,156,606	--	--	3,156,606	3,156,606	--
Jobs in LA County	--	--	4,323,957	--	--	4,323,957	--	--	4,323,957	--	--	4,323,957	4,323,957	--
HH + Jobs in LA County	--	--	7,480,563	--	--	7,480,563	--	--	7,480,563	--	--	7,480,563	7,480,563	--
VMT Per HH + Jobs in LA County	--	--	5.44	--	--	5.88	--	--	7.77	--	--	3.36	22.45	--

HPMS Comparison

All Los Angeles County Roadways Including Centroid Connectors (Westside Base Year 2008 Model)

	HPMS 2009	Westside Model 2008	Delta	% Difference
Miles of Roadway	21,678	18,232	-3,446	-16%
Daily Vehicle Miles Traveled	214,236,850	188,135,811	-26,101,039	-12%
Gas and Diesel Sold in 2009 (gallons)	4,378,110,000	4,378,110,000	--	--
Average Miles Per Gallon	20.4	23.3	2.8	14%
National Average	22.0	22.0	--	--

Note: Portions of Palmdale, Lancaster, and Unincorporated Los Angeles County were aggregated to reduce model run time.

All Los Angeles County Roadways Including Centroid Connectors (Raw SCAG Base Year 2003 Model)

	HPMS 2009	SCAG Model 2003	Delta	% Difference
Miles of Roadway	21,678	21,940	262	1%
Daily Vehicle Miles Traveled	214,236,850	205,038,712	-9,198,138	-4%
Gas and Diesel Sold in 2009 (gallons)	4,378,110,000	4,378,110,000	--	--
Average Miles Per Gallon	20.4	21.4	0.9	4%
National Average	22.0	22.0	--	--

SCAG Model 2003 Factored to 2009 Conditions (0.6% per year)

Daily Vehicle Miles Traveled	214,236,850	212,420,106	-1,816,744	-1%
------------------------------	-------------	-------------	------------	-----

2008 City of Los Angeles Model Transit Ridership Summary

Transit Ridership Summary																
Mode #	Transit Mode	# of Routes	Miles of Transit	Daily Capacity	Peak Period Boardings	Off-Peak Period Boardings	Total Daily Boardings	Peak Passenger Miles	Off-Peak Passenger Miles	Total Daily Passenger Miles	Average Trip Length (Miles)	Peak Passenger Hours	Off-Peak Passenger Hours	Total Daily Passenger Hours	Average Trip Time (Minutes)	Average Speed (Mph)
10	Commuter Rail	27	1,506	135,341	26,472	1,315	27,787	537,869	26,588	564,456	20	13,892	694	14,586	31	39
11	Local Bus	415	6,823	3,338,664	574,830	367,212	942,041	1,696,317	1,211,645	2,907,962	3	158,237	88,047	246,283	16	12
12	MTA Express Bus	36	956	491,423	61,448	20,190	81,638	591,377	252,307	843,684	10	31,427	9,379	40,807	30	21
13	Urban Rail	14	216	1,256,034	213,378	76,896	290,274	1,529,545	568,177	2,097,722	7	53,936	20,139	74,075	15	28
14	Los Angeles County Express Bus	102	2,882	338,004	40,569	15,337	55,907	315,192	167,873	483,064	9	21,735	7,370	29,105	31	17
15	Los Angeles County Local Bus (Group 1)	39	553	384,923	19,937	16,394	36,331	71,178	68,168	139,346	4	5,929	4,475	10,404	17	13
16	Los Angeles County Local Bus (Group 2)	176	1,702	1,288,287	116,880	83,508	200,388	304,700	226,158	530,858	3	27,535	16,053	43,588	13	12
17	Los Angeles County Local Bus (Group 3)	53	350	1,241,106	25,089	15,326	40,415	39,108	31,119	70,227	2	3,168	1,863	5,031	7	14
18	Los Angeles County Local Bus (Group 4)	5	42	42,927	772	29	801	1,907	56	1,963	2	162	4	165	12	12
19	All Other Local Bus	8	261	41,801	756	423	1,178	1,563	860	2,423	2	113	53	166	8	15
20	All Other Express Bus	4	149	14,814	558	1	559	9,358	37	9,395	17	450	1	451	48	21
21	High Speed Rail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	MTA Rapid Bus	12	190	553,484	34,673	13,975	48,647	200,713	102,359	303,072	6	17,374	6,045	23,419	29	13
	Total Bus	850	13,908	7,735,432	875,510	532,396	1,407,906	3,231,414	2,060,581	5,291,995	4	266,129	133,290	399,420	17	13
	Total Rail	41	1,722	1,391,375	239,849	78,212	318,061	2,067,414	594,765	2,662,179	8	67,828	20,832	88,661	17	30
	Total	891	15,630	9,126,807	1,115,359	610,608	1,725,967	5,298,828	2,655,346	7,954,174	5	333,957	154,123	488,080	17	16



**APPENDIX G:
TRAFFIC COUNTS**

.



**APPENDIX H:
PEAK PERIOD STATIC MODEL VALIDATION AND SCREENLINE RESULTS**

Initial Static Highway Validation - Summary

Validation Statistic	AM Peak Period (3-Hour)	PM Peak Period (4-Hour)	Threshold
Model/Count Ratio =	0.98	1.01	Within 10%
Percent Within Maximum Deviation ¹ =	70.1%	70.6%	> 75%
Percent Root Mean Square Error ¹ =	35.6%	35.9%	< 40%
Correlation Coefficient ¹ =	0.96	0.96	> 0.88
Screenlines =	82%	86%	100%
Validation Locations =	636	636	

Uncongested Locations			
Validation Statistic	AM Peak Period (3-Hour)	PM Peak Period (4-Hour)	Threshold
Model/Count Ratio =	0.90	0.91	Within 10%
Percent Within Maximum Deviation ¹ =	67.7%	71.1%	> 75%
Percent Root Mean Square Error ¹ =	36.3%	36.4%	< 40%
Correlation Coefficient ¹ =	0.95	0.93	> 0.88
Screenlines =	71%	81%	100%
Validation Locations =	378	377	

Congested Locations			
Validation Statistic	AM Peak Period (3-Hour)	PM Peak Period (4-Hour)	Threshold
Model/Count Ratio =	1.05	1.11	Within 10%
Percent Within Maximum Deviation ¹ =	73.6%	69.9%	> 75%
Percent Root Mean Square Error ¹ =	33.4%	33.7%	< 40%
Correlation Coefficient ¹ =	0.96	0.97	> 0.88
Screenlines =	94%	100%	100%
Validation Locations =	258	259	

1. Static Validation Criteria and Thresholds, 2010 California Regional Transportation Plan Guidelines

Count Year	Model/Count	
	AM Peak Period	PM Peak Period
2007-2008	1.012	1.048
2007-2009	0.996	1.033
2007-2010	0.979	1.013

Caltrans 2008 HICOMP Report Congested Facilities		
	AM	PM
Model/Count	1.17	1.18
Locations	12	16

Static Highway Validation - Summary

Validation Statistic	AM Peak Period (3-Hour)	PM Peak Period (4-Hour)	Threshold
Model/Count Ratio =	1.05	1.08	Within 10%
Percent Within Maximum Deviation ¹ =	78.4%	82.0%	> 75%
Percent Root Mean Square Error ¹ =	29.9%	30.9%	< 40%
Correlation Coefficient ¹ =	0.97	0.97	> 0.88
Screenlines =	100%	100%	100%
Validation Locations =	643	643	

Uncongested Locations			
Validation Statistic	AM Peak Period (3-Hour)	PM Peak Period (4-Hour)	Threshold
Model/Count Ratio =	1.01	1.01	Within 10%
Percent Within Maximum Deviation ¹ =	82.9%	87.8%	> 75%
Percent Root Mean Square Error ¹ =	28.4%	27.8%	< 40%
Correlation Coefficient ¹ =	0.97	0.95	> 0.88
Screenlines =	100%	95%	100%
Validation Locations =	385	384	

Congested Locations			
Validation Statistic	AM Peak Period (3-Hour)	PM Peak Period (4-Hour)	Threshold
Model/Count Ratio =	1.09	1.14	Within 10%
Percent Within Maximum Deviation ¹ =	71.7%	73.4%	> 75%
Percent Root Mean Square Error ¹ =	29.7%	31.2%	< 40%
Correlation Coefficient ¹ =	0.97	0.97	> 0.88
Screenlines =	100%	81%	100%
Validation Locations =	258	259	

1. Static Validation Criteria and Thresholds, 2010 California Regional Transportation Plan Guidelines

Count Year	Model/Count	
	AM Peak Period	PM Peak Period
2007-2008	1.065	1.093
2007-2009	1.052	1.080
2007-2010	1.050	1.078

Caltrans 2008 HICOMP Report Congested Facilities		
	AM	PM
Model/Count	1.15	1.16
Locations	12	16

Static Highway Validation - Highway Links

#	Direction	Count Date	Location	Model AM	Model PM	Count AM	Count PM	ALL Count AM	ALL Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
1	E	4/24/2008	18th St E/o Lacienea Bl					476	1,320													
1	W	4/24/2008	18th St E/o Lacienea Bl					826	862													
2	E	7/29/2008	21st St At 5th St					333	492													
2	W	7/29/2008	21st St At 5th St					44	73													
3	E	4/12/2007	3rd St E/o La Cienega Bl					2,312	5,382													
3	W	4/12/2007	3rd St E/o La Cienega Bl					3,475	3,586													
4	E	4/22/2008	3rd St E/o La Cienega Bl	2,032	4,319	1,753	4,645	1,753	4,645	279	-326	0.159	-0.070	0.440	0.325	YES	YES	77,709	106,195	1	1	1
4	W	4/22/2008	3rd St E/o La Cienega Bl	2,907	3,387	3,561	3,350	3,561	3,350	-654	37	-0.184	0.011	0.325	0.380	YES	YES	427,864	1,370	1	1	1
5	E	3/12/2008	3rd St At Robertson Bl					1,458	2,775													
5	W	3/12/2008	3rd St At Robertson Bl					2,544	2,575													
6	E	1/31/2008	76th Av (kittyhawk) E/o Osage Av					71	242													
6	W	1/31/2008	76th Av (kittyhawk) E/o Osage Av					366	206													
7	E	9/16/2008	80th St At Fordham Rd					71	118													
7	W	9/16/2008	80th St At Fordham Rd					305	444													
8	E	7/1/2008	83rd St At Truxton Av	620	1,209	513	1,001	513	1,001	107	208	0.208	0.208	0.630	0.575	YES	YES	11,356	43,409	1	1	1
8	W	7/1/2008	83rd St At Truxton Av	713	1,000	517	567	517	567	196	433	0.379	0.763	0.630	0.630	YES	NO	38,344	187,100	1		1
9	E	2/26/2008	96th St E/o Sepulveda Bl					894	1,157													
9	W	2/26/2008	96th St E/o Sepulveda Bl					380	655													
10	N	1/18/2007	Abbot Kinney Bl At Palms Bl	2,236	2,551	2,532	2,823	2,532	2,823	-296	-272	-0.117	-0.097	0.380	0.410	YES	YES	87,788	74,244	1	1	1
10	S	1/18/2007	Abbot Kinney Bl At Palms Bl	1,634	3,000	1,227	4,016	1,227	4,016	407	-1,016	0.332	-0.253	0.520	0.340	YES	YES	165,782	1,033,214	1	1	1
11	N	1/18/2007	Abbot Kinney Bl At Rialto Av	2,236	2,551	2,503	2,761	2,503	2,761	-267	-210	-0.107	-0.076	0.380	0.410	YES	YES	71,444	44,301	1	1	1
11	S	1/18/2007	Abbot Kinney Bl At Rialto Av	1,634	3,000	1,185	3,570	1,185	3,570	449	-570	0.379	-0.160	0.520	0.359	YES	YES	201,748	325,438	1	1	1
12	N	8/28/2007	Abbot Kinney Bl N/o Venice Bl	2,236	2,551	2,204	2,563	2,204	2,563	32	-12	0.014	-0.005	0.410	0.440	YES	YES	1,006	156	1	1	1
12	S	8/28/2007	Abbot Kinney Bl N/o Venice Bl	1,634	3,000	1,326	3,536	1,326	3,536	308	-536	0.232	-0.152	0.475	0.359	YES	YES	94,965	287,802	1	1	1
13	N	5/8/2008	Abbot Kinney Bl S/o Venice Bl	1,579	1,858	904	2,846	904	2,846	675	-988	0.747	-0.347	0.575	0.410	NO	YES	455,617	976,572		1	1
13	S	5/8/2008	Abbot Kinney Bl S/o Venice Bl	1,185	2,132	1,070	3,080	1,070	3,080	115	-948	0.108	-0.308	0.520	0.380	YES	YES	13,264	899,483	1	1	1
14	E	11/14/2007	Airdrome St At Bedford Av					297	768													
14	W	11/14/2007	Airdrome St At Bedford Av	538	455	829	477	829	477	-291	-22	-0.351	-0.047	0.575	0.630	YES	YES	84,464	499	1	1	1
15	E	10/18/2007	Airdrome St At La Cienega Bl					281	745													
15	W	10/18/2007	Airdrome St At La Cienega Bl	839	849	811	648	811	648	28	201	0.034	0.310	0.575	0.630	YES	YES	774	40,420	1	1	1
16	E	4/24/2008	Airdrome St E/o La Cienega Bl					257	697													
16	W	4/24/2008	Airdrome St E/o La Cienega Bl					820	534													
17	E	10/11/2007	Airdrome St At Preuss Rd					392	890													
17	W	10/11/2007	Airdrome St At Preuss Rd	538	455	971	587	971	587	-433	-132	-0.446	-0.225	0.575	0.630	YES	YES	187,165	17,515	1	1	1
18	E	10/3/2007	Airdrome St At Robertson Bl	506	1,511	891	1,906	891	1,906	-385	-395	-0.432	-0.207	0.575	0.475	YES	YES	148,073	155,639	1	1	1
18	W	10/3/2007	Airdrome St At Robertson Bl	666	786	1,026	515	1,026	515	-360	271	-0.351	0.526	0.520	0.630	YES	YES	129,454	73,304	1	1	1
19	E	10/11/2007	Alcott St At Beverly Dr					65	200													
19	W	10/11/2007	Alcott St At Beverly Dr					321	323													
20	E	10/16/2007	Alcott St At Rexford Dr					161	353													
20	W	10/16/2007	Alcott St At Rexford Dr					289	249													
21	N	5/17/2007	Alma Real Dr At Alva Dr					79	157													
21	S	5/17/2007	Alma Real Dr At Alva Dr					106	175													
22	E	3/29/2007	Almoloys Av At Chautauqua Bl					41	69													
22	W	3/29/2007	Almoloys Av At Chautauqua Bl					112	184													
23	N	1/2/2007	Amherst Av At Texas Av					188	353													
23	S	1/2/2007	Amherst Av At Texas Av					206	387													
24	N	10/18/2007	Armocost Av At Nebraska Av					65	203													
24	S	10/18/2007	Armocost Av At Nebraska Av					129	282													
25	E	10/10/2007	Ashton Av At Beverly Glen Bl					352	802													
25	W	10/10/2007	Ashton Av At Beverly Glen Bl					375	452													
26	E	10/4/2007	Ashton Av At Comstock Av					100	129													
26	W	10/4/2007	Ashton Av At Comstock Av					124	319													
27	E	10/10/2007	Ashton Av At Fairburn Av					131	210													
27	W	10/10/2007	Ashton Av At Fairburn Av					328	490													
28	E	10/16/2007	Ayres Av At Barrington Av					90	138													
28	W	10/16/2007	Ayres Av At Barrington Av					126	143													
29	N	4/29/2008	Bagley Av At Kincardine Av	1,537	1,798	1,093	1,805	1,093	1,805	444	-7	0.406	-0.004	0.520	0.475	YES	YES	196,730	50	1	1	1
29	S	4/29/2008	Bagley Av At Kincardine Av	1,156	2,289	1,758	2,870	1,758	2,870	-602	-581	-0.342	-0.202	0.440	0.410	YES	YES	362,207	337,335	1	1	1
30	N	5/17/2007	Bagley Av S/o Venice Bl	987	2,002	919	1,816	919	1,816	68	186	0.074	0.102	0.575	0.475	YES	YES	4,646	34,566	1	1	1
30	S	5/17/2007	Bagley Av S/o Venice Bl	736	674	640	795	640	795	96	-121	0.150	-0.152	0.630	0.630	YES	YES	9,227	14,650	1	1	1
31	N	6/4/2007	Barrington Av S/o Ayres Av	3,691	3,176	3,407	2,380	3,407	2,380	284	796	0.083	0.334	0.325	0.440	YES	YES	80,460	633,057	1	1	1
31	S	6/4/2007	Barrington Av S/o Ayres Av	2,162	5,681	1,549	5,411	1,549	5,411	613	270	0.396	0.050	0.475	0.303	YES	YES	375,950	73,054	1	1	1
32	N	7/24/2008	Barrington Av S/o Ayres Av					3,294	2,386													
32	S	7/24/2008	Barrington Av S/o Ayres Av					1,442	5,804													
33	N	10/11/2007	Barrington Pl At Chayote St					1,701	2,595													
33	S	10/11/2007	Barrington Pl At Chayote St					752	1,117													
34	N	9/16/2008	Barry Av At Rochester Av					108	102													
34	S	9/16/2008	Barry Av At Rochester Av					156	280													
35	N	8/28/2007	Barrington Av At Victoria Av					155	129													
35	S	8/28/2007	Barrington Av At Victoria Av					57	153													
36	N	1/16/2008	Barrington Av At Wilshire Bl	2,039	3,013	1,692	2,453	1,692	2,453	347	560	0.205	0.228	0.440	0.440	YES	YES	120,263	313,931	1	1	1
36	S	1/16/2008	Barrington Av At Wilshire Bl	1,525	2,019	593	2,231	593	2,231	932	-212	1.572	-0.095	0.630	0.440	NO	YES	868,731	45,119		1	1
37	N	11/14/2007	Bedford St At Airdrome St					64	83													
37	S	11/14/2007	Bedford St At Airdrome St					78	139													
38	N	9/6/2007	Bedford St At Cashio St					104	134													
38	S	9/6/2007	Bedford St At Cashio St					185	279													
39	N	10/17/2007	Bedford St At Chalmers Dr	1,038	1,106	860	851	860	851	178	255	0.207	0.300	0.575	0.630	YES	YES	31,556	65,160	1	1	1
39	S	10/17/2007	Bedford St At Chalmers Dr	565	1,614	570	1,979	570	1,979	-5</												

Static Highway Validation - Highway Links

#	Direction	Count Date	Location	Model AM	Model PM	Count AM	Count PM	ALL Count AM	ALL Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
121	N	7/24/2008	Gateway Bl N/o Barrington Av	3,181	3,265	2,279	2,549	2,279	2,549	902	716	0.396	0.281	0.410	0.440	YES	YES	814,167	512,055	1	1	1
121	S	7/24/2008	Gateway Bl N/o Barrington Av	2,019	4,772	2,601	3,475	2,601	3,475	-582	1,297	-0.224	0.373	0.380	0.380	YES	YES	338,708	1,683,317	1	1	1
122	N	8/24/2007	Glendon Av E S/o Charnock Rd					366	415													
122	S	8/24/2007	Glendon Av E S/o Charnock Rd					132	512													
123	N	8/23/2007	Glendon Av At Francis Pl					309	414													
123	S	8/23/2007	Glendon Av At Francis Pl					142	326													
124	N	3/18/2008	Glendon Av At La Grange Av					82	160													
124	S	3/18/2008	Glendon Av At La Grange Av					222	404													
125	N	12/9/2008	Glendon Av At Missouri Av					220	302													
125	S	12/9/2008	Glendon Av At Missouri Av					137	166													
126	N	10/14/2008	Glendon Av At Ohio Av					219	243													
126	S	10/14/2008	Glendon Av At Ohio Av					164	137													
127	N	8/22/2007	Glendon Av At Tabor St					244	479													
127	S	8/22/2007	Glendon Av At Tabor St					121	364													
128	N	8/22/2007	Glendon Av At Wesminister Av					451	415													
128	S	8/22/2007	Glendon Av At Wesminister Av					117	470													
129	E	12/30/2008	Goshen Av At Amherst Av					100	185													
129	W	12/30/2008	Goshen Av At Amherst Av					99	288													
130	N	3/27/2008	Gra'ndview Bl S/o National Bl					404	202													
130	S	3/27/2008	Gra'ndview Bl S/o National Bl					70	374													
131	N	3/27/2008	Grandview Bl At Palms Bl					712	619													
131	S	3/27/2008	Grandview Bl At Palms Bl					276	1,437													
132	N	10/23/2007	Grand View Bl At Venice Bl					1,760	1,578													
132	S	10/23/2007	Grand View Bl At Venice Bl					623	1,642													
133	N	4/1/2008	Grandview Bl At Washington Pl					709	679													
133	S	4/1/2008	Grandview Bl At Washington Pl					589	1,670													
134	N	10/14/2008	Greenfield Av At Massachusetts Av					168	264													
134	S	10/14/2008	Greenfield Av At Massachusetts Av					116	137													
135	N	8/15/2007	Greenfield Av At Ohio Av					102	159													
135	S	8/15/2007	Greenfield Av At Ohio Av					103	97													
136	E	6/18/2008	Hargis St At Canfield Av					198	308													
136	W	6/18/2008	Hargis St At Canfield Av					483	252													
137	N	2/6/2007	Hilgard Av At Manning Av	2,223	2,905	2,113	2,935	2,113	2,935	110	-30	0.052	-0.010	0.410	0.410	YES	YES	12,014	887	1	1	1
137	S	2/6/2007	Hilgard Av At Manning Av	2,006	3,032	1,607	3,131	1,607	3,131	399	-99	0.248	-0.032	0.475	0.380	YES	YES	159,094	9,764	1	1	1
138	N	2/6/2007	Hilgard Av S/o Sunset Bl	1,514	3,113	944	3,094	944	3,094	570	19	0.604	0.006	0.575	0.380	NO	YES	324,741	352	1	1	1
138	S	2/6/2007	Hilgard Av S/o Sunset Bl	2,234	2,328	2,199	1,877	2,199	1,877	35	451	0.016	0.240	0.410	0.475	YES	YES	1,233	203,743	1	1	1
139	E	5/17/2007	Holloway Dr E/o La Cienega Bl	1,420	2,692	736	1,617	736	1,617	684	1,075	0.929	0.665	0.575	0.520	NO	NO	467,784	1,154,980			1
139	W	5/17/2007	Holloway Dr E/o La Cienega Bl	1,669	1,653	824	864	824	864	845	789	1.025	0.914	0.575	0.630	NO	NO	713,946	623,094			1
140	N	10/18/2007	Holt Av At Sawyer St					96	194													
140	S	10/18/2007	Holt Av At Sawyer St					163	245													
141	E	7/31/2007	Idaho Av At Bundy Dr	830	1,774	632	1,919	632	1,919	198	-145	0.313	-0.076	0.630	0.475	YES	YES	39,229	21,160	1	1	1
141	W	7/31/2007	Idaho Av At Bundy Dr	830	1,774	752	901	752	901	78	873	0.104	0.968	0.575	0.575	YES	NO	6,094	761,319	1		1
142	E	2/26/2008	Imperial Hwy E/o Sepulveda Bl					3,716	6,500													
142	W	2/26/2008	Imperial Hwy E/o Sepulveda Bl					2,227	2,878													
143	N	8/30/2007	Inglewood Bl At Charnock Rd	1,405	1,199	1,305	852	1,305	852	100	347	0.077	0.407	0.520	0.630	YES	YES	9,991	120,106	1	1	1
143	S	8/30/2007	Inglewood Bl At Charnock Rd					277	1,610													
144	N	8/29/2007	Inglewood Bl At Culver Bl	3,034	3,641	2,602	2,720	2,602	2,720	432	921	0.166	0.339	0.380	0.410	YES	YES	186,271	848,407	1	1	1
144	S	8/29/2007	Inglewood Bl At Culver Bl	2,563	4,735	1,216	3,409	1,216	3,409	1,347	1,326	1.108	0.389	0.520	0.380	NO	NO	1,813,934	1,759,237			1
145	N	7/17/2008	Inglewood Bl N/o Culver Dr					2,063	2,494													
145	S	7/17/2008	Inglewood Bl N/o Culver Dr					1,469	3,437													
146	N	1/10/2007	Inglewood Bl S/o National Bl	1,657	1,128	1,848	1,073	1,848	1,073	-191	55	-0.103	0.051	0.440	0.575	YES	YES	36,570	3,034	1	1	1
146	S	1/10/2007	Inglewood Bl S/o National Bl					232	1,380													
147	N	1/16/2007	Inglewood Bl At Palms Bl	1,658	1,144	1,103	884	1,103	884	555	260	0.503	0.294	0.520	0.575	YES	YES	307,783	67,390	1	1	1
147	S	1/16/2007	Inglewood Bl At Palms Bl					242	1,327													
148	N	4/1/2008	Inglewood Bl S/o Venice Bl	1,483	1,551	1,796	1,552	1,796	1,552	-313	-1	-0.174	-0.001	0.440	0.520	YES	YES	97,878	1	1	1	1
148	S	4/1/2008	Inglewood Bl S/o Venice Bl	1,101	2,261	761	2,401	761	2,401	340	-140	0.447	-0.058	0.575	0.440	YES	YES	115,465	19,677	1	1	1
149	E	4/24/2008	Jefferson Bl E/o Lacienege Bl	2,392	4,434	1,650	4,290	1,650	4,290	742	144	0.450	0.034	0.440	0.340	NO	YES	550,330	20,799			1
149	W	4/24/2008	Jefferson Bl E/o Lacienege Bl	2,933	3,724	3,830	2,674	3,830	2,674	-897	1,050	-0.234	0.393	0.313	0.410	YES	YES	805,342	1,101,850	1	1	1
150	N	4/3/2007	Kelton Av At Levering Av					100	260													
150	S	4/3/2007	Kelton Av At Levering Av					198	458													
151	N	5/15/2008	Kelton Av At Levering St					197	339													
151	S	5/15/2008	Kelton Av At Levering St					427	683													
152	N	7/1/2008	Kentwood Av At 80th St					470	435													
152	S	7/1/2008	Kentwood Av At 80th St					336	426													
153	N	7/1/2008	Kentwood Av At Henefer Av					973	796													
153	S	7/1/2008	Kentwood Av At Henefer Av					427	611													
154	N	7/1/2008	Kentwood Av At Manchester Av					213	191													
154	S	7/1/2008	Kentwood Av At Manchester Av					430	515													
155	N	3/11/2008	Kerwood Av S/o Tennessee Av					43	93													

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#	Direction	Count Date	Location	Model AM	Model PM	Count AM	Count PM	ALL Count AM	ALL Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
161	E	1/31/2008	Kittyhawk Av (osage) W/o 76th St					58	60													
161	W	1/31/2008	Kittyhawk Av (osage) W/o 76th St					25	39													
162	N	10/18/2007	La Cienega Bl At Airdrome St	6,547	6,929	6,429	8,069	6,429	8,069	118	-1,140	0.018	-0.141	0.260	0.265	YES	YES	13,816	1,299,310	1	1	1
162	S	10/18/2007	La Cienega Bl At Airdrome St	4,600	9,210	4,356	7,400	4,356	7,400	244	1,810	0.056	0.245	0.294	0.275	YES	YES	59,424	3,275,102	1	1	1
163	N	5/10/2007	La Cienega Bl N/o Fairview Bl	6,885	10,440	8,770	9,965	8,770	9,965	-1,885	475	-0.215	0.048	0.235	0.248	YES	YES	3,554,053	225,490	1	1	1
163	S	5/10/2007	La Cienega Bl N/o Fairview Bl	7,416	11,169	7,669	10,678	7,669	10,678	-253	491	-0.033	0.046	0.244	0.241	YES	YES	63,795	240,789	1	1	1
164	N	5/16/2007	La Cienega Bl At Pico Bl	5,705	7,120	5,784	7,115	5,784	7,115	-79	5	-0.014	0.001	0.270	0.275	YES	YES	6,303	29	1	1	1
164	S	5/16/2007	La Cienega Bl At Pico Bl	4,704	8,937	3,893	6,333	3,893	6,333	811	2,604	0.208	0.411	0.313	0.286	YES	NO	657,122	6,783,226	1		1
165	N	5/8/2008	La Cienega Bl At Venice Bl	6,526	7,307	5,312	5,197	5,312	5,197	1,214	2,110	0.229	0.406	0.275	0.313	YES	NO	1,473,850	4,451,601	1		1
165	S	5/8/2008	La Cienega Bl At Venice Bl	5,998	10,993	4,109	6,305	4,109	6,305	1,889	4,688	0.460	0.743	0.303	0.286	NO	NO	3,566,900	21,973,445			1
166	N	8/28/2008	La Cienega Bl S/o Venice Bl	7,264	7,774	5,510	5,546	5,510	5,546	1,754	2,228	0.318	0.402	0.275	0.303	NO	NO	3,076,243	4,962,734			1
166	S	8/28/2008	La Cienega Bl S/o Venice Bl	4,978	10,944	3,525	6,974	3,525	6,974	1,453	3,970	0.412	0.569	0.325	0.280	NO	NO	2,111,106	15,758,171			1
167	E	3/18/2008	La Grange Av At Glendon Av					182	548													
167	W	3/18/2008	La Grange Av At Glendon Av					202	386													
168	E	5/2/2007	Lake St W/o Penmar St					32	61													
168	W	5/2/2007	Lake St W/o Penmar St					704	1,066													
169	E	2/26/2018	La Tijera Bl E/o Sepulveda Bl					1,241	2,207													
169	W	2/26/2018	La Tijera Bl E/o Sepulveda Bl					1,504	2,076													
170	E	4/3/2007	Levering And Kelton					388	589													
170	W	4/3/2007	Levering And Kelton					234	976													
171	E	5/15/2008	Levering St At Kelton Av					881	1,068													
171	W	5/15/2008	Levering St At Kelton Av					696	2,189													
172	N	5/8/2007	Lincoln Bl S/o Venice Bl					3,510	5,561													
172	S	5/8/2007	Lincoln Bl S/o Venice Bl					4,075	7,066													
173	N	4/15/2008	Lincoln Bl S/o Venice Bl					5,470	6,447													
173	S	4/15/2008	Lincoln Bl S/o Venice Bl					4,023	6,875													
174	E	4/11/2007	Little Santa Monica Bl At Prosser Av	845	1,158	525	793	525	793	320	365	0.610	0.461	0.630	0.630	YES	YES	102,586	133,437	1	1	1
174	W	4/11/2007	Little Santa Monica Bl At Prosser Av					150	164													
175	E	2/8/2007	Louise Av At Centinela Av					119	210													
175	W	2/8/2007	Louise Av At Centinela Av					186	204													
176	N	10/9/2008	Malcolm Av At Rochester Av					147	241													
176	S	10/9/2008	Malcolm Av At Rochester Av					167	189													
177	N	3/4/2008	Malcom Av S/o Tennessee Av					19	33													
177	S	3/4/2008	Malcom Av S/o Tennessee Av					38	178													
178	N	3/5/2008	Malcom Av S/o Tennessee Av					22	34													
178	S	3/5/2008	Malcom Av S/o Tennessee Av					36	182													
179	N	3/6/2008	Malcom Av S/o Tennessee Av					18	26													
179	S	3/6/2008	Malcom Av S/o Tennessee Av					37	196													
180	N	3/4/2008	Manning Av S/o Ayres Av	1,118	2,918	471	537	473	505	647	2,381	1.374	4.431	0.630	0.630	NO	NO	419,016	5,668,374			1
180	S	3/4/2008	Manning Av S/o Ayres Av					350	1,171													
181	N	3/5/2008	Manning Av S/o Ayres Av					454	528													
181	S	3/5/2008	Manning Av S/o Ayres Av					333	1,163													
182	N	3/6/2008	Manning Av S/o Ayres Av					486	579													
182	S	3/6/2008	Manning Av S/o Ayres Av					348	1,108													
183	E	7/23/2008	Manchester Av At Gulana Av					1,206	1,812													
183	W	7/23/2008	Manchester Av At Gulana Av					785	1,285													
184	E	8/20/2008	Manchester Av At Hastings Av	580	1,039	1,041	1,386	1,041	1,386	-461	-347	-0.443	-0.250	0.520	0.520	YES	YES	212,974	120,461	1	1	1
184	W	8/20/2008	Manchester Av At Hastings Av	579	1,041	709	1,451	709	1,451	-130	-410	-0.184	-0.282	0.575	0.520	YES	YES	17,000	167,931	1	1	1
185	E	2/6/2007	Manning Av At Hilgard Av					76	337													
185	W	2/6/2007	Manning Av At Hilgard Av					269	165													
186	E	7/23/2008	Manchester Av At Lincoln Bl	1,494	1,605	1,357	1,601	1,357	1,601	137	4	0.101	0.003	0.475	0.520	YES	YES	18,860	18	1	1	1
186	W	7/23/2008	Manchester Av At Lincoln Bl	2,412	3,676	2,594	3,273	2,594	3,273	-182	403	-0.070	0.123	0.380	0.380	YES	YES	33,130	162,256	1	1	1
187	N	7/23/2008	Manning Av At Missouri Av					163	137													
187	S	7/23/2008	Manning Av At Missouri Av					58	165													
188	E	8/20/2008	Manchester Av At Pershing Dr					217	374													
188	W	8/20/2008	Manchester Av At Pershing Dr	635	944	1,474	1,520	1,474	1,520	-839	-576	-0.569	-0.379	0.475	0.520	NO	YES	703,598	331,838			1
189	N	3/4/2008	Manning Av S/o Tennessee Av					37	65													
189	S	3/4/2008	Manning Av S/o Tennessee Av					78	357													
190	N	3/5/2008	Manning Av S/o Tennessee Av					43	61													
190	S	3/5/2008	Manning Av S/o Tennessee Av					69	353													
191	N	3/6/2008	Manning Av S/o Tennessee Av					38	39													
191	S	3/6/2008	Manning Av S/o Tennessee Av					70	348													
192	N	8/16/2007	Manning Av At Wilkins Av					287	448													
192	S	8/16/2007	Manning Av At Wilkins Av					195	676													
193	E	10/14/2008	Massachusetts Av At Greenfield Av					343	431													
193	W	10/14/2008	Massachusetts Av At Greenfield Av					155	447													
194	E	6/18/2008	Massachusetts Av At Pontius Av					391	810													
194	W	6/18/2008	Massachusetts Av At Pontius Av					360	422													
195	N	4/1/2008	Mc Laughlin Av S/o Venice Bl	1,826	1,958	1,766	1,525	1,766	1,525	60	433	0.034	0.284	0.440	0.520	YES	YES	3,597	187,263	1	1	1
195	S	4/1/2008	Mc Laughlin Av S/o Venice Bl	1,143	2,375	682	2,358	682	2,358	461	17	0.676	0.007	0.575	0.440	NO	YES	212,240	275			1

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#	Direction	Count Date	Location	Model AM	Model PM	Count AM	Count PM	ALL Count AM	ALL Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
201	E	8/14/2008	Mindanao Wy At Redwood Av	1,418	2,478	1,122	1,964	1,122	1,964	296	514	0.264	0.262	0.520	0.475	YES	YES	87,885	264,175	1	1	1
201	W	8/14/2008	Mindanao Wy At Redwood Av	1,254	1,777	833	1,131	833	1,131	421	646	0.506	0.571	0.575	0.575	YES	YES	177,539	417,717	1	1	1
202	E	8/15/2007	Mississippi Av At Bentley Av					128	315													
202	W	8/15/2007	Mississippi Av At Bentley Av					509	1,023													
203	E	12/9/2008	Missouri Av At Glendon Av					223	440													
203	W	12/9/2008	Missouri Av At Glendon Av					247	285													
204	E	7/22/2008	Missouri Av At Manning Av					134	181													
204	W	7/22/2008	Missouri Av At Manning Av					160	213													
205	E	4/3/2007	Mississippi Av At Midvale Av					127	154													
205	W	4/3/2007	Mississippi Av At Midvale Av					54	192													
206	E	3/4/2008	Monte Mar Dr E/o Beverwil Av					188	871													
206	W	3/4/2008	Monte Mar Dr E/o Beverwil Av					516	287													
207	E	3/5/2008	Monte Mar Dr E/o Beverwil Av					190	902													
207	W	3/5/2008	Monte Mar Dr E/o Beverwil Av					574	309													
208	E	3/6/2008	Monte Mar Dr E/o Beverwil Av					175	895													
208	W	3/6/2008	Monte Mar Dr E/o Beverwil Av					559	363													
209	E	3/2/2007	Montana Av E/o Sepulveda Bl					3,048	1,565													
209	W	3/2/2007	Montana Av E/o Sepulveda Bl					749	2,944													
210	N	3/29/2007	Moreno Dr S/o Santa Monica Bl	535	99	447	447	447	447	88	-348	0.198	-0.778	0.630	0.630	YES	NO	7,824	121,033	1		1
210	S	3/29/2007	Moreno Dr S/o Santa Monica Bl	17	486	447	949	447	949	-430	-463	-0.961	-0.488	0.630	0.575	NO	YES	184,687	214,702		1	1
211	N	9/2/2008	Motor Av S/o Wala Vista Road	2,204	1,895	1,548	1,761	1,548	1,761	656	134	0.424	0.076	0.475	0.475	YES	YES	430,110	18,044	1	1	1
211	S	9/2/2008	Motor Av S/o Wala Vista Road	1,082	2,563	980	2,366	980	2,366	102	197	0.104	0.083	0.575	0.440	YES	YES	10,353	38,786	1	1	1
212	E	3/27/2008	National Bl E/o Grandview Bl	1,849	3,337	1,849	2,595	1,849	2,595	0	742	0.000	0.286	0.440	0.440	YES	YES	0	549,958	1	1	1
212	W	3/27/2008	National Bl E/o Grandview Bl	1,882	2,692	1,703	2,843	1,703	2,843	179	-151	0.105	-0.053	0.440	0.410	YES	YES	31,909	22,948	1	1	1
213	E	9/2/2008	National Bl E/o Manning Av	3,535	5,026	3,284	4,444	3,284	4,444	251	582	0.076	0.131	0.340	0.325	YES	YES	63,034	338,629	1	1	1
213	W	9/2/2008	National Bl E/o Manning Av	3,174	4,346	3,383	4,235	3,383	4,235	-209	111	-0.062	0.026	0.325	0.340	YES	YES	43,841	12,311	1	1	1
214	E	6/5/2007	National Bl W/o Overland Av	1,494	2,766	2,656	2,934	2,656	2,934	-1,162	-168	-0.438	-0.057	0.359	0.410	NO	YES	1,350,622	28,109		1	1
214	W	6/5/2007	National Bl W/o Overland Av	1,916	2,056	1,228	2,347	1,228	2,347	688	-291	0.560	-0.124	0.520	0.440	NO	YES	473,473	84,909		1	1
215	E	8/28/2008	National Bl E/o Robertson Bl	3,302	6,094	2,757	2,619	2,757	2,619	545	3,475	0.198	1.327	0.359	0.440	YES	NO	296,896	12,073,189	1		1
215	W	8/28/2008	National Bl E/o Robertson Bl	4,294	5,288	3,708	6,466	3,708	6,466	586	-1,178	0.158	-0.182	0.313	0.286	YES	YES	343,822	1,387,296	1	1	1
216	E	9/2/2008	National Bl At Sawtelle Av	3,061	4,577	2,199	3,885	2,199	3,885	862	692	0.392	0.178	0.410	0.359	YES	YES	743,242	479,342	1	1	1
216	W	9/2/2008	National Bl At Sawtelle Av	2,253	3,460	2,726	3,684	2,726	3,684	-473	-224	-0.174	-0.061	0.359	0.359	YES	YES	223,739	49,967	1	1	1
217	E	3/1/2007	National Bl W/o Sepulveda Bl					3,205	4,960													
217	W	3/1/2007	National Bl W/o Sepulveda Bl					3,528	6,153													
218	E	2/21/2008	National Bl W/o Sepulveda Bl					2,575	3,801													
218	W	2/21/2008	National Bl W/o Sepulveda Bl					2,540	4,011													
219	N	5/1/2007	National Bl S/o Venice Bl	3,110	3,814	2,553	2,640	2,553	2,640	557	1,174	0.218	0.445	0.380	0.410	YES	NO	310,432	1,378,992	1		1
219	S	5/1/2007	National Bl S/o Venice Bl	3,038	5,573	2,214	4,003	2,214	4,003	824	1,570	0.372	0.392	0.410	0.340	YES	NO	678,349	2,465,207	1		1
220	E	10/18/2007	Nebraska Av At Armacost Av					149	668													
220	W	10/18/2007	Nebraska Av At Armacost Av					187	357													
221	E	12/30/2008	Northfield St At El Medio Av					210	347													
221	W	12/30/2008	Northfield St At El Medio Av					167	414													
222	N	10/9/2007	Oakhurst Dr At Alcott St					140	164													
222	S	10/9/2007	Oakhurst Dr At Alcott St					136	238													
223	N	5/8/2007	Ocean Av S/o Venice Bl					1,152	4,531													
223	S	5/8/2007	Ocean Av S/o Venice Bl					974	649													
224	E	9/4/2007	Ohio Av At Camden Av	1,949	2,104	2,620	2,619	2,620	2,619	-671	-515	-0.256	-0.197	0.380	0.440	YES	YES	449,833	265,176	1	1	1
224	W	9/4/2007	Ohio Av At Camden Av	1,253	2,524	1,538	2,547	1,538	2,547	-285	-23	-0.185	-0.009	0.475	0.440	YES	YES	81,337	510	1	1	1
225	E	2/28/2007	Ohio Av E/o Cotner Av					2,831	2,840													
225	W	2/28/2007	Ohio Av E/o Cotner Av					2,015	3,187													
226	E	2/12/2008	Ohio Av E/o Cotner Av					2,762	2,535													
226	W	2/12/2008	Ohio Av E/o Cotner Av					1,709	2,654													
227	E	10/9/2008	Ohio Av At Glendon Av	782	1,467	952	1,139	952	1,139	-170	328	-0.178	0.288	0.575	0.575	YES	YES	28,784	107,851	1	1	1
227	W	10/9/2008	Ohio Av At Glendon Av	1,053	1,157	893	949	893	949	160	208	0.179	0.220	0.575	0.575	YES	YES	25,497	43,446	1	1	1
228	E	8/15/2007	Ohio Av At Greenfield Av	2,169	2,299	2,441	2,728	2,441	2,728	-272	-429	-0.111	-0.157	0.380	0.410	YES	YES	73,737	183,755	1	1	1
228	W	8/15/2007	Ohio Av At Greenfield Av	1,559	2,988	1,495	2,589	1,495	2,589	64	399	0.043	0.154	0.475	0.440	YES	YES	4,056	158,936	1	1	1
229	E	9/5/2007	Olympic Bl At Bundy Dr	4,151	6,734	2,919	6,339	2,919	6,339	1,232	395	0.422	0.062	0.359	0.286	NO	YES	1,518,314	156,314		1	1
229	W	9/5/2007	Olympic Bl At Bundy Dr	3,895	6,424	4,513	6,139	4,513	6,139	-618	285	-0.137	0.046	0.294	0.294	YES	YES	382,476	81,347	1	1	1
230	E	3/1/2007	Olympic Bl W/o Cotner Av					6,178	9,124													
230	W	3/1/2007	Olympic Bl W/o Cotner Av					5,445	8,217													
231	E	2/12/2008	Olympic Bl W/o Cotner Av					5,617	8,524													
231	W	2/12/2008	Olympic Bl W/o Cotner Av					5,294	8,227													
232	E	4/23/2008	Olympic Bl E/o La Cienega Bl	4,151	9,073	3,068	7,220	3,068	7,220	1,083	1,853	0.353	0.257	0.340	0.275	NO	YES	1,172,238	3,434,088			1
232	W	4/23/2008	Olympic Bl E/o La Cienega Bl	6,033	6,167	5,674	4,749	5,674	4,749	359	1,418	0.063	0.299	0.270	0.325	YES	YES	128,733	2,010,690	1	1	1
233	E	4/17/2007	Olympic Bl At Overland Av	5,949	7,654	6,897	7,813	6,897	7,813	-948	-1,599	-0.137	-0.020	0.255	0.270	YES	YES	899,166	25,254	1	1	1
233	W	4/17/2007	Olympic Bl At Overland Av	4,922	11,326	6,026	10,097	6,026	10,097	-1,104	1,229	-0.183	0.122	0.265	0.248	YES	YES	1,218,989	1,510,527	1	1	1
234	N	1/31/2008	Osage Av (kittyhawk) At 76th St	725	1,220	1,072	796	1,072	796	-347	424	-0.324	0.533	0.520	0.630	YES	YES	120,312	179,902	1	1	1
234	S	1/31/2008	Osage Av (kittyhawk) At 76th St					352	765													
235	N	8/30/2007	Overland Av At Charnock Rd	3,510	3,900	4,321	5,329	4,321	5,329	-811	-1,429	-0.188	-0.268	0.294	0.303	YES	YES	657,414	2,042,303	1	1	1
235	S	8/30/2007	Overland Av At Charnock Rd	2,410	4,785	2,203	6,106	2,203	6,106	207	-1,321	0.094	-0.216	0.410	0.294	YES	YES	43,004	1,745,643	1	1	1
236	N	4/17/2007	Overland Av N/o Olympic Bl	1,276	1,428	881	1,456	881	1,456	395	-28	0.448	-0.019	0.575	0.520	YES	YES	155,857	764	1	1	1
236	S	4/17/2007	Overland Av N/o Olympic Bl																			

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#	Direction	Count Date	Location	Model AM	Model PM	Count AM	Count PM	ALL Count AM	ALL Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
241	N	10/14/2008	Pacific Av At Spinnaker St					309	356													
241	S	10/14/2008	Pacific Av At Spinnaker St	276	774	431	1,025	431	1,025	-155	-251	-0.360	-0.245	0.630	0.575	YES	YES	24,132	63,077	1	1	1
242	N	5/8/2007	Pacific Av S/o Venice Bl					2,282	2,107													
242	S	5/8/2007	Pacific Av S/o Venice Bl					1,496	3,649													
243	E	1/18/2007	Palms Bl At Abbot Kinney Bl					157	294													
243	W	1/18/2007	Palms Bl At Abbot Kinney Bl					109	182													
244	E	9/4/2007	Palms Bl At Beethoven St	1,341	1,686	1,015	1,340	1,015	1,340	326	346	0.321	0.258	0.520	0.520	YES	YES	106,105	119,488	1	1	1
244	W	9/4/2007	Palms Bl At Beethoven St	1,306	2,504	1,238	2,163	1,238	2,163	68	341	0.055	0.158	0.520	0.475	YES	YES	4,632	116,355	1	1	1
245	E	11/13/2008	Palms Dr At Centinela Av					1,523	2,446													
245	W	11/13/2008	Palms Dr At Centinela Av					1,855	2,272													
246	E	3/27/2008	Palms Bl At Grandview Bl	2,429	2,560	1,127	2,045	1,127	2,045	1,302	515	1.155	0.252	0.520	0.475	NO	YES	1,695,153	264,825		1	1
246	W	3/27/2008	Palms Bl At Grandview Bl	1,366	2,980	1,178	2,003	1,178	2,003	188	977	0.159	0.488	0.520	0.475	YES	NO	35,213	954,832	1		1
247	E	1/10/2007	Palms Bl At Inglewood Bl	2,034	2,224	1,151	2,040	1,151	2,040	883	184	0.767	0.090	0.520	0.475	NO	YES	779,079	34,025		1	1
247	W	1/10/2007	Palms Bl At Inglewood Bl	1,290	2,721	1,230	2,412	1,230	2,412	60	309	0.049	0.128	0.520	0.440	YES	YES	3,602	95,559	1	1	1
248	E	5/2/2007	Palm Bl W/o Penmar Av	127	344	428	644	428	644	-301	-300	-0.703	-0.466	0.630	0.630	NO	YES	90,491	89,946		1	1
248	W	5/2/2007	Palm Bl W/o Penmar Av					193	336													
249	E	2/19/2008	Palms Bl W/o Sepulveda Bl					2,640	4,698													
249	W	2/19/2008	Palms Bl W/o Sepulveda Bl					2,463	3,763													
250	N	3/4/2008	Patricia Av S/o Ayres Av	744	420	694	548	719	533	50	-127	0.073	-0.232	0.575	0.630	YES	YES	2,531	16,207	1	1	1
250	S	3/4/2008	Patricia Av S/o Ayres Av					387	1,580													
251	N	3/5/2008	Patricia Av S/o Ayres Av					681	555													
251	S	3/5/2008	Patricia Av S/o Ayres Av					345	1,581													
252	N	3/6/2008	Patricia Av S/o Ayres Av					681	555													
252	S	3/6/2008	Patricia Av S/o Ayres Av					354	1,583													
253	N	10/9/2007	Patricia Av At Tennessee Av					184	211													
253	S	10/9/2007	Patricia Av At Tennessee Av					69	270													
254	N	3/18/2008	Patricia Av S/o Tennessee Av					202	228													
254	S	3/18/2008	Patricia Av S/o Tennessee Av					128	835													
255	N	3/19/2008	Patricia Av S/o Tennessee Av					189	205													
255	S	3/19/2008	Patricia Av S/o Tennessee Av					122	862													
256	N	3/20/2008	Patricia Av S/o Tennessee Av					190	223													
256	S	3/20/2008	Patricia Av S/o Tennessee Av					123	793													
257	N	2/5/2007	Penmar Av At Rose Av	806	768	443	451	443	451	363	317	0.819	0.703	0.630	0.630	NO	NO	131,530	100,561			1
257	S	2/5/2007	Penmar Av At Rose Av					181	568													
258	E	6/5/2007	Pico Bl At Bundy Dr	2,937	4,672	2,692	4,993	2,692	4,993	245	-321	0.091	-0.064	0.359	0.313	YES	YES	60,270	103,028	1	1	1
258	W	6/5/2007	Pico Bl At Bundy Dr	2,564	3,838	2,544	3,944	2,544	3,944	20	-106	0.008	-0.027	0.380	0.359	YES	YES	409	11,162	1	1	1
259	E	3/1/2007	Pico Bl W/o Cotner Av					5,254	7,404													
259	W	3/1/2007	Pico Bl W/o Cotner Av					3,305	6,087													
260	E	2/21/2008	Pico Bl W/o Cotner Av					5,384	7,100													
260	W	2/21/2008	Pico Bl W/o Cotner Av					3,554	6,947													
261	E	5/16/2007	Pico Bl At La Cienega Bl	2,687	5,947	2,520	5,090	2,520	5,090	167	857	0.066	0.168	0.380	0.313	YES	YES	27,887	733,991	1	1	1
261	W	5/16/2007	Pico Bl At La Cienega Bl	5,966	4,239	4,379	3,392	4,379	3,392	1,587	847	0.362	0.250	0.294	0.380	NO	YES	2,517,026	717,437		1	1
262	E	4/23/2008	Pico Bl E/o La Cienega Bl	2,128	4,907	1,897	4,825	1,897	4,825	231	82	0.122	0.017	0.440	0.325	YES	YES	53,486	6,679	1	1	1
262	W	4/23/2008	Pico Bl E/o La Cienega Bl	3,573	3,339	4,927	3,495	4,927	3,495	-1,354	-156	-0.275	-0.045	0.286	0.380	YES	YES	1,833,210	24,317	1	1	1
263	E	5/16/2007	Pico Bl At Robertson Bl	2,380	6,177	2,468	5,475	2,468	5,475	-88	702	-0.036	0.128	0.380	0.303	YES	YES	7,733	492,103	1	1	1
263	W	5/16/2007	Pico Bl At Robertson Bl	6,714	4,058	4,757	3,680	4,757	3,680	1,957	378	0.411	0.103	0.286	0.359	NO	YES	3,829,410	143,074		1	1
264	E	6/21/2007	Pico Bl At Sawtelle Bl					3,901	7,069													
264	W	6/21/2007	Pico Bl At Sawtelle Bl					3,349	6,326													
265	E	6/5/2007	Pico Bl At Sepulveda Bl	4,885	6,901	4,021	5,334	4,021	5,334	864	1,567	0.215	0.294	0.303	0.303	YES	YES	747,018	2,454,613	1	1	1
265	W	6/5/2007	Pico Bl At Sepulveda Bl					3,853	6,269													
266	N	6/18/2008	Pontius Av At Massachusetts Av					632	820													
266	S	6/18/2008	Pontius Av At Massachusetts Av					2,197	1,552													
267	N	10/11/2007	Preuss Rd At Airdrome St					110	98													
267	S	10/11/2007	Preuss Rd At Airdrome St					31	103													
268	N	4/11/2007	Prosser Av At Little Santa Monica Bl					47	60													
268	S	4/11/2007	Prosser Av At Little Santa Monica Bl					27	61													
269	N	3/4/2008	Prosser Av S/o Tennessee Av					72	135													
269	S	3/4/2008	Prosser Av S/o Tennessee Av					300	630													
270	N	3/5/2008	Prosser Av S/o Tennessee Av					108	137													
270	S	3/5/2008	Prosser Av S/o Tennessee Av					264	713													
271	N	3/6/2008	Prosser Av S/o Tennessee Av					148	140													
271	S	3/6/2008	Prosser Av S/o Tennessee Av					266	738													
272	N	6/20/2007	Radcliffe Av At Haverford Av					160	221													
272	S	6/20/2007	Radcliffe Av At Haverford Av					451	509													
273	N	6/20/2007	Radcliffe Av At Mount Holyoke Av					57	78													
273	S	6/20/2007	Radcliffe Av At Mount Holyoke Av					51	59													
274	N	8/14/2008	Redwood Av At Mindanao Wy					360	837													
274	S	8/14/2008	Redwood Av At Mindanao Wy					427	644													
275	N	10/17/2007	Rexford Dr At Alcott St																			

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#	Direction	Count Date	Location	Model AM	Model PM	Count AM	Count PM	ALL Count AM	ALL Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
321	N	3/6/2008	Sherborne Dr S/o Whitworth Dr					234	177													
321	S	3/6/2008	Sherborne Dr S/o Whitworth Dr					339	998													
322	N	5/2/2007	Sunset Av At Rose Av					100	230													
322	S	5/2/2007	Sunset Av At Rose Av					120	196													
323	N	10/23/2007	Temescal Cyn Rd N/o Pacific Coast Hw	1,223	1,745	2,001	1,964	2,001	1,964	-778	-219	-0.389	-0.112	0.410	0.475	YES	YES	605,913	47,991	1	1	1
323	S	10/23/2007	Temescal Cyn Rd N/o Pacific Coast Hw	1,739	2,295	2,040	2,109	2,040	2,109	-301	186	-0.147	0.088	0.410	0.475	YES	YES	90,339	34,515	1	1	1
324	N	10/23/2007	Temescal Cyn Rd S/o Sunset Bl					1,513	1,756													
324	S	10/23/2007	Temescal Cyn Rd S/o Sunset Bl					1,471	1,531													
325	E	1/2/2007	Tennessee Av At Bentley Av					179	255													
325	W	1/2/2007	Tennessee Av At Bentley Av					139	275													
326	E	1/2/2007	Tennessee Av At Camden Av					110	181													
326	W	1/2/2007	Tennessee Av At Camden Av					78	165													
327	E	10/9/2007	Tennessee Av At Patricia Av					150	120													
327	W	10/9/2007	Tennessee Av At Patricia Av					156	730													
328	E	1/2/2007	Texas Av At Amherst Av					354	920													
328	W	1/2/2007	Texas Av At Amherst Av	556	757	446	640	446	640	110	117	0.246	0.183	0.630	0.630	YES	YES	12,036	13,690	1	1	1
329	N	7/1/2008	Truxton Av At 83rd St					879	740													
329	S	7/1/2008	Truxton Av At 83rd St					272	421													
330	E	4/16/2008	Venice Bl E/o La Cienega Bl	5,956	8,669	3,976	6,638	3,976	6,638	1,980	2,031	0.498	0.306	0.303	0.280	NO	NO	3,922,284	4,126,189			1
330	W	4/16/2008	Venice Bl E/o La Cienega Bl	4,659	7,186	4,973	5,121	4,973	5,121	-314	2,065	-0.063	0.403	0.280	0.313	YES	NO	98,518	4,262,683	1		1
331	E	5/8/2008	Venice Bl At La Cienega Bl	5,646	9,490	4,865	8,079	4,865	8,079	781	1,411	0.160	0.175	0.286	0.265	YES	YES	609,428	1,990,307	1	1	1
331	W	5/8/2008	Venice Bl At La Cienega Bl	6,058	8,326	5,299	5,293	5,299	5,293	759	3,033	0.143	0.573	0.275	0.303	YES	NO	575,333	9,197,656	1		1
332	E	2/19/2008	Venice Bl E/o Sepulveda Bl					4,564	7,254													
332	W	2/19/2008	Venice Bl E/o Sepulveda Bl					5,879	6,836													
333	N	3/4/2008	Veteran Av S/o Ayres Av					114	104													
333	S	3/4/2008	Veteran Av S/o Ayres Av					80	387													
334	N	3/5/2008	Veteran Av S/o Ayres Av					104	104													
334	S	3/5/2008	Veteran Av S/o Ayres Av					79	373													
335	N	3/6/2008	Veteran Av S/o Ayres Av					103	121													
335	S	3/6/2008	Veteran Av S/o Ayres Av					88	352													
336	N	10/15/2008	Veteran Av At Levering Av					817	2,773													
336	S	10/15/2008	Veteran Av At Levering Av					1,312	1,670													
337	N	10/15/2008	Veteran Av At Santa Monica Bl	1,488	1,630	1,149	1,338	1,149	1,338	339	292	0.295	0.218	0.520	0.520	YES	YES	115,258	85,223	1	1	1
337	S	10/15/2008	Veteran Av At Santa Monica Bl	952	2,264	979	2,667	979	2,667	-27	-403	-0.027	-0.151	0.575	0.410	YES	YES	704	162,105	1	1	1
338	N	3/4/2008	Veteran Av S/o Tennessee Av	1,231	864	591	635	605	620	640	229	1.083	0.360	0.630	0.630	NO	YES	409,573	52,371		1	1
338	S	3/4/2008	Veteran Av S/o Tennessee Av					292	1,608													
339	N	3/5/2008	Veteran Av S/o Tennessee Av					591	621													
339	S	3/5/2008	Veteran Av S/o Tennessee Av					279	1,579													
340	N	3/6/2008	Veteran Av S/o Tennessee Av					576	664													
340	S	3/6/2008	Veteran Av S/o Tennessee Av					323	1,683													
341	N	10/15/2008	Veteran Av At Wilshire Bl	2,493	3,853	2,331	3,568	2,331	3,568	162	285	0.069	0.080	0.380	0.359	YES	YES	26,146	81,416	1	1	1
341	S	10/15/2008	Veteran Av At Wilshire Bl	2,128	3,480	2,493	5,866	2,493	5,866	-365	-2,386	-0.146	-0.407	0.380	0.294	YES	NO	132,991	5,694,886	1		1
342	N	2/8/2007	Via Dolce Av S/o Washington Bl	496	504	792	590	792	590	-296	-86	-0.374	-0.146	0.575	0.630	YES	YES	87,675	7,441	1	1	1
342	S	2/8/2007	Via Dolce Av S/o Washington Bl					292	744													
343	N	8/20/2008	Vista Del Mar Bl At Waterview St	2,520	3,783	2,941	2,081	2,941	2,081	-421	1,702	-0.143	0.818	0.359	0.475	YES	NO	177,557	2,895,465	1		1
343	S	8/20/2008	Vista Del Mar Bl At Waterview St	2,597	3,959	1,087	3,677	1,087	3,677	1,510	282	1.389	0.077	0.520	0.359	NO	YES	2,278,734	79,445		1	1
344	N	7/2/2008	Walgrove Av At Dewey St					9,973	6,635													
344	S	7/2/2008	Walgrove Av At Dewey St					2,969	13,793													
345	N	7/31/2007	Walgrove Av At Palms Bl	1,260	1,731	2,079	2,011	2,079	2,011	-819	-280	-0.394	-0.139	0.410	0.475	YES	YES	671,434	78,300	1	1	1
345	S	7/31/2007	Walgrove Av At Palms Bl	1,014	1,696	982	3,146	982	3,146	32	-1,450	0.032	-0.461	0.575	0.380	YES	NO	999	2,101,464	1		1
346	N	7/31/2007	Walgrove Av At Rose Av	2,094	2,374	2,128	1,814	2,128	1,814	-34	560	-0.016	0.309	0.410	0.475	YES	YES	1,179	313,331	1	1	1
346	S	7/31/2007	Walgrove Av At Rose Av	1,622	3,157	1,189	4,215	1,189	4,215	433	-1,058	0.364	-0.251	0.520	0.340	YES	YES	187,090	1,118,830	1	1	1
347	N	4/15/2008	Walgrove Av S/o Venice Bl					1,601	1,961													
347	S	4/15/2008	Walgrove Av S/o Venice Bl					723	2,012													
348	N	7/31/2007	Walgrove Av At Victoria Av	1,417	2,074	1,948	1,955	1,948	1,955	-531	119	-0.272	0.061	0.440	0.475	YES	YES	281,468	14,221	1	1	1
348	S	7/31/2007	Walgrove Av At Victoria Av	1,195	1,853	1,123	3,018	1,123	3,018	72	-1,165	0.064	-0.386	0.520	0.410	YES	YES	5,144	1,357,307	1	1	1
349	N	6/5/2007	Westwood Bl S/o Coventry Pl	3,767	2,658	2,412	2,567	2,412	2,567	1,355	91	0.562	0.035	0.380	0.440	NO	YES	1,835,367	8,239		1	1
349	S	6/5/2007	Westwood Bl S/o Coventry Pl	2,007	5,820	1,467	4,600	1,467	4,600	540	1,220	0.368	0.265	0.475	0.325	YES	YES	292,131	1,488,309	1	1	1
350	N	5/1/2008	Westgate Av At Dorothy Av					824	1,140													
350	S	5/1/2008	Westgate Av At Dorothy Av					563	977													
351	N	2/12/2008	Westgate Av At Kiowa Ave					226	807													
351	S	2/12/2008	Westgate Av At Kiowa Ave					248	343													
352	N	9/16/2008	Westgate Av At Kiowa Av					239	638													
352	S	9/16/2008	Westgate Av At Kiowa Av					320	454													
353	E	8/14/2008	Westchester Pkwy E/o Sepulveda Bl					896	1,616													
353	W	8/14/2008	Westchester Pkwy E/o Sepulveda Bl					1,411	2,639													
354	E	7/5/2007	Whitworth Dr At Wooster St					247	843													
354	W	7/5/2007	Whitworth Dr At Wooster St					507	463													
355	E	1/16/2008	Wilshire Bl At Barrington Ave	4,414	7,091	4,005	4,328	4,005	4,328	409	2,763	0.102	0.638	0.303	0.340	YES	NO	167,418	7,633,696	1		1
355	W	1/16/2008	Wilshire Bl At Barrington Ave	4,845	6,785	4,948	6,650	4,948	6,650	-103	135	-0.021	0.020	0.286	0.280	YES	YES	10,616	18,267	1	1	1
356	E	7/11/2007	Wilshire Bl At Bundy Dr					3,450	5,121													
356	W	7/11/2007	Wilshire Bl At Bundy Dr					4,324	6,201													
357	E	1/17/2008	Wilshire Bl At Bundy Dr	4,150	6,230	3,637	5,198	3,637	5,198	513	1,032	0.141	0.198	0.313	0.313	YES	YES	262,668	1,064,604	1	1	1
357	W	1/17/2008	Wilshire Bl At Bundy Dr	4,549	6,777	4,364	6,250	4,364	6,250	185	527	0.042	0.084	0.294	0.286	YES	YES	34,379	277,312	1	1	1
358	E	7/10/2007	Wilshire Bl At Centinela Av	3,739	5,660	3,552	5,577	3,552	5,577	187	83	0.053	0.015	0.325	0.303	YES	YES	34,961	6,891	1	1	1
358	W	7/10/2007	Wilshire Bl At Centinela Av																			

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361	E	2/28/2007	Wilshire Bl W/o Veteran Av					12,047	11,220														
361	W	2/28/2007	Wilshire Bl W/o Veteran Av					5,227	4,965														
362	N	7/5/2007	Wooster St At Whitworth Dr					150	208														
362	S	7/5/2007	Wooster St At Whitworth Dr					153	243														
363	N	1/8/2009	Century Park East At Galaxy Wy	3,228	1,884	3,128	1,315	3,128	1,315	100	569	0.032	0.433	0.340	0.575	YES	YES	9,948	323,772	1	1	1	
363	S	1/8/2009	Century Park East At Galaxy Wy	696	3,817	520	3,373	520	3,373	176	444	0.338	0.132	0.630	0.380	YES	YES	30,964	197,500	1	1	1	
364	E	1/8/2009	Galaxy Wy At Century Park East					240	362														
364	W	1/8/2009	Galaxy Wy At Century Park East					196	355														
365	E	1/8/2009	Missouri Av At Selby Av					252	289														
365	W	1/8/2009	Missouri Av At Selby Av					263	419														
366	N	1/8/2009	Selby Av At Missouri Av					49	137														
366	S	1/8/2009	Selby Av At Missouri Av					133	262														
367	N	1/15/2009	Armcast Av At Idaho Av					107	165														
367	S	1/15/2009	Armcast Av At Idaho Av					124	388														
368	N	1/15/2009	Fordham Av At 80th Street					50	75														
368	S	1/15/2009	Fordham Av At 80th Street					40	86														
369	N	1/22/2009	Sepulveda Bl At Howard Hughes Pkwy	6,959	9,363	10,753	8,542	10,753	8,542	-3,794	821	-0.353	0.096	0.219	0.260	NO	YES	14,396,900	673,787			1	
369	S	1/22/2009	Sepulveda Bl At Howard Hughes Pkwy	6,030	10,280	2,780	7,792	2,780	7,792	3,250	2,488	1.169	0.319	0.359	0.270	NO	NO	10,560,149	6,190,259				1
370	E	2/12/2009	La Tijera Bl E/o Sepulveda Bl	1,449	2,592	1,087	2,430	1,087	2,430	362	162	0.333	0.067	0.520	0.440	YES	YES	130,806	26,208	1	1	1	
370	W	2/12/2009	La Tijera Bl E/o Sepulveda Bl	1,897	2,492	1,810	2,801	1,810	2,801	87	-309	0.048	-0.110	0.440	0.410	YES	YES	7,503	95,398	1	1	1	
371	N	2/12/2009	Sepulveda Eastway S/o Westchester Pkwy	608	1,136	1,164	1,657	1,164	1,657	-556	-521	-0.478	-0.315	0.520	0.520	YES	YES	309,124	271,948	1	1	1	
371	S	2/12/2009	Sepulveda Eastway S/o Westchester Pkwy					74	162														
372	E	2/12/2009	Westchester Pkwy E/o Sepulveda Bl	1,650	1,896	922	1,837	922	1,837	728	59	0.789	0.032	0.575	0.475	NO	YES	529,257	3,459			1	1
372	W	2/12/2009	Westchester Pkwy E/o Sepulveda Bl	1,857	3,569	1,948	2,805	1,948	2,805	-91	764	-0.047	0.272	0.440	0.410	YES	YES	8,251	583,044	1	1	1	
373	N	1/13/2009	Butler Av At Olympic Bl					120	359														
373	S	1/13/2009	Butler Av At Olympic Bl					88	225														
374	N	1/13/2009	Butler Av At Tennessee Av					143	716														
374	S	1/13/2009	Butler Av At Tennessee Av					338	501														
375	E	1/13/2009	La Grange Av At Sawtelle Bl	198	550	473	1,476	473	1,476	-275	-926	-0.581	-0.627	0.630	0.520	YES	NO	75,602	857,534	1			1
375	W	1/13/2009	La Grange Av At Sawtelle Bl					207	579														
376	N	1/13/2009	Sawtelle Bl At La Grange Av	1,264	1,756	1,515	2,045	1,515	2,045	-251	-289	-0.166	-0.141	0.475	0.475	YES	YES	62,950	83,336	1	1	1	
376	S	1/13/2009	Sawtelle Bl At La Grange Av	1,158	1,791	1,726	3,021	1,726	3,021	-568	-1,230	-0.329	-0.407	0.440	0.410	YES	YES	322,305	1,513,135	1	1	1	
377	N	1/27/2009	Sepulveda Bl At Manchester Av	4,554	6,959	4,361	5,027	4,361	5,027	193	1,932	0.044	0.384	0.294	0.313	YES	NO	37,149	3,733,770	1			1
377	S	1/27/2009	Sepulveda Bl At Manchester Av	4,996	7,152	3,481	5,870	3,481	5,870	1,515	1,282	0.435	0.218	0.325	0.294	NO	YES	2,294,578	1,644,199			1	1
378	N	1/27/2009	Veteran Av At Ohio Av	1,686	1,636	1,146	1,624	1,146	1,624	540	12	0.471	0.008	0.520	0.520	YES	YES	291,198	153	1	1	1	
378	S	1/27/2009	Veteran Av At Ohio Av	888	2,246	865	2,051	865	2,051	23	195	0.026	0.095	0.575	0.475	YES	YES	508	37,976	1	1	1	
379	N	1/27/2009	Veteran Av At Olympic Bl	1,336	1,248	835	947	835	947	501	301	0.601	0.318	0.575	0.575	NO	YES	251,477	90,758			1	1
379	S	1/27/2009	Veteran Av At Olympic Bl	845	1,878	667	1,892	667	1,892	178	-14	0.267	-0.007	0.575	0.475	YES	YES	31,767	191	1	1	1	
380	N	1/27/2009	Veteran Av At Strathmore Dr	2,480	3,793	1,122	3,472	1,122	3,472	1,358	321	1.210	0.092	0.520	0.380	NO	YES	1,843,724	102,966			1	1
380	S	1/27/2009	Veteran Av At Strathmore Dr	2,066	3,454	2,531	1,884	2,531	1,884	-465	1,570	-0.184	0.833	0.380	0.475	YES	NO	216,170	2,463,362	1			1
381	E	2/10/2009	National Bl W/o Sepulveda Bl	3,707	4,793	3,341	3,945	3,341	3,945	366	848	0.109	0.215	0.325	0.359	YES	YES	133,791	718,444	1	1	1	
381	W	2/10/2009	National Bl W/o Sepulveda Bl	3,017	4,778	2,978	4,192	2,978	4,192	39	586	0.013	0.140	0.340	0.340	YES	YES	1,500	343,720	1	1	1	
382	E	2/10/2009	Palms Bl W/o Sepulveda Bl	3,653	4,670	2,613	5,295	2,613	5,295	1,040	-625	0.398	-0.118	0.380	0.303	NO	YES	1,080,927	390,157			1	1
382	W	2/10/2009	Palms Bl W/o Sepulveda Bl	2,942	5,240	2,678	3,881	2,678	3,881	264	1,359	0.098	0.350	0.359	0.359	YES	YES	69,539	1,847,411	1	1	1	
383	E	2/10/2009	Pico Bl W/o Cotner Av	5,979	8,044	5,706	7,130	5,706	7,130	273	914	0.048	0.128	0.270	0.275	YES	YES	74,505	834,714	1	1	1	
383	W	2/10/2009	Pico Bl W/o Cotner Av	3,770	7,580	3,801	6,735	3,801	6,735	-31	845	-0.008	0.125	0.313	0.280	YES	YES	984	714,314	1	1	1	
384	E	2/10/2009	Santa Monica Bl E/o Cotner Av	6,391	7,598	6,663	8,239	6,663	8,239	-272	-641	-0.041	-0.078	0.255	0.265	YES	YES	73,980	410,848	1	1	1	
384	W	2/10/2009	Santa Monica Bl E/o Cotner Av	5,052	8,740	5,044	7,521	5,044	7,521	8	1,219	0.002	0.162	0.280	0.270	YES	YES	69	1,486,106	1	1	1	
385	E	2/24/2009	Tennessee Av W/o Overland Av					89	258														
385	W	2/24/2009	Tennessee Av W/o Overland Av					97	312														
386	N	3/24/2009	Century Park West S/o Santa Monica Bl	1,298	2,526	755	2,427	755	2,427	543	99	0.720	0.041	0.575	0.440	NO	YES	295,256	9,788			1	1
386	S	3/24/2009	Century Park West S/o Santa Monica Bl	1,547	1,718	1,559	1,180	1,559	1,180	-12	538	-0.008	0.456	0.475	0.575	YES	YES	138	289,018	1	1	1	
387	E	3/24/2009	Santa Monica Bl At Century Park West					6,207	6,701														
387	W	3/24/2009	Santa Monica Bl At Century Park West	5,011	8,452	5,361	9,210	5,361	9,210	-350	-758	-0.065	-0.082	0.275	0.255	YES	YES	122,763	574,384	1	1	1	
388	E	3/24/2009	Short Av W/o Centinela Av	1,116	1,614	1,186	1,652	1,186	1,652	-70	-38	-0.059	-0.023	0.520	0.520	YES	YES	4,855	1,443	1	1	1	
388	W	3/24/2009	Short Av W/o Centinela Av	1,053	1,559	866	1,215	866	1,215	187	344	0.216	0.284	0.575	0.575	YES	YES	35,126	118,676	1	1	1	
389	E	3/24/2009	Short Av At Mcconnell Av	1,154	1,769	882	1,723	882	1,723	272	46	0.308	0.027	0.575	0.520	YES	YES	74,029	2,095	1	1	1	
389	W	3/24/2009	Short Av At Mcconnell Av	1,042	1,508	931	1,138	931	1,138	111	370	0.119	0.325	0.575	0.575	YES	YES	12,282	136,811	1	1	1	
390	E	1/7/2009	80th St At Fordham Av					46	108														
390	W	1/7/2009	80th St At Fordham Av																				

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#	Direction	Count Date	Location	Model AM	Model PM	Count AM	Count PM	ALL Count AM	ALL Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
401	E	2/4/2009	Montana Av E/o Sepulveda Bl	2,707	2,240	3,283	1,948	3,283	1,948	-576	292	-0.175	0.150	0.340	0.475	YES	YES	331,225	85,537	1	1	1
401	W	2/4/2009	Montana Av E/o Sepulveda Bl	916	2,660	833	3,105	833	3,105	83	-445	0.100	-0.143	0.575	0.380	YES	YES	6,941	198,378	1	1	1
402	E	2/4/2009	Ohio Av E/o Cotner Av	1,937	2,424	2,712	2,911	2,712	2,911	-775	-487	-0.286	-0.167	0.359	0.410	YES	YES	600,097	236,993	1	1	1
402	W	2/4/2009	Ohio Av E/o Cotner Av	1,702	3,073	2,242	3,185	2,242	3,185	-540	-112	-0.241	-0.035	0.410	0.380	YES	YES	291,662	12,595	1	1	1
403	E	2/4/2009	Olympic Bl W/o Cotner Av	6,148	9,799	5,437	8,928	5,437	8,928	711	871	0.131	0.098	0.275	0.255	YES	YES	506,064	758,264	1	1	1
403	W	2/4/2009	Olympic Bl W/o Cotner Av	5,097	8,703	6,348	9,248	6,348	9,248	-1,251	-545	-0.197	-0.059	0.260	0.252	YES	YES	1,564,028	297,405	1	1	1
404	N	2/4/2009	Westwood Bl At Holman Av					3,387	4,358													
404	S	2/4/2009	Westwood Bl At Holman Av					1,951	5,360													
405	E	2/4/2009	Wilshire Bl W/o Veteran Av	11,798	10,302	13,254	12,850	13,254	12,850	-1,456	-2,548	-0.110	-0.198	0.199	0.229	YES	YES	2,121,390	6,490,301	1	1	1
405	W	2/4/2009	Wilshire Bl W/o Veteran Av	5,632	15,149	9,107	15,092	9,107	15,092	-3,475	57	-0.382	0.004	0.235	0.214	NO	YES	12,077,507	3,258		1	1
406	E	2/11/2009	Centinela Av E/o Sepulveda Bl	2,431	4,786	1,562	3,746	1,562	3,746	869	1,040	0.556	0.278	0.475	0.359	NO	YES	755,395	1,081,874		1	1
406	W	2/11/2009	Centinela Av E/o Sepulveda Bl	3,191	3,818	4,173	3,747	4,173	3,747	-982	71	-0.235	0.019	0.303	0.359	YES	YES	964,242	5,102	1	1	1
407	E	2/11/2009	Jefferson Bl E/o San Diego Fwy	3,954	5,169	2,782	4,924	2,782	4,924	1,172	245	0.421	0.050	0.359	0.313	NO	YES	1,373,323	60,072		1	1
407	W	2/11/2009	Jefferson Bl E/o San Diego Fwy	4,084	6,025	4,279	5,494	4,279	5,494	-195	531	-0.046	0.097	0.303	0.303	YES	YES	38,184	282,132	1	1	1
408	E	2/11/2009	Manchester Av E/o Sepulveda Bl					2,028	4,217													
408	W	2/11/2009	Manchester Av E/o Sepulveda Bl					3,401	2,929													
409	E	2/11/2009	Venice Bl E/o Sepulveda Bl	5,230	7,637	4,070	6,497	4,070	6,497	1,160	1,140	0.285	0.175	0.303	0.286	YES	YES	1,345,922	1,299,648	1	1	1
409	W	2/11/2009	Venice Bl E/o Sepulveda Bl	5,243	7,772	5,219	6,673	5,219	6,673	24	1,099	0.005	0.165	0.280	0.280	YES	YES	583	1,208,184	1	1	1
410	E	2/18/2009	96th St E/o Sepulveda Bl					785	1,169													
410	W	2/18/2009	96th St E/o Sepulveda Bl					388	837													
411	N		Corrupt																			
411	S		Corrupt																			
412	E	2/18/2009	Century Fwy W/b Off Ramp E/o Sepulveda Bl					0	0													
412	W	2/18/2009	Century Fwy W/b Off Ramp E/o Sepulveda Bl	4,278	5,256	5,969	5,188	5,969	5,188	-1,691	68	-0.283	0.013	0.265	0.313	NO	YES	2,859,634	4,683		1	1
413	E	2/18/2009	Imperial Hwy E/o Sepulveda Bl	3,282	5,396	3,723	6,361	3,723	6,361	-441	-965	-0.118	-0.152	0.313	0.286	YES	YES	194,412	930,471	1	1	1
413	W	2/18/2009	Imperial Hwy E/o Sepulveda Bl	1,734	2,895	3,519	3,956	3,519	3,956	-1,785	-1,061	-0.507	-0.268	0.325	0.359	NO	YES	3,187,202	1,124,751		1	1
414	N	2/25/2009	Century Park West N/o Constellation Bl					774	2,089													
414	S	2/25/2009	Century Park West N/o Constellation Bl					1,329	1,263													
415	N	2/25/2009	Century Park West S/o Constellation Bl	2,198	1,027	1,509	1,156	1,509	1,156	689	-129	0.457	-0.112	0.475	0.575	YES	YES	474,692	16,696	1	1	1
415	S	2/25/2009	Century Park West S/o Constellation Bl	322	3,635	539	2,392	539	2,392	-217	1,243	-0.403	0.520	0.630	0.440	YES	NO	47,073	1,544,887	1		1
416	E	2/25/2009	Constellation Bl E/o Century Park West	3,821	2,772	1,641	760	1,641	760	2,180	2,012	1.329	2.647	0.475	0.630	NO	NO	4,753,710	4,048,401			1
416	W	2/25/2009	Constellation Bl E/o Century Park West	1,743	6,250	507	3,239	507	3,239	1,236	3,011	2.437	0.930	0.630	0.380	NO	NO	1,527,097	9,067,668			1
417	N	3/11/2009	Doheny Dr N/o Alden Dr	1,333	2,194	1,721	3,167	1,721	3,167	-388	-973	-0.226	-0.307	0.440	0.380	YES	YES	150,621	947,689	1	1	1
417	S	3/11/2009	Doheny Dr N/o Alden Dr	1,454	2,385	1,654	2,350	1,654	2,350	-200	35	-0.121	0.015	0.440	0.440	YES	YES	40,022	1,216	1	1	1
418	N	6/12/2007	28th Street North Of Ocean Park Boulevard					592	737													
418	S	6/12/2007	28th Street North Of Ocean Park Boulevard					469	821													
419	N	6/12/2007	28th Street South Of Pico Boulevard					663	714													
419	S	6/12/2007	28th Street South Of Pico Boulevard					450	1,123													
420	N	6/20/2007	3rd Street Between Pico Boulevard And Bay Street					399	318													
420	S	6/20/2007	3rd Street Between Pico Boulevard And Bay Street					110	621													
421	N	12/11/2008	Armacost Avenue North Of National Boulevard					271	146													
421	S	12/11/2008	Armacost Avenue North Of National Boulevard					75	461													
422	E	6/20/2007	Bay Street Between Main Street And 3rd Street					55	184													
422	W	6/20/2007	Bay Street Between Main Street And 3rd Street					108	176													
423	N	9/11/2008	Berkeley Street Between Wilshire Boulevard And Lipton Avenue					267	613													
423	S	9/11/2008	Berkeley Street Between Wilshire Boulevard And Lipton Avenue					747	874													
424	N	12/10/2008	Bundy Drive North Of Ocean Park Boulevard	3,914	4,080	4,539	5,172	4,539	5,172	-625	-1,092	-0.138	-0.211	0.294	0.313	YES	YES	390,145	1,193,449	1	1	1
424	S	12/10/2008	Bundy Drive North Of Ocean Park Boulevard	2,547	5,325	3,049	6,508	3,049	6,508	-502	-1,183	-0.165	-0.182	0.340	0.286	YES	YES	251,578	1,398,848	1	1	1
425	N	12/10/2008	Bundy Drive North Of Pico Boulevard	4,343	4,494	5,033	6,017	5,033	6,017	-690	-1,523	-0.137	-0.253	0.280	0.294	YES	YES	476,725	2,319,750	1	1	1
425	S	12/10/2008	Bundy Drive North Of Pico Boulevard	2,852	6,202	3,341	5,459	3,341	5,459	-489	743	-0.147	0.136	0.325	0.303	YES	YES	239,597	551,855	1	1	1
426	N	12/10/2008	Grand View Boulevard North Of Stanwood Drive					408	265													
426	S	12/10/2008	Grand View Boulevard North Of Stanwood Drive					206	546													
427	N	12/11/2008	Lincoln Boulevard North Of Culver Boulevard	7,191	8,823	6,805	8,774	6,805	8,774	386	49	0.057	0.006	0.255	0.260	YES	YES	149,037	2,400	1	1	1
427	S	12/11/2008	Lincoln Boulevard North Of Culver Boulevard	5,585	9,311	3,739	8,307	3,739	8,307	1,846	1,004	0.494	0.121	0.313	0.265	NO	YES	3,408,904	1,007,738		1	1
428	N	12/10/2008	Lincoln Boulevard North Of Maxella Avenue / Marina Pointe Drive	6,392	8,907	6,509	8,859	6,509	8,859	-117	48	-0.018	0.005	0.260	0.255	YES	YES	13,697	2,282	1	1	1
428	S	12/10/2008	Lincoln Boulevard North Of Maxella Avenue / Marina Pointe Drive	5,354	8,557	4,711	8,480	4,711	8,480	643	77	0.136	0.009	0.286	0.260	YES	YES	412,904	5,935	1	1	1
429	E	9/11/2008	Lipton Avenue Between Stanford Street And Berkeley Street					233	335													
429	W	9/11/2008	Lipton Avenue Between Stanford Street And Berkeley Street					118	290													
430	E	12/10/2008	Ocean Park Boulevard West Of Armacost Avenue	1,639	4,161	1,775	3,612	1,775	3,612	-136	549	-0.076	0.152	0.440	0.359	YES	YES	18,405	301,689	1	1	1
430	W	12/10/2008	Ocean Park Boulevard West Of Armacost Avenue	3,164	3,285	1,644	2,224	1,644	2,224	1,520	1,061	0.925	0.477	0.475	0.440	NO	NO	2,311,837	1,125,065			1
431	E	12/10/2008	Olympic Boulevard West Of Bundy Drive	3,965	7,291	2,907	6,139	2,907	6,139	1,058	1,152	0.364	0.188	0.359	0.294	NO	YES	1,119,717	1,326,928		1	1
431	W	12/10/2008	Olympic Boulevard West Of Bundy Drive	4,235	6,368	4,417	5,564	4,417	5,564	-182	804	-0.041	0.144	0.294	0.303	YES	YES	33,130	646,022	1	1	1
432	E	6/12/2007	Pearl Street East Of 28th Street					409	608													
432	W	6/12/2007	Pearl Street East Of 28th Street					394	1,386													
433	E	6/12/2007	Pearl Street West Of 28th Street					336	1,095													
433	W	6/12/2007	Pearl Street West Of 28th Street					329	530													
434	N	9/11/2008	Stanford Street Between Wilshire Boulevard And Lipton Avenue					137	267													
434	S	9/11/2008	Stanford Street Between Wilshire Boulevard And Lipton Avenue					160	350													
435	N	6/12/2007	Stewart Street North Of Pico Boulevard					1,145	1,168													
435	S	6/12/2007	Stewart Street North Of Pico Boulevard					786	1,865													

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#	Direction	Count Date	Location	Model AM	Model PM	Count AM	Count PM	ALL Count AM	ALL Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
441	N	2/24/2009	Pacific Coast Hwy N/o Chatauqua Blvd	7,420	12,307	6,321	11,352	6,321	11,352	1,099	955	0.174	0.084	0.260	0.241	YES	YES	1,208,638	912,194	1	1	1
441	S	2/24/2009	Pacific Coast Hwy N/o Chatauqua Blvd	9,079	11,283	12,291	11,135	12,291	11,135	-3,212	148	-0.261	0.013	0.209	0.241	NO	YES	10,318,658	21,998		1	1
442	N	2/18/2009	Sunset Blvd S/o Hartzell St	3,148	6,623	2,181	3,873	2,181	3,873	967	2,750	0.443	0.710	0.410	0.359	NO	NO	935,162	7,561,717			1
442	S	2/18/2009	Sunset Blvd S/o Hartzell St	4,246	4,417	3,630	3,833	3,630	3,833	616	584	0.170	0.152	0.313	0.359	YES	YES	379,014	341,298	1	1	1
443	N	2/18/2009	Kenter Ave N/o Sunset Blvd	880	1,427	881	1,080	881	1,080	-1	347	-0.002	0.321	0.575	0.575	YES	YES	2	120,430	1	1	1
443	S	2/18/2009	Kenter Ave N/o Sunset Blvd	1,010	1,394	1,192	1,116	1,192	1,116	-182	278	-0.153	0.249	0.520	0.575	YES	YES	33,201	77,181	1	1	1
444	N	2/18/2009	Barrington Ave N/o Sunset Blvd					413	415													
444	S	2/18/2009	Barrington Ave N/o Sunset Blvd					541	1,012													
445	E	2/18/2009	Sunset Blvd E/o S Barrington Pl	4,338	7,316	6,395	5,640	6,395	5,640	-2,057	1,676	-0.322	0.297	0.260	0.303	NO	YES	4,232,265	2,808,907		1	1
445	W	2/18/2009	Sunset Blvd E/o S Barrington Pl	4,959	5,901	6,108	6,830	6,108	6,830	-1,149	-929	-0.188	-0.136	0.265	0.280	YES	YES	1,320,784	863,330	1	1	1
446	E	2/12/2009	Wilshire Blvd E/o Federal Ave					7,205	8,781													
446	W	2/12/2009	Wilshire Blvd E/o Federal Ave					7,955	9,204													
447	E	2/12/2009	Ohio Ave E/o Federal Ave	1,657	2,156	1,488	1,817	1,488	1,817	169	339	0.114	0.186	0.475	0.475	YES	YES	28,578	114,629	1	1	1
447	W	2/12/2009	Ohio Ave E/o Federal Ave	1,321	2,452	1,267	2,263	1,267	2,263	54	189	0.042	0.084	0.520	0.440	YES	YES	2,898	35,751	1	1	1
448	E	2/24/2009	Santa Monica Blvd E/o Federal Ave	6,313	9,352	3,574	5,189	3,574	5,189	2,739	4,163	0.766	0.802	0.325	0.313	NO	NO	7,504,275	17,332,510			1
448	W	2/24/2009	Santa Monica Blvd E/o Federal Ave	5,139	8,123	4,295	5,153	4,295	5,153	844	2,970	0.196	0.576	0.294	0.313	YES	NO	711,625	8,823,867	1		1
449	E	2/24/2009	Olympic Blvd E/o Federal Ave	3,792	6,042	4,234	6,034	4,234	6,034	-442	8	-0.104	0.001	0.303	0.294	YES	YES	195,060	70	1	1	1
449	W	2/24/2009	Olympic Blvd E/o Federal Ave	3,717	6,424	3,775	6,379	3,775	6,379	-58	45	-0.015	0.007	0.313	0.286	YES	YES	3,369	2,065	1	1	1
450	E	2/12/2009	Pico Blvd E/o Barrington Ave	2,178	4,002	2,383	3,349	2,383	3,349	-205	653	-0.086	0.195	0.380	0.380	YES	YES	42,146	426,691	1	1	1
450	W	2/12/2009	Pico Blvd E/o Barrington Ave	2,181	2,902	2,224	4,282	2,224	4,282	-43	-1,380	-0.020	-0.322	0.410	0.340	YES	YES	1,889	1,903,623	1	1	1
451	E	2/24/2009	Gateway Blvd E/o Barrington Ave	3,181	3,265	2,285	2,948	2,285	2,948	896	317	0.392	0.107	0.410	0.410	YES	YES	803,375	100,223	1	1	1
451	W	2/24/2009	Gateway Blvd E/o Barrington Ave	2,019	4,772	1,439	2,805	1,439	2,805	580	1,967	0.403	0.701	0.475	0.410	YES	NO	336,416	3,870,769	1		1
452	E	2/12/2009	National Blvd E/o Barrington Ave	1,649	3,701	1,449	3,538	1,449	3,538	200	163	0.138	0.046	0.475	0.359	YES	YES	39,955	26,563	1	1	1
452	W	2/12/2009	National Blvd E/o Barrington Ave	1,959	2,030	1,583	2,350	1,583	2,350	376	-320	0.238	-0.136	0.475	0.440	YES	YES	141,380	102,304	1	1	1
453	E	2/12/2009	Palms Blvd E/o Mclaughlin Ave	2,613	3,668	1,771	3,445	1,771	3,445	842	223	0.475	0.065	0.440	0.380	NO	YES	708,976	49,841	1	1	1
453	W	2/12/2009	Palms Blvd E/o Mclaughlin Ave	2,068	3,671	1,989	3,073	1,989	3,073	79	598	0.040	0.195	0.410	0.410	YES	YES	6,180	357,970	1	1	1
454	E	2/24/2009	Venice Blvd E/o Mclaughlin Ave	5,911	8,018	4,719	6,030	4,719	6,030	1,192	1,988	0.252	0.330	0.286	0.294	YES	NO	1,419,676	3,952,537	1		1
454	W	2/24/2009	Venice Blvd E/o Mclaughlin Ave	5,588	8,430	4,053	5,941	4,053	5,941	1,535	2,489	0.379	0.419	0.303	0.294	NO	NO	2,356,561	6,193,570			1
455	N	2/12/2009	Walgrove Ave S/o Venice Blvd	1,673	2,387	1,304	1,743	1,304	1,743	369	644	0.283	0.370	0.520	0.520	YES	YES	136,527	415,025	1	1	1
455	S	2/12/2009	Walgrove Ave S/o Venice Blvd	1,777	2,423	824	2,313	824	2,313	953	110	1.157	0.047	0.575	0.440	NO	YES	908,320	12,043	1	1	1
456	N	2/12/2009	Lincoln Blvd S/o Venice Blvd	4,851	6,246	6,393	7,690	6,393	7,690	-1,542	-1,444	-0.241	-0.188	0.260	0.270	YES	YES	2,377,895	2,085,477	1	1	1
456	S	2/12/2009	Lincoln Blvd S/o Venice Blvd	4,127	6,218	4,564	7,628	4,564	7,628	-437	-1,410	-0.096	-0.185	0.294	0.270	YES	YES	191,060	1,989,196	1	1	1
457	N	2/12/2009	Abbot Kinney Blvd Btwn Washington Wy & Victoria Ave	1,197	2,032	2,337	2,403	2,337	2,403	-1,140	-371	-0.488	-0.154	0.380	0.440	NO	YES	1,299,537	137,640			1
457	S	2/12/2009	Abbot Kinney Blvd Btwn Washington Wy & Victoria Ave	1,533	1,873	1,106	2,880	1,106	2,880	427	-1,007	0.386	-0.350	0.520	0.410	YES	YES	182,662	1,013,812	1	1	1
458	N	2/12/2009	Ocean Ave S/o Venice Blvd					1,292	1,180													
458	S	2/12/2009	Ocean Ave S/o Venice Blvd					572	2,224													
459	N	2/12/2009	Pacific Ave S/o Venice Blvd	1,421	1,447	2,010	1,721	2,010	1,721	-589	-274	-0.293	-0.159	0.410	0.520	YES	YES	346,606	75,148	1	1	1
459	S	2/12/2009	Pacific Ave S/o Venice Blvd	920	2,142	1,201	3,161	1,201	3,161	-281	-1,019	-0.234	-0.322	0.520	0.380	YES	YES	79,044	1,038,008	1	1	1
460	E	2/24/2009	Pico Blvd W/o Purdue Ave	5,359	7,266	5,176	6,220	5,176	6,220	183	1,046	0.035	0.168	0.280	0.286	YES	YES	33,496	1,093,322	1	1	1
460	W	2/24/2009	Pico Blvd W/o Purdue Ave	4,200	7,674	3,596	6,929	3,596	6,929	604	745	0.168	0.107	0.325	0.280	YES	YES	364,277	554,330	1	1	1
461	E	3/25/2009	Wilshire Blvd W/o Lincoln Blvd	2,505	3,532	2,327	3,955	2,327	3,955	178	-423	0.077	-0.107	0.380	0.359	YES	YES	31,699	178,543	1	1	1
461	W	3/25/2009	Wilshire Blvd W/o Lincoln Blvd	1,902	3,254	2,017	4,252	2,017	4,252	-115	-998	-0.057	-0.235	0.410	0.340	YES	YES	13,238	996,302	1	1	1
462	E	3/25/2009	Santa Monica Blvd W/o Lincoln Blvd	2,061	4,447	1,048	2,659	1,048	2,659	1,013	1,788	0.966	0.672	0.520	0.410	NO	NO	1,025,932	3,196,467			1
462	W	3/25/2009	Santa Monica Blvd W/o Lincoln Blvd	1,867	2,792	1,220	2,680	1,220	2,680	647	112	0.530	0.042	0.520	0.410	NO	YES	418,642	12,482			1
463	E	3/25/2009	Colorado Ave W/o Lincoln Blvd	2,036	3,835	1,395	2,827	1,395	2,827	641	1,008	0.459	0.357	0.475	0.410	YES	YES	410,283	1,016,374	1	1	1
463	W	3/25/2009	Colorado Ave W/o Lincoln Blvd	1,190	2,245	1,182	2,367	1,182	2,367	8	-1,122	0.007	-0.052	0.520	0.440	YES	YES	65	14,896	1	1	1
464	E	3/25/2009	Pico Blvd W/o Lincoln Blvd	1,459	2,378	1,887	3,073	1,887	3,073	-428	-695	-0.227	-0.226	0.440	0.410	YES	YES	183,142	482,924	1	1	1
464	W	3/25/2009	Pico Blvd W/o Lincoln Blvd	1,457	2,240	1,841	3,033	1,841	3,033	-384	-793	-0.208	-0.261	0.440	0.410	YES	YES	147,151	628,126	1	1	1
465	E	3/25/2009	Ocean Park Blvd W/o Lincoln Blvd	1,659	2,563	1,441	3,003	1,441	3,003	218	-440	0.152	-0.146	0.475	0.410	YES	YES	47,715	193,488	1	1	1
465	W	3/25/2009	Ocean Park Blvd W/o Lincoln Blvd	1,403	2,355	1,935	2,816	1,935	2,816	-532	-461	-0.275	-0.164	0.440	0.410	YES	YES	282,733	212,505	1	1	1
466	E	3/25/2009	Colorado Ave W/o Cloverfield Blvd	2,398	3,553	2,168	2,974	2,168	2,974	230	579	0.106	0.195	0.410	0.410	YES	YES	53,066	335,141	1	1	1
466	W	3/25/2009	Colorado Ave W/o Cloverfield Blvd	2,335	3,781	1,937	2,922	1,937	2,922	398	859	0.206	0.294	0.440	0.410	YES	YES	158,692	738,484	1	1	1
467	E	3/25/2009	Olympic Blvd W/o Cloverfield Blvd	2,814	3,979	2,899	3,898	2,899														

Static Highway Validation - Highway Links

#	Direction	Count Date	Location	Model AM	Model PM	Count AM	Count PM	ALL Count AM	ALL Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
481	E	11/18/2010	Wilshire Boulevard Between San Vicente Boulevard And Sepulveda Boulevard	7,873	11,371	8,550	9,442	8,550	9,442	-677	1,929	-0.079	0.204	0.241	0.252	YES	YES	457,837	3,719,334	1	1	1
481	W	11/18/2010	Wilshire Boulevard Between San Vicente Boulevard And Sepulveda Boulevard	7,819	12,006	8,237	9,067	8,237	9,067	-418	2,939	-0.051	0.324	0.241	0.255	YES	NO	174,556	8,639,207	1		1
482	E	11/18/2010	10600 Block Wilshire Boulevard Between Westwood Boulevard And Beverly Glen Boulevard	4,876	9,430	5,552	7,962	5,552	7,962	-676	1,468	-0.122	0.184	0.275	0.265	YES	YES	457,439	2,153,832	1	1	1
482	W	11/18/2010	10600 Block Wilshire Boulevard Between Westwood Boulevard And Beverly Glen Boulevard	6,652	8,108	6,766	5,883	6,766	5,883	-114	2,225	-0.017	0.378	0.255	0.294	YES	NO	13,021	4,951,872	1		1
483	E	11/18/2010	10300 Block Wilshire Boulevard Between Beverly Glen Boulevard And Comstock Avenue	4,684	8,127	5,476	7,658	5,476	7,658	-792	469	-0.145	0.061	0.275	0.270	YES	YES	627,551	219,804	1	1	1
483	W	11/18/2010	10300 Block Wilshire Boulevard Between Beverly Glen Boulevard And Comstock Avenue	6,242	7,650	6,156	7,247	6,156	7,247	86	403	0.014	0.056	0.265	0.275	YES	YES	7,455	162,074	1	1	1
484	E	11/18/2010	12300 Block Santa Monica Boulevard Between Centinela Avenue And Bundy Drive	2,833	4,775	2,340	4,699	2,340	4,699	493	76	0.211	0.016	0.380	0.340	YES	YES	243,381	5,742	1	1	1
484	W	11/18/2010	12300 Block Santa Monica Boulevard Between Centinela Avenue And Bundy Drive	3,095	3,981	3,081	3,683	3,081	3,683	14	298	0.005	0.081	0.340	0.359	YES	YES	208	88,860	1	1	1
485	N	11/18/2010	Sawtelle Boulevard Between Ohio Avenue And Santa Monica Boulevard	1,768	2,194	1,256	917	1,256	917	512	1,277	0.408	1.392	0.520	0.575	YES	NO	262,400	1,629,740	1		1
485	S	11/18/2010	Sawtelle Boulevard Between Ohio Avenue And Santa Monica Boulevard	1,194	2,546	611	1,608	611	1,608	583	938	0.954	0.583	0.630	0.520	NO	NO	340,116	880,091			1
486	N	11/18/2010	1500 Block Sepulveda Boulevard Between Wilshire Boulevard And Santa Monica Boulevard	2,948	4,688	2,415	4,080	2,415	4,080	533	608	0.221	0.149	0.380	0.340	YES	YES	284,357	369,789	1	1	1
486	S	11/18/2010	1500 Block Sepulveda Boulevard Between Wilshire Boulevard And Santa Monica Boulevard	3,459	4,923	2,061	2,876	2,061	2,876	1,398	2,047	0.712	0.410	0.410	0.410	NO	NO	1,955,537	4,191,079			1
487	E	11/18/2010	11000 Block Santa Monica Boulevard Between Sepulveda Boulevard And Westwood Boulevard	5,788	6,820	5,484	6,628	5,484	6,628	304	192	0.055	0.029	0.275	0.280	YES	YES	92,513	36,868	1	1	1
487	W	11/18/2010	11000 Block Santa Monica Boulevard Between Sepulveda Boulevard And Westwood Boulevard	4,429	7,746	4,302	5,205	4,302	5,205	127	2,541	0.029	0.488	0.294	0.313	YES	NO	16,041	6,457,333	1		1
488	N	11/18/2010	1300 Block Westwood Boulevard Between Wilshire Boulevard And Santa Monica Boulevard	4,393	4,228	3,697	4,627	3,697	4,627	696	-399	0.188	-0.086	0.313	0.325	YES	YES	484,355	159,204	1	1	1
488	S	11/18/2010	1300 Block Westwood Boulevard Between Wilshire Boulevard And Santa Monica Boulevard	2,398	6,030	2,066	5,023	2,066	5,023	332	1,007	0.161	0.201	0.410	0.313	YES	YES	110,374	1,014,446	1	1	1
489	E	11/18/2010	10700 Block Santa Monica Boulevard Between Westwood Boulevard And Overland Avenue	5,170	6,189	5,468	6,336	5,468	6,336	-298	-1,477	-0.055	-0.203	0.275	0.286	YES	YES	89,053	21,504	1	1	1
489	W	11/18/2010	10700 Block Santa Monica Boulevard Between Westwood Boulevard And Overland Avenue	4,648	7,458	4,875	6,853	4,875	6,853	-227	605	-0.047	0.088	0.286	0.280	YES	YES	51,438	365,482	1	1	1
490	E	11/18/2010	10500 Block Santa Monica Boulevard Between Overland Avenue And Beverly Glen Boulevard	5,544	6,993	5,514	6,642	5,514	6,642	30	351	0.005	0.053	0.275	0.280	YES	YES	918	123,108	1	1	1
490	W	11/18/2010	10500 Block Santa Monica Boulevard Between Overland Avenue And Beverly Glen Boulevard	5,215	8,629	4,593	7,323	4,593	7,323	622	1,306	0.135	0.178	0.294	0.275	YES	YES	386,844	1,706,480	1	1	1
491	E	11/18/2010	10300 Block Santa Monica Boulevard Between Beverly Glen Boulevard And Club View Drive	6,903	7,856	6,938	7,220	6,938	7,220	-35	636	-0.005	0.088	0.252	0.275	YES	YES	1,205	404,433	1	1	1
491	W	11/18/2010	10300 Block Santa Monica Boulevard Between Beverly Glen Boulevard And Club View Drive	6,198	10,754	4,607	9,047	4,607	9,047	1,591	1,707	0.345	0.189	0.294	0.255	NO	YES	2,530,385	2,912,916			1
492	N	11/18/2010	1700 Block Bundy Drive Between Santa Monica Boulevard And Olympic Boulevard	2,951	4,603	3,407	5,364	3,407	5,364	-456	-761	-0.134	-0.142	0.325	0.303	YES	YES	208,105	578,492	1	1	1
492	S	11/18/2010	1700 Block Bundy Drive Between Santa Monica Boulevard And Olympic Boulevard	2,993	4,190	3,586	4,576	3,586	4,576	-593	-386	-0.165	-0.084	0.325	0.325	YES	YES	351,541	149,327	1	1	1
493	N	11/18/2010	2100 Block Sawtelle Boulevard Between Santa Monica Boulevard And Olympic Boulevard					2,987	3,837													
493	S	11/18/2010	2100 Block Sawtelle Boulevard Between Santa Monica Boulevard And Olympic Boulevard					2,296	5,035													
494	N	11/18/2010	2000 Block Sepulveda Boulevard Between Santa Monica Boulevard And Olympic Boulevard	3,154	4,108	3,057	4,422	3,057	4,422	97	-314	0.032	-0.071	0.340	0.325	YES	YES	9,452	98,430	1	1	1
494	S	11/18/2010	2000 Block Sepulveda Boulevard Between Santa Monica Boulevard And Olympic Boulevard	2,424	4,316	1,719	3,398	1,719	3,398	705	918	0.410	0.270	0.440	0.380	YES	YES	496,690	842,493	1	1	1
495	E	11/18/2010	1100 Block Olympic Boulevard Between Sepulveda Boulevard And Westwood Boulevard	5,280	7,369	5,424	7,087	5,424	7,087	-144	282	-0.027	0.040	0.275	0.275	YES	YES	20,728	79,605	1	1	1
495	W	11/18/2010	1100 Block Olympic Boulevard Between Sepulveda Boulevard And Westwood Boulevard	5,253	10,098	5,890	8,902	5,890	8,902	-637	1,196	-0.108	0.134	0.270	0.255	YES	YES	406,101	1,429,863	1	1	1
496	N	11/18/2010	2000 Block Westwood Boulevard Between Santa Monica Boulevard And Olympic Boulevard	4,145	4,670	2,406	3,757	2,406	3,757	1,739	913	0.723	0.243	0.380	0.359	NO	YES	3,023,159	833,658			1
496	S	11/18/2010	2000 Block Westwood Boulevard Between Santa Monica Boulevard And Olympic Boulevard	2,729	5,501	2,038	5,345	2,038	5,345	691	156	0.339	0.029	0.410	0.303	YES	YES	477,030	24,489	1	1	1
497	N	11/18/2010	1800 Block Overland Avenue Between Santa Monica Boulevard And Olympic Boulevard	1,493	1,782	887	1,479	887	1,479	606	303	0.684	0.205	0.575	0.520	NO	YES	367,619	91,686			1
497	S	11/18/2010	1800 Block Overland Avenue Between Santa Monica Boulevard And Olympic Boulevard	1,031	2,049	403	1,300	403	1,300	628	749	1.557	0.576	0.630	0.575	NO	NO	393,971	561,309			1
498	E	11/18/2010	10600 Block Olympic Boulevard Between Overland Avenue And Beverly Glen Boulevard	6,550	7,994	6,237	7,759	6,237	7,759	313	235	0.050	0.030	0.265	0.270	YES	YES	97,834	55,077	1	1	1
498	W	11/18/2010	10600 Block Olympic Boulevard Between Overland Avenue And Beverly Glen Boulevard	5,289	12,847	6,318	10,325	6,318	10,325	-1,029	2,522	-0.163	0.244	0.260	0.244	YES	NO	1,058,072	6,358,625	1		1
499	N	11/18/2010	2100 Block Beverly Glen Boulevard Between Santa Monica Boulevard And Olympic Boulevard	3,046	2,802	2,141	3,058	2,141	3,058	905	-256	0.423	-0.084	0.410	0.410	NO	YES	818,956	65,638			1
499	S	11/18/2010	2100 Block Beverly Glen Boulevard Between Santa Monica Boulevard And Olympic Boulevard	1,565	4,234	2,642	4,197	2,642	4,197	-1,077	37	-0.408	0.009	0.359	0.340	NO	YES	1,160,422	1,344			1
500	E	11/18/2010	10300 Block Olympic Boulevard Between Beverly Glen Boulevard And Avenue Of The Stars	6,643	7,012	6,895	7,324	6,895	7,324	-252	-312	-0.036	-0.043	0.255	0.275	YES	YES	63,294	97,504	1	1	1
500	W	11/18/2010	10300 Block Olympic Boulevard Between Beverly Glen Boulevard And Avenue Of The Stars	4,886	12,375	4,590	8,352	4,590	8,352	296	4,023	0.064	0.482	0.294	0.265	YES	NO	87,501	16,184,290	1		1
501	N	11/18/2010	2200 Block Sawtelle Boulevard Between Olympic Boulevard And Pico Boulevard	4,184	3,002	4,125	3,778	4,125	3,778	59	-776	0.014	-0.205	0.303	0.359	YES	YES	3,520	601,638	1	1	1
501	S	11/18/2010	2200 Block Sawtelle Boulevard Between Olympic Boulevard And Pico Boulevard	3,065	6,722	1,167	3,436	1,167	3,436	1,898	3,286	1.626	0.956	0.520	0.380	NO	NO	3,602,756	10,799,785			1
502	N	11/18/2010	2200 Block Sepulveda Boulevard Between Olympic Boulevard And Pico Boulevard	4,637	4,174	3,787	5,089	3,787	5,089	850	-915	0.225	-0.180	0.313	0.313	YES	YES	722,862	837,179	1	1	1
502	S	11/18/2010	2200 Block Sepulveda Boulevard Between Olympic Boulevard And Pico Boulevard	3,097	6,215	1,459	3,566	1,459	3,566	1,638	2,649	1.122	0.743	0.475	0.359	NO	NO	2,681,503	7,019,025			1
503	E	11/18/2010	10800 Block Pico Boulevard Between Sepulveda Boulevard And Westwood Boulevard	4,726	7,009	3,793	5,853	3,793	5,853	933	1,156	0.246	0.197	0.313	0.294	YES	YES	870,723	1,335,194	1	1	1
503	W	11/18/2010	10800 Block Pico Boulevard Between Sepulveda Boulevard And Westwood Boulevard	4,062	7,067	3,997	5,678	3,997	5,678	65	1,389	0.016	0.245	0.303	0.303	YES	YES	4,276	1,930,108	1	1	1
504	N	11/18/2010	2300 Block Westwood Boulevard Between Olympic Boulevard And Pico Boulevard	3,520	3,529	2,906	3,953	2,906	3,953	614	-424	0.211	-0.107	0.359	0.359	YES	YES	376,739	180,094	1	1	1
504	S	11/18/2010	2300 Block Westwood Boulevard Between Olympic Boulevard And Pico Boulevard	2,013	5,490	1,796	5,042	1,796	5,042	217	448	0.121	0.089	0.440	0.313	YES	YES	47,160	200,759	1	1	1
505	E	11/18/2010	10700 Block Pico Boulevard Between Westwood Boulevard And Overland Avenue	4,733	4,835	4,036	5,401	4,036	5,401	697	-566	0.173	-0.085	0.303	0.303	YES	YES	486,045	320,684	1	1	1
505	W	11/18/2010	10700 Block Pico Boulevard Between West																			

Static Highway Validation - Highway Links

#	Direction	Count Date	Location	Model AM	Model PM	Count AM	Count PM	ALL Count AM	ALL Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
521	E	11/18/2010	1000 Block Venice Boulevard Between Abbot Kinney Boulevard And Lincoln Boulevard	2,540	4,207	2,801	4,168	2,801	4,168	-261	39	-0.093	0.009	0.359	0.340	YES	YES	67,993	1,544	1	1	1
521	W	11/18/2010	1000 Block Venice Boulevard Between Abbot Kinney Boulevard And Lincoln Boulevard	2,797	3,709	1,930	3,186	1,930	3,186	867	523	0.449	0.164	0.440	0.380	NO	YES	752,270	273,291	1	1	1
522	E	11/18/2010	12800 Block Venice Boulevard Between Wai grove Avenue And Centinela Avenue	4,809	7,332	3,767	5,563	3,767	5,563	1,042	1,769	0.277	0.318	0.313	0.303	YES	NO	1,086,178	3,130,925	1		1
522	W	11/18/2010	12800 Block Venice Boulevard Between Wai grove Avenue And Centinela Avenue	4,910	7,797	3,249	4,867	3,249	4,867	1,661	2,930	0.511	0.602	0.340	0.313	NO	NO	2,758,094	8,584,855			1
523	N	11/18/2010	3100 Block Sawtelle Boulevard Between National Boulevard And Venice Boulevard	3,402	2,539	3,078	3,381	3,078	3,381	324	-842	0.105	-0.249	0.340	0.380	YES	YES	105,270	709,317	1	1	1
523	S	11/18/2010	3100 Block Sawtelle Boulevard Between National Boulevard And Venice Boulevard	1,404	4,478	1,140	4,235	1,140	4,235	264	243	0.232	0.057	0.520	0.340	YES	YES	69,663	59,136	1	1	1
524	N	11/18/2010	3400 Block Sepulveda Boulevard Between National Boulevard And Venice Boulevard	4,120	3,976	4,691	6,641	4,691	6,641	-571	-2,665	-0.122	-0.401	0.286	0.280	YES	NO	325,928	7,100,815	1	1	1
524	S	11/18/2010	3400 Block Sepulveda Boulevard Between National Boulevard And Venice Boulevard	2,413	5,528	2,635	5,301	2,635	5,301	-222	227	-0.084	0.043	0.380	0.303	YES	YES	49,109	51,738	1	1	1
525	E	11/18/2010	10200 Block Venice Boulevard Between Overland Avenue And Hughes Avenue	5,655	7,400	4,368	7,283	4,368	7,283	1,287	117	0.295	0.016	0.294	0.275	NO	YES	1,656,894	13,605	1	1	1
525	W	11/18/2010	10200 Block Venice Boulevard Between Overland Avenue And Hughes Avenue	5,320	8,616	4,515	6,412	4,515	6,412	805	2,204	0.178	0.344	0.294	0.286	YES	NO	647,225	4,855,611	1	1	1
526	N	11/18/2010	3900 Block Centinela Avenue Between Venice Boulevard And Washington Boulevard	4,198	4,821	4,232	5,164	4,232	5,164	-34	-343	-0.008	-0.066	0.303	0.313	YES	YES	1,180	117,692	1	1	1
526	S	11/18/2010	3900 Block Centinela Avenue Between Venice Boulevard And Washington Boulevard	3,129	5,750	2,774	5,469	2,774	5,469	355	281	0.128	0.051	0.359	0.303	YES	YES	126,053	79,192	1	1	1
527	E	11/18/2010	500 Block Washington Boulevard Between Pacific Avenue And Abbot Kinney Boulevard	2,679	3,165	2,538	3,152	2,538	3,152	141	13	0.055	0.004	0.380	0.380	YES	YES	19,808	174	1	1	1
527	W	11/18/2010	500 Block Washington Boulevard Between Pacific Avenue And Abbot Kinney Boulevard	2,180	4,115	1,476	3,333	1,476	3,333	704	782	0.477	0.235	0.475	0.380	NO	YES	495,576	612,250	1	1	1
528	E	11/18/2010	13100 Block Washington Boulevard Between Lincoln Boulevard And Centinela Avenue	3,083	5,349	2,897	5,322	2,897	5,322	186	27	0.064	0.005	0.359	0.303	YES	YES	34,716	756	1	1	1
528	W	11/18/2010	13100 Block Washington Boulevard Between Lincoln Boulevard And Centinela Avenue	3,524	4,420	2,607	3,160	2,607	3,160	917	-740	0.352	-0.143	0.380	0.313	YES	YES	840,625	548,225	1	1	1
529	E	11/18/2010	11800 Block Washington Boulevard Between Centinela Avenue And Sawtelle Boulevard	3,131	3,918	2,207	3,605	2,207	3,605	924	313	0.419	0.087	0.410	0.359	NO	YES	853,804	98,057	1	1	1
529	W	11/18/2010	11800 Block Washington Boulevard Between Centinela Avenue And Sawtelle Boulevard	2,649	4,592	1,676	3,552	1,676	3,552	973	1,040	0.580	0.293	0.440	0.359	NO	YES	945,794	1,082,238	1	1	1
530	N	11/18/2010	4500 Block Sawtelle Boulevard Between Venice Boulevard And Washington Boulevard	2,822	3,050	1,628	2,685	1,628	2,685	1,194	365	0.733	0.136	0.475	0.410	NO	YES	1,425,937	133,135	1	1	1
530	S	11/18/2010	4500 Block Sawtelle Boulevard Between Venice Boulevard And Washington Boulevard	1,690	4,273	1,402	2,220	1,402	2,220	288	2,053	0.206	0.925	0.475	0.440	YES	NO	83,138	4,216,860	1		1
531	N	11/18/2010	4200 Block Sawtelle Boulevard Between Washington Boulevard And Culver Boulevard	2,345	2,621	1,789	2,963	1,789	2,963	556	-342	0.311	-0.116	0.440	0.410	YES	YES	309,211	117,173	1	1	1
531	S	11/18/2010	4200 Block Sawtelle Boulevard Between Washington Boulevard And Culver Boulevard	1,202	3,134	1,766	3,016	1,766	3,016	-564	118	-0.319	0.039	0.440	0.410	YES	YES	317,768	13,955	1	1	1
532	E	11/18/2010	Culver Boulevard Between Nicholson Street And Jefferson Boulevard	4,608	5,911	6,340	4,056	6,340	4,056	-1,732	1,855	-0.273	0.457	0.260	0.340	NO	NO	3,001,280	3,441,468			1
532	W	11/18/2010	Culver Boulevard Between Nicholson Street And Jefferson Boulevard	4,276	7,074	1,718	6,295	1,718	6,295	2,558	779	1.489	0.124	0.440	0.286	NO	YES	6,544,224	607,265			1
533	E	11/18/2010	Culver Boulevard Between Jefferson Boulevard And Lincoln Boulevard	2,366	3,090	5,016	2,928	5,016	2,928	-2,650	162	-0.528	0.055	0.280	0.410	NO	YES	7,020,739	26,131			1
533	W	11/18/2010	Culver Boulevard Between Jefferson Boulevard And Lincoln Boulevard	2,369	3,695	920	4,170	920	4,170	1,449	-475	1.575	-0.114	0.575	0.340	NO	YES	2,100,864	225,750			1
534	E	11/18/2010	Jefferson Boulevard Between Culver Boulevard And Lincoln Boulevard	2,497	3,132	1,269	667	1,269	667	1,228	2,465	0.968	3.696	0.520	0.630	NO	NO	1,508,703	6,076,989			1
534	W	11/18/2010	Jefferson Boulevard Between Culver Boulevard And Lincoln Boulevard	2,083	3,776	870	2,452	870	2,452	1,213	1,324	1.394	0.540	0.575	0.440	NO	NO	1,471,368	1,752,156			1
535	N	11/18/2010	Lincoln Boulevard Between Culver Boulevard And Jefferson Boulevard	7,191	8,822	7,139	8,419	7,139	8,419	52	403	0.007	0.048	0.252	0.260	YES	YES	2,701	162,267	1	1	1
535	S	11/18/2010	Lincoln Boulevard Between Culver Boulevard And Jefferson Boulevard	5,729	9,467	4,644	9,321	4,644	9,321	1,085	146	0.234	0.016	0.286	0.252	YES	YES	1,177,648	21,300	1	1	1
536	E	11/18/2010	12600 Block Jefferson Boulevard Between Lincoln Boulevard And Centinela Avenue	2,790	3,187	3,779	3,395	3,779	3,395	-989	-208	-0.262	-0.061	0.313	0.380	YES	YES	979,039	43,425	1	1	1
536	W	11/18/2010	12600 Block Jefferson Boulevard Between Lincoln Boulevard And Centinela Avenue	2,120	4,786	2,381	4,860	2,381	4,860	-261	-74	-0.110	-0.015	0.380	0.313	YES	YES	68,089	5,490	1	1	1
537	E	11/18/2010	11900 Block Jefferson Boulevard Between Centinela Avenue And Mesmer Avenue	2,239	3,131	2,325	3,856	2,325	3,856	-86	-725	-0.037	-0.188	0.380	0.359	YES	YES	7,416	525,052	1	1	1
537	W	11/18/2010	11900 Block Jefferson Boulevard Between Centinela Avenue And Mesmer Avenue	1,818	2,688	2,548	3,289	2,548	3,289	-730	-601	-0.287	-0.183	0.380	0.380	YES	YES	533,035	360,975	1	1	1
538	N	11/18/2010	8400 Block Lincoln Boulevard Between Jefferson Boulevard And Manchester Avenue	4,735	6,355	5,939	6,465	5,939	6,465	-1,204	-110	-0.203	-0.017	0.270	0.286	YES	YES	1,450,626	12,075	1	1	1
538	S	11/18/2010	8400 Block Lincoln Boulevard Between Jefferson Boulevard And Manchester Avenue	4,097	6,671	3,431	6,929	3,431	6,929	666	-258	0.194	-0.037	0.325	0.280	YES	YES	444,081	66,479	1	1	1
539	E	11/18/2010	6800 Block Manchester Between Lincoln Boulevard And Sepulveda Boulevard	2,343	3,519	2,581	4,492	2,581	4,492	-238	-973	-0.092	-0.217	0.380	0.325	YES	YES	56,545	946,031	1	1	1
539	W	11/18/2010	6800 Block Manchester Between Lincoln Boulevard And Sepulveda Boulevard	2,426	3,354	2,775	3,374	2,775	3,374	-349	-20	-0.126	-0.006	0.359	0.380	YES	YES	121,570	381	1	1	1
540	N	11/18/2010	7700 Block Sepulveda Boulevard Between Centinela Avenue And Manchester Boulevard	4,950	7,108	6,165	6,493	6,165	6,493	-1,215	615	-0.197	0.095	0.265	0.286	YES	YES	1,475,229	377,669	1	1	1
540	S	11/18/2010	7700 Block Sepulveda Boulevard Between Centinela Avenue And Manchester Boulevard	4,944	8,005	3,608	7,556	3,608	7,556	1,336	449	0.370	0.059	0.325	0.270	NO	YES	1,785,128	201,220	1	1	1
541	E	11/18/2010	6000 Block Manchester Boulevard Between Sepulveda Boulevard And La Tijera Boulevard	2,255	3,482	2,030	4,546	2,030	4,546	225	-1,064	0.111	-0.234	0.410	0.325	YES	YES	50,705	1,131,918	1	1	1
541	W	11/18/2010	6000 Block Manchester Boulevard Between Sepulveda Boulevard And La Tijera Boulevard	2,434	3,357	3,916	3,466	3,916	3,466	-1,482	-109	-0.379	-0.031	0.313	0.380	NO	YES	2,197,441	11,863			1
542	N	11/18/2010	8300 Block La Tijera Boulevard Between Manchester Avenue And Airport Boulevard	1,483	3,113	1,288	2,637	1,288	2,637	195	476	0.152	0.180	0.520	0.440	YES	YES	38,210	226,357	1	1	1
542	S	11/18/2010	8300 Block La Tijera Boulevard Between Manchester Avenue And Airport Boulevard	2,249	2,855	2,137	2,440	2,137	2,440	112	415	0.052	0.170	0.410	0.440	YES	YES	12,515	171,914	1	1	1
543	N	11/18/2010	7800 Block La Tijera Boulevard Between Airport Boulevard And Centinela Avenue	2,952	6,239	2,773	5,015	2,773	5,015	179	1,224	0.064	0.244	0.359	0.313	YES	YES	31,981	1,498,331	1	1	1
543	S	11/18/2010	7800 Block La Tijera Boulevard Between Airport Boulevard And Centinela Avenue	4,861	5,900	3,891	4,406	3,891	4,406	970	1,494	0.249	0.339	0.313	0.325	YES	NO	941,848	2,232,370	1	1	1
544	E	11/18/2010	5900 Block Manchester Avenue Between La Tijera Boulevard And Airport Boulevard	2,602	3,963	1,978	4,645	1,978	4,645	624	-682	0.315	-0.147	0.440	0.325	YES	YES	388,964	464,762	1	1	1
544	W	11/18/2010	5900 Block Manchester Avenue Between La Tijera Boulevard And Airport Boulevard	2,795	3,768	3,520	3,003	3,520	3,003	-725	765	-0.206	0.255	0.325	0.410	YES	YES	525,186	585,294	1	1	1
545	N	11/18/2010	Airport Boulevard Between Manchester Avenue And La Tijera Boulevard	2,218	3,557	2,846	3,937	2,846	3,937	-628	-380	-0.221	-0.096	0.359								

Static Highway Validation - Highway Links

#	Direction	Count Date	Location	Model AM	Model PM	Count AM	Count PM	ALL Count AM	ALL Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
561	N	11/18/2010	Aviation Boulevard Between Century Boulevard And Imperial Highway	3,336	5,219	3,715	4,015	3,715	4,015	-379	1,204	-0.102	0.300	0.313	0.340	YES	YES	143,374	1,450,288	1	1	1
561	S	11/18/2010	Aviation Boulevard Between Century Boulevard And Imperial Highway	3,267	4,345	2,234	4,815	2,234	4,815	1,033	-470	0.463	-0.098	0.410	0.325	NO	YES	1,067,996	220,987	1	1	1
562	E	11/18/2010	5200 Block Imperial Highway Between Aviation Boulevard And La Cienega Boulevard	1,213	4,495	1,679	4,591	1,679	4,591	-466	-96	-0.278	-0.021	0.440	0.325	YES	YES	217,521	9,149	1	1	1
562	W	11/18/2010	5200 Block Imperial Highway Between Aviation Boulevard And La Cienega Boulevard	3,329	2,143	2,514	2,665	2,514	2,665	815	-522	0.324	-0.196	0.380	0.410	YES	YES	664,935	272,198	1	1	1
563	E	11/18/2010	400 Block Slauson Avenue Between Bristol Parkway And Buckingham Parkway	4,140	9,723	3,275	7,737	3,275	7,737	865	1,986	0.264	0.257	0.340	0.270	YES	YES	748,071	3,945,642	1	1	1
563	W	11/18/2010	400 Block Slauson Avenue Between Bristol Parkway And Buckingham Parkway	6,888	6,857	6,302	5,190	6,302	5,190	586	1,667	0.093	0.321	0.260	0.313	YES	NO	343,402	2,778,467	1	1	1
564	N	11/18/2010	5200 Block Sepulveda Boulevard Between Machado Road And Lucerne Avenue	3,585	4,758	3,816	4,319	3,816	4,319	-231	439	-0.061	0.102	0.313	0.340	YES	YES	53,424	192,539	1	1	1
564	S	11/18/2010	5200 Block Sepulveda Boulevard Between Machado Road And Lucerne Avenue	2,625	4,676	1,632	3,991	1,632	3,991	993	685	0.608	0.172	0.475	0.340	NO	YES	985,559	469,217	1	1	1
565	N	11/18/2010	Sepulveda Boulevard Between Culver Boulevard And Washington Boulevard	2,649	3,272	3,555	4,719	3,555	4,719	-906	-1,447	-0.255	-0.307	0.325	0.325	YES	YES	821,164	2,092,636	1	1	1
565	S	11/18/2010	Sepulveda Boulevard Between Culver Boulevard And Washington Boulevard	2,246	4,248	1,557	4,160	1,557	4,160	689	88	0.442	0.021	0.475	0.340	YES	YES	474,610	7,823	1	1	1
566	E	11/18/2010	Washington Boulevard Between Elenda Street And Girard Avenue	3,696	4,764	2,813	3,490	2,813	3,490	883	1,274	0.314	0.365	0.359	0.380	YES	YES	779,857	1,622,822	1	1	1
566	W	11/18/2010	Washington Boulevard Between Elenda Street And Girard Avenue	3,110	5,390	1,697	3,862	1,697	3,862	1,413	1,528	0.833	0.396	0.440	0.359	NO	NO	1,996,954	2,334,286	1	1	1
567	E	11/18/2010	Culver Boulevard Between Elenda Street And Coombs Avenue	3,059	4,053	4,077	4,944	4,077	4,944	-1,018	-891	-0.250	-0.180	0.303	0.313	YES	YES	1,036,543	794,772	1	1	1
567	W	11/18/2010	Culver Boulevard Between Elenda Street And Coombs Avenue	2,627	4,209	2,489	4,466	2,489	4,466	138	-257	0.056	-0.058	0.380	0.325	YES	YES	19,097	66,002	1	1	1
568	E	11/18/2010	10800 Block Jefferson Boulevard Between Cota Street And Kinston Avenue	3,274	4,502	3,604	4,495	3,604	4,495	-330	7	-0.091	0.002	0.325	0.325	YES	YES	108,742	55	1	1	1
568	W	11/18/2010	10800 Block Jefferson Boulevard Between Cota Street And Kinston Avenue	2,993	4,744	2,920	4,344	2,920	4,344	73	400	0.025	0.092	0.359	0.340	YES	YES	5,397	160,144	1	1	1
569	E	11/18/2010	6100 Block Jefferson Boulevard Between Duquesne Avenue And Rodeo Road	3,515	5,947	2,889	5,434	2,889	5,434	626	513	0.217	0.094	0.359	0.303	YES	YES	392,181	262,725	1	1	1
569	W	11/18/2010	6100 Block Jefferson Boulevard Between Duquesne Avenue And Rodeo Road	3,454	4,756	3,933	3,497	3,933	3,497	-479	1,259	-0.122	0.360	0.313	0.380	YES	YES	229,561	1,584,755	1	1	1
570	N	11/18/2010	4300 Block Overland Avenue Between Farragut Drive And Garfield Avenue	3,659	4,786	3,910	4,433	3,910	4,433	-251	353	-0.064	0.080	0.313	0.325	YES	YES	63,191	124,740	1	1	1
570	S	11/18/2010	4300 Block Overland Avenue Between Farragut Drive And Garfield Avenue	3,088	5,226	2,530	5,464	2,530	5,464	558	-238	0.221	-0.044	0.380	0.303	YES	YES	311,427	56,517	1	1	1
571	N	11/18/2010	La Cienega Boulevard Between Stocker Street And Fairfax Avenue	6,642	7,696	6,599	8,527	6,599	8,527	43	-831	0.006	-0.098	0.260	0.260	YES	YES	1,813	691,273	1	1	1
571	S	11/18/2010	La Cienega Boulevard Between Stocker Street And Fairfax Avenue	5,735	10,769	6,307	10,738	6,307	10,738	-572	31	-0.091	0.003	0.260	0.241	YES	YES	326,852	960	1	1	1
572	N	11/18/2010	400 Block 7th Street Between Montana Avenue And San Vicente Boulevard	840	1,527	767	1,613	767	1,613	73	-86	0.095	-0.053	0.575	0.520	YES	YES	5,330	7,321	1	1	1
572	S	11/18/2010	400 Block 7th Street Between Montana Avenue And San Vicente Boulevard	1,177	1,476	722	964	722	964	455	512	0.630	0.531	0.575	0.575	NO	YES	206,999	261,634	1	1	1
573	E	11/18/2010	1000 Block Montana Avenue Between 7th Street And 14th Street	1,454	2,726	1,673	2,777	1,673	2,777	-219	-51	-0.131	-0.018	0.440	0.410	YES	YES	48,070	2,589	1	1	1
573	W	11/18/2010	1000 Block Montana Avenue Between 7th Street And 14th Street	1,730	2,062	1,305	2,355	1,305	2,355	425	-293	0.326	-0.125	0.520	0.440	YES	YES	181,041	85,978	1	1	1
574	E	11/18/2010	1200 Block San Vicente Avenue Between 7th Street And 14th Street	1,836	2,766	2,610	3,455	2,610	3,455	-774	-689	-0.297	-0.199	0.380	0.380	YES	YES	599,202	474,618	1	1	1
574	W	11/18/2010	1200 Block San Vicente Avenue Between 7th Street And 14th Street	1,705	2,938	2,284	3,245	2,284	3,245	-579	-307	-0.253	-0.095	0.410	0.380	YES	YES	334,866	94,095	1	1	1
575	N	11/18/2010	500 Block 14th Street Between Montana Avenue And San Vicente Boulevard					306	543													
575	S	11/18/2010	500 Block 14th Street Between Montana Avenue And San Vicente Boulevard	521	879	462	565	462	565	59	314	0.127	0.555	0.630	0.630	YES	YES	3,435	98,315	1	1	1
576	N	11/18/2010	500 Block 26th Street Between Montana Avenue And San Vicente Boulevard	779	1,628	1,489	2,642	1,489	2,642	-710	-1,014	-0.477	-0.384	0.475	0.410	NO	YES	503,688	1,028,236	1	1	1
576	S	11/18/2010	500 Block 26th Street Between Montana Avenue And San Vicente Boulevard	1,238	1,304	1,794	2,400	1,794	2,400	-556	-1,096	-0.310	-0.457	0.440	0.440	YES	NO	308,897	1,201,424	1	1	1
577	E	11/18/2010	3300 Block Montana Avenue Between 26th Street And Bundy Drive	1,626	2,554	1,151	2,393	1,151	2,393	475	161	0.413	0.067	0.520	0.440	YES	YES	25,918	25,918	1	1	1
577	W	11/18/2010	3300 Block Montana Avenue Between 26th Street And Bundy Drive	938	2,232	916	1,417	916	1,417	22	815	0.025	0.575	0.575	0.520	YES	NO	504	664,369	1	1	1
578	E	11/18/2010	10000 Block Olympic Boulevard Between Avenue Of The Stars And Beverwil Drive	4,342	7,434	6,556	7,862	6,556	7,862	-2,214	-428	-0.338	-0.054	0.260	0.270	NO	YES	4,899,958	182,975	1	1	1
578	W	11/18/2010	10000 Block Olympic Boulevard Between Avenue Of The Stars And Beverwil Drive	5,715	9,153	5,164	10,261	5,164	10,261	551	-1,108	0.107	-0.108	0.280	0.244	YES	YES	303,291	1,226,655	1	1	1
579	E	11/18/2010	Wilshire Boulevard Between Comstock Avenue And Santa Monica Boulevard	5,617	9,669	5,379	7,965	5,379	7,965	238	1,704	0.044	0.214	0.275	0.265	YES	YES	56,419	2,904,938	1	1	1
579	W	11/18/2010	Wilshire Boulevard Between Comstock Avenue And Santa Monica Boulevard	7,279	9,284	5,893	7,212	5,893	7,212	1,386	2,072	0.235	0.287	0.270	0.275	YES	NO	1,919,912	4,292,510	1	1	1
580	N	11/18/2010	300 Block Beverwil Drive Between Olympic Boulevard And Wilshire Boulevard	4,084	4,358	3,008	3,640	3,008	3,640	1,076	718	0.358	0.197	0.340	0.359	NO	YES	1,157,997	514,993	1	1	1
580	S	11/18/2010	300 Block Beverwil Drive Between Olympic Boulevard And Wilshire Boulevard	2,511	5,731	1,860	4,300	1,860	4,300	651	1,431	0.350	0.333	0.440	0.340	YES	YES	424,275	2,046,705	1	1	1
581	N	11/18/2010	500 Block Beverly Boulevard Between Santa Monica Boulevard And Sunset Boulevard	592	1,938	673	2,467	673	2,467	-81	-529	-0.121	-0.214	0.575	0.440	YES	YES	6,588	279,883	1	1	1
581	S	11/18/2010	500 Block Beverly Boulevard Between Santa Monica Boulevard And Sunset Boulevard	1,424	1,020	1,905	1,953	1,905	1,953	-481	-933	-0.252	-0.478	0.440	0.475	YES	NO	231,001	870,213	1	1	1
582	E	11/18/2010	9300 Block Burton Way Between Beverly Drive And Doheny Drive	2,468	7,128	2,000	5,484	2,000	5,484	468	1,644	0.234	0.300	0.410	0.303	YES	YES	218,617	2,702,066	1	1	1
582	W	11/18/2010	9300 Block Burton Way Between Beverly Drive And Doheny Drive	3,641	3,914	3,569	3,576	3,569	3,576	72	338	0.020	0.094	0.325	0.359	YES	YES	5,194	113,980	1	1	1
583	E	11/18/2010	Santa Monica Boulevard Between Beverly Drive And Beverly Boulevard	3,819	7,406	3,413	6,475	3,413	6,475	406	931	0.119	0.144	0.325	0.286	YES	YES	164,705	866,295	1	1	1
583	W	11/18/2010	Santa Monica Boulevard Between Beverly Drive And Beverly Boulevard	5,007	5,321	5,553	6,654	5,553	6,654	-546	-1,333	-0.098	-0.200	0.275	0.280	YES	YES	297,725	1,777,212	1	1	1
1000	N	12/31/2008	Route 1 - Los Angeles, North Of 98th Str					11,713	14,829													
1000	S	12/31/2008	Route 1 - Los Angeles, North Of 98th Str					6,733	12,269													
1001	N	12/31/2008	Route 1 - Santa Monica, McClure Tunnel	7,530	10,984	5,977	8,925	5,977	8,925	1,553	2,059	0.260	0.231	0.265	0.255	YES	YES	2,412,643	4,238,734	1	1	1
1001	S	12/31/2008	Route 1 - Santa Monica, McClure Tunnel	8,212	11,354	9,438	8,838	9,438	8,838	-1,226	2,516	-0.130	0.285	0.229	0.255	YES	NO	1,502,379	6,			

Static Highway Validation - Highway Links

#	Direction	Count Date	Location	Model AM	Model PM	Count AM	Count PM	ALL Count AM	ALL Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
1017	E	12/31/2008	Route 90 - West Of Jct. Rte. 405, Inglewo	6,265	9,551	8,129	11,616	8,129	11,616	-1,864	-2,065	-0.229	-0.178	0.241	0.235	YES	YES	3,475,492	4,264,442	1	1	1
1017	W	12/31/2008	Route 90 - West Of Jct. Rte. 405, Inglewo	8,017	11,051	8,743	11,012	8,743	11,012	-726	39	-0.083	0.004	0.235	0.241	YES	YES	527,322	1,536	1	1	1
Total				2,409,687	3,521,927	2,295,229	3,265,710			114,458	256,218									504	527	643
				1.05	1.08															78%	82%	

Static Highway Validation - Screenlines

Screenline #	DirectionSL	Sum of Model AM	Sum of Model PM	Sum of Count AM	Sum of Count PM	Delta AM	Delta PM	Delta/Count AM	Delta/Count PM	Max Dev AM	Max Dev PM	Within Dev AM	Within Dev PM	Dif Squared AM	Dif Squared PM	Pass AM?	Pass PM?	Total
1	E	18,540	32,181	18,081	29,831	459	2,350	0.025	0.079	0.290	0.260	YES	YES	210,526	5,523,284	1	1	1
	W	14,282	20,730	12,023	20,307	2,259	423	0.188	0.021	0.340	0.310	YES	YES	5,104,383	178,678	1	1	1
2	E	50,952	63,520	51,486	61,203	-534	2,317	-0.010	0.038	0.180	0.200	YES	YES	285,129	5,367,544	1	1	1
	W	34,456	62,391	40,794	60,203	-6,338	2,188	-0.155	0.036	0.210	0.200	YES	YES	40,165,923	4,788,070	1	1	1
3	E	17,345	21,444	19,057	22,484	-1,712	-1,040	-0.090	-0.046	0.280	0.300	YES	YES	2,929,760	1,080,574	1	1	1
	W	9,586	15,452	10,316	15,408	-730	44	-0.071	0.003	0.370	0.350	YES	YES	532,811	1,913	1	1	1
4	E	14,099	29,541	12,648	27,018	1,451	2,523	0.115	0.093	0.330	0.270	YES	YES	2,105,750	6,366,499	1	1	1
	W	19,827	21,638	17,928	16,631	1,899	5,007	0.106	0.301	0.290	0.340	YES	YES	3,604,804	25,071,744	1	1	1
5	E	8,643	14,616	6,496	8,496	11,728	2,147	2,888	0.331	0.246	0.430	YES	YES	4,611,631	8,340,745	1	1	1
	W	12,353	13,232	10,749	9,644	1,604	3,588	0.149	0.372	0.360	0.420	YES	YES	2,572,458	12,876,738	1	1	1
6	E	1,213	4,495	1,679	4,591	-466	-96	-0.278	-0.021	0.600	0.530	YES	YES	217,521	9,149	1	1	1
	W	3,329	2,143	2,514	2,665	815	-522	0.324	-0.196	0.570	0.590	YES	YES	664,935	272,198	1	1	1
7	N	2,390	3,701	2,433	3,814	-43	-113	-0.018	-0.030	0.570	0.560	YES	YES	1,826	12,863	1	1	1
	S	2,886	4,223	2,019	3,417	867	806	0.429	0.236	0.590	0.570	YES	YES	751,561	648,939	1	1	1
8	N	1,038	1,106	860	851	178	255	0.207	0.300	0.630	0.640	YES	YES	31,556	65,160	1	1	1
	S	565	1,614	570	1,979	-5	-365	-0.008	-0.185	0.640	0.610	YES	YES	23	133,424	1	1	1
9	N	21,043	19,943	20,097	21,188	946	-1,245	0.047	-0.059	0.270	0.300	YES	YES	895,751	1,549,634	1	1	1
	S	14,874	33,593	11,959	32,229	2,915	1,364	0.244	0.042	0.340	0.250	YES	YES	8,496,436	1,860,904	1	1	1
10	N	14,424	20,478	15,094	22,337	-670	-1,859	-0.044	-0.083	0.310	0.300	YES	YES	449,471	3,456,314	1	1	1
	S	13,342	20,001	12,718	23,428	624	-3,427	0.049	-0.146	0.330	0.290	YES	YES	389,547	11,745,311	1	1	1
11	N	21,020	25,279	19,150	25,556	1,870	-277	0.098	-0.011	0.280	0.280	YES	YES	3,495,331	76,608	1	1	1
	S	16,920	30,998	13,354	24,095	3,566	6,903	0.267	0.287	0.320	0.290	YES	YES	12,718,855	47,656,386	1	1	1
Total																22	22	22
																100%	100%	100%

Raw SCAG Static Transit Validation - Summary

Raw SCAG 2003 Transit Validation (Routes with Counts)							
Carrier	Number of Lines	Peak Period (7-Hour) Model	Peak Period (7-Hour) Count	Model - Count	Model/Count	% Difference	Threshold ¹
Metro	209	545,391	522,211	23,180	1.04	4.4%	--
Santa Monica Big Blue Bus	25	34,878	29,255	5,623	1.19	19.2%	--
Torrance Transit	2	1,554	1,029	525	1.51	51.0%	--
Total	236	581,822	552,495	29,328	1.05	5.3%	10.0%

1. Static Validation Criteria and Thresholds, 2010 California Regional Transportation Plan Guidelines

Raw SCAG 2003 Transit Validation (Westside Study Area Only)							
Carrier	Number of Lines	Peak Period (7-Hour) Model	Peak Period (7-Hour) Count	Model - Count	Model/Count	% Difference	Threshold ¹
Metro	40	136,033	134,875	1,159	1.01	0.9%	--
Santa Monica Big Blue Bus	25	34,878	29,255	5,623	1.19	19.2%	--
Torrance Transit	2	1,554	1,029	525	1.51	51.0%	--
Total	67	172,465	165,159	7,306	1.04	4.4%	10.0%

1. Static Validation Criteria and Thresholds, 2010 California Regional Transportation Plan Guidelines

Raw SCAG 2003 Transit Validation (By Route Group)							
Carrier	Number of Lines	Peak Period (7-Hour) Model	Peak Period (7-Hour) Count	Model - Count	Model/Count	% Difference	Threshold ¹
Local Bus	197	492,045	485,987	6,058	1.01	1.2%	20.0%
Express Bus	39	89,777	66,508	23,269	1.35	35.0%	20.0%
Transitway	0	0	0	0	--	--	20.0%
Total	236	581,822	552,495	29,328	1.05	5.3%	10.0%

1. Static Validation Criteria and Thresholds, 2010 California Regional Transportation Plan Guidelines

Raw SCAG 2003 Transit Validation (Westside Study Area Only - By Route Group)							
Carrier	Number of Lines	Peak Period (7-Hour) Model	Peak Period (7-Hour) Count	Model - Count	Model/Count	% Difference	Threshold ¹
Local Bus	57	143,133	137,173	5,959	1.04	4.3%	20.0%
Express Bus	10	29,332	27,985	1,347	1.05	4.8%	20.0%
Transitway	0	0	0	0	--	--	20.0%
Total	67	172,465	165,159	7,306	1.04	4.4%	10.0%

1. Static Validation Criteria and Thresholds, 2010 California Regional Transportation Plan Guidelines

Static Transit Validation - Summary

Westside Model 2008 Transit Validation (Routes with Counts)							
Carrier	Number of Lines	Peak Period (7-Hour) Model	Peak Period (7-Hour) Count	Model - Count	Model/Count	% Difference	Threshold ¹
Metro	211	523,107	526,530	-3,422	0.99	-0.6%	--
Santa Monica Big Blue Bus	25	28,965	29,255	-290	0.99	-1.0%	--
Torrance Transit	2	1,275	1,029	246	1.24	23.9%	--
Total	238	553,347	556,814	-3,466	0.99	-0.6%	10.0%

1. Static Validation Criteria and Thresholds, 2010 California Regional Transportation Plan Guidelines

Westside Model 2008 Transit Validation (Westside Study Area Only)							
Carrier	Number of Lines	Peak Period (7-Hour) Model	Peak Period (7-Hour) Count	Model - Count	Model/Count	% Difference	Threshold ¹
Metro	40	125,288	123,466	1,822	1.01	1.5%	--
Santa Monica Big Blue Bus	25	28,965	29,255	-290	0.99	-1.0%	--
Torrance Transit	2	1,275	1,029	246	1.24	23.9%	--
Total	67	155,528	153,750	1,778	1.01	1.2%	10.0%

1. Static Validation Criteria and Thresholds, 2010 California Regional Transportation Plan Guidelines

Westside Model 2008 Transit Validation (By Route Group)							
Carrier	Number of Lines	Peak Period (7-Hour) Model	Peak Period (7-Hour) Count	Model - Count	Model/Count	% Difference	Threshold ¹
Local Bus	197	465,797	474,578	-8,781	0.98	-1.9%	20.0%
Express Bus	39	70,593	66,508	4,086	1.06	6.1%	20.0%
Transitway	2	16,957	15,728	1,229	1.08	7.8%	20.0%
Total	238	553,347	556,814	-3,466	0.99	-0.6%	10.0%

1. Static Validation Criteria and Thresholds, 2010 California Regional Transportation Plan Guidelines

Westside Model 2008 Transit Validation (Westside Study Area Only - By Route Group)							
Carrier	Number of Lines	Peak Period (7-Hour) Model	Peak Period (7-Hour) Count	Model - Count	Model/Count	% Difference	Threshold ¹
Local Bus	57	127,846	125,765	2,081	1.02	1.7%	20.0%
Express Bus	10	27,682	27,985	-303	0.99	-1.1%	20.0%
Transitway	0	0	0	0	--	--	20.0%
Total	67	155,528	153,750	1,778	1.01	1.2%	10.0%

1. Static Validation Criteria and Thresholds, 2010 California Regional Transportation Plan Guidelines

Static Transit Validation - Transit Routes

Study Area?	Carrier	Line	Line #	Lookup	AM PP (3-Hour) Boardings	PM PP (4-Hour) Boardings	Peak Period (7-Hour) Boardings	Model Peak Period (7-Hour)	Peak Period Count (7-Hour)	Delta	Delta Squared	Notes	%RMSE	66%	Corr	0.78
0	Metro	102E	102	MT_102	155	230	385	673	385	289	83,265					
0	Metro	102W	102	MT_102	132	220	352	673	352	322	103,528					
0	Metro	105N	105	MT_105	826	1,837	2,663	5,491	5,282	209	43,843					
0	Metro	105S	105	MT_105	1,076	1,684	2,760	5,491	5,168	323	104,579					
1	Metro	108E	108	MT_108	2,220	2,459	4,679	3,994	4,679	-685	468,553					
1	Metro	108W	108	MT_108	1,822	2,738	4,561	3,994	4,561	-567	321,046					
0	Metro	10E	10	MT_10	1,366	2,105	3,471	1,631	3,471	-1,840	3,386,119					
0	Metro	10W	10	MT_10	1,894	1,921	3,815	1,631	3,815	-2,184	4,768,725					
1	Metro	110E	110	MT_110	788	1,820	2,608	3,525	2,608	917	840,980					
1	Metro	110W	110	MT_110	1,151	1,395	2,546	3,525	2,546	979	957,559					
1	Metro	111E	111	MT_111	1,268	2,039	3,307	4,877	3,307	1,569	2,463,249					
1	Metro	111W	111	MT_111	1,432	2,006	3,438	4,877	3,438	1,438	2,069,207					
1	Metro	115E	115	MT_115	1,095	2,222	3,317	6,402	3,317	3,086	9,520,742					
1	Metro	115W	115	MT_115	1,862	1,526	3,389	6,402	3,389	3,013	9,080,399					
1	Metro	117E	117	MT_117	680	1,556	2,236	1,969	2,236	-267	71,323					
1	Metro	117W	117	MT_117	1,015	1,230	2,245	1,969	2,245	-276	75,991					
1	Metro	120E	120	MT_120	220	398	619	754	619	135	18,265					
1	Metro	120W	120	MT_120	284	346	630	754	630	124	15,314					
0	Metro	121E	121	MT_121	363	355	718	998	718	281	78,868					
0	Metro	121W	121	MT_121	244	381	624	998	624	374	139,977					
0	Metro	126E	126	MT_126	31	55	87	749	87	662	438,282					
0	Metro	126W	126	MT_126	54	38	92	749	92	657	431,161					
0	Metro	127E	127	MT_127	81	96	176	1,468	176	1,292	1,668,034					
0	Metro	127W	127	MT_127	72	104	175	1,468	175	1,292	1,670,360					
0	Metro	14N	14	MT_14	2,056	2,281	4,337	4,493	4,337	155	24,173					
0	Metro	14S	14	MT_14	1,515	2,749	4,264	4,493	4,264	229	52,430					
0	Metro	150E	150	MT_150	958	1,723	2,680	1,466	2,680	-1,214	1,474,237					
0	Metro	150W	150	MT_150	1,201	1,580	2,780	1,466	2,780	-1,314	1,726,810					
0	Metro	152E	152	MT_152	1,351	2,141	3,492	3,824	3,492	333	110,755					
0	Metro	152W	152	MT_152	1,754	1,866	3,620	3,824	3,620	204	41,656					
0	Metro	154E	154	MT_154	95	147	242	1,478	242	1,236	1,528,785					
0	Metro	154W	154	MT_154	135	140	274	1,478	274	1,204	1,448,750					
	Metro	155E	155	MT_155	92	80	172									
	Metro	155W	155	MT_155	41	118	159									
0	Metro	156N	156	MT_156	222	282	504	4,528	504	4,023	16,187,679					
0	Metro	156S	156	MT_156	195	266	461	4,528	461	4,067	16,538,793					
0	Metro	158E	158	MT_158	310	309	618	1,046	618	428	182,935					
0	Metro	158W	158	MT_158	367	328	695	1,046	695	351	123,137					
0	Metro	161E	161	MT_161	80	324	404	97	404	-307	94,069					
0	Metro	161W	161	MT_161	441	101	542	97	542	-444	197,408					
0	Metro	163E	163	MT_163	1,095	1,566	2,660	2,687	3,036	-350	122,196					
0	Metro	163W	163	MT_163	1,131	1,598	2,729	2,687	3,068	-382	145,821					
0	Metro	164E	164	MT_164	585	1,389	1,974	3,439	1,974	1,465	2,147,337					
0	Metro	164W	164	MT_164	1,036	1,000	2,035	3,439	2,035	1,404	1,970,316					
0	Metro	165E	165	MT_165	811	1,794	2,604	2,081	2,604	-523	273,686					
0	Metro	165W	165	MT_165	1,197	1,241	2,438	2,081	2,438	-357	127,199					
0	Metro	166E	166	MT_166	476	1,397	1,872	5,717	1,872	3,845	14,784,333					
0	Metro	166W	166	MT_166	1,126	794	1,920	5,717	1,920	3,797	14,419,032					
0	Metro	168E	168	MT_168	52	79	130	351	130	220	48,483					
0	Metro	168W	168	MT_168	69	54	123	351	123	228	51,797					
0	Metro	169E	169	MT_169	295	357	652	1,841	652	1,189	1,414,467					
0	Metro	169W	169	MT_169	282	329	612	1,841	612	1,229	1,510,720					
0	Metro	16E	16	MT_16	2,738	3,784	6,522	3,887	6,522	-2,635	6,943,404					
0	Metro	16W	16	MT_16	2,375	4,454	6,829	3,887	6,829	-2,942	8,657,329					
0	Metro	175E	175	MT_175	157	73	230	481	230	250	62,694					
0	Metro	175W	175	MT_175	47	340	387	481	387	93	8,703					
0	Metro	176E	176	MT_176	102	170	272	1,081	272	808	653,224					
0	Metro	176W	176	MT_176	177	119	296	1,081	296	785	616,260					
0	Metro	180E	180	MT_180	699	1,486	2,184	3,431	5,415	-1,985	3,939,074					
0	Metro	180W	180	MT_180	657	1,379	2,036	3,431	4,997	-1,566	2,452,387					
0	Metro	183E	183	MT_183	246	326	572	2,348	572	1,776	3,153,187					
0	Metro	183W	183	MT_183	263	359	622	2,348	622	1,726	2,978,115					

included as 92
included as 92

Static Transit Validation - Transit Routes

Study Area?	Carrier	Line	Line #	Lookup	AM PP (3-Hour) Boardings	PM PP (4-Hour) Boardings	Peak Period (7-Hour) Boardings	Model Peak Period (7-Hour)	Peak Period Count (7-Hour)	Delta	Delta Squared	Notes	%RMSE	66%	Corr	0.78
0	Metro	18E	18	MT_18	3,268	3,486	6,754	3,909	6,754	-2,845	8,095,206					
0	Metro	18W	18	MT_18	1,492	4,256	5,748	3,909	5,748	-1,839	3,382,316					
0	Metro	190E	190	MT_490	951	1,265	2,216	5,976	2,216	3,760	14,135,844					
0	Metro	190W	190	MT_490	948	1,028	1,976	5,976	1,976	4,000	15,998,132					
0	Metro	200N	200	MT_200	1,287	2,586	3,873	602	3,873	-3,271	10,700,606					
0	Metro	200S	200	MT_200	1,451	2,259	3,709	602	3,709	-3,107	9,656,420					
0	Metro	201N	201	MT_201	119	159	278	254	278	-24	586					
0	Metro	201S	201	MT_201	95	162	257	254	257	-3	9					
0	Metro	202N	202	MT_202	76	55	131	1,730	131	1,600	2,558,528					
0	Metro	202S	202	MT_202	79	92	170	1,730	170	1,560	2,433,101					
0	Metro	204N	204	MT_204	2,588	3,417	6,005	3,456	6,005	-2,549	6,497,794					
0	Metro	204S	204	MT_204	1,512	4,686	6,198	3,456	6,198	-2,741	7,514,600					
0	Metro	206N	206	MT_206	1,708	2,152	3,860	2,842	3,860	-1,017	1,035,225					
0	Metro	206S	206	MT_206	1,489	2,450	3,938	2,842	3,938	-1,096	1,201,348					
0	Metro	207N	207	MT_207	2,584	3,521	6,104	5,030	8,961	-3,931	15,449,809					
0	Metro	207S	207	MT_207	1,888	4,226	6,113	5,030	8,929	-3,899	15,202,392					
0	Metro	209N	209	MT_209	167	92	259	716	259	457	209,022					
0	Metro	209S	209	MT_209	78	153	232	716	232	485	234,924					
1	Metro	20E	20	MT_20	1,033	2,525	3,557	4,544	3,557	987	974,021					
1	Metro	20W	20	MT_20	1,816	2,125	3,942	4,544	3,942	603	363,398					
0	Metro	210N	210	MT_210	1,215	1,806	3,021	4,975	5,152	-177	31,317					
0	Metro	210S	210	MT_210	972	1,961	2,933	4,975	5,120	-144	20,871					
0	Metro	211N	211	MT_211	141	140	282	570	282	289	83,388					
0	Metro	211S	211	MT_211	123	130	252	570	252	318	101,105					
0	Metro	212N	212	MT_212	1,516	1,589	3,104	2,983	3,104	-122	14,797					
0	Metro	212S	212	MT_212	866	2,291	3,156	2,983	3,156	-174	30,152					
0	Metro	217N	217	MT_217	551	1,505	2,056	1,576	2,056	-480	230,317					
0	Metro	217S	217	MT_217	630	1,444	2,074	1,576	2,074	-498	248,017					
1	Metro	220N	220	MT_220	31	35	66	370	66	304	92,256					
1	Metro	220S	220	MT_220	42	37	79	370	79	290	84,179					
	Metro	222N	222	MT_222	193	183	376					included as 163				
	Metro	222S	222	MT_222	129	211	340					included as 163				
	Metro	224N	224	MT_224	1,107	1,464	2,571					included as 94				
	Metro	224S	224	MT_224	1,177	1,242	2,420					included as 94				
0	Metro	230E	230	MT_230	671	755	1,426	1,377	1,426	-49	2,395					
0	Metro	230W	230	MT_230	672	870	1,543	1,377	1,543	-166	27,470					
0	Metro	233N	233	MT_233	515	1,488	2,002	2,402	2,002	400	159,902					
0	Metro	233S	233	MT_233	692	1,186	1,878	2,402	1,878	524	274,866					
0	Metro	234N	234	MT_234	569	1,053	1,622	2,538	2,692	-153	23,554					
0	Metro	234S	234	MT_234	782	801	1,583	2,538	2,748	-210	43,920					
0	Metro	236E	236	MT_236	333	450	783	1,143	783	360	129,408					
0	Metro	236W	236	MT_236	338	335	673	1,143	673	470	220,837					
0	Metro	243E	243	MT_243	424	333	757	1,109	757	352	124,071					
0	Metro	243W	243	MT_243	235	428	663	1,109	663	446	198,681					
0	Metro	245E	245	MT_245	677	549	1,227	648	1,227	-578	334,633					
0	Metro	245W	245	MT_245	500	675	1,175	648	1,175	-526	277,175					
0	Metro	246N	246	MT_446	291	427	718	500	718	-218	47,388					
0	Metro	246S	246	MT_446	337	459	796	500	796	-296	87,490					
0	Metro	251N	251	MT_251	833	1,324	2,157	3,256	3,800	-543	295,358					
0	Metro	251S	251	MT_251	944	1,219	2,164	3,256	3,852	-595	354,226					
0	Metro	252N	252	MT_252	272	551	823	2,185	823	1,361	1,852,867					
0	Metro	252S	252	MT_252	333	380	713	2,185	713	1,471	2,164,431					
0	Metro	258N	258	MT_258	242	232	474	745	474	271	73,363					
0	Metro	258S	258	MT_258	190	234	424	745	424	321	103,141					
0	Metro	260N	260	MT_260	1,289	1,593	2,882	6,784	4,120	2,664	7,095,042					
0	Metro	260S	260	MT_260	1,042	1,768	2,809	6,784	4,021	2,762	7,631,141					
0	Metro	265N	265	MT_265	179	243	422	897	422	475	225,706					
0	Metro	265S	265	MT_265	199	267	466	897	466	432	186,352					
0	Metro	267N	267	MT_267	397	479	875	1,052	875	177	31,304					
0	Metro	267S	267	MT_267	367	514	881	1,052	881	171	29,285					
0	Metro	268N	268	MT_268	220	403	623	2,118	623	1,496	2,236,658					
0	Metro	268S	268	MT_268	378	310	688	2,118	688	1,430	2,045,604					

Static Transit Validation - Transit Routes

Study Area?	Carrier	Line	Line #	Lookup	AM PP (3-Hour) Boardings	PM PP (4-Hour) Boardings	Peak Period (7-Hour) Boardings	Model Peak Period (7-Hour)	Peak Period Count (7-Hour)	Delta	Delta Squared	Notes	%RMSE	66%	Corr	0.78
0	Metro	26N	26	MT_260	3,249	4,706	7,955	6,784	7,955	-1,171	1,372,056					
0	Metro	26S	26	MT_260	3,977	4,588	8,566	6,784	8,566	-1,782	3,174,982					
0	Metro	287N	287	MT_491	203	319	522	344	522	-179	31,890					
0	Metro	287S	287	MT_491	152	278	430	344	430	-86	7,427					
1	Metro	28E	28	MT_28	718	1,339	2,057	1,997	4,474	-2,477	6,136,857					
1	Metro	28W	28	MT_28	868	1,149	2,017	1,997	4,473	-2,476	6,128,932					
	Metro	290N	290	MT_290	97	165	262					small shuttle				
	Metro	290S	290	MT_290	102	116	218					small shuttle				
	Metro	292N	292	MT_292	245	306	551					no longer exists				
	Metro	292S	292	MT_292	279	280	559					no longer exists				
1	Metro	2E	2	MT_2	1,255	3,557	4,812	6,436	4,812	1,624	2,636,642					
1	Metro	2W	2	MT_2	2,624	3,184	5,809	6,436	5,809	627	393,096					
1	Metro	305N	305	MT_305	468	338	806	759	806	-47	2,167					
1	Metro	305S	305	MT_305	164	482	646	759	646	114	12,893					
0	Metro	30E	30	MT_30	1,328	1,984	3,312	2,123	5,004	-2,880	8,296,065					
0	Metro	30W	30	MT_30	1,085	2,199	3,284	2,123	4,976	-2,852	8,136,123					
1	Metro	33E	33	MT_33	773	1,848	2,621	2,030	2,621	-591	348,894					
1	Metro	33W	33	MT_33	1,497	1,349	2,845	2,030	2,845	-815	664,669					
0	Metro	344N	344	MT_444	122	413	535	2,330	535	1,795	3,223,134					
0	Metro	344S	344	MT_444	483	231	714	2,330	714	1,616	2,612,778					
1	Metro	35E	35	MT_333	990	1,157	2,147	1,690	2,147	-457	209,062					
1	Metro	35W	35	MT_333	728	1,235	1,964	1,690	1,964	-274	74,875					
0	Metro	38E	38	MT_38	668	690	1,358	1,636	1,358	278	77,333					
0	Metro	38W	38	MT_38	578	956	1,534	1,636	1,534	102	10,483					
1	Metro	40N	40	MT_40	1,557	2,128	3,685	3,119	3,685	-566	320,323					
1	Metro	40S	40	MT_40	1,385	2,515	3,901	3,119	3,901	-782	611,479					
1	Metro	42N	42	MT_42	512	750	1,263	846	1,263	-416	173,318					
1	Metro	42S	42	MT_42	757	677	1,434	846	1,434	-588	345,291					
1	Metro	439N	439	MT_439	130	185	315	780	315	466	216,697					
1	Metro	439S	439	MT_439	129	208	337	780	337	443	196,255					
	Metro	442N	442	MT_442	96	0	96					small shuttle				
	Metro	442S	442	MT_442	0	111	111					small shuttle				
0	Metro	445N	445	MT_445	197	152	348	623	348	275	75,598					
0	Metro	445S	445	MT_445	116	221	337	623	337	286	81,939					
	Metro	450C	450	MT_450	400	373	772					only operates part of the day				
0	Metro	45N	45	MT_45	2,384	2,778	5,162	2,242	5,162	-2,920	8,527,051					
0	Metro	45S	45	MT_45	2,023	3,619	5,642	2,242	5,642	-3,399	11,555,319					
0	Metro	460E	460	MT_460	481	610	1,092	935	1,092	-156	24,396					
0	Metro	460W	460	MT_460	477	586	1,063	935	1,063	-128	16,331					
0	Metro	485N	485	MT_485	226	400	626	2,548	626	1,922	3,692,952					
0	Metro	485S	485	MT_485	375	375	750	2,548	750	1,798	3,232,464					
0	Metro	487E	487	MT_487	301	928	1,229	1,485	1,229	256	65,678					
0	Metro	487W	487	MT_487	870	337	1,207	1,485	1,207	278	77,382					
1	Metro	4E	4	MT_4	1,374	2,644	4,018	6,251	7,474	-1,223	1,495,607					
1	Metro	4W	4	MT_4	1,461	2,533	3,994	6,251	7,363	-1,112	1,236,433					
1	Metro	534E	534	MT_434	86	706	792	733	792	-58	3,421					
1	Metro	534W	534	MT_434	815	171	986	733	986	-253	63,852					
0	Metro	53N	53	MT_53	1,390	1,316	2,705	2,598	2,705	-108	11,564					
0	Metro	53S	53	MT_53	999	2,015	3,014	2,598	3,014	-416	173,251					
0	Metro	550N	550	MT_550	360	439	800	2,564	800	1,764	3,112,449					
0	Metro	550S	550	MT_550	348	519	868	2,564	868	1,696	2,877,140					
0	Metro	55N	55	MT_55	1,747	1,133	2,880	2,723	2,880	-157	24,725					
0	Metro	55S	55	MT_55	711	1,925	2,636	2,723	2,636	87	7,544					
0	Metro	60N	60	MT_60	1,992	2,826	4,818	5,541	7,357	-1,815	3,295,679					
0	Metro	60S	60	MT_60	1,940	3,333	5,273	5,541	7,662	-2,121	4,499,492					
	Metro	611C	611	MT_611	354	281	635					small shuttle				
	Metro	611CC	611	MT_611	201	428	629					small shuttle				
	Metro	612C	612	MT_612	152	243	395					small shuttle				
	Metro	612CC	612	MT_612	150	293	442					small shuttle				
0	Metro	620CC	620	MT_620	94	200	294	25	294	-270	72,633					
	Metro	62E	62	MT_62	668	635	1,303					not in model				
	Metro	62W	62	MT_62	510	770	1,279					not in model				

Static Transit Validation - Transit Routes

Study Area?	Carrier	Line	Line #	Lookup	AM PP (3-Hour) Boardings	PM PP (4-Hour) Boardings	Peak Period (7-Hour) Boardings	Model Peak Period (7-Hour)	Peak Period Count (7-Hour)	Delta	Delta Squared	Notes	%RMSE	66%	Corr	0.78
0	Metro	645E	645	MT_245	54	101	156	648	156	493	242,778					
0	Metro	645W	645	MT_245	94	124	218	648	218	430	185,008					
0	Metro	665E	665	MT_65	77	153	229	934	229	705	497,357					
0	Metro	665W	665	MT_65	135	117	252	934	252	683	465,991					
0	Metro	66E	66	MT_66	4,201	2,349	6,550	4,000	6,550	-2,549	6,499,555					
0	Metro	66W	66	MT_66	1,498	4,716	6,214	4,000	6,214	-2,214	4,902,338					
0	Metro	685N	685	MT_85	82	71	152	682	152	529	280,236					
0	Metro	685S	685	MT_85	41	96	137	682	137	544	296,234					
	Metro	687N	687	MT_687	97	300	397					included as 30				
	Metro	687S	687	MT_687	172	254	426					included as 30				
	Metro	704E	704	MT_704	800	2,657	3,456					included as 4				
	Metro	704W	704	MT_704	1,765	1,605	3,369					included as 4				
	Metro	705N	705	MT_705	1,262	1,356	2,618					included as 105				
	Metro	705S	705	MT_705	887	1,521	2,408					included as 105				
0	Metro	70E	70	MT_70	1,169	1,606	2,775	3,407	5,229	-1,822	3,320,837					
0	Metro	70W	70	MT_70	1,241	1,393	2,634	3,407	4,871	-1,464	2,144,516					
	Metro	710N	710	MT_710	860	1,271	2,131					included as 210				
	Metro	710S	710	MT_710	867	1,319	2,186					included as 210				
0	Metro	711E	711	MT_711: Fl	484	1,006	1,490	2,091	1,490	601	361,527					
0	Metro	711W	711	MT_711: Fl	646	801	1,447	2,091	1,447	645	415,601					
	Metro	714E	714	MT_714	407	695	1,102					no longer exists				
	Metro	714W	714	MT_714	674	507	1,181					no longer exists				
	Metro	715E	715	MT_715	447	772	1,219					no longer exists				
	Metro	715W	715	MT_715	671	723	1,394					no longer exists				
0	Metro	71E	71	MT_71	288	154	441	489	441	47	2,234					
0	Metro	71W	71	MT_71	147	246	393	489	393	96	9,170					
1	Metro	720E	720	MT_720: W	1,811	6,697	8,507	8,569	8,507	62	3,820					
1	Metro	720W	720	MT_720: W	5,875	3,671	9,546	8,569	9,546	-977	954,911					
	Metro	728E	728	MT_728	735	1,683	2,417					included as 28				
	Metro	728W	728	MT_728	1,294	1,161	2,455					included as 28				
	Metro	730E	730	MT_730	572	723	1,295					included as 30				
	Metro	730W	730	MT_730	509	757	1,267					included as 30				
	Metro	733E	733	MT_733	817	2,141	2,959					included as 33				
	Metro	733W	733	MT_733	1,671	1,535	3,206					included as 33				
	Metro	734N	734	MT_734	346	724	1,070					included as 234				
	Metro	734S	734	MT_734	654	511	1,165					included as 234				
	Metro	740N	740	MT_740	1,267	1,446	2,713					included as 40				
	Metro	740S	740	MT_740	778	1,753	2,531					included as 40				
	Metro	741N	741	MT_741	354	432	787					not in model				
	Metro	741S	741	MT_741	357	432	789					not in model				
0	Metro	745N	745	MT_745: So	1,744	874	2,618	609	2,618	-2,009	4,035,398					
0	Metro	745S	745	MT_745: So	581	1,580	2,161	609	2,161	-1,551	2,406,935					
0	Metro	750E	750	MT_750: Ve	442	1,084	1,526	726	1,526	-800	640,433					
0	Metro	750W	750	MT_750: Ve	1,318	741	2,059	726	2,059	-1,334	1,778,677					
	Metro	751N	751	MT_751	620	1,023	1,643					included as 251				
	Metro	751S	751	MT_751	775	914	1,688					included as 251				
	Metro	753N	753	MT_753	538	463	1,002					no longer exists				
	Metro	753S	753	MT_753	331	448	779					no longer exists				
0	Metro	754N	754	MT_754: Ve	3,013	3,636	6,650	3,580	6,650	-3,069	9,420,946					
0	Metro	754S	754	MT_754: Ve	2,284	3,941	6,225	3,580	6,225	-2,645	6,994,734					
	Metro	757N	757	MT_757	1,237	1,620	2,856					included as 207				
	Metro	757S	757	MT_757	1,009	1,806	2,816					included as 207				
	Metro	760N	760	MT_760	1,238	1,302	2,539					included as 60				
	Metro	760S	760	MT_760	851	1,539	2,389					included as 60				
1	Metro	761N	761	MT_761: Va	660	2,171	2,832	3,000	2,832	168	28,257					
1	Metro	761S	761	MT_761: Va	1,875	1,345	3,220	3,000	3,220	-221	48,622					
	Metro	762N	762	MT_762	556	682	1,238					included as 260				
	Metro	762S	762	MT_762	450	762	1,212					included as 260				
0	Metro	76E	76	MT_76	916	1,547	2,463	3,009	2,463	546	298,318					
0	Metro	76W	76	MT_76	1,175	1,224	2,399	3,009	2,399	610	372,203					
	Metro	770E	770	MT_770	914	1,540	2,454					included as 70				
	Metro	770W	770	MT_770	1,118	1,119	2,237					included as 70				

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Study Area?	Carrier	Line	Line #	Lookup	AM PP (3-Hour) Boardings	PM PP (4-Hour) Boardings	Peak Period (7-Hour) Boardings	Model Peak Period (7-Hour)	Peak Period Count (7-Hour)	Delta	Delta Squared	Notes	%RMSE	66%	Corr	0.78
	Metro	780E	780	MT_780	1,311	1,921	3,231					included as 180				
	Metro	780W	780	MT_780	1,216	1,744	2,961					included as 180				
0	Metro	78E	78	MT_78	978	1,993	2,971	1,746	2,971	-1,225	1,499,733					
0	Metro	78W	78	MT_78	1,436	1,418	2,854	1,746	2,854	-1,108	1,227,522					
0	Metro	794N	794	MT_79	708	932	1,641	1,688	1,641	47	2,238					
0	Metro	794S	794	MT_79	760	942	1,702	1,688	1,702	-14	196					
0	Metro	81N	81	MT_81	1,683	2,502	4,185	4,752	4,185	566	320,712					
0	Metro	81S	81	MT_81	1,652	2,470	4,121	4,752	4,121	630	397,044					
0	Metro	83N	83	MT_83	285	890	1,175	1,416	1,175	241	58,092					
0	Metro	83S	83	MT_83	668	457	1,125	1,416	1,125	291	84,810					
0	Metro	84N	84	MT_84	922	1,103	2,025	631	2,025	-1,393	1,941,274					
0	Metro	84S	84	MT_84	807	1,334	2,141	631	2,141	-1,509	2,277,371					
0	Metro	901E	901	MT_Orange	2,550	3,350	5,900	8,478	7,885	593	351,530					
0	Metro	901W	901	MT_Orange	2,581	3,422	6,003	8,478	7,842	636	404,623					
	Metro	902N	902	MT_902	705	1,280	1,985					included as 901				
	Metro	902S	902	MT_902	956	884	1,840					included as 901				
0	Metro	90N	90	MT_90	675	1,038	1,713	1,372	1,713	-341	116,436					
0	Metro	90S	90	MT_90	741	705	1,446	1,372	1,446	-74	5,480					
	Metro	910N	910	MT_910	714	1,632	2,346					not in model				
	Metro	910S	910	MT_910	1,529	1,007	2,535					not in model				
	Metro	920E	920	MT_920	72	972	1,044					not in model				
	Metro	920W	920	MT_920	1,071	450	1,521					not in model				
0	Metro	92N	92	MT_92	502	892	1,394	2,651	1,566	1,086	1,178,744					
0	Metro	92S	92	MT_92	529	886	1,415	2,651	1,574	1,077	1,160,144					
0	Metro	94N	94	MT_94	774	1,000	1,775	4,854	4,345	509	259,222					
0	Metro	94S	94	MT_94	582	796	1,378	4,854	3,798	1,057	1,116,908					
1	SM	1 EB	1	SM_1	1005	1100	2,105	468	2,105	-1,637	2,679,730					
1	SM	1 WB	1	SM_1	658	1156	1,814	468	1,814	-1,346	1,811,684					
1	SM	2 NB	2	SM_2	540	689	1,229	834	1,229	-395	155,886					
1	SM	2 SB	2	SM_2	366	766	1,132	834	1,132	-298	88,699					
1	SM	3 Rapid NB	3	SM_3	499	286	785	1,954	785	1,169	1,367,675					
1	SM	3 Rapid SB	3	SM_3	245	521	766	1,954	766	1,188	1,412,476					
1	SM	3 NB	3	SM_3	947	823	1,770	1,954	1,770	184	34,032					
1	SM	3 SB	3	SM_3	534	1329	1,863	1,954	1,863	91	8,368					
1	SM	4 EB	4	SM_4	131	142	273	124	273	-149	22,318					
1	SM	4 WB	4	SM_4	188	84	272	124	272	-148	22,021					
1	SM	5 EB	5	SM_5	225	566	791	719	791	-72	5,256					
1	SM	5 WB	5	SM_5	690	271	961	719	961	-242	58,805					
1	SM	7 Super EB	7									in model as 7				
1	SM	7 Super WB	7									in model as 7				
1	SM	7 EB	7	SM_7	794	1932	2,726	1,435	2,726	-1,291	1,665,508					
1	SM	7 WB	7	SM_7	2065	975	3,040	1,435	3,040	-1,605	2,574,566					
1	SM	8 EB	8	SM_8	620	678	1,298	1,473	1,298	175	30,668					
1	SM	8 WB	8	SM_8	455	660	1,115	1,473	1,115	358	128,251					
1	SM	9 NB	9	SM_9	277	93	370	551	370	181	32,815					
1	SM	9 SB	9	SM_9	35	281	316	551	316	235	55,295					
1	SM	10 EB	10	SM_10	21	328	349	2,001	349	1,652	2,730,404					
1	SM	10 WB	10	SM_10	275	287	562	2,001	562	1,439	2,071,854					
1	SM	11 Loop	11	SM_11	126	184	310	333	310	23	541					
1	SM	12 EB	12	SM_12	362	1016	1,378	1,819	1,378	441	194,389					
1	SM	12 WB	12	SM_12	1008	700	1,708	1,819	1,708	111	12,298					
1	SM	12 Super EB	12									in model as 12				
1	SM	12 Super WB	12									in model as 12				
1	SM	14 NB	14	SM_14	708	407	1,115	983	1,115	-132	17,509					
1	SM	14 SB	14	SM_14	415	792	1,207	983	1,207	-224	50,321					
1	TT		2	TT_2	505	451	956	390	956	-566	320,747					
1	TT		8	TT_8	37	36	73	885	73	812	659,828					



**APPENDIX I:
PEAK PERIOD DYNAMIC MODEL VALIDATION RESULTS**

Dynamic Validation - Land Use

Productions and Attractions

Scenario	Period	Productions	Attractions	Total	Rate
Add 10 Households	Peak (7-Hour)	38	12	50	5.0
	Off-Peak (17-Hour)	33	13	46	4.6
	Daily	71	25	96	9.6
Add 100 Households	Peak (7-Hour)	367	124	491	4.9
	Off-Peak (17-Hour)	307	122	429	4.3
	Daily	674	246	920	9.2
Add 5,000 Households	Peak (7-Hour)	18,464	6,183	24,647	4.9
	Off-Peak (17-Hour)	15,475	6,112	21,586	4.3
	Daily	33,938	12,295	46,233	9.2
Add 10,000 Households	Peak (7-Hour)	36,930	12,368	49,299	4.9
	Off-Peak (17-Hour)	30,952	12,227	43,179	4.3
	Daily	67,883	24,595	92,478	9.2
Note: The SCAG sponsored 2000 Regional Travel Survey shows an average of 7.3 person trips per household in Los Angeles County.					
Add 10 Jobs	Peak (7-Hour)	16	39	55	5.5
	Off-Peak (17-Hour)	19	44	63	6.3
	Daily	35	83	118	11.8
Add 100 Jobs	Peak (7-Hour)	136	391	527	5.3
	Off-Peak (17-Hour)	164	429	593	5.9
	Daily	300	820	1,120	11.2
Add 5,000 Jobs	Peak (7-Hour)	6,866	19,589	26,455	5.3
	Off-Peak (17-Hour)	8,303	21,439	29,742	5.9
	Daily	15,169	41,028	56,197	11.2
Add 10,000 Jobs	Peak (7-Hour)	13,716	39,010	52,726	5.3
	Off-Peak (17-Hour)	16,586	42,642	59,229	5.9
	Daily	30,302	81,652	111,954	11.2

Origins and Destinations - Peak Period (7-Hour)

Scenario	Period	Origins	Destinations	Total	Rate	% of Person Trips
Add 10 Households	AM (3-Hour)	7	6	14	1.4	--
	PM (4-Hour)	12	11	23	2.3	--
	Peak (7-Hour)	19	18	37	3.7	73%
Add 100 Households	AM (3-Hour)	89	54	143	1.4	--
	PM (4-Hour)	98	125	223	2.2	--
	Peak (7-Hour)	186	179	366	3.7	75%
Add 5,000 Households	AM (3-Hour)	5,850	1,780	7,630	1.5	--
	PM (4-Hour)	3,237	7,446	10,683	2.1	--
	Peak (7-Hour)	9,087	9,226	18,313	3.7	74%
Add 10,000 Households	AM (3-Hour)	11,556	3,477	15,033	1.5	--
	PM (4-Hour)	6,294	14,675	20,969	2.1	--
	Peak (7-Hour)	17,850	18,152	36,002	3.6	73%
Add 10 Jobs	AM (3-Hour)	7	7	13	1.3	--
	PM (4-Hour)	12	11	23	2.3	--
	Peak (7-Hour)	19	18	36	3.6	67%
Add 100 Jobs	AM (3-Hour)	55	71	126	1.3	--
	PM (4-Hour)	129	102	231	2.3	--
	Peak (7-Hour)	184	173	357	3.6	68%
Add 5,000 Jobs	AM (3-Hour)	1,713	4,208	5,921	1.2	--
	PM (4-Hour)	7,351	4,567	11,918	2.4	--
	Peak (7-Hour)	9,064	8,775	17,839	3.6	67%
Add 10,000 Jobs	AM (3-Hour)	3,151	8,098	11,249	1.1	--
	PM (4-Hour)	13,900	8,445	22,345	2.2	--
	Peak (7-Hour)	17,051	16,543	33,594	3.4	64%

Origins and Destinations - Off-Peak Period (17-Hour)

Scenario	Period	Origins	Destinations	Total	Rate	% of Person Trips
Add 10 Households	MD (6-Hour)	8	9	17	1.7	--
	NT (11-Hour)	7	5	12	1.2	--
	Off-Peak (17-Hour)	15	14	29	2.9	62%
Add 100 Households	MD (6-Hour)	77	84	162	1.6	--
	NT (11-Hour)	58	49	107	1.1	--
	Off-Peak (17-Hour)	136	133	269	2.7	63%
Add 5,000 Households	MD (6-Hour)	4,476	4,059	8,535	1.7	--
	NT (11-Hour)	2,258	3,174	5,432	1.1	--
	Off-Peak (17-Hour)	6,734	7,233	13,967	2.8	65%
Add 10,000 Households	MD (6-Hour)	8,829	7,976	16,805	1.7	--
	NT (11-Hour)	4,369	6,197	10,566	1.1	--
	Off-Peak (17-Hour)	13,198	14,173	27,371	2.7	63%
Add 10 Jobs	MD (6-Hour)	11	14	25	2.5	--
	NT (11-Hour)	10	6	16	1.6	--
	Off-Peak (17-Hour)	21	20	41	4.1	64%
Add 100 Jobs	MD (6-Hour)	116	133	249	2.5	--
	NT (11-Hour)	77	49	127	1.3	--
	Off-Peak (17-Hour)	193	182	376	3.8	63%
Add 5,000 Jobs	MD (6-Hour)	6,375	6,865	13,239	2.6	--
	NT (11-Hour)	2,809	1,960	4,769	1.0	--
	Off-Peak (17-Hour)	9,183	8,825	18,009	3.6	61%
Add 10,000 Jobs	MD (6-Hour)	12,063	13,011	25,074	2.5	--
	NT (11-Hour)	5,330	3,714	9,043	0.9	--
	Off-Peak (17-Hour)	17,392	16,725	34,117	3.4	58%

Note: The MD (6-hour) and NT (11-hour) time-of-day factors were modified during the daily base year validation process, which occurred after the dynamic validation runs had been completed. Therefore, an additional run of the "Add 10,000 Households" scenario was performed with the modified time-of-day factors and used to develop factors for the other scenarios.

Origins and Destinations - Daily

Scenario	Period	Origins	Destinations	Total	Rate	% of Person Trips
Add 10 Households	Daily	34	32	65	6.5	68%
Add 100 Households	Daily	322	313	635	6.3	69%
Add 5,000 Households	Daily	15,821	16,459	32,280	6.5	70%
Add 10,000 Households	Daily	31,048	32,325	63,373	6.3	69%
Note: The SCAG sponsored 2000 Regional Travel Survey shows an average of 4.3 vehicle trips per household in Los Angeles County and that 59% of person trips are vehicle trips.						
Add 10 Jobs	Daily	40	37	77	7.7	65%
Add 100 Jobs	Daily	377	355	732	7.3	65%
Add 5,000 Jobs	Daily	18,247	17,600	35,848	7.2	64%
Add 10,000 Jobs	Daily	34,443	33,268	67,711	6.8	60%

Westside Household Trip Generation Survey

[LINK](#)

Site	Units	Type	Location	Status	Average Income	Average Auto Ownership	Average Household Size	AM PP Veh Trip Rate	PM PP Veh Trip Rate	Daily Veh Trip Rate
1	28	SF	Palms	Good	70,125	1.5	2.0	2.7	3.4	11.6
2	97	MF	Westchester	Alley	59,875	1.4	2.4	1.3	2.1	7.5
3	25	SF	Westchester	Good	77,260	1.6	1.8	1.4	1.6	6.9
4	35	SF	Brentwood	Good	127,857	1.9	2.4	5.2	6.1	21.4
5	422	MF	Brentwood	Vacancies	71,930	1.5	1.8	0.6	0.9	3.7
6	92	MF	West LA	Good	88,269	1.5	2.0	1.6	1.7	7.8
7	33	SF	Cheviot Hills	Good	138,125	1.8	2.9	4.5	3.0	16.2
8	162	MF	Palms	Alley	47,245	1.2	1.8	0.5	1.0	3.7
9	129	MF	Mar Vista	Alley	38,925	1.2	2.1	0.5	0.9	3.0
10	32	SF	Mar Vista	Good	69,750	1.8	2.4	2.2	2.9	10.6
Single-Family Average								3.2	3.4	13.3
Multi-Family Average								0.9	1.3	5.2
Total Average								2.0	2.4	9.2
Average for Households with Average Income 40k to 80k								1.5	2.0	7.3

Average Vehicle Trip Rate for TAZ 2302		
Low Value	1.4	2.1
High Value	1.5	2.4
Average Income		\$63,213
Average Auto Ownership		1.63
Average Household Size		2.24

Dynamic Validation - Sensitivity to Density

Total Daily Trips

Trip Type	Base	Double Land Use		
	Trips	Trips	Delta	% of Base
Vehicle Trips	18,682,696	36,192,162	17,509,467	94%
Transit Person Trips	906,601	1,990,463	1,083,862	120%
Walk/Bike Person Trips	4,451,990	10,520,794	6,068,804	136%
Total	24,041,287	48,703,420	24,662,133	103%

Expected vehicle trip increase if model not sensitive to Density 37,365,392
 Difference -1,173,229

Base Population 17,601,511 % Difference -3.1%
 Doubled Population 35,203,022 Elasticity -0.03
 D Elasticity Related to Density -0.04

% of Trips By Trip Type

Trip Type	Base	Double Land Use		
	Trips	Trips	Delta	% of Base
Vehicle Trips	77.7%	74.3%	-3.4%	--
Transit Person Trips	3.8%	4.1%	0.3%	--
Walk/Bike Person Trips	18.5%	21.6%	3.1%	--
Total	100.0%	100.0%	0.0%	--

Dynamic Validation - Sensitivity to Density for a Single Zone

Total Daily Trips (TAZ 525 in Playa Vista)

Trip Type	Base	Double Land Use		
	Trips	Trips	Delta	% of Base
Person Trips	5,545	11,108	5,563	100%
Vehicle Trips	3,765	6,955	3,189	85%

VMT	
Base	30,242
Double	54,219
Expected	60,484
Difference	-6,265
% Difference	-10.4%
Elasticity	-0.10
D Elasticity	-0.05

Expected vehicle trip increase if model not sensitive to Density		7,530	
		Difference	-576
Base Population	1,678	% Difference	-7.6%
Base Households	679	Elasticity	-0.08
Base Employment	0	D Elasticity Related to Density	-0.04

Total AM Peak Period (3-Hour) Trips (TAZ 525 in Playa Vista)

Trip Type	Base	Double Land Use		
	Trips	Trips	Delta	% of Base
Person Trips				
Vehicle Trips	933	1,702	769	82%

Expected vehicle trip increase if model not sensitive to Density		1,866	
		Difference	-164
		% Difference	-8.8%
		Elasticity	-0.09
		D Elasticity Related to Density	-0.04

Total PM Peak Period (4-Hour) Trips (TAZ 525 in Playa Vista)

Trip Type	Base	Double Land Use		
	Trips	Trips	Delta	% of Base
Person Trips				
Vehicle Trips	1,405	2,556	1,151	82%

Expected vehicle trip increase if model not sensitive to Density		2,811	
		Difference	-255
		% Difference	-9.1%
		Elasticity	-0.09
		D Elasticity Related to Density	-0.04

Total Daily Trips (TAZ 2296 along Expo Line)

Trip Type	Base	Double Land Use		
	Trips	Trips	Delta	% of Base
Person Trips	12,821	25,613	12,793	100%
Vehicle Trips	8,169	15,375	7,206	88%

Expected vehicle trip increase if model not sensitive to Density 16,338
 Difference -962

Base Population	160	% Difference	-5.9%
Base Households	66	Elasticity	-0.06
Base Employment	1,082	D Elasticity Related to Density	-0.04

VMT	
Base	48,173
Double	87,586
Expected	96,346
Difference	-8,760
% Difference	-9.1%
Elasticity	-0.09
D Elasticity	-0.05

Total AM Peak Period (3-Hour) Trips (TAZ 2296 along Expo Line)

Trip Type	Base	Double Land Use		
	Trips	Trips	Delta	% of Base
Person Trips				
Vehicle Trips	1,554	2,884	1,330	86%

Expected vehicle trip increase if model not sensitive to Density 3,108
 Difference -224

% Difference	-7.2%
Elasticity	-0.07
D Elasticity Related to Density	-0.04

Total PM Peak Period (4-Hour) Trips (TAZ 2296 along Expo Line)

Trip Type	Base	Double Land Use		
	Trips	Trips	Delta	% of Base
Person Trips				
Vehicle Trips	3,049	5,687	2,639	87%

Expected vehicle trip increase if model not sensitive to Density 6,097
 Difference -410

% Difference	-6.7%
Elasticity	-0.07
D Elasticity Related to Density	-0.04

Total Daily Trips (TAZ 2327 in Westwood)

Trip Type	Base	Double Land Use		
	Trips	Trips	Delta	% of Base
Person Trips	25,193	50,330	25,137	100%
Vehicle Trips	16,052	31,150	15,099	94%

Expected vehicle trip increase if model not sensitive to Density 32,104
 Difference -953

Base Population	300	% Difference	-3.0%
Base Households	120	Elasticity	-0.03
Base Employment	1,998	D Elasticity Related to Density	-0.04

VMT	
Base	94,660
Double	177,449
Expected	189,320
Difference	-11,871
% Difference	-6.3%
Elasticity	-0.06
D Elasticity	-0.05

Total AM Peak Period (3-Hour) Trips (TAZ 2327 in Westwood)

Trip Type	Base	Double Land Use		
	Trips	Trips	Delta	% of Base
Person Trips				
Vehicle Trips	3,054	5,898	2,845	93%

Expected vehicle trip increase if model not sensitive to Density 6,107
 Difference -209

% Difference	-3.4%
Elasticity	-0.03
D Elasticity Related to Density	-0.04

Total PM Peak Period (4-Hour) Trips (TAZ 2327 in Westwood)

Trip Type	Base	Double Land Use		
	Trips	Trips	Delta	% of Base
Person Trips				
Vehicle Trips	5,991	11,631	5,640	94%

Expected vehicle trip increase if model not sensitive to Density 11,981
 Difference -351

% Difference	-2.9%
Elasticity	-0.03
D Elasticity Related to Density	-0.04

Dynamic Validation - Increase/Decrease Speeds

AM Peak Period (3-Hour)

Roadway	From	To	Base Speed (Mph)	NB/EB Volume	SB/WB Volume	Adjusted Speed (Mph)	NB/EB Volume	SB/WB Volume	NB/EB Delta	SB/WB Delta	Adjusted Speed (Mph)	NB/EB Volume	SB/WB Volume	NB/EB Delta	SB/WB Delta	Adjusted Speed (Mph)	NB/EB Volume	SB/WB Volume	NB/EB Delta	SB/WB Delta
Decrease Speed																				
Ocean Park Boulevard	Lincoln Boulevard	23rd Street	30	2,445	1,093	25	2,360	990	-85	-103	25	2,362	995	-84	-98	15	2,261	941	-184	-152
Inglewood Boulevard	Braddock Drive	Centinela Avenue	30	3,420	3,332	25	3,341	3,212	-79	-120	20	3,252	3,114	-168	-218	15	3,251	3,076	-169	-256
Pershing Drive	Westchester Parkway	Imperial Highway	35	2,932	3,352	35	2,955	3,378	23	26	25	2,836	3,202	-96	-149	20	2,529	2,730	-403	-622
14th Street	Wilshire Boulevard	San Vicente Boulevard	30	769	691	30	770	684	1	-7	25	698	614	-71	-77	20	618	506	-152	-186
Increase Speed																				
Centinela Avenue	Palms Boulevard	National Boulevard	45	5,102	2,830	45	5,038	2,759	-64	-70	48	5,081	2,868	-20	38	55	5,134	2,908	32	78
Overland Avenue	Venice Boulevard	Palms Avenue	30	3,629	2,307	40	3,721	2,383	92	76	40	3,770	2,433	141	126	50	3,890	2,451	261	144
Walgrove Avenue	Venice Boulevard	Palms Avenue	15	1,186	909	30	1,245	1,010	59	101	30	1,248	1,031	62	122	35	1,254	992	68	84
Culver Boulevard	Sepulveda Boulevard	Overland Avenue	30	2,835	2,275	30	2,812	2,263	-22	-12	35	2,902	2,441	68	166	40	3,029	2,585	195	310

PM Peak Period (4-Hour)

Roadway	From	To	Base Speed (Mph)	NB/EB Volume	SB/WB Volume	Adjusted Speed (Mph)	NB/EB Volume	SB/WB Volume	NB/EB Delta	SB/WB Delta	Adjusted Speed (Mph)	NB/EB Volume	SB/WB Volume	NB/EB Delta	SB/WB Delta	Adjusted Speed (Mph)	NB/EB Volume	SB/WB Volume	NB/EB Delta	SB/WB Delta
Decrease Speed																				
Ocean Park Boulevard	Lincoln Boulevard	23rd Street	30	2,206	3,295	25	2,067	3,133	-139	-162	25	2,070	3,141	-135	-153	15	2,003	2,999	-203	-296
Inglewood Boulevard	Braddock Drive	Centinela Avenue	30	4,555	5,396	25	4,382	5,292	-172	-104	20	4,262	5,191	-293	-204	15	4,259	5,144	-296	-252
Pershing Drive	Westchester Parkway	Imperial Highway	35	4,420	4,957	35	4,595	4,937	174	-20	25	4,321	4,772	-99	-185	20	3,636	4,125	-785	-832
14th Street	Wilshire Boulevard	San Vicente Boulevard	30	1,057	1,006	30	1,055	993	-2	-13	25	975	948	-82	-58	20	883	883	-174	-123
Increase Speed																				
Centinela Avenue	Palms Boulevard	National Boulevard	45	4,509	6,638	45	4,394	6,562	-116	-76	48	4,495	6,646	-14	8	55	4,523	6,675	13	37
Overland Avenue	Venice Boulevard	Palms Avenue	30	3,672	5,178	40	3,833	5,226	161	48	40	3,890	5,307	218	129	50	4,063	5,327	392	149
Walgrove Avenue	Venice Boulevard	Palms Avenue	15	1,492	1,507	30	1,647	1,614	155	108	30	1,684	1,615	192	108	35	1,685	1,640	193	134
Culver Boulevard	Sepulveda Boulevard	Overland Avenue	30	3,701	3,907	30	3,674	3,881	-27	-26	35	3,807	4,001	106	95	40	4,003	4,109	302	202

Dynamic Validation - Add/Remove Capacity

Roadway Segment	AM Peak Period (3-Hour)									
	Validated Base Year	Eastbound				Westbound				
		Add Capacity		Remove Capacity		Validated Base Year	Add Capacity		Remove Capacity	
		Volume	Delta	Volume	Delta		Volume	Delta	Volume	Delta
Wilshire Boulevard - West of I-405	7,021	6,963	-58	7,005	-16	6,995	7,045	50	7,061	66
Santa Monica Boulevard - West of I-405	6,016	5,884	-132	6,218	203	5,268	5,163	-105	5,326	58
Olympic Boulevard - West of I-405	5,371	6,158	787	3,684	-1,687	4,292	4,950	658	2,868	-1,424
Pico Boulevard - West of I-405	6,134	5,839	-295	7,024	889	2,837	2,500	-337	3,813	976
National Boulevard - West of I-405	2,726	2,668	-58	2,989	263	1,905	1,900	-5	2,039	134
Total	27,268	27,513	245	26,921	-347	21,297	21,558	261	21,108	-189
Wilshire Boulevard - East of I-405	10,700	10,779	79	10,976	276	6,439	6,392	-47	6,516	76
Santa Monica Boulevard - East of I-405	5,095	5,084	-11	5,321	226	4,937	4,958	21	5,045	108
Olympic Boulevard - East of I-405	4,976	5,787	811	3,374	-1,603	4,447	5,116	668	3,068	-1,379
Pico Boulevard - East of I-405	4,845	4,508	-337	5,624	779	3,166	2,800	-366	4,045	879
National Boulevard - East of I-405	3,397	3,258	-139	3,511	113	2,950	2,989	39	3,021	71
Total	29,013	29,416	403	28,805	-208	21,939	22,255	316	21,695	-245

Note: A lane of capacity was add/removed in each direction on Olympic Boulevard from Cloverfield Boulevard to Avenue of the Stars.

Roadway Segment	PM Peak Period (4-Hour)									
	Validated Base Year	Eastbound				Westbound				
		Add Capacity		Remove Capacity		Validated Base Year	Add Capacity		Remove Capacity	
		Volume	Delta	Volume	Delta		Volume	Delta	Volume	Delta
Wilshire Boulevard - West of I-405	9,850	9,761	-89	10,118	268	9,554	9,539	-14	9,543	-11
Santa Monica Boulevard - West of I-405	8,671	8,354	-318	8,861	189	7,482	7,293	-189	7,643	161
Olympic Boulevard - West of I-405	6,968	8,421	1,454	4,936	-2,032	6,504	7,139	636	4,857	-1,646
Pico Boulevard - West of I-405	7,411	6,661	-750	8,150	739	6,407	6,293	-114	7,254	846
National Boulevard - West of I-405	3,664	3,511	-154	3,732	68	2,554	2,507	-46	2,654	100
Total	36,564	36,707	143	35,796	-768	32,500	32,771	271	31,950	-550
Wilshire Boulevard - East of I-405	10,589	10,539	-50	10,714	125	14,186	14,011	-175	14,275	89
Santa Monica Boulevard - East of I-405	6,246	6,186	-61	6,543	296	8,107	8,096	-11	8,132	25
Olympic Boulevard - East of I-405	5,893	7,157	1,264	4,086	-1,807	7,543	8,079	536	5,904	-1,639
Pico Boulevard - East of I-405	5,861	5,089	-771	6,475	614	5,675	5,718	43	6,579	904
National Boulevard - East of I-405	4,482	4,254	-229	4,575	93	4,468	4,250	-218	4,300	-168
Total	33,071	33,225	154	32,393	-679	39,979	40,154	175	39,189	-789

Note: A lane of capacity was add/removed in each direction on Olympic Boulevard from Cloverfield Boulevard to Avenue of the Stars.

Dynamic Validation - Delete A Link

Roadway Segment	AM Peak Period (3-Hour)					
	Eastbound			Westbound		
	Validated Base Year	Delete A Link		Validated Base Year	Delete A Link	
	Volume	Volume	Delta	Volume	Volume	Delta
Rose Avenue East of Lincoln Boulevard	769	781	12	1,158	1,169	11
Venice Boulevard East of Lincoln Boulevard	4,638	6,509	1,871	4,208	5,611	1,403
Washington Boulevard East of Lincoln Boulevard	3,383	0	-3,383	2,667	0	-2,667
Maxella Avenue East of Lincoln Boulevard	1,229	1,999	770	971	1,605	634
Mindanao Way East of Lincoln Boulevard	1,752	1,737	-16	1,446	1,424	-23
Culver Boulevard East of Lincoln Boulevard	2,284	2,272	-11	2,611	2,608	-3
Jefferson Boulevard East of Lincoln Boulevard	2,179	2,206	27	1,785	1,831	47
Total	16,234	15,504	-731	14,845	14,247	-598

Note: The segment of Washington Boulevard immediately east of Lincoln Boulevard was deleted from the base year highway network.

Roadway Segment	PM Peak Period (4-Hour)					
	Eastbound			Westbound		
	Validated Base Year	Delete A Link		Validated Base Year	Delete A Link	
	Volume	Volume	Delta	Volume	Volume	Delta
Rose Avenue East of Lincoln Boulevard	1,786	1,839	53	1,099	1,115	17
Venice Boulevard East of Lincoln Boulevard	6,878	9,245	2,368	6,655	9,034	2,380
Washington Boulevard East of Lincoln Boulevard	4,623	0	-4,623	4,783	0	-4,783
Maxella Avenue East of Lincoln Boulevard	999	2,105	1,107	1,906	2,937	1,031
Mindanao Way East of Lincoln Boulevard	2,471	2,433	-39	2,335	2,312	-23
Culver Boulevard East of Lincoln Boulevard	3,083	3,069	-14	3,743	3,728	-15
Jefferson Boulevard East of Lincoln Boulevard	2,546	2,634	89	3,933	4,038	105
Total	22,386	21,326	-1,059	24,454	23,164	-1,289

Note: The segment of Washington Boulevard immediately east of Lincoln Boulevard was deleted from the base year highway network.

Dynamic Validation - Increase Functional Class

Roadway Segment	AM Peak Period (3-Hour)					
	Eastbound			Westbound		
	Validated Base Year	Increase Functional Class		Validated Base Year	Increase Functional Class	
	Volume	Volume	Delta	Volume	Volume	Delta
W 76th Street West of Sepulveda Boulevard	836	832	-4	703	698	-5
79th Street West of Sepulveda Boulevard	528	512	-15	451	445	-6
W 83rd Street West of Sepulveda Boulevard	658	605	-53	813	724	-90
W Manchester Avenue West of Sepulveda Boulevard	2,101	2,829	728	2,495	3,224	729
W 88th Street West of Sepulveda Boulevard	897	815	-82	1,072	790	-281
Westchester Parkway West of Sepulveda Boulevard	1,243	1,039	-203	1,084	968	-116
Lincoln Boulevard West of Sepulveda Boulevard	3,691	3,661	-30	3,951	3,835	-116
Total	9,953	10,293	340	10,569	10,684	115

Note: The functional class of W Manchester Avenue from Pershing Drive to Airport Boulevard was increased from a principal arterial to an expressway.

Roadway Segment	PM Peak Period (4-Hour)					
	Eastbound			Westbound		
	Validated Base Year	Increase Functional Class		Validated Base Year	Increase Functional Class	
	Volume	Volume	Delta	Volume	Volume	Delta
W 76th Street West of Sepulveda Boulevard	964	946	-18	1,259	1,236	-23
79th Street West of Sepulveda Boulevard	739	730	-9	680	655	-25
W 83rd Street West of Sepulveda Boulevard	1,060	970	-90	1,211	1,061	-150
W Manchester Avenue West of Sepulveda Boulevard	3,130	3,968	838	3,378	4,411	1,033
W 88th Street West of Sepulveda Boulevard	1,622	1,596	-26	1,514	1,143	-372
Westchester Parkway West of Sepulveda Boulevard	1,728	1,399	-328	1,831	1,700	-131
Lincoln Boulevard West of Sepulveda Boulevard	5,350	5,187	-163	5,302	5,167	-135
Total	14,594	14,796	203	15,176	15,373	197

Note: The functional class of W Manchester Avenue from Pershing Drive to Airport Boulevard was increased from a principal arterial to an expressway.

Dynamic Validation - Decrease Functional Class

Roadway Segment	AM Peak Period (3-Hour)					
	Eastbound			Westbound		
	Validated Base Year	Decrease Functional Class		Validated Base Year	Decrease Functional Class	
	Volume	Volume	Delta	Volume	Volume	Delta
National Boulevard West of Sawtelle Boulevard	1,297	1,382	85	1,305	1,380	75
Palms Boulevard West of Sawtelle Boulevard	2,738	2,804	66	1,976	2,087	111
Venice Boulevard West of Sawtelle Boulevard	6,030	5,398	-631	5,201	4,605	-596
Washington Place West of Sawtelle Boulevard	3,192	3,250	58	2,860	2,861	0
Washington Boulevard West of Sawtelle Boulevard	2,838	2,885	46	2,188	2,258	70
Culver Boulevard West of Sawtelle Boulevard	3,463	3,448	-16	2,426	2,410	-16
Braddock Drive West of Sawtelle Boulevard	1,659	1,647	-12	747	747	0
Total	21,218	20,815	-403	16,703	16,348	-355

Note: The functional class of Venice Boulevard from Lincoln Boulevard to Overland Boulevard was decreased from a principal arterial to a minor arterial.

Roadway Segment	PM Peak Period (4-Hour)					
	Eastbound			Westbound		
	Validated Base Year	Decrease Functional Class		Validated Base Year	Decrease Functional Class	
	Volume	Volume	Delta	Volume	Volume	Delta
National Boulevard West of Sawtelle Boulevard	2,131	2,066	-65	1,681	1,778	98
Palms Boulevard West of Sawtelle Boulevard	3,577	3,652	74	3,673	3,821	148
Venice Boulevard West of Sawtelle Boulevard	7,799	6,871	-929	8,365	7,366	-999
Washington Place West of Sawtelle Boulevard	4,051	4,147	96	4,880	4,909	29
Washington Boulevard West of Sawtelle Boulevard	3,381	3,421	40	4,146	4,188	43
Culver Boulevard West of Sawtelle Boulevard	3,988	3,953	-35	4,773	4,748	-25
Braddock Drive West of Sawtelle Boulevard	1,656	1,630	-25	1,796	1,800	4
Total	26,583	25,739	-844	29,312	28,610	-702

Note: The functional class of Venice Boulevard from Lincoln Boulevard to Overland Boulevard was decreased from a principal arterial to a minor arterial.

Dynamic Validation - Transit Fare

Double Fare of a Transit Mode

Mode	Validated Base Year Model			Double Mode 11 Fare			Delta			% Change		
	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings
10	25,820	1,638	27,458	26,872	1,204	28,076	1,052	-434	618	4%	-26%	2%
11	576,850	369,750	946,600	458,824	294,739	753,563	-118,026	-75,011	-193,038	-20%	-20%	-20%
12	61,457	20,293	81,749	60,380	20,047	80,427	-1,077	-245	-1,322	-2%	-1%	-2%
13	213,354	77,621	290,975	223,135	85,834	308,969	9,781	8,213	17,995	5%	11%	6%
14	41,336	15,926	57,262	39,401	15,613	55,014	-1,935	-313	-2,248	-5%	-2%	-4%
15	19,952	16,406	36,358	20,618	16,908	37,525	666	501	1,167	3%	3%	3%
16	116,813	83,696	200,509	120,078	85,568	205,646	3,264	1,873	5,137	3%	2%	3%
17	24,843	15,402	40,246	34,722	21,733	56,455	9,879	6,331	16,210	40%	41%	40%
18	770	29	799	695	23	718	-75	-6	-81	-10%	-21%	-10%
19	750	711	1,461	729	408	1,137	-20	-303	-323	-3%	-43%	-22%
20	556	1	557	585	1	587	30	0	30	5%	-1%	5%
22	34,903	14,321	49,224	39,233	16,130	55,363	4,330	1,808	6,138	12%	13%	12%
TOTAL	1,117,403	615,794	1,733,197	1,025,272	558,208	1,583,480	-92,131	-57,586	-149,717	-8%	-9%	-9%

Halve Fare of a Transit Mode

Mode	Validated Base Year Model			Halve Mode 11 Fare			Delta			% Change		
	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings
10	25,820	1,638	27,458	26,257	1,169	27,426	437	-469	-32	2%	-29%	0%
11	576,850	369,750	946,600	653,737	414,081	1,067,818	76,886	44,331	121,218	13%	12%	13%
12	61,457	20,293	81,749	62,743	20,574	83,317	1,286	281	1,567	2%	1%	2%
13	213,354	77,621	290,975	211,175	74,143	285,318	-2,179	-3,478	-5,657	-1%	-4%	-2%
14	41,336	15,926	57,262	42,468	16,219	58,688	1,132	294	1,426	3%	2%	2%
15	19,952	16,406	36,358	19,780	16,239	36,019	-171	-168	-339	-1%	-1%	-1%
16	116,813	83,696	200,509	116,353	83,266	199,619	-460	-429	-889	0%	-1%	0%
17	24,843	15,402	40,246	21,251	12,992	34,243	-3,592	-2,411	-6,003	-14%	-16%	-15%
18	770	29	799	833	33	866	63	4	68	8%	14%	8%
19	750	711	1,461	769	431	1,200	19	-280	-261	3%	-39%	-18%
20	556	1	557	548	1	549	-8	0	-8	-1%	0%	-1%
22	34,903	14,321	49,224	34,566	14,010	48,576	-337	-311	-648	-1%	-2%	-1%
TOTAL	1,117,403	615,794	1,733,197	1,190,480	653,158	1,843,639	73,077	37,365	110,441	7%	6%	6%

Elasticity	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings
Elasticity for Double Mode Fare	-0.20	-0.20	-0.20
Elasticity for Halve Mode Fare	0.27	0.24	0.26
Travelers Response Handbook	-0.14 to -0.35		

Dynamic Validation - Transit Headway

Double Headway of a Transit Line

Scenario	Transit Line	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings
Validated Base Year Model	Line 114/115 CC 6	4,865	3,292	8,158
Double Headway Model	Line 114/115 CC 6	2,464	1,765	4,229
Delta	Line 114/115 CC 6	-2,401	-1,527	-3,928
% Change	Line 114/115 CC 6	-49%	-46%	-48%
Elasticity	Line 114/115 CC 6	0.99	0.93	0.96

Paralell Route for Double Headway of a Transit Line

Scenario	Transit Line	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings
Validated Base Year Model	Line 439 N/S MT 439	1,477	866	2,343
Double Headway Model	Line 439 N/S MT 439	1,573	889	2,461
Delta	Line 439 N/S MT 439	96	23	119
% Change	Line 439 N/S MT 439	7%	3%	5%
Elasticity	Line 439 N/S MT 439	-0.13	-0.05	-0.10

Halve Headway of a Transit Line

Scenario	Transit Line	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings
Validated Base Year Model	Line 997/998 MT 33	3,973	4,490	8,463
Halve Headway Model	Line 997/998 MT 33	8,108	7,546	15,654
Delta	Line 997/998 MT 33	4,134	3,057	7,191
% Change	Line 997/998 MT 33	104%	68%	85%
Elasticity	Line 997/998 MT 33	1.04	0.68	0.85

Paralell Route for Halve Headway of a Transit Line

Scenario	Transit Line	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings
Validated Base Year Model	Line 999/1000 MT 333	3,273	714	3,987
Halve Headway Model	Line 999/1000 MT 333	2,468	416	2,884
Delta	Line 999/1000 MT 333	-805	-299	-1,103
% Change	Line 999/1000 MT 333	-25%	-42%	-28%
Elasticity	Line 999/1000 MT 333	-0.25	-0.42	-0.28

*The Travelers Response Handbook provides an elasticity of 0.3 to 1.0 with an average of 0.5.

Total Model Transit Trips

Scenario	Peak Period Boardings	Off-Peak Period Boardings	Daily Boardings
Validated Base Year Model	1,117,403	615,794	1,733,197
Double Headway Model	1,119,316	613,663	1,732,979
Delta	1,913	-2,131	-218
% Change	0.2%	-0.3%	0.0%
Halve Headway Model	1,122,689	615,131	1,737,820
Delta	5,285	-663	4,623
% Change	0.5%	-0.1%	0.3%

Dynamic Validation - Induced and Suppressed Demand

Daily	Validated Base Year	Double Number of Lanes	Delta	Double Roadway Capacity Table	Delta	Halve Roadway Capacity Table	Delta
% Change in Lane Miles	--	--	100%	--	100%	--	-50%
Vehicle Miles Traveled	236,664,500	290,550,200	53,885,700	260,467,800	23,803,300	227,761,800	-8,902,700
% Change in Vehicle Miles Traveled	--	--	23%	--	10%	--	-4%
Elasticity	--	--	0.23	--	0.10	--	0.08
External Vehicle Trips	42,412,373	45,824,585	3,412,212	44,600,168	2,187,794	41,156,835	-1,255,538
% Change in External Vehicle Trips	--	--	8%	--	5%	--	-3%
Elasticity	--	--	0.08	--	0.05	--	0.06

AM Peak Period (3-Hour)	Validated Base Year	Double Number of Lanes	Delta	Double Roadway Capacity Table	Delta	Halve Roadway Capacity Table	Delta
% Change in Lane Miles	--	--	100%	--	100%	--	-50%
Vehicle Miles Traveled	56,068,900	72,169,600	16,100,700	62,684,200	6,615,300	52,265,400	-3,803,500
% Change in Vehicle Miles Traveled	--	--	29%	--	12%	--	-7%
Elasticity	--	--	0.29	--	0.12	--	0.14
External Vehicle Trips	10,300,379	11,335,264	1,034,885	10,876,401	576,022	9,819,874	-480,505
% Change in External Vehicle Trips	--	--	10%	--	6%	--	-5%
Elasticity	--	--	0.10	--	0.06	--	0.09

PM Peak Period (3-Hour)	Validated Base Year	Double Number of Lanes	Delta	Double Roadway Capacity Table	Delta	Halve Roadway Capacity Table	Delta
% Change in Lane Miles	--	--	100%	--	100%	--	-50%
Vehicle Miles Traveled	79,293,000	103,847,200	24,554,200	89,332,900	10,039,900	73,444,100	-5,848,900
% Change in Vehicle Miles Traveled	--	--	31%	--	13%	--	-7%
Elasticity	--	--	0.31	--	0.13	--	0.15
External Vehicle Trips	15,253,746	16,848,771	1,595,025	16,164,716	910,970	14,529,252	-724,494
% Change in External Vehicle Trips	--	--	10%	--	6%	--	-5%
Elasticity	--	--	0.10	--	0.06	--	0.09

Note: Modifications to the roadway capacity table are influenced by capacity ceilings and floors hard coded into the script.

Dynamic Validation - Future Demand on Base Network

Measure	Future Land Use on Future Network			Future Land Use on Base Network			Delta			% Change			
	Peak	Off-Peak	Daily	Peak	Off-Peak	Daily	Peak	Off-Peak	Daily	Peak	Off-Peak	Daily	
Lane Miles	155,975	155,427	311,402	150,934	150,386	301,320	-5,041	-5,041	-10,082	-3.2%	-3.2%	-3.2%	
Person Trips	75,847,456	67,740,415	143,587,871	75,846,444	67,739,132	143,585,576	-1,012	-1,283	-2,295	0.0%	0.0%	0.0%	
Vehicle Trips	45,886,896	29,764,696	75,651,592	45,538,608	29,694,506	75,233,114	-348,288	-70,190	-418,478	-0.8%	-0.2%	-0.6%	
% Vehicle Trips	60.5%	43.9%	52.7%	60.0%	43.8%	52.4%	-0.5%	-0.1%	-0.3%	-0.8%	-0.2%	-0.6%	
Vehicle Miles Traveled	151,719,600	114,265,600	265,985,200	150,141,900	114,370,800	264,512,700	-1,577,700	105,200	-1,472,500	-1.0%	0.1%	-0.6%	
Vehicle Minutes Traveled	9,403,200	3,449,800	12,853,000	9,176,800	3,582,600	12,759,400	-226,400	132,800	-93,600	-2.4%	3.8%	-0.7%	
Vehicle Minutes of Delay	5,526,800	716,200	6,243,000	5,310,300	828,100	6,138,400	-216,500	111,900	-104,600	-3.9%	15.6%	-1.7%	
										VMT Elasticity	0.32	-0.03	0.17
										Cervero Elasticity	0.39	0.39	0.39

Dynamic Validation - Induced and Suppressed Demand Along a Corridor

The number of lanes along Santa Monica Blvd were doubled in each direction from Centinela Ave to Wilshire Blvd and the VMT was measured within 2-miles of the corridor.

Daily	Validated Base Year	Double Number of Lanes (Base)	Delta
% Change in Lane Miles	380	403	6%
Vehicle Miles Traveled	2,984,549	3,024,462	39,913
% Change in Vehicle Miles Traveled	--	--	1%
Elasticity	--	--	0.22
Cervero Short-Term Elasticity (0.2-0.5)	--	--	0.30

AM Peak Period (3-Hour)	Validated Base Year	Double Number of Lanes	Delta
% Change in Lane Miles	380	403	6%
Vehicle Miles Traveled	701,829	715,504	13,675
% Change in Vehicle Miles Traveled	--	--	2%
Elasticity	--	--	0.32
Cervero Short-Term Elasticity (0.2-0.5)	--	--	0.30

PM Peak Period (3-Hour)	Validated Base Year	Double Number of Lanes (Base)	Delta
% Change in Lane Miles	380	403	6%
Vehicle Miles Traveled	1,024,882	1,043,002	18,120
% Change in Vehicle Miles Traveled	--	--	2%
Elasticity	--	--	0.29
Cervero Short-Term Elasticity (0.2-0.5)	--	--	0.30

Dynamic Validation - Induced and Suppressed Demand Along a Corridor

The number of lanes along Santa Monica Blvd were doubled in each direction from Centinela Ave to Wilshire Blvd and the VMT was measured within 2-miles of the corridor.

Daily	Validated Base Year	Double Number of Lanes (2035)	Delta
% Change in Lane Miles	380	411	8%
Vehicle Miles Traveled	2,984,549	3,230,361	245,812
% Change in Vehicle Miles Traveled	--	--	8%
Elasticity	--	--	1.01
Cervero Long-Term Elasticity (0.8)	--	--	0.80

AM Peak Period (3-Hour)	Validated Base Year	Double Number of Lanes (2035)	Delta
% Change in Lane Miles	380	411	8%
Vehicle Miles Traveled	701,829	749,798	47,969
% Change in Vehicle Miles Traveled	--	--	7%
Elasticity	--	--	0.84
Cervero Long-Term Elasticity (0.8)	--	--	0.80

PM Peak Period (3-Hour)	Validated Base Year	Double Number of Lanes (2035)	Delta
% Change in Lane Miles	380	411	8%
Vehicle Miles Traveled	1,024,882	1,131,738	106,856
% Change in Vehicle Miles Traveled	--	--	10%
Elasticity	--	--	1.28
Cervero Long-Term Elasticity (0.8)	--	--	0.80

Dynamic Validation - Auto Trip Variables

Total Trips

Trip Type	Base	Double Operating Cost			Double Parking Cost			Half Headway		
	Trips	Trips	Delta	% of Base	Trips	Delta	% of Base	Trips	Delta	% of Base
Vehicle Trips	18,682,696	17,391,222	-1,291,474	-6.9%	18,624,008	-58,688	-0.3%	18,574,584	-108,112	-0.6%
Transit Person Trips	906,601	1,130,151	223,550	24.7%	916,914	10,313	1.1%	1,080,882	174,281	19.2%
Walk/Bike Person Trips	4,451,990	4,825,794	373,803	8.4%	4,478,447	26,457	0.6%	4,432,785	-19,206	-0.4%
Total	24,041,287	23,347,166	-694,120	-2.9%	24,019,369	-21,918	-0.1%	24,088,251	46,964	0.2%

Gas Price Elasticity -0.07 Parking Demand Elasticity -0.003 Transit Ridership Elasticity 0.2
 SACOG Wiki -0.07 to -0.17 Travelers Response Handbook -0.08 to -0.23 Travelers Response Handbook 0.3 to 1.0

% of Trips by Trip Type

Trip Type	Base	Double Operating Cost			Double Parking Cost			Half Headway		
	Trips	Trips	Delta	% of Base	Trips	Delta	% of Base	Trips	Delta	% of Base
Vehicle Trips	77.7%	74.5%	-3.2%	--	77.5%	-0.2%	--	77.1%	-0.6%	--
Transit Person Trips	3.8%	4.8%	1.1%	--	3.8%	0.0%	--	4.5%	0.7%	--
Walk/Bike Person Trips	18.5%	20.7%	2.2%	--	18.6%	0.1%	--	18.4%	-0.1%	--
Total	100.0%	100.0%	0.0%	--	100.0%	0.0%	--	100.0%	0.0%	--

http://www.sacog.org/rucs/wiki/index.php/Impact_of_Gas_Prices_on_Travel_Behavior

All TAZs in Westside Study Area (266 TAZs)

Only TAZs with Base Parking Cost (74 TAZs)

Trip Type	Base	Double Parking Cost in Westside Study Area			Base	Double Parking Cost in Westside Study Area		
	Trips	Trips	Delta	% of Base	Trips	Trips	Delta	% of Base
Vehicle Trips	996,344	985,706	-10,638	-1.1%	450,394	431,705	-18,689	-4.1%
Transit Person Trips	46,233	47,752	1,519	3.3%	22,364	26,625	4,261	19.1%
Walk/Bike Person Trips	204,042	209,083	5,041	2.5%	91,074	101,361	10,287	11.3%
Total	1,246,618	1,242,541	-4,077	-0.3%	563,832	559,691	-4,141	-0.7%

Parking Demand Elasticity -0.011 Parking Demand Elasticity -0.041
 Travelers Response Handbook -0.08 to -0.23 Travelers Response Handbook -0.08 to -0.23

Average Daily Parking Cost in Westside Study Area (Base) \$26

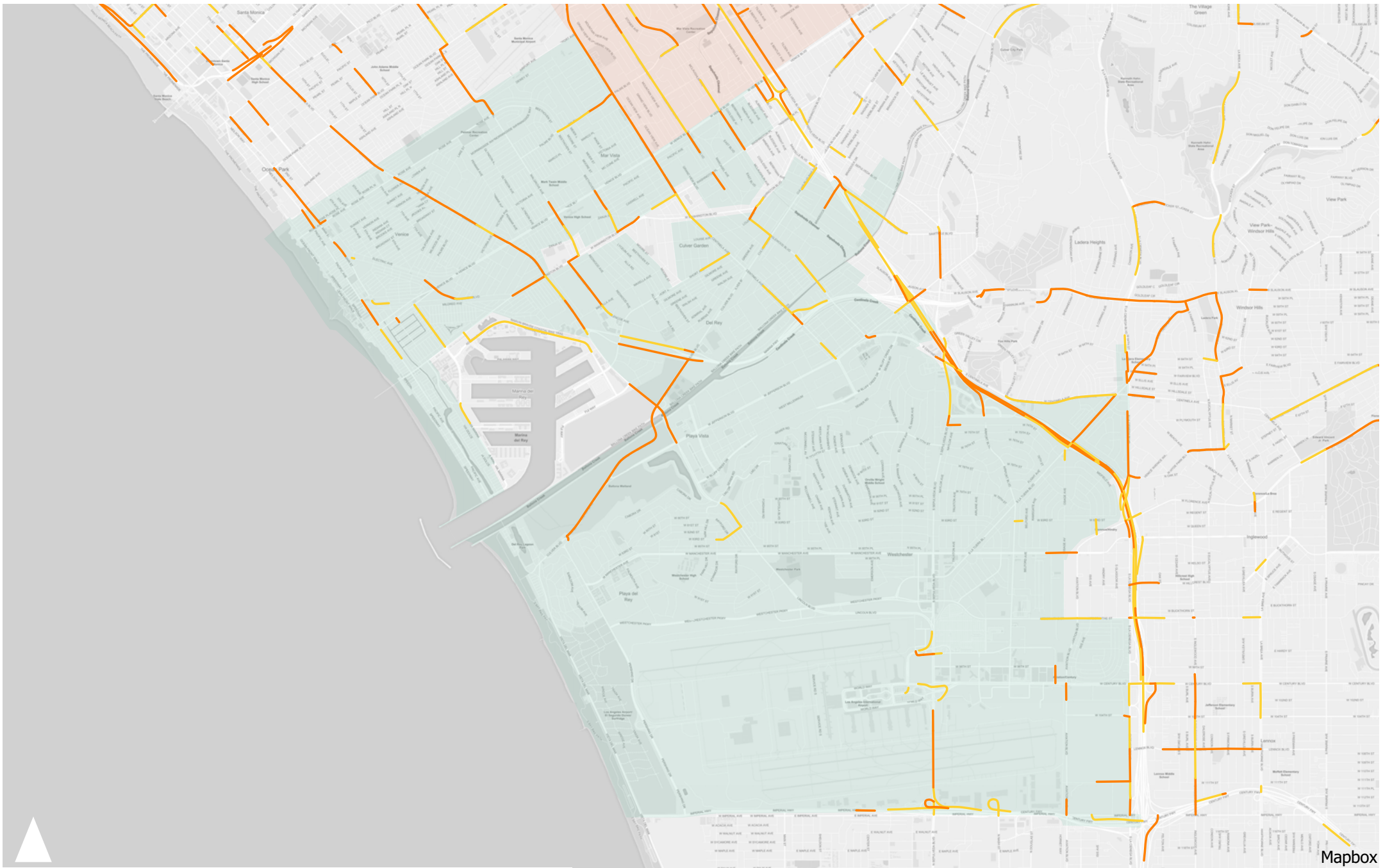
Average Hourly Parking Cost in Westside Study Area (Base) \$10

Note: Only 74 of 266 TAZs have a parking cost in the base model

Local knowledge suggests the parking demand elasticity should be lower than the elasticities in the Travelers Response Handbook due to local tolerance to congestion and increased parking prices.



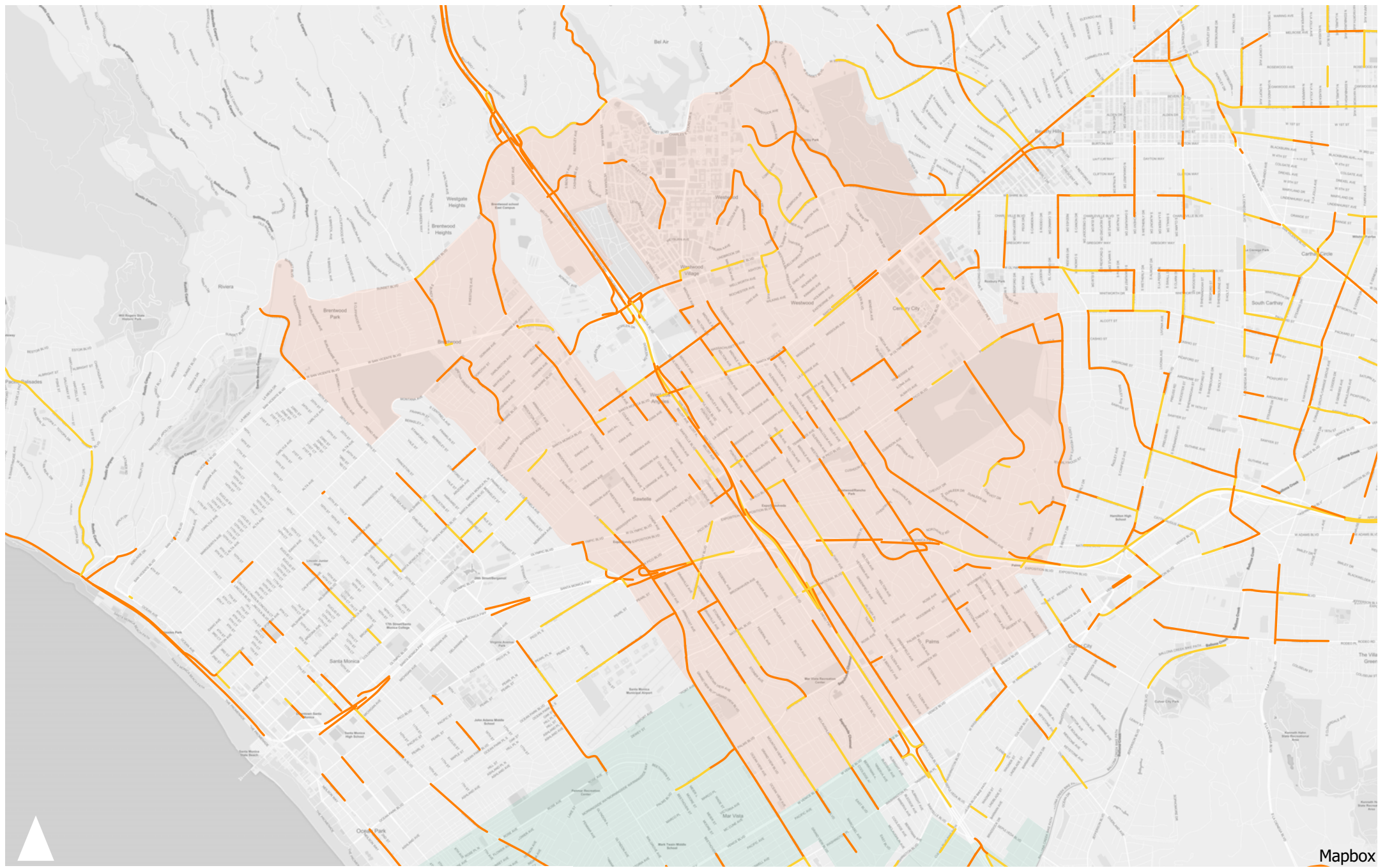
**APPENDIX J:
WESTSIDE TDF MODEL PLOTS FOR EXISTING, 2035 WITHOUT PROJECT, AND
2035 PLUS PROJECT CONDITIONS**



2014 AM Peak Period

- LOS E
- LOS F
- Coastal Transportation Corridor
- West Los Angeles

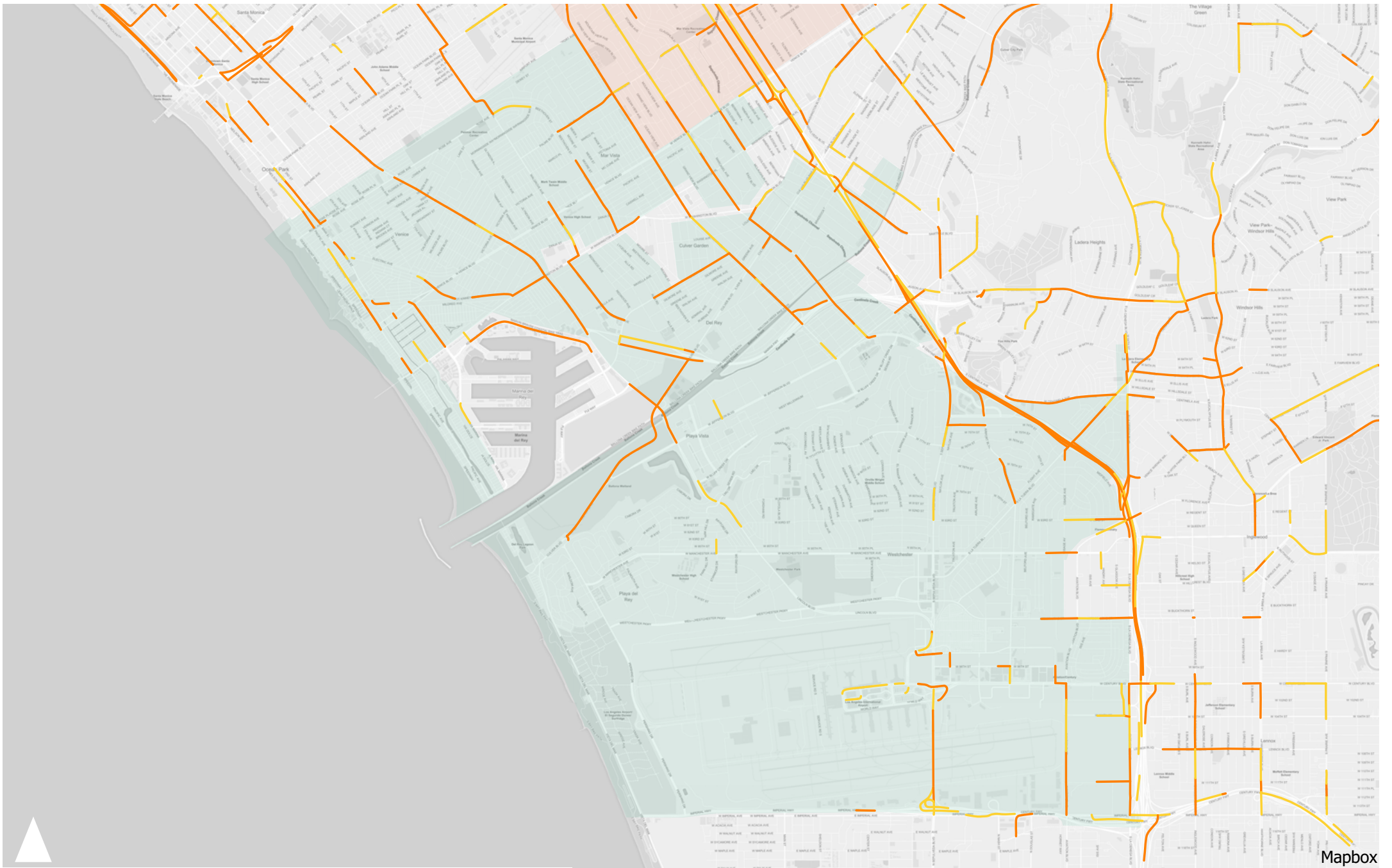




2014 AM Peak Period

- LOS E
- LOS F
- Coastal Transportation Corridor
- West Los Angeles



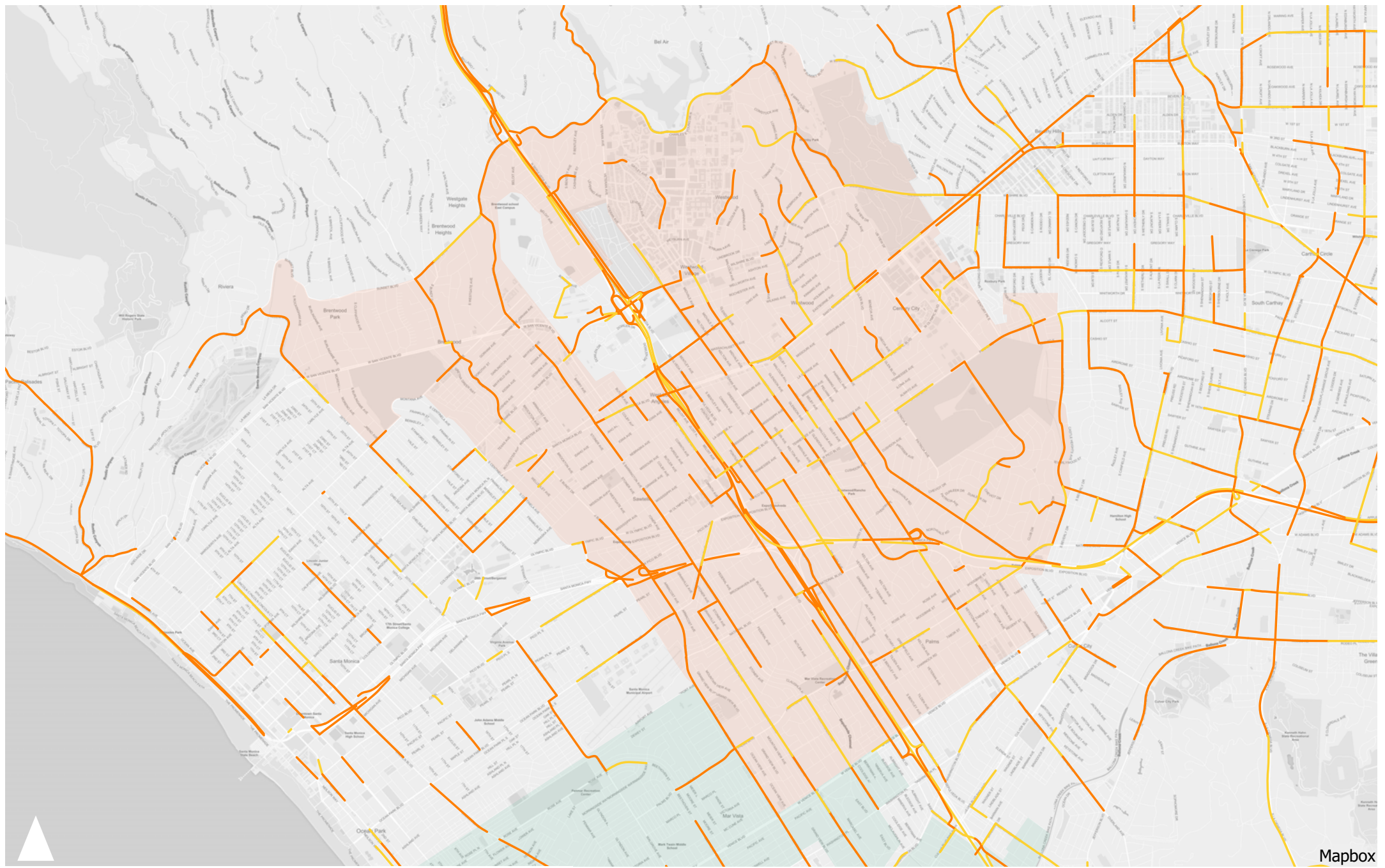


2014 PM Peak Period

- LOS E
- LOS F

- Coastal Transportation Corridor
- West Los Angeles



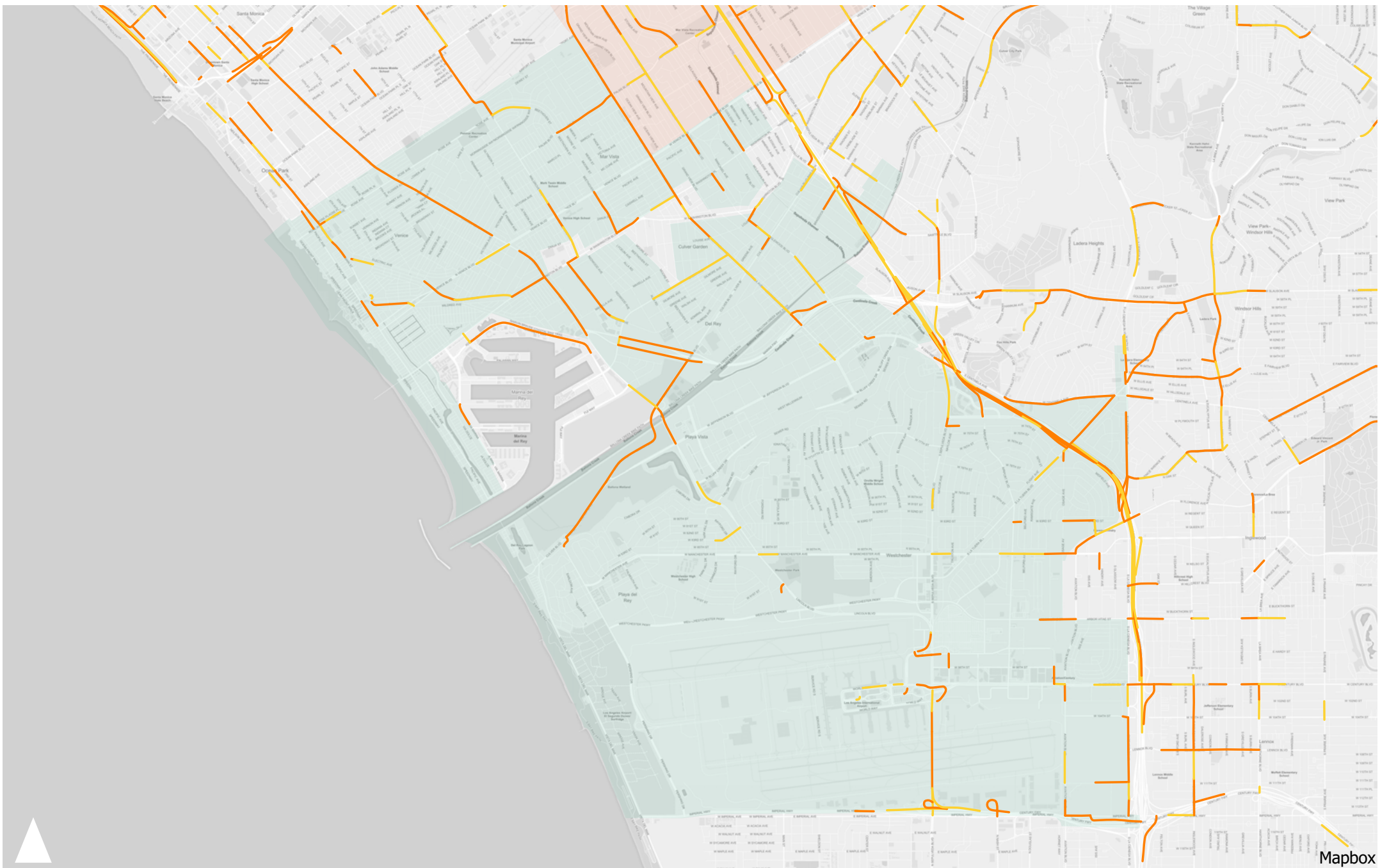


Mapbox

2014 PM Peak Period

- LOS E
- LOS F
- Coastal Transportation Corridor
- West Los Angeles



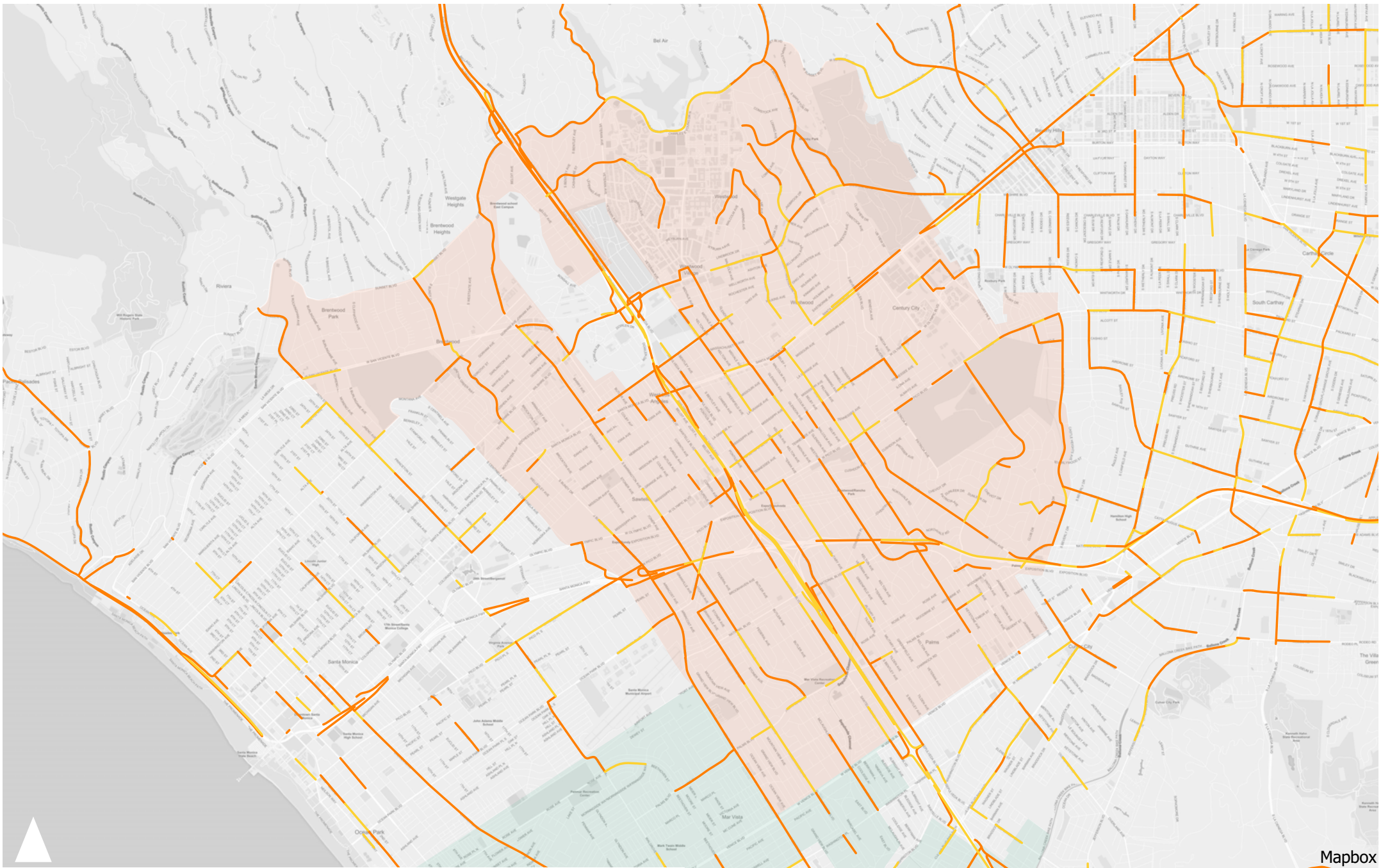


2035 No Project AM Peak Period

- LOS E
- LOS F

- Coastal Transportation Corridor
- West Los Angeles



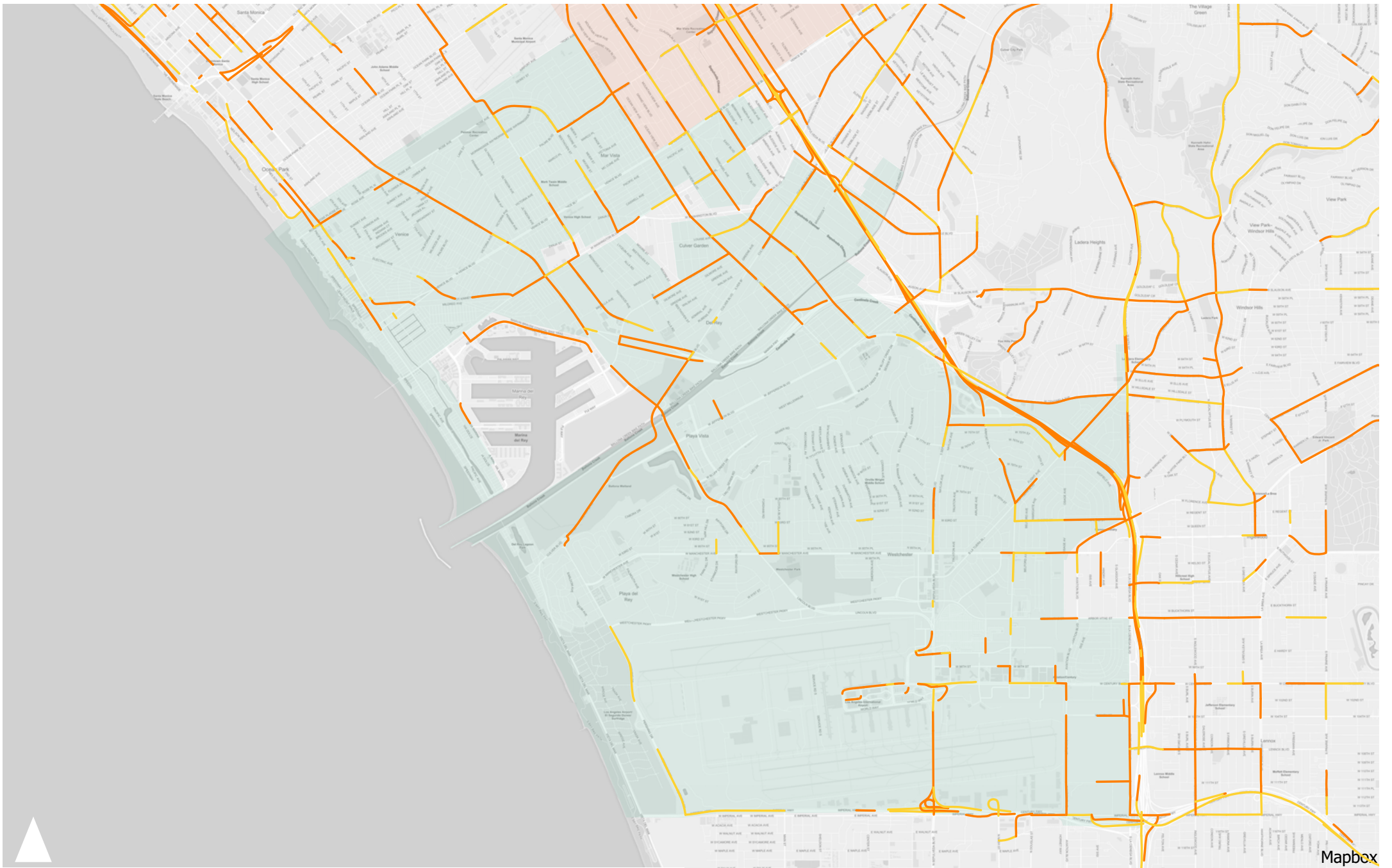


2035 No Project AM Peak Period

- LOS E
- LOS F

- Coastal Transportation Corridor
- West Los Angeles



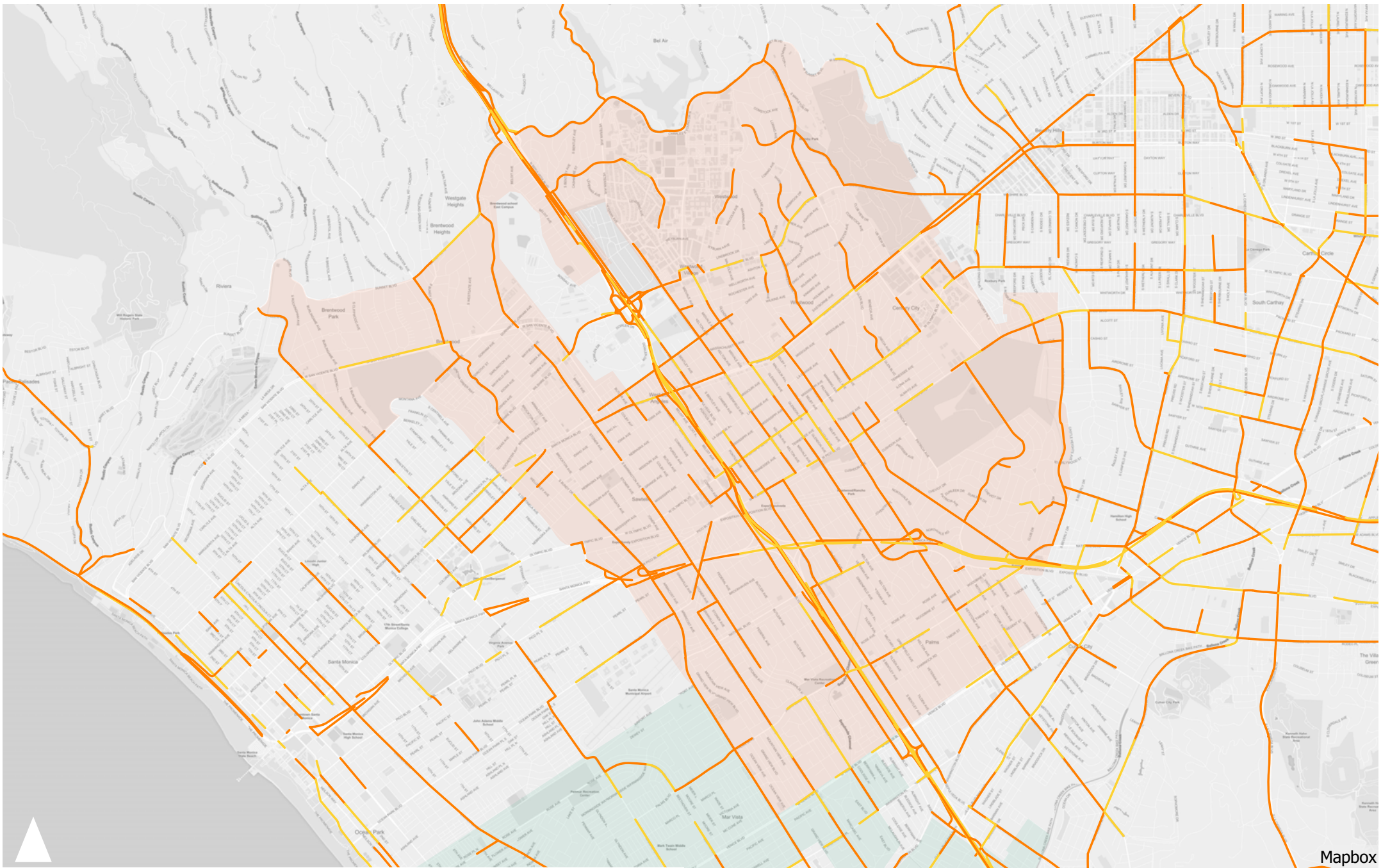


2035 No Project PM Peak Period

- LOS E
- LOS F

- Coastal Transportation Corridor
- West Los Angeles

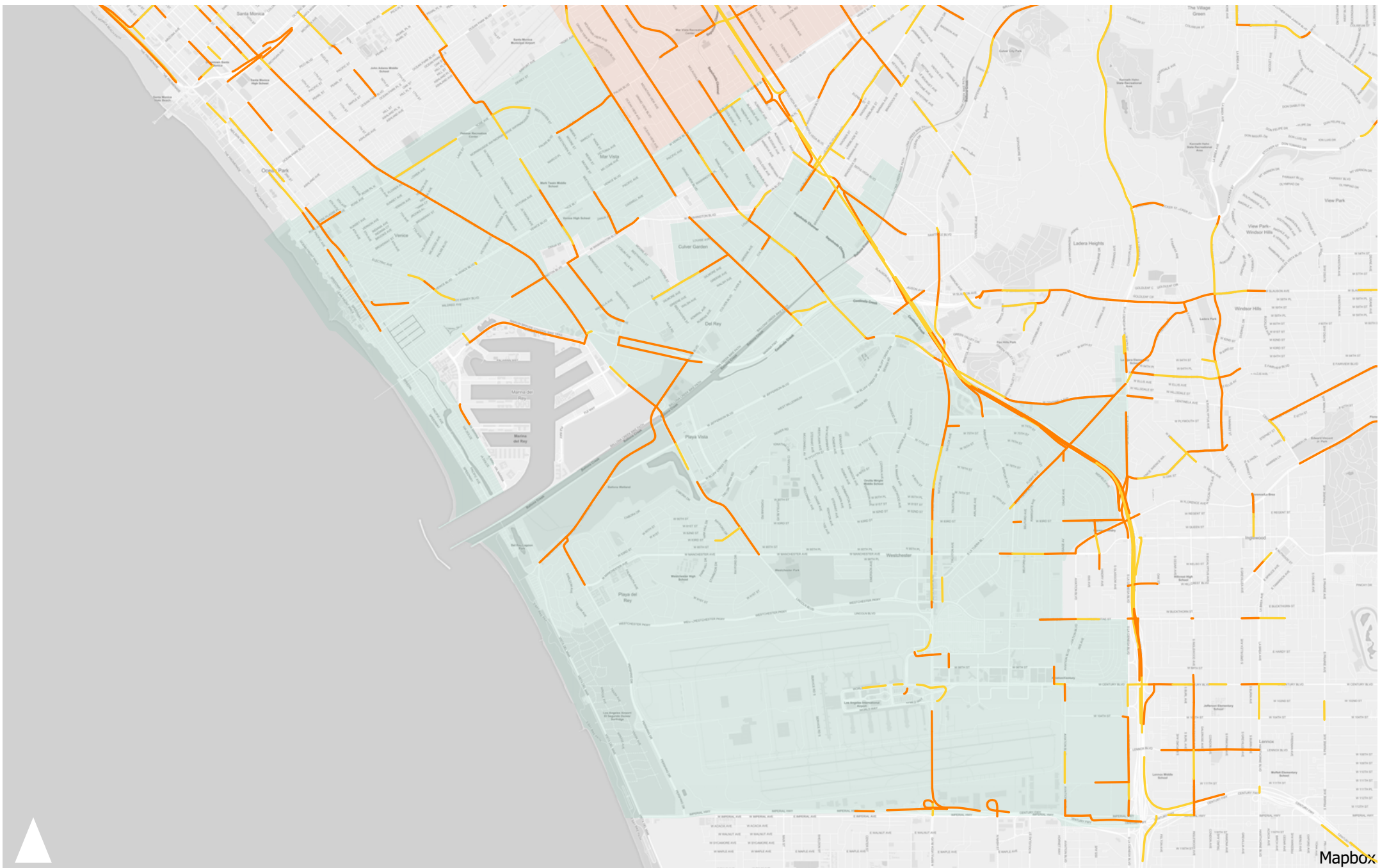




2035 No Project PM Peak Period

- LOS E
- LOS F
- Coastal Transportation Corridor
- West Los Angeles



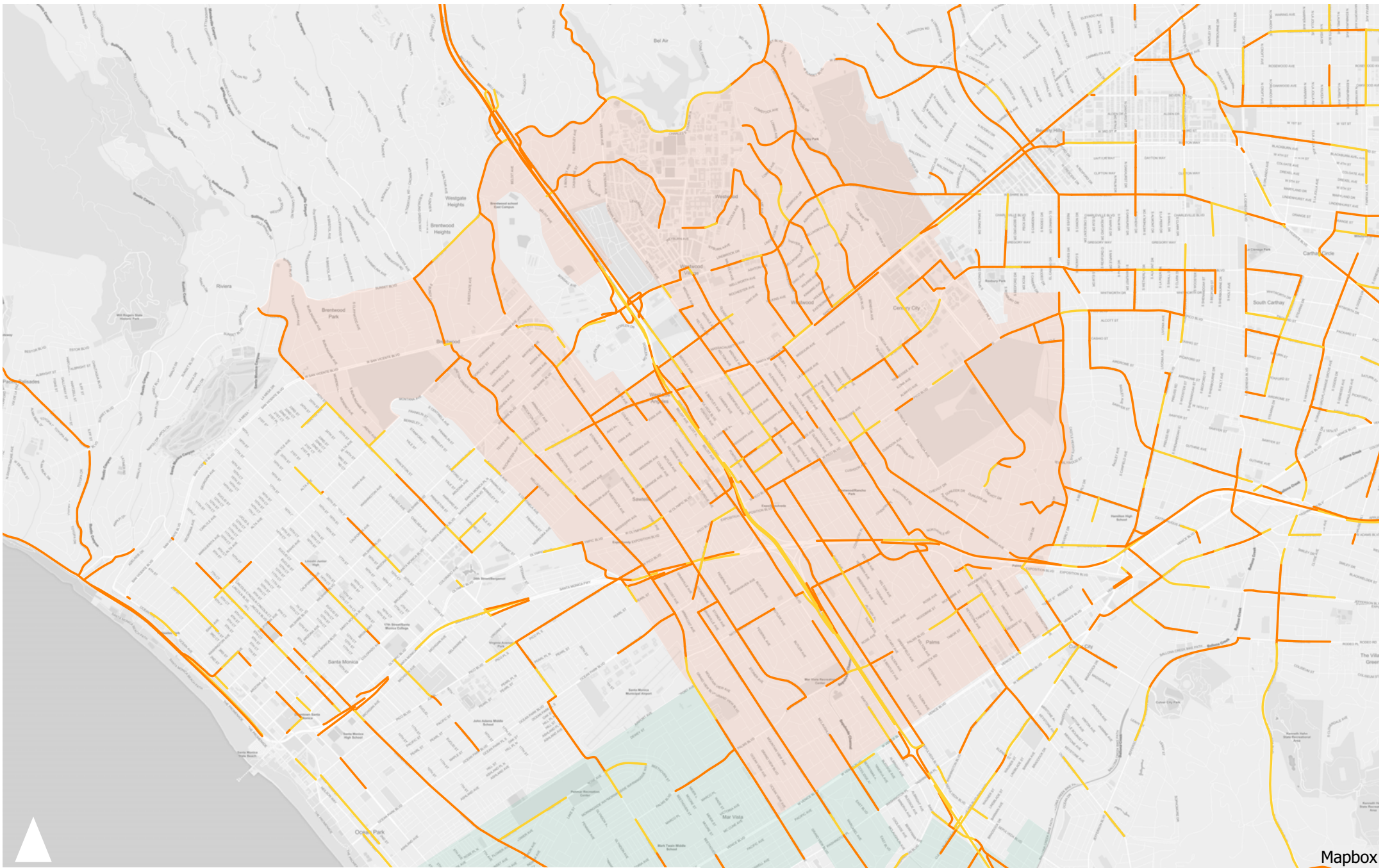


2035 Plus Project AM Peak Period

- LOS E
- LOS F

- Coastal Transportation Corridor
- West Los Angeles





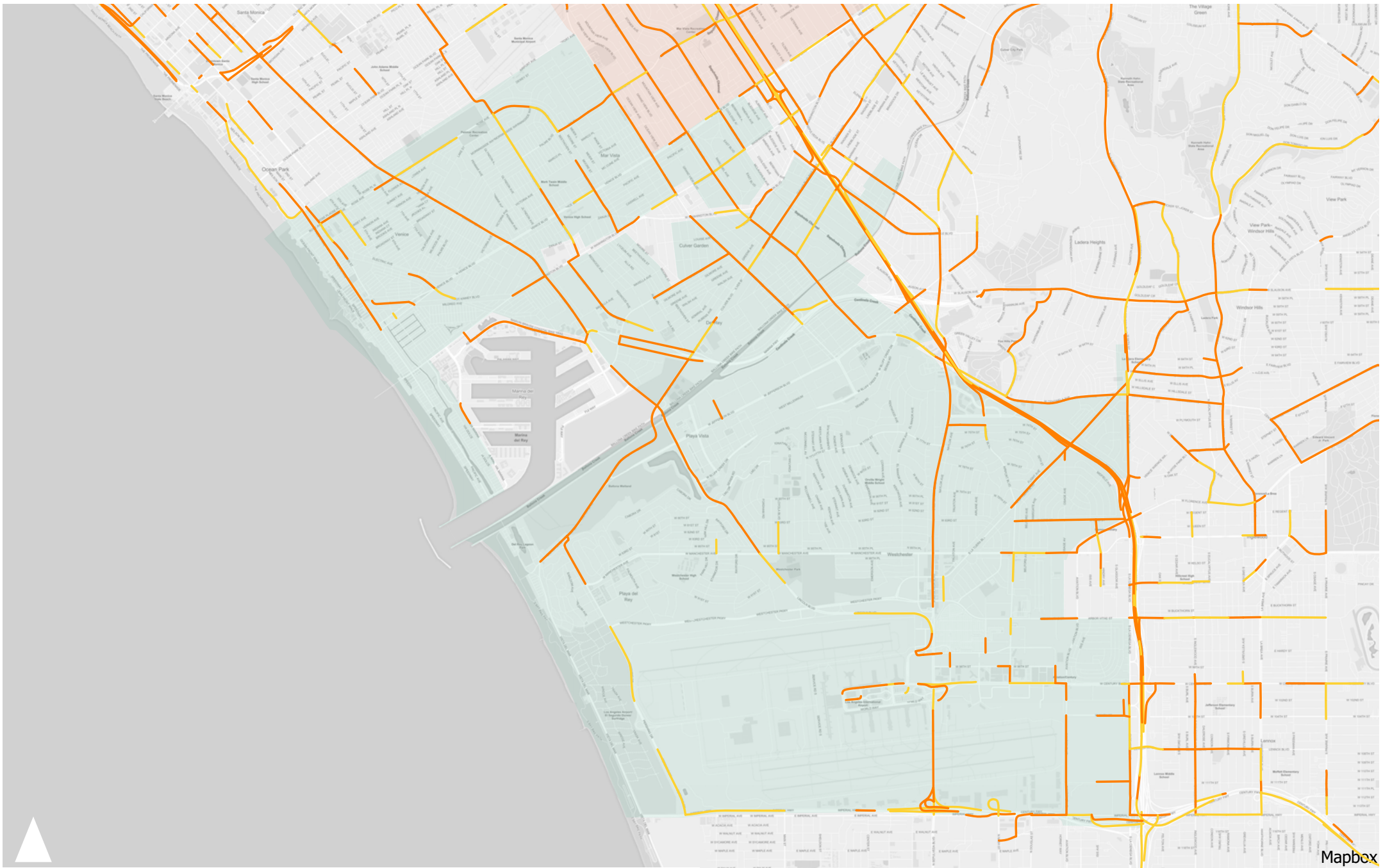
Mapbox

2035 Plus Project AM Peak Period

- LOS E
- LOS F

- Coastal Transportation Corridor
- West Los Angeles



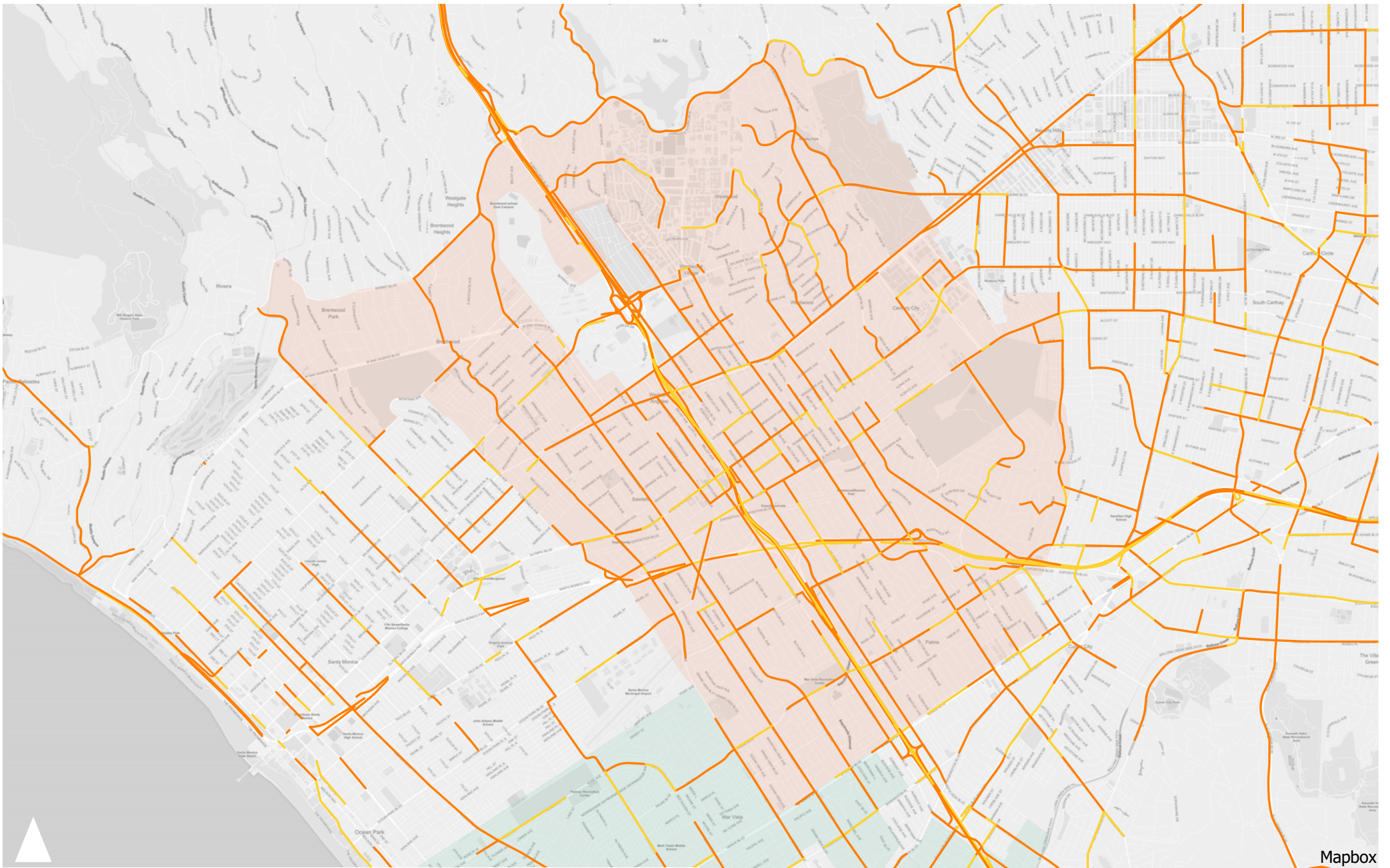


2035 Plus Project PM Peak Period

- LOS E
- LOS F

- Coastal Transportation Corridor
- West Los Angeles





Mapbox

2035 Plus Project PM Peak Period

- LOS E
- LOS F

- Coastal Transportation Corridor
- West Los Angeles

