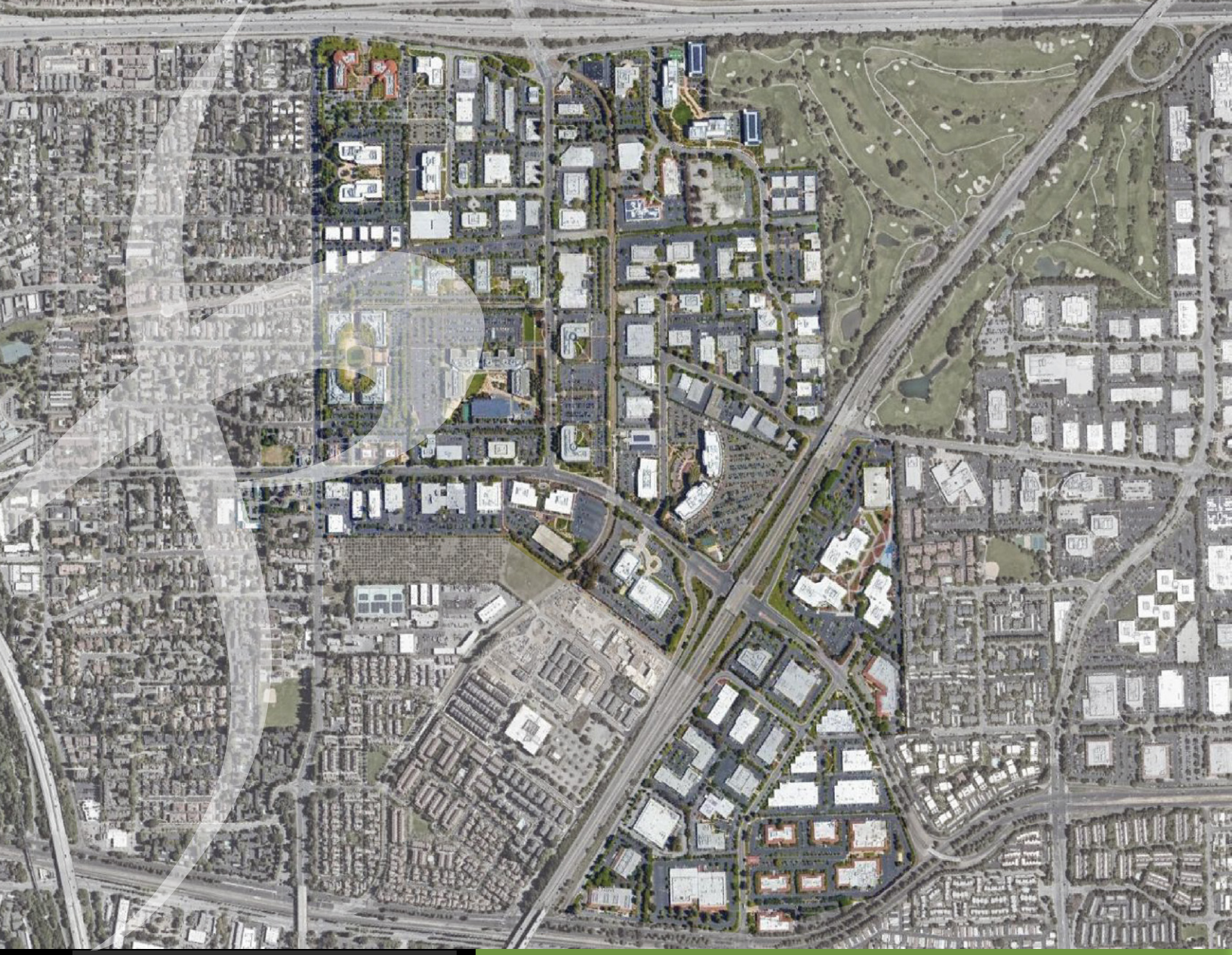

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East Whisman Precise Plan

Program-Level Transportation Analysis

Prepared for

CITY OF MOUNTAIN VIEW

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1. INTRODUCTION

Both a program-level and a project-level transportation analysis were conducted to evaluate potential transportation and circulation deficiencies arising from the construction of the proposed increase in land use development in the East Whisman Precise Plan (EWPP)[1] including approximately 5,000 housing units, 100,000 s.f. of retail and restaurant space, 2.3 million s.f. of office space, and 200 hotel rooms. The Project also includes 2.2 million square feet (s.f.) of existing research & development and industrial space rebuilt/re-occupied as new office space. The new and re-built office space would include a target vehicle trip cap rate of 1.0 vehicle trip per one-thousand square feet (ksf) during the morning and evening peak hours. The location of the East Whisman Precise Plan area is shown on **Figure 1**.

The project-level analysis evaluated deficiencies to specific intersection and freeway segments during the AM and PM peak hours (in addition to other components of the transportation system). The magnitude of the proposed land use changes will require a General Plan amendment. General Plan amendments are also evaluated at a programmatic level to evaluate the effects of the land uses changes on the city-wide transportation system, not just individual intersections. The analysis was conducted using the City of Mountain View's Travel Demand Forecasting (TDF) model to evaluate system-wide transportation metrics consistent with the *City of Mountain View 2030 General Plan and Greenhouse Gas Reduction Program Environmental Impact Report* including:

- Citywide vehicle miles traveled (VMT) per service population
- Daily roadway segment volumes in Mountain View
- Peak-hour roadway segment volumes in adjacent jurisdictions

Land use changes in the City of Mountain View plus the resulting service population with the proposed project are presented in **Appendix A**.

[1] The East Whisman area is located east of Whisman Road, south of US 101, north of Central Expressway and west of the Mountain View city limits.

PROJECT STUDY AREA

This transportation analysis evaluated the operations of 47 of the most important arterial and expressway roadway segments that affect citywide circulation within and near Mountain View listed below and shown on **Figure 1**.

1. Amphitheatre Parkway between Charleston Rd. and Northbound US 101 Ramps
2. California Street between Escuela Avenue and Shoreline Boulevard
3. Castro Street between Evelyn Ave. and California Street
4. Central Expressway between San Antonio Rd. and Rengstorff Avenue*
5. Central Expressway between Rengstorff Avenue and Shoreline Boulevard*
6. Central Expressway between Shoreline Boulevard and Moffett Boulevard*
7. Central Expressway between SR 85 and Whisman Avenue*
8. Central Expressway between Bernardo Avenue and Middlefield Road*
9. Charleston Road between San Antonio Road and Rengstorff Avenue
10. Cuesta Drive between Miramonte Avenue and Grant Road
11. Dana Street between Calderon Avenue and Pioneer Way
12. El Camino Real between Los Altos Avenue and San Antonio Road*
13. El Camino Real between Showers Drive and Rengstorff Avenue*
14. El Camino Real between El Monte Avenue and Shoreline Boulevard*
15. El Camino Real between Phyllis Avenue and Castro Street*
16. El Camino Real between Grant Road and Southbound SR 85 Ramps*
17. El Camino Real between Northbound SR 85 Ramps and Sylvan Avenue*
18. Ellis Street between Southbound US 101 Ramps and Middlefield Road
19. El Monte Avenue between El Camino Real and Springer Road
20. Evelyn Avenue between Calderon Avenue and Southbound SR 85 Ramp
21. Evelyn Avenue between SR 237 and Bernardo Avenue
22. Grant Road between Phyllis Avenue and Cuesta Drive
23. Grant Road between Cuesta Drive and Covington Road
24. Middlefield Road between San Antonio Road and Old Middlefield Way
25. Middlefield Road between Old Middlefield Way and Independence Avenue
26. Middlefield Road between Sierra Vista Avenue and Terra Bella Avenue
27. Middlefield Road between Shoreline Boulevard and Moffett Boulevard
28. Middlefield Road between Moffett Boulevard and Tyrella Avenue

29. Middlefield Road between Ellis Street and SR 237
30. Miramonte Avenue between El Camino Real and Cuesta Drive
31. Miramonte Avenue between Cuesta Drive and Covington Road
32. Moffett Boulevard between Southbound US 101 Ramps and Northbound SR 85 Ramp
33. Moffett Boulevard between Middlefield Road and Central Avenue
34. Old Middlefield Way between Rengstorff Avenue and Southbound US 101 Ramps
35. Rengstorff Avenue between Southbound US 101 Ramps and Old Middlefield Way
36. Rengstorff Avenue between Montecito Avenue and Central Expressway
37. Rengstorff Avenue between Central Expressway and California Street
38. San Antonio Road between Bayshore Road and Northbound US 101 Ramps* (Palo Alto)
39. San Antonio Road between Southbound US 101 Ramps and Charleston Road* (Palo Alto)
40. San Antonio Road between Central Expressway and California Street*
41. San Antonio Road between California Street and Pasa Robles Avenue* (Los Altos)
42. Shoreline Boulevard between Charleston Road and Northbound US 101 Ramps
43. Shoreline Boulevard between Southbound US 101 Ramps and Middlefield Road
44. Shoreline Boulevard between Montecito Avenue and Central Expressway
45. Shoreline Boulevard between Central Expressway and California Street
46. Springer Road between El Monte Avenue and Cuesta Drive
47. Whisman Road between Middlefield Road and Central Expressway

This study also included evaluation of the following freeway segments:

1. SR 85 between Fremont Avenue and El Camino Real*
2. SR 85 between SR 237 and Evelyn Avenue*
3. SR 85 between Evelyn Avenue and Moffett Boulevard*
4. US 101 between SR 237 and Ellis Street*
5. US 101 between Ellis Street and Moffett Boulevard*
6. US 101 between SR 85 and Old Middlefield Way*
7. US 101 between Old Middlefield Way and Rengstorff Avenue*
8. US 101 between Rengstorff Avenue and San Antonio Road*
9. SR 237 between El Camino Real and SR 85*
10. SR 237 between Sylvan Way and Middlefield Road/ Maude Avenue*
11. SR 237 between Middlefield Road/ Maude Avenue and US 101*

* Denotes Congestion Management Program (CMP) facility

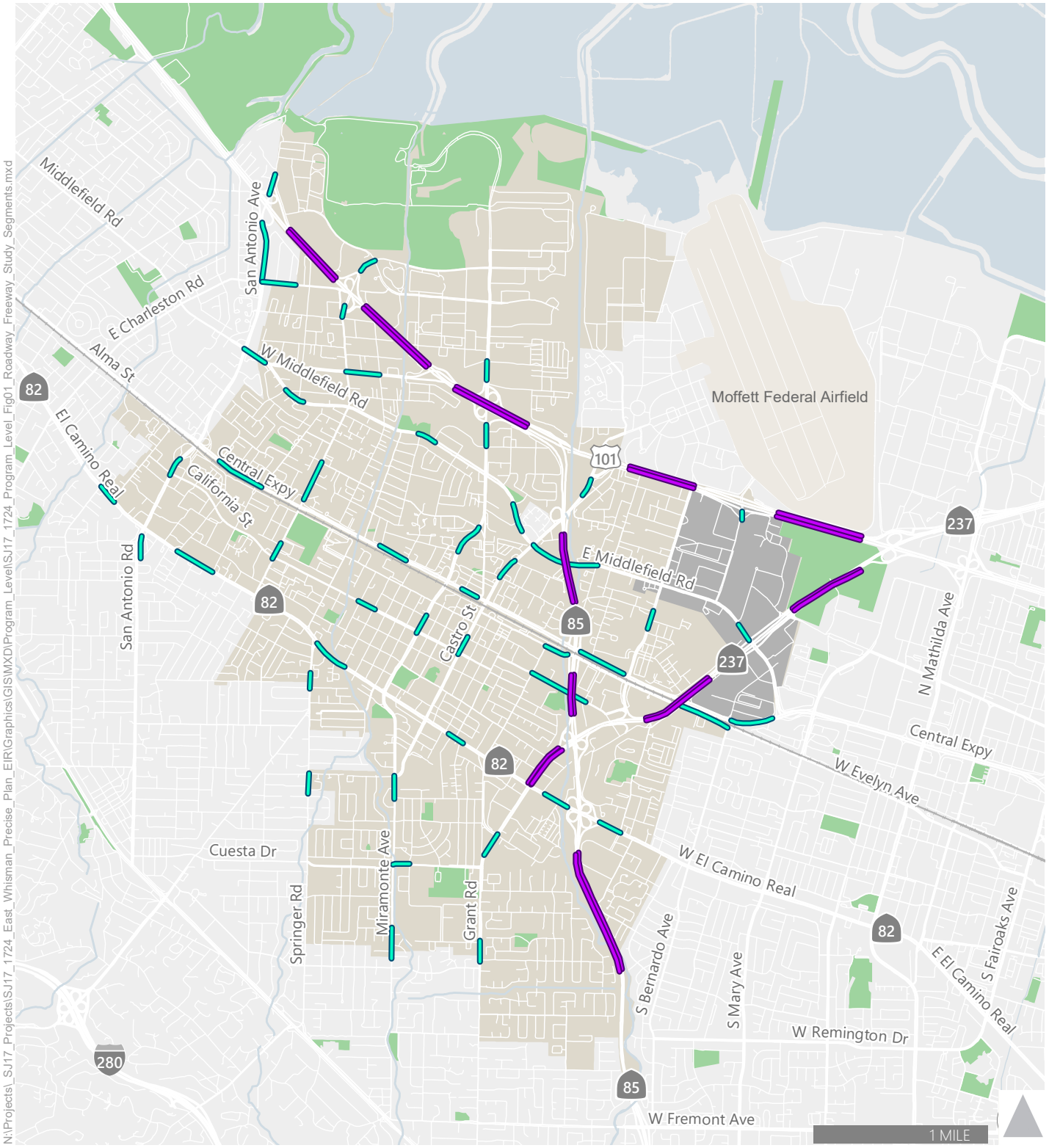


Figure 1

Change Area Locations and Roadway and Freeway Study Segments

ANALYSIS SCENARIOS

The operations of the study roadway segments and other transportation performance measures were evaluated for the following scenarios:

Scenario 1: *Existing Conditions (2017)* – Existing daily roadway segment volumes obtained from counts. Citywide daily VMT and adjacent jurisdiction analysis using the base year (2009) travel demand forecasting model with the existing land use and roadway system.

Scenario 2: *Year 2030 General Plan Conditions* – Year 2030 daily roadway segment volumes, citywide daily VMT and adjacent jurisdiction analysis based on General Plan land uses (this includes recently adopted San Antonio Precise Plan, North Bayshore Precise Plan, and El Camino Precise Plan) and Greenhouse Gas Reduction Program (GGRP) implementation for Mountain View and the Association of Bay Area Governments (ABAG) land use projections for adjacent jurisdictions and planned and funded transportation system improvements in the Valley Transportation Plan (VTP) 2040.[2]

Scenario 3: *Year 2030 General Plan with Project Conditions* – Scenario 2 volumes plus traffic generated by the East Whisman Precise Plan Project.

TRAFFIC FORECASTING METHOD

The City of Mountain View Travel Demand Forecasting Model was used to develop traffic forecasts and VMT estimates. A description of the model, trip adjustments for land use strategies, trip adjustments for transportation demand management (TDM) strategies, and planned roadway system improvements are discussed in the Transportation and Circulation section of the *City of Mountain View 2030 General Plan and Greenhouse Gas Reduction Program Environmental Impact Report*.

DEFICIENCY CRITERIA

The determination of program-level deficiencies is based on applicable policies, regulations, goals, and guidelines defined by the City of Mountain View and adjacent jurisdictions, and by the *2017 California Environmental Quality Act (CEQA) Guidelines*. For purposes of evaluating the East Whisman Precise Plan conditions, the criteria used in the *City of Mountain View 2030 General Plan and Greenhouse Gas Reduction Program Environmental Impact Report* were applied.

[2] Valley Transportation Authority, *Valley Transportation Plan 2040.* Adopted in October 2014.

VEHICLE MILES TRAVEL

A change in vehicle miles of travel (VMT) per service population is considered deficient when:

- The proposed project causes daily VMT per service population to increase over existing conditions.

ROADWAY SEGMENTS

A daily roadway segment operations is considered deficient if implementation of the proposed project would cause:

- Mountain View roadway segments outside of Downtown and San Antonio Center areas and CMP facilities (San Antonio Road and El Camino Real) to deteriorate from an acceptable level (LOS D) to an unacceptable level (LOS E or F).
- Mountain View roadway segments within the Downtown and San Antonio Center areas to deteriorate from an acceptable level (LOS E) to an unacceptable level (LOS F).
- Palo Alto or Los Altos roadway segments to deteriorate from an acceptable level (LOS D) to an unacceptable level (LOS E or F).
- Santa Clara County and CMP roadway segments to deteriorate from an acceptable level (LOS E) to an unacceptable level (LOS F).

If a segment is already operating at an unacceptable level, as defined by the controlling agency (i.e., the City of Mountain View for local streets, Santa Clara County for expressways, and Caltrans or VTA for El Camino Real), an increase in traffic volume on the segment representing more than one (1.0) percent of the facilities' capacity is considered deficient.

FREEWAY SEGMENTS

Similar to the roadway segment significance criteria, freeway segment deficiencies are defined to occur under the VTA CMP standard (LOS E) when the addition of traffic from the proposed project causes:

- A freeway segment to deteriorate from an acceptable level (LOS E) to an unacceptable level (LOS F).

If a segment is already operating at LOS F, an increase in traffic volume on the segment representing more than one (1.0) percent of the facilities' capacity is considered deficient.

ADJACENT JURISDICTION ROADWAY SEGMENTS

An effect on an adjacent community is considered deficient if implementation of the proposed project would cause 25 percent or more of its major street lane miles to meet the following conditions in a peak-hour:

- A future volume-to-capacity ratio greater than 1.0; and
- More than ten (10) percent of the peak-hour traffic volume on the segment is attributable to the project (in either peak hour).

OTHER CRITERIA

The proposed land use changes would affect the vehicle performance measures listed above. The program-level deficiencies and improvements for pedestrians, bicycle, transit, air traffic and emergency access would be the same as discussed in the *City of Mountain View 2030 General Plan and Greenhouse Gas Reduction Program Environmental Impact Report*.

REPORT ORGANIZATION

This report is divided into the following chapters as described below:

- **Chapter 1 – Introduction** describes the transportation performance metrics, study locations, analysis scenarios, and significance criteria.
- **Chapter 2 – Vehicle Miles of Travel (VMT)** presents the VMT per service population calculation method and results for the analysis scenarios.
- **Chapter 3 – Mountain View Roadway and Freeway Segment Analysis** describes the analysis method for the roadway and freeway segments in Mountain View and presents the results.
- **Chapter 4 – Adjacent Jurisdiction Roadway Segment Analysis** describes the method to analyze the roadway segments in adjacent jurisdictions and presents the results.
- **Chapter 5 – Transportation Deficiencies and Improvements** identifies the deficiencies and the associated improvements.

2. VEHICLE MILES OF TRAVEL (VMT)

To be consistent with the *City of Mountain View 2030 General Plan and Greenhouse Gas Reduction Program Environmental Impact Report*, VMT per service population (residents + employment) was used as a systemwide performance measure. The calculation method is consistent with the Regional Targets Advisory Committee (RTAC) recommendation to the California Transportation Commission (CTC) to estimate VMT. This metric is useful in combining the effects of population and/or employment growth and changes in personal travel behavior. For example, population growth may cause an increase in total VMT, but if travelers change their behavior such that the percent growth in total VMT is less than the percent growth in service population, then the VMT per service population metric will decrease.

VMT ESTIMATION PROCESS

The City's travel demand forecasting (TDF) model was used to develop daily vehicle miles traveled (VMT) estimates for the City of Mountain View for the various analysis scenarios. The following assumptions regarding internal and external trips were used based on the state-of-the-practice technique for determining the VMT estimates for municipalities:

- Internal-internal (II): The full length of all trips made entirely within the Mountain View city limits is counted.
- One-half of internal-external (IX): One-half of the length of trips with an origin within Mountain View and destination outside is counted. This assumes that Mountain View bears half the responsibility for trips traveling to other municipalities.
- One-half of external-internal (XI): One-half of the length of trips with an origin outside of the City of Mountain View and destination within is counted. Similar to the IX trips, this assumes that the City of Mountain View bears half the responsibility for trips traveling to it from other municipalities.
- External-external (XX): Trips through the city are not included. This is based on the assumption that the City of Mountain View does not affect these types of trips, so does not bear any responsibility for them. This approach is consistent with the concept used for the IX and XI trips. Therefore, the XX VMT would be assigned to other municipalities such as Palo Alto, Sunnyvale, and San José.

This approach is referred to as the origin-destination (OD) method or shared accounting method.[3]

[3] This is the same shared VMT accounting method used in the *Transportation Analysis for East Whisman Precise Plan* (May 2019) for use in the air quality, noise, and greenhouse gas analysis.

SERVICE POPULATION

Service population is the sum of the number of employees plus residents. **Table 1** shows the service population for the City of Mountain View for the three scenarios.

Table 1 City of Mountain View Service Population based on Occupied Land Use Summary

Land Use	Year 2017 Scenario	Year 2030 Scenarios	
	Existing (Scenario 1)	Year 2030 General Plan (Scenario 2)	Year 2030 General Plan with Project Conditions (Scenario 3)
Employees	72,700	95,940	104,780
Residents	74,820	103,450	114,080
Service Population	147,520	199,390	218,860

Notes:

1. Employees based on occupied non-residential square footage.
2. Rounded to nearest 10 employees or residents.
3. Land use summary does not include NASA AMES research center.
4. Service Population within Mountain View = residents + employees.

Sources: City of Mountain View, and City of Mountain View Travel Model, and Fehr & Peers, November 2018.

ANALYSIS RESULTS

Table 2 presents the VMT by speed bin for the City of Mountain View for the three scenarios. The totals divided by the service populations and the changes between scenarios are presented in **Table 3**. The daily VMT under 2030 conditions with the Project will increase by 9.1 percent compared to 2030 conditions without the project. The service population will increase by 9.7 percent. As a result, there will be a slight decrease in VMT per service population. This is partially caused by trip length reductions due to adding residencies to a jobs-rich area of the City.

Table 2 VMT Distribution by Speed Bin

Speed Bin (mph)	Year 2017 Scenario		Year 2030 Scenarios			
	Existing (Scenario 1)		Year 2030 General Plan (Scenario 2)		Year 2030 General Plan with Project Conditions (Scenario 3)	
	VMT	Percent	VMT	Percent	VMT	Percent
0 to 7.49	118,410	4.43%	616,070	18.27%	680,390	18.49%
7.5 to 12.49	86,520	3.23%	366,770	10.87%	402,210	10.93%
12.5 to 17.49	70,910	2.65%	319,110	9.46%	352,350	9.58%
17.5 to 22.49	198,900	7.43%	383,100	11.36%	417,570	11.35%
22.5 to 27.49	504,350	18.84%	583,130	17.28%	656,060	17.83%
27.5 to 32.49	675,040	25.21%	682,410	20.23%	711,960	19.34%
32.5 to 37.49	339,410	12.68%	165,980	4.92%	185,030	5.03%
37.5 to 42.49	245,480	9.17%	66,230	1.96%	76,490	2.08%
42.5 to 47.49	180,020	6.72%	65,950	1.95%	65,570	1.78%
47.5 to 52.49	92,400	3.45%	55,000	1.63%	57,040	1.55%
52.5 to 57.49	95,630	3.57%	33,410	0.99%	36,440	0.99%
57.5 to 62.49	51,990	1.94%	23,650	0.70%	26,520	0.72%
62.5 to 67.49	18,320	0.68%	12,900	0.38%	12,220	0.33%
67.5 to 200	0	0.00%	0	0.00%	0	0.00%
Total	**2,677,380**	**100.00%**	**3,373,710**	**100.00%**	**3,679,850**	**100.00%**

Notes:

1. VMT = vehicle miles traveled; mph = miles per hour.
2. Citywide VMT based on select zone analysis using one-half external trip approach (II, 0.5*IX, and 0.5*XI).

Source: Fehr & Peers, November 2018.

Table 3 VMT Per Service Population

Item	Year 2017 Scenario	Year 2030 Scenarios	
	Existing (Scenario 1)	Year 2030 General Plan (Scenario 2)	Year 2030 General Plan with Project Conditions (Scenario 3)
Daily Vehicle Miles Traveled (VMT)	2,677,380	3,373,710	3,679,850
Service Population	147,520	199,390	218,860
Daily VMT per service population	18.15	16.92	16.81

Notes:

1. VMT = vehicle miles traveled
2. Citywide VMT based on select zone analysis using one-half external trip approach (II, 0.5*IX, and 0.5*XI).

Sources: Fehr & Peers, November 2018.

3. MOUNTAIN VIEW ROADWAY AND FREEWAY SEGMENT ANALYSIS

This transportation analysis evaluated the operations of 47 of the most important arterial and expressway roadway segments that affect Citywide circulation within and near Mountain View. These study locations were selected in consultation with City staff and were based on select zone analysis from the City of Mountain View travel demand model that indicated critical travel patterns within the community.

VOLUMES AND PROJECTIONS

Existing roadway segment volumes were obtained from counts conducted in May and June 2017. At present, the Mountain View travel demand model is the best tool available for developing long-range traffic forecasts for streets and highways within greater Mountain View and to estimate daily citywide performance indicators such as vehicle hours traveled (VHT), vehicle trips (VT), and vehicle miles traveled (VMT). The technical memorandum entitled, Mountain View Travel Demand Model Update (Fehr & Peers, June 2011) summarizes the results of the sub-area model development validation and Year 2030 land use and network assumptions (see Appendix B2 of the *City of Mountain View 2030 General Plan and Greenhouse Gas Reduction Program Environmental Impact Report*). The updated validation results with the 2017 roadway segment counts are presented in **Appendix B**.

The future roadway network was developed based on planned and funded improvements identified in the financially constrained roadway improvement project list from the Valley Transportation Plan (VTP) 2040 published by the Santa Clara Valley Transportation Authority Valley (adopted in October 2014) and the City's General Plan Circulation Chapter. This roadway network is used for the Future Year (2030) scenarios. The regional roadway improvements within Mountain View with VTP 2040 project numbers are summarized below:

- SR 237 HOV/Express Lanes: Mathilda Ave to SR 85 (H5)*
- SR 85 Northbound to Eastbound SR 237 Connector Ramp and Northbound SR 85 Auxiliary Lane including braided SR 237 eastbound off-ramp between SR 85 and Dana Street (H21)*
- SR 237 Westbound On-Ramp at Middlefield Road (H32)*
- US 101 Southbound Improvements from San Antonio Road to Charleston/Rengstorff Avenue (H42)*
- SR 237 Eastbound Auxiliary Lanes: Mathilda Avenue to Fair Oaks Avenue (H47)*
- Southbound US 101 Auxiliary lanes between Ellis Street and SR 237 (H49)*

* Denotes Congestion Management Program (CMP) facility.

Roadway segment forecasts were developed using guidelines published in National Cooperative Highway Research Program (NCHRP) Report 765[4] for converting raw model results into forecasted volumes. This method, known as the difference forecast method, is based on existing counts and the difference between the model's baseline and future volumes. This method normalizes the model projections based on the accuracy of the model validation and the existing roadway conditions.

ROADWAY SEGMENT OPERATIONS

The operations of roadway facilities are described with the term level of service (LOS), a qualitative description of traffic flow based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, which reflects free-flow conditions where there is very little interaction between vehicles, to LOS F, where the vehicle demand exceeds the capacity and high levels of vehicle delay result. LOS E represents "at-capacity" operations.

Roadways were analyzed by comparing the daily volume to threshold volumes based on roadway type as presented in **Table 4**. This daily analysis approach is consistent with the level of planning detail addressed in a General Plan and General Plan amendments. This approach helps to evaluate and determine the roadway cross-sections (e.g., two, four or six travel lanes) rather than detailed operational issues at the intersection level, which are dependent on the number of turn lanes, signal timing, adjacent driveway operations. Traffic during peak periods may result in worse operations than illustrated by the daily LOS.

FREEWAY SEGMENT OPERATIONS

Within the City of Mountain View, freeway segments were also evaluated using daily planning thresholds delineated in **Table 4**. Although freeway analysis is typically conducted using density, it is not possible to accurately project future travel speeds on freeway segments in 2030. Thus, daily planning volume thresholds were used to identify operations on freeway segments within the City of Mountain View.

[4] National Cooperative Highway Research Program (NCHRP). *Report 765: Analytical Travel Forecasting Approaches for Project-Level Planning and Design,* Washington, D.C.: National Academy Press, 2014.

Table 4 Daily Roadway Segment Capacity

Roadway Type	Maximum Daily Volume[1,2] (both directions except freeway segments)				
	LOS A	LOS B	LOS C	LOS D	LOS E
2-Lane Freeway	13,320	24,120	34,560	42,840	48,120
3-Lane Freeway	20,400	36,960	52,800	64,920	72,720
4-Lane Freeway	27,840	50,400	71,400	87,360	97,680
5-Lane Freeway	39,360	64,440	90,600	110,040	122,760
2-Lane Undivided Arterial[3]			10,920	20,040	21,240
2-Lane Divided Arterial[3]			11,640	21,120	22,440
3-Lane Arterial (2 lanes in one direction)[3]			15,720	24,720	26,040
4-Lane Undivided Arterial[3]			21,000	32,880	34,680
4-Lane Divided Arterial[3]			23,040	42,480	44,880
5-Lane Divided Arterial[3]			27,120	53,160	56,040
6-Lane Divided Arterial[3]			32,520	63,840	67,200
8-Lane Divided Arterial[3]			44,640	85,320	89,640
2-Lane Collector[4]	3,120	6,240	9,360	13,200	15,480

Notes:
1. The LOS capacity thresholds are based on HCM 2000 method and are generally appropriate for suburban communities.
2. All volumes are approximate and assume ideal roadway characteristics.
3. LOS A and B are not achievable for arterial roadways using the HCM 2000 methods.
4. For collector roadway segments, the capacity limitation is related to neighborhood quality of life rather than the physical carrying capacity of the road. This assumes a standard suburban neighborhood, 40-foot roadway width, and 25 mile per hour speed limit with normal speed violation rates.

Sources: *Highway Capacity Manual*, Transportation Research Board, 2000.

ANALYSIS RESULTS

The results for roadway segments are presented in **Table 5** and for freeway segments are presented in **Table 6**. **Figure 2** presents the results for the 2030 General Plan Conditions. The results for 2030 General Plan with Project Conditions are presented on **Figure 3**. The land use changes within Mountain View alter the local vehicle travel behavior, which means some daily roadway segment volumes increase while others decrease. Overall, there is an increase in forecasted daily roadway segment volumes under Scenario 3 compared to Scenario 2 when considering parallel roadways as a system (such as major east-west streets between Rengstorff Avenue and Shoreline Boulevard: US 101, Middlefield Road, Central Expressway, California Street, and El Camino Real). Some of the largest volume increases near and within the East Whisman Area occur on US 101, Ellis Street, and Whisman Road.

Table 5 Daily Roadway Segment Volume and Level of Service Summary

Roadway Segment[1]	Existing Roadway Type/ Future Roadway Type	Year 2017 Scenario		Year 2030 Scenarios			
		Existing (Scenario 1)		Year 2030 General Plan (Scenario 2)		Year 2030 General Plan with Project Conditions (Scenario 3)	
		Daily Volume[2]	LOS[3]	Daily Volume	LOS[3]	Daily Volume	LOS[3]
1. Amphitheatre Pkwy. between Charleston Rd. and NB US 101 Ramps	4-Lane Divided Arterial	22,100	C	39,700	D	39,400	D
2. California St. between Escuela Ave. and Shoreline Blvd.	4-Lane Undivided Arterial	11,500	C	**34,000**	**E**	**34,000**	**E**
3. Castro St. between Evelyn Ave. and California St.	2-Lane Undivided Arterial	7,100	C	15,800	D	14,700	D
4. Central Expy. between San Antonio Rd. and Rengstorff Ave.*	4-Lane Divided Arterial	28,100	D	37,200	D	37,200	D
5. Central Expy. between Rengstorff Ave. and Shoreline Blvd.*	4-Lane Divided Arterial	28,200	D	39,500	D	39,100	D
6. Central Expy. between Shoreline Blvd. and Moffett Blvd.*	4-Lane Divided Arterial	30,100	D	32,000	D	31,800	D
7. Central Expy. between SR 85 and Whisman Ave.*	6-Lane Divided Arterial	35,300	D	59,900	D	59,700	D
8. Central Expy. between Bernardo Ave. and Middlefield Rd.*	4-Lane Divided Arterial	31,100	D	44,800	E	**45,800**	**F**
9. Charleston Rd. between San Antonio Rd. and Rengstorff Ave.	4-Lane Divided Arterial	21,300	C	28,600	D	28,500	D
10. Cuesta Dr. between Miramonte Ave. and Grant Rd.	4-Lane Divided Arterial	16,100	C	34,900	D	35,700	D
11. Dana St. between Calderon Ave. and Pioneer Wy.	2-Lane Divided Arterial	8,300	C	20,500	D	20,400	D

Table 5 Daily Roadway Segment Volume and Level of Service Summary

Roadway Segment[1]	Existing Roadway Type/ Future Roadway Type	Year 2017 Scenario		Year 2030 Scenarios			
		Existing (Scenario 1)		Year 2030 General Plan (Scenario 2)		Year 2030 General Plan with Project Conditions (Scenario 3)	
		Daily Volume[2]	LOS[3]	Daily Volume	LOS[3]	Daily Volume	LOS[3]
12. El Camino Real between Los Altos Ave. and San Antonio Rd.*	6-Lane Divided Arterial	36,200	D	57,400	D	57,100	D
13. El Camino Real between Showers Dr. and Rengstorff Ave.*	6-Lane Divided Arterial	38,900	D	57,100	D	57,300	D
14. El Camino Real between El Monte Ave. and Shoreline Blvd.*	6-Lane Divided Arterial	46,000	D	59,100	D	59,000	D
15. El Camino Real between Phyllis Ave. and Castro St.*	6-Lane Divided Arterial	49,800	D	59,200	D	58,900	D
16. El Camino Real between Grant Rd. and SB SR 85 Ramps*	6-Lane Divided Arterial	48,900	D	65,600	E	**68,200**	**F**
17. El Camino Real between NB SR 85 Ramps and Sylvan Ave.*	6-Lane Divided Arterial	54,700	D	**68,600**	**F**	63,200	D
18. Ellis St. between SB US 101 Ramps and Middlefield Rd.	4-Lane Divided Arterial	9,500	C	24,300	D	32,200	D
19. El Monte Ave. between El Camino Real and Springer Rd.	4-Lane Undivided Arterial	18,800	C	27,700	D	33,900	E
20. Evelyn Ave. between Calderon Ave. and SB SR 85 Ramp	4-Lane Undivided Arterial	15,500	C	29,900	D	31,000	D
21. Evelyn Ave. between SR 237 and Bernardo Ave.	4-Lane Divided Arterial	17,300	C	**44,400**	**E**	**47,000**	**F**
22. Grant Rd. between Phyllis Avenue and Cuesta Dr.	4-Lane Divided Arterial	33,200	D	38,500	D	38,700	D

Table 5 Daily Roadway Segment Volume and Level of Service Summary

Roadway Segment[1]	Existing Roadway Type/ Future Roadway Type	Year 2017 Scenario		Year 2030 Scenarios			
		Existing (Scenario 1)		Year 2030 General Plan (Scenario 2)		Year 2030 General Plan with Project Conditions (Scenario 3)	
		Daily Volume[2]	LOS[3]	Daily Volume	LOS[3]	Daily Volume	LOS[3]
23. Grant Rd. between Cuesta Dr. and Covington Rd.	4-Lane Divided Arterial	19,700	C	26,400	D	24,500	D
24. Middlefield Rd. between San Antonio Rd. and Old Middlefield Wy.	4-Lane Divided Arterial	21,300	C	22,300	D	22,600	D
25. Middlefield Rd. between Old Middlefield Wy. and Independence Ave.	4-Lane Divided Arterial	6,100	C	11,700	C	15,600	C
26. Middlefield Rd. between Sierra Vista Ave. and Terra Bella Ave.	4-Lane Divided Arterial	13,200	C	24,400	D	24,500	D
27. Middlefield Rd. between Shoreline Blvd. and Moffett Blvd.	4-Lane Divided Arterial	16,500	C	24,500	D	25,100	D
28. Middlefield Rd. between Moffett Blvd. and Tyrella Ave.	4-Lane Divided Arterial	14,900	C	20,300	C	20,800	C
29. Middlefield Rd. between Ellis St. and SR 237	4-Lane Divided Arterial	16,800	C	19,700	C	20,500	C
30. Miramonte Ave. between El Camino Real and Cuesta Dr.	4-Lane Undivided Arterial	9,300	C	**34,800**	**F**	**34,300**	**E**
31. Miramonte Ave. between Cuesta Dr. and Covington Rd.	4-Lane Undivided Arterial	8,800	C	19,900	C	19,300	C
32. Moffett Blvd. between SB US 101 Ramps and NB SR 85 Ramp	4-Lane Divided Arterial	14,500	C	22,000	C	21,100	C
33. Moffett Blvd. between Middlefield Rd. and Central Ave.	4-Lane Undivided Arterial	12,700	C	23,500	D	25,000	D

Table 5 Daily Roadway Segment Volume and Level of Service Summary

Roadway Segment[1]	Existing Roadway Type/ Future Roadway Type	Year 2017 Scenario		Year 2030 Scenarios			
		Existing (Scenario 1)		Year 2030 General Plan (Scenario 2)		Year 2030 General Plan with Project Conditions (Scenario 3)	
		Daily Volume[2]	LOS[3]	Daily Volume	LOS[3]	Daily Volume	LOS[3]
34. Old Middlefield Wy. between Rengstorff Ave. and SB US 101 Ramps	4-Lane Divided Arterial	25,100	D	27,300	D	27,200	D
35. Rengstorff Ave. between SB US 101 Ramps and Old Middlefield Wy.	4-Lane Undivided Arterial	16,900	C	**34,200**	**E**	**34,300**	**E**
36. Rengstorff Ave. between Montecito Ave. and Central Expy.	4-Lane Undivided Arterial	17,100	C	**36,100**	**F**	**40,100**	**F**
37. Rengstorff Ave. between Central Expy. and California St.	4-Lane Undivided Arterial	17,900	C	**38,300**	**F**	**41,300**	**F**
38. San Antonio Rd. between Bayshore Pkwy. and NB US 101 Ramps* (Palo Alto)	2-Lane Undivided Arterial	12,700	D	**23,100**	**F**	**23,200**	**F**
39. San Antonio Rd. between SB US 101 Ramps and Charleston Rd.* (Palo Alto)	3-Lane Arterial (2 in one direction)	**39,400**	**F**	**51,100**	**F**	**51,100**	**F**
40. San Antonio Rd. between Central Expy. and California St.*	6-Lane Divided Arterial	32,300	C	59,800	D	63,000	D
41. San Antonio Rd. between California Ave and Pasa Robles Ave.* (Los Altos)	4-Lane Divided Arterial	23,800	D	33,100	D	35,500	D
42. Shoreline Blvd. between Charleston Rd. and NB US 101 Ramps	4-Lane Divided Arterial	18,200	C	40,300	D	39,800	D
43. Shoreline Blvd. between SB US 101 Ramps and Middlefield Rd.	4-Lane Divided Arterial	30,200	D	**44,300**	**E**	**46,000**	**F**
44. Shoreline Blvd. between Montecito Ave. and Central Expy.	4-Lane Divided Arterial	28,700	D	**51,500**	**F**	**50,700**	**F**

Table 5 Daily Roadway Segment Volume and Level of Service Summary

Roadway Segment[1]	Existing Roadway Type/ Future Roadway Type	Year 2017 Scenario		Year 2030 Scenarios			
		Existing (Scenario 1)		Year 2030 General Plan (Scenario 2)		Year 2030 General Plan with Project Conditions (Scenario 3)	
		Daily Volume[2]	LOS[3]	Daily Volume	LOS[3]	Daily Volume	LOS[3]
45. Shoreline Blvd. between Central Expy. and California St.	6-Lane Divided Arterial	23,900	C	51,900	D	54,300	D
46. Springer Rd. between El Monte Ave. and Cuesta Dr.	2-Lane Collector	7,700	C	12,800	D	**14,200**	**E**
47. Whisman Rd. between Middlefield Rd. and Central Expy.	4-Lane Undivided Arterial	9,600	C	27,200	D	**35,000**	**F**

Notes:

1. Major roadways nearest the count location
2. Average Daily Traffic (ADT) volume for Scenario 1 is based on traffic counts collected in May and June 2017.
3. LOS – Level of Service

Bold text indicates a segment that exceeds the City of Mountain View LOS D standard for local streets and LOS E standard for streets within the Downtown and San Antonio Center areas and CMP facilities (e.g., Central Expressway, El Camino Real) under the 2030 General Plan. Local streets in Palo Alto and Los Altos have a LOS D standard too.

* Denotes Congestion Management Program (CMP) facility.

Source: *Highway Capacity Manual*, Transportation Research Board, 2000 and Fehr & Peers, November 2018.

Table 6 Daily Freeway Segment Volume and Level of Service Summary

Freeway Segment[1]		Existing Roadway Type/ Future Roadway Type	Year 2017 Scenario		Year 2030 Scenarios			
			Existing (Scenario 1)		2030 General Plan (Scenario 2)		Year 2030 General Plan with Project Conditions (Scenario 3)	
			Daily Volume[2]	LOS[3]	Daily Volume[2]	LOS[3]	Daily Volume[2]	LOS[3]
NB SR 85*	Fremont Ave. to El Camino Real	3-Lane Freeway	**69,700**	**E**	**75,800**	**F**	**77,000**	**F**
	SR 237 to Evelyn Ave.	3-Lane Freeway	48,700	C	**53,700**	**D**	**55,500**	**D**
	Evelyn Ave. to Moffett Blvd.	3-Lane Freeway	47,300	C	**61,600**	**D**	**63,000**	**D**
SB SR 85*	Moffett Blvd. to Evelyn Ave.	3-Lane Freeway	49,700	C	**72,300**	**E**	**72,600**	**E**
	Evelyn Ave. to SR 237	3-Lane Freeway	48,600	C	**64,800**	**D**	**65,000**	**E**
	El Camino Real to Fremont Ave.	3-Lane Freeway	**68,900**	**E**	**75,400**	**F**	**78,700**	**F**
NB US 101*	SR 237 to Ellis St.	4-Lane Freeway	**103,500**	**F**	**121,900**	**F**	**124,800**	**F**
	Ellis St. to Moffett Blvd.	4-Lane Freeway	**105,400**	**F**	**118,200**	**F**	**119,400**	**F**
	SR 85 to Old Middlefield Rd.	4-Lane Freeway	**131,300**	**F**	**157,700**	**F**	**159,400**	**F**
	Old Middlefield Rd. to Rengstorff Ave.	4-Lane Freeway	**110,800**	**F**	**139,800**	**F**	**140,700**	**F**
	Rengstorff Ave. to San Antonio Rd.	4-Lane Freeway	**106,700**	**F**	**134,100**	**F**	**134,100**	**F**
SB US 101*	San Antonio Rd. to Rengstorff Ave.	4-Lane Freeway	**103,600**	**F**	**131,500**	**F**	**131,600**	**F**
	Rengstorff Ave. to Old Middlefield Rd.	4-Lane Freeway	**113,300**	**F**	**145,600**	**F**	**147,300**	**F**
	Old Middlefield Rd. to SR 85	4-Lane Freeway	**131,300**	**F**	**165,100**	**F**	**166,600**	**F**
	Moffett Blvd. to Ellis St.	4-Lane Freeway	**99,200**	**F**	**122,500**	**F**	**124,100**	**F**
	Ellis St. to SR 237	4-Lane Freeway	**96,400**	**E**	**127,900**	**F**	**131,500**	**F**
EB SR 237*	El Camino Real to SR 85	2-Lane Freeway	16,900	B	18,900	B	19,400	B
	Sylvan Wy. to Middlefield Rd./ Maude Ave.	2-Lane Freeway/ 3-Lane Freeway	**43,400**	**E**	**61,700**	**D**	**59,500**	**D**
	Middlefield Rd./ Maude Ave. to US 101	2-Lane Freeway/ 3-Lane Freeway	**42,700**	**D**	**61,300**	**D**	**58,500**	**D**

Table 6 Daily Freeway Segment Volume and Level of Service Summary

Freeway Segment[1]		Existing Roadway Type/ Future Roadway Type	Year 2017 Scenario		Year 2030 Scenarios			
			Existing (Scenario 1)		2030 General Plan (Scenario 2)		Year 2030 General Plan with Project Conditions (Scenario 3)	
			Daily Volume[2]	LOS[3]	Daily Volume[2]	LOS[3]	Daily Volume[2]	LOS[3]
WB SR 237*	US 101 to Middlefield Rd./Maude Ave.	2-Lane Freeway/ 3-Lane Freeway	**42,700**	**D**	**54,600**	**D**	51,100	C
	Middlefield Rd./ Maude Ave. to Sylvan Way	2-Lane Freeway/ 3-Lane Freeway	**41,300**	**D**	45,800	C	44,000	C
	SR 85 to El Camino Real	2-Lane Freeway	26,800	C	29,000	C	29,500	C

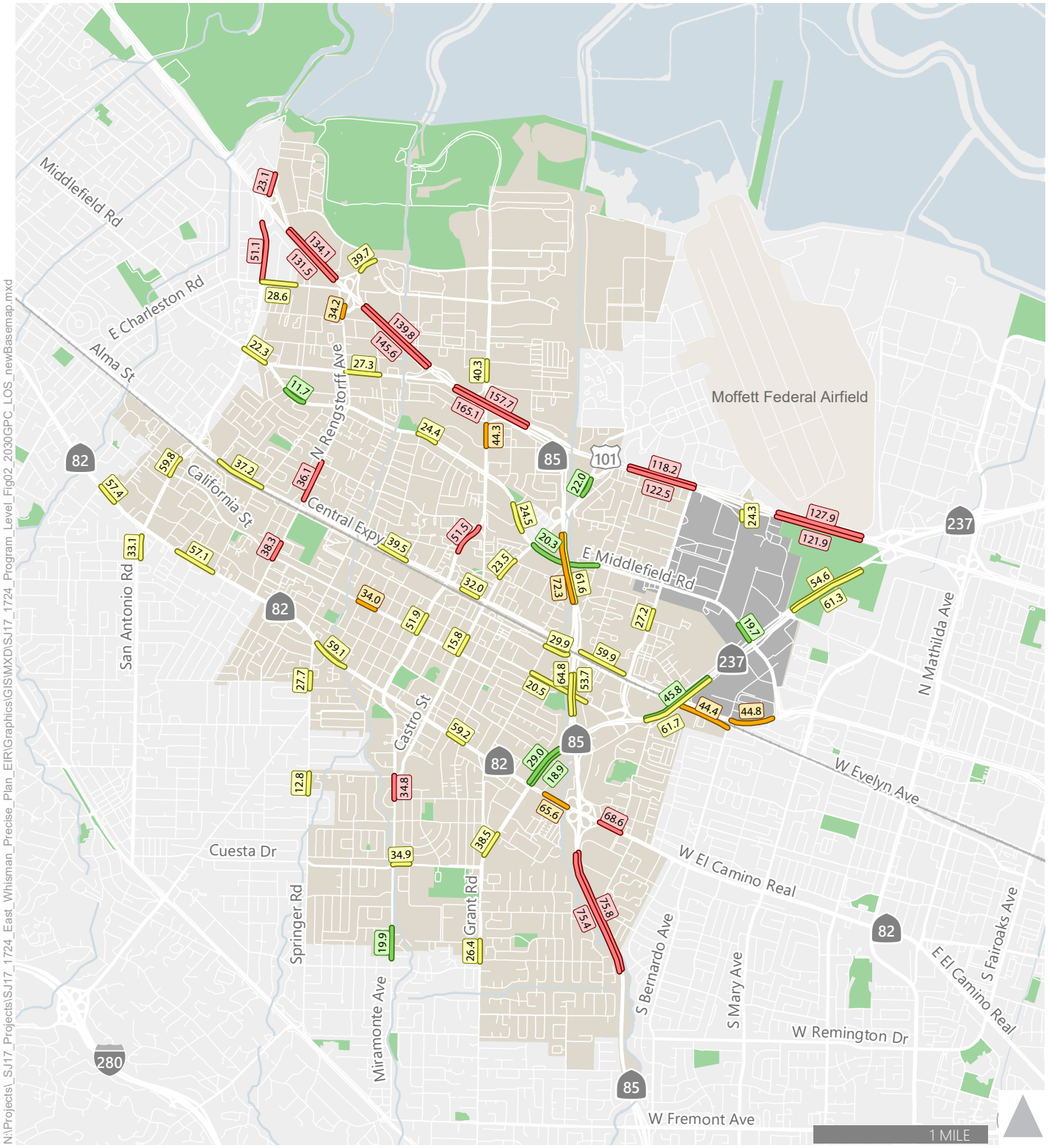
Notes:

1. Major roadways nearest the count location
2. The number of lanes of a freeway segment includes high occupancy vehicle (HOV) lanes but excludes auxiliary lanes.
3. LOS – Level of Service

Bold text indicates a segment that exceeds the Caltrans standard (C/D cusp) or VTA CMP standard (LOS E).

* Denotes Congestion Management Program (CMP) facility.

Source: *Highway Capacity Manual*, Transportation Research Board, 2000 and Fehr & Peers, November 2018.



Study Location Segments

LOS B & C with ADT (x1,000)

LOS D with ADT (x1,000)

LOS E with ADT (x1,000)

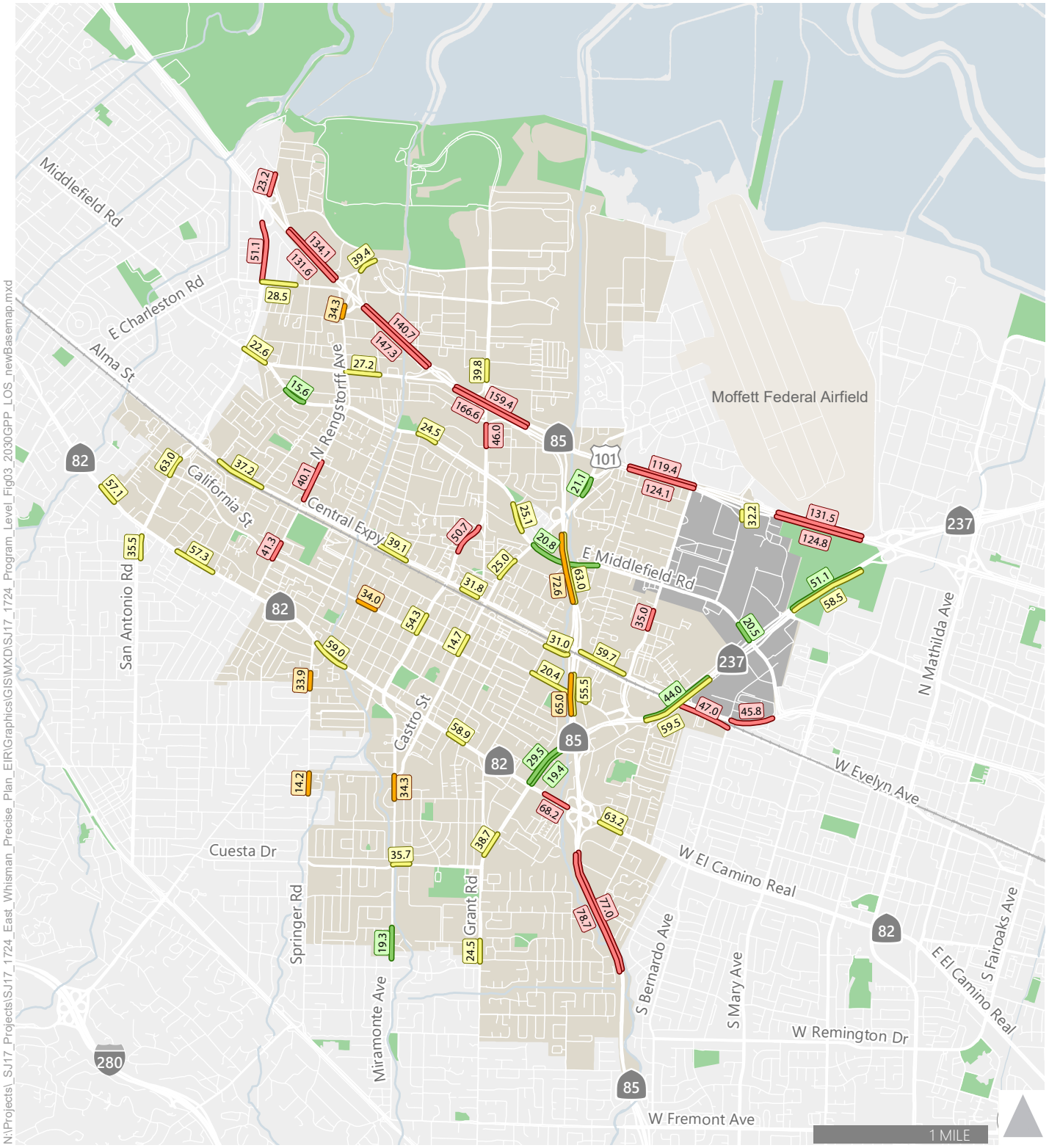
LOS F with ADT (x1,000)

East Whisman Precise Plan Area

City of Mountain View

Figure 2

Cumulative Year 2030 General Plan Conditions
Daily Roadway and Freeway Volumes and Level of Service



Study Location Segments

- LOS B & C with ADT (x1,000)
- LOS D with ADT (x1,000)
- LOS E with ADT (x1,000)
- LOS F with ADT (x1,000)
- East Whisman Precise Plan Area
- City of Mountain View

Figure 3

Cumulative Year 2030 General Plan with Project Conditions Daily Roadway and Freeway Volumes and Level of Service

4. ADJACENT JURISDICTION ROADWAY SEGMENT ANALYSIS

Operations of roadway segments in adjacent jurisdictions were also evaluated to determine potential deficiencies. These roadways were analyzed by dividing the forecasted roadway volumes by the future roadway capacities to obtain future volume-to-capacity (V/C) ratios. A V/C ratio of 1.0 or greater during the AM and PM peak one-hour indicates a deficient roadway. Given the large population and employment for the region, and the complex travel patterns, only a portion of trips on any roadway segment in an adjacent jurisdiction is expected to have originated from a resident or job within the City of Mountain View. The deficient lane miles with more than 10 percent of the traffic attributed to Mountain View are identified as deficient lane miles. The total and percentage of deficient lane miles for each adjacent were also calculated.

Freeway facilities operated by Caltrans and expressways operated by the County of Santa Clara were regarded as adjacent jurisdictions. Operations of these facilities, which include facilities that are part of VTA's Congestion Management Program, were evaluated according to the methods described above.

The results for the AM peak hour are presented in **Table 7** and the results for the PM peak hour are presented in **Table 8**. For several cities, including Milpitas, Cupertino, Santa Clara and San Jose, the percent of deficient lane miles under 2030 Conditions decreased compared to 2017 Conditions. This change is caused by two factors: 1) the total lane miles with deficient V/C ratios would increase significantly due to the traffic volume growth, and therefore City of Mountain View traffic would become a smaller portion of the total congested lane miles; and 2) with the land use changes in 2030 conditions, an increased percentage of trip ends associated with City of Mountain View are expected to connect within the city or to nearby cities, which is also demonstrated by the reduced VMT per service population results presented in **Chapter 2**.

Table 7 Morning Peak Hour Adjacent Jurisdiction Summary

City	Year 2017 Scenario			Year 2030 Scenarios					
	Existing (Scenario 1)			Year General Plan (Scenario 2)			Year 2030 General Plan with Project Conditions (Scenario 3)		
	Total Lane Miles with Deficient V/C Ratio[1]	Deficient Lane Miles[1,2]	Percent of Deficient Lane Miles	Total Lane Miles with Deficient V/C Ratio[1]	Deficient Lane Miles[1,2]	Percent of Deficient Lane Miles	Total Lane Miles with Deficient V/C Ratio[1]	Deficient Lane Miles[1,2]	Percent of Deficient Lane Miles
Major Arterial and Collector Roadways									
Campbell	0.0	0.0	0.0%	4.9	0.0	0.0%	4.9	0.0	0.0%
Cupertino	1.1	0.7	66.7%	8.3	0.0	0.0%	7.8	0.0	0.0%
Gilroy	0.0	0.0	0.0%	1.0	0.0	0.0%	1.0	0.0	0.0%
Los Altos	0.0	0.0	0.0%	4.3	1.4	**33.5%**	4.6	2.7	**58.6%**
Los Altos Hills	0.0	0.0	0.0%	9.2	1.7	18.6%	8.5	1.0	12.2%
Los Gatos	0.0	0.0	0.0%	4.5	0.0	0.0%	4.4	0.0	0.0%
Milpitas	36.3	7.1	19.6%	92.1	0.0	0.0%	92.0	0.0	0.0%
Monte Sereno	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Morgan Hill	3.5	0.0	0.0%	3.0	0.0	0.0%	3.3	0.0	0.0%
Palo Alto	4.6	3.1	67.4%	29.2	14.3	**49.0%**	26.7	12.4	**46.6%**
San Jose	27.3	2.8	10.2%	225.0	0.0	0.0%	222.8	0.0	0.0%
Santa Clara	1.1	0.9	82.6%	21.0	0.0	0.0%	19.1	3.0	15.5%
Saratoga	3.2	2.0	63.8%	10.2	0.0	0.0%	10.7	0.0	0.0%
Sunnyvale	1.7	1.3	77.0%	14.2	7.4	**51.9%**	13.1	9.1	**69.8%**
Freeways, State Highways, and Expressways									
Caltrans Facilities[3]	311.4	71.5	23.0%	635.4	45.5	7.2%	652.3	72.9	11.2%
Expressways[4]	19.3	2.8	14.7%	101.7	4.4	4.3%	99.7	7.0	7.1%

Notes:

1. Lane miles of less than 0.5 were rounded to 0.
2. Deficient lane miles are where Mountain View traffic is greater than or equal to 10 percent of the roadway volume. For evaluating deficiencies, if deficient lane miles attributable to the City are less than 0.5, the deficiencies are considered acceptable. Mountain View traffic based on select zone analysis using one-half external trip approach (II, 0.5*IX, and 0.5*XI).
3. Includes all Caltrans facilities (freeways and state highways) within Santa Clara County but outside of the Mountain View city limits.
4. Includes all expressway facilities within Santa Clara County but outside of the Mountain View city limits.

Deficiencies are identified in **bold text**.

Source: Fehr & Peers, November 2018.

Table 8 Evening Peak Hour Adjacent Jurisdiction Summary

City	Year 2017 Scenario			Year 2030 Scenarios					
	Existing (Scenario 1)			Year 2030 General Plan (Scenario 2)			Year 2030 General Plan with Project Conditions (Scenario 3)		
	Total Lane Miles with Deficient V/C Ratio[1]	Deficient Lane Miles[1,2]	Percent of Deficient Lane Miles	Total Lane Miles with Deficient V/C Ratio[1]	Deficient Lane Miles[1,2]	Percent of Deficient Lane Miles	Total Lane Miles with Deficient V/C Ratio[1]	Deficient Lane Miles[1,2]	Percent of Deficient Lane Miles
Major Arterial and Collector Roadways									
Campbell	1.1	0.0	0.0%	3.5	0.0	0.0%	3.3	0.0	0.0%
Cupertino	0.0	0.0	0.0%	2.0	0.0	0.0%	2.5	0.0	0.0%
Gilroy	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Los Altos	0.0	0.0	0.0%	1.1	0.7	**69.8%**	1.7	0.7	**44.1%**
Los Altos Hills	0.0	0.0	0.0%	4.7	0.9	19.2%	4.9	0.8	15.6%
Los Gatos	0.0	0.0	0.0%	0.7	0.0	0.0%	0.6	0.0	0.0%
Milpitas	22.6	3.4	15.1%	73.8	0.0	0.0%	74.3	0.0	0.0%
Monte Sereno	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Morgan Hill	0.0	0.0	0.0%	1.7	0.0	0.0%	1.6	0.0	0.0%
Palo Alto	1.8	1.2	65.1%	17.2	10.5	**61.2%**	17.1	12.3	**72.2%**

Table 8 Evening Peak Hour Adjacent Jurisdiction Summary

City	Year 2017 Scenario			Year 2030 Scenarios					
	Existing (Scenario 1)			Year 2030 General Plan (Scenario 2)			Year 2030 General Plan with Project Conditions (Scenario 3)		
	Total Lane Miles with Deficient V/C Ratio[1]	Deficient Lane Miles[1,2]	Percent of Deficient Lane Miles	Total Lane Miles with Deficient V/C Ratio[1]	Deficient Lane Miles[1,2]	Percent of Deficient Lane Miles	Total Lane Miles with Deficient V/C Ratio[1]	Deficient Lane Miles[1,2]	Percent of Deficient Lane Miles
San Jose	10.6	0.8	7.3%	89.1	0.0	0.0%	93.9	0.0	0.0%
Santa Clara	0.0	0.0	0.0%	8.7	0.0	0.0%	8.7	0.0	0.0%
Saratoga	1.2	0.0	0.0%	4.8	0.0	0.0%	4.8	0.0	0.0%
Sunnyvale	0.0	0.0	0.0%	3.7	0.9	**25.3%**	5.0	1.6	**32.0%**
Freeways, State Highways, and Expressways									
Caltrans Facilities[3]	232.2	71.5	30.8%	553.9	43.8	7.9%	551.9	65.0	11.8%
Expressways[4]	8.5	1.2	14.6%	59.3	3.4	5.8%	67.2	9.2	13.7%

Notes:

1. Lane miles of less than 0.5 were rounded to 0.
2. Deficient lane miles are where Mountain View traffic is greater than or equal to 10 percent of the roadway volume. For evaluating deficiencies, if deficient lane miles attributable to the City are less than 0.5, the deficiencies are considered acceptable. Mountain View traffic based on select zone analysis using one-half external trip approach (II, 0.5*IX, and 0.5*XI).
3. Includes all Caltrans facilities (freeways and state highways) within Santa Clara County but outside of the Mountain View city limits.
4. Includes all expressway facilities within Santa Clara County but outside of the Mountain View city limits.

Deficiencies are identified in **bold text**.

Source: Fehr & Peers, November 2018.

5. TRANSPORTATION DEFICIENCIES AND IMPROVEMENTS

Program-level project deficiencies and improvements are discussed in this chapter. The following sections identify all of the deficiencies and improvements for the Year 2030 General Plan with Project Conditions, which includes land use changes in the East Whisman Precise Plan (EWPP) area.

VMT PER SERVICE POPULATION

The project does not have a deficiency regarding VMT per service population because it is projected to reduce the existing value of 18.15 to 16.81. The EWPP includes efforts to reduce vehicle trips through the introduction of residential development in a jobs rich area, by implementing pedestrian and bicycle improvements, including improved access to the nearby LRT stations, and requiring Transportation Demand Management (TDM) Programs, and a peak hour office trip cap. This effort combined with the recent North Bayshore Precise Plan, San Antonio Precise Plan, and El Camino Real Precise Plan have increased the amount of residential development in Mountain View, which has the effect of reducing the Citywide VMT per service population.

MOUNTAIN VIEW ROADWAY SEGMENT OPERATIONS

The project will contribute to or cause deficient roadway segments in Mountain View including those projected to exceed their LOS threshold due to the addition of project traffic and those that currently exceed their LOS threshold and where the addition of project traffic exceeds 1 percent of the segment's capacity. These segments are presented below:

2. California Street between Escuela Avenue and Shoreline Boulevard✪
8. Central Expressway between Bernardo Avenue and Middlefield Road*
16. El Camino Real between Grant Road and Southbound 85 Ramps*✪
21. Evelyn Avenue between SR 237 and Bernardo Avenue
30. Miramonte Avenue between El Camino Real and Cuesta Drive✪
35. Rengstorff Avenue between Southbound US 101 Ramps and Old Middlefield Way✪
36. Rengstorff Avenue between Montecito Avenue and Central Expressway✪
37. Rengstorff Avenue between Central Expressway and California Street✪
38. San Antonio Road between Bayshore Parkway and NB US 101 Ramps (Palo Alto)
39. San Antonio Road between Southbound US 101 Ramps and Charleston Road*✪ (Palo Alto)
43. Shoreline Boulevard between SB US 101 Ramps and Middlefield Road
44. Shoreline Boulevard between Montecito Avenue and Central Expressway✪
46. Springer Road between El Monte Avenue and Cuesta Drive

47. Whisman Road between Middlefield Road and Central Expressway

* Denotes Congestion Management Program (CMP) facility

✪ Denotes segment that was also identified as a significant impact in the *City of Mountain View 2030 General Plan and Greenhouse Gas Reduction Program Environmental Impact Report*.

Deficiency TRANS-1

Under Year 2030 conditions, implementation of East Whisman Precise Plan would increase motor vehicle traffic and congestion, which would result in degraded roadway segment levels of service below acceptable thresholds on several roadway study segments. Six segments, including Central Expressway between Bernardo Avenue and Middlefield Road, Evelyn Avenue between SR 237 and Bernardo Avenue, San Antonio Road between Bayshore Parkway and NB US 101 Ramps, Shoreline Boulevard between SB US 101 Ramps and Middlefield Road, Springer Road between El Monte Avenue and Cuesta Drive, and Whisman Road between Middlefield Road and Central Expressway, were not identified as an impacted segment in the General Plan EIR.

Improvement TRANS-1

The roadway segments could be widened to improve the LOS to meet the citywide level of service standard. While widening roadways would result in improved levels of service and decreased vehicle delays, the additional pavement width and crossing distance conflicts with the City's multi-modal goals and desire to better balance transportation investments. Alternatively, the City can consider potential operational improvements, such as signal timing and coordination, to ensure that the roadway system is optimized for safe and efficient traffic flow where these improvements are feasible and under the authority and jurisdiction of the City to implement. While signal timing and coordination may improve levels of service on some roadways, the City cannot be certain at this time that such modifications would fully improve these deficiencies and no other feasible improvements have been identified. Due to the conflicts with the City's multi-modal policies and physical constraints, these deficiencies would remain under Year 2030 with Project Conditions.

MOUNTAIN VIEW FREEWAY SEGMENT OPERATIONS

The project will contribute to or cause deficient freeway segments in Mountain View including those projected to exceed their LOS threshold due to the addition of project traffic and those that currently exceed their LOS threshold and where the addition of project traffic exceeds 1 percent of the segment's capacity. **Table 9** identifies the segments that fail to meet Caltrans and VTA standards and therefore have a deficiency.

Table 9 Year 2030 General Plan with Project Conditions:
Daily Freeway Segment Volume and Level of Service Summary

Freeway Segment[1]		Existing Roadway Type/ Future Roadway Type	Year 2009 Scenario		Year 2030 Scenario		Does Not Meet Caltrans LOS Standard[5]	Does Not Meet VTA CMP LOS Standard[6]	Deficiency Based on Caltrans Criteria[7]	Deficiency Based on VTA CMP Criteria[7]
			Existing (Scenario 1)		Year 2030 General Plan with Project Conditions (Scenario 3)					
			Daily Volume[2]	LOS[3]	Daily Volume[2]	LOS[3]				
NB SR 85*	Fremont Ave. to El Camino Real	3-Lane Freeway	69,700	E	77,000	F	✓	✓	✓	✓
	SR 237 to Evelyn Ave.	3-Lane Freeway	48,700	C	55,500	D	✓		✓	
	Evelyn Ave. to Moffett Blvd.	3-Lane Freeway	47,300	C	63,000	D	✓		✓	
SB SR 85*	Moffett Blvd. to Evelyn Ave.	3-Lane Freeway	49,700	C	72,600	E	✓		✓	
	Evelyn Ave. to SR 237	3-Lane Freeway	48,600	C	65,000	E	✓		✓	
	El Camino Real to Fremont Ave.	3-Lane Freeway	68,900	E	78,700	F	✓	✓	✓	✓
NB US 101*	SR 237 to Ellis St.	4-Lane Freeway	103,500	F	124,800	F	✓	✓	✓	✓
	Ellis St. to Moffett Blvd.	4-Lane Freeway	105,400	F	119,400	F	✓	✓	✓	✓
	SR 85 to Old Middlefield Rd.	4-Lane Freeway	131,300	F	159,400	F	✓	✓	✓	✓
	Old Middlefield Rd. to Rengstorff Ave.	4-Lane Freeway	110,800	F	140,700	F	✓	✓	✓	✓
	Rengstorff Ave. to San Antonio Rd.	4-Lane Freeway	106,700	F	134,100	F	✓	✓	✓	✓
SB US 101*	San Antonio Rd. to Rengstorff Ave.	4-Lane Freeway	103,600	F	131,600	F	✓	✓	✓	✓
	Rengstorff Ave. to Old Middlefield Rd.	4-Lane Freeway	113,300	F	147,300	F	✓	✓	✓	✓
	Old Middlefield Rd. to SR 85	4-Lane Freeway	131,300	F	166,600	F	✓	✓	✓	✓
SB US 101*	Moffett Blvd. to Ellis St.	4-Lane Freeway	99,200	F	124,100	F	✓	✓	✓	✓
	Ellis St. to SR 237	4-Lane Freeway	96,400	E	131,500	F	✓	✓	✓	✓

Table 9 Year 2030 General Plan with Project Conditions:
Daily Freeway Segment Volume and Level of Service Summary

Freeway Segment[1]		Existing Roadway Type/ Future Roadway Type	Year 2009 Scenario		Year 2030 Scenario		Does Not Meet Caltrans LOS Standard[5]	Does Not Meet VTA CMP LOS Standard[6]	Deficiency Based on Caltrans Criteria[7]	Deficiency Based on VTA CMP Criteria[7]
			Existing (Scenario 1)		Year 2030 General Plan with Project Conditions (Scenario 3)					
			Daily Volume[2]	LOS[3]	Daily Volume[2]	LOS[3]				
EB SR 237*	El Camino Real to SR 85	2-Lane Freeway	16,900	B	19,400	B				
	Sylvan Wy. to Middlefield Rd./ Maude Ave.	2-Lane Freeway/ 3-Lane Freeway	43,400	E	59,500	D	✓		✓	
	Middlefield Rd./ Maude Ave. to US 101	2-Lane Freeway/ 3-Lane Freeway	42,700	D	58,500	D	✓		✓	
WB SR 237*	US 101 to Middlefield Rd./Maude Ave.	2-Lane Freeway/ 3-Lane Freeway	42,700	D	51,100	C				
	Middlefield Rd./ Maude Ave. to Sylvan Way	2-Lane Freeway/ 3-Lane Freeway	41,300	D	44,000	C				
	SR 85 to El Camino Real	2-Lane Freeway	26,800	C	29,500	C				

Notes:

1. Major roadway nearest the count location
2. Average Daily Traffic (ADT) volume based on traffic counts collected in April and May 2018.
3. LOS – Level of Service
4. The number of lanes of a freeway segment includes high occupancy vehicles (HOV) lanes but excludes auxiliary lanes.
5. Does not meet Caltrans LOS Standard – Does not meet the LOS C/D cusp Standard
6. Does not meet CMP LOS Standard – Does not meet the VTA CMP LOS E Standard
7. Roadway segment impact criteria are discussed in the Significance Impact Criteria section.
8. One percent of a 2-Lane freeway capacity is ~480 vehicles per day (one percent of LOS E maximum daily volume threshold). One percent of a 3-Lane Freeway capacity is approximately ~720 vehicles per day. One percent of a 4-Lane Freeway capacity is ~970 vehicles per day.

* Denotes Congestion Management Program (CMP) facility

Source: Fehr & Peers, November 2018.

Deficiency TRANS-2

> **Under Year 2030 conditions, implementation of the East Whisman Precise Plan would increase motor vehicle traffic and congestion, which would result in degraded freeway segment levels of service below acceptable thresholds on several freeway study segments.**

Improvement TRANS-2

> To improve the LOS, these freeway segments would need to be widened by one or more lanes to meet the VTA level of service standard. Most of the freeways serving Mountain View are constrained by the available right-of-way and funding. Additionally, all of the segments are under Caltrans jurisdiction and the City of Mountain View cannot ensure that improvements to freeway segments are made. Therefore, the deficiencies would remain until the improvements are constructed.

ROADWAY SEGMENTS IN ADJACENT JURISDICTIONS

The project will contribute to or cause deficient roadway segments in Los Altos, Palo Alto, and Sunnyvale. However, no deficiencies were found on freeway segments outside of Mountain View. The City of Mountain View's General Plan identified significant impacts to roadway segments in the same jurisdictions.

Deficiency TRANS-3

> **Under Year 2030 conditions, implementation of the East Whisman Precise Plan would increase motor vehicle traffic and congestion outside the City of Mountain View.**

Improvement TRANS-3

No feasible improvements are available since implementation of the necessary improvements does not have complete funding available and the City of Mountain View cannot control implementation of roadway improvements outside of the City of Mountain View's jurisdiction. Thus, implementation of the land use changes would contribute to or cause deficient roadway segment in adjacent communities and no feasible improvements have been identified that would reduce the deficiency.

APPENDIX A: UPDATE OF THE GENERAL PLAN
LAND USE CAPACITY – BY TAZ

Existing Conditions (2017)*								
TAZ Number	SF Units	MF Units	Office SF	R&D SF	Industrial SF	Retail SF	Restaurant SF	Hotel Rooms
*3039***	281	109	0	0	0	1,595	0	0
*3040****	75	471	0	0	0	41,596	5,588	0
3045	0	0	945,382	56,888	0	0	0	0
3046	0	0	19,176	157,903	36,000	0	0	0
3047	0	0	533,078	690,868	109,582	0	0	0
3048	0	0	397,510	63,000	0	0	0	0
3049	0	0	0	781,295	0	0	0	0
3050	0	0	0	299,436	0	0	0	0
3087	0	0	444,154	35,177	34,230	0	0	0
3088	0	0	287,649	163,900	0	0	5,000	0
3089	0	0	0	0	0	0	0	0
3090	0	0	131,124	147,149	0	0	0	0
3140	0	0	340,000	64,708	16,250	0	0	0
Total	***356***	***580***	***3,098,073***	***2,460,324***	***196,062***	***43,191***	***10,588***	***0***

* Existing land uses provided by the City via parcel-level GIS shapefile. Existing uses do not include the 600 National, 580 Clyde, 464 Ellis, 575 E Middlefield proposed projects and entitlements. 600 National was removed from the data.

** The "Gas Station" has been classified as "Retail" (1,595 sf). Existing residential units are outside the Precise Plan boundary.

*** The existing "Fast Food" parcel was classified as "Restaurant" (3,888 sf), the "Mini-Mart" was classified as "Retail" (2,000 sf), and the "Grade School" was classified as "Retail" (18,463 sf). Existing residential units are outside the Precise Plan boundary.

2030 General Plan Conditions (Cumulative No Project)*								
TAZ Number	SF Units	MF Units	Office SF	R&D SF	Industrial SF	Retail SF	Restaurant SF	Hotel Rooms
3039	326	106	0	0	0	1,595	0	0
3040	75	471	0	0	0	41,596	5,588	0
3045	0	0	1,126,155	56,888	0	0	0	0
3046	0	0	99,176	157,903	36,000	0	0	0
3047	0	64	635,684	690,868	109,582	0	0	0
3048	0	0	397,510	63,000	0	0	0	0
3049	0	0	45,000	781,295	0	0	0	0
3050	0	0	28,000	299,436	0	0	0	0
3087	0	0	584,808	35,177	34,230	0	0	0
3088	0	0	287,649	163,900	0	0	5,000	0
3089	0	0	162,090	0	0	0	0	0
3090	0	6	233,543	147,149	0	0	0	0
3140	0	0	340,000	64,708	16,250	0	0	0
Total	***401***	***647***	***3,939,615***	***2,460,324***	***196,062***	***43,191***	***10,588***	***0***

*Cumulative No Project Conditions also include 153,000 square feet of office and 70 residential units from the San Antonio Road Transfer of Development Rights

2030 General Plan with Project Conditions (Cumulative with Project)								
TAZ Number	SF Units	MF Units	Office SF	R&D SF	Industrial SF	Retail SF	Restaurant SF	Hotel Rooms
3039	326	130	0	0	0	6,595	10,133	0
3040	75	540	10,000	0	0	61,463	15,588	0
3045	0	560	1,404,246	0	0	10,000	0	0
3046	0	0	588,224	0	0	0	10,000	200
3047	0	1,730	1,564,831	180,289	47,773	0	0	0
3048	0	0	1,073,000	0	0	5,000	0	0
3049	0	0	1,222,483	157,350	0	5,000	0	0
3050	0	0	450,647	58,356	0	0	0	0
3087	0	470	607,776	0	0	0	0	0
3088	0	960	461,256	0	0	10,000	10,000	0
3089	0	505	97,000	0	0	0	5,000	0
3090	0	613	299,724	0	0	5,000	0	0
3140	0	139	673,047	0	0	0	0	0
Total	***401***	***5,647***	***8,452,234***	***395,995***	***47,773***	***103,058***	***50,721***	***200***

APPENDIX B: UPDATED MOUNTAIN VIEW TRAVEL MODEL VALIDATION RESULTS

FEHR PEERS

MEMORANDUM

Date: June 10, 2011

To: Stephanie Williams, Martin Alkire, and Mike Vroman, City of Mountain View

From: Daniel Rubins, P.E., Robert Eckols, P.E and David Robinson, P.E.

Subject: ***Mountain View Travel Demand Model Update***

SJ09-1084

Fehr & Peers has completed a sub-area model validation for the Mountain View General Plan update using the Mountain View travel demand forecasting (TDF) model. The Mountain View travel demand model is the most local tool available for developing long-range traffic forecasts for streets and highways in the greater Mountain View area. The purpose of the sub-area TDF model development effort was to update the base and future year land use and roadway network inputs while maintaining consistency with the structure of the Santa Clara Valley Transportation Authority (VTA) regional TDF model. This memorandum summarizes the results of the sub-area model development validation and Year 2030 land use and network assumptions.

CONSISTENCY WITH VTA TDF GUIDELINES

Following the VTA *Local Transportation Model Consistency Guidelines,* Fehr & Peers updated portions of the Mountain View TDF model roadway network, land use and script (e.g., trip distribution, mode choice, and assignment) to reflect the current VTA TDF model structure and input assumptions[1]. Based on conversations with City and VTA staff, two approaches were considered for the trip generation estimates within the City of Mountain View:

1. Use the VTA TDF trip generation equations to estimate productions and attractions.

2. Maintain the off-model trip generation estimation process described in the *Mountain View Travel Demand Model* (Dowling Associates, June 2004) technical report for travel to, from, and within the City of Mountain View. Productions and attractions outside of the City of Mountain View were extracted from the VTA TDF model.

Also, two approaches were considered to develop daily measures of effectiveness including:

1. Summing individual peak period (e.g., mid-night, morning, mid-day and evening) vehicle trip assignments to develop the daily assignment.

2. Maintain the daily 24-hour period vehicle assignment based on a factor of peak hour roadway capacities.

Based on the conversations with the City and VTA staff, and the available resources, Fehr & Peers maintained the off-model trip generation estimation process and daily model structure of the Year 2002 TDF model and, to the extent possible, updated the Mountain View TDF model

[1] *Local Transportation Model Consistency Guidelines*, Santa Clara County Transportation Authority: Congestion Management Authority, May 2009.

script to be consistent with the VTA TDF model. Since the Mountain View TDF model utilized a number of static factors from the VTA TDF model as inputs (examples), major land use and/or network (either roadway or transit) changes may require new inputs from an updated VTA TDF model run. Specifically, the static factors used from the VTA TDF model should be updated if:

- The model wide unbalanced production and attraction ratios by trip purpose change by more than 5 to 10 percent.
- Regional roadway network (e.g., a new interchange, HOV lanes, etc.) or transit network (e.g., transit coverage, frequency, etc.) changes that would substantially affect mode choice.

General Model Consistency and Database Consistency with VTA TDF Model

The City of Mountain View TDF model is a focused subarea model of the VTA TDF model. The City of Mountain View TDF model meets the consistency requirements by producing the following:

- Person trip productions and attractions by traffic analysis zone,
- Person trip distribution,
- Mode choice (based on VTA TDF mode choice factors), and
- Vehicle assignments.
    - AM and PM peak hour

Relative to the VTA TDF model, no changes were made to the land use or roadway network data outside of the City of Mountain View.

TECHNICAL APPROACH

The base year model (Year 2002) described in Dowling Associates *Mountain View Travel Demand Model* (June 2004) technical report was utilized for the model update. The Year 2002 version of the model was developed concurrently with the update of the VTA TDF model from TRANPLAN to the TP+ software. However, some of the VTA TDF model roadway network, land use, and script have been updated since the completion of the Mountain View TDF model in 2004. Thus, the 2004 input data was updated inside and outside the City as described in **Table 1** to develop the base year (2009) City of Mountain View travel demand model.

Upon completion of the City of Mountain View TDF model inputs and structure updates, Fehr & Peers completed static and dynamic validations for the base year (2009). Static model validation is the term used to describe model performance in terms of how closely the model's output matches existing travel data in the base year. Dynamic validation focuses on the model's ability to predict reasonable differences in outputs as inputs are changed. The key static and dynamic tests are discussed in further detail below.

Validation Guidelines

Static Validation

Since it would be impossible for any travel demand forecasting model to precisely replicate all counts within a given roadway network, two-way daily validation guidelines have been established by Caltrans and other agencies. These guidelines are meant to measure the TDF model's relative performance in forecasting existing travel volumes as compared to existing counts while maintaining sensitivity to land use and roadway network changes. Key static validation standards for daily TDF models based on the Caltrans guidelines[2] are summarized below.

- The two-way sum of the volumes on all roadway links for which counts are available should be within 10 percent of the counts.
- At least 75 percent of the roadway links for which counts are available should be within the maximum desirable deviation, which ranges from approximately 15 to 68 percent depending on total roadway volume (the larger the volume, the less deviation is permitted).
- The model-wide coefficient of determination (R^2) is suggested to be greater than 0.77.
- The correlation coefficient between the actual ground counts and the estimated traffic volumes should be greater than 88 percent.
- All roadway screenlines should be within the maximum desirable deviation, which ranges from approximately 17 to 64 percent depending on total screenline volume.

Although not stated in the Caltrans standards, an additional Fehr & Peers validation guideline was applied to the Year 2009 Mountain View TDF model:

- The Root Mean Square Error (RMSE) should not exceed 30 percent. This measure of effectiveness (MOE) is most important for screenlines, but is also used to describe the certainty of functional classification and volume ranges.

Dynamic Validation

The traditional approach to the validation of TDF models (i.e., static validation) is to compare the link volumes for the model's base year to actual traffic counts taken 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 important test of a model's accuracy would focus on the model's ability to predict reasonable differences in outputs as inputs are changed; in other words, "dynamic" rather than static validation.

INITIAL BASE MODEL RUN

The initial sub-area validation results are attached (see **Tables B-1** to **B-15**) and are referred to as Run 00, which includes Daily, AM and PM two-way tables for individual segments, screenlines, volume ranges and functional classification. For each of the validation periods, most of the static

[2] *Travel Forecasting Guidelines*, California Department of Transportation (Caltrans), November 1992.

validation statistics (i.e., percent of segments and screenlines within Caltrans maximum deviation, two-way sum of all links counted and percent root mean square error) are not met, and most of the street segments are not within an acceptable deviation.

In general, the base year TDF model overestimated volumes on most facilities in Mountain View for the daily model run. While during the AM and PM peak hours the base year model generally overestimated volumes on Central Expressway and Moffett Boulevard. Based on the validation results for Run 00, we conducted the following tests to improve model validation and improve consistency with the VTA TDF model:

- Corrected number of lanes for local streets and freeways
- Updated US 101/SR 85 interchange
- Updated the turn penalty file
- Updated land use within Mountain View, the San Francisco Bay Area counties, and Association of Monterey Bay Governments (AMBAG) counties
- Removed external stations for AMBAG counties (San Benito, Santa Cruz, and Monterey County), and replaced with traffic analysis zones and AMBAG land use
- Modified roadway speeds and capacities by area and functional types
- Modified distribution and assignment convergence criteria
- Modified k-factors (i.e., adjustments to better replicate County-to-County travel)
- Modified friction factors by trip purpose
- Modified mode-choice split by trip purpose
- Modified AM and PM peak hour diurnal factors
- Modified daily capacity factor (for conversion of peak hour to daily)
- Modified speed-delay curves by functional type

For each of the adjustments, we ran the TDF model and reviewed the traffic volume forecasts and validation statistics to verify the direction and magnitude of change.

SUMMARY OF MODEL CHANGES

A summary of the adjustments we made for the Mountain View travel demand model update (Run 9) are presented in **Table 1**. **Figures 1** and **2** shows the traffic analysis zones (TAZs) and roadway network within the City of Mountain View, respectively.

TABLE 1
BASE YEAR MOUNTAIN VIEW TRAVEL DEMAND MODEL CHANGES

Model Component	Change from Initial Base Year Model (Run 00)
Roadway Network Inputs	Lane Coding - Shoreline Blvd changed from 4- to 6-lanes between El Camino Real and Wright Ave.
	Lane Coding - Evelyn Ave changed from 2- to 4-lanes between Calderon Ave and Bernardo Ave.
	Lane Coding - Evelyn Ave changed from 4- to 2-lanes between Bernardo Ave and Reed Ave.
	Lane Coding - Whisman Rd changed from 2- to 4-lanes between Whisman Station Dr and South Whisman Rd.
	Lane Coding - W. Dana St changed from 2- to 4-lanes between Pioneer Way and Moorpark Way.
	Lane Coding - Ellis St changed from 6- to 4-lanes between Middlefield Rd and Manila Dr.
	Lane Coding - El Monte Ave changed from 2- to 4-lanes between El Camino Real and Springer Rd.
	Lane Coding - Miramonte Ave changed from 2- to 4-lanes between El Camino Real and south of Cuesta Dr.
	Lane Coding - San Antonio Rd changed from 4- to 3-lanes (one northbound) between Charleston Rd. and US 101 Southbound Ramps.
	Lane Coding - San Antonio Rd changed from 4- to 2-lanes between US 101 Southbound Ramps and Bayshore Pkwy.
	Lane Coding - California St changed from 4- to 2-lanes between Franklin St and Bush St.
	Lane Coding - San Antonio Rd changed from 4- to 6-lanes between California St and Central Expy.
	Lane Coding - Bayshore Pkwy changed from 4- to 2-lanes between Garcia Ave and Salado Dr.
	Lane Coding - Narrowed Garcia Ave changed from 4- to 2-lanes between Bayshore Pkwy and Charleston Rd.
	Reduced Old Middlefield Rd capacity and speed between Middlefield Rd and US 101 Southbound Ramps.
	Reduced Middlefield Rd capacity and speed between San Antonio Rd and Central Expy.
	To reflect new US 101/SR 85 interchange, updated freeway network within Mountain View: • US 101 between Oregon Expy and Ellis St • SR 85 between US 101 and Fremont Ave • SR 237 between US 101 and SR 85
	Updated TAZ centroids 470, 482, 503, 570, 807, and 1058 to allow inbound and outbound travel.
	Lane Coding - I-880 changed from 4- to 6-lanes between US 101 and Brokaw Rd.

TABLE 1
BASE YEAR MOUNTAIN VIEW TRAVEL DEMAND MODEL CHANGES

Model Component	Change from Initial Base Year Model (Run 00)
Roadway Network Inputs (continued)	Lane Coding - US 101 changed from 4- to 8-lanes between Cochrane Rd and SR 85.
	SR 87 upgraded to a freeway with HOV lanes.
	Modified northbound US 101 on-ramps at San Antonio Rd and Rengstorff Ave to prevent freeway diversion.
	Updated speed and capacity table (See **Table A-1**) to be consistent with 2000 MTC travel demand model validation (2000 RVAL).
	Updated turn penalty file.
Land Use Inputs	City staff provided updated existing land use within the City of Mountain View (See **Tables A-2** and **A-3**).
	Productions and attractions by trip purpose for non-City of Mountain View TAZs obtained from Year 2005 VTA TDF model (i.e., MTC, CMP, and AMBAG).
	External stations (TAZs 2,991 to 2,997) replaced with AMBAG land use and TAZs.
Network Preprocessing	Updated script to include freeway auxiliary capacity of 1,500 vehicles per hour per lane.
Trip Generation	No changes to script or excel workbook for Mountain View TAZs.
Trip Distribution	Distribution convergence criteria modified: • PARAMETERS MAXITERS = 99 • PARAMETERS MAXRMSE = 1
	Updated k-factors by trip purpose for each origin-destination pair with VTA k-factors.
	Unused Mountain View TAZs assigned a k-factor of 999.
	Updated friction factors by trip purpose from VTA travel demand model.
Mode Choice	Turned-off adjustment of Santa Clara County HOV vehicles to San Mateo County and San Francisco County.
	Updated mode split by trip purpose for each origin-destination pair based on VTA base year travel demand model. Undefined origin-destination pairs within the VTA model use the VTA default mode-split by trip purpose within the San Francisco Bay Area region.
	AM and PM peak hour diurnal factors converted to 1.0 for each district origin-destination pair.
Trip Assignment	Updated assignment convergence criteria: • PARAMETERS COMBINE = EQUI • PARAMETERS MAXITERS = 99 • PARAMETERS GAP = 0 • PARAMETERS RELATIVEGAP = 0.01 • PARAMETERS AAD = 0 • PARAMETERS RAAD = 0 • PARAMETERS RMSE = 0

TABLE 1
BASE YEAR MOUNTAIN VIEW TRAVEL DEMAND MODEL CHANGES

Model Component	Change from Initial Base Year Model (Run 00)
Trip Assignment (continued)	Updated daily assignment script to correctly factor peak hour roadway capacities to daily roadway capacities.
	Changed daily capacity factor from 16 to 12.
	To be consistent with the VTA travel demand model, the speed-delay curves were modified by removing the volume-to-capacity factor of 0.92 and the alternate ceiling speed-delay function of 10 times free-flow time.
Network Post Processing	Corrected congested speed for PM peak hour.

Note:
TAZ = Traffic Analysis Zone
Source: Fehr & Peers, June 2011.

Updated Base Model Run

By adjusting the model inputs and scripts listed in **Table 1** we were able to substantially improve the validation and reduce the overall error in the model for street and highway segments in and near Mountain View. The improved model results (Run 9) are attached – Daily, AM and PM two-way tables for individual segments, screenlines, volume ranges and functional classification (see **Tables B-16** to **B-30**).

STATIC VALIDATION RESULTS

Fehr & Peers collected 72-hour roadway segment counts for 47 roadway segments with the study area in February and March 2009. Fehr & Peers also used published daily Caltrans counts from 2007 to perform the static validation. The initial sub-area validation results (Run 00) and the updated Mountain View TDF model (Run 09) are presented in **Table 2**. For the General Plan update, the daily model is the most relevant time period for roadway forecasts.

As expected, the daily validation statistics improved with the modifications to the model in Run 9, but the number of segments within the maximum deviation, and percent of screenlines within Caltrans Standard Deviations are not within Caltrans criteria. Similar improvement occurred with Run 9 during the AM and PM peak hours for the 2-way sum of all links counted, coefficient of determination, correlation coefficient, and RMSE. Most of the Mountain View roadway segments outside the daily and AM peak hour maximum deviation thresholds are east-west roadways parallel to US 101 (e.g., Middlefield Road and Central Expressway) and north-south roadways accessing US 101 (e.g., San Antonio Road, and Ellis Street). The PM peak hour roadway segments outside of the PM peak hour maximum deviation are north-south roadways (e.g., San Antonio Road and Shoreline Boulevard) accessing US 101 and Central Expressway.

TABLE 2
SUB-AREA TDF MODEL STATIC VALIDATION SUMMARY

Validation Item	Criterion for Acceptance[1]	Daily		AM Peak Hour		PM Peak Hour	
		Run 00[2]	Run 9[3]	Run 00[2]	Run 9[3]	Run 00[2]	Run 9[3]
Count Locations	N/A	58	58	47	47	47	47
% of Links within Caltrans Standard Deviations	At Least 75%	28%	**43%**	66%	49%	57%	**64%**
% of Screenlines within Caltrans Standard Deviations	100%	14%	**57%**	57%	**86**%	86%	86%
2-way Sum of All Links Counted	Within ± 10%	+ 67%	**+ 7%**	+ 22%	**+ 16%**	+ 10%	**-9**%
Coefficient of Determination (R^2)	At Least 75%	95%	94%	44%	**70%**	51%	**69%**
Correlation Coefficient	Greater than 88%	98%	97%	66%	**84%**	71%	**83%**
RMSE	30% or less	111%	**30%**	69%	**37%**	54%	**31%**

Notes:

[1] *Travel Forecasting Guidelines*, California Department of Transportation, November 1992.

[2] Run 00 = Initial base year Mountain View TDF model run

[3] Run 9 = Updated base year Mountain View TDF model run

Bold text indicates model validation improved from Run 00.

Shaded text boxes indicate model validation does not meet guidelines.

Source: Fehr & Peers, June 2011.

DYNAMIC VALIDATION RESULTS

Dynamic validation was performed for both land use and roadway network changes.

Land Use Changes

One form of dynamic validation is to vary the amounts of a particular land use type and compare the magnitude and direction of change from the original forecast. Of particular interest are the resulting changes in:

- Vehicle Trips (VT)
- Change in VT per land use unit change (VT/DU or KSF)
- Vehicle Miles Traveled (VMT)
- Change in VMT per land use unit change (VMT/DU or KSF)
- Vehicle Hours Traveled (VHT)
- Change in VHT per land use unit change (VHT/DU or KSF)
- Vehicle miles traveled per vehicle trip (VMT/VT)

This form of dynamic validation was performed on the Mountain View TDF model by adjusting the number of multi-family dwelling units of TAZs 3093, 3106, and 3127 and retail use square footage in TAZ 3106. As shown in **Figure 3**, these zones were selected due to the geographic location and existing land use mix within the zones. To isolate each of these changes, tests were done sequentially, changing one item at a time. Citywide VHT, VT, and VMT based on select zone analysis using one-half external trip approach (Internal to Internal (II), one-half Internal to External (0.5*IX), and one-half External to Internal (0.5*XI)). The daily vehicle miles traveled (VMT) and vehicle hours traveled (VHT) estimated using highway skim files (e.g., based on an average trip length and free flow travel times of each origin-destination pair), which is not sensitive to roadway congestion.

TAZ 3093 is located on the north of El Camino Real between Mariposa Avenue and Shoreline Boulevard and consists of 230 dwelling units (80 single-family and 150 multi-family), 30 ksf of non-residential land use (17 ksf of medical office, 4 ksf of restaurant and 9 ksf of service), one (1) gas station, one (1) mini-mart, and one (1) fast-food restaurant. TAZ 3106 is located at the San Antonio Shopping Center and consists of 746 ksf of non-residential land use (53 ksf of office, 669 ksf of retail, 16 ksf of restaurant and 8 ksf of service), one (1) mini-mart, and two (2) fast-food restaurants. Finally, TAZ 3127 is located on Crittenden Lane and consists of 460 ksf of R&D and 50 daily recreational trips. The values added to TAZ 3093, 3106, and 3127 were selected based on the interaction with adjacent land use, and to determine if the model is sensitive to the location and magnitude of various land use changes. The results are shown in **Table 3**.

TABLE 3
RESULTS OF DYNAMIC VALIDATION LAND USE TESTS

TAZ	Scenario	VT[1]	Change in VT/ DU or KSF	VMT[1]	Change in VMT/ DU or KSF	VHT[1]	Change in VHT/ DU or KSF	VMT/VT
Residential Land Use Results								
Base Case		457,332	N/A	2,587,094	N/A	73,390	N/A	5.66
TAZ 3093[2]	Added 1 DU[1]	457,337	5.0	2,587,109	15.0	73,390	0.00	5.66
	Removed 1 DU	457,330	-2.0	2,587,096	2.0	73,390	0.00	5.66
	Added 10 DU	457,372	4.0	2,587,173	7.9	73,393	0.30	5.66
TAZ 3093[2] (Cont.)	Added 100 DU	457,720	3.9	2,587,886	7.9	73,426	0.36	5.65
	Added 1,000 DU	461,179	3.8	2,595,643	8.5	73,770	0.38	5.63
	Added 2,500 DU	466,977	3.9	2,612,169	10.0	74,429	0.42	5.59
TAZ 3106[3]	Added 2,500 DU	466,008	3.5	2,601,328	5.7	74,117	0.29	5.58
TAZ 3127[4]	Added 2,500 DU	468,136	4.3	2,634,285	18.9	75,023	0.65	5.63
All MV TAZs[5]	1.1 times all DUs	472,255	4.6	2,635,874	15.1	75,159	0.55	5.58

TABLE 3
RESULTS OF DYNAMIC VALIDATION LAND USE TESTS

TAZ	Scenario	VT[1]	Change in VT/ DU or KSF	VMT[1]	Change in VMT/ DU or KSF	VHT[1]	Change in VHT/ DU or KSF	VMT/VT
Retail Land Use Results								
Base Case		457,332	N/A	2,587,094	N/A	73,390	N/A	5.66
TAZ 3106[3]	Added 10 KSF[1]	457,582	25.0	2,588,160	106.6	73,424	3.40	5.66
	Added 100 KSF	459,814	24.8	2,597,736	106.4	73,730	3.40	5.65
	Added 300 KSF	464,714	24.6	2,619,451	107.9	74,416	3.42	5.64
TAZ 3127[4]	Added 300 KSF	465,153	26.1	2,633,401	154.4	74,745	4.52	5.66

Notes:

[1] VT = Vehicle Trips, VMT = Vehicle Miles Traveled, VHT = Vehicle Hours Traveled, DU = dwelling unit, KSF = 1,000 square feet. Citywide VHT, VT, and VMT based on select zone analysis using one-half external trip approach (Internal to Internal (II), one-half Internal to External (0.5*IX), and one-half External to Internal (0.5*XI)).

[2] Traffic Analysis Zone (TAZ) 3093 is located north of El Camino Real between Mariposa Ave and Shoreline Blvd.

[3] TAZ 3106 is located at the San Antonio Shopping Center bounded by San Antonio Rd., California St., Showers Dr., and El Camino Real.

[4] TAZ 3127 is located east of N. Shoreline Blvd. between Crittenden Ln. and North Rd. (southern edge of Shoreline at Mountain View Park).

[5] For all TAZs within Mountain View, the amount of residential land use (both single family and multi-family) was increased by 10 percent (1,051 single family and 2,171 multi-family dwelling units).

Source: Fehr & Peers, June 2011.

- **Model Stability** – The change in VT per added DU ranges from -2.0 to 5.0 depending on whether a DU was subtracted or added to the existing land use mix. This is reasonable given the mix of land uses in the various zones and a person trip generation rate of 9.37 for multi-family dwelling units. By removing a DU, the magnitude of change in VT is roughly half that as adding a DU and the VT decreases instead of increases. Furthermore, the "noise" (i.e., change in VMT per DU) is less than 1/100th of a percent when adding or subtracting 1 DU. This shows appropriate response to change in either direction and is a good indicator that the model will behave reasonably with the addition of future land use.

- **Land Use Mix and Destination** – Sensitivity to variations in regional accessibility is characteristic of most TDF models and the City of Mountain View TDF model, based on tests described below, appears to adequately account for this variable. Locating 2,500 DU in the San Antonio Shopping Center near retail uses generated the lower end of the range (an average trip length of 5.58 miles per trip for TAZ 3106) and the placement of 2,500 DU further away from existing retail land use generated the higher range (an average trip length of 5.63 miles per trip for TAZ 3127).

- **Travel Time** – The VHT per DU change is fairly stable around 0.0 to 0.65. The retail land use has a greater variability between 3.40 and 4.52 for VHT per KSF.

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- **Trip Length** – As shown in **Table 3**, the VMT per VT is stable and typically is around 5.65 for retail land uses. This measure is used to reduce the influence of vehicle trip generation differences between land use types by normalizing the trip distance by total trips. As land use is added near existing compatible uses such as TAZ 3106, the distance traveled decreases slightly. The opposite is also true: as land use is removed from nearby uses or added further from compatible uses such as TAZ 3127, the distance traveled increases.

Roadway Network Changes

A second set of dynamic validation tests were performed to examine how the model would respond to changes in the road network. For this exercise, we completed the following tests:

- Narrowed El Camino Real in Mountain View (between San Antonio Road and Grant Road)
- Removed segment of Central Expressway (between Farley Street and Shoreline Boulevard)
- Removed segment of Latham Street (between Ortega Avenue and Rengstorff Ave)

Figure 4 shows the location of each of these roadway tests. To isolate each of these changes, only one of the tests was done at a time. The description and results of each test are discussed in **Table 4**. These dynamic roadway changes showed local changes as expected. However, there were also changes (increase and/or decrease in roadway volumes) outside the city limits of Mountain View. Thus, the TDF model should only be used for developing long-range traffic forecasts for streets and highways in and near the city limit for City land use and roadway projects.

TABLE 4
RESULTS OF DYNAMIC VALIDATION NETWORK TESTS

Dynamic Test	Expected Change	Actual Change
Narrow El Camino Real	Volume on modified links will decrease and volume on parallel links will increase.	• El Camino Real was narrowed from 6 to 4 lanes between San Antonio Road and Grant Road. Reducing capacity on El Camino Real increased volume on parallel local streets such as Middlefield Road, Central Expressway, California Street, Latham Street, Cuesta Drive and Foothill Expressway to bypass El Camino Real. Given the length of the narrowing some traffic shifted to US 101 and I-280 too.
Delete Central Expressway	Volume on connecting links will decrease and volume on parallel links will increase.	• Deleted Central Expressway between Farley Street and Shoreline Boulevard. The model shifted east/west trips to parallel roadways such as US 101, Middlefield Road, California Street, Latham Street, El Camino Real and I-280 to bypass Central Expressway.
Delete Latham Street	Volume on connecting links will decrease and volume on parallel links will increase.	• Deleted Latham Street between Ortega Avenue and Rengstorff Avenue. The model shifted east/west trips to parallel roadways such as California Street, and El Camino Real to bypass Latham Street.

Source: Fehr & Peers, June 2011.

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YEAR 2030 LAND USE AND NETWORK ASSUMPTIONS

This section describes the future land use and network input assumptions for the Year 2030 City of Mountain View travel demand forecast model. These inputs include Year 2030 land use by traffic analysis zone (TAZ), and planned roadway functional classifications, speeds, capacities, and number of travel lanes. The Year 2030 model will be used estimate travel demand under long-term cumulative growth projections.

Land Use Changes

Similar to the Year 2009 model, future land use data is instrumental in estimating daily and peak hour trip generation and subsequently future traffic demand. Fehr & Peers reviewed and refined Year 2030 land use estimates based on input from City of Mountain View and VTA land use projections. For all other areas outside Mountain View, we used future year land use data from the VTA model which incorporates Association of Bay Area Governments (ABAG) 2007 Projections.

The land use data contained within each TAZ was developed by City staff. Fehr & Peers completed citywide checks and TAZ level checks to verify land use inputs. **Table A-2** shows the citywide employee and residential population in Year 2030. While **Table A-3** shows the citywide land use by type in Year 2030. These ratios were compared to other data sources (e.g., ABAG and Census) and compared between years. We also reviewed the changes in land use by category for each area. The overall totals are reasonable and reflect moderate amounts of growth citywide to 2030.

Roadway Network Changes

The future roadway network used the same calibrated speed and capacities from the base year model; however, the base year roadway network was modified to include regional transportation improvements identified in the *Valley Transportation Plan (VTP) 2035* published by the Santa Clara Valley Transportation Authority Valley (January 2009) and the City's current General Plan Circulation Chapter (October 1992). This roadway network is used for the 1992 General Plan and proposed General Plan scenario includes modifications to roadway segment speeds, lanes, capacities, turn penalties, and functional class. The regional roadway improvements within Mountain View are summarized below with *VTP 2035* project number.

- SR 237 HOV/Express Lanes: Mathilda Ave to SR 85. (H11)
- SR 85 Northbound to Eastbound SR 237 Connector Ramp and Northbound SR 85 Auxiliary Lane. Includes braided SR 237 eastbound off-ramp between SR 85 and Dana Street. (H19)
- Southbound US 101 Auxiliary lanes between Ellis Street and SR 237. (H49)
- US 101 Southbound Improvements from San Antonio Road to Charleston/Rengstorff Avenue. (H55)
- SR 237 Westbound On-Ramp at Middlefield Road. (H63)
- SR 237 Eastbound Auxiliary Lanes: Mathilda Avenue to Fair Oaks Avenue. (H68)

The above list of projects is consistent with the Year 2030 roadway network used in the VTA travel demand model for which the productions and attractions outside the City of Mountain View

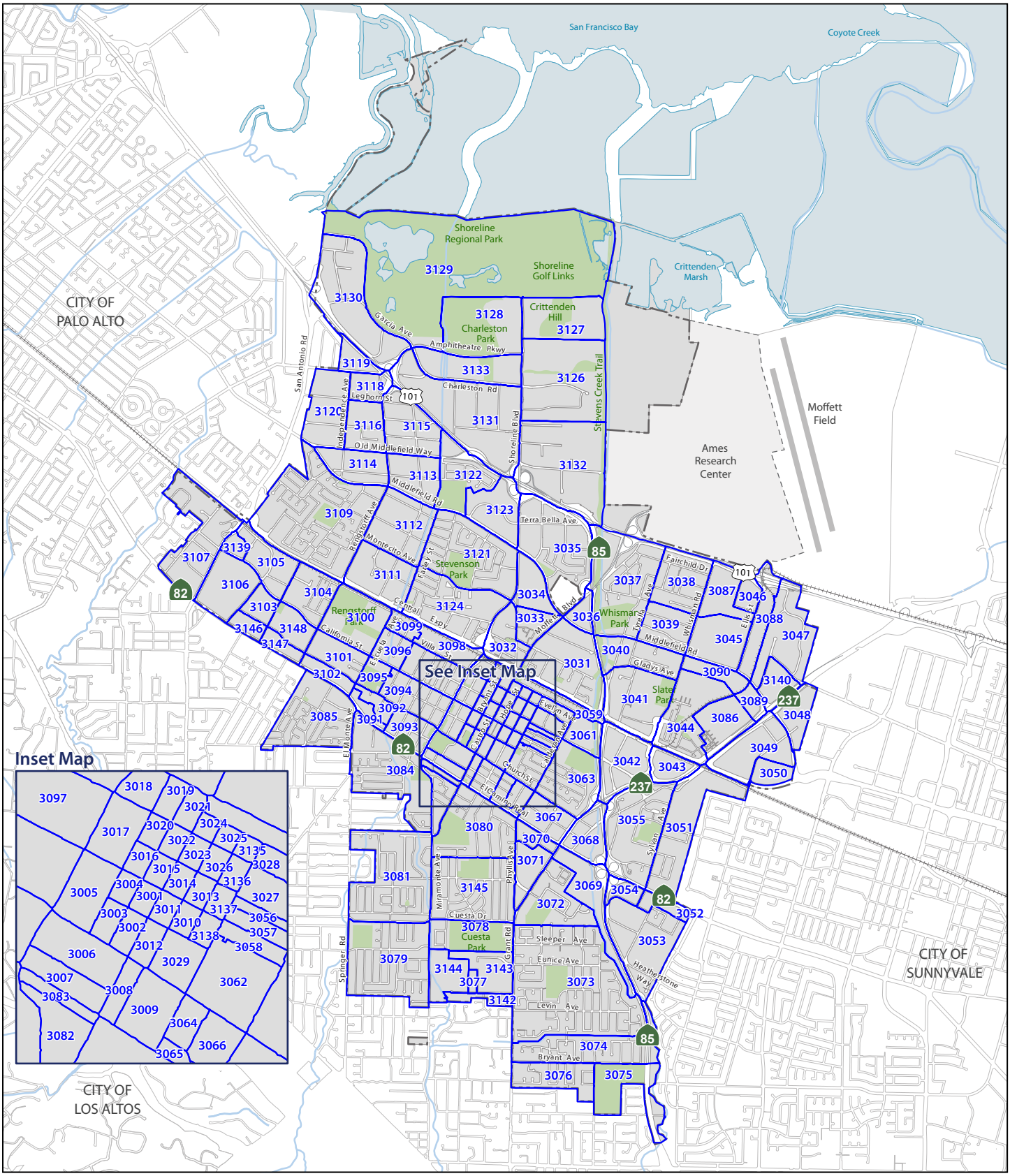
were extracted. Because land use projections in Mountain View are to 2030 and to be consistent with the VTA travel demand model for which the key inputs of the City of Mountain View were extracted (e.g., productions and attractions, and mode split factors), the *VTP 2030* was used to define roadway projects built by Year 2030. Thus, the *VTP 2035* roadway improvements listed below are not included in the VTP 2030 project list. The following *VTP 2035* roadway improvements are not included in the City of Mountain View travel demand model:

- US 101 Auxiliary lanes between Embarcadero Road and SR 85. (H33)
- SR 237/Mathilda Avenue and US 101/Mathilda Avenue Interchange improvements. (H65)
- SR 237 Westbound to Northbound US 101 Ramp Improvements. (H67)

CONCLUSION

Fehr & Peers has substantially improved the Mountain View TDF model's ability to forecast future traffic volumes and, therefore, have enhanced the best available tool for the CEQA process. To this end, the City of Mountain View TDF model update meets the intent of CEQA as it relates to the information that will be used for the transportation analysis.

Attachments



LEGEND

City of Mountain View

Traffic Analysis Zone (TAZ)

N

0 .25 .5 1 mile

City of Mountain View TDF Model

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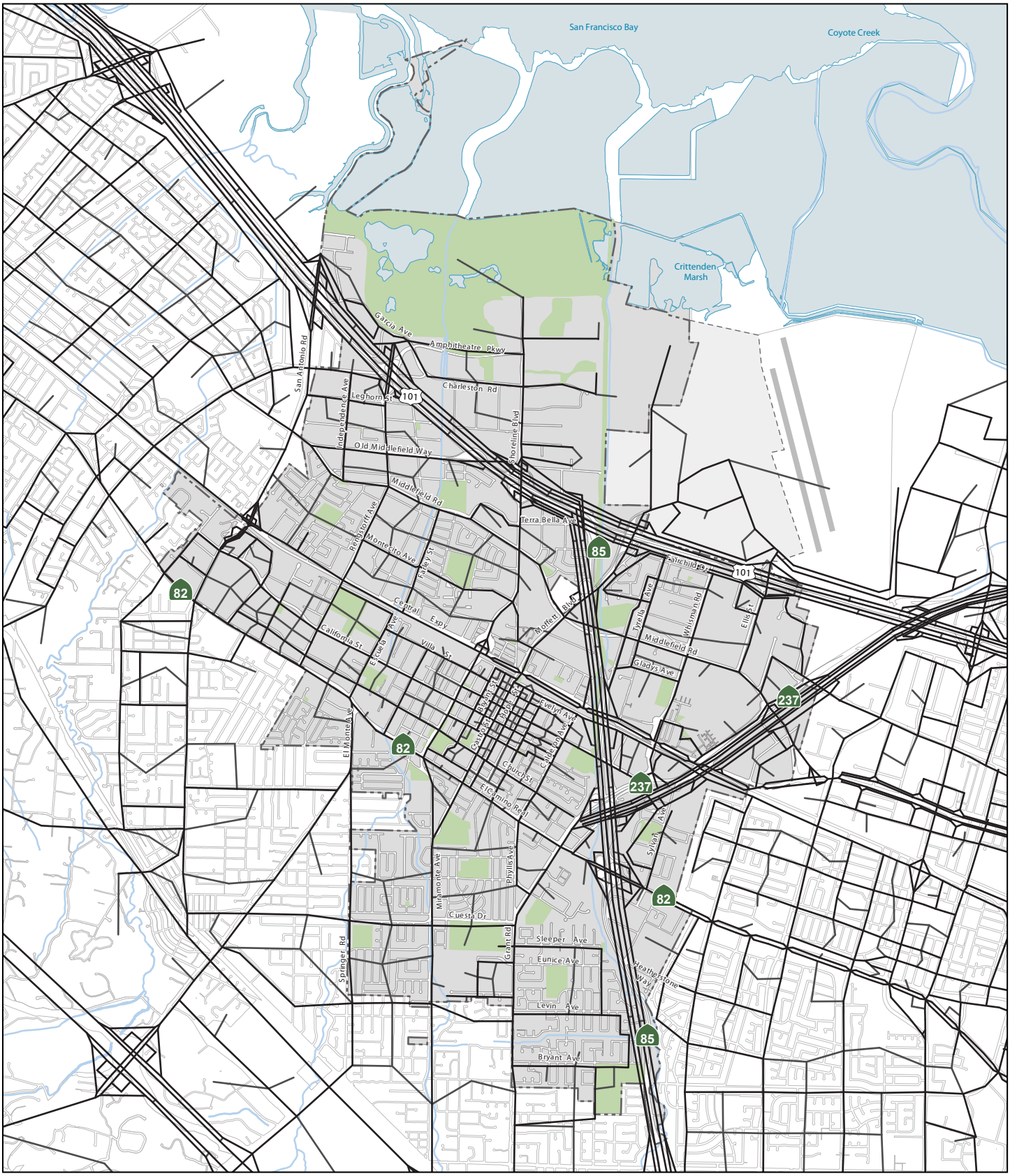
SJ08-1077

Traffic Analysis Zones (TAZs)

Figure 1



LEGEND

City of Mountain View

Model Roadway Network

N

0 .25 .5 1 mile

City of Mountain View TDF Model

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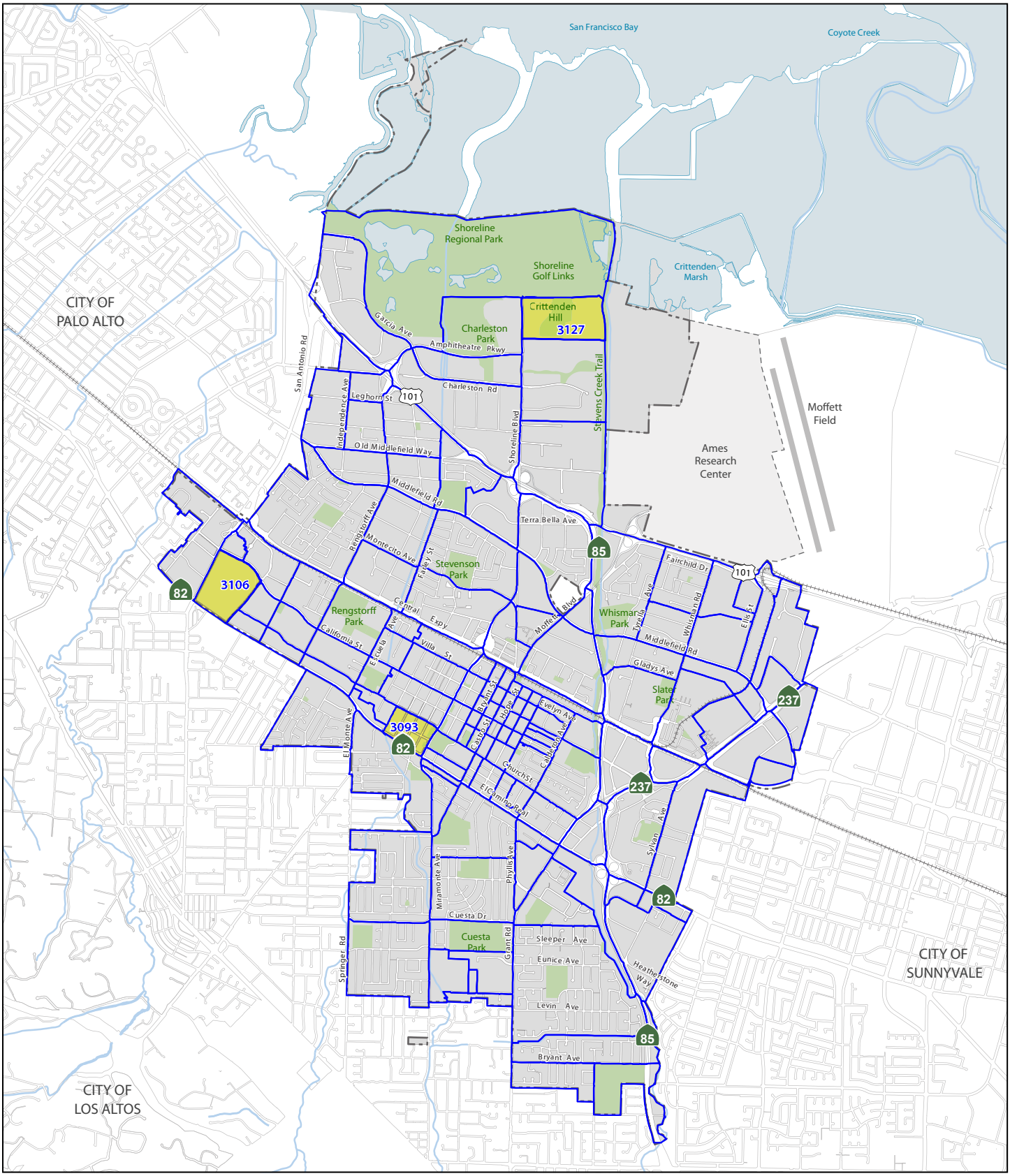
Travel Demand Forecasting Model Roadway Network

Figure 2



LEGEND

City of Mountain View

Traffic Analysis Zone (TAZ)

Dynamic Land Use TAZs

N

0 .25 .5 1 mile

City of Mountain View TDF Model

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Location of Dynamic Land Use TAZs

Figure 3

City of Mountain View TDF Model

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Dynamic Roadway Network Test Locations

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Figure 4

TABLE A-1:
CITY OF MOUNTAIN VIEW SPEED AND CAPACITY TABLE

Area Type		Facility Type								
		Frwy-to-Frwy	Freeway	Expy.	Collector	Frwy. Ramp	Dummy	Minor Arterial	Metered Ramp	Special Cat.
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Core	(0)	1,700 40	1,850 55	1,300 25	550 10	1,300 25	- -	800 15	700 20	- -
CBD	(1)	1,700 40	1,850 55	1,300 25	600 10	1,300 25	- -	850 20	700 20	- -
UBD	(2)	1,750 45	1,900 60	1,450 30	650 15	1,400 30	- -	900 25	800 25	- -
Urban	(3)	1,750 45	1,900 60	1,450 30	650 20	1,400 30	- -	900 25	800 25	1,780 55
Suburban	(4)	1,800 50	1,950 65	1,500 35	800 25	1,400 35	- -	950 30	900 30	- -
Rural	(5)	1,800 50	1,950 65	1,500 35	850 30	1,400 35	- -	950 35	900 30	- -
MV1	(6)	- -	- -	1,000 35	800 30	- -	- -	475 30	- -	- -

Notes:

Upper entry is vehicle per hour per lane (vphpl) capacity.

Lower entry is vehicle free-flow speed in miles per hour (mph).

Based on the Facility type attribute in the MTC and VTA travel demand models. Some facilities may have lower or higher values based on field conditions and Table D.12 of BAYCAST- 90 *Users Guide San Francisco Bay Area Travel Demand Model System (CUBE/Voyager Version)*, Metropolitan Transportation Commission (August, 2004).

Source: Fehr & Peers, January 2011.

TABLE A-2
CITY OF MOUNTAIN VIEW OCCUPIED LAND USE SUMMARY

Land Use	Existing (2009)	Year 2030 General Plan Scenarios	
		1992 General Plan	Proposed General Plan
Employees[1]	60,460	68,370	82,230
Residential Population	73,860	80,580	88,570
Service Population	134,320	148,950	170,800

Notes:

[1] Employees based on occupied non-residential square footage.

[2] Rounded to nearest 10 employees or residence.

[3] Land use summary does not include NASA AMES research center.

[4] Service Population within Mountain View = residence + employees

Source: City of Mountain View, *Background Data and Documentation General Plan Land Use Projection 2008-2030.* January 2011.

TABLE A-3:
CITY OF MOUNTAIN VIEW OCCUPIED LAND USE SUMMARY

Land Use	Units	General Plan Scenario		
		Existing (2009)	1992 General Plan	Proposed General Plan
Single Family	Dwelling Units	10,549	11,442	11,382
Multi-Family	Dwelling Units	21,704	25,296	29,169
Subtotal (Residential)	***Dwelling Units***	***32,253***	***36,738***	***40,551***
Office	Square Feet	2,369,932	5,699,164	10,776,900
Retail	Square Feet	3,003,524	3,707,248	4,008,081
Industrial	Square Feet	2,004,984	1,934,606	1,644,566
Research & Development	Square Feet	11,185,305	10,443,708	9,407,169
Medical Office	Square Feet	1,469,869	1,449,576	1,449,576
Restaurant	Square Feet	311,670	239,525	230,913
Service Commercial	Square Feet	1,635,868	1,371,684	1,324,836
Subtotal	***Square Feet***	***21,981,152***	***24,845,511***	***28,842,041***
Gas Station	Location	18	16	14
Hotel/Motel	Rooms	1,616	1,330	1,795
Mini Mart	Location	16	10	12
Fast Food	Location	16	11	12
Institutional/Recreation	Trips	18,947	17,526	22,915
Elementary School	Students	6,124	7,001	7,671
High School	Students	3,718	4,281	4,710
Church	Location	29	28	28
Subtotal	***(Various)***	***(Various)***	***(Various)***	***(Various)***

Notes:

[1] Land use summary does not include NASA AMES research center.

Source: City of Mountain View, *Background Data and Documentation General Plan Land Use Projection 2008-2030.* January 2011.

Table B-1: City of Mountain View Travel Demand Model Validation Results - Daily Two-Way Total Traffic Volumes

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
0	1007N	9057	9026	90579026	N	SR 85	Fremont Ave.	El Camino Real							
0	1007N (HOV)	6485	6488	64856488	N (HOV)	SR 85	Fremont Ave.	El Camino Real							
0	1007S	9068	9071	90689071	S	SR 85	El Camino Real	Fremont Ave.							
0	1007S (HOV)	6486	6484	64866484	S (HOV)	SR 85	El Camino Real	Fremont Ave.	224,916	115,000	1.96	0.136	No	109916	12081527056
0	1006N	6474	7282	64747282	N	SR 85	SR 237	Evelyn Ave.							
0	1006N (HOV)	9149	11415	914911415	N (HOV)	SR 85	SR 237	Evelyn Ave.							
0	1006N (AUX)	0	0		N (AUX)	SR 85	SR 237	Evelyn Ave.							
0	1006S	7281	6473	72816473	S	SR 85	Evelyn Ave.	SR 237							
0	1006S (HOV)	11420	11417	1142011417	S (HOV)	SR 85	Evelyn Ave.	SR 237							
0	1006S (AUX)	0	0		S (AUX)	SR 85	Evelyn Ave.	SR 237	162,670	78,000	2.09	0.150	No	84670	7169008900
0	1005N	4612	9023	46129023	N	SR 85	Evelyn Ave.	Moffett Blvd.							
0	1005N (HOV)	11418	11421	1141811421	N (HOV)	SR 85	Evelyn Ave.	Moffett Blvd.							
0	1005S	7295	4590	72954590	S	SR 85	Moffett Blvd.	Evelyn Ave.							
0	1005S (HOV)	11423	11419	1142311419	S (HOV)	SR 85	Moffett Blvd.	Evelyn Ave.	165,384	75,000	2.21	0.154	No	90384	8169267456
0	1004N	5421	9324	54219324	N	US 101	SR 237	Ellis St.							
0	1004N (HOV)	7518	5407	75185407	N (HOV)	US 101	SR 237	Ellis St.							
0	1004S	9001	5420	90015420	S	US 101	Ellis St.	SR 237							
0	1004S (HOV)	5406	5414	54065414	S (HOV)	US 101	Ellis St.	SR 237	276,190	158,000	1.75	0.136	No	118190	13968876100
0	1003N	9323	9322	93239322	N	US 101	Ellis St.	Moffett Blvd.							
0	1003N (HOV)	5405	5403	54055403	N (HOV)	US 101	Ellis St.	Moffett Blvd.							
0	1003S	7437	8999	74378999	S	US 101	Moffett Blvd.	Ellis St.							
0	1003S (HOV)	5402	5404	54025404	S (HOV)	US 101	Moffett Blvd.	Ellis St.	266,596	156,000	1.71	0.136	No	110596	12231475216
1002N	1002N	5393	9990	53939990	N	US 101	SR 85	Old Middlefield Rd.							
1002N	1002N (HOV)	5390	9992	53909992	N (HOV)	US 101	SR 85	Old Middlefield Rd.							
1002N	1002N (AUX)	0	0		N (AUX)	US 101	SR 85	Old Middlefield Rd.							
1002S	1002S	5869	5399	58695399	S	US 101	Old Middlefield Rd.	SR 85							
1002S	1002S (HOV)	5868	11379	586811379	S (HOV)	US 101	Old Middlefield Rd.	SR 85	394,394	227,000	1.74	0.136	No	167394	28020751236
0	1001N	9320	9318	93209318	N	US 101	Old Middlefield Rd.	Rengstorff Ave.							
0	1001N (HOV)	5382	5379	53825379	N (HOV)	US 101	Old Middlefield Rd.	Rengstorff Ave.							
0	1001S	6539	5386	65395386	S	US 101	Rengstorff Ave.	Old Middlefield Rd.							
0	1001S (HOV)	5400	9998	54009998	S (HOV)	US 101	Rengstorff Ave.	Old Middlefield Rd.	305,556	210,000	1.46	0.136	No	95556	9130949136
0	1000N	6538	9316	65389316	N	US 101	Rengstorff Ave.	San Antonio Rd.							
0	1000N (HOV)	5372	5370	53725370	N (HOV)	US 101	Rengstorff Ave.	San Antonio Rd.							
0	1000S	7305	9106	73059106	S	US 101	San Antonio Rd.	Rengstorff Ave.							
0	1000S (HOV)	5083	6105	50836105	S (HOV)	US 101	San Antonio Rd.	Rengstorff Ave.	275,007	194,000	1.42	0.136	No	81007	6562134049
1010E	1010E	9125	5602	91255602	E	SR 237	El Camino Real	SR 85							
1010W	1010W	4743	9125	47439125	W	SR 237	SR 85	El Camino Real	84,941	45,000	1.89	0.209	No	39941	1595283481
1009E	1009E	7279	6085	72796085	E	SR 237	Sylvan Wy.	Middlefield Rd./Maude Ave.							
1009E	1009E (AUX)	0	0		E (AUX)	SR 237	Sylvan Wy.	Middlefield Rd./Maude Ave.	141,989	74,000	1.92	0.158	No	67989	4622504121
1009W	1009W	5330	6084	53306084	W	SR 237	Middlefield Rd./Maude Ave.	Sylvan Wy.							
1008E	1008E	9606	11107	960611107	E	SR 237	Middlefield Rd./Maude Ave.	US 101							
1008E	1008E (AUX)	0	0		E (AUX)	SR 237	Middlefield Rd./Maude Ave.	US 101	126,408	75,000	1.69	0.154	No	51408	2642782464
1008W	1008W	8806	7289	88067289	W	SR 237	US 101	Middlefield Rd./Maude Ave.							
100	1N	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.	12,322	10,800	1.14	0.359	Yes	1522	2316484
101	1S	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps							
200	2N	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps	23,202	35,600	0.65	0.229	No	-12398	153710404
201	2S	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.							
300	3N	4605	35051	460535051	N	San Antonio Rd.	California St.	San Antonio Cir.	63,395	40,500	1.57	0.219	No	22895	524181025
301	3S	35051	4605	350514605	S	San Antonio Rd.	San Antonio Cir.	California St.							
400	4N	36114	9115	361149115	N	San Antonio Rd.	Loucks Ave.	El Camino Real	31,413	24,900	1.26	0.260	No	6513	42419169
401	4S	9115	36114	911536114	S	San Antonio Rd.	El Camino Real	Loucks Ave.							
500	5N	35063	7302	350637302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.	40,775	14,700	2.77	0.313	No	26075	679905625
501	5S	7302	35063	730235063	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps							
600	6N	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps	21,410	18,100	1.18	0.286	Yes	3310	10956100
601	6S	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.							
700	7N	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.	21,312	18,300	1.16	0.286	Yes	3012	9072144
701	7S	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.							
800	8N	4945	10420	494510420	N	N. Rengstorff Ave.	California St.	University Ave.	23,491	18,800	1.25	0.280	Yes	4691	22005481
801	8S	10420	4945	104204945	S	N. Rengstorff Ave.	University Ave.	California St.							
900	9N	9086	4963	90864963	N	El Monte Ave.	Springer Rd.	El Camino Real	30,598	16,500	1.85	0.294	No	14098	198753604
901	9S	4963	9086	49639086	S	El Monte Ave.	El Camino Real	Springer Rd.							
1000	10N	9080	9086	90809086	N	N. Springer Rd.	Cuesta Dr.	El Monte Ave.	4,859	7,400	0.66	0.440	Yes	-2541	6456681
1001	10S	9086	9080	90869080	S	N. Springer Rd.	El Monte Ave.	Cuesta Dr.							
1100	11N	9129	35045	912935045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.	58,180	30,000	1.94	0.241	No	28180	794112400
1101	11S	35045	9129	350459129	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps							
1200	12N	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps	36,142	25,000	1.45	0.255	No	11142	124144164
1201	12S	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.							
1300	13N	10589	5266	105895266	N	N. Shoreline Blvd.	Central Expy.	Montecito Ave.	27,605	26,800	1.03	0.252	Yes	805	648025
1301	13S	5266	10589	526610589	S	N. Shoreline Blvd.	Montecito Ave.	Central Expy.							
1400	14N	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.	34,739	23,300	1.49	0.265	No	11439	130850721
1401	14S	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.							
1500	15N	9142	9075	91429075	N	Miramonte Ave.	Cuesta Dr.	El Camino Real	14,892	13,400	1.11	0.325	Yes	1492	2226064
1501	15S	9075	9142	90759142	S	Miramonte Ave.	El Camino Real	Cuesta Dr.							
1600	16N	4618	10327	461810327	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.	5,615	9,700	0.58	0.380	No	-4085	16687225
1601	16S	10327	4618	103274618	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.							
1700	17N	9022	10007	902210007	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps	42,513	15,200	2.80	0.303	No	27313	745999969
1701	17S	10007	9022	100079022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp							
1800	18N	7508	36653	750836653	N	Moffett Blvd.	Central Ave.	E. Middlefield Rd.	41,184	13,500	3.05	0.325	No	27684	766403856
1801	18S	36653	7508	366537508	S	Moffett Blvd.	E. Middlefield Rd	Central Ave.							
1900	19N	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.	9,201	9,000	1.02	0.380	Yes	201	40401
1901	19S	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.							
2000	20N	36144	4616	361444616	N	Grant Rd.	Cuesta Dr.	Phyllis Avenue	61,304	37,200	1.65	0.229	No	24104	581002816
2001	20S	4616	36144	461636144	S	Grant Rd.	Phyllis Avenue	Cuesta Dr.							
2100	21N	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.	21,415	23,100	0.93	0.265	Yes	-1685	2839225
2101	21S	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.							
2200	22N	9618	7774	96187774	N	N. Whisman Rd.	Central Expy.	E. Middlefield Rd.	13,868	7,300	1.90	0.440	No	6568	43138624
2201	22S	7774	9618	77749618	S	N. Whisman Rd.	E. Middlefield Rd.	Central Expy.							
2300	23N	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps	32,669	9,000	3.63	0.380	No	23669	560221561
2301	23S	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.							
2400	24E	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.	41,495	20,700	2.00	0.275	No	20795	432432025
2401	24W	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.							
2500	25E	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps	40,433	16,900	2.39	0.294	No	23533	553802089
2501	25W	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.							
2600	26E	9110	8823	91108823	E	W. Middlefield Rd.	San Antonio Rd.	Old Middlefield Wy.	33,327	17,300	1.93	0.294	No	16027	256864729
2601	26W	8823	9110	88239110	W	W. Middlefield Rd.	Old Middlefield Wy.	San Antonio Rd.							
2700	27E	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.	3,447	6,200	0.56	0.475	Yes	-2753	7579009
2701	27W	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.							
2800	28E	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.	5,605	11,300	0.50	0.340	No	-5695	32433025
2801	28W	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.							
2900	29E	6402	4594	64024594	E	W. Middlefield Rd.	San Veron Ave.	Moffett Blvd.	16,571	13,700	1.21	0.325	Yes	2871	8242641
2901	29W	4594	6402	45946402	W	W. Middlefield Rd.	Moffett Blvd.	San Veron Ave.							
3000	30E	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.	14,466	13,200	1.10	0.325	Yes	1266	1602756
3001	30W	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.							
3100	31E	4587	9007	45879007	E	E. Middlefield Rd.	Ellis St.	SR 237	15,711	14,300	1.10	0.313	Yes	1411	1990921
3101	31W	9007	4587	90074587	W	E. Middlefield Rd.	SR 237	Ellis St.							
3200	32E	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.	60,341	26,000	2.32	0.255	No	34341	1179304281
3201	32W	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.							

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
3300	33E	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.	69,819	25,600	2.73	0.255	No	44219	1955319961
3301	33W	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.							
3400	34E	4949	7072	49497072	E	Central Expy.	Shoreline Blvd.	Moffett Blvd.	82,549	28,100	2.94	0.248	No	54449	2964693601
3401	34W	7072	4949	70724949	W	Central Expy.	Moffett Blvd.	Shoreline Blvd.							
3500	35E	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.	70,407	28,300	2.49	0.248	No	42107	1772999449
3501	35W	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85							
3600	36E	9613	9614	96139614	E	Central Expy.	Bernardo Ave.	E. Middlefield Rd.	63,019	25,500	2.47	0.255	No	37519	1407675361
3601	36W	9614	9613	96149613	W	Central Expy.	E. Middlefield Rd.	Bernardo Ave.							
3700	37E	7297	7270	72977270	E	W. Evelyn Ave.	Calderon Ave.	SB SR 85 Ramp	28,689	12,600	2.28	0.325	No	16089	258855921
3701	37W	7270	7297	72707297	W	W. Evelyn Ave.	SB SR 85 Ramp	Calderon Ave.							
3800	38E	7276	9016	72769016	E	E. Evelyn Ave.	SR 237	Bernardo Ave.	9,177	13,300	0.69	0.325	Yes	-4123	16999129
3801	38W	9016	7276	90167276	W	E. Evelyn Ave.	Bernardo Ave.	SR 237							
3900	39E	36706	36662	3670636662	E	E. Dana St.	Calderon Ave.	SR 237	6,599	6,200	1.06	0.475	Yes	399	159201
3901	39W	36662	36706	3666236706	W	E. Dana St.	SR 237	Calderon Ave.							
4000	40E	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.	11,336	11,400	0.99	0.340	Yes	-64	4096
4001	40W	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.							
4100	41E	4965	9115	49659115	E	El Camino Real	Los Altos Ave.	San Antonio Rd.	29,783	38,800	0.77	0.224	No	-9017	81306289
4101	41W	9115	4965	91154965	W	El Camino Real	San Antonio Rd.	Los Altos Ave.							
4200	42E	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.	50,461	38,200	1.32	0.224	No	12261	150332121
4201	42W	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.							
4300	43E	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.	62,246	47,800	1.30	0.204	No	14446	208686916
4301	43W	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.							
4400	44E	36029	4598	360294598	E	El Camino Real	Phyllis Ave.	Castro St.	76,754	51,900	1.48	0.199	No	24854	617721316
4401	44W	4598	36029	459836029	W	El Camino Real	Castro St.	Phyllis Ave.							
4500	45E	36093	6477	360936477	E	El Camino Real	Grant Rd.	SB SR 85 Ramps	81,715	51,200	1.60	0.199	No	30515	931165225
4501	45W	6477	36093	647736093	W	El Camino Real	SB SR 85 Ramps	Grant Rd.							
4600	46E	7291	36088	729136088	E	El Camino Real	NB SR 85 Ramps	Bernardo Ave.	89,115	53,600	1.66	0.195	No	35515	1261315225
4601	46W	36088	7291	360887291	W	El Camino Real	Bernardo Ave.	NB SR 85 Ramps							
4700	47E	9077	4953	90774953	E	Cuesta Dr.	Miramonte Ave.	Grant Rd.	28,196	16,300	1.73	0.294	No	11896	141514816
4701	47W	4953	9077	49539077	W	Cuesta Dr.	Grant Rd.	Miramonte Ave.							
									4,087,416	**2,443,500**					

Model/Count Ratio =	**1.67**	
Percent Within Caltrans Maximum Deviation =	**28%**	> 75%
Percent Root Mean Square Error =	**111%**	< 30%
Coefficient of Determination (R^2) =	**0.95**	> 0.77
Correlation Coefficient =	**0.98**	> 0.88

Total Count	**58**
Link Within Deviation	**16**
Link Outside Deviation	**42**

Table B-2: Mountain View Model Validation Results - Screenlines Using Daily Two-Way Traffic Volumes

Screenlines	CNT_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model/ Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
Screenline 1: North of US 101															
101	100	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.							
102	101	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps	12,322	10,800	1.14	0.56	Yes	1,522	2,316,484
103	500	35063	7302	350637302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.							
104	501	7302	35063	730235063	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps	40,775	14,700	2.77	0.52	No	26,075	679,905,625
105	1100	9129	35045	912935045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.							
106	1101	35045	9129	350459129	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps	58,180	30,000	1.94	0.40	No	28,180	794,112,400
								Screenline 1 =	111,277	55,500	**2.00**	0.31	No	55,777	3,111,073,729
								Percent RMSE =	**120%**						
Screenline 2: South of US 101															
201	200	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps							
202	201	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.	23,202	35,600	0.65	0.38	Yes	-12,398	153,710,404
203	2400	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.							
204	2401	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.	41,495	20,700	2.00	0.46	No	20,795	432,432,025
205	600	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps							
206	601	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.	21,410	18,100	1.18	0.48	Yes	3,310	10,956,100
207	2500	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps							
208	2501	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.	40,433	16,900	2.39	0.49	No	23,533	553,802,089
209	1200	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps							
210	1201	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.	36,142	25,000	1.45	0.42	No	11,142	124,144,164
211	1700	9022	10007	902210007	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
212	1701	10007	9022	100079022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	42,513	15,200	2.80	0.51	No	27,313	745,999,969
213	2300	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps							
214	2301	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.	32,669	9,000	3.63	0.57	No	23,669	560,221,561
								Screenline 2 =	237,864	140,500	**1.69**	0.21	No	97,364	9,479,748,496
								Percent RMSE =	**96%**						
Screenline 3: South of Central Expressway															
301	300	36114	9115	361149115	N	San Antonio Rd.	California St.	San Antonio Cir.							
302	301	9115	36114	911536114	S	San Antonio Rd.	San Antonio Cir.	California St.	63,395	40,500	1.57	0.36	No	22,895	524,181,025
303	700	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.							
304	701	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.	21,312	18,300	1.16	0.48	Yes	3,012	9,072,144
305	1400	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.							
306	1401	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.	34,739	23,300	1.49	0.44	No	11,439	130,850,721
307	1900	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.							
308	1901	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.	9,201	9,000	1.02	0.57	Yes	201	40,401
								Screenline 3 =	128,647	91,100	**1.41**	0.25	No	37,547	1,409,777,209
								Percent RMSE =	**57%**						
Screenline 4: North of Covington Road															
401	1600	4618	10327	461810327	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.							
402	1601	10327	4618	103274618	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.	5,615	9,700	0.58	0.57	Yes	-4,085	16,687,225
403	2100	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.							
404	2101	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.	21,415	23,100	0.93	0.44	Yes	-1,685	2,839,225
								Screenline 4 =	27,030	32,800	**0.82**	0.39	Yes	-5,770	33,292,900
								Percent RMSE =	**19%**						
Screenline 5: East of San Antonio Road															
501	2700	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.							
502	2701	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.	3,447	6,200	0.56	0.60	Yes	-2,753	7,579,009
503	3200	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.							
504	3201	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.	60,341	26,000	2.32	0.42	No	34,341	1,179,304,281
505	4200	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.							
506	4201	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.	50,461	38,200	1.32	0.37	Yes	12,261	150,332,121
								Screenline 5 =	114,249	70,400	**1.62**	0.28	No	43,849	1,922,734,801
								Percent RMSE =	**90%**						
Screenline 6: Central Mountain View															
601	1002N				N	US 101	SR 85	Old Middlefield Rd.							
602	1002S				S	US 101	Old Middlefield Rd.	SR 85	394,394	227,000	1.74	0.17	No	167,394	28,020,751,236
603	2800	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.							
604	2801	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.	5,605	11,300	0.50	0.55	Yes	-5,695	32,433,025
605	3300	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.							
606	3301	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.	69,819	25,600	2.73	0.42	No	44,219	1,955,319,961
607	4000	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.							
608	4001	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.	11,336	11,400	0.99	0.55	Yes	-64	4,096
609	4300	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.							
610	4301	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.	62,246	47,800	1.30	0.33	Yes	14,446	208,686,916
								Screenline 6 =	543,400	323,100	**1.68**	0.17	No	220,300	48,532,090,000
								Percent RMSE =	**120%**						
Screenline 7: East of SR 85															
501	1700	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
502	1701	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	42,513	15,200	2.80	0.51	No	27,313	745,999,969
503	3000	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.							
504	3001	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.	14,466	13,200	1.10	0.53	Yes	1,266	1,602,756
505	3500	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.							
506	3501	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85	70,407	28,300	2.49	0.41	No	42,107	1,772,999,449
								Screenline 7 =	127,386	56,700	**2.25**	0.31	No	70,686	4,996,510,596
								Percent RMSE =	**153%**						

Percent Within Caltrans Maximum Deviation = 14% = 100%

Total Count 7
Screenlines Within Deviation 1
Screenlines Outside Deviation 6

Table B-3
Results of Daily Model Validation

Validation Item	Criterion for Acceptance	Model Results
Total Counts	N/A	58
% of Links Within Caltrans Standard Deviations	At Least 75%	**28%**
%of Screenlines Within Caltrans Standard Deviations	100%	**14%**
2-way Sum of All Links Counted	Within 10%	**+ 67%**
Coefficient of Determination (R^2) =	At Least 77%	95%
Correlation Coefficient	Greater than 88%	98%
RMSE	30% or less	**111%**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-4
Results of Daily Model Area Validation by Functional Class

Functional Class	Counts	Volume-to-Count		RMSE
		Criteria	Model	
Freeway-to-Freeway	0	7%	N/A	**N/A**
Freeway	10	7%	**72%**	**75%**
Expressway	5	25%	**159%**	**161%**
Collector	3	25%	**-27%**	**36%**
Freeway Ramp	0	20%	N/A	**N/A**
Dummy Link	0	25%	N/A	**N/A**
Major Arterial	40	25%	**50%**	**75%**
Metered Ramp	0	25%	N/A	**N/A**
Special Category	0	25%	N/A	**N/A**
Overall	58			

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-5
Results of Daily Model Area Validation by Volume Range

Volume Range	Counts	Volume-to-Count		RMSE	
		Criteria	Model	Criteria	Model
Less than 1,000	0	200%	N/A	116%	**N/A**
1,000 to 2,499	0	100%	N/A	116%	**N/A**
2,500 to 4,999	0	50%	N/A	116%	**N/A**
5,000 to 9,999	7	25%	**39%**	43%	**122%**
10,000 to 19,999	19	20%	**62%**	28%	**95%**
20,000 to 24,999	4	20%	**40%**	25%	**54%**
25,000 to 39,999	12	15%	**73%**	25%	**100%**
40,000 to 49,999	3	15%	**58%**	30%	**63%**
50,000 to 59,999	3	10%	**58%**	30%	**59%**
60,000 to 89,999	10	10%	**72%**	19%	**75%**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-6: City of Mountain View Travel Demand Model Validation Results - AM Peak Two-Way Total Traffic Volumes

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
100	1N	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.	1,254	910	1.38	0.380	Yes	344	118336
101	1S	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps							
200	2N	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps	1,526	2,510	0.61	0.255	No	-984	968256
201	2S	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.							
300	3N	4605	35051	460535051	N	San Antonio Rd.	California St.	San Antonio Cir.	2,165	2,890	0.75	0.244	No	-725	525625
301	3S	35051	4605	350514605	S	San Antonio Rd.	San Antonio Cir.	California St.							
400	4N	36114	9115	361149115	N	San Antonio Rd.	Loucks Ave.	El Camino Real	1,523	2,030	0.75	0.275	Yes	-507	257049
401	4S	9115	36114	911536114	S	San Antonio Rd.	El Camino Real	Loucks Ave.							
500	5N	35063	7302	350637302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.	2,372	1,150	2.06	0.340	No	1222	1493284
501	5S	7302	35063	730235063	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps							
600	6N	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps	1,419	1,190	1.19	0.340	Yes	229	52441
601	6S	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.							
700	7N	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.	1,439	1,250	1.15	0.325	Yes	189	35721
701	7S	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.							
800	8N	4945	10420	494510420	N	N. Rengstorff Ave.	California St.	University Ave.	1,487	1,160	1.28	0.340	Yes	327	106929
801	8S	10420	4945	104204945	S	N. Rengstorff Ave.	University Ave.	California St.							
900	9N	9086	4963	90864963	N	El Monte Ave.	Springer Rd.	El Camino Real	1,555	1,480	1.05	0.313	Yes	75	5625
901	9S	4963	9086	49639086	S	El Monte Ave.	El Camino Real	Springer Rd.							
1000	10N	9080	9086	90809086	N	N. Springer Rd.	Cuesta Dr.	El Monte Ave.	247	630	0.39	0.440	No	-383	146689
1001	10S	9086	9080	90869080	S	N. Springer Rd.	El Monte Ave.	Cuesta Dr.							
1100	11N	9129	35045	912935045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.	2,486	2,590	0.96	0.255	Yes	-104	10816
1101	11S	35045	9129	350459129	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps							
1200	12N	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps	2,352	1,890	1.24	0.280	Yes	462	213444
1201	12S	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.							
1300	13N	10589	5266	105895266	N	N. Shoreline Blvd.	Central Expy.	Montecito Ave.	1,497	2,050	0.73	0.275	Yes	-553	305809
1301	13S	5266	10589	526610589	S	N. Shoreline Blvd.	Montecito Ave.	Central Expy.							
1400	14N	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.	1,740	1,860	0.94	0.286	Yes	-120	14400
1401	14S	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.							
1500	15N	9142	9075	91429075	N	Miramonte Ave.	Cuesta Dr.	El Camino Real	1,178	1,300	0.91	0.325	Yes	-122	14884
1501	15S	9075	9142	90759142	S	Miramonte Ave.	El Camino Real	Cuesta Dr.							
1600	16N	4618	10327	461810327	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.	483	720	0.67	0.440	Yes	-237	56169
1601	16S	10327	4618	103274618	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.							
1700	17N	9022	10007	902210007	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps	2,120	1,010	2.10	0.359	No	1110	1232100
1701	17S	10007	9022	100079022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp							
1800	18N	7508	36653	750836653	N	Moffett Blvd.	Central Ave.	E. Middlefield Rd.	2,038	950	2.15	0.380	No	1088	1183744
1801	18S	36653	7508	366537508	S	Moffett Blvd.	E. Middlefield Rd	Central Ave.							
1900	19N	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.	754	440	1.71	0.520	No	314	98596
1901	19S	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.							
2000	20N	36144	4616	361444616	N	Grant Rd.	Cuesta Dr.	Phyllis Avenue	3,426	2,750	1.25	0.248	Yes	676	456976
2001	20S	4616	36144	461636144	S	Grant Rd.	Phyllis Avenue	Cuesta Dr.							
2100	21N	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.	1,582	1,790	0.88	0.286	Yes	-208	43264
2101	21S	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.							
2200	22N	9618	7774	96187774	N	N. Whisman Rd.	Central Expy.	E. Middlefield Rd.	641	750	0.85	0.410	Yes	-109	11881
2201	22S	7774	9618	77749618	S	N. Whisman Rd.	E. Middlefield Rd.	Central Expy.							
2300	23N	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps	1,635	800	2.04	0.410	No	835	697225
2301	23S	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.							
2400	24E	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.	1,602	1,460	1.10	0.313	Yes	142	20164
2401	24W	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.							
2500	25E	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps	1,563	1,520	1.03	0.303	Yes	43	1849
2501	25W	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.							
2600	26E	9110	8823	91108823	E	W. Middlefield Rd.	San Antonio Rd.	Old Middlefield Wy.	2,189	1,640	1.33	0.294	No	549	301401
2601	26W	8823	9110	88239110	W	W. Middlefield Rd.	Old Middlefield Wy.	San Antonio Rd.							
2700	27E	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.	818	700	1.17	0.440	Yes	118	13924
2701	27W	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.							
2800	28E	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.	1,062	1,090	0.97	0.359	Yes	-28	784
2801	28W	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.							
2900	29E	6402	4594	64024594	E	W. Middlefield Rd.	San Veron Ave.	Moffett Blvd.	1,922	1,400	1.37	0.313	No	522	272484
2901	29W	4594	6402	45946402	W	W. Middlefield Rd.	Moffett Blvd.	San Veron Ave.							
3000	30E	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.	1,263	1,380	0.92	0.313	Yes	-117	13689
3001	30W	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.							
3100	31E	4587	9007	45879007	E	E. Middlefield Rd.	Ellis St.	SR 237	1,445	1,690	0.86	0.294	Yes	-245	60025
3101	31W	9007	4587	90074587	W	E. Middlefield Rd.	SR 237	Ellis St.							
3200	32E	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.	4,293	2,390	1.80	0.260	No	1903	3621409
3201	32W	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.							
3300	33E	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.	5,803	2,300	2.52	0.265	No	3503	12271009
3301	33W	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.							
3400	34E	4949	7072	49497072	E	Central Expy.	Shoreline Blvd.	Moffett Blvd.	6,487	2,580	2.51	0.255	No	3907	15264649
3401	34W	7072	4949	70724949	W	Central Expy.	Moffett Blvd.	Shoreline Blvd.							
3500	35E	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.	6,452	2,650	2.43	0.252	No	3802	14455204
3501	35W	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85							
3600	36E	9613	9614	96139614	E	Central Expy.	Bernardo Ave.	E. Middlefield Rd.	5,835	2,460	2.37	0.260	No	3375	11390625
3601	36W	9614	9613	96149613	W	Central Expy.	E. Middlefield Rd.	Bernardo Ave.							
3700	37E	7297	7270	72977270	E	W. Evelyn Ave.	Calderon Ave.	SB SR 85 Ramp	1,333	1,020	1.31	0.359	Yes	313	97969
3701	37W	7270	7297	72707297	W	W. Evelyn Ave.	SB SR 85 Ramp	Calderon Ave.							
3800	38E	7276	9016	72769016	E	E. Evelyn Ave.	SR 237	Bernardo Ave.	795	1,080	0.74	0.359	Yes	-285	81225
3801	38W	9016	7276	90167276	W	E. Evelyn Ave.	Bernardo Ave.	SR 237							
3900	39E	36706	36662	3670636662	E	E. Dana St.	Calderon Ave.	SR 237	346	620	0.56	0.475	Yes	-274	75076
3901	39W	36662	36706	3666236706	W	E. Dana St.	SR 237	Calderon Ave.							
4000	40E	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.	640	830	0.77	0.410	Yes	-190	36100
4001	40W	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.							
4100	41E	4965	9115	49659115	E	El Camino Real	Los Altos Ave.	San Antonio Rd.	1,813	2,900	0.63	0.244	No	-1087	1181569
4101	41W	9115	4965	91154965	W	El Camino Real	San Antonio Rd.	Los Altos Ave.							
4200	42E	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.	2,446	2,570	0.95	0.255	Yes	-124	15376
4201	42W	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.							
4300	43E	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.	3,017	3,670	0.82	0.229	Yes	-653	426409
4301	43W	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.							
4400	44E	36029	4598	360294598	E	El Camino Real	Phyllis Ave.	Castro St.	3,528	3,850	0.92	0.224	Yes	-322	103684
4401	44W	4598	36029	459836029	W	El Camino Real	Castro St.	Phyllis Ave.							
4500	45E	36093	6477	360936477	E	El Camino Real	Grant Rd.	SB SR 85 Ramps	3,327	3,190	1.04	0.241	Yes	137	18769
4501	45W	6477	36093	647736093	W	El Camino Real	SB SR 85 Ramps	Grant Rd.							
4600	46E	7291	36088	729136088	E	El Camino Real	NB SR 85 Ramps	Bernardo Ave.	3,740	3,550	1.05	0.229	Yes	190	36100
4601	46W	36088	7291	360887291	W	El Camino Real	Bernardo Ave.	NB SR 85 Ramps							
4700	47E	9077	4953	90774953	E	Cuesta Dr.	Miramonte Ave.	Grant Rd.	1,581	1,480	1.07	0.313	Yes	101	10201
4701	47W	4953	9077	49539077	W	Cuesta Dr.	Grant Rd.	Miramonte Ave.							
									100,219	**82,120**					

Model/Count Ratio =	**1.22**	
Percent Within Caltrans Maximum Deviation =	**66%**	> 75%
Percent Root Mean Square Error =	**69%**	< 30%
Coefficient of Determination (R^2) =	**0.44**	> 0.77
Correlation Coefficient =	**0.66**	> 0.88

Total Count	**47**
Link Within Deviation	**31**
Link Outside Deviation	**16**

Table B-7: Mountain View Model Validation Results - Screenlines Using AM Peak-Hour Two-Way Traffic Volumes

Screenlines	CNT_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model/ Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
Screenline 1: North of US 101															
101	100	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.							
102	101	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps	1,254	910	1.38	0.57	Yes	344	118,336
103	500	35063	7302	350637302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.							
104	501	7302	35063	730235063	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps	2,372	1,150	2.06	0.55	No	1,222	1,493,284
105	1100	9129	35045	912935045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.							
106	1101	35045	9129	350459129	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps	2,486	2,590	0.96	0.42	Yes	-104	10,816
								Screenline 1 =	6,112	4,650	**1.31**	0.34	Yes	1,462	2,137,444
								Percent RMSE =	**47%**						
Screenline 2: South of US 101															
201	200	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps							
202	201	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.	1,526	2,510	0.61	0.42	Yes	-984	968,256
203	2400	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.							
204	2401	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.	1,602	1,460	1.10	0.52	Yes	142	20,164
205	600	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps							
206	601	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.	1,419	1,190	1.19	0.55	Yes	229	52,441
207	2500	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps							
208	2501	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.	1,563	1,520	1.03	0.51	Yes	43	1,849
209	1200	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps							
210	1201	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.	2,352	1,890	1.24	0.47	Yes	462	213,444
211	1700	9022	10007	902210007	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
212	1701	10007	9022	100079022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	2,120	1,010	2.10	0.56	No	1,110	1,232,100
213	2300	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps							
214	2301	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.	1,635	800	2.04	0.58	No	835	697,225
								Screenline 2 =	12,217	10,380	**1.18**	0.24	Yes	1,837	3,374,569
								Percent RMSE =	**45%**						
Screenline 3: South of Central Expressway															
301	300	36114	9115	361149115	N	San Antonio Rd.	California St.	San Antonio Cir.							
302	301	9115	36114	911536114	S	San Antonio Rd.	San Antonio Cir.	California St.	2,165	2,890	0.75	0.41	Yes	-725	525,625
303	700	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.							
304	701	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.	1,439	1,250	1.15	0.54	Yes	189	35,721
305	1400	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.							
306	1401	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.	1,740	1,860	0.94	0.48	Yes	-120	14,400
307	1900	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.							
308	1901	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.	754	440	1.71	0.62	No	314	98,596
								Screenline 3 =	6,098	6,440	**0.95**	0.30	Yes	-342	116,964
								Percent RMSE =	**26%**						
Screenline 4: North of Covington Road															
401	1600	4618	10327	461810327	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.							
402	1601	10327	4618	103274618	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.	483	720	0.67	0.59	Yes	-237	56,169
403	2100	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.							
404	2101	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.	1,582	1,790	0.88	0.48	Yes	-208	43,264
								Screenline 4 =	2,065	2,510	**0.82**	0.42	Yes	-445	198,025
								Percent RMSE =	**18%**						
Screenline 5: East of San Antonio Road															
501	2700	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.							
502	2701	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.	818	700	1.17	0.59	Yes	118	13,924
503	3200	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.							
504	3201	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.	4,293	2,390	1.80	0.43	No	1,903	3,621,409
505	4200	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.							
506	4201	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.	2,446	2,570	0.95	0.42	Yes	-124	15,376
								Screenline 5 =	7,557	5,660	**1.34**	0.31	No	1,897	3,598,609
								Percent RMSE =	**58%**						
Screenline 6: Central Mountain View															
601	1002N				N	US 101	SR 85	Old Middlefield Rd.							
602	1002S				S	US 101	Old Middlefield Rd.	SR 85							
603	2800	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.							
604	2801	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.	1,062	1,090	0.97	0.56	Yes	-28	784
605	3300	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.							
606	3301	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.	5,803	2,300	2.52	0.44	No	3,503	12,271,009
607	4000	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.							
608	4001	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.	640	830	0.77	0.58	Yes	-190	36,100
609	4300	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.							
610	4301	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.	3,017	3,670	0.82	0.38	Yes	-653	426,409
								Screenline 6 =	10,522	7,890	**1.33**	0.27	No	2,632	6,927,424
								Percent RMSE =	**90%**						
Screenline 7: East of SR 85															
501	1700	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
502	1701	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	2,120	1,010	2.10	0.56	No	1,110	1,232,100
503	3000	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.							
504	3001	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.	1,263	1,380	0.92	0.53	Yes	-117	13,689
505	3500	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.							
506	3501	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85	6,452	2,650	2.43	0.42	No	3,802	14,455,204
								Screenline 7 =	9,835	5,040	**1.95**	0.32	No	4,795	22,992,025
								Percent RMSE =	**136%**						

Percent Within Caltrans Maximum Deviation = 57% = 100%

Total Count	**7**
Screenlines Within Deviation	**4**
Screenlines Outside Deviation	**3**

Table B-8
Results of AM Peak-Hour Model Validation

Validation Item	Criterion for Acceptance	Model Results
Total Counts	N/A	47
% of Links Within Caltrans Standard Deviations	At Least 75%	**66%**
%of Screenlines Within Caltrans Standard Deviations	100%	**57%**
2-way Sum of All Links Counted	Within 10%	**+ 22%**
Coefficient of Determination (R^2) =	At Least 77%	**44%**
Correlation Coefficient	Greater than 88%	**66%**
RMSE	30% or less	**69%**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-9
Results of AM Peak-Hour Model Area Validation by Functional Class

Functional Class	Counts	Volume-to-Count		RMSE
		Criteria	Model	
Freeway-to-Freeway	0	7%	N/A	**N/A**
Freeway	0	7%	N/A	**N/A**
Expressway	5	25%	**133%**	**136%**
Collector	3	25%	**-45%**	**46%**
Freeway Ramp	0	20%	N/A	**N/A**
Dummy Link	0	25%	N/A	**N/A**
Major Arterial	39	25%	4%	30%
Metered Ramp	0	25%	N/A	**N/A**
Special Category	0	25%	N/A	**N/A**
Overall	47			

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-10
Results of AM Peak-Hour Model Area Validation by Volume Range

Volume Range	Counts	Volume-to-Count		RMSE	
		Criteria	Model	Criteria	Model
Less than 1,000	0	200%	N/A	116%	**N/A**
1,000 to 2,499	0	100%	N/A	116%	**N/A**
2,500 to 4,999	1	50%	**71%**	116%	71%
5,000 to 9,999	9	25%	17%	43%	**66%**
10,000 to 19,999	20	20%	15%	28%	**32%**
20,000 to 24,999	5	20%	**69%**	25%	**105%**
25,000 to 39,999	12	15%	13%	25%	**56%**
40,000 to 49,999	0	15%	N/A	30%	**N/A**
50,000 to 59,999	0	10%	N/A	30%	**N/A**
60,000 to 89,999	0	10%	N/A	19%	**N/A**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-11: City of Mountain View Travel Demand Model Validation Results - PM Peak Two-Way Total Traffic Volumes

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
100	1N	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.	776	1,090	0.71	0.359	Yes	-314	98596
101	1S	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps							
200	2N	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps	1,194	2,620	0.46	0.255	No	-1426	2033476
201	2S	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.							
300	3N	4605	35051	460535051	N	San Antonio Rd.	California St.	San Antonio Cir.	2,565	3,180	0.81	0.241	Yes	-615	378225
301	3S	35051	4605	350514605	S	San Antonio Rd.	San Antonio Cir.	California St.							
400	4N	36114	9115	361149115	N	San Antonio Rd.	Loucks Ave.	El Camino Real	1,534	1,990	0.77	0.280	Yes	-456	207936
401	4S	9115	36114	911536114	S	San Antonio Rd.	El Camino Real	Loucks Ave.							
500	5N	35063	7302	350637302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.	2,401	1,420	1.69	0.313	No	981	962361
501	5S	7302	35063	730235063	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps							
600	6N	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps	1,540	1,290	1.19	0.325	Yes	250	62500
601	6S	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.							
700	7N	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.	1,574	1,310	1.20	0.325	Yes	264	69696
701	7S	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.							
800	8N	4945	10420	494510420	N	N. Rengstorff Ave.	California St.	University Ave.	2,101	1,450	1.45	0.313	No	651	423801
801	8S	10420	4945	104204945	S	N. Rengstorff Ave.	University Ave.	California St.							
900	9N	9086	4963	90864963	N	El Monte Ave.	Springer Rd.	El Camino Real	1,751	1,560	1.12	0.303	Yes	191	36481
901	9S	4963	9086	49639086	S	El Monte Ave.	El Camino Real	Springer Rd.							
1000	10N	9080	9086	90809086	N	N. Springer Rd.	Cuesta Dr.	El Monte Ave.	279	730	0.38	0.440	No	-451	203401
1001	10S	9086	9080	90869080	S	N. Springer Rd.	El Monte Ave.	Cuesta Dr.							
1100	11N	9129	35045	912935045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.	2,715	2,460	1.10	0.260	Yes	255	65025
1101	11S	35045	9129	350459129	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps							
1200	12N	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps	2,454	2,130	1.15	0.270	Yes	324	104976
1201	12S	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.							
1300	13N	10589	5266	105895266	N	N. Shoreline Blvd.	Central Expy.	Montecito Ave.	1,667	2,460	0.68	0.260	No	-793	628849
1301	13S	5266	10589	526610589	S	N. Shoreline Blvd.	Montecito Ave.	Central Expy.							
1400	14N	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.	1,956	2,210	0.89	0.270	Yes	-254	64516
1401	14S	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.							
1500	15N	9142	9075	91429075	N	Miramonte Ave.	Cuesta Dr.	El Camino Real	1,219	1,330	0.92	0.325	Yes	-111	12321
1501	15S	9075	9142	90759142	S	Miramonte Ave.	El Camino Real	Cuesta Dr.							
1600	16N	4618	10327	461810327	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.	446	810	0.55	0.410	No	-364	132496
1601	16S	10327	4618	103274618	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.							
1700	17N	9022	10007	902210007	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps	1,943	1,180	1.65	0.340	No	763	582169
1701	17S	10007	9022	100079022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp							
1800	18N	7508	36653	750836653	N	Moffett Blvd.	Central Ave.	E. Middlefield Rd.	2,484	1,150	2.16	0.340	No	1334	1779556
1801	18S	36653	7508	366537508	S	Moffett Blvd.	E. Middlefield Rd	Central Ave.							
1900	19N	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.	987	650	1.52	0.440	No	337	113569
1901	19S	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.							
2000	20N	36144	4616	361444616	N	Grant Rd.	Cuesta Dr.	Phyllis Avenue	3,648	3,210	1.14	0.241	Yes	438	191844
2001	20S	4616	36144	461636144	S	Grant Rd.	Phyllis Avenue	Cuesta Dr.							
2100	21N	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.	1,446	2,100	0.69	0.275	No	-654	427716
2101	21S	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.							
2200	22N	9618	7774	96187774	N	N. Whisman Rd.	Central Expy.	E. Middlefield Rd.	706	770	0.92	0.410	Yes	-64	4096
2201	22S	7774	9618	77749618	S	N. Whisman Rd.	E. Middlefield Rd.	Central Expy.							
2300	23N	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps	1,388	790	1.76	0.410	No	598	357604
2301	23S	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.							
2400	24E	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.	1,870	1,610	1.16	0.303	Yes	260	67600
2401	24W	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.							
2500	25E	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps	1,691	1,600	1.06	0.303	Yes	91	8281
2501	25W	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.							
2600	26E	9110	8823	91108823	E	W. Middlefield Rd.	San Antonio Rd.	Old Middlefield Wy.	2,067	1,940	1.07	0.280	Yes	127	16129
2601	26W	8823	9110	88239110	W	W. Middlefield Rd.	Old Middlefield Wy.	San Antonio Rd.							
2700	27E	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.	613	740	0.83	0.440	Yes	-127	16129
2701	27W	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.							
2800	28E	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.	789	1,250	0.63	0.325	No	-461	212521
2801	28W	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.							
2900	29E	6402	4594	64024594	E	W. Middlefield Rd.	San Veron Ave.	Moffett Blvd.	1,690	1,500	1.13	0.303	Yes	190	36100
2901	29W	4594	6402	45946402	W	W. Middlefield Rd.	Moffett Blvd.	San Veron Ave.							
3000	30E	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.	1,225	1,420	0.86	0.313	Yes	-195	38025
3001	30W	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.							
3100	31E	4587	9007	45879007	E	E. Middlefield Rd.	Ellis St.	SR 237	854	1,430	0.60	0.313	No	-576	331776
3101	31W	9007	4587	90074587	W	E. Middlefield Rd.	SR 237	Ellis St.							
3200	32E	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.	4,182	2,540	1.65	0.255	No	1642	2696164
3201	32W	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.							
3300	33E	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.	5,728	2,490	2.30	0.260	No	3238	10484644
3301	33W	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.							
3400	34E	4949	7072	49497072	E	Central Expy.	Shoreline Blvd.	Moffett Blvd.	6,344	2,960	2.14	0.244	No	3384	11451456
3401	34W	7072	4949	70724949	W	Central Expy.	Moffett Blvd.	Shoreline Blvd.							
3500	35E	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.	5,886	2,970	1.98	0.244	No	2916	8503056
3501	35W	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85							
3600	36E	9613	9614	96139614	E	Central Expy.	Bernardo Ave.	E. Middlefield Rd.	5,164	2,770	1.86	0.248	No	2394	5731236
3601	36W	9614	9613	96149613	W	Central Expy.	E. Middlefield Rd.	Bernardo Ave.							
3700	37E	7297	7270	72977270	E	W. Evelyn Ave.	Calderon Ave.	SB SR 85 Ramp	1,088	1,150	0.95	0.340	Yes	-62	3844
3701	37W	7270	7297	72707297	W	W. Evelyn Ave.	SB SR 85 Ramp	Calderon Ave.							
3800	38E	7276	9016	72769016	E	E. Evelyn Ave.	SR 237	Bernardo Ave.	364	1,280	0.28	0.325	No	-916	839056
3801	38W	9016	7276	90167276	W	E. Evelyn Ave.	Bernardo Ave.	SR 237							
3900	39E	36706	36662	3670636662	E	E. Dana St.	Calderon Ave.	SR 237	603	670	0.90	0.440	Yes	-67	4489
3901	39W	36662	36706	3666236706	W	E. Dana St.	SR 237	Calderon Ave.							
4000	40E	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.	750	1,050	0.71	0.359	Yes	-300	90000
4001	40W	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.							
4100	41E	4965	9115	49659115	E	El Camino Real	Los Altos Ave.	San Antonio Rd.	2,409	3,320	0.73	0.235	No	-911	829921
4101	41W	9115	4965	91154965	W	El Camino Real	San Antonio Rd.	Los Altos Ave.							
4200	42E	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.	3,035	3,200	0.95	0.241	Yes	-165	27225
4201	42W	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.							
4300	43E	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.	3,327	4,050	0.82	0.219	Yes	-723	522729
4301	43W	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.							
4400	44E	36029	4598	360294598	E	El Camino Real	Phyllis Ave.	Castro St.	3,672	4,100	0.90	0.219	Yes	-428	183184
4401	44W	4598	36029	459836029	W	El Camino Real	Castro St.	Phyllis Ave.							
4500	45E	36093	6477	360936477	E	El Camino Real	Grant Rd.	SB SR 85 Ramps	3,407	4,160	0.82	0.219	Yes	-753	567009
4501	45W	6477	36093	647736093	W	El Camino Real	SB SR 85 Ramps	Grant Rd.							
4600	46E	7291	36088	729136088	E	El Camino Real	NB SR 85 Ramps	Bernardo Ave.	3,664	4,030	0.91	0.219	Yes	-366	133956
4601	46W	36088	7291	360887291	W	El Camino Real	Bernardo Ave.	NB SR 85 Ramps							
4700	47E	9077	4953	90774953	E	Cuesta Dr.	Miramonte Ave.	Grant Rd.	1,854	1,450	1.28	0.313	Yes	404	163216
4701	47W	4953	9077	49539077	W	Cuesta Dr.	Grant Rd.	Miramonte Ave.							

101,050	**91,570**	**Model/Count Ratio =**	**1.10**
		Percent Within Caltrans Maximum Deviation =	**57%** > 75%
		Percent Root Mean Square Error =	**54%** < 30%
		Coefficient of Determination (R^2) =	**0.51** > 0.77
		Correlation Coefficient =	**0.71** > 0.88

Total Count	**47**
Link Within Deviation	**27**
Link Outside Deviation	**20**

Table B-12: Mountain View Model Validation Results - Screenlines Using PM Peak-Hour Two-Way Traffic Volumes

Screenlines	CNT_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model/ Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
Screenline 1: North of US 101															
101	100	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.							
102	101	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps	776	1,090	0.71	0.56	Yes	-314	98,596
103	500	35063	7302	350637302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.							
104	501	7302	35063	730235063	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps	2,401	1,420	1.69	0.52	No	981	962,361
105	1100	9129	35045	912935045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.							
106	1101	35045	9129	350459129	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps	2,715	2,460	1.10	0.43	Yes	255	65,025
								Screenline 1 =	5,892	4,970	**1.19**	0.33	Yes	922	850,084
								Percent RMSE =	**37%**						
Screenline 2: South of US 101															
201	200	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps							
202	201	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.	1,194	2,620	0.46	0.42	No	-1,426	2,033,476
203	2400	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.							
204	2401	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.	1,870	1,610	1.16	0.50	Yes	260	67,600
205	600	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps							
206	601	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.	1,540	1,290	1.19	0.54	Yes	250	62,500
207	2500	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps							
208	2501	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.	1,691	1,600	1.06	0.50	Yes	91	8,281
209	1200	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps							
210	1201	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.	2,454	2,130	1.15	0.45	Yes	324	104,976
211	1700	9022	10007	902210007	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
212	1701	10007	9022	100079022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	1,943	1,180	1.65	0.55	No	763	582,169
213	2300	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps							
214	2301	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.	1,388	790	1.76	0.59	No	598	357,604
								Screenline 2 =	12,080	11,220	**1.08**	0.23	Yes	860	739,600
								Percent RMSE =	**42%**						
Screenline 3: South of Central Expressway															
301	300	36114	9115	361149115	N	San Antonio Rd.	California St.	San Antonio Cir.							
302	301	9115	36114	911536114	S	San Antonio Rd.	San Antonio Cir.	California St.	2,565	3,180	0.81	0.40	Yes	-615	378,225
303	700	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.							
304	701	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.	1,574	1,310	1.20	0.53	Yes	264	69,696
305	1400	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.							
306	1401	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.	1,956	2,210	0.89	0.45	Yes	-254	64,516
307	1900	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.							
308	1901	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.	987	650	1.52	0.60	Yes	337	113,569
								Screenline 3 =	7,082	7,350	**0.96**	0.28	Yes	-268	71,824
								Percent RMSE =	**22%**						
Screenline 4: North of Covington Road															
401	1600	4618	10327	461810327	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.							
402	1601	10327	4618	103274618	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.	446	810	0.55	0.58	Yes	-364	132,496
403	2100	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.							
404	2101	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.	1,446	2,100	0.69	0.46	Yes	-654	427,716
								Screenline 4 =	1,892	2,910	**0.65**	0.41	Yes	-1,018	1,036,324
								Percent RMSE =	**36%**						
Screenline 5: East of San Antonio Road															
501	2700	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.							
502	2701	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.	613	740	0.83	0.59	Yes	-127	16,129
503	3200	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.							
504	3201	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.	4,182	2,540	1.65	0.42	No	1,642	2,696,164
505	4200	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.							
506	4201	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.	3,035	3,200	0.95	0.40	Yes	-165	27,225
								Screenline 5 =	7,830	6,480	**1.21**	0.30	Yes	1,350	1,822,500
								Percent RMSE =	**44%**						
Screenline 6: Central Mountain View															
601	1002N				N	US 101	SR 85	Old Middlefield Rd.							
602	1002S				S	US 101	Old Middlefield Rd.	SR 85							
603	2800	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.							
604	2801	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.	789	1,250	0.63	0.54	Yes	-461	212,521
605	3300	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.							
606	3301	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.	5,728	2,490	2.30	0.43	No	3,238	10,484,644
607	4000	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.							
608	4001	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.	750	1,050	0.71	0.56	Yes	-300	90,000
609	4300	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.							
610	4301	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.	3,327	4,050	0.82	0.36	Yes	-723	522,729
								Screenline 6 =	10,594	8,840	**1.20**	0.26	Yes	1,754	3,076,516
								Percent RMSE =	**76%**						
Screenline 7: East of SR 85															
501	1700	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
502	1701	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	1,943	1,180	1.65	0.55	No	763	582,169
503	3000	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.							
504	3001	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.	1,225	1,420	0.86	0.52	Yes	-195	38,025
505	3500	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.							
506	3501	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85	5,886	2,970	1.98	0.41	No	2,916	8,503,056
								Screenline 7 =	9,054	5,570	**1.63**	0.31	No	3,484	12,138,256
								Percent RMSE =	**94%**						

Percent Within Caltrans Maximum Deviation = 86% = 100%

Total Count 7
Screenlines Within Deviation 6
Screenlines Outside Deviation 1

Table B-13
Results of PM Peak-Hour Model Validation

Validation Item	Criterion for Acceptance	Model Results
Total Counts	N/A	47
% of Links Within Caltrans Standard Deviations	At Least 75%	**57%**
%of Screenlines Within Caltrans Standard Deviations	100%	**86%**
2-way Sum of All Links Counted	Within 10%	+ 10%
Coefficient of Determination (R^2) =	At Least 77%	**51%**
Correlation Coefficient	Greater than 88%	**71%**
RMSE	30% or less	**54%**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-14
Results of PM Peak-Hour Model Area Validation by Functional Class

Functional Class	Counts	Volume-to-Count		RMSE
		Criteria	Model	
Freeway-to-Freeway	0	7%	N/A	**N/A**
Freeway	0	7%	N/A	**N/A**
Expressway	5	25%	**99%**	**102%**
Collector	3	25%	**-40%**	**46%**
Freeway Ramp	0	20%	N/A	**N/A**
Dummy Link	0	25%	N/A	**N/A**
Major Arterial	39	25%	-4%	29%
Metered Ramp	0	25%	N/A	**N/A**
Special Category	0	25%	N/A	**N/A**
Overall	47			

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-15
Results of PM Peak-Hour Model Area Validation by Volume Range

Volume Range	Counts	Volume-to-Count		RMSE	
		Criteria	Model	Criteria	Model
Less than 1,000	0	200%	N/A	116%	**N/A**
1,000 to 2,499	0	100%	N/A	116%	**N/A**
2,500 to 4,999	0	50%	N/A	116%	**N/A**
5,000 to 9,999	7	25%	-3%	43%	**47%**
10,000 to 19,999	21	20%	7%	28%	**38%**
20,000 to 24,999	6	20%	15%	25%	**61%**
25,000 to 39,999	9	15%	**29%**	25%	**63%**
40,000 to 49,999	4	15%	-14%	30%	15%
50,000 to 59,999	0	10%	N/A	30%	**N/A**
60,000 to 89,999	0	10%	N/A	19%	**N/A**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-16: City of Mountain View Travel Demand Model Validation Results - Daily Two-Way Total Traffic Volumes

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
0	1007N	309057	60174	30905760174	N	SR 85	Fremont Ave.	El Camino Real							
0	1007N (HOV)	306485	60175	30648560175	N (HOV)	SR 85	Fremont Ave.	El Camino Real							
0	1007S	60177	309071	60177309071	S	SR 85	El Camino Real	Fremont Ave.							
0	1007S (HOV)	60176	306484	60176306484	S (HOV)	SR 85	El Camino Real	Fremont Ave.	132,866	115,000	1.16	0.136	No	17866	319193956
0	1006N	260179	207282	260179207282	N	SR 85	SR 237	Evelyn Ave.							
0	1006N (HOV)	260178	211415	260178211415	N (HOV)	SR 85	SR 237	Evelyn Ave.							
0	1006N (AUX)	0	0		N (AUX)	SR 85	SR 237	Evelyn Ave.							
0	1006S	260181	206473	260181206473	S	SR 85	Evelyn Ave.	SR 237							
0	1006S (HOV)	260180	211417	260180211417	S (HOV)	SR 85	Evelyn Ave.	SR 237							
0	1006S (AUX)	0	0		S (AUX)	SR 85	Evelyn Ave.	SR 237	94,125	78,000	1.21	0.150	No	16125	260015625
0	1005N	204612	260183	204612260183	N	SR 85	Evelyn Ave.	Moffett Blvd.							
0	1005N (HOV)	211418	260182	211418260182	N (HOV)	SR 85	Evelyn Ave.	Moffett Blvd.							
0	1005S	260184	204590	260184204590	S	SR 85	Moffett Blvd.	Evelyn Ave.							
0	1005S (HOV)	260185	211419	260185211419	S (HOV)	SR 85	Moffett Blvd.	Evelyn Ave.	86,269	75,000	1.15	0.154	Yes	11269	126990361
0	1004N	360042	9324	3600429324	N	US 101	SR 237	Ellis St.							
0	1004N (HOV)	360043	5407	3600435407	N (HOV)	US 101	SR 237	Ellis St.							
0	1004S	9001	360045	9001360045	S	US 101	Ellis St.	SR 237							
0	1004S (HOV)	5406	360044	5406360044	S (HOV)	US 101	Ellis St.	SR 237	188,759	158,000	1.19	0.136	No	30759	946116081
0	1003N	9323	160046	9323160046	N	US 101	Ellis St.	Moffett Blvd.							
0	1003N (HOV)	5405	160047	5405160047	N (HOV)	US 101	Ellis St.	Moffett Blvd.							
0	1003S	160049	8999	1600498999	S	US 101	Moffett Blvd.	Ellis St.							
0	1003S (HOV)	160048	5404	1600485404	S (HOV)	US 101	Moffett Blvd.	Ellis St.	185,893	156,000	1.19	0.136	No	29893	893591449
1002N	1002N	109990	110977	109990110977	N	US 101	SR 85	Old Middlefield Rd.							
1002N	1002N (HOV)	109992	110884	109992110884	N (HOV)	US 101	SR 85	Old Middlefield Rd.							
1002N	1002N (AUX)	110905	110879	110905110879	N (AUX)	US 101	SR 85	Old Middlefield Rd.							
1002S	1002S	105383	105592	105383105592	S	US 101	Old Middlefield Rd.	SR 85							
1002S	1002S (HOV)	105380	105868	105380105868	S (HOV)	US 101	Old Middlefield Rd.	SR 85	199,843	227,000	0.88	0.136	Yes	-27157	737502649
0	1001N	160051	109318	160051109318	N	US 101	Old Middlefield Rd.	Rengstorff Ave.							
0	1001N (HOV)	160050	105379	160050105379	N (HOV)	US 101	Old Middlefield Rd.	Rengstorff Ave.							
0	1001S	106539	160053	106539160053	S	US 101	Rengstorff Ave.	Old Middlefield Rd.							
0	1001S (HOV)	105400	160052	105400160052	S (HOV)	US 101	Rengstorff Ave.	Old Middlefield Rd.	186,847	210,000	0.89	0.136	Yes	-23153	536061409
0	1000N	160055	109316	160055109316	N	US 101	Rengstorff Ave.	San Antonio Rd.							
0	1000N (HOV)	160054	105370	160054105370	N (HOV)	US 101	Rengstorff Ave.	San Antonio Rd.							
0	1000S	107305	160057	107305160057	S	US 101	San Antonio Rd.	Rengstorff Ave.							
0	1000S (HOV)	105083	160056	105083160056	S (HOV)	US 101	San Antonio Rd.	Rengstorff Ave.	174,424	194,000	0.90	0.136	Yes	-19576	383219776
1010E	1010E	9125	205602	9125205602	E	SR 237	El Camino Real	SR 85	44,719	45,000	0.99	0.209	Yes	-281	78961
1010W	1010W	204743	9125	2047439125	W	SR 237	SR 85	El Camino Real							
1009E	1009E	206085	205329	206085205329	E	SR 237	Sylvan Wy.	Middlefield Rd./Maude Ave.							
1009E	1009E (AUX)	0	0		E (AUX)	SR 237	Sylvan Wy.	Middlefield Rd./Maude Ave.	92,861	74,000	1.25	0.158	No	18861	355737321
1009W	1009W	205330	206084	205330206084	W	SR 237	Middlefield Rd./Maude Ave.	Sylvan Wy.							
1008E	1008E	209606	211107	209606211107	E	SR 237	Middlefield Rd./Maude Ave.	US 101							
1008E	1008E (AUX)	0	0		E (AUX)	SR 237	Middlefield Rd./Maude Ave.	US 101	102,598	75,000	1.37	0.154	No	27598	761649604
1008W	1008W	8806	207289	8806207289	W	SR 237	US 101	Middlefield Rd./Maude Ave.							
100	1N	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.	15,917	10,800	1.47	0.359	No	5117	26183689
101	1S	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps							
200	2N	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps	21,084	35,600	0.59	0.229	No	-14516	210714256
201	2S	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.							
300	3N	4605	35051	460535051	N	San Antonio Rd.	California St.	San Antonio Cir.	17,367	40,500	0.43	0.219	No	-23133	535135689
301	3S	35051	4605	350514605	S	San Antonio Rd.	San Antonio Cir.	California St.							
400	4N	36114	9115	361149115	N	San Antonio Rd.	Loucks Ave.	El Camino Real	17,610	24,900	0.71	0.260	No	-7290	53144100
401	4S	9115	36114	911536114	S	San Antonio Rd.	El Camino Real	Loucks Ave.							
500	5N	9105	7302	91057302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.	19,641	14,700	1.34	0.313	No	4941	24413481
501	5S	7302	9105	73029105	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps							
600	6N	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps	20,749	18,100	1.15	0.286	Yes	2649	7017201
601	6S	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.							
700	7N	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.	14,832	18,300	0.81	0.286	Yes	-3468	12027024
701	7S	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.							
800	8N	4945	10420	494510420	N	N. Rengstorff Ave.	California St.	University Ave.	13,576	18,800	0.72	0.280	Yes	-5224	27290176
801	8S	10420	4945	104204945	S	N. Rengstorff Ave.	University Ave.	California St.							
900	9N	9086	4963	90864963	N	El Monte Ave.	Springer Rd.	El Camino Real	17,100	16,500	1.04	0.294	Yes	600	360000
901	9S	4963	9086	49639086	S	El Monte Ave.	El Camino Real	Springer Rd.							
1000	10N	9080	9086	90809086	N	N. Springer Rd.	Cuesta Dr.	El Monte Ave.	2,892	7,400	0.39	0.440	No	-4508	20322064
1001	10S	9086	9080	90869080	S	N. Springer Rd.	El Monte Ave.	Cuesta Dr.							
1100	11N	10980	35045	1098035045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.	34,206	30,000	1.14	0.241	Yes	4206	17690436
1101	11S	35045	10980	3504510980	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps							
1200	12N	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps	23,499	25,000	0.94	0.255	Yes	-1501	2253001
1201	12S	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.							
1300	13N	10589	5266	105895266	N	N. Shoreline Blvd.	Central Expy.	Montecito Ave.	9,010	26,800	0.34	0.252	No	-17790	316484100
1301	13S	5266	10589	526610589	S	N. Shoreline Blvd.	Montecito Ave.	Central Expy.							
1400	14N	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.	11,478	23,300	0.49	0.265	No	-11822	139759684
1401	14S	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.							
1500	15N	9142	9075	91429075	N	Miramonte Ave.	Cuesta Dr.	El Camino Real	6,432	13,400	0.48	0.325	No	-6968	48553024
1501	15S	9075	9142	90759142	S	Miramonte Ave.	El Camino Real	Cuesta Dr.							
1600	16N	10327	4627	103274627	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.	6,356	9,700	0.66	0.380	Yes	-3344	11182336
1601	16S	4627	10327	462710327	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.							
1700	17N	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps	18,961	15,200	1.25	0.303	Yes	3761	14145121
1701	17S	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp							
1800	18N	7508	36653	750836653	N	Moffett Blvd.	Central Ave.	E. Middlefield Rd.	25,271	13,500	1.87	0.325	No	11771	138556441
1801	18S	36653	7508	366537508	S	Moffett Blvd.	E. Middlefield Rd	Central Ave.							
1900	19N	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.	10,850	9,000	1.21	0.380	Yes	1850	3422500
1901	19S	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.							
2000	20N	36144	4616	361444616	N	Grant Rd.	Cuesta Dr.	Phyllis Avenue	39,818	37,200	1.07	0.229	Yes	2618	6853924
2001	20S	4616	36144	461636144	S	Grant Rd.	Phyllis Avenue	Cuesta Dr.							
2100	21N	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.	18,275	23,100	0.79	0.265	Yes	-4825	23280625
2101	21S	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.							
2200	22N	9618	7774	96187774	N	N. Whisman Rd.	Central Expy.	E. Middlefield Rd.	6,269	7,300	0.86	0.440	Yes	-1031	1062961
2201	22S	7774	9618	77749618	S	N. Whisman Rd.	E. Middlefield Rd.	Central Expy.							
2300	23N	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps	14,710	9,000	1.63	0.380	No	5710	32604100
2301	23S	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.							
2400	24E	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.	27,238	20,700	1.32	0.275	No	6538	42745444
2401	24W	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.							
2500	25E	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps	20,305	16,900	1.20	0.294	Yes	3405	11594025
2501	25W	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.							
2600	26E	9110	8823	91108823	E	W. Middlefield Rd.	San Antonio Rd.	Old Middlefield Wy.	23,410	17,300	1.35	0.294	No	6110	37332100
2601	26W	8823	9110	88239110	W	W. Middlefield Rd.	Old Middlefield Wy.	San Antonio Rd.							
2700	27E	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.	9,149	6,200	1.48	0.475	No	2949	8696601
2701	27W	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.							
2800	28E	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.	18,097	11,300	1.60	0.340	No	6797	46199209
2801	28W	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.							
2900	29E	6402	4594	64024594	E	W. Middlefield Rd.	San Veron Ave.	Moffett Blvd.	21,360	13,700	1.56	0.325	No	7660	58675600
2901	29W	4594	6402	45946402	W	W. Middlefield Rd.	Moffett Blvd.	San Veron Ave.							
3000	30E	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.	18,318	13,200	1.39	0.325	No	5118	26193924
3001	30W	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.							
3100	31E	4587	25563	458725563	E	E. Middlefield Rd.	Ellis St.	SR 237	16,143	14,300	1.13	0.313	Yes	1843	3396649
3101	31W	25563	4587	255634587	W	E. Middlefield Rd.	SR 237	Ellis St.							

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
3200	32E	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.	40,482	26,000	1.56	0.255	No	14482	209728324
3201	32W	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.							
3300	33E	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.	44,875	25,600	1.75	0.255	No	19275	371525625
3301	33W	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.							
3400	34E	4949	7072	49497072	E	Central Expy.	Shoreline Blvd.	Moffett Blvd.	47,369	28,100	1.69	0.248	No	19269	371294361
3401	34W	7072	4949	70724949	W	Central Expy.	Moffett Blvd.	Shoreline Blvd.							
3500	35E	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.	38,708	28,300	1.37	0.248	No	10408	108326464
3501	35W	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85							
3600	36E	9613	9614	96139614	E	Central Expy.	Bernardo Ave.	E. Middlefield Rd.	32,751	25,500	1.28	0.255	No	7251	52577001
3601	36W	9614	9613	96149613	W	Central Expy.	E. Middlefield Rd.	Bernardo Ave.							
3700	37E	7297	7270	72977270	E	W. Evelyn Ave.	Calderon Ave.	SB SR 85 Ramp	29,873	12,600	2.37	0.325	No	17273	298356529
3701	37W	7270	7297	72707297	W	W. Evelyn Ave.	SB SR 85 Ramp	Calderon Ave.							
3800	38E	7276	9016	72769016	E	E. Evelyn Ave.	SR 237	Bernardo Ave.	6,794	13,300	0.51	0.325	No	-6506	42328036
3801	38W	9016	7276	90167276	W	E. Evelyn Ave.	Bernardo Ave.	SR 237							
3900	39E	36706	36662	3670636662	E	E. Dana St.	Calderon Ave.	Pioneer Wy.	7,560	6,200	1.22	0.475	Yes	1360	1849600
3901	39W	36662	36706	3666236706	W	E. Dana St.	Pioneer Wy.	Calderon Ave.							
4000	40E	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.	15,499	11,400	1.36	0.340	No	4099	16801801
4001	40W	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.							
4100	41E	4965	9115	49659115	E	El Camino Real	Los Altos Ave.	San Antonio Rd.	44,980	38,800	1.16	0.224	Yes	6180	38192400
4101	41W	9115	4965	91154965	W	El Camino Real	San Antonio Rd.	Los Altos Ave.							
4200	42E	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.	46,924	38,200	1.23	0.224	No	8724	76108176
4201	42W	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.							
4300	43E	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.	55,767	47,800	1.17	0.204	Yes	7967	63473089
4301	43W	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.							
4400	44E	36029	4598	360294598	E	El Camino Real	Phyllis Ave.	Castro St.	58,282	51,900	1.12	0.199	Yes	6382	40729924
4401	44W	4598	36029	459836029	W	El Camino Real	Castro St.	Phyllis Ave.							
4500	45E	36093	6477	360936477	E	El Camino Real	Grant Rd.	SB SR 85 Ramps	47,758	51,200	0.93	0.199	Yes	-3442	11847364
4501	45W	6477	36093	647736093	W	El Camino Real	SB SR 85 Ramps	Grant Rd.							
4600	46E	7291	36088	729136088	E	El Camino Real	NB SR 85 Ramps	Bernardo Ave.	43,062	53,600	0.80	0.195	No	-10538	111049444
4601	46W	36088	7291	360887291	W	El Camino Real	Bernardo Ave.	NB SR 85 Ramps							
4700	47E	9077	4953	90774953	E	Cuesta Dr.	Miramonte Ave.	Grant Rd.	19,345	16,300	1.19	0.294	Yes	3045	9272025
4701	47W	4953	9077	49539077	W	Cuesta Dr.	Grant Rd.	Miramonte Ave.							

	2,609,156	**2,443,500**	**Model/Count Ratio =** **1.07**
			Percent Within Caltrans Maximum Deviation = **43%** > 75%
			Percent Root Mean Square Error = **30%** < 30%
			Coefficient of Determination (R^2) = **0.94** > 0.77
			Correlation Coefficient = **0.97** > 0.88

Total Count	**58**
Link Within Deviation	**25**
Link Outside Deviation	**33**

Table B-17: Mountain View Model Validation Results - Screenlines Using Daily Two-Way Traffic Volumes

Screenlines	CNT_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model/ Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
Screenline 1: North of US 101															
101	100	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.							
102	101	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps	15,917	10,800	1.47	0.56	Yes	5,117	26,183,689
103	500	35063	7302	350637302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.							
104	501	7302	35063	730235063	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps	19,641	14,700	1.34	0.52	Yes	4,941	24,413,481
105	1100	9129	35045	912935045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.							
106	1101	35045	9129	350459129	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps	34,206	30,000	1.14	0.40	Yes	4,206	17,690,436
								Screenline 1 =	69,764	55,500	**1.26**	0.31	Yes	14,264	203,461,696
								Percent RMSE =	**26%**						
Screenline 2: South of US 101															
201	200	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps							
202	201	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.	21,084	35,600	0.59	0.38	No	-14,516	210,714,256
203	2400	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.							
204	2401	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.	27,238	20,700	1.32	0.46	Yes	6,538	42,745,444
205	600	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps							
206	601	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.	20,749	18,100	1.15	0.48	Yes	2,649	7,017,201
207	2500	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps							
208	2501	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.	20,305	16,900	1.20	0.49	Yes	3,405	11,594,025
209	1200	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps							
210	1201	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.	23,499	25,000	0.94	0.42	Yes	-1,501	2,253,001
211	1700	9022	10007	902210007	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
212	1701	10007	9022	100079022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	18,961	15,200	1.25	0.51	Yes	3,761	14,145,121
213	2300	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps							
214	2301	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.	14,710	9,000	1.63	0.57	No	5,710	32,604,100
								Screenline 2 =	146,546	140,500	**1.04**	0.21	Yes	6,046	36,554,116
								Percent RMSE =	**34%**						
Screenline 3: South of Central Expressway															
301	300	36114	9115	361149115	N	San Antonio Rd.	California St.	San Antonio Cir.							
302	301	9115	36114	911536114	S	San Antonio Rd.	San Antonio Cir.	California St.	17,367	40,500	0.43	0.36	No	-23,133	535,135,689
303	700	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.							
304	701	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.	14,832	18,300	0.81	0.48	Yes	-3,468	12,027,024
305	1400	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.							
306	1401	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.	11,478	23,300	0.49	0.44	No	-11,822	139,759,684
307	1900	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.							
308	1901	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.	10,850	9,000	1.21	0.57	Yes	1,850	3,422,500
								Screenline 3 =	54,527	91,100	**0.60**	0.25	No	-36,573	1,337,584,329
								Percent RMSE =	**58%**						
Screenline 4: North of Covington Road															
401	1600	4618	10327	461810327	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.							
402	1601	10327	4618	103274618	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.	6,356	9,700	0.66	0.57	Yes	-3,344	11,182,336
403	2100	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.							
404	2101	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.	18,275	23,100	0.79	0.44	Yes	-4,825	23,280,625
								Screenline 4 =	24,631	32,800	**0.75**	0.39	Yes	-8,169	66,732,561
								Percent RMSE =	**25%**						
Screenline 5: East of San Antonio Road															
501	2700	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.							
502	2701	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.	9,149	6,200	1.48	0.60	Yes	2,949	8,696,601
503	3200	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.							
504	3201	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.	40,482	26,000	1.56	0.42	No	14,482	209,728,324
505	4200	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.							
506	4201	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.	46,924	38,200	1.23	0.37	Yes	8,724	76,108,176
								Screenline 5 =	96,555	70,400	**1.37**	0.28	No	26,155	684,084,025
								Percent RMSE =	**42%**						
Screenline 6: Central Mountain View															
601	1002N				N	US 101	SR 85	Old Middlefield Rd.							
602	1002S				S	US 101	Old Middlefield Rd.	SR 85	199,843	227,000	0.88	0.17	Yes	-27,157	737,502,649
603	2800	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.							
604	2801	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.	18,097	11,300	1.60	0.55	No	6,797	46,199,209
605	3300	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.							
606	3301	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.	44,875	25,600	1.75	0.42	No	19,275	371,525,625
607	4000	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.							
608	4001	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.	15,499	11,400	1.36	0.55	Yes	4,099	16,801,801
609	4300	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.							
610	4301	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.	55,767	47,800	1.17	0.33	Yes	7,967	63,473,089
								Screenline 6 =	334,081	323,100	**1.03**	0.17	Yes	10,981	120,582,361
								Percent RMSE =	**24%**						
Screenline 7: East of SR 85															
501	1700	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
502	1701	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	18,961	15,200	1.25	0.51	Yes	3,761	14,145,121
503	3000	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.							
504	3001	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.	18,318	13,200	1.39	0.53	Yes	5,118	26,193,924
505	3500	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.							
506	3501	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85	38,708	28,300	1.37	0.41	Yes	10,408	108,326,464
								Screenline 7 =	75,987	56,700	**1.34**	0.31	No	19,287	371,988,369
								Percent RMSE =	**37%**						

Percent Within Caltrans Maximum Deviation =	**57%**	= 100%
Total Count	**7**	
Screenlines Within Deviation	**4**	
Screenlines Outside Deviation	**3**	

Table B-18
Results of Daily Model Validation

Validation Item	Criterion for Acceptance	Model Results
Total Counts	N/A	58
% of Links Within Caltrans Standard Deviations	At Least 75%	**43%**
%of Screenlines Within Caltrans Standard Deviations	100%	**57%**
2-way Sum of All Links Counted	Within 10%	+ 7%
Coefficient of Determination (R^2) =	At Least 77%	94%
Correlation Coefficient	Greater than 88%	97%
RMSE	30% or less	30%

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2011.

Table B-19
Results of Daily Model Area Validation by Functional Class

Functional Class	Counts	Volume-to-Count		RMSE
		Criteria	Model	
Freeway-to-Freeway	0	7%	N/A	**N/A**
Freeway	10	7%	6%	17%
Expressway	5	25%	**53%**	**56%**
Collector	3	25%	**-28%**	**43%**
Freeway Ramp	0	20%	N/A	**N/A**
Dummy Link	0	25%	N/A	**N/A**
Major Arterial	40	25%	2%	**35%**
Metered Ramp	0	25%	N/A	**N/A**
Special Category	0	25%	N/A	**N/A**
Overall	58			

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2011.

Table B-20
Results of Daily Model Area Validation by Volume Range

Volume Range	Counts	Volume-to-Count		RMSE	
		Criteria	Model	Criteria	Model
Less than 1,000	0	200%	N/A	116%	**N/A**
1,000 to 2,499	0	100%	N/A	116%	**N/A**
2,500 to 4,999	0	50%	N/A	116%	**N/A**
5,000 to 9,999	7	25%	5%	43%	43%
10,000 to 19,999	19	20%	**22%**	28%	**45%**
20,000 to 24,999	4	20%	-19%	25%	**35%**
25,000 to 39,999	12	15%	**16%**	25%	**40%**
40,000 to 49,999	3	15%	-12%	30%	**32%**
50,000 to 59,999	3	10%	-5%	30%	14%
60,000 to 89,999	10	10%	6%	19%	17%

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2011.

Table B-21: City of Mountain View Travel Demand Model Validation Results - AM Peak Two-Way Total Traffic Volumes

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
100	1N	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.	1,260	910	1.38	0.380	No	350	122500
101	1S	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps							
200	2N	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps	1,710	2,510	0.68	0.255	No	-800	640000
201	2S	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.							
300	3N	4605	35051	460535051	N	San Antonio Rd.	California St.	San Antonio Cir.	2,057	2,890	0.71	0.244	No	-833	693889
301	3S	35051	4605	350514605	S	San Antonio Rd.	San Antonio Cir.	California St.							
400	4N	36114	9115	361149115	N	San Antonio Rd.	Loucks Ave.	El Camino Real	1,322	2,030	0.65	0.275	No	-708	501264
401	4S	9115	36114	911536114	S	San Antonio Rd.	El Camino Real	Loucks Ave.							
500	5N	9105	7302	91057302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.	2,260	1,150	1.97	0.340	No	1110	1232100
501	5S	7302	9105	73029105	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps							
600	6N	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps	2,225	1,190	1.87	0.340	No	1035	1071225
601	6S	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.							
700	7N	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.	1,567	1,250	1.25	0.325	Yes	317	100489
701	7S	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.							
800	8N	4945	10420	494510420	N	N. Rengstorff Ave.	California St.	University Ave.	1,534	1,160	1.32	0.340	Yes	374	139876
801	8S	10420	4945	104204945	S	N. Rengstorff Ave.	University Ave.	California St.							
900	9N	9086	4963	90864963	N	El Monte Ave.	Springer Rd.	El Camino Real	1,493	1,480	1.01	0.313	Yes	13	169
901	9S	4963	9086	49639086	S	El Monte Ave.	El Camino Real	Springer Rd.							
1000	10N	9080	9086	90809086	N	N. Springer Rd.	Cuesta Dr.	El Monte Ave.	326	630	0.52	0.440	No	-304	92416
1001	10S	9086	9080	90869080	S	N. Springer Rd.	El Monte Ave.	Cuesta Dr.							
1100	11N	10980	35045	1098035045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.	2,033	2,590	0.78	0.255	Yes	-557	310249
1101	11S	35045	10980	3504510980	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps							
1200	12N	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps	2,092	1,890	1.11	0.280	Yes	202	40804
1201	12S	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.							
1300	13N	10589	5266	105895266	N	N. Shoreline Blvd.	Central Expy.	Montecito Ave.	1,345	2,050	0.66	0.275	No	-705	497025
1301	13S	5266	10589	526610589	S	N. Shoreline Blvd.	Montecito Ave.	Central Expy.							
1400	14N	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.	1,539	1,860	0.83	0.286	Yes	-321	103041
1401	14S	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.							
1500	15N	9142	9075	91429075	N	Miramonte Ave.	Cuesta Dr.	El Camino Real	838	1,300	0.64	0.325	No	-462	213444
1501	15S	9075	9142	90759142	S	Miramonte Ave.	El Camino Real	Cuesta Dr.							
1600	16N	10327	4627	103274627	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.	630	720	0.88	0.440	Yes	-90	8100
1601	16S	4627	10327	462710327	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.							
1700	17N	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps	943	1,010	0.93	0.359	Yes	-67	4489
1701	17S	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp							
1800	18N	7508	36653	750836653	N	Moffett Blvd.	Central Ave.	E. Middlefield Rd.	1,452	950	1.53	0.380	No	502	252004
1801	18S	36653	7508	366537508	S	Moffett Blvd.	E. Middlefield Rd	Central Ave.							
1900	19N	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.	656	440	1.49	0.520	Yes	216	46656
1901	19S	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.							
2000	20N	36144	4616	361444616	N	Grant Rd.	Cuesta Dr.	Phyllis Avenue	3,486	2,750	1.27	0.248	No	736	541696
2001	20S	4616	36144	461636144	S	Grant Rd.	Phyllis Avenue	Cuesta Dr.							
2100	21N	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.	1,518	1,790	0.85	0.286	Yes	-272	73984
2101	21S	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.							
2200	22N	9618	7774	96187774	N	N. Whisman Rd.	Central Expy.	E. Middlefield Rd.	663	750	0.88	0.410	Yes	-87	7569
2201	22S	7774	9618	77749618	S	N. Whisman Rd.	E. Middlefield Rd.	Central Expy.							
2300	23N	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps	1,235	800	1.54	0.410	No	435	189225
2301	23S	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.							
2400	24E	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.	2,560	1,460	1.75	0.313	No	1100	1210000
2401	24W	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.							
2500	25E	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps	1,808	1,520	1.19	0.303	Yes	288	82944
2501	25W	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.							
2600	26E	9110	8823	91108823	E	W. Middlefield Rd.	San Antonio Rd.	Old Middlefield Wy.	1,980	1,640	1.21	0.294	Yes	340	115600
2601	26W	8823	9110	88239110	W	W. Middlefield Rd.	Old Middlefield Wy.	San Antonio Rd.							
2700	27E	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.	919	700	1.31	0.440	Yes	219	47961
2701	27W	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.							
2800	28E	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.	1,613	1,090	1.48	0.359	No	523	273529
2801	28W	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.							
2900	29E	6402	4594	64024594	E	W. Middlefield Rd.	San Veron Ave.	Moffett Blvd.	1,462	1,400	1.04	0.313	Yes	62	3844
2901	29W	4594	6402	45946402	W	W. Middlefield Rd.	Moffett Blvd.	San Veron Ave.							
3000	30E	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.	1,347	1,380	0.98	0.313	Yes	-33	1089
3001	30W	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.							
3100	31E	4587	25563	458725563	E	E. Middlefield Rd.	Ellis St.	SR 237	1,061	1,690	0.63	0.294	No	-629	395641
3101	31W	25563	4587	255634587	W	E. Middlefield Rd.	SR 237	Ellis St.							
3200	32E	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.	2,789	2,390	1.17	0.260	Yes	399	159201
3201	32W	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.							
3300	33E	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.	3,206	2,300	1.39	0.265	No	906	820836
3301	33W	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.							
3400	34E	4949	7072	49497072	E	Central Expy.	Shoreline Blvd.	Moffett Blvd.	3,284	2,580	1.27	0.255	No	704	495616
3401	34W	7072	4949	70724949	W	Central Expy.	Moffett Blvd.	Shoreline Blvd.							
3500	35E	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.	3,633	2,650	1.37	0.252	No	983	966289
3501	35W	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85							
3600	36E	9613	9614	96139614	E	Central Expy.	Bernardo Ave.	E. Middlefield Rd.	2,892	2,460	1.18	0.260	Yes	432	186624
3601	36W	9614	9613	96149613	W	Central Expy.	E. Middlefield Rd.	Bernardo Ave.							
3700	37E	7297	7270	72977270	E	W. Evelyn Ave.	Calderon Ave.	SB SR 85 Ramp	2,472	1,020	2.42	0.359	No	1452	2108304
3701	37W	7270	7297	72707297	W	W. Evelyn Ave.	SB SR 85 Ramp	Calderon Ave.							
3800	38E	7276	9016	72769016	E	E. Evelyn Ave.	SR 237	Bernardo Ave.	1,558	1,080	1.44	0.359	No	478	228484
3801	38W	9016	7276	90167276	W	E. Evelyn Ave.	Bernardo Ave.	SR 237							
3900	39E	36706	36662	3670636662	E	E. Dana St.	Calderon Ave.	SR 237	824	620	1.33	0.475	Yes	204	41616
3901	39W	36662	36706	3666236706	W	E. Dana St.	SR 237	Calderon Ave.							
4000	40E	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.	2,172	830	2.62	0.410	No	1342	1800964
4001	40W	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.							
4100	41E	4965	9115	49659115	E	El Camino Real	Los Altos Ave.	San Antonio Rd.	3,731	2,900	1.29	0.244	No	831	690561
4101	41W	9115	4965	91154965	W	El Camino Real	San Antonio Rd.	Los Altos Ave.							
4200	42E	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.	3,696	2,570	1.44	0.255	No	1126	1267876
4201	42W	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.							
4300	43E	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.	4,429	3,670	1.21	0.229	Yes	759	576081
4301	43W	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.							
4400	44E	36029	4598	360294598	E	El Camino Real	Phyllis Ave.	Castro St.	4,727	3,850	1.23	0.224	No	877	769129
4401	44W	4598	36029	459836029	W	El Camino Real	Castro St.	Phyllis Ave.							
4500	45E	36093	6477	360936477	E	El Camino Real	Grant Rd.	SB SR 85 Ramps	3,887	3,190	1.22	0.241	Yes	697	485809
4501	45W	6477	36093	647736093	W	El Camino Real	SB SR 85 Ramps	Grant Rd.							
4600	46E	7291	36088	729136088	E	El Camino Real	NB SR 85 Ramps	Bernardo Ave.	3,435	3,550	0.97	0.229	Yes	-115	13225
4601	46W	36088	7291	360887291	W	El Camino Real	Bernardo Ave.	NB SR 85 Ramps							
4700	47E	9077	4953	90774953	E	Cuesta Dr.	Miramonte Ave.	Grant Rd.	1,931	1,480	1.30	0.313	Yes	451	203401
4701	47W	4953	9077	49539077	W	Cuesta Dr.	Grant Rd.	Miramonte Ave.							
									95,600	**82,120**	**Model/Count Ratio =**			**1.16**	
											Percent Within Caltrans Maximum Deviation =			**49%**	> 75%
											Percent Root Mean Square Error =			**37%**	< 30%
											Coefficient of Determination (R^2) =			**0.70**	> 0.77
											Correlation Coefficient =			**0.84**	> 0.88

Total Count	**47**
Link Within Deviation	**23**
Link Outside Deviation	**24**

Table B-22: Mountain View Model Validation Results - Screenlines Using AM Peak-Hour Two-Way Traffic Volumes

Screenlines	CNT_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model/ Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
Screenline 1: North of US 101															
101	100	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.							
102	101	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps	1,260	910	1.38	0.57	Yes	350	122,500
103	500	35063	7302	350637302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.							
104	501	7302	35063	730235063	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps	2,260	1,150	1.97	0.55	No	1,110	1,232,100
105	1100	9129	35045	912935045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.							
106	1101	35045	9129	350459129	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps	2,033	2,590	0.78	0.42	Yes	-557	310,249
								Screenline 1 =	5,553	4,650	**1.19**	0.34	Yes	903	815,409
								Percent RMSE =	**48%**						
Screenline 2: South of US 101															
201	200	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps							
202	201	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.	1,710	2,510	0.68	0.42	Yes	-800	640,000
203	2400	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.							
204	2401	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.	2,560	1,460	1.75	0.52	No	1,100	1,210,000
205	600	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps							
206	601	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.	2,225	1,190	1.87	0.55	No	1,035	1,071,225
207	2500	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps							
208	2501	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.	1,808	1,520	1.19	0.51	Yes	288	82,944
209	1200	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps							
210	1201	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.	2,092	1,890	1.11	0.47	Yes	202	40,804
211	1700	9022	10007	902210007	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
212	1701	10007	9022	100079022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	943	1,010	0.93	0.56	Yes	-67	4,489
213	2300	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps							
214	2301	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.	1,235	800	1.54	0.58	Yes	435	189,225
								Screenline 2 =	12,573	10,380	**1.21**	0.24	Yes	2,193	4,809,249
								Percent RMSE =	**46%**						
Screenline 3: South of Central Expressway															
301	300	36114	9115	361149115	N	San Antonio Rd.	California St.	San Antonio Cir.							
302	301	9115	36114	911536114	S	San Antonio Rd.	San Antonio Cir.	California St.	2,057	2,890	0.71	0.41	Yes	-833	693,889
303	700	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.							
304	701	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.	1,567	1,250	1.25	0.54	Yes	317	100,489
305	1400	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.							
306	1401	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.	1,539	1,860	0.83	0.48	Yes	-321	103,041
307	1900	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.							
308	1901	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.	656	440	1.49	0.62	Yes	216	46,656
								Screenline 3 =	5,819	6,440	**0.90**	0.30	Yes	-621	385,641
								Percent RMSE =	**30%**						
Screenline 4: North of Covington Road															
401	1600	4618	10327	461810327	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.							
402	1601	10327	4618	103274618	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.	630	720	0.88	0.59	Yes	-90	8,100
403	2100	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.							
404	2101	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.	1,518	1,790	0.85	0.48	Yes	-272	73,984
								Screenline 4 =	2,148	2,510	**0.86**	0.42	Yes	-362	131,044
								Percent RMSE =	**16%**						
Screenline 5: East of San Antonio Road															
501	2700	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.							
502	2701	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.	919	700	1.31	0.59	Yes	219	47,961
503	3200	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.							
504	3201	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.	2,789	2,390	1.17	0.43	Yes	399	159,201
505	4200	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.							
506	4201	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.	3,696	2,570	1.44	0.42	No	1,126	1,267,876
								Screenline 5 =	7,404	5,660	**1.31**	0.31	Yes	1,744	3,041,536
								Percent RMSE =	**37%**						
Screenline 6: Central Mountain View															
601	1002N				N	US 101	SR 85	Old Middlefield Rd.							
602	1002S				S	US 101	Old Middlefield Rd.	SR 85							
603	2800	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.							
604	2801	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.	1,613	1,090	1.48	0.56	Yes	523	273,529
605	3300	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.							
606	3301	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.	3,206	2,300	1.39	0.44	Yes	906	820,836
607	4000	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.							
608	4001	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.	2,172	830	2.62	0.58	No	1,342	1,800,964
609	4300	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.							
610	4301	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.	4,429	3,670	1.21	0.38	Yes	759	576,081
								Screenline 6 =	11,420	7,890	**1.45**	0.27	No	3,530	12,460,900
								Percent RMSE =	**47%**						
Screenline 7: East of SR 85															
501	1700	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
502	1701	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	943	1,010	0.93	0.56	Yes	-67	4,489
503	3000	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.							
504	3001	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.	1,347	1,380	0.98	0.53	Yes	-33	1,089
505	3500	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.							
506	3501	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85	3,633	2,650	1.37	0.42	Yes	983	966,289
								Screenline 7 =	5,923	5,040	**1.18**	0.32	Yes	883	779,689
								Percent RMSE =	**34%**						

Percent Within Caltrans Maximum Deviation =	**86%**	= 100%
Total Count	**7**	
Screenlines Within Deviation	**6**	
Screenlines Outside Deviation	**1**	

Table B-23
Results of AM Peak-Hour Model Validation

Validation Item	Criterion for Acceptance	Model Results
Total Counts	N/A	47
% of Links Within Caltrans Standard Deviations	At Least 75%	**49%**
%of Screenlines Within Caltrans Standard Deviations	100%	**86%**
2-way Sum of All Links Counted	Within 10%	**+ 16%**
Coefficient of Determination (R^2) =	At Least 77%	**70%**
Correlation Coefficient	Greater than 88%	**84%**
RMSE	30% or less	**37%**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2011.

Table B-24
Results of AM Peak-Hour Model Area Validation by Functional Class

Functional Class	Counts	Volume-to-Count		RMSE
		Criteria	Model	
Freeway-to-Freeway	0	7%	N/A	**N/A**
Freeway	0	7%	N/A	**N/A**
Expressway	5	25%	**28%**	29%
Collector	3	25%	-10%	**33%**
Freeway Ramp	0	20%	N/A	**N/A**
Dummy Link	0	25%	N/A	**N/A**
Major Arterial	39	25%	15%	**38%**
Metered Ramp	0	25%	N/A	**N/A**
Special Category	0	25%	N/A	**N/A**
Overall	47			

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2011.

Table B-25
Results of AM Peak-Hour Model Area Validation by Volume Range

Volume Range	Counts	Volume-to-Count		RMSE	
		Criteria	Model	Criteria	Model
Less than 1,000	0	200%	N/A	116%	**N/A**
1,000 to 2,499	0	100%	N/A	116%	**N/A**
2,500 to 4,999	1	50%	49%	116%	49%
5,000 to 9,999	9	25%	**37%**	43%	**69%**
10,000 to 19,999	20	20%	**21%**	28%	**44%**
20,000 to 24,999	5	20%	3%	25%	**29%**
25,000 to 39,999	12	15%	12%	25%	**26%**
40,000 to 49,999	0	15%	N/A	30%	**N/A**
50,000 to 59,999	0	10%	N/A	30%	**N/A**
60,000 to 89,999	0	10%	N/A	19%	**N/A**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2011.

Table B-26: City of Mountain View Travel Demand Model Validation Results - PM Peak Two-Way Total Traffic Volumes

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
100	1N	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.	1,259	1,090	1.16	0.359	Yes	169	28561
101	1S	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps							
200	2N	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps	1,925	2,620	0.73	0.255	No	-695	483025
201	2S	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.							
300	3N	4605	35051	460535051	N	San Antonio Rd.	California St.	San Antonio Cir.	1,674	3,180	0.53	0.241	No	-1506	2268036
301	3S	35051	4605	350514605	S	San Antonio Rd.	San Antonio Cir.	California St.							
400	4N	36114	9115	361149115	N	San Antonio Rd.	Loucks Ave.	El Camino Real	1,563	1,990	0.79	0.280	Yes	-427	182329
401	4S	9115	36114	911536114	S	San Antonio Rd.	El Camino Real	Loucks Ave.							
500	5N	9105	7302	91057302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.	1,916	1,420	1.35	0.313	No	496	246016
501	5S	7302	9105	73029105	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps							
600	6N	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps	1,915	1,290	1.48	0.325	No	625	390625
601	6S	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.							
700	7N	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.	1,445	1,310	1.10	0.325	Yes	135	18225
701	7S	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.							
800	8N	4945	10420	494510420	N	N. Rengstorff Ave.	California St.	University Ave.	1,251	1,450	0.86	0.313	Yes	-199	39601
801	8S	10420	4945	104204945	S	N. Rengstorff Ave.	University Ave.	California St.							
900	9N	9086	4963	90864963	N	El Monte Ave.	Springer Rd.	El Camino Real	1,166	1,560	0.75	0.303	Yes	-394	155236
901	9S	4963	9086	49639086	S	El Monte Ave.	El Camino Real	Springer Rd.							
1000	10N	9080	9086	90809086	N	N. Springer Rd.	Cuesta Dr.	El Monte Ave.	255	730	0.35	0.440	No	-475	225625
1001	10S	9086	9080	90869080	S	N. Springer Rd.	El Monte Ave.	Cuesta Dr.							
1100	11N	10980	35045	1098035045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.	1,962	2,460	0.80	0.260	Yes	-498	248004
1101	11S	35045	10980	3504510980	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps							
1200	12N	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps	1,802	2,130	0.85	0.270	Yes	-328	107584
1201	12S	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.							
1300	13N	10589	5266	105895266	N	N. Shoreline Blvd.	Central Expy.	Montecito Ave.	650	2,460	0.26	0.260	No	-1810	3276100
1301	13S	5266	10589	526610589	S	N. Shoreline Blvd.	Montecito Ave.	Central Expy.							
1400	14N	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.	798	2,210	0.36	0.270	No	-1412	1993744
1401	14S	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.							
1500	15N	9142	9075	91429075	N	Miramonte Ave.	Cuesta Dr.	El Camino Real	531	1,330	0.40	0.325	No	-799	638401
1501	15S	9075	9142	90759142	S	Miramonte Ave.	El Camino Real	Cuesta Dr.							
1600	16N	10327	4627	103274627	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.	408	810	0.50	0.410	No	-402	161604
1601	16S	4627	10327	462710327	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.							
1700	17N	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps	1,498	1,180	1.27	0.340	Yes	318	101124
1701	17S	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp							
1800	18N	7508	36653	750836653	N	Moffett Blvd.	Central Ave.	E. Middlefield Rd.	1,383	1,150	1.20	0.340	Yes	233	54289
1801	18S	36653	7508	366537508	S	Moffett Blvd.	E. Middlefield Rd	Central Ave.							
1900	19N	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.	724	650	1.11	0.440	Yes	74	5476
1901	19S	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.							
2000	20N	36144	4616	361444616	N	Grant Rd.	Cuesta Dr.	Phyllis Avenue	3,167	3,210	0.99	0.241	Yes	-43	1849
2001	20S	4616	36144	461636144	S	Grant Rd.	Phyllis Avenue	Cuesta Dr.							
2100	21N	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.	1,332	2,100	0.63	0.275	No	-768	589824
2101	21S	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.							
2200	22N	9618	7774	96187774	N	N. Whisman Rd.	Central Expy.	E. Middlefield Rd.	413	770	0.54	0.410	No	-357	127449
2201	22S	7774	9618	77749618	S	N. Whisman Rd.	E. Middlefield Rd.	Central Expy.							
2300	23N	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps	1,392	790	1.76	0.410	No	602	362404
2301	23S	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.							
2400	24E	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.	1,984	1,610	1.23	0.303	Yes	374	139876
2401	24W	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.							
2500	25E	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps	1,742	1,600	1.09	0.303	Yes	142	20164
2501	25W	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.							
2600	26E	9110	8823	91108823	E	W. Middlefield Rd.	San Antonio Rd.	Old Middlefield Wy.	1,893	1,940	0.98	0.280	Yes	-47	2209
2601	26W	8823	9110	88239110	W	W. Middlefield Rd.	Old Middlefield Wy.	San Antonio Rd.							
2700	27E	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.	533	740	0.72	0.440	Yes	-207	42849
2701	27W	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.							
2800	28E	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.	1,235	1,250	0.99	0.325	Yes	-15	225
2801	28W	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.							
2900	29E	6402	4594	64024594	E	W. Middlefield Rd.	San Veron Ave.	Moffett Blvd.	1,536	1,500	1.02	0.303	Yes	36	1296
2901	29W	4594	6402	45946402	W	W. Middlefield Rd.	Moffett Blvd.	San Veron Ave.							
3000	30E	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.	888	1,420	0.63	0.313	No	-532	283024
3001	30W	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.							
3100	31E	4587	25563	458725563	E	E. Middlefield Rd.	Ellis St.	SR 237	1,164	1,430	0.81	0.313	Yes	-266	70756
3101	31W	25563	4587	255634587	W	E. Middlefield Rd.	SR 237	Ellis St.							
3200	32E	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.	2,642	2,540	1.04	0.255	Yes	102	10404
3201	32W	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.							
3300	33E	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.	3,163	2,490	1.27	0.260	No	673	452929
3301	33W	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.							
3400	34E	4949	7072	49497072	E	Central Expy.	Shoreline Blvd.	Moffett Blvd.	3,627	2,960	1.23	0.244	Yes	667	444889
3401	34W	7072	4949	70724949	W	Central Expy.	Moffett Blvd.	Shoreline Blvd.							
3500	35E	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.	2,828	2,970	0.95	0.244	Yes	-142	20164
3501	35W	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85							
3600	36E	9613	9614	96139614	E	Central Expy.	Bernardo Ave.	E. Middlefield Rd.	2,688	2,770	0.97	0.248	Yes	-82	6724
3601	36W	9614	9613	96149613	W	Central Expy.	E. Middlefield Rd.	Bernardo Ave.							
3700	37E	7297	7270	72977270	E	W. Evelyn Ave.	Calderon Ave.	SB SR 85 Ramp	2,393	1,150	2.08	0.340	No	1243	1545049
3701	37W	7270	7297	72707297	W	W. Evelyn Ave.	SB SR 85 Ramp	Calderon Ave.							
3800	38E	7276	9016	72769016	E	E. Evelyn Ave.	SR 237	Bernardo Ave.	851	1,280	0.66	0.325	No	-429	184041
3801	38W	9016	7276	90167276	W	E. Evelyn Ave.	Bernardo Ave.	SR 237							
3900	39E	36706	36662	3670636662	E	E. Dana St.	Calderon Ave.	SR 237	471	670	0.70	0.440	Yes	-199	39601
3901	39W	36662	36706	3666236706	W	E. Dana St.	SR 237	Calderon Ave.							
4000	40E	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.	1,124	1,050	1.07	0.359	Yes	74	5476
4001	40W	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.							
4100	41E	4965	9115	49659115	E	El Camino Real	Los Altos Ave.	San Antonio Rd.	3,183	3,320	0.96	0.235	Yes	-137	18769
4101	41W	9115	4965	91154965	W	El Camino Real	San Antonio Rd.	Los Altos Ave.							
4200	42E	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.	3,069	3,200	0.96	0.241	Yes	-131	17161
4201	42W	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.							
4300	43E	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.	3,700	4,050	0.91	0.219	Yes	-350	122500
4301	43W	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.							
4400	44E	36029	4598	360294598	E	El Camino Real	Phyllis Ave.	Castro St.	3,879	4,100	0.95	0.219	Yes	-221	48841
4401	44W	4598	36029	459836029	W	El Camino Real	Castro St.	Phyllis Ave.							
4500	45E	36093	6477	360936477	E	El Camino Real	Grant Rd.	SB SR 85 Ramps	2,981	4,160	0.72	0.219	No	-1179	1390041
4501	45W	6477	36093	647736093	W	El Camino Real	SB SR 85 Ramps	Grant Rd.							
4600	46E	7291	36088	729136088	E	El Camino Real	NB SR 85 Ramps	Bernardo Ave.	3,182	4,030	0.79	0.219	Yes	-848	719104
4601	46W	36088	7291	360887291	W	El Camino Real	Bernardo Ave.	NB SR 85 Ramps							
4700	47E	9077	4953	90774953	E	Cuesta Dr.	Miramonte Ave.	Grant Rd.	1,688	1,450	1.16	0.313	Yes	238	56644
4701	47W	4953	9077	49539077	W	Cuesta Dr.	Grant Rd.	Miramonte Ave.							
									82,873	**91,570**			**Model/Count Ratio =**	**0.91**	
													Percent Within Caltrans Maximum Deviation =	**64%**	> 75%
													Percent Root Mean Square Error =	**31%**	< 30%
													Coefficient of Determination (R^2) =	**0.69**	> 0.77
													Correlation Coefficient =	**0.83**	> 0.88

Total Count	**47**
Link Within Deviation	**30**
Link Outside Deviation	**17**

Table B-27: Mountain View Model Validation Results - Screenlines Using PM Peak-Hour Two-Way Traffic Volumes

Screenlines	CNT_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model/ Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
Screenline 1: North of US 101															
101	100	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.							
102	101	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps	1,259	1,090	1.16	0.56	Yes	169	28,561
103	500	35063	7302	350637302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.							
104	501	7302	35063	730235063	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps	1,916	1,420	1.35	0.52	Yes	496	246,016
105	1100	9129	35045	912935045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.							
106	1101	35045	9129	350459129	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps	1,962	2,460	0.80	0.43	Yes	-498	248,004
								Screenline 1 =	5,137	4,970	**1.03**	0.33	Yes	167	27,889
								Percent RMSE =	**25%**						
Screenline 2: South of US 101															
201	200	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps							
202	201	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.	1,925	2,620	0.73	0.42	Yes	-695	483,025
203	2400	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.							
204	2401	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.	1,984	1,610	1.23	0.50	Yes	374	139,876
205	600	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps							
206	601	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.	1,915	1,290	1.48	0.54	Yes	625	390,625
207	2500	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps							
208	2501	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.	1,742	1,600	1.09	0.50	Yes	142	20,164
209	1200	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps							
210	1201	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.	1,802	2,130	0.85	0.45	Yes	-328	107,584
211	1700	9022	10007	902210007	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
212	1701	10007	9022	100079022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	1,498	1,180	1.27	0.55	Yes	318	101,124
213	2300	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps							
214	2301	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.	1,392	790	1.76	0.59	No	602	362,404
								Screenline 2 =	12,258	11,220	**1.09**	0.23	Yes	1,038	1,077,444
								Percent RMSE =	**30%**						
Screenline 3: South of Central Expressway															
301	300	36114	9115	361149115	N	San Antonio Rd.	California St.	San Antonio Cir.							
302	301	9115	36114	911536114	S	San Antonio Rd.	San Antonio Cir.	California St.	1,674	3,180	0.53	0.40	No	-1,506	2,268,036
303	700	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.							
304	701	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.	1,445	1,310	1.10	0.53	Yes	135	18,225
305	1400	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.							
306	1401	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.	798	2,210	0.36	0.45	No	-1,412	1,993,744
307	1900	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.							
308	1901	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.	724	650	1.11	0.60	Yes	74	5,476
								Screenline 3 =	4,641	7,350	**0.63**	0.28	No	-2,709	7,338,681
								Percent RMSE =	**56%**						
Screenline 4: North of Covington Road															
401	1600	4618	10327	461810327	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.							
402	1601	10327	4618	103274618	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.	408	810	0.50	0.58	Yes	-402	161,604
403	2100	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.							
404	2101	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.	1,332	2,100	0.63	0.46	Yes	-768	589,824
								Screenline 4 =	1,740	2,910	**0.60**	0.41	Yes	-1,170	1,368,900
								Percent RMSE =	**42%**						
Screenline 5: East of San Antonio Road															
501	2700	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.							
502	2701	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.	533	740	0.72	0.59	Yes	-207	42,849
503	3200	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.							
504	3201	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.	2,642	2,540	1.04	0.42	Yes	102	10,404
505	4200	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.							
506	4201	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.	3,069	3,200	0.96	0.40	Yes	-131	17,161
								Screenline 5 =	6,244	6,480	**0.96**	0.30	Yes	-236	55,696
								Percent RMSE =	**7%**						
Screenline 6: Central Mountain View															
601	1002N				N	US 101	SR 85	Old Middlefield Rd.							
602	1002S				S	US 101	Old Middlefield Rd.	SR 85							
603	2800	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.							
604	2801	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.	1,235	1,250	0.99	0.54	Yes	-15	225
605	3300	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.							
606	3301	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.	3,163	2,490	1.27	0.43	Yes	673	452,929
607	4000	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.							
608	4001	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.	1,124	1,050	1.07	0.56	Yes	74	5,476
609	4300	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.							
610	4301	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.	3,700	4,050	0.91	0.36	Yes	-350	122,500
								Screenline 6 =	9,222	8,840	**1.04**	0.26	Yes	382	145,924
								Percent RMSE =	**17%**						
Screenline 7: East of SR 85															
501	1700	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
502	1701	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	1,498	1,180	1.27	0.55	Yes	318	101,124
503	3000	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.							
504	3001	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.	888	1,420	0.63	0.52	Yes	-532	283,024
505	3500	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.							
506	3501	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85	2,828	2,970	0.95	0.41	Yes	-142	20,164
								Screenline 7 =	5,214	5,570	**0.94**	0.31	Yes	-356	126,736
								Percent RMSE =	**20%**						

Percent Within Caltrans Maximum Deviation =	**86%**	= 100%
Total Count	**7**	
Screenlines Within Deviation	**6**	
Screenlines Outside Deviation	**1**	

Table B-28
Results of PM Peak-Hour Model Validation

Validation Item	Criterion for Acceptance	Model Results
Total Counts	N/A	47
% of Links Within Caltrans Standard Deviations	At Least 75%	**64%**
%of Screenlines Within Caltrans Standard Deviations	100%	**86%**
2-way Sum of All Links Counted	Within 10%	-9%
Coefficient of Determination (R^2) =	At Least 77%	**69%**
Correlation Coefficient	Greater than 88%	**83%**
RMSE	30% or less	**31%**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-29
Results of PM Peak-Hour Model Area Validation by Functional Class

Functional Class	Counts	Volume-to-Count		RMSE
		Criteria	Model	
Freeway-to-Freeway	0	7%	N/A	**N/A**
Freeway	0	7%	N/A	**N/A**
Expressway	5	25%	9%	16%
Collector	3	25%	**-49%**	**51%**
Freeway Ramp	0	20%	N/A	**N/A**
Dummy Link	0	25%	N/A	**N/A**
Major Arterial	39	25%	-12%	**33%**
Metered Ramp	0	25%	N/A	**N/A**
Special Category	0	25%	N/A	**N/A**
Overall	47			

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-30
Results of PM Peak-Hour Model Area Validation by Volume Range

Volume Range	Counts	Volume-to-Count		RMSE	
		Criteria	Model	Criteria	Model
Less than 1,000	0	200%	N/A	116%	**N/A**
1,000 to 2,499	0	100%	N/A	116%	**N/A**
2,500 to 4,999	0	50%	N/A	116%	**N/A**
5,000 to 9,999	7	25%	-19%	43%	**50%**
10,000 to 19,999	21	20%	3%	28%	**32%**
20,000 to 24,999	6	20%	**-30%**	25%	**46%**
25,000 to 39,999	9	15%	-7%	25%	20%
40,000 to 49,999	4	15%	**-16%**	30%	18%
50,000 to 59,999	0	10%	N/A	30%	**N/A**
60,000 to 89,999	0	10%	N/A	19%	**N/A**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

UPDATED MODEL VALIDATION RESULTS WITH EAST WHISMAN TRAFFIC COUNT DATA

NOVEMBER 2017

Table B-16: City of Mountain View Travel Demand Model Validation Results - Daily Two-Way Total Traffic Volumes

Directional

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
0	1007N	309057	60174	30905760174	N	SR 85	Fremont Ave.	El Camino Real							
0	1007N (HOV)	306485	60175	30648560175	N (HOV)	SR 85	Fremont Ave.	El Camino Real	65,986	69,700	0.95	0.166	Yes	-3,714	13793796
0	1007S	60177	309071	60177309071	S	SR 85	El Camino Real	Fremont Ave.							
0	1007S (HOV)	60176	306484	60176306484	S (HOV)	SR 85	El Camino Real	Fremont Ave.	67,969	68,900	0.99	0.166	Yes	-931	866761
0	1006N	260179	207282	260179207282	N	SR 85	SR 237	Evelyn Ave.							
0	1006N (HOV)	260178	211415	260178211415	N (HOV)	SR 85	SR 237	Evelyn Ave.							
0	1006N (AUX)	0	0		N (AUX)	SR 85	SR 237	Evelyn Ave.	51,825	48,700	1.06	0.204	Yes	3,125	9765625
0	1006S	260181	206473	260181206473	S	SR 85	Evelyn Ave.	SR 237							
0	1006S (HOV)	260180	211417	260180211417	S (HOV)	SR 85	Evelyn Ave.	SR 237							
0	1006S (AUX)	0	0		S (AUX)	SR 85	Evelyn Ave.	SR 237	44,861	48,600	0.92	0.204	Yes	-3,739	13980121
0	1005N	204612	260183	204612260183	N	SR 85	Evelyn Ave.	Moffett Blvd.							
0	1005N (HOV)	211418	260182	211418260182	N (HOV)	SR 85	Evelyn Ave.	Moffett Blvd.	48,743	47,300	1.03	0.209	Yes	1,443	2082249
0	1005S	260184	204590	260184204590	S	SR 85	Moffett Blvd.	Evelyn Ave.							
0	1005S (HOV)	260185	211419	260185211419	S (HOV)	SR 85	Moffett Blvd.	Evelyn Ave.	42,227	49,700	0.85	0.204	Yes	-7,473	55845729
0	1004N	360042	9324	3600429324	N	US 101	SR 237	Ellis St.							
0	1004N (HOV)	360043	5407	3600435407	N (HOV)	US 101	SR 237	Ellis St.	92,396	103,500	0.89	0.136	Yes	-11,104	123298816
0	1004S	9001	360045	9001360045	S	US 101	Ellis St.	SR 237							
0	1004S (HOV)	5406	360044	5406360044	S (HOV)	US 101	Ellis St.	SR 237	98,158	96,400	1.02	0.137	Yes	1,758	3090564
0	1003N	9323	160046	9323160046	N	US 101	Ellis St.	Moffett Blvd.							
0	1003N (HOV)	5405	160047	5405160047	N (HOV)	US 101	Ellis St.	Moffett Blvd.	93,072	105,400	0.88	0.136	Yes	-12,328	151979584
0	1003S	160049	8999	1600498999	S	US 101	Moffett Blvd.	Ellis St.							
0	1003S (HOV)	160048	5404	1600485404	S (HOV)	US 101	Moffett Blvd.	Ellis St.	94,587	99,200	0.95	0.137	Yes	-4,613	21279769
1002N	1002N	109990	110977	109990110977	N	US 101	SR 85	Old Middlefield Rd.							
1002N	1002N (HOV)	109992	110884	109992110884	N (HOV)	US 101	SR 85	Old Middlefield Rd.							
1002N	1002N (AUX)	110905	110879	110905110879	N (AUX)	US 101	SR 85	Old Middlefield Rd.	103,147	131,300	0.79	0.136	No	-28,153	792591409
1002S	1002S	105383	105592	105383105592	S	US 101	Old Middlefield Rd.	SR 85							
1002S	1002S (HOV)	105380	105868	105380105868	S (HOV)	US 101	Old Middlefield Rd.	SR 85	100,932	131,300	0.77	0.136	No	-30,368	922215424
0	1001N	160051	109318	160051109318	N	US 101	Old Middlefield Rd.	Rengstorff Ave.							
0	1001N (HOV)	160050	105379	160050105379	N (HOV)	US 101	Old Middlefield Rd.	Rengstorff Ave.	95,021	110,800	0.86	0.136	No	-15,779	248976841
0	1001S	106539	160053	106539160053	S	US 101	Rengstorff Ave.	Old Middlefield Rd.							
0	1001S (HOV)	105400	160052	105400160052	S (HOV)	US 101	Rengstorff Ave.	Old Middlefield Rd.	95,679	113,300	0.84	0.136	No	-17,621	310499641
0	1000N	160055	109316	160055109316	N	US 101	Rengstorff Ave.	San Antonio Rd.							
0	1000N (HOV)	160054	105370	160054105370	N (HOV)	US 101	Rengstorff Ave.	San Antonio Rd.	91,598	106,700	0.86	0.136	No	-15,102	228070404
0	1000S	107305	160057	107305160057	S	US 101	San Antonio Rd.	Rengstorff Ave.							
0	1000S (HOV)	105083	160056	105083160056	S (HOV)	US 101	San Antonio Rd.	Rengstorff Ave.	83,978	103,600	0.81	0.136	No	-19,622	385022884
1010E	1010E	9125	205602	9125205602	E	SR 237	El Camino Real	SR 85	22,316	16,900	1.32	0.294	No	5416	29333056
1010W	1010W	204743	9125	2047439125	W	SR 237	SR 85	El Camino Real	22,541	26,800	0.84	0.252	Yes	-4259	18139081
1009E	1009E	206085	205329	206085205329	E	SR 237	Sylvan Wy.	Middlefield Rd./Maude Ave.	47,872	43,400	1.10	0.214	Yes	4472	19998784
1009E	1009E (AUX)	0	0		E (AUX)	SR 237	Sylvan Wy.	Middlefield Rd./Maude Ave.							
1009W	1009W	205330	206084	205330206084	W	SR 237	Middlefield Rd./Maude Ave.	Sylvan Wy.	45,556	41,300	1.10	0.219	Yes	4256	18113536
1008E	1008E	209606	211107	209606211107	E	SR 237	Middlefield Rd./Maude Ave.	US 101	51,558	42,700	1.21	0.214	Yes	8858	78464164
1008E	1008E (AUX)	0	0		E (AUX)	SR 237	Middlefield Rd./Maude Ave.	US 101							
1008W	1008W	8806	207289	8806207289	W	SR 237	US 101	Middlefield Rd./Maude Ave.	51,641	42,700	1.21	0.214	Yes	8941	79941481
100	1N	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.	9,416	7,500	1.26	0.410	Yes	1916	3671056
101	1S	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps	8,776	5,200	1.69	0.475	No	3576	12787776
200	2N	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps	9,248	13,800	0.67	0.313	No	-4552	20720704
201	2S	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.	14,463	25,600	0.56	0.255	No	-11137	124032769
300	3N	4605	35051	460535051	N	San Antonio Rd.	California St.	San Antonio Cir.	9,700	15,800	0.61	0.303	No	-6100	37210000
301	3S	35051	4605	350514605	S	San Antonio Rd.	San Antonio Cir.	California St.	9,898	16,500	0.60	0.294	No	-6602	43586404
400	4N	36114	9115	361149115	N	San Antonio Rd.	Loucks Ave.	El Camino Real	9,066	11,100	0.82	0.359	Yes	-2034	4137156
401	4S	9115	36114	911536114	S	San Antonio Rd.	El Camino Real	Loucks Ave.	8,966	12,700	0.71	0.325	Yes	-3734	13942756
500	5N	9105	7302	91057302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.	20,277	11,400	1.78	0.340	No	8877	78801129
501	5S	7302	9105	73029105	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps	19,787	10,700	1.85	0.359	No	9087	82573569
600	6N	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps	13,000	8,900	1.46	0.380	No	4100	16810000
601	6S	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.	13,892	8,000	1.74	0.410	No	5892	34715664
700	7N	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.	8,377	8,800	0.95	0.380	Yes	-423	178929
701	7S	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.	9,660	8,300	1.16	0.410	Yes	1360	1849600
800	8N	4945	10420	494510420	N	N. Rengstorff Ave.	California St.	University Ave.	7,926	8,500	0.93	0.410	Yes	-574	329476
801	8S	10420	4945	104204945	S	N. Rengstorff Ave.	University Ave.	California St.	7,978	9,400	0.85	0.380	Yes	-1422	2022084
900	9N	9086	4963	90864963	N	El Monte Ave.	Springer Rd.	El Camino Real	8,116	9,000	0.90	0.380	Yes	-884	781456
901	9S	4963	9086	49639086	S	El Monte Ave.	El Camino Real	Springer Rd.	9,196	9,800	0.94	0.380	Yes	-604	364816
1000	10N	9080	9086	90809086	N	N. Springer Rd.	Cuesta Dr.	El Monte Ave.	1,360	3,800	0.36	0.520	No	-2440	5953600
1001	10S	9086	9080	90869080	S	N. Springer Rd.	El Monte Ave.	Cuesta Dr.	1,779	3,900	0.46	0.520	No	-2121	4498641
1100	11N	10980	35045	1098035045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.	23,311	16,500	1.41	0.294	No	6811	46389721
1101	11S	35045	10980	3504510980	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps	21,350	13,500	1.58	0.325	No	7850	61622500
1200	12N	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps	10,848	15,600	0.70	0.303	No	-4752	22581504
1201	12S	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.	12,437	14,600	0.85	0.313	Yes	-2163	4678569
1300	13N	10589	5266	105895266	N	N. Shoreline Blvd.	Central Expy.	Montecito Ave.	4,343	14,800	0.29	0.313	No	-10457	109348849
1301	13S	5266	10589	526610589	S	N. Shoreline Blvd.	Montecito Ave.	Central Expy.	5,651	13,900	0.41	0.313	No	-8249	68046001
1400	14N	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.	5,801	12,300	0.47	0.340	No	-6499	42237001
1401	14S	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.	7,258	11,600	0.63	0.340	No	-4342	18852964
1500	15N	9142	9075	91429075	N	Miramonte Ave.	Cuesta Dr.	El Camino Real	3,198	4,400	0.73	0.520	Yes	-1202	1444804
1501	15S	9075	9142	90759142	S	Miramonte Ave.	El Camino Real	Cuesta Dr.	3,433	4,900	0.70	0.520	Yes	-1467	2152089
1600	16N	10327	4627	103274627	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.	3,618	4,400	0.82	0.520	Yes	-782	611524
1601	16S	4627	10327	462710327	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.	2,844	4,400	0.65	0.520	Yes	-1556	2421136
1700	17N	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps	6,145	7,200	0.85	0.440	Yes	-1055	1113025
1701	17S	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	15,203	7,300	2.08	0.440	No	7903	62457409
1800	18N	7508	36653	750836653	N	Moffett Blvd.	Central Ave.	E. Middlefield Rd.	10,182	6,600	1.54	0.440	No	3582	12830724
1801	18S	36653	7508	366537508	S	Moffett Blvd.	E. Middlefield Rd	Central Ave.	15,260	6,100	2.50	0.475	No	9160	83905600
1900	19N	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.	4,942	3,600	1.37	0.575	Yes	1342	1800964
1901	19S	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.	6,438	3,500	1.84	0.575	No	2938	8631844
2000	20N	36144	4616	361444616	N	Grant Rd.	Cuesta Dr.	Phyllis Avenue	20,803	16,400	1.27	0.294	Yes	4403	19386409
2001	20S	4616	36144	461636144	S	Grant Rd.	Phyllis Avenue	Cuesta Dr.	19,432	16,800	1.16	0.294	Yes	2632	6927424
2100	21N	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.	9,490	9,600	0.99	0.380	Yes	-110	12100
2101	21S	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.	8,982	10,100	0.89	0.359	Yes	-1118	1249924
2200	22N	9618	7774	96187774	N	N. Whisman Rd.	Central Expy.	E. Middlefield Rd.	3,010	4,100	0.73	0.520	Yes	-1090	1188100
2201	22S	7774	9618	77749618	S	N. Whisman Rd.	E. Middlefield Rd.	Central Expy.	3,995	5,500	0.73	0.475	Yes	-1505	2265025
2300	23N	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps	10,004	4,800	2.08	0.520	No	5204	27081616
2301	23S	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.	8,731	4,700	1.86	0.520	No	4031	16248961
2400	24E	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.	18,831	15,400	1.22	0.303	Yes	3431	11771761
2401	24W	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.	9,466	5,900	1.60	0.475	No	3566	12716356
2500	25E	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps	9,960	12,000	0.83	0.340	Yes	-2040	4161600
2501	25W	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.	10,523	13,100	0.80	0.325	Yes	-2577	6640929
2600	26E	9110	8823	91108823	E	W. Middlefield Rd.	San Antonio Rd.	Old Middlefield Wy.	11,638	10,800	1.08	0.359	Yes	838	702244
2601	26W	8823	9110	88239110	W	W. Middlefield Rd.	Old Middlefield Wy.	San Antonio Rd.	11,666	10,500	1.11	0.359	Yes	1166	1359556
2700	27E	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.	5,134	3,600	1.43	0.575	Yes	1534	2353156
2701	27W	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.	5,432	2,500	2.17	0.575	No	2932	8596624
2800	28E	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.	9,509	6,400	1.49	0.440	No	3109	9665881
2801	28W	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.	9,735	6,800	1.43	0.440	Yes	2935	8614225
2900	29E	6402	4594	64024594	E	W. Middlefield Rd.	San Veron Ave.	Moffett Blvd.	11,342	7,800	1.45	0.410	No	3542	12545764
2901	29W	4594	6402	45946402	W	W. Middlefield Rd.	Moffett Blvd.	San Veron Ave.	11,330	8,700	1.30	0.410	Yes	2630	6916900
3000	30E	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.	8,782	8,000	1.10	0.410	Yes	782	611524
3001	30W	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.	9,187	6,900	1.33	0.440	Yes	2287	5230369
3100	31E	4587	25563	458725563	E	E. Middlefield Rd.	Ellis St.	SR 237	7,023	8,200	0.86	0.410	Yes	-1177	1385329
3101	31W	25563	4587	255634587	W	E. Middlefield Rd.	SR 237	Ellis St.	9,624	8,600	1.12	0.410	Yes	1024	1048576
3200	32E	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.	19,912	13,500	1.47	0.325	No	6412	41113744
3201	32W	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.	21,398	14,600	1.47	0.313	No	6798	46212804
3300	33E	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.	22,994	13,400	1.72	0.325	No	9594	92044836
3301	33W	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.	23,080	14,800	1.56	0.313	No	8280	68558400
3400	34E	4949	7072	49497072	E	Central Expy.	Shoreline Blvd.	Moffett Blvd.	23,977	14,900	1.61	0.313	No	9077	82391929
3401	34W	7072	4949	70724949	W	Central Expy.	Moffett Blvd.	Shoreline Blvd.	23,858	15,200	1.57	0.303	No	8658	74960964
3500	35E	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.	23,113	16,800	1.38	0.294	No	6313	39853969
3501	35W	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85	19,601	18,500	1.06	0.286	Yes	1101	1212201
3600	36E	9613	9614	96139614	E	Central Expy.	Bernardo Ave.	E. Middlefield Rd.	21,227	16,300	1.30	0.294	No	4927	24275329
3601	36W	9614	9613	96149613	W	Central Expy.	E. Middlefield Rd.	Bernardo Ave.	15,730	14,800	1.06	0.313	Yes	930	864900
3700	37E	7297	7270	72977270	E	W. Evelyn Ave.	Calderon Ave.	SB SR 85 Ramp	14,390	7,900	1.82	0.410	No	6490	42120100
3701	37W	7270	7297	72707297	W	W. Evelyn Ave.	SB SR 85 Ramp	Calderon Ave.	17,013	7,600	2.24	0.410	No	9413	88604569
3800	38E	7276	9016	72769016	E	E. Evelyn Ave.	SR 237	Bernardo Ave.	3,583	9,100	0.39	0.380	No	-5517	30437289
3801	38W	9016	7276	90167276	W	E. Evelyn Ave.	Bernardo Ave.	SR 237	4,209	8,200	0.51	0.410	No	-3991	15928081
3900	39E	36706	36662	3670636662	E	E. Dana St.	Calderon Ave.	Pioneer Wy.	2,124	4,100	0.52	0.520	Yes	-1976	3904576
3901	39W	36662	36706	3666236706	W	E. Dana St.	Pioneer Wy.	Calderon Ave.	5,917	4,200	1.41	0.520	Yes	1717	2948089
4000	40E	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.	9,041	6,600	1.37	0.440	Yes	2441	5958481
4001	40W	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.	10,641	4,900	2.17	0.520	No	5741	32959081
4100	41E	4965	9115	49659115	E	El Camino Real	Los Altos Ave.	San Antonio Rd.	25,385	18,700	1.36	0.286	No	6685	44689225
4101	41W	9115	4965	91154965	W	El Camino Real	San Antonio Rd.	Los Altos Ave.	21,676	17,500	1.24	0.286	Yes	4176	17438976

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
4200	42E	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.	26,554	19,200	1.38	0.280	No	7354	54081316
4201	42W	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.	22,678	19,700	1.15	0.280	Yes	2978	8868484
4300	43E	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.	30,822	22,500	1.37	0.265	No	8322	69255684
4301	43W	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.	26,051	23,500	1.11	0.265	Yes	2551	6507601
4400	44E	36029	4598	360294598	E	El Camino Real	Phyllis Ave.	Castro St.	33,402	25,100	1.33	0.255	No	8302	68923204
4401	44W	4598	36029	459836029	W	El Camino Real	Castro St.	Phyllis Ave.	26,037	24,700	1.05	0.260	Yes	1337	1787569
4500	45E	36093	6477	360936477	E	El Camino Real	Grant Rd.	SB SR 85 Ramps	27,637	26,400	1.05	0.252	Yes	1237	1530169
4501	45W	6477	36093	647736093	W	El Camino Real	SB SR 85 Ramps	Grant Rd.	22,088	22,500	0.98	0.265	Yes	-412	169744
4600	46E	7291	36088	729136088	E	El Camino Real	NB SR 85 Ramps	Bernardo Ave.	20,027	28,300	0.71	0.248	No	-8273	68442529
4601	46W	36088	7291	360887291	W	El Camino Real	Bernardo Ave.	NB SR 85 Ramps	24,038	26,400	0.91	0.252	Yes	-2362	5579044
4700	47E	9077	4953	90774953	E	Cuesta Dr.	Miramonte Ave.	Grant Rd.	10,160	7,900	1.29	0.410	Yes	2260	5107600
4701	47W	4953	9077	49539077	W	Cuesta Dr.	Grant Rd.	Miramonte Ave.	9,352	8,200	1.14	0.410	Yes	1152	1327104
									2,726,150	**2,790,500**			**Model/Count Ratio =**	**0.98**	
													Percent Within Caltrans Maximum Deviation =	**54%**	> 75%
													Percent Root Mean Square Error =	**29%**	< 30%
													Coefficient of Determination (R^2) =	**0.96**	> 0.77
													Correlation Coefficient =	**0.98**	> 0.88

Total Count	**116**
Link Within Deviation	**63**
Link Outside Deviation	**53**

Table B-17: Mountain View Model Validation Results - Screenlines Using Daily Two-Way Traffic Volumes

Screenlines	CNT_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model/ Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
Screenline 1: North of US 101															
101	100	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.							
102	101	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps	18,192	12,700	1.43	0.54	Yes	5,492	30,162,064
103	500	35063	7302	350637302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.							
104	501	7302	35063	730235063	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps	40,064	22,100	1.81	0.45	No	17,964	322,705,296
105	1100	9129	35045	912935045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.							
106	1101	35045	9129	350459129	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps	44,661	30,000	1.49	0.40	No	14,661	214,944,921
								Screenline 1 =	102,917	64,800	**1.59**	0.30	No	38,117	1,452,905,689
								Percent RMSE =	**64%**						
Screenline 2: South of US 101															
201	200	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps							
202	201	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.	23,711	39,400	0.60	0.37	No	-15,689	246,144,721
203	2400	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.							
204	2401	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.	28,297	21,300	1.33	0.45	Yes	6,997	48,958,009
205	600	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps							
206	601	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.	26,892	16,900	1.59	0.49	No	9,992	99,840,064
207	2500	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps							
208	2501	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.	20,483	25,100	0.82	0.42	Yes	-4,617	21,316,689
209	1200	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps							
210	1201	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.	23,285	30,200	0.77	0.40	Yes	-6,915	47,817,225
211	1700	9022	10007	902210007	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
212	1701	10007	9022	100079022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	21,348	14,500	1.47	0.52	Yes	6,848	46,895,104
213	2300	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps							
214	2301	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.	18,735	9,500	1.97	0.57	No	9,235	85,285,225
								Screenline 2 =	162,751	156,900	**1.04**	0.21	Yes	5,851	34,234,201
								Percent RMSE =	**41%**						
Screenline 3: South of Central Expressway															
301	300	36114	9115	361149115	N	San Antonio Rd.	California St.	San Antonio Cir.							
302	301	9115	36114	911536114	S	San Antonio Rd.	San Antonio Cir.	California St.	19,598	32,300	0.61	0.40	Yes	-12,702	161,340,804
303	700	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.							
304	701	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.	18,037	17,100	1.05	0.49	Yes	937	877,969
305	1400	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.							
306	1401	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.	13,059	23,900	0.55	0.43	No	-10,841	117,527,281
307	1900	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.							
308	1901	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.	11,380	7,100	1.60	0.59	No	4,280	18,318,400
								Screenline 3 =	62,074	80,400	**0.77**	0.26	Yes	-18,326	335,842,276
								Percent RMSE =	**43%**						
Screenline 4: North of Covington Road															
401	1600	4618	10327	461810327	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.							
402	1601	10327	4618	103274618	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.	6,462	8,800	0.73	0.58	Yes	-2,338	5,466,244
403	2100	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.							
404	2101	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.	18,472	19,700	0.94	0.47	Yes	-1,228	1,507,984
								Screenline 4 =	24,934	28,500	**0.87**	0.41	Yes	-3,566	12,716,356
								Percent RMSE =	**13%**						
Screenline 5: East of San Antonio Road															
501	2700	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.							
502	2701	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.	10,566	6,100	1.73	0.60	No	4,466	19,945,156
503	3200	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.							
504	3201	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.	41,310	28,100	1.47	0.41	No	13,210	174,504,100
505	4200	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.							
506	4201	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.	49,232	38,900	1.27	0.37	Yes	10,332	106,750,224
								Screenline 5 =	101,108	73,100	**1.38**	0.28	No	28,008	784,448,064
								Percent RMSE =	**41%**						
Screenline 6: Central Mountain View															
601	1002N				N	US 101	SR 85	Old Middlefield Rd.							
602	1002S				S	US 101	Old Middlefield Rd.	SR 85	204,079	262,600	0.78	0.17	No	-58,521	3,424,707,441
603	2800	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.							
604	2801	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.	19,244	13,200	1.46	0.53	Yes	6,044	36,529,936
605	3300	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.							
606	3301	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.	46,074	28,200	1.63	0.41	No	17,874	319,479,876
607	4000	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.							
608	4001	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.	19,682	11,500	1.71	0.55	No	8,182	66,945,124
609	4300	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.							
610	4301	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.	56,873	46,000	1.24	0.34	Yes	10,873	118,222,129
								Screenline 6 =	345,952	361,500	**0.96**	0.17	Yes	-15,548	241,740,304
								Percent RMSE =	**39%**						
Screenline 7: East of SR 85															
501	1700	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
502	1701	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	21,348	14,500	1.47	0.52	Yes	6,848	46,895,104
503	3000	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.							
504	3001	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.	17,969	14,900	1.21	0.52	Yes	3,069	9,418,761
505	3500	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.							
506	3501	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85	42,714	35,300	1.21	0.38	Yes	7,414	54,967,396
								Screenline 7 =	82,031	64,700	**1.27**	0.30	Yes	17,331	300,363,561
								Percent RMSE =	**28%**						

Percent Within Caltrans Maximum Deviation = 71% = 100%

Total Count	**7**
Screenlines Within Deviation	**5**
Screenlines Outside Deviation	**2**

Table B-18
Results of Daily Model Validation

Validation Item	Criterion for Acceptance	Model Results
Total Counts	N/A	58
% of Links Within Caltrans Standard Deviations	At Least 75%	**48%**
%of Screenlines Within Caltrans Standard Deviations	100%	**71%**
2-way Sum of All Links Counted	Within 10%	+ 0%
Coefficient of Determination (R^2) =	At Least 77%	96%
Correlation Coefficient	Greater than 88%	98%
RMSE	30% or less	29%

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2011.

Table B-19
Results of Daily Model Area Validation by Functional Class

Functional Class	Counts	Volume-to-Count		RMSE
		Criteria	Model	
Freeway-to-Freeway	1	7%	**60%**	**60%**
Freeway	5	7%	1%	11%
Expressway	6	25%	-14%	20%
Collector	31	25%	6%	**34%**
Freeway Ramp	0	20%	N/A	**N/A**
Dummy Link	15	25%	25%	**43%**
Major Arterial	0	25%	N/A	**N/A**
Metered Ramp	0	25%	N/A	**N/A**
Special Category	0	25%	N/A	**N/A**
Overall	58			

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2011.

Table B-20
Results of Daily Model Area Validation by Volume Range

Volume Range	Counts	Volume-to-Count		RMSE	
		Criteria	Model	Criteria	Model
Less than 1,000	0	200%	N/A	116%	**N/A**
1,000 to 2,499	0	100%	N/A	116%	**N/A**
2,500 to 4,999	0	50%	N/A	116%	**N/A**
5,000 to 9,999	8	25%	8%	43%	**55%**
10,000 to 19,999	16	20%	**26%**	28%	**46%**
20,000 to 24,999	5	20%	9%	25%	**46%**
25,000 to 39,999	14	15%	10%	25%	**39%**
40,000 to 49,999	4	15%	12%	30%	15%
50,000 to 59,999	1	10%	**-19%**	30%	19%
60,000 to 89,999	10	10%	-9%	19%	16%

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2011.

Table B-21: City of Mountain View Travel Demand Model Validation Results - AM Peak Two-Way Total Traffic Volumes

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
0	1007N	309057	60174	30905760174	N	SR 85	Fremont Ave.	El Camino Real							
0	1007N (HOV)	306485	60175	30648560175	N (HOV)	SR 85	Fremont Ave.	El Camino Real							
0	1007S	60177	309071	60177309071	S	SR 85	El Camino Real	Fremont Ave.							
0	1007S (HOV)	60176	306484	60176306484	S (HOV)	SR 85	El Camino Real	Fremont Ave.	9,438	9,800	0.96	0.137	Yes	-362	131044
0	1006N	260179	207282	260179207282	N	SR 85	SR 237	Evelyn Ave.							
0	1006N (HOV)	260178	211415	260178211415	N (HOV)	SR 85	SR 237	Evelyn Ave.							
0	1006N (AUX)	0	0		N (AUX)	SR 85	SR 237	Evelyn Ave.							
0	1006S	260181	206473	260181206473	S	SR 85	Evelyn Ave.	SR 237							
0	1006S (HOV)	260180	211417	260180211417	S (HOV)	SR 85	Evelyn Ave.	SR 237							
0	1006S (AUX)	0	0		S (AUX)	SR 85	Evelyn Ave.	SR 237	7,410	6,800	1.09	0.166	Yes	610	372100
0	1005N	204612	260183	204612260183	N	SR 85	Evelyn Ave.	Moffett Blvd.							
0	1005N (HOV)	211418	260182	211418260182	N (HOV)	SR 85	Evelyn Ave.	Moffett Blvd.							
0	1005S	260184	204590	260184204590	S	SR 85	Moffett Blvd.	Evelyn Ave.							
0	1005S (HOV)	260185	211419	260185211419	S (HOV)	SR 85	Moffett Blvd.	Evelyn Ave.	7,196	6,800	1.06	0.166	Yes	396	156816
0	1004N	360042	9324	3600429324	N	US 101	SR 237	Ellis St.							
0	1004N (HOV)	360043	5407	3600435407	N (HOV)	US 101	SR 237	Ellis St.							
0	1004S	9001	360045	9001360045	S	US 101	Ellis St.	SR 237							
0	1004S (HOV)	5406	360044	5406360044	S (HOV)	US 101	Ellis St.	SR 237	15,720	12,100	1.30	0.136	No	3620	13104400
0	1003N	9323	160046	9323160046	N	US 101	Ellis St.	Moffett Blvd.							
0	1003N (HOV)	5405	160047	5405160047	N (HOV)	US 101	Ellis St.	Moffett Blvd.							
0	1003S	160049	8999	1600498999	S	US 101	Moffett Blvd.	Ellis St.							
0	1003S (HOV)	160048	5404	1600485404	S (HOV)	US 101	Moffett Blvd.	Ellis St.	15,488	13,000	1.19	0.136	No	2488	6190144
1002N	1002N	109990	110977	109990110977	N	US 101	SR 85	Old Middlefield Rd.							
1002N	1002N (HOV)	109992	110884	109992110884	N (HOV)	US 101	SR 85	Old Middlefield Rd.							
1002N	1002N (AUX)	110905	110879	110905110879	N (AUX)	US 101	SR 85	Old Middlefield Rd.							
1002S	1002S	105383	105592	105383105592	S	US 101	Old Middlefield Rd.	SR 85							
1002S	1002S (HOV)	105380	105868	105380105868	S (HOV)	US 101	Old Middlefield Rd.	SR 85	17,421	16,600	1.05	0.136	Yes	821	674041
0	1001N	160051	109318	160051109318	N	US 101	Old Middlefield Rd.	Rengstorff Ave.							
0	1001N (HOV)	160050	105379	160050105379	N (HOV)	US 101	Old Middlefield Rd.	Rengstorff Ave.							
0	1001S	106539	160053	106539160053	S	US 101	Rengstorff Ave.	Old Middlefield Rd.							
0	1001S (HOV)	105400	160052	105400160052	S (HOV)	US 101	Rengstorff Ave.	Old Middlefield Rd.	16,340	14,200	1.15	0.136	No	2140	4579600
0	1000N	160055	109316	160055109316	N	US 101	Rengstorff Ave.	San Antonio Rd.							
0	1000N (HOV)	160054	105370	160054105370	N (HOV)	US 101	Rengstorff Ave.	San Antonio Rd.							
0	1000S	107305	160057	107305160057	S	US 101	San Antonio Rd.	Rengstorff Ave.							
0	1000S (HOV)	105083	160056	105083160056	S (HOV)	US 101	San Antonio Rd.	Rengstorff Ave.	14,611	14,100	1.04	0.136	Yes	511	261121
1010E	1010E	9125	205602	9125205602	E	SR 237	El Camino Real	SR 85							
1010W	1010W	204743	9125	2047439125	W	SR 237	SR 85	El Camino Real	3,760	2,700	1.39	0.252	No	1060	1123600
1009E	1009E	206085	205329	206085205329	E	SR 237	Sylvan Wy.	Middlefield Rd./Maude Ave.							
1009E	1009E (AUX)	0	0		E (AUX)	SR 237	Sylvan Wy.	Middlefield Rd./Maude Ave.	7,352	7,400	0.99	0.158	Yes	-48	2304
1009W	1009W	205330	206084	205330206084	W	SR 237	Middlefield Rd./Maude Ave.	Sylvan Wy.							
1008E	1008E	209606	211107	209606211107	E	SR 237	Middlefield Rd./Maude Ave.	US 101							
1008E	1008E (AUX)	0	0		E (AUX)	SR 237	Middlefield Rd./Maude Ave.	US 101	1,268	7,500	0.17	0.154	No	-6232	38837824
1008W	1008W	8806	207289	8806207289	W	SR 237	US 101	Middlefield Rd./Maude Ave.							
100	1N	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.	1,268	1,360	0.93	0.325	Yes	-92	8464
101	1S	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps							
200	2N	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps	1,791	2,840	0.63	0.248	No	-1049	1100401
201	2S	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.							
300	3N	4605	35051	460535051	N	San Antonio Rd.	California St.	San Antonio Cir.	2,327	2,230	1.04	0.270	Yes	97	9409
301	3S	35051	4605	350514605	S	San Antonio Rd.	San Antonio Cir.	California St.							
400	4N	36114	9115	361149115	N	San Antonio Rd.	Loucks Ave.	El Camino Real	1,362	1,830	0.74	0.286	Yes	-468	219024
401	4S	9115	36114	911536114	S	San Antonio Rd.	El Camino Real	Loucks Ave.							
500	5N	9105	7302	91057302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.	2,437	1,910	1.28	0.280	Yes	527	277729
501	5S	7302	9105	73029105	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps							
600	6N	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps	2,278	1,130	2.02	0.340	No	1148	1317904
601	6S	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.							
700	7N	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.	1,729	1,310	1.32	0.325	Yes	419	175561
701	7S	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.							
800	8N	4945	10420	494510420	N	N. Rengstorff Ave.	California St.	University Ave.	1,572	1,270	1.24	0.325	Yes	302	91204
801	8S	10420	4945	104204945	S	N. Rengstorff Ave.	University Ave.	California St.							
900	9N	9086	4963	90864963	N	El Monte Ave.	Springer Rd.	El Camino Real	1,557	1,560	1.00	0.303	Yes	-3	9
901	9S	4963	9086	49639086	S	El Monte Ave.	El Camino Real	Springer Rd.							
1000	10N	9080	9086	90809086	N	N. Springer Rd.	Cuesta Dr.	El Monte Ave.	378	660	0.57	0.440	Yes	-282	79524
1001	10S	9086	9080	90869080	S	N. Springer Rd.	El Monte Ave.	Cuesta Dr.							
1100	11N	10980	35045	1098035045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.	2,476	2,590	0.96	0.255	Yes	-114	12996
1101	11S	35045	10980	3504510980	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps							
1200	12N	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps	2,376	2,300	1.03	0.265	Yes	76	5776
1201	12S	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.							
1300	13N	10589	5266	105895266	N	N. Shoreline Blvd.	Central Expy.	Montecito Ave.	1,436	2,280	0.63	0.265	No	-844	712336
1301	13S	5266	10589	526610589	S	N. Shoreline Blvd.	Montecito Ave.	Central Expy.							
1400	14N	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.	1,369	1,930	0.71	0.280	No	-561	314721
1401	14S	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.							
1500	15N	9142	9075	91429075	N	Miramonte Ave.	Cuesta Dr.	El Camino Real	871	900	0.97	0.380	Yes	-29	841
1501	15S	9075	9142	90759142	S	Miramonte Ave.	El Camino Real	Cuesta Dr.							
1600	16N	10327	4627	103274627	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.	677	700	0.97	0.440	Yes	-23	529
1601	16S	4627	10327	462710327	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.							
1700	17N	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps	1,258	1,040	1.21	0.359	Yes	218	47524
1701	17S	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp							
1800	18N	7508	36653	750836653	N	Moffett Blvd.	Central Ave.	E. Middlefield Rd.	1,769	880	2.01	0.380	No	889	790321
1801	18S	36653	7508	366537508	S	Moffett Blvd.	E. Middlefield Rd	Central Ave.							
1900	19N	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.	805	340	2.37	0.575	No	465	216225
1901	19S	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.							
2000	20N	36144	4616	361444616	N	Grant Rd.	Cuesta Dr.	Phyllis Avenue	3,536	2,480	1.43	0.260	No	1056	1115136
2001	20S	4616	36144	461636144	S	Grant Rd.	Phyllis Avenue	Cuesta Dr.							
2100	21N	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.	1,546	1,460	1.06	0.313	Yes	86	7396
2101	21S	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.							
2200	22N	9618	7774	96187774	N	N. Whisman Rd.	Central Expy.	E. Middlefield Rd.	871	950	0.92	0.380	Yes	-79	6241
2201	22S	7774	9618	77749618	S	N. Whisman Rd.	E. Middlefield Rd.	Central Expy.							
2300	23N	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps	1,613	880	1.83	0.380	No	733	537289
2301	23S	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.							
2400	24E	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.	2,604	1,400	1.86	0.313	No	1204	1449616
2401	24W	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.							
2500	25E	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps	1,816	1,880	0.97	0.280	Yes	-64	4096
2501	25W	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.							
2600	26E	9110	8823	91108823	E	W. Middlefield Rd.	San Antonio Rd.	Old Middlefield Wy.	1,926	1,630	1.18	0.294	Yes	296	87616
2601	26W	8823	9110	88239110	W	W. Middlefield Rd.	Old Middlefield Wy.	San Antonio Rd.							
2700	27E	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.	1,027	510	2.01	0.475	No	517	267289
2701	27W	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.							
2800	28E	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.	1,624	1,150	1.41	0.340	No	474	224676
2801	28W	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.							
2900	29E	6402	4594	64024594	E	W. Middlefield Rd.	San Veron Ave.	Moffett Blvd.	1,458	1,640	0.89	0.294	Yes	-182	33124
2901	29W	4594	6402	45946402	W	W. Middlefield Rd.	Moffett Blvd.	San Veron Ave.							
3000	30E	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.	1,371	1,400	0.98	0.313	Yes	-29	841
3001	30W	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.							
3100	31E	4587	25563	458725563	E	E. Middlefield Rd.	Ellis St.	SR 237	1,191	1,650	0.72	0.294	Yes	-459	210681
3101	31W	25563	4587	255634587	W	E. Middlefield Rd.	SR 237	Ellis St.							
3200	32E	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.	2,845	2,400	1.19	0.260	Yes	445	198025
3201	32W	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.							
3300	33E	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.	3,271	2,310	1.42	0.265	No	961	923521
3301	33W	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.							
3400	34E	4949	7072	49497072	E	Central Expy.	Shoreline Blvd.	Moffett Blvd.	3,434	2,520	1.36	0.255	No	914	835396
3401	34W	7072	4949	70724949	W	Central Expy.	Moffett Blvd.	Shoreline Blvd.							
3500	35E	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.	3,576	2,930	1.22	0.244	Yes	646	417316
3501	35W	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85							
3600	36E	9613	9614	96139614	E	Central Expy.	Bernardo Ave.	E. Middlefield Rd.	2,960	2,540	1.17	0.255	Yes	420	176400
3601	36W	9614	9613	96149613	W	Central Expy.	E. Middlefield Rd.	Bernardo Ave.							
3700	37E	7297	7270	72977270	E	W. Evelyn Ave.	Calderon Ave.	SB SR 85 Ramp	2,524	1,360	1.86	0.325	No	1164	1354896
3701	37W	7270	7297	72707297	W	W. Evelyn Ave.	SB SR 85 Ramp	Calderon Ave.							
3800	38E	7276	9016	72769016	E	E. Evelyn Ave.	SR 237	Bernardo Ave.	1,680	1,570	1.07	0.303	Yes	110	12100
3801	38W	9016	7276	90167276	W	E. Evelyn Ave.	Bernardo Ave.	SR 237							

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
3900	39E	36706	36662	3670636662	E	E. Dana St.	Calderon Ave.	SR 237	863	910	0.95	0.380	Yes	-47	2209
3901	39W	36662	36706	3666236706	W	E. Dana St.	SR 237	Calderon Ave.							
4000	40E	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.	2,232	910	2.45	0.380	No	1322	1747684
4001	40W	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.							
4100	41E	4965	9115	49659115	E	El Camino Real	Los Altos Ave.	San Antonio Rd.	3,826	2,720	1.41	0.252	No	1106	1223236
4101	41W	9115	4965	91154965	W	El Camino Real	San Antonio Rd.	Los Altos Ave.							
4200	42E	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.	3,815	2,940	1.30	0.244	No	875	765625
4201	42W	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.							
4300	43E	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.	4,552	3,340	1.36	0.235	No	1212	1468944
4301	43W	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.							
4400	44E	36029	4598	360294598	E	El Camino Real	Phyllis Ave.	Castro St.	4,788	3,650	1.31	0.229	No	1138	1295044
4401	44W	4598	36029	459836029	W	El Camino Real	Castro St.	Phyllis Ave.							
4500	45E	36093	6477	360936477	E	El Camino Real	Grant Rd.	SB SR 85 Ramps	3,926	3,090	1.27	0.241	No	836	698896
4501	45W	6477	36093	647736093	W	El Camino Real	SB SR 85 Ramps	Grant Rd.							
4600	46E	7291	36088	729136088	E	El Camino Real	NB SR 85 Ramps	Bernardo Ave.	3,472	3,750	0.93	0.224	Yes	-278	77284
4601	46W	36088	7291	360887291	W	El Camino Real	Bernardo Ave.	NB SR 85 Ramps							
4700	47E	9077	4953	90774953	E	Cuesta Dr.	Miramonte Ave.	Grant Rd.	1,986	1,410	1.41	0.313	No	576	331776
4701	47W	4953	9077	49539077	W	Cuesta Dr.	Grant Rd.	Miramonte Ave.							
									216,073	**195,440**			**Model/Count Ratio =**	**1.11**	
													Percent Within Caltrans Maximum Deviation =	**55%**	> 75%
													Percent Root Mean Square Error =	**36%**	< 30%
													Coefficient of Determination (R^2) =	**0.92**	> 0.77
													Correlation Coefficient =	**0.96**	> 0.88

Total Count	**58**
Link Within Deviation	**32**
Link Outside Deviation	**26**

Table B-22: Mountain View Model Validation Results - Screenlines Using AM Peak-Hour Two-Way Traffic Volumes

Screenlines	CNT_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model/ Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared		Model Volume	Traffic Count	Model/ Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
Screenline 1: North of US 101																							
101	100	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.	1,118	1,150	0.97	0.55	Yes	-32	1,024								
102	101	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps	150	210	0.71	0.64	Yes	-60	3,600		1,268	1,360	0.93	0.53	Yes	-92	8,464
103	500	35063	7302	350637302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.	2,259	1,700	1.33	0.49	Yes	559	312,481								
104	501	7302	35063	730235063	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps	178	210	0.85	0.64	Yes	-32	1,024		2,437	1,910	1.28	0.47	Yes	527	277,729
105	1100	9129	35045	912935045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.	2,204	2,300	0.96	0.44	Yes	-96	9,216								
106	1101	35045	9129	350459129	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps	272	290	0.94	0.64	Yes	-18	324		2,476	2,590	0.96	0.42	Yes	-114	12,996
								Screenline 1 =	6,181	5,860	**1.05**	0.31	Yes	321	103,041	1	6,181	5,860	**1.05**	0.31	Yes	321	103,041
								Percent RMSE =	**24%**								**16%**						
Screenline 2: South of US 101																							
201	200	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps	912	1,080	0.84	0.56	Yes	-168	28,224								
202	201	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.	879	1,760	0.50	0.48	No	-881	776,161		1,791	2,840	0.63	0.41	Yes	-1,049	1,100,401
203	2400	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.	1,602	1,080	1.48	0.56	Yes	522	272,484								
204	2401	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.	1,002	320	3.13	0.63	No	682	465,124		2,604	1,400	1.86	0.52	No	1,204	1,449,616
205	600	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps	1,894	860	2.20	0.58	No	1,034	1,069,156								
206	601	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.	384	270	1.42	0.64	Yes	114	12,996		2,278	1,130	2.02	0.55	No	1,148	1,317,904
207	2500	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps	897	1,110	0.81	0.55	Yes	-213	45,369								
208	2501	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.	919	770	1.19	0.59	Yes	149	22,201		1,816	1,880	0.97	0.47	Yes	-64	4,096
209	1200	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps	1,244	1,530	0.81	0.51	Yes	-286	81,796								
210	1201	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.	1,132	770	1.47	0.59	Yes	362	131,044		2,376	2,300	1.03	0.44	Yes	76	5,776
211	1700	9022	10007	902210007	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps	899	760	1.18	0.59	Yes	139	19,321								
212	1701	10007	9022	100079022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	359	280	1.28	0.64	Yes	79	6,241		1,258	1,040	1.21	0.56	Yes	218	47,524
213	2300	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps	306	590	0.52	0.61	Yes	-284	80,656								
214	2301	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.	1,307	290	4.51	0.64	No	1,017	1,034,289		1,613	880	1.83	0.58	No	733	537,289
								Screenline 2 =	13,736	11,470	**1.20**	0.23	Yes	2,266	5,134,756	1	13,736	11,470	**1.20**	0.23	Yes	2,266	5,134,756
								Percent RMSE =	**66%**								**49%**						
Screenline 3: South of Central Expressway																							
301	300	36114	9115	361149115	N	San Antonio Rd.	California St.	San Antonio Cir.	1,831	1,320	1.39	0.53	Yes	511	261,121								
302	301	9115	36114	911536114	S	San Antonio Rd.	San Antonio Cir.	California St.	496	910	0.55	0.57	Yes	-414	171,396		2,327	2,230	1.04	0.45	Yes	97	9,409
303	700	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.	1,305	780	1.67	0.59	No	525	275,625								
304	701	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.	424	530	0.80	0.61	Yes	-106	11,236		1,729	1,310	1.32	0.53	Yes	419	175,561
305	1400	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.	557	1,190	0.47	0.55	Yes	-633	400,689								
306	1401	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.	812	740	1.10	0.59	Yes	72	5,184		1,369	1,930	0.71	0.47	Yes	-561	314,721
307	1900	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.	288	170	1.69	0.64	No	118	13,924								
308	1901	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.	517	170	3.04	0.64	No	347	120,409		805	340	2.37	0.63	No	465	216,225
								Screenline 3 =	6,230	5,810	**1.07**	0.31	Yes	420	176,400	1	6,230	5,810	**1.07**	0.31	Yes	420	176,400
								Percent RMSE =	**55%**								**29%**						
Screenline 4: North of Covington Road																							
401	1600	4618	10327	461810327	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.	399	440	0.91	0.62	Yes	-41	1,681								
402	1601	10327	4618	103274618	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.	278	260	1.07	0.64	Yes	18	324		677	700	0.97	0.59	Yes	-23	529
403	2100	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.	1,269	1,020	1.24	0.56	Yes	249	62,001								
404	2101	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.	277	440	0.63	0.62	Yes	-163	26,569		1,546	1,460	1.06	0.52	Yes	86	7,396
								Screenline 4 =	2,223	2,160	**1.03**	0.45	Yes	63	3,969	1	2,223	2,160	**1.03**	0.45	Yes	63	3,969
								Percent RMSE =	**28%**								**6%**						
Screenline 5: East of San Antonio Road																							
501	2700	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.	304	220	1.38	0.64	Yes	84	7,056								
502	2701	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.	723	290	2.49	0.64	No	433	187,489		1,027	510	2.01	0.61	No	517	267,289
503	3200	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.	1,010	890	1.13	0.58	Yes	120	14,400								
504	3201	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.	1,835	1,510	1.22	0.51	Yes	325	105,625		2,845	2,400	1.19	0.43	Yes	445	198,025
505	4200	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.	1,197	1,100	1.09	0.55	Yes	97	9,409								
506	4201	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.	2,618	1,840	1.42	0.48	Yes	778	605,284		3,815	2,940	1.30	0.41	Yes	875	765,625
								Screenline 5 =	7,687	5,850	**1.31**	0.31	No	1,837	3,374,569	0	7,687	5,850	**1.31**	0.31	No	1,837	3,374,569
								Percent RMSE =	**40%**								**33%**						
Screenline 6: Central Mountain View																							
601	1002N				N	US 101	SR 85	Old Middlefield Rd.															
602	1002S				S	US 101	Old Middlefield Rd.	SR 85															
603	2800	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.	650	450	1.44	0.62	Yes	200	40,000								
604	2801	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.	974	700	1.39	0.59	Yes	274	75,076		1,624	1,150	1.41	0.55	Yes	474	224,676
605	3300	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.	1,253	890	1.41	0.58	Yes	363	131,769								
606	3301	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.	2,018	1,420	1.42	0.52	Yes	598	357,604		3,271	2,310	1.42	0.44	Yes	961	923,521
607	4000	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.	376	560	0.67	0.61	Yes	-184	33,856								
608	4001	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.	1,856	350	5.30	0.63	No	1,506	2,268,036		2,232	910	2.45	0.57	No	1,322	1,747,684
609	4300	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.	1,760	1,550	1.14	0.51	Yes	210	44,100								
610	4301	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.	2,792	1,790	1.56	0.48	No	1,002	1,004,004		4,552	3,340	1.36	0.39	Yes	1,212	1,468,944
								Screenline 6 =	11,679	7,710	**1.51**	0.27	No	3,969	15,752,961	0	11,679	7,710	**1.51**	0.27	No	3,969	15,752,961
								Percent RMSE =	**73%**								**54%**						
Screenline 7: East of SR 85																							
501	1700	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps	899	760	1.18	0.59	Yes	139	19,321								
502	1701	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	359	280	1.28	0.64	Yes	79	6,241		1,258	1,040	1.21	0.56	Yes	218	47,524
503	3000	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.	565	590	0.96	0.61	Yes	-25	625								
504	3001	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.	806	810	1.00	0.58	Yes	-4	16		1,371	1,400	0.98	0.52	Yes	-29	841
505	3500	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.	1,188	1,080	1.10	0.56	Yes	108	11,664								
506	3501	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85	2,388	1,850	1.29	0.48	Yes	538	289,444		3,576	2,930	1.22	0.41	Yes	646	417,316
								Screenline 7 =	6,205	5,370	**1.16**	0.32	Yes	835	697,225	1	6,205	5,370	**1.16**	0.32	Yes	835	697,225
								Percent RMSE =	**26%**								**22%**						

Percent Within Caltrans Maximum Deviation = 71% = 100%

Total Count	**7**
Screenlines Within Deviation	**5**
Screenlines Outside Deviation	**2**

Percent Within Caltrans Maximum Deviation = 71% = 100%

Total Count	**7**
Screenlines Within Deviation	**5**
Screenlines Outside Deviation	**2**

Table B-23
Results of AM Peak-Hour Model Validation

Validation Item	Criterion for Acceptance	Model Results
Total Counts	N/A	58
% of Links Within Caltrans Standard Deviations	At Least 75%	**55%**
%of Screenlines Within Caltrans Standard Deviations	100%	**71%**
2-way Sum of All Links Counted	Within 10%	**+ 11%**
Coefficient of Determination (R^2) =	At Least 77%	92%
Correlation Coefficient	Greater than 88%	96%
RMSE	30% or less	**36%**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2011.

Table B-24
Results of AM Peak-Hour Model Area Validation by Functional Class

Functional Class	Counts	Volume-to-Count		RMSE
		Criteria	Model	
Freeway-to-Freeway	1	7%	**137%**	**137%**
Freeway	1	7%	**41%**	**41%**
Expressway	0	25%	N/A	**N/A**
Collector	30	25%	19%	**39%**
Freeway Ramp	0	20%	N/A	**N/A**
Dummy Link	15	25%	14%	29%
Major Arterial	0	25%	N/A	**N/A**
Metered Ramp	0	25%	N/A	**N/A**
Special Category	0	25%	N/A	**N/A**
Overall	47			

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2011.

Table B-25
Results of AM Peak-Hour Model Area Validation by Volume Range

Volume Range	Counts	Volume-to-Count		RMSE	
		Criteria	Model	Criteria	Model
Less than 1,000	0	200%	N/A	116%	**N/A**
1,000 to 2,499	0	100%	N/A	116%	**N/A**
2,500 to 4,999	1	50%	**137%**	116%	**137%**
5,000 to 9,999	9	25%	**41%**	43%	**76%**
10,000 to 19,999	20	20%	16%	28%	**37%**
20,000 to 24,999	6	20%	13%	25%	**30%**
25,000 to 39,999	12	15%	**19%**	25%	**29%**
40,000 to 49,999	0	15%	N/A	30%	**N/A**
50,000 to 59,999	0	10%	N/A	30%	**N/A**
60,000 to 89,999	10	10%	4%	19%	**23%**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2011.

Table B-26: City of Mountain View Travel Demand Model Validation Results - PM Peak Two-Way Total Traffic Volumes

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
0	1007N	309057	60174	30905760174	N	SR 85	Fremont Ave.	El Camino Real							
0	1007N (HOV)	306485	60175	30648560175	N (HOV)	SR 85	Fremont Ave.	El Camino Real							
0	1007S	60177	309071	60177309071	S	SR 85	El Camino Real	Fremont Ave.							
0	1007S (HOV)	60176	306484	60176306484	S (HOV)	SR 85	El Camino Real	Fremont Ave.	8,872	8,900	1.00	0.139	Yes	-28	784
0	1006N	260179	207282	260179207282	N	SR 85	SR 237	Evelyn Ave.							
0	1006N (HOV)	260178	211415	260178211415	N (HOV)	SR 85	SR 237	Evelyn Ave.							
0	1006N (AUX)	0	0		N (AUX)	SR 85	SR 237	Evelyn Ave.							
0	1006S	260181	206473	260181206473	S	SR 85	Evelyn Ave.	SR 237							
0	1006S (HOV)	260180	211417	260180211417	S (HOV)	SR 85	Evelyn Ave.	SR 237							
0	1006S (AUX)	0	0		S (AUX)	SR 85	Evelyn Ave.	SR 237	6,485	6,400	1.01	0.175	Yes	85	7225
0	1005N	204612	260183	204612260183	N	SR 85	Evelyn Ave.	Moffett Blvd.							
0	1005N (HOV)	211418	260182	211418260182	N (HOV)	SR 85	Evelyn Ave.	Moffett Blvd.							
0	1005S	260184	204590	260184204590	S	SR 85	Moffett Blvd.	Evelyn Ave.							
0	1005S (HOV)	260185	211419	260185211419	S (HOV)	SR 85	Moffett Blvd.	Evelyn Ave.	5,758	6,400	0.90	0.175	Yes	-642	412164
0	1004N	360042	9324	3600429324	N	US 101	SR 237	Ellis St.							
0	1004N (HOV)	360043	5407	3600435407	N (HOV)	US 101	SR 237	Ellis St.							
0	1004S	9001	360045	9001360045	S	US 101	Ellis St.	SR 237							
0	1004S (HOV)	5406	360044	5406360044	S (HOV)	US 101	Ellis St.	SR 237	14,666	11,600	1.26	0.136	No	3066	9400356
0	1003N	9323	160046	9323160046	N	US 101	Ellis St.	Moffett Blvd.							
0	1003N (HOV)	5405	160047	5405160047	N (HOV)	US 101	Ellis St.	Moffett Blvd.							
0	1003S	160049	8999	1600498999	S	US 101	Moffett Blvd.	Ellis St.							
0	1003S (HOV)	160048	5404	1600485404	S (HOV)	US 101	Moffett Blvd.	Ellis St.	14,362	11,500	1.25	0.136	No	2862	8191044
1002N	1002N	109990	110977	109990110977	N	US 101	SR 85	Old Middlefield Rd.							
1002N	1002N (HOV)	109992	110884	109992110884	N (HOV)	US 101	SR 85	Old Middlefield Rd.							
1002N	1002N (AUX)	110905	110879	110905110879	N (AUX)	US 101	SR 85	Old Middlefield Rd.							
1002S	1002S	105383	105592	105383105592	S	US 101	Old Middlefield Rd.	SR 85							
1002S	1002S (HOV)	105380	105868	105380105868	S (HOV)	US 101	Old Middlefield Rd.	SR 85	15,463	16,600	0.93	0.136	Yes	-1137	1292769
0	1001N	160051	109318	160051109318	N	US 101	Old Middlefield Rd.	Rengstorff Ave.							
0	1001N (HOV)	160050	105379	160050105379	N (HOV)	US 101	Old Middlefield Rd.	Rengstorff Ave.							
0	1001S	106539	160053	106539160053	S	US 101	Rengstorff Ave.	Old Middlefield Rd.							
0	1001S (HOV)	105400	160052	105400160052	S (HOV)	US 101	Rengstorff Ave.	Old Middlefield Rd.	14,973	12,900	1.16	0.136	No	2073	4297329
0	1000N	160055	109316	160055109316	N	US 101	Rengstorff Ave.	San Antonio Rd.							
0	1000N (HOV)	160054	105370	160054105370	N (HOV)	US 101	Rengstorff Ave.	San Antonio Rd.							
0	1000S	107305	160057	107305160057	S	US 101	San Antonio Rd.	Rengstorff Ave.							
0	1000S (HOV)	105083	160056	105083160056	S (HOV)	US 101	San Antonio Rd.	Rengstorff Ave.	13,979	9,300	1.50	0.137	No	4679	21893041
1010E	1010E	9125	205602	9125205602	E	SR 237	El Camino Real	SR 85							
1010W	1010W	204743	9125	2047439125	W	SR 237	SR 85	El Camino Real	3,690	3,300	1.12	0.235	Yes	390	152100
1009E	1009E	206085	205329	206085205329	E	SR 237	Sylvan Wy.	Middlefield Rd./Maude Ave.							
1009E	1009E (AUX)	0	0		E (AUX)	SR 237	Sylvan Wy.	Middlefield Rd./Maude Ave.	7,249	5,720	1.27	0.190	No	1529	2337841
1009W	1009W	205330	206084	205330206084	W	SR 237	Middlefield Rd./Maude Ave.	Sylvan Wy.							
1008E	1008E	209606	211107	209606211107	E	SR 237	Middlefield Rd./Maude Ave.	US 101							
1008E	1008E (AUX)	0	0		E (AUX)	SR 237	Middlefield Rd./Maude Ave.	US 101	7,991	6,100	1.31	0.180	No	1891	3575881
1008W	1008W	8806	207289	8806207289	W	SR 237	US 101	Middlefield Rd./Maude Ave.							
100	1N	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.							
101	1S	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps	1,290	1,300	0.99	0.325	Yes	-10	100
200	2N	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps							
201	2S	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.	2,121	2,780	0.76	0.248	Yes	-659	434281
300	3N	4605	35051	460535051	N	San Antonio Rd.	California St.	San Antonio Cir.							
301	3S	35051	4605	350514605	S	San Antonio Rd.	San Antonio Cir.	California St.	1,694	2,290	0.74	0.265	Yes	-596	355216
400	4N	36114	9115	361149115	N	San Antonio Rd.	Loucks Ave.	El Camino Real							
401	4S	9115	36114	911536114	S	San Antonio Rd.	El Camino Real	Loucks Ave.	1,587	1,880	0.84	0.280	Yes	-293	85849
500	5N	9105	7302	91057302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.							
501	5S	7302	9105	73029105	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps	2,391	2,050	1.17	0.275	Yes	341	116281
600	6N	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps							
601	6S	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.	2,154	1,340	1.61	0.325	No	814	662596
700	7N	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.							
701	7S	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.	1,640	1,310	1.25	0.325	Yes	330	108900
800	8N	4945	10420	494510420	N	N. Rengstorff Ave.	California St.	University Ave.							
801	8S	10420	4945	104204945	S	N. Rengstorff Ave.	University Ave.	California St.	1,275	1,360	0.94	0.325	Yes	-85	7225
900	9N	9086	4963	90864963	N	El Monte Ave.	Springer Rd.	El Camino Real							
901	9S	4963	9086	49639086	S	El Monte Ave.	El Camino Real	Springer Rd.	1,177	1,640	0.72	0.294	Yes	-463	214369
1000	10N	9080	9086	90809086	N	N. Springer Rd.	Cuesta Dr.	El Monte Ave.							
1001	10S	9086	9080	90869080	S	N. Springer Rd.	El Monte Ave.	Cuesta Dr.	259	750	0.35	0.410	No	-491	241081
1100	11N	10980	35045	1098035045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.							
1101	11S	35045	10980	3504510980	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps	2,688	2,460	1.09	0.260	Yes	228	51984
1200	12N	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps							
1201	12S	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.	1,902	2,460	0.77	0.260	Yes	-558	311364
1300	13N	10589	5266	105895266	N	N. Shoreline Blvd.	Central Expy.	Montecito Ave.							
1301	13S	5266	10589	526610589	S	N. Shoreline Blvd.	Montecito Ave.	Central Expy.	839	2,590	0.32	0.255	No	-1751	3066001
1400	14N	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.							
1401	14S	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.	850	2,290	0.37	0.265	No	-1440	2073600
1500	15N	9142	9075	91429075	N	Miramonte Ave.	Cuesta Dr.	El Camino Real							
1501	15S	9075	9142	90759142	S	Miramonte Ave.	El Camino Real	Cuesta Dr.	522	950	0.55	0.380	No	-428	183184
1600	16N	10327	4627	103274627	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.							
1601	16S	4627	10327	462710327	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.	403	770	0.52	0.410	No	-367	134689
1700	17N	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
1701	17S	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	1,798	1,170	1.54	0.340	No	628	394384
1800	18N	7508	36653	750836653	N	Moffett Blvd.	Central Ave.	E. Middlefield Rd.							
1801	18S	36653	7508	366537508	S	Moffett Blvd.	E. Middlefield Rd	Central Ave.	1,539	1,050	1.47	0.359	No	489	239121
1900	19N	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.							
1901	19S	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.	646	490	1.32	0.520	Yes	156	24336
2000	20N	36144	4616	361444616	N	Grant Rd.	Cuesta Dr.	Phyllis Avenue							
2001	20S	4616	36144	461636144	S	Grant Rd.	Phyllis Avenue	Cuesta Dr.	3,134	2,700	1.16	0.252	Yes	434	188356
2100	21N	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.							
2101	21S	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.	1,325	1,680	0.79	0.294	Yes	-355	126025
2200	22N	9618	7774	96187774	N	N. Whisman Rd.	Central Expy.	E. Middlefield Rd.							
2201	22S	7774	9618	77749618	S	N. Whisman Rd.	E. Middlefield Rd.	Central Expy.	575	1,180	0.49	0.340	No	-605	366025
2300	23N	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps							
2301	23S	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.	1,468	920	1.60	0.380	No	548	300304
2400	24E	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.							
2401	24W	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.	1,801	1,870	0.96	0.286	Yes	-69	4761
2500	25E	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps							
2501	25W	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.	1,747	2,280	0.77	0.265	Yes	-533	284089
2600	26E	9110	8823	91108823	E	W. Middlefield Rd.	San Antonio Rd.	Old Middlefield Wy.							
2601	26W	8823	9110	88239110	W	W. Middlefield Rd.	Old Middlefield Wy.	San Antonio Rd.	1,880	2,350	0.80	0.265	Yes	-470	220900
2700	27E	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.							
2701	27W	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.	945	870	1.09	0.410	Yes	75	5625
2800	28E	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.							
2801	28W	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.	1,444	1,580	0.91	0.303	Yes	-136	18496
2900	29E	6402	4594	64024594	E	W. Middlefield Rd.	San Veron Ave.	Moffett Blvd.							
2901	29W	4594	6402	45946402	W	W. Middlefield Rd.	Moffett Blvd.	San Veron Ave.	1,638	1,860	0.88	0.286	Yes	-222	49284
3000	30E	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.							
3001	30W	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.	1,005	1,680	0.60	0.294	No	-675	455625
3100	31E	4587	25563	458725563	E	E. Middlefield Rd.	Ellis St.	SR 237							
3101	31W	25563	4587	255634587	W	E. Middlefield Rd.	SR 237	Ellis St.	1,202	1,760	0.68	0.286	No	-558	311364
3200	32E	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.							
3201	32W	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.	2,989	2,540	1.18	0.255	Yes	449	201601
3300	33E	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.							
3301	33W	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.	3,526	2,630	1.34	0.252	No	896	802816
3400	34E	4949	7072	49497072	E	Central Expy.	Shoreline Blvd.	Moffett Blvd.							
3401	34W	7072	4949	70724949	W	Central Expy.	Moffett Blvd.	Shoreline Blvd.	3,906	2,860	1.37	0.248	No	1046	1094116
3500	35E	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.							
3501	35W	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85	3,066	3,320	0.92	0.235	Yes	-254	64516
3600	36E	9613	9614	96139614	E	Central Expy.	Bernardo Ave.	E. Middlefield Rd.							
3601	36W	9614	9613	96149613	W	Central Expy.	E. Middlefield Rd.	Bernardo Ave.	2,773	3,010	0.92	0.241	Yes	-237	56169
3700	37E	7297	7270	72977270	E	W. Evelyn Ave.	Calderon Ave.	SB SR 85 Ramp							
3701	37W	7270	7297	72707297	W	W. Evelyn Ave.	SB SR 85 Ramp	Calderon Ave.	2,569	1,510	1.70	0.303	No	1059	1121481
3800	38E	7276	9016	72769016	E	E. Evelyn Ave.	SR 237	Bernardo Ave.							
3801	38W	9016	7276	90167276	W	E. Evelyn Ave.	Bernardo Ave.	SR 237	1,023	2,040	0.50	0.275	No	-1017	1034289
3900	39E	36706	36662	3670636662	E	E. Dana St.	Calderon Ave.	SR 237							
3901	39W	36662	36706	3666236706	W	E. Dana St.	SR 237	Calderon Ave.	521	940	0.55	0.380	No	-419	175561
4000	40E	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.	1,295	1,090	1.19	0.359	Yes	205	42025

CNT_ID	LOC_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model /Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
4001	40W	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.	1,295	1,090	1.19	0.339	Yes	205	42025
4100	41E	4965	9115	49659115	E	El Camino Real	Los Altos Ave.	San Antonio Rd.	3,235	3,060	1.06	0.241	Yes	175	30625
4101	41W	9115	4965	91154965	W	El Camino Real	San Antonio Rd.	Los Altos Ave.							
4200	42E	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.	3,172	3,300	0.96	0.235	Yes	-128	16384
4201	42W	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.							
4300	43E	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.	3,814	3,720	1.03	0.229	Yes	94	8836
4301	43W	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.							
4400	44E	36029	4598	360294598	E	El Camino Real	Phyllis Ave.	Castro St.	3,954	3,640	1.09	0.229	Yes	314	98596
4401	44W	4598	36029	459836029	W	El Camino Real	Castro St.	Phyllis Ave.							
4500	45E	36093	6477	360936477	E	El Camino Real	Grant Rd.	SB SR 85 Ramps	3,071	3,870	0.79	0.224	Yes	-799	638401
4501	45W	6477	36093	647736093	W	El Camino Real	SB SR 85 Ramps	Grant Rd.							
4600	46E	7291	36088	729136088	E	El Camino Real	NB SR 85 Ramps	Bernardo Ave.	3,263	4,030	0.81	0.219	Yes	-767	588289
4601	46W	36088	7291	360887291	W	El Camino Real	Bernardo Ave.	NB SR 85 Ramps							
4700	47E	9077	4953	90774953	E	Cuesta Dr.	Miramonte Ave.	Grant Rd.	1,674	1,410	1.19	0.313	Yes	264	69696
4701	47W	4953	9077	49539077	W	Cuesta Dr.	Grant Rd.	Miramonte Ave.							
									202,278	**193,350**			**Model/Count Ratio =**	**1.05**	
													Percent Within Caltrans Maximum Deviation =	**60%**	> 75%
													Percent Root Mean Square Error =	**33%**	< 30%
													Coefficient of Determination (R^2) =	**0.94**	> 0.77
													Correlation Coefficient =	**0.97**	> 0.88

Total Count	**58**
Link Within Deviation	**35**
Link Outside Deviation	**23**

Table B-27: Mountain View Model Validation Results - Screenlines Using PM Peak-Hour Two-Way Traffic Volumes

Screenlines	CNT_ID	Node A	Node B	INDEX	DOT	Roadway	From	To	Model Volume	Traffic Count	Model/ Count	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
Screenline 1: North of US 101															
101	100	7306	7310	73067310	N	San Antonio Rd.	NB US 101 Ramps	Bayshore Prkwy.							
102	101	7310	7306	73107306	S	San Antonio Rd.	Bayshore Prkwy.	NB US 101 Ramps	1,290	1,300	0.99	0.53	Yes	-10	100
103	500	35063	7302	350637302	N	Amphitheatre Pkwy.	NB US 101 Ramps	Charleston Rd.							
104	501	7302	35063	730235063	S	Amphitheatre Pkwy.	Charleston Rd.	NB US 101 Ramps	2,391	2,050	1.17	0.46	Yes	341	116,281
105	1100	9129	35045	912935045	N	N. Shoreline Blvd.	NB US 101 Ramps	Charleston Rd.							
106	1101	35045	9129	350459129	S	N. Shoreline Blvd.	Charleston Rd.	NB US 101 Ramps	2,688	2,460	1.09	0.43	Yes	228	51,984
								Screenline 1 =	6,369	5,810	**1.10**	0.31	Yes	559	312,481
								Percent RMSE =	**12%**						
Screenline 2: South of US 101															
201	200	9098	9978	90989978	N	San Antonio Rd.	W. Charleston Rd.	SB US 101 Ramps							
202	201	9978	9098	99789098	S	San Antonio Rd.	SB US 101 Ramps	W. Charleston Rd.	2,121	2,780	0.76	0.41	Yes	-659	434,281
203	2400	9098	10320	909810320	E	Charleston Rd.	San Antonio Rd.	N. Rengstorff Ave.							
204	2401	10320	9098	103209098	W	Charleston Rd.	N. Rengstorff Ave.	San Antonio Rd.	1,801	1,870	0.96	0.48	Yes	-69	4,761
205	600	9112	10321	911210321	N	N. Rengstorff Ave.	Old Middlefield Wy.	SB US 101 Ramps							
206	601	10321	9112	103219112	S	N. Rengstorff Ave.	SB US 101 Ramps	Old Middlefield Wy.	2,154	1,340	1.61	0.53	No	814	662,596
207	2500	9112	10322	911210322	E	Old Middlefield Wy.	Rengstorff Ave.	SB US 101 Ramps							
208	2501	10322	9112	103229112	W	Old Middlefield Wy.	SB US 101 Ramps	Rengstorff Ave.	1,747	2,280	0.77	0.44	Yes	-533	284,089
209	1200	4937	9598	49379598	N	N. Shoreline Blvd.	W. Middlefield Rd.	SB US 101 Ramps							
210	1201	9598	4937	95984937	S	N. Shoreline Blvd.	SB US 101 Ramps	W. Middlefield Rd.	1,902	2,460	0.77	0.43	Yes	-558	311,364
211	1700	9022	10007	902210007	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
212	1701	10007	9022	100079022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	1,798	1,170	1.54	0.55	Yes	628	394,384
213	2300	36064	8994	360648994	N	Ellis St.	Fairchild Dr.	SB US 101 Ramps							
214	2301	8994	36064	899436064	S	Ellis St.	SB US 101 Ramps	Fairchild Dr.	1,468	920	1.60	0.57	No	548	300,304
								Screenline 2 =	12,991	12,820	**1.01**	0.22	Yes	171	29,241
								Percent RMSE =	**32%**						
Screenline 3: South of Central Expressway															
301	300	36114	9115	361149115	N	San Antonio Rd.	California St.	San Antonio Cir.							
302	301	9115	36114	911536114	S	San Antonio Rd.	San Antonio Cir.	California St.	1,694	2,290	0.74	0.44	Yes	-596	355,216
303	700	36702	4938	367024938	N	N. Rengstorff Ave.	Central Expy.	Montecito Ave.							
304	701	4938	36702	493836702	S	N. Rengstorff Ave.	Montecito Ave.	Central Expy.	1,640	1,310	1.25	0.53	Yes	330	108,900
305	1400	4609	4946	46094946	N	N. Shoreline Blvd.	California St.	Central Expy.							
306	1401	4946	4609	49464609	S	N. Shoreline Blvd.	Central Expy.	California St.	850	2,290	0.37	0.44	No	-1,440	2,073,600
307	1900	4948	36620	494836620	N	Castro St.	California St.	W. Evelyn Ave.							
308	1901	36620	4948	366204948	S	Castro St.	W. Evelyn Ave.	California St.	646	490	1.32	0.62	Yes	156	24,336
								Screenline 3 =	4,830	6,380	**0.76**	0.30	Yes	-1,550	2,402,500
								Percent RMSE =	**50%**						
Screenline 4: North of Covington Road															
401	1600	4618	10327	461810327	N	Miramonte Ave.	Covington Rd.	Cuesta Dr.							
402	1601	10327	4618	103274618	S	Miramonte Ave.	Cuesta Dr.	Covington Rd.	403	770	0.52	0.59	Yes	-367	134,689
403	2100	36107	36129	3610736129	N	Grant Rd.	Covington Rd.	Cuesta Dr.							
404	2101	36129	36107	3612936107	S	Grant Rd.	Cuesta Dr.	Covington Rd.	1,325	1,680	0.79	0.49	Yes	-355	126,025
								Screenline 4 =	1,728	2,450	**0.71**	0.43	Yes	-722	521,284
								Percent RMSE =	**29%**						
Screenline 5: East of San Antonio Road															
501	2700	9594	36003	959436003	E	W. Middlefield Rd.	Old Middlefield Wy.	Independence Ave.							
502	2701	36003	9594	360039594	W	W. Middlefield Rd.	Independence Ave.	Old Middlefield Wy.	945	870	1.09	0.58	Yes	75	5,625
503	3200	36701	5201	367015201	E	Central Expy.	San Antonio Rd.	Thompson Ave.							
504	3201	5201	36701	520136701	W	Central Expy.	Thompson Ave.	San Antonio Rd.	2,989	2,540	1.18	0.42	Yes	449	201,601
505	4200	4941	5199	49415199	E	El Camino Real	Showers Dr.	S. Rengstorff Ave.							
506	4201	5199	4941	51994941	W	El Camino Real	S. Rengstorff Ave.	Showers Dr.	3,172	3,300	0.96	0.39	Yes	-128	16,384
								Screenline 5 =	7,106	6,710	**1.06**	0.29	Yes	396	156,816
								Percent RMSE =	**12%**						
Screenline 6: Central Mountain View															
601	1002N				N	US 101	SR 85	Old Middlefield Rd.							
602	1002S				S	US 101	Old Middlefield Rd.	SR 85							
603	2800	36136	36140	3613636140	E	W. Middlefield Rd.	Sierra Vista Ave.	Terra Bella Ave.							
604	2801	36140	36136	3614036136	W	W. Middlefield Rd.	Terra Bella Ave.	Sierra Vista Ave.	1,444	1,580	0.91	0.50	Yes	-136	18,496
605	3300	4601	4608	46014608	E	Central Expy.	Farley St.	Shoreline Blvd.							
606	3301	4608	4601	46084601	W	Central Expy.	Shoreline Blvd.	Farley St.	3,526	2,630	1.34	0.42	Yes	896	802,816
607	4000	36692	9600	366929600	E	California St.	Escuela Ave.	S. Shoreline Blvd.							
608	4001	9600	36692	960036692	W	California St.	S. Shoreline Blvd.	Escuela Ave.	1,295	1,090	1.19	0.56	Yes	205	42,025
609	4300	4613	36687	461336687	E	El Camino Real	El Monte Ave.	S. Shoreline Blvd.							
610	4301	36687	4613	366874613	W	El Camino Real	S. Shoreline Blvd.	El Monte Ave.	3,814	3,720	1.03	0.38	Yes	94	8,836
								Screenline 6 =	10,079	9,020	**1.12**	0.25	Yes	1,059	1,121,481
								Percent RMSE =	**21%**						
Screenline 7: East of SR 85															
501	1700	9022	5071	90225071	N	Moffett Blvd.	NB SR 85 Ramp	SB US 101 Ramps							
502	1701	5071	9022	50719022	S	Moffett Blvd.	SB US 101 Ramps	NB SR 85 Ramp	1,798	1,170	1.54	0.55	Yes	628	394,384
503	3000	4594	7773	45947773	E	E. Middlefield Rd.	Moffett Blvd.	Tyrella Ave.							
504	3001	7773	4594	77734594	W	E. Middlefield Rd.	Tyrella Ave.	Moffett Blvd.	1,005	1,680	0.60	0.49	Yes	-675	455,625
505	3500	10313	4747	103134747	E	Central Expy.	SR 85	N. Whisman Ave.							
506	3501	4747	10313	474710313	W	Central Expy.	N. Whisman Ave.	SR 85	3,066	3,320	0.92	0.39	Yes	-254	64,516
								Screenline 7 =	5,869	6,170	**0.95**	0.30	Yes	-301	90,601
								Percent RMSE =	**27%**						

Percent Within Caltrans Maximum Deviation = **100%** = 100%

Total Count	**7**
Screenlines Within Deviation	**7**
Screenlines Outside Deviation	**0**

Table B-28
Results of PM Peak-Hour Model Validation

Validation Item	Criterion for Acceptance	Model Results
Total Counts	N/A	58
% of Links Within Caltrans Standard Deviations	At Least 75%	**60%**
%of Screenlines Within Caltrans Standard Deviations	100%	100%
2-way Sum of All Links Counted	Within 10%	+ 5%
Coefficient of Determination (R^2) =	At Least 77%	94%
Correlation Coefficient	Greater than 88%	97%
RMSE	30% or less	**33%**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-29
Results of PM Peak-Hour Model Area Validation by Functional Class

Functional Class	Counts	Volume-to-Count		RMSE
		Criteria	Model	
Freeway-to-Freeway	1	7%	**32%**	**32%**
Freeway	1	7%	**19%**	19%
Expressway	0	25%	N/A	**N/A**
Collector	30	25%	-7%	**31%**
Freeway Ramp	0	20%	N/A	**N/A**
Dummy Link	15	25%	-6%	27%
Major Arterial	0	25%	N/A	**N/A**
Metered Ramp	0	25%	N/A	**N/A**
Special Category	0	25%	N/A	**N/A**
Overall	47			

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.

Table B-30
Results of PM Peak-Hour Model Area Validation by Volume Range

Volume Range	Counts	Volume-to-Count		RMSE	
		Criteria	Model	Criteria	Model
Less than 1,000	0	200%	N/A	116%	**N/A**
1,000 to 2,499	0	100%	N/A	116%	**N/A**
2,500 to 4,999	1	50%	32%	116%	32%
5,000 to 9,999	6	25%	-21%	43%	**48%**
10,000 to 19,999	18	20%	1%	28%	**33%**
20,000 to 24,999	8	20%	**-22%**	25%	**33%**
25,000 to 39,999	14	15%	0%	25%	23%
40,000 to 49,999	1	15%	**-19%**	30%	19%
50,000 to 59,999	1	10%	**27%**	30%	27%
60,000 to 89,999	9	10%	**14%**	19%	**23%**

Note: Criteria in **Bold** indicate where criteria are not acceptable.
Source: Fehr & Peers, 2009.