

I-5 PA&ED HOV & TRUCK LANES – SR-14 TO PARKER ROAD Traffic Study

07-LA-5, PM R 45.4/R 59.0 EA 2332E0

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I-5 PA&ED HOV & TRUCK LANES – SR-14 TO PARKER ROAD Traffic Study

The information presented here comprises a Project Approval and Environmental Document (PA&ED) Traffic Study for the addition of High Occupancy Vehicle (HOV) lanes and Truck lanes for the I-5 freeway in the Santa Clarita Valley (07-LA-5, PM R 45.4/R 59.0, EA 2332E0). The purpose is to provide supporting material for the PA&ED being prepared for this segment of roadway.

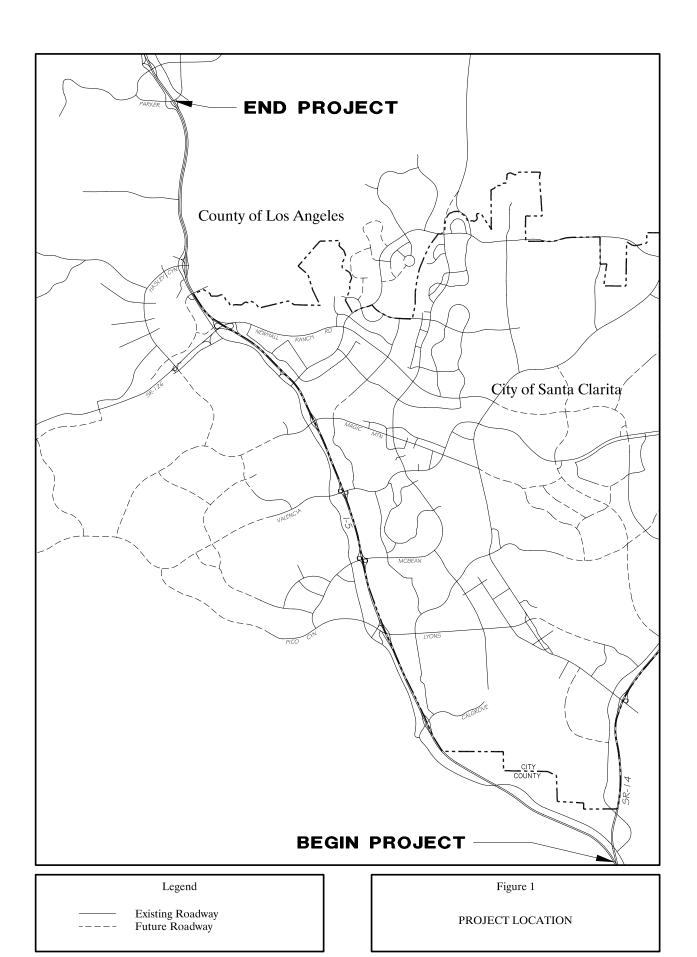
1.0 PROJECT DESCRIPTION

The project proposes to add one HOV lane in each direction on I-5 from the State Route 14 (SR-14) interchange at the southern project limit north to Parker Road. The project also proposes to add truck climbing lanes in each direction from the SR-14 interchange to Calgrove Boulevard (northbound) and Pico Canyon Road/Lyons Avenue (southbound). Full auxiliary lanes are proposed between the following interchanges: 1) northbound direction between Valencia Boulevard and Magic Mountain Parkway, 2) southbound direction between Valencia Boulevard and McBean Parkway, and 3) northbound direction between Calgrove Boulevard and Pico Canyon Road/Lyons Avenue.

The project segment of I-5 crosses the City of Santa Clarita, the unincorporated community of Castaic and other parts of unincorporated northern Los Angeles County. This section of I-5 serves interstate travel, travel between Southern and Central/Northern California, as well as local and commuter travel for the Santa Clarita Valley. The project location is illustrated in Figure 1.

The full project is anticipated to be completed around 2014. Additionally, an Early Implementation Project (EIP) consisting of the southbound truck climbing lane between Pico Canyon Road/Lyons Avenue and SR-14 and the extension of the northbound HOV lane from SR-14 to the summit just north of SR-14 is anticipated to start construction around 2009. Subsequently, traffic volume forecasts have been prepared for the following three future horizon years: 2030, which represents the current Regional Transportation Plan (RTP) horizon year and the project design year; 2010, to evaluate opening day conditions for the Early Implementation project; and 2015, to evaluate opening day conditions for the full project. The Highway Capacity Manual (HCM) methodology is utilized to determine Level of Service (LOS) estimates for each horizon year, with and without the proposed project.

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I-5 PA&ED HOV & Truck Lanes - SR-14 to Parker Road Traffic Study

2.0 EXISTING CONDITIONS

A summary of existing conditions has been compiled from multiple sources, including published Caltrans data and field surveys by Austin-Foust Associates, Inc. and Korve Engineers. Table 1 summarizes the current lane geometry and grade for the project area.

The I-5 generally consists of four mixed-flow lanes in each direction through the project area, with the exception of through the midpoint of the SR-14 interchange where there are three mixed-flow lanes in each direction. Two truck lanes in each direction pass through the SR-14 interchange area separated from the mainline. Within the project area, this truck bypass route begins/ends just north of the interchange.

The grade through the project area varies from flat to +/- five percent.

A summary of existing (2006) mainline traffic volumes, peak hour by direction and ADT, and the percentage of trucks is provided in Table 2. Traffic count data from multiple sources (as noted in the table) for both the mainline and ramps were used to prepare this comprehensive summary of present day conditions. A detailed listing of mainline and ramp volumes is provided in Appendix A.

Observations of vehicle occupancies were made by Korve Engineers in April 2005 for the segment of I-5 between SR-14 and Calgrove Boulevard. The observations were taken from the Weldon Canyon Road overcrossing during AM and PM time periods, and are summarized in Table 3. The data indicates that average vehicle occupancies for this segment of freeway currently range between 1.3 and 1.4 persons per vehicle. These observations equate to approximately 27 percent of vehicles qualifying to use a HOV (2+ persons/vehicle) lane and just 6 percent of vehicles qualifying to use a 3+ persons/vehicle lane.

LOS for each segment of freeway has been estimated using the HCM methodology for basic freeway segments. A basic freeway segment can be characterized by three performance measures: density in terms of passenger cars per mile per lane, speed in terms of mean passenger-car speed, and volume-to-capacity (v/c) ratio. Each of these measures is an indication of how well traffic flow is being accommodated by the freeway.

Table 1: Existing (2006) Lanes and Grade

	Sout	hbound	Nort	Northbound		
I-5 Segment	Lanes	Grade	Lanes	Grade		
Between Lake Hughes Road & Parker Road	4 MF	Flat	4 MF	Flat		
PM 59.49 – 59.01						
Between Parker Road & Hasley Canyon Road	4 MF	-1.0%	4 MF	1.0%		
PM 59.01 – 56.6						
Between Hasley Canyon Road & SR-126	4 MF	Flat	4 MF	Flat		
PM 56.6 – 55.48						
Between SR-126 & Rye Canyon Road	4 MF	Flat	4 MF	Flat		
PM 55.48 – 54.16						
Between Rye Canyon Road & Magic Mountain Parkway	4 MF	Flat	4 MF	Flat		
PM 54.16 – 53.57						
Between Magic Mountain Parkway & Valencia Boulevard	4 MF	2.8%	4 MF	-2.8%		
PM 53.57 – 52.47						
Between Valencia Boulevard & McBean Parkway	4 MF	3.7%	4 MF	-3.7%		
PM 52.47 – 51.44						
Between McBean Parkway & Lyons Avenue/Pico Canyon Road	4 MF	-2.5%	4 MF	2.5%		
PM 51.44 – 50.33						
Between Lyons Avenue/Pico Canyon Road & Calgrove Boulevard	4 MF	Flat	4 MF	Flat		
PM 50.33 – 49.03						
Between Calgrove Boulevard & SR-14	4 MF	5.1%	4 MF	-5.1%		
PM 49.03 – 45.58						
Through the SR-14 Interchange	$3^1 MF + 2 T^2$	-4.5%	$3 MF + 2 T^2$	4.5%		
PM 45.58						

¹4th Southbound Mixed-Flow lane becomes a trap lane to the Northbound SR-14 Connector. ²Truck bypass route rejoins the mainline south of the SR-14 interchange.

MF = Mixed-Flow Lane

T = Truck Lane

HOV = HOV Lane

Table 2: Existing (2006) Traffic Volumes

	% Trucks	AM Pea	ak Hour	PM Pea	ak Hour	
I-5 Segment	(Daily)	SB	NB	SB	NB	ADT
North of Parker Road	26.6%	1,600	1,190	2,040	2,250	65,000
Between Parker Road & Hasley Canyon Road	20.8%	2,210	1,570	2,420	2,790	83,000
Between Hasley Canyon Road & SR-126	17.3%	3,110	2,170	3,010	3,620	100,000
Between SR-126 & Rye Canyon Road	15.3%	3,420	3,340	4,150	4,080	124,000
Between Rye Canyon Road & Magic Mountain Parkway	14.2%	4,200	3,340	5,350	4,080	134,000
Between Magic Mountain Parkway & Valencia Boulevard	12.2%	4,490	4,490	5,600	5,270	156,000
Between Valencia Boulevard & McBean Parkway	10.6%	5,310	5,430	6,420	6,050	179,000
Between McBean Parkway & Lyons Avenue/Pico Canyon Road	10.1%	5,730	5,560	6,450	6,610	189,000
Between Lyons Avenue/Pico Canyon Road & Calgrove Blvd.	9.5%	6,320	5,620	6,460	7,020	199,000
Between Calgrove Boulevard & SR-14	9.4%1	6,610	5,600	6,410	6,970	202,000
South of SR-14	8.6%	13,270	7,390	9,180	13,710	325,000

¹ Peak Hour Truck Percentages (2005 Survey): AM NB = 7.0%; AM SB = 8.2%; PM NB = 6.5%; PM SB = 6.7%

Sources: Korve Engineering, Mainline Counts (Peak Hour), April 2005

Austin-Foust Associates, Inc., Ramp Counts (Peak Hour), 2004-2006 Korve Engineering, Mainline Truck Counts (Peak Hour), April 2005

Caltrans, Mainline AADT, 2005 Caltrans, Ramp Volumes ADT, 2005 Caltrans, AADT Daily Truck Traffic, 2004 Caltrans, Count Station Data (Hourly), 2003 **Table 3: Average Vehicle Occupancy Survey**

			Pe	eople per Vehicle	e	Average Vehicle	
Location	Time	Direction	1	2	3+	Occupancy	
I-5 at Weldon Canyon Rd.	9:30-9:45 am	NB	378	139	58	1.44	
I-5 at Weldon Canyon Rd.	9:30-9:45 am	SB	279	67	12	1.25	
I-5 at Weldon Canyon Rd.	3:15-3:30 pm	SB	271	91	15	1.32	
I-5 at Weldon Canyon Rd.	6:30-6:45 pm	NB	511	127	31	1.28	
Total Vehicles			1,439	424	116	1.33	
National Average – To or I	1.14						
National Average – Social	and Recreational					2.03	
National Average – All Pu	rposes					1.63	
Percentage of observed vehicles that qualify to use a 2 or more persons per vehicle carpool lane: 27%							
Percentage of observed vehicles	6%						
Sources: Korve Engineering, Mainline Vehicle Occupancy Surveys for I-5 at Weldon Canyon Road, April 2005							

The measure used to provide an estimate of LOS is density. The three measures of speed, density and flow or volume are interrelated. LOS thresholds for a basic freeway segment are summarized in Table 4.

Table 4: LOS Thresholds for a Basic Freeway Segment

LOS	Density Range (pc/mi/ln)
A	0 – 11
В	>11 – 18
С	>18 – 26
D	>26 – 35
Е	>35 - 45
F	>45
Source: HCM 2000	

As stated in the HCM, the upper value shown for LOS E (45 pc/mi/ln) is the maximum density at which sustained flows at capacity are expected to occur. Failure, breakdown, congestion, and LOS F occur when queues begin to form on the freeway. Density tends to increase sharply within the queue and may be considerably higher than the maximum value of 45 pc/mi/ln for LOS E.

When demand conditions exceed capacity, forced flow results and the formulas used for estimating density and average speed are no longer applicable. As such, estimates for density and average speed are not provided for LOS F conditions due to this limitation of the HCM methodology.

A summary of the HCS operational analysis for existing conditions is provided in Table 5. HCS worksheets are provided in Appendix C for the EIP segments and in Appendix D for the remaining segments.

Observations of the four lane southbound segment of I-5 between Pico Canyon Road/Lyons Avenue and the start of the truck bypass route at SR-14 indicate that the outside lane is used exclusively by trucks. Because of this, the segment has been evaluated by two methods to determine an approach that best reflects the observed conditions. First, the segment was evaluated in the traditional manner as a four lane segment with the measured percentage of trucks. This method calculates LOS D for most time periods except south of Calgrove during the AM peak hour, which is indicated as LOS E. Second, the segment was evaluated as a three lane segment with the fourth lane serving as a truck climbing lane for approximately 80 percent of the trucks. This method indicates LOS E for each peak hour time period for the segment between Pico Canyon Road/Lyons Avenue and Calgrove Boulevard, and LOS F between Calgrove Boulevard and SR-14. This second method has been determined to be more consistent with the observed conditions.

Table 5: LOS Summary - Existing Conditions

Table 5. Dos Summary - Daisting Con-		AM Peak Hour			PM Peak Hour			
I-5 Segment	Speed	Density	LOS	Speed	Density	LOS		
		Northbo	und		-			
Lake Hughes to Parker	70.0	5.2	A	70.0	9.9	A		
Parker to Hasley Canyon	70.0	6.7	A	70.0	11.9	В		
Hasley Canyon to SR-126	70.0	13.1	В	70.0	17.2	В		
SR-126 to Rye Canyon	70.0	13.9	В	70.0	17.0	В		
Rye Canyon to Magic Mountain	70.0	13.9	В	70.0	16.9	В		
Magic Mountain to Valencia	70.0	18.4	С	68.5	25.4	С		
Valencia to McBean	69.6	22.3	C	68.5	25.3	С		
McBean to Pico	69.1	24.0	С	65.4	30.2	D		
Pico to Calgrove	69.4	23.1	С	64.9	30.8	D		
Calgrove to Truck Route Bypass	69.5	22.9	С	65.3	30.3	D		
Truck Route Bypass to SR-14 Ramp (On)	69.9	20.5	С	63.3	32.8	D		
SR-14 Ramp (On) to SR-14 Ramp (Off)	70.0	18.3	С	68.0	26.2	D		
		Southbo	und					
Lake Hughes to Parker	70.0	7.0	A	70.0	8.9	A		
Parker to Hasley Canyon	70.0	9.5	A	70.0	10.4	A		
Hasley Canyon to SR-126	70.0	9.1	A	70.0	12.7	В		
SR-126 to Rye Canyon	70.0	14.2	В	70.0	17.3	В		
Rye Canyon to Magic Mountain	70.0	17.4	В	69.6	22.3	С		
Magic Mountain to Valencia	70.0	19.5	С	68.8	24.7	C		
Valencia to McBean	69.1	24.1	С	64.7	31.1	D		
McBean to Pico	69.3	23.6	С	67.4	27.2	D		
Pico to Calgrove	61.1	35.5	E	58.6	38.3	Е		
Calgrove to Truck Route Bypass	<53.3	>45.0	F	<53.3	>45.0	F		
Truck Route Bypass to SR-14 Ramp (On)	70.0	19.3	С	70.0	19.6	С		
SR-14 Ramp (On) to Balboa	70.0	24.7	С	69.3	23.4	С		

3.0 PROJECT ANALYSIS - 2030 CONDITIONS

The Santa Clarita Valley is a rapidly growing portion of the Southern California area. Southern California Regional Government (SCAG) projections for the Santa Clarita Valley are summarized in Table 6. The table shows that population is expected to increase by 103 percent and employment is expected to increase by 78 percent over the 28 year period between 1997 and 2025.

The rapid growth noted above for the Santa Clarita Valley is due to significant amounts of ongoing new land use development that is anticipated to continue to occur as the valley builds out over the next 25 years. Table 7 summarizes land use and vehicle trip generation statistics for 2004 and buildout conditions. The table shows that Average Daily Traffic (ADT) generation within the Santa Clarita Valley is forecast to increase by 99 percent between present day and valley wide buildout.

Table 6: Demographic Projections – Santa Clarita Valley

Demographic	1997	2025	Total Growth 1997-2025	Percent Growth 1997-2025
Santa Clarita Population	175,529	356,861	181,332	103%
Santa Clarita Employment	58,029	103,250	45,221	78%
Source: SCAG Regional Forecasts, 2001	1			

Table 7: Land Use and Trip Generation Projections - Santa Clarita Valley

		2004		Long-Range (Buile	
Land Use Type	Units	Amount	ADT	Amount	ADT
Single Family Residential	DU	51,300	501,000	92,000	903,000
Multi-Family Residential	DU	25,600	203,000	54,800	423,000
Commercial, Retail, Office & Industrial	MSF	31.8	696,000	81.9	1,539,000
Other	-	-	170,000	-	256,000
Total	-	-	1,570,000	-	3,121,000
					(+99%)

DU = Dwelling Unit

MSF = Million Square Feet

ADT = Average Daily Traffic

Source: Santa Clarita Valley Consolidated Traffic Model (SCVCTM) Version 4.1

Future year traffic forecasts have been obtained from the Santa Clarita Valley Consolidated Traffic Model (SCVCTM). The SCVCTM was developed jointly by the County of Los Angeles Department of Public Works and the City of Santa Clarita and is the primary tool used by both agencies for transportation planning in this area. The model has the ability to provide traffic volume forecasts for multiple future year scenarios, including long-range cumulative (buildout) conditions for the Santa Clarita Valley.

In addition to forecasting the theoretical buildout traffic demand, a special version of the SCVCTM has been prepared to reflect the actual flow of traffic volumes south of the I-5/SR-14 confluence, which is constrained by the available (existing and planned) capacity for that heavily traveled section of freeway. The purpose of this constrained flow model is to provide a realistic peak hour volume for the freeway segments north of the I-5/SR-14 confluence by taking into account the geometric constraints that will determine the flow rates south of the interchange.

A summary of 2030 (buildout) traffic volumes derived by the constrained flow model, for peak hour by direction and for ADT, is provided in Table 8. The corresponding peak period volumes for constrained flow conditions are provided in Table 9. An illustration of the peak hour mainline and ramp volumes is provided in Figure 2.

Table 10 summarizes the peak hour and for ADT volumes for the unconstrained condition and Table 11 summarizes the comparable peak period forecasts. An illustration of the peak hour mainline and ramp volumes is provided in Figure 3. As noted above, the unconstrained volumes represent a theoretical demand for the facility, not taking into account the actual capacity available south of the I-5/SR-14 confluence. A comparison of the two sets of forecasts indicates that the total daily volume of traffic south of the I-5/SR-14 confluence is similar for each scenario. Where differences occur is in the peak hours, which are most affected by the constraint. In practice, this reflects an adjustment to travel habits such as driving in the off-peak hours or using transit as an alternative to driving in the peak hour.

For this analysis, no differentiation is made between build and no-build traffic volume forecasts since the I-5 freeway is the only viable option for north-south travel in and out of the Santa Clarita Valley. This is due to the lack of parallel facilities other than The Old Road, which itself has limited capacity for other than local traffic. Also, this approach more accurately demonstrates the true impact to the I-5 corridor for a no-build scenario since it does not presume that freeway traffic will utilize local roadways as a bypass, which can result in understating the need for capacity enhancements.

Table 8: Year 2030 (Santa Clarita Valley Buildout) Peak Hour Traffic Volumes - Constrained Flow Model

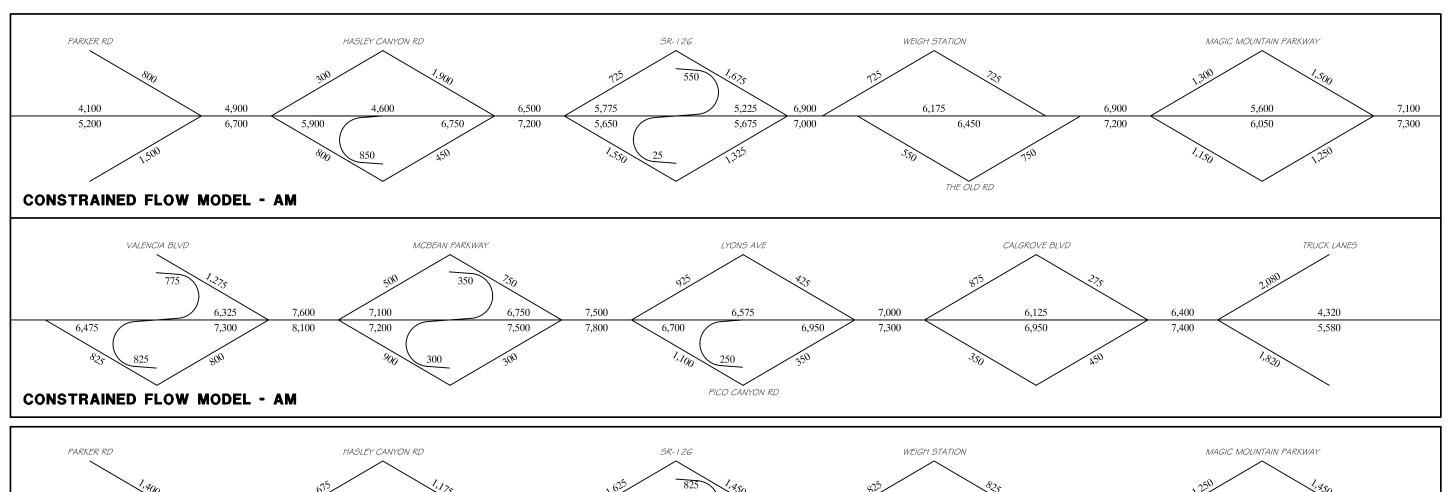
	AM Peak Hour		PM Peal		
I-5 Segment	SB	NB	SB	NB	ADT
North of Parker Road	5,200	4,100	6,500	6,800	207,000
Between Parker Road & Hasley Canyon Road	6,700	4,900	7,600	8,200	240,000
Between Hasley Canyon Road & SR-126	7,200	6,500	9,100	8,700	251,000
Between SR-126 & Rye Canyon Road	7,000	6,900	9,200	7,700	234,000
Between Rye Canyon Road & Magic Mountain Parkway	7,200	6,900	10,100	7,700	255,000
Between Magic Mountain Pkwy & Valencia Boulevard	7,300	7,100	9,800	7,900	263,000
Between Valencia Boulevard & McBean Parkway	8,100	7,600	10,000	8,300	268,000
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	7,800	7,500	9,600	8,400	283,000
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	7,300	7,000	8,900	8,400	281,000
Between Calgrove Boulevard & SR-14	7,400	6,400	8,800	8,200	290,000
South of SR-14	17,700	9,200	11,500	16,700	617,000

Source: SCVCTM Ver. 4.1 Year 2030 Constrained Flow Scenario with Centennial (12/27/06)

Table 9: Year 2030 (Santa Clarita Valley Buildout) Peak Period Traffic Volumes - Constrained Flow Model

	AM Peak Period		PM Pea		
I-5 Segment	SB	NB	SB	NB	ADT
North of Parker Road	15,300	11,400	24,100	26,200	207,000
Between Parker Road & Hasley Canyon Road	19,700	13,600	28,100	31,500	240,000
Between Hasley Canyon Road & SR-126	21,200	18,300	32,500	32,800	251,000
Between SR-126 & Rye Canyon Road	20,600	19,700	31,700	28,500	234,000
Between Rye Canyon Road & Magic Mountain Parkway	21,200	19,700	34,800	28,500	255,000
Between Magic Mountain Pkwy & Valencia Boulevard	21,500	20,300	33,800	29,300	263,000
Between Valencia Boulevard & McBean Parkway	23,800	22,000	35,100	31,300	268,000
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	22,900	22,100	34,300	32,300	283,000
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	21,500	20,600	31,800	32,300	281,000
Between Calgrove Boulevard & SR-14	21,800	18,800	31,400	31,500	290,000
South of SR-14	53,100	27,600	44,200	66,800	617,000

AM Peak Period = 6 am - 9 amPM Peak Period = 3 pm - 7 pm



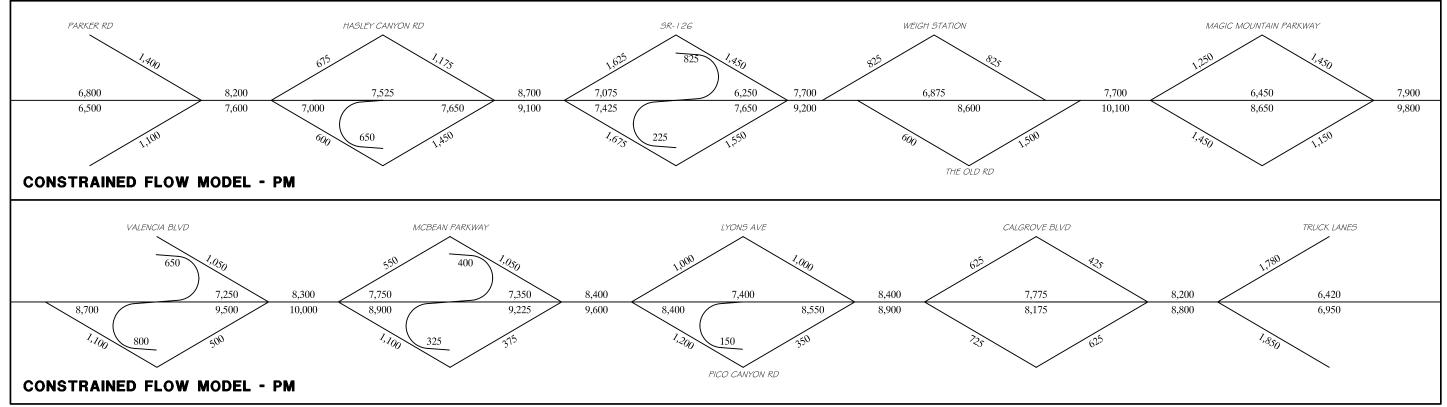


Figure 2

PEAK HOUR VOLUMES
- CONSTRAINED FLOW MODEL

Table 10: Year 2030 (Santa Clarita Valley Buildout) Peak Hour Traffic Volumes – Demand Model

	AM Peak Hour		PM Pea		
I-5 Segment	SB	NB	SB	NB	ADT
North of Parker Road	5,700	4,400	7,200	7,600	207,000
Between Parker Road & Hasley Canyon Road	7,200	5,300	8,300	9,100	241,000
Between Hasley Canyon Road & SR-126	7,900	6,900	9,800	9,600	254,000
Between SR-126 & Rye Canyon Road	7,900	7,300	10,300	8,900	242,000
Between Rye Canyon Road & Magic Mountain Parkway	8,400	7,300	12,100	8,900	273,000
Between Magic Mountain Pkwy & Valencia Boulevard	8,600	8,200	12,100	9,500	294,000
Between Valencia Boulevard & McBean Parkway	9,600	9,100	13,000	10,300	312,000
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	9,500	9,500	12,300	10,500	322,000
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	9,500	9,400	11,900	10,900	324,000
Between Calgrove Boulevard & SR-14	9,600	8,900	11,700	11,000	322,000
South of SR-14	23,000	12,300	15,500	22,300	628,000

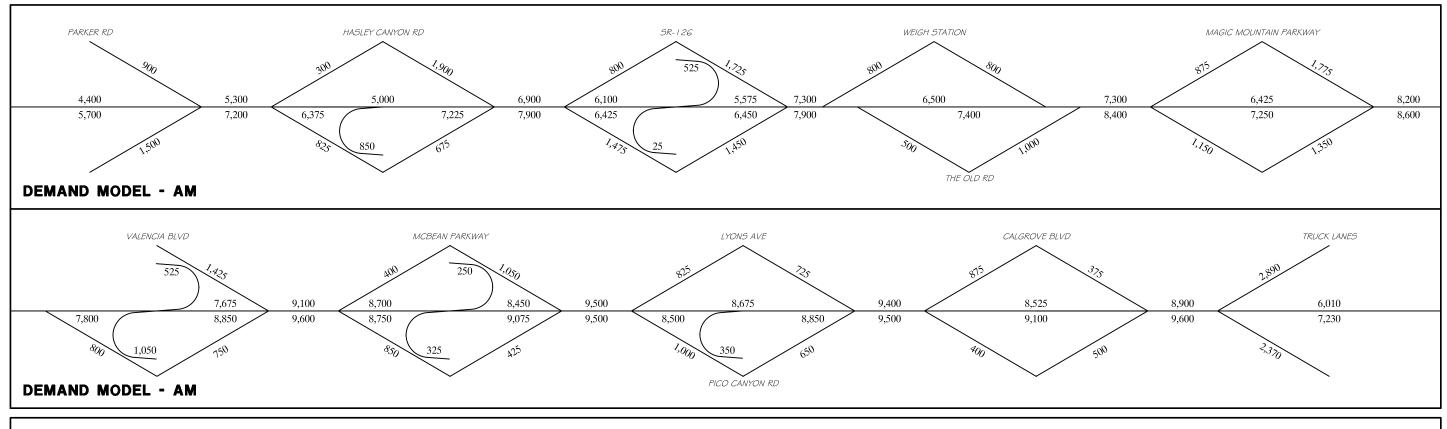
Source: SCVCTM Ver. 4.1 Long-Range Cumulative Scenario with Centennial (11/3/06)

Table 11: Year 2030 (Santa Clarita Valley Buildout) Peak Period Traffic Volumes – Demand Model

	AM Pea	ak Period	PM Pea	k Period	
I-5 Segment	SB	NB	SB	NB	ADT
North of Parker Road	15,400	11,600	25,700	27,100	207,000
Between Parker Road & Hasley Canyon Road	19,500	13,900	29,600	32,500	241,000
Between Hasley Canyon Road & SR-126	20,800	18,200	33,800	33,700	254,000
Between SR-126 & Rye Canyon Road	20,300	19,200	34,300	30,700	242,000
Between Rye Canyon Road & Magic Mountain Parkway	21,500	19,200	40,300	30,700	273,000
Between Magic Mountain Pkwy & Valencia Boulevard	22,100	21,600	40,300	32,800	294,000
Between Valencia Boulevard & McBean Parkway	24,900	23,900	44,100	36,100	312,000
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	25,000	25,000	42,400	37,500	322,000
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	25,000	24,700	41,000	38,900	324,000
Between Calgrove Boulevard & SR-14	25,300	23,400	40,300	39,300	322,000
South of SR-14	62,200	34,200	55,400	82,600	628,000

AM Peak Period = 6 am - 9 am

PM Peak Period = 3 pm - 7 pm



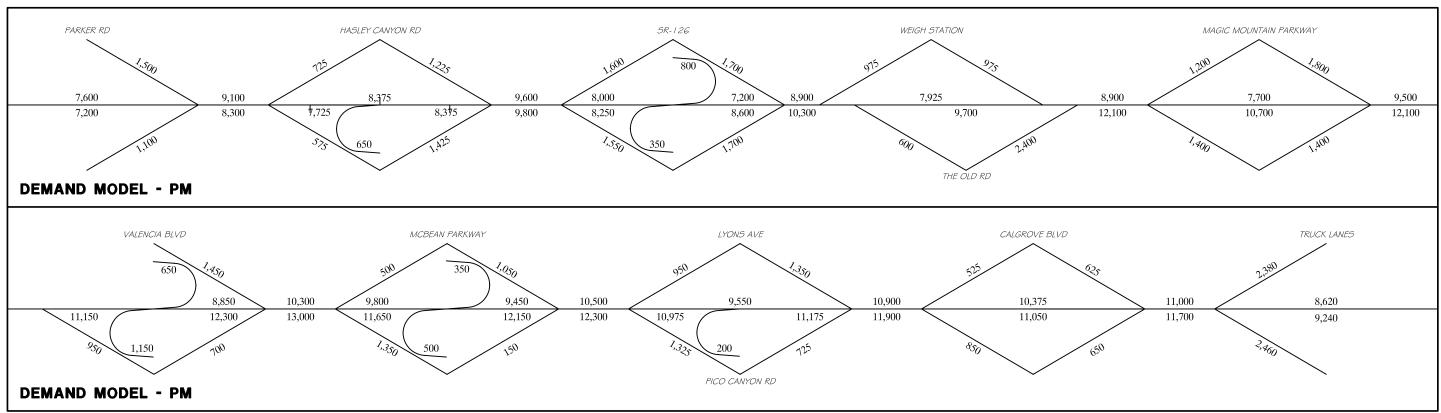


Figure 3

PEAK HOUR VOLUMES
- DEMAND MODEL

A summary of the HCS operational analysis for 2030 conditions is provided in Table 12 for the no-build scenario and in Table 13 inclusive of the proposed project. Based on this analysis, without the proposed project the I-5 freeway is forecast to operate primarily at LOS E and LOS F during the PM peak hour. During the AM peak hour, LOS is forecast to primarily range between LOS D and F, depending on segment. With the proposed project the maximum forecast LOS is E, which is indicated for three southbound segments during the PM peak hour. The remaining segments are forecast as primarily LOS C or D. HCS worksheets are provided in Appendix D. This analysis is based on allowing use of the HOV lanes for vehicles with occupancies of 2 or more persons. A limitation of a 3 or more persons per vehicle occupancy is discussed in Section 7.0.

A summary of the HCS operational analysis for 2030 unconstrained (i.e., demand) conditions is provided in Table 14 for the no-build scenario and in Table 15 inclusive of the proposed project. Based on this analysis, without the proposed project the I-5 freeway is forecast to operate primarily at LOS F during the PM peak hour. During the AM peak hour, the LOS is forecast to primarily range between LOS E and F in the southbound direction and between LOS D and F in the northbound direction. With the proposed project, LOS F is forecast during the PM peak hour between Rye Canyon Road and the truck bypass route for the southbound direction and between McBean Parkway and Calgrove Boulevard in the northbound direction. LOS F is also forecast for several of the HOV lanes. For the remaining segments during the PM peak hour, the LOS is forecast to range between LOS D and E. During the AM peak hour, the LOS is forecast to primarily range between LOS C and E. HCS worksheets are provided in Appendix D. As noted above, this analysis is based on allowing use of the HOV lanes for vehicles with occupancies of 2 or more persons. A limitation of a 3 or more persons per vehicle occupancy is discussed in Section 7.0.

Table 12: LOS Summary – 2030 No-Build Conditions (Constrained Flow Model)

		AM Peak Hour			PM Peak Hour	
I-5 Segment	Speed	Density	LOS	Speed	Density	LOS
		Northbo	ound			
Lake Hughes to Parker	70.0	17.1	В	65.2	30.4	D
Parker to Hasley Canyon	70.0	20.1	С	54.9	42.9	E
Hasley Canyon to SR-126	67.1	27.7	D	<53.3	>45.0	F
SR-126 to Rye Canyon	65.3	30.2	D	60.0	36.7	E
Rye Canyon to Magic Mountain	65.3	30.2	D	60.0	36.7	E
Magic Mountain to Valencia	64.2	31.6	D	58.3	38.8	E
Valencia to McBean	60.8	35.8	Е	54.3	43.8	E
McBean to Pico	59.0	37.9	Е	<53.3	>45.0	F
Pico to Calgrove	65.0	30.7	D	53.6	44.6	Е
Calgrove to Truck Route Bypass	67.7	26.8	D	56.1	41.4	E
Truck Route Bypass to SR-14 Ramp (On)	69.6	22.5	С	56.2	41.3	E
SR-14 Ramp (On) to SR-14 Ramp (Off)	69.8	21.4	С	63.9	32.0	D
		Southbo	ound			
Lake Hughes to Parker	69.8	21.7	С	66.6	28.5	D
Parker to Hasley Canyon	66.1	29.1	D	60.5	36.1	Е
Hasley Canyon to SR-126	63.6	32.4	D	<53.3	>45.0	F
SR-126 to Rye Canyon	64.8	30.9	D	<53.3	>45.0	F
Rye Canyon to Magic Mountain	63.6	32.4	D	<53.3	>45.0	F
Magic Mountain to Valencia	60.2	36.5	Е	<53.3	>45.0	F
Valencia to McBean	<53.3	>45.0	F	<53.3	>45.0	F
McBean to Pico	59.5	37.4	Е	<53.3	>45.0	F
Pico to Calgrove	<53.3	>45.0	F	<53.3	>45.0	F
Calgrove to Truck Route Bypass	<53.3	>45.0	F	<53.3	>45.0	F
Truck Route Bypass to SR-14 Ramp (On)	69.8	21.7	С	66.8	28.3	D
SR-14 Ramp (On) to Balboa	66.5	28.6	D	59.3	37.6	Е

Table 13: LOS Summary – 2030 Build Conditions (Constrained Flow Model)

		Mix	ed Flo	w Lanes	S			HOV	Lane			Truck I	Lane(s)	
	AM	Peak Hou	r	PM	I Peak Hou	ır	AM Pea	k Hour	PM Peal	k Hour	AM Pea	k Hour	PM Peal	k Hour
I-5 Segment	Speed	Density	LOS	Speed	Density	LOS	D/C	LOS	D/C	LOS	D/C	LOS	D/C	LOS
					Λ	orthbo	und							
Lake Hughes to Parker	70.0	17.1	В	65.2	30.4	D							-	
Parker to Hasley Canyon	70.0	16.1	В	66.4	28.7	D	.49	A	.79	С				
Hasley Canyon to SR-126	69.0	24.3	C	64.0	31.9	D	.61	A	.79	C				
SR-126 to Rye Canyon	69.3	23.5	C	68.2	25.8	C	.61	A	.77	C				
Rye Canyon to Magic Mtn	69.3	23.5	C	68.2	25.8	C	.61	A	.77	C				
Magic Mtn to Valencia	69.3	23.5	C	67.8	26.7	D	.71	C	.79	C				
Valencia to McBean	68.2	25.9	C	66.2	29.0	D	.71	С	.79	C				
McBean to Pico	67.7	26.8	D	63.6	32.4	D	.71	C	.75	C				
Pico to Calgrove	69.2	23.6	C	65.4	30.1	D	.63	В	.75	C				
Calgrove to Truck Rte Bypass	70.0	18.6	C	69.0	24.2	C	.60	A	.76	C	.38	A	.48	A
Truck Route Bypass to SR-14 Ramp (On)	70.0	16.2	В	68.2	26.0	D	.60	A	.76	C				
SR-14 Ramp (On) to SR-14 Ramp (Off)	70.0	14.9	В	69.8	21.5	С	.60	A	.76	С				
-			•		S	outhbo	und							
Lake Hughes to Parker	69.8	21.7	С	66.6	28.5	D								
Parker to Hasley Canyon	69.7	22.1	C	68.4	25.6	С	.67	В	.76	С				
Hasley Canyon to SR-126	69.8	21.7	С	63.1	33.0	D	.67	В	.91	Е				
SR-126 to Rye Canyon	69.3	23.4	C	62.6	33.7	D	.67	В	.92	Е				
Rye Canyon to Magic Mtn	69.0	24.3	С	56.2	41.4	Е	.67	В	.99	Е				
Magic Mtn to Valencia	67.9	26.4	D	54.8	43.1	Е	.67	В	.98	Е			-	
Valencia to McBean	68.8	24.6	C	64.6	31.2	D	.67	В	.98	Е				
McBean to Pico	67.3	27.4	D	60.4	36.2	Е	.67	В	.96	Е			-	
Pico to Calgrove	69.8	21.3	C	67.7	26.7	D	.68	В	.83	D	.44	A	.53	A
Calgrove to Truck Route Bypass (1 Truck Lane)	69.2	23.7	C	65.7	29.7	D	.67	В	.80	C	.58	A	.69	В
Calgrove to Truck Route Bypass (2 Truck Lanes)	69.9	20.8	С	68.5	25.3	С	.67	В	.80	С	.29	A	.35	A
Truck Route Bypass to SR-14 Ramp (On)	70.0	16.4	В	69.9	20.8	С	.67	В	.80	С				
SR-14 Ramp (On) to Balboa	69.9	20.3	С	69.1	23.9	С	.67	В	.80	С				
D/C calculations based on LOS E/I	threshold of	2,000 veh/hr	(HOV La	nnes) and 1,	,200 veh/hr (T	ruck Lar	nes).							

Table 14: No-Build Conditions (Demand Model)

		AM Peak Hour		PM Peak Hour			
I-5 Segment	Speed	Density	LOS	Speed	Density	LOS	
		Northbo	und				
Lake Hughes to Parker	70.0	18.3	C	59.6	37.2	Е	
Parker to Hasley Canyon	69.7	22.0	С	<53.3	>45.0	F	
Hasley Canyon to SR-126	65.3	30.2	D	<53.3	>45.0	F	
SR-126 to Rye Canyon	63.0	33.2	D	<53.3	>45.0	F	
Rye Canyon to Magic Mountain	63.0	33.2	D	<53.3	>45.0	F	
Magic Mountain to Valencia	55.7	41.9	Е	<53.3	>45.0	F	
Valencia to McBean	<53.3	>45.0	F	<53.3	>45.0	F	
McBean to Pico	<53.3	>45.0	F	<53.3	>45.0	F	
Pico to Calgrove	<53.3	>45.0	F	<53.3	>45.0	F	
Calgrove to Truck Route Bypass	<53.3	>45.0	F	<53.3	>45.0	F	
Truck Route Bypass to SR-14 Ramp (On)	60.8	35.7	Е	<53.3	>45.0	F	
SR-14 Ramp (On) to SR-14 Ramp (Off)	65.2	30.4	D	<53.3	>45.0	F	
		Southbo	und				
Lake Hughes to Parker	69.1	24.1	С	62.7	33.5	D	
Parker to Hasley Canyon	63.2	32.9	D	53.4	44.9	E	
Hasley Canyon to SR-126	58.3	38.8	Е	<53.3	>45.0	F	
SR-126 to Rye Canyon	58.3	38.8	Е	<53.3	>45.0	F	
Rye Canyon to Magic Mountain	<53.3	>45.0	F	<53.3	>45.0	F	
Magic Mountain to Valencia	<53.3	>45.0	F	<53.3	>45.0	F	
Valencia to McBean	<53.3	>45.0	F	<53.3	>45.0	F	
McBean to Pico	<53.3	>45.0	F	<53.3	>45.0	F	
Pico to Calgrove	<53.3	>45.0	F	<53.3	>45.0	F	
Calgrove to Truck Route Bypass	<53.3	>45.0	F	<53.3	>45.0	F	
Truck Route Bypass to SR-14 Ramp (On)	65.6	29.9	D	<53.3	>45.0	F	
SR-14 Ramp (On) to Balboa	<53.3	>45.0	F	<53.3	>45.0	F	

Table 15: LOS Summary – 2030 Build Conditions (Demand Model)

		Mix	ed Flo	w Lanes	3			HOV	Lane			Truck I	Lane(s)	
	AM	Peak Hou	r	PM	Peak Hou	ır	AM Peal	k Hour	PM Peal	k Hour	AM Pea	k Hour	PM Peal	k Hour
I-5 Segment	Speed	Density	LOS	Speed	Density	LOS	D/C	LOS	D/C	LOS	D/C	LOS	D/C	LOS
					N	orthbo	und							
Lake Hughes to Parker	70.0	18.3	С	59.6	37.2	Е	-							
Parker to Hasley Canyon	70.0	17.5	В	62.4	33.9	D	.53	A	.89	D				
Hasley Canyon to SR-126	69.5	22.7	C	64.1	31.8	D	.69	В	.89	D				
SR-126 to Rye Canyon	68.8	24.6	C	64.1	31.8	D	.69	В	.89	D				
Rye Canyon to Magic Mtn	68.8	24.6	C	64.1	31.8	D	.69	В	.89	D				
Magic Mtn to Valencia	67.0	27.9	D	61.1	35.4	Е	.82	D	.95	E				
Valencia to McBean	62.1	34.2	D	53.6	44.6	Е	.82	D	.95	Е				
McBean to Pico	55.2	42.6	Е	<53.3	>45.0	F	.81	D	1.00	Е				
Pico to Calgrove	59.6	37.3	Е	<53.3	>45.0	F	.81	C	1.00	Е				
Calgrove to Truck Rte Bypass	67.7	26.8	D	58.9	38.1	Е	.83	D	1.02	F	.53	A	.65	В
Truck Route Bypass to SR-14 Ramp (On)	69.5	22.7	С	54.1	44.0	Е	.83	D	1.02	F				
SR-14 Ramp (On) to SR-14 Ramp (Off)	70.0	19.8	С	64.7	31.0	D	.83	D	1.02	F				
					S	outhbo	und							
Lake Hughes to Parker	69.1	24.1	C	62.7	33.5	D								
Parker to Hasley Canyon	69.1	24.1	C	66.3	29.0	D	.72	C	.83	D				
Hasley Canyon to SR-126	67.3	27.5	D	58.8	38.2	Е	.72	C	.98	Е				
SR-126 to Rye Canyon	67.3	27.5	D	58.8	38.2	Е	.72	C	1.03	F				
Rye Canyon to Magic Mtn	64.9	30.8	D	<53.3	>45.0	F	.72	C	1.03	F				
Magic Mtn to Valencia	63.8	32.2	D	<53.3	>45.0	F	.86	D	1.03	F				
Valencia to McBean	65.5	30.0	D	<53.3	>45.0	F	.86	D	1.06	F				
McBean to Pico	59.6	37.2	Е	<53.3	>45.0	F	.86	D	1.06	F				
Pico to Calgrove	66.0	29.3	D	<53.3	>45.0	F	.88	D	1.09	F	.57	A	.72	C
Calgrove to Truck Route Bypass (1 Truck Lane)	61.9	34.5	D	<53.3	>45.0	F	.86	D	1.06	F	.75	C	.92	Е
Calgrove to Truck Route Bypass (2 Truck Lanes)	66.6	28.4	D	57.0	40.4	Е	.86	D	1.06	F	.38	A	.46	A
Truck Route Bypass to SR-14 Ramp (On)	69.8	21.4	С	66.1	29.2	D	.86	D	1.06	F				
SR-14 Ramp (On) to Balboa	67.4	27.3	D	60.2	36.5	E	.86	D	1.06	F				
D/C calculations based on LOS E/F	F threshold of	2,000 veh/hr	(HOV La	nes) and 1,	200 veh/hr (T	ruck Lar	es).							

4.0 EARLY IMPLEMENTATION PROJECTS ANALYSIS – 2010 CONDITIONS

Mainline freeway traffic volume forecasts for year 2010 conditions are summarized in Table 16 for the peak hour and ADT. Table 17 summaries the comparable peak period volumes. These forecasts are utilized to evaluate opening day conditions for the EIPs, which are expected to be completed around 2009 or 2010.

Truck Climbing Lane

A truck climbing lane is proposed to be added to the existing four lane southbound facility. Two segments have been analyzed: 1) between Pico Canyon Road/Lyons Avenue and Calgrove Boulevard and 2) between Calgrove Boulevard and SR-14.

A detailed evaluation of the EIP truck climbing lane was prepared in June 2007 by DMJM Harris (see Appendix C.) As with the project analysis discussed in previous sections, an HCM LOS analysis was used to compare the impacts of the study scenarios. The approach of the analysis was to assume that one lane was not usable by passenger cars because of slow moving trucks (see discussion in Section 2.0). The analysis was done by subtracting 80% of the trucks from the volume and subtracting one lane, which results in a three lane freeway segment analysis with two percent trucks. As noted previously, the analysis based on this methodology has been determined to be the most representative of the observed existing conditions.

The results of the analysis of adding the truck lane to southbound I-5 is provided in Table 18. The addition of a truck lane is forecast to improve the peak hour operating conditions in 2010 from LOS E and F to LOS C and D. The single truck lane is expected to operate at an acceptable LOS based on an anticipated truck flow rate of approximately 410 trucks per hour.

Table 16: Year 2010 - Early Implementation Project Opening Day Peak Hour Forecasts

	AM Peak Hour		PM Peak	K Hour	
I-5 Segment	SB	NB	SB	NB	ADT
North of Parker Road	2,400	1,900	3,000	3,400	100,000
Between Parker Road & Hasley Canyon Road	3,400	2,300	3,500	4,400	122,000
Between Hasley Canyon Road & SR-126	4,200	3,400	4,600	5,000	138,000
Between SR-126 & Rye Canyon Road	4,100	4,400	5,400	4,900	146,000
Between Rye Canyon Road & Magic Mountain Parkway	4,600	4,400	6,600	4,900	160,000
Between Magic Mountain Pkwy & Valencia Boulevard	4,800	5,300	6,500	5,700	176,000
Between Valencia Boulevard & McBean Parkway	5,600	6,100	7,100	6,400	194,000
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	5,800	6,200	7,100	6,800	204,000
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	6,400	6,000	6,800	7,100	206,000
Between Calgrove Boulevard & SR-14	6,600	5,800	6,800	7,100	214,000
South of SR-14	13,800	7,700	9,500	13,900	394,000

Source: SCVCTM Ver. 4.1

Table 17: Year 2010 – Early Implementation Project Opening Day Peak Period Forecasts

	AM Pea	k Period	PM Peal	k Period	
I-5 Segment	SB	NB	SB	NB	ADT
North of Parker Road	6,300	5,000	10,300	11,700	100,000
Between Parker Road & Hasley Canyon Road	8,900	6,100	12,100	15,200	122,000
Between Hasley Canyon Road & SR-126	11,100	8,900	15,900	17,200	138,000
Between SR-126 & Rye Canyon Road	10,800	11,600	18,600	16,900	146,000
Between Rye Canyon Road & Magic Mountain Parkway	12,100	11,600	22,800	16,900	160,000
Between Magic Mountain Pkwy & Valencia Boulevard	12,600	13,900	22,400	19,700	176,000
Between Valencia Boulevard & McBean Parkway	14,700	16,100	24,500	22,100	194,000
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	15,300	16,300	24,500	23,400	204,000
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	16,800	15,800	23,400	24,500	206,000
Between Calgrove Boulevard & SR-14	17,400	15,300	23,400	24,500	214,000
South of SR-14	36,300	20,300	32,800	47,900	394,000

AM Peak Period = 6 am - 9 amPM Peak Period = 3 pm - 7 pm

Table 18: EIP Southbound Truck Lane Addition LOS Analysis Results

_			Lyons Ave	SB Between Calgrove Blvd		
Freeway Section		& Calgr	ove Blvd	& SI	R-14	
Peak Hour		AM	PM	AM	PM	
	LOS	E	Е	F	F	
2006 Existing	Density (pc/mi/ln)	35.5	38.3	>45.0	>45.0	
	Ave pc Speed (mph)	61.1	58.6	<53.3	<53.3	
2010 No	LOS	E	Е	F	F	
Improvements	Density (pc/mi/ln)	36.4	43.3	>45.0	>45.0	
improvements	Ave pc Speed (mph)	60.3	54.6	<53.3	<53.3	
2010 With Truck	LOS	С	D	D	D	
Lane	Density (pc/mi/ln)	23.8	26.1	27.5	29.3	
Lane	Ave pc Speed (mph)	69.2	68.1	67.3	66.0	

HOV Lane Extension

An extension of the northbound HOV lane is proposed in order to continue the HOV lane currently under construction north to the summit, which is just after the merge point of the existing truck bypass route. Two segments have been analyzed: 1) between the off-ramp to SR-14 northbound and the on-ramp from SR-14 southbound and 2) between on-ramp from SR-14 southbound and the truck bypass route on-ramp.

A detailed evaluation of the EIP HOV lane extension was prepared in June 2007 by DMJM Harris (see Appendix C.) As with the other analyses, an HCM LOS analysis was used to compare the effect of extending the HOV lane. The approach of the analysis was to evaluate the build scenario as a four lane freeway even though the added lane was a HOV lane. Based on the number of vehicles eligible to use the HOV lane (see discussion in Section 2.0), a relatively even lane utilization is anticipated. Also, since this represents the final segment of the northbound HOV lane, HOVs will not be separated from the mixed flow lanes. As such, the segment will operate more like a four lane freeway segment than a three lane freeway with a separate HOV lane.

Table 19 provides the results of the analysis of extending the northbound HOV lane to the summit just past the truck route merge point. The extension of the HOV lane is forecast to improve the peak hour operating conditions of this segment in 2010 from LOS C to LOS B in the AM peak hour and from LOS D to LOS C in the PM peak hour.

Table 19: EIP Northbound HOV Lane Extension LOS Analysis Results

		NB SR-14 &	Off-Ramp to & On-Ramp	NB Between On-Ramp From SR-14 SB		
Freew	ay Section	From S	R-14 SB	& Truck Rou	ite On-Ramp	
Peak Hour		AM	PM	AM	PM	
	LOS	В	С	C	D	
2006 Existing	Density (pc/mi/ln)	17.8	25.4	19.5	30.2	
	Ave pc Speed (mph)	70.0	68.5	70.0	65.3	
2010 No	LOS	С	С	C	D	
	Density (pc/mi/ln)	18.6	25.9	20.4	30.9	
Improvements	Ave pc Speed (mph)	70.0	68.2	69.9	64.8	
2010 With HOV	LOS	В	С	В	С	
Lane Extension	Density (pc/mi/ln)	13.9	18.9	15.3	21.5	
Lane Extension	Ave pc Speed (mph)	70.0	70.0	70.0	69.8	

5.0 FULL PROJECT OPENING DAY ANALYSIS – 2015 CONDITIONS

Table 20 summarizes the peak hour and ADT traffic volume forecasts for year 2015 conditions and Table 21 summarizes the comparable peak period volumes. These forecasts are utilized to evaluate the full project, which is expected to be completed around 2014 or 2015.

A summary of the HCS operational analysis for 2015 conditions is provided in Table 22 for the no-build scenario and in Table 23 inclusive of the proposed project. Based on this analysis, without the proposed project the I-5 freeway is forecast to operate at LOS F for two southbound segments during the PM peak hour. The remaining segments are forecast to operate primarily between LOS D and E during the PM peak hour. During the AM peak hour, LOS is forecast to primarily range between LOS C and D, with the exception of the southbound segments between Pico Canyon Road/Lyons Avenue and the start of the truck bypass route at SR-14, which are forecast to operate at LOS E. With the proposed project the maximum forecast LOS is D, which is indicated for three southbound segments during the PM peak hour. The remaining segments are forecast as primarily LOS B or C. HCS worksheets are provided in Appendix D.

Table 20: Year 2015 – Full Project Opening Day Peak Hour Forecasts

	AM Pea	k Hour	PM Peal		
I-5 Segment	SB	NB	SB	NB	ADT
North of Parker Road	3,300	2,700	4,100	4,700	137,000
Between Parker Road & Hasley Canyon Road	4,700	3,100	4,700	6,100	163,000
Between Hasley Canyon Road & SR-126	5,300	4,800	6,400	6,500	179,000
Between SR-126 & Rye Canyon Road	4,900	5,600	6,800	5,800	171,000
Between Rye Canyon Road & Magic Mountain Parkway	5,100	5,600	8,100	5,800	191,000
Between Magic Mountain Pkwy & Valencia Boulevard	5,400	6,200	7,800	6,200	203,000
Between Valencia Boulevard & McBean Parkway	6,100	7,000	8,200	6,800	216,000
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	5,900	6,900	8,000	7,000	226,000
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	6,600	6,500	7,400	7,300	220,000
Between Calgrove Boulevard & SR-14	6,700	6,100	7,400	7,200	229,000
South of SR-14	14,500	8,200	9,900	14,100	471,000

Source: SCVCTM Ver. 4.1

Table 21: Year 2015 - Full Project Opening Day Peak Period Forecasts

	AM Pea	k Period	PM Peal	k Period	
I-5 Segment	SB	NB	SB	NB	ADT
North of Parker Road	8,700	7,100	14,100	16,200	137,000
Between Parker Road & Hasley Canyon Road	12,400	8,200	16,200	21,000	163,000
Between Hasley Canyon Road & SR-126	13,900	12,600	22,100	22,400	179,000
Between SR-126 & Rye Canyon Road	12,900	14,700	23,400	20,000	171,000
Between Rye Canyon Road & Magic Mountain Parkway	13,400	14,700	27,900	20,000	191,000
Between Magic Mountain Pkwy & Valencia Boulevard	14,200	16,300	26,900	21,400	203,000
Between Valencia Boulevard & McBean Parkway	16,100	18,400	28,300	23,400	216,000
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	15,500	18,200	27,600	24,100	226,000
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	17,400	17,100	25,500	25,200	220,000
Between Calgrove Boulevard & SR-14	17,600	16,100	25,500	24,800	229,000
South of SR-14	38,200	21,600	34,100	48,600	471,000

AM Peak Period = 6 am - 9 amPM Peak Period = 3 pm - 7 pm

Table 22: LOS Summary – 2015 No-Build Conditions

		AM Peak Hour		PM Peak Hour			
I-5 Segment	Speed	Density	LOS	Speed	Density	LOS	
		Northbo	ound				
Lake Hughes to Parker	70.0	11.2	В	70.0	19.6	С	
Parker to Hasley Canyon	70.0	12.8	В	68.3	25.8	C	
Hasley Canyon to SR-126	70.0	19.7	С	67.0	27.9	D	
SR-126 to Rye Canyon	69.4	23.2	С	69.0	24.2	С	
Rye Canyon to Magic Mountain	69.4	23.2	С	69.0	24.2	С	
Magic Mountain to Valencia	68.0	26.2	D	68.0	26.2	D	
Valencia to McBean	64.8	30.9	D	65.8	29.6	D	
McBean to Pico	63.6	32.3	D	63.0	33.2	D	
Pico to Calgrove	67.2	27.5	D	63.2	32.9	D	
Calgrove to Truck Route Bypass	68.6	25.2	С	64.0	31.9	D	
Truck Route Bypass to SR-14 Ramp (On)	69.8	21.3	С	69.7	21.9	С	
SR-14 Ramp (On) to SR-14 Ramp (Off)	69.9	20.4	С	67.9	26.5	D	
		Southbo	ound				
Lake Hughes to Parker	70.0	13.7	В	70.0	17.1	В	
Parker to Hasley Canyon	70.0	19.4	С	70.0	19.4	С	
Hasley Canyon to SR-126	69.7	21.9	С	67.4	27.3	D	
SR-126 to Rye Canyon	70.0	20.1	С	65.7	29.8	D	
Rye Canyon to Magic Mountain	69.9	21.0	С	56.0	41.6	Е	
Magic Mountain to Valencia	69.2	23.7	С	54.5	43.5	Е	
Valencia to McBean	66.4	28.8	D	<53.3	>45.0	F	
McBean to Pico	68.9	24.4	С	57.7	39.5	Е	
Pico to Calgrove	59.6	37.2	Е	<53.3	>45.0	F	
Calgrove to Truck Route Bypass	<53.3	>45.0	F	<53.3	>45.0	F	
Truck Route Bypass to SR-14 Ramp (On)	70.0	19.6	С	62.4	33.8	D	
SR-14 Ramp (On) to Balboa	68.6	25.1	С	70.0	20.1	С	

Table 23: LOS Summary – 2015 Build Conditions

	Mixed Flow Lanes						HOV Lane				Truck Lane(s)			
	AM	I Peak Hou	ır	PM	I Peak Hou	ır	AM Pea	k Hour	PM Peal	k Hour	AM Pea	k Hour	PM Peal	k Hour
I-5 Segment	Speed	Density	LOS	Speed	Density	LOS	D/C	LOS	D/C	LOS	D/C	LOS	D/C	LOS
Northbound														
Lake Hughes to Parker	70.0	11.2	В	70.0	19.6	С								
Parker to Hasley Canyon	70.0	10.2	A	69.9	20.4	C	.31	A	.58	A				
Hasley Canyon to SR-126	70.0	15.8	В	69.7	22.0	C	.48	A	.58	A				
SR-126 to Rye Canyon	70.0	19.1	C	70.0	19.1	C	.48	Α	.58	A				
Rye Canyon to Magic Mtn	70.0	19.1	C	70.0	19.1	C	.48	A	.58	A				
Magic Mtn to Valencia	69.9	20.4	C	69.9	20.4	C	.62	В	.62	В				
Valencia to McBean	69.2	23.8	C	69.6	22.5	C	.62	В	.67	В				
McBean to Pico	68.9	24.5	C	68.9	24.5	C	.62	В	.67	В				
Pico to Calgrove	69.7	21.9	C	68.8	24.7	C	.57	Α	.67	В				
Calgrove to Truck Rte Bypass	70.0	17.8	В	69.9	21.0	C	.57	A	.67	В	.36	A	.43	A
Truck Route Bypass to SR-14 Ramp (On)	70.0	15.5	В	70.0	16.7	В	.57	A	.67	В				
SR-14 Ramp (On) to SR-14 Ramp (Off)	70.0	14.3	В	70.0	18.8	С	.57	A	.67	В				
	,	1		1	S	outhbo	und		1	,	r	,	1	
Lake Hughes to Parker	70.0	13.7	В	70.0	17.1	В								
Parker to Hasley Canyon	70.0	15.5	В	70.0	15.5	В	.47	Α	.47	A				
Hasley Canyon to SR-126	70.0	17.9	В	69.9	21.1	C	.47	A	.64	В				
SR-126 to Rye Canyon	70.0	16.3	В	70.0	22.8	C	.47	Α	.64	В				
Rye Canyon to Magic Mtn	70.0	17.1	В	65.6	29.9	D	.47	A	.64	В				
Magic Mtn to Valencia	70.0	18.8	C	65.5	30.0	D	.54	A	.67	В				
Valencia to McBean	70.0	17.6	В	68.7	25.0	C	.59	Α	.67	В				
McBean to Pico	70.0	19.2	C	66.6	28.5	D	.59	Α	.67	В				
Pico to Calgrove	70.0	19.2	C	69.8	21.7	C	.61	Α	.67	В	.40	A	.44	A
Calgrove to Truck Route Bypass (1 Truck Lane)	69.8	21.3	С	69.2	23.7	С	.61	A	.67	В	.53	A	.58	A
Calgrove to Truck Route Bypass (2 Truck Lanes)	70.0	18.8	С	69.9	20.8	С	.61	A	.67	В	.26	A	.29	A
Truck Route Bypass to SR-14 Ramp (On)	70.0	14.9	В	69.3	23.5	С	.61	A	.67	В				
SR-14 Ramp (On) to Balboa	70.0	18.3	C	70.0	14.9	В	.61	A	.67	В				
D/C calculations based on LOS E/F t	hreshold of	2,000 veh/hr	(HOV La	nes) and 1.	,200 veh/hr (T	ruck Lar	nes).							

6.0 ACCIDENT RATES

A summary of accident rates for the project area is provided in Table 24 with a comparison to the statewide average. This data, which is for the twelve month period of April 2005 through March 2006, indicates that the study area has a total accident rate lower than the statewide average but a higher rate of fatal accidents than the statewide average.

Table 24: Accident Rate Summary - April 2005 through March 2006

			Segment Accident Rates			Statewide Accident Rates				
			Fatal	Fatal +	Total	Fatal	Fatal +	Total		
PostMile	Name	MVM	Accidents	Injury	Accidents	Accidents	Injury	Accidents		
Northbound										
R45.500 -	Jct. Rte 14 to									
R59.299	Lake Hughes Rd	381.05	.011	.150	.500	.005	.290	.890		
Southbound										
R45.500 -	Jct. Rte 14 to									
R59.299	Lake Hughes Rd	381.05	.008	.230	.660	.005	.290	.890		

7.0 3+ OCCUPANCY HOV LANE SCENARIO

The operational analyses discussed in previous sections are based on allowing use of the HOV lanes for vehicles with occupancies of 2 or more persons. A limitation of a 3 or more persons per vehicle occupancy would reduce the amount of vehicles eligible to use the HOV lanes and would result in improved levels of service for the HOV lanes, but reduced levels of service for the mixed flow lanes.

The vehicle occupancy survey presented in Section 2.0 shows how 27 percent of existing vehicles are eligible to use a 2+ persons per vehicle HOV lane and that just 6 percent of existing vehicles are eligible to use a 3+ persons per vehicle HOV lane. With a 2+ persons per vehicle configuration, the forecast traffic volumes for 2030 conditions indicate that during the critical peak hour, LOS E conditions would occur for both the mixed flow lanes and the HOV lanes. With a 3+ persons per vehicle configuration, the volume of eligible vehicles reduces to approximately 30 percent of the HOV lane capacity (i.e., LOS A conditions), resulting in improved HOV lane levels of service. However, this also results in more vehicles using the mixed flow lanes. With these additional vehicles the volumes in the mixed flow lanes would exceed capacity and LOS F conditions in the mixed flow lanes would result.

8.0 TWO SOUTHBOUND TRUCK LANES SCENARIO

Consideration has been given to constructing two truck lanes in the uphill portion of southbound I-5 between Calgrove Boulevard and SR-14. The LOS Summary Tables presented in Section 3.0 present the results of both a single truck lane analysis and this two truck lane analysis. The analysis indicates that providing two truck lanes improves the LOS of the mixed flow lanes by one level of service (from D to C for constrained flow conditions and from F to E for demand conditions), and improves the LOS of the truck lanes by one level of service (from B to A) for constrained flow conditions and by four levels of service (from E to A) for demand conditions.

A single truck lane in the uphill grade section is only able to accommodate the slowest trucks since the faster (e.g., unloaded) trucks will use the outside mixed flow lane to pass the slower trucks. Observed conditions indicate that due to the grade the faster trucks travel at a speed slower than the free-flow speed of passenger vehicles, thus reducing the average speeds in the mixed flow lanes. Providing two truck lanes would allow the faster trucks to pass the slower trucks without impacting the adjacent mixed flow lanes and improved levels of service for both the trucks and the vehicles in the mixed flow lanes will result.

9.0 SPECIAL ISSUES

9.1 HOV LANE CONFIGURATION

The HOV component of the project is anticipated to consist of buffer-separated HOV facilities; however the geometric design alternatives do not preclude the implementation of continuous ingress/egress or High Occupancy Toll (HOT) lanes. The location and number of ingress/egress points will be determined at a later stage of design and if a buffer-separated facility is implemented, a minimum ingress/egress length of 1,300 feet will be required.

Barrier-separated HOV facilities are not being proposed and, as such, a separate HOV weave lane is not mandatory. For buffer-separated facilities, an HOV weave lane is optional but would require additional lateral space in order to be implemented.

9.2 DIRECT HOV CONNECTOR – NORTHBOUND I-5 TO WESTBOUND SR-126

As noted in previous sections, the proposed HOV lanes extend north of the existing SR-126 interchange. The need for a direct connector between northbound I-5 and westbound SR-126 has been evaluated based on the anticipated volume of HOVs making this movement.

Traffic forecasts from the SCVCTM indicate the northbound I-5 to westbound SR-126 movement will remain relatively consistent over time with a peak volume of approximately 1,000 vehicles per hour (vph). This movement is not projected to increase due largely to the significant amount of new roadway construction (e.g., Magic Mountain Parkway, Valencia Boulevard, and Commerce Center Drive) along with the new interchange at Hasley Canyon Road (just north of the SR-126 interchange) that will provide access to the western portion of the Santa Clarita Valley.

Based on the average vehicle occupancies noted previously in Table 3, which indicate approximately 27% of the vehicles in this corridor being eligible to use an HOV lane, the demand for a direct connector is a peak of approximately 270 vph. The High Occupancy Vehicle Guidelines (2003 Edition) make note of a 500 vph threshold for providing direct HOV connectors and, as such, there does not appear to be a sufficient demand for a direct connector at this location.

9.3 AUXILIARY LANES AS AN EIP

Full auxiliary lanes are proposed between the following interchanges: 1) northbound direction between Valencia Boulevard and Magic Mountain Parkway, 2) southbound direction between Valencia Boulevard and McBean Parkway, and 3) northbound direction between Calgrove Boulevard and Pico Canyon Road/Lyons Avenue. These auxiliary lanes would provide benefit as stand alone projects and could potentially be implemented prior to the construction of the full project if funding is limited.

APPENDIX A I-5 FREEWAY – 2006 COUNT SUMMARY

I-5 Freeway - 2006 Count Summary

	I-5 SOUTHB	OUND				I-5 NORTHBOUND						
	COUNT			%ADT			COUNT			% <i>P</i>	DT	TOTAL
LOCATION	AM Pk Hr PM Pk Hr		SB ADT	AM	PM	LOCATION	AM Pk Hr	PM Pk Hr	NB ADT	AM	PM	ADT
S/B MAINLINE	1,330	1,970	32,490	4%	6%	N/B MAINLINE	1,210	2,020	32,300	4%	6%	64,79
Lake Hughes SB OFF	160	210	4,800	3%	4%	Lake Hughes NB ON	230	350	7,310	3%	5%	
Lake Hughes SB ON	430	280	6,500	7%	4%	Lake Hughes NB OFF	210	580	6,090	3%	10%	
S/B MAINLINE	1,600	2,040	34,190	5%	6%	N/B MAINLINE	1,190	2,250	31,080	4%	7%	65,27
Parker SB ON	610	380	7,200	8%	5%	Parker NB OFF	380	540	10,960	3%	5%	
S/B MAINLINE	2,210	2,420	41,390	5%	6%	N/B MAINLINE	1,570	2,790	42,040	4%	7%	83,430
Hasley Canyon SB OFF	110	100	1,800	6%	6%	Hasley Canyon NB ON	80	200	2,130	4%	9%	
Hasley Canyon SB ON	1,010	690	9,670	10%	7%	Hasley Canyon NB OFF	680	1,030	10,560	6%	10%	
S/B MAINLINE	3,110	3,010	49,260	6%	6%	N/B MAINLINE	2,170	3,620	50,470	4%	7%	99,730
SR-126 SB OFF	350	270	4,000	9%	7%	SR-126 NB DIRECT ON	150	370	3,540	4%	10%	
SR-126 SB DIRECT ON	650	1,220	13,600	5%	9%	SR-126 NB LOOP ON	80	210	3,860	2%	5%	
SR-126 SB LOOP ON	10	190	2,000	1%	10%	SR-126 NB OFF	1,240	620	12,690	10%	5%	
S/B MAINLINE	3,420	4,150	60,860	6%	7%	N/B MAINLINE	3,340	4,080	63,480	5%	6%	124,34
Old Road/Rye Cyn SB OFF	280	170	4,100	7%	4%							
Old Road/Rye Cyn SB ON	1,060	1,370	13,400	8%	10%							
S/B MAINLINE	4,200	5,350	70,160	6%	8%	N/B MAINLINE	3,340	4,080	63,480	5%	6%	133,640
Magic Mountain SB OFF	350	430	5,500	6%	8%	Magic Mountain NB ON	310	500	8,020	4%	6%	
Magic Mountain SB ON	640	680	11,900	5%	6%	Magic Mountain NB OFF	1,460	1,690	24,460	6%	7%	
S/B MAINLINE	4,490	5,600	76,560	6%	7%	N/B MAINLINE	4,490	5,270	79,920	6%	7%	156,480
Valencia SB OFF	450	300	4,320	10%	7%	Valencia NB LOOP ON	250	250	2,840	9%	9%	
Valencia SB DIRECT ON	430	120	4,100	10%	3%							
Valencia SB LOOP ON	840	1,000	10,760	8%	9%	Valencia NB OFF	1,190	1,030	14,820	8%	7%	
S/B MAINLINE	5,310	6,420	87,100	6%	7%	N/B MAINLINE	5,430	6,050	91,900	6%	7%	179,000
Stevenson Ranch SB OFF	190	520	3,600	5%	14%	McBean NB DIRECT ON	100	130	1,470	7%	9%	
Stevenson Ranch SB DIRECT (390	90	3,720	10%	2%	McBean NB LOOP ON	120	130	2,280	5%	6%	
Stevenson Ranch SB LOOP ON	220	460	6,200	4%	7%	McBean NB OFF	350	820	7,810	4%	10%	
S/B MAINLINE	5,730	6,450	93,420	6%	7%	N/B MAINLINE	5,560	6,610	95,960	6%	7%	189,38
Pico/Lyons SB OFF	480	580	7,800	6%	7%	Lyons NB ON	500	690	9,030	6%	8%	
Pico/Lyons SB LOOP ON	450	270	4,650	10%	6%							
Pico/Lyons SB DIRCT ON	620	320	7,300	8%	4%	Lyons NB OFF	560	1,100	14,920	4%	7%	
S/B MAINLINE	6,320	6,460	97,570	6%	7%	N/B MAINLINE	5,620	7,020	101,850	6%	7%	199,420
Calgrove SB OFF	260	240	2,550	10%	9%	Calgrove NB ON	130	400	3,840	3%	10%	
Calgrove SB ON	550	190	5,330	10%	4%	Calgrove NB OFF	110	350	3,350	3%	10%	
S/B MAINLINE	6,610	6,410	100,350	7%	6%	N/B MAINLINE	5,600	6,970	101,360	6%	7%	201,71
Total I-5 SB OFF (SCV)	2,630	2,820	38,470	7%	7%	Total I-5 NB ON (SCV)	1,950	3,230	44,320	4%	7%	
Total I-5 SB ON (SCV)	7,910	7,260	106,330	7%	7%	Total I-5 NB OFF (SCV)	6,180	7,760	105,660	6%	7%	
I-5 SB to SR-14 NB (OFF)	590	340	6,210	10%	5%	SR-14 SB to I-5 NB	330	650	6,350	5%	10%	
SR-14 SB to I-5 SB (ON)	6,990	3,420	67,200	10%	5%	I-5 NB to SR-14 NB	2,380	7,080	68,680	3%	10%	
S/B TOTAL	13,270	9,180		8%	6%	N/B TOTAL	7,390			5%	8%	325,03
SB - Truck Route	1,820	1,560	26,000	7%	6%	NB - Truck Route	1,560	1,820	26,000	6%	7%	52,00
SB - Mixed Flow Mainline	11,450	7,620	135,200	8%	6%	NB - Mixed Flow Mainline	5,830	11,890	137,830	4%	9%	273,03

APPENDIX B PEAK HOUR VOLUMES BY VEHICLE TYPE AND OCCUPANCY

Table B-1: Peak Hour Traffic Volumes by Vehicle Type and Occupancy – Year 2010

		Southbound				Northbound			
I-5 Segment	Trucks	SOVs	HOVs	Total	Trucks	SOVs	HOVs	Total	
AM Peak Hour									
North of Parker Road	440	1,430	530	2,400	350	1,130	420	1,900	
Between Parker Road & Hasley Canyon Road	510	2,110	780	3,400	350	1,420	530	2,300	
Between Hasley Canyon Road & SR-126	550	2,660	990	4,200	440	2,160	800	3,400	
Between SR-126 & Rye Canyon Road	530	2,610	960	4,100	570	2,800	1,030	4,400	
Between Rye Canyon Road & Magic Mountain Parkway	620	2,910	1,070	4,600	590	2,780	1,030	4,400	
Between Magic Mountain Pkwy & Valencia Boulevard	580	3,080	1,140	4,800	640	3,400	1,260	5,300	
Between Valencia Boulevard & McBean Parkway	590	3,660	1,350	5,600	640	3,990	1,470	6,100	
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	590	3,800	1,410	5,800	630	4,070	1,500	6,200	
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	610	4,230	1,560	6,400	570	3,960	1,470	6,000	
Between Calgrove Boulevard & SR-14	620	4,370	1,610	6,600	550	3,830	1,420	5,800	
South of SR-14	1,190	9,210	3,400	13,800	660	5,140	1,900	7,700	
PM Peak Hour									
North of Parker Road	560	1,780	660	3,000	630	2,020	750	3,400	
Between Parker Road & Hasley Canyon Road	530	2,170	800	3,500	660	2,730	1,010	4,400	
Between Hasley Canyon Road & SR-126	600	2,920	1,080	4,600	650	3,180	1,170	5,000	
Between SR-126 & Rye Canyon Road	700	3,430	1,270	5,400	640	3,110	1,150	4,900	
Between Rye Canyon Road & Magic Mountain Parkway	890	4,170	1,540	6,600	660	3,100	1,140	4,900	
Between Magic Mountain Pkwy & Valencia Boulevard	780	4,180	1,540	6,500	680	3,660	1,360	5,700	
Between Valencia Boulevard & McBean Parkway	750	4,640	1,710	7,100	670	4,180	1,550	6,400	
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	720	4,660	1,720	7,100	690	4,460	1,650	6,800	
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	650	4,490	1,660	6,800	670	4,690	1,740	7,100	
Between Calgrove Boulevard & SR-14	640	4,500	1,660	6,800	670	4,690	1,740	7,100	
South of SR-14	820	6,340	2,340	9,500	1,200	9,270	3,430	13,900	

SOV = Single Occupant Vehicle

Table B-2: Peak Hour Traffic Volumes by Vehicle Type and Occupancy – Year 2015

		South	nbound		Northbound			
I-5 Segment	Trucks	SOVs	HOVs	Total	Trucks	SOVs	HOVs	Total
AM Peak Hour								
North of Parker Road	500	2,040	760	3,300	410	1,670	620	2,700
Between Parker Road & Hasley Canyon Road	610	2,990	1,100	4,700	400	1,970	730	3,100
Between Hasley Canyon Road & SR-126	640	3,400	1,260	5,300	580	3,080	1,140	4,800
Between SR-126 & Rye Canyon Road	590	3,150	1,160	4,900	670	3,600	1,330	5,600
Between Rye Canyon Road & Magic Mountain Parkway	610	3,280	1,210	5,100	670	3,600	1,330	5,600
Between Magic Mountain Pkwy & Valencia Boulevard	620	3,490	1,290	5,400	710	4,010	1,480	6,200
Between Valencia Boulevard & McBean Parkway	640	3,990	1,470	6,100	740	4,570	1,690	7,000
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	600	3,870	1,430	5,900	700	4,530	1,670	6,900
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	630	4,360	1,610	6,600	620	4,290	1,590	6,500
Between Calgrove Boulevard & SR-14	630	4,430	1,640	6,700	570	4,040	1,490	6,100
South of SR-14	1,250	9,670	3,580	14,500	710	5,470	2,020	8,200
PM Peak Hour								
North of Parker Road	620	2,540	940	4,100	710	2,910	1,080	4,700
Between Parker Road & Hasley Canyon Road	610	2,990	1,100	4,700	790	3,880	1,430	6,100
Between Hasley Canyon Road & SR-126	770	4,110	1,520	6,400	780	4,180	1,540	6,500
Between SR-126 & Rye Canyon Road	820	4,370	1,610	6,800	700	3,720	1,380	5,800
Between Rye Canyon Road & Magic Mountain Parkway	970	5,200	1,930	8,100	700	3,720	1,380	5,800
Between Magic Mountain Pkwy & Valencia Boulevard	900	5,040	1,860	7,800	710	4,010	1,480	6,200
Between Valencia Boulevard & McBean Parkway	860	5,360	1,980	8,200	710	4,450	1,640	6,800
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	810	5,250	1,940	8,000	710	4,590	1,700	7,000
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	700	4,890	1,810	7,400	690	4,830	1,780	7,300
Between Calgrove Boulevard & SR-14	700	4,890	1,810	7,400	680	4,760	1,760	7,200
South of SR-14	850	6,610	2,440	9,900	1,210	9,410	3,480	14,100

SOV = Single Occupant Vehicle

Table B-3: Peak Hour Traffic Volumes by Vehicle Type and Occupancy - Year 2030, Constrained Flow Model

Table B-3. Teak Hour Traine volumes by vehicle			bound		Northbound			
I-5 Segment	Trucks	SOVs	HOVs	Total	Trucks	SOVs	HOVs	Total
AM Peak Hour								
North of Parker Road	780	3,270	1,150	5,200	620	2,580	900	4,100
Between Parker Road & Hasley Canyon Road	800	4,370	1,530	6,700	590	3,190	1,120	4,900
Between Hasley Canyon Road & SR-126	760	4,770	1,670	7,200	680	4,310	1,510	6,500
Between SR-126 & Rye Canyon Road	740	4,630	1,630	7,000	720	4,570	1,610	6,900
Between Rye Canyon Road & Magic Mountain Parkway	760	4,770	1,670	7,200	720	4,570	1,610	6,900
Between Magic Mountain Pkwy & Valencia Boulevard	770	4,830	1,700	7,300	750	4,700	1,650	7,100
Between Valencia Boulevard & McBean Parkway	850	5,360	1,890	8,100	800	5,030	1,770	7,600
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	740	5,220	1,840	7,800	710	5,020	1,770	7,500
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	690	4,890	1,720	7,300	670	4,680	1,650	7,000
Between Calgrove Boulevard & SR-14	700	4,960	1,740	7,400	600	4,290	1,510	6,400
South of SR-14	1,520	11,970	4,210	17,700	790	6,220	2,190	9,200
PM Peak Hour								
North of Parker Road	980	4,080	1,440	6,500	1,020	4,280	1,500	6,800
Between Parker Road & Hasley Canyon Road	910	4,950	1,740	7,600	980	5,340	1,880	8,200
Between Hasley Canyon Road & SR-126	960	6,020	2,120	9,100	910	5,760	2,030	8,700
Between SR-126 & Rye Canyon Road	970	6,090	2,140	9,200	810	5,100	1,790	7,700
Between Rye Canyon Road & Magic Mountain Parkway	1,060	6,690	2,350	10,100	810	5,100	1,790	7,700
Between Magic Mountain Pkwy & Valencia Boulevard	1,030	6,490	2,280	9,800	830	5,230	1,840	7,900
Between Valencia Boulevard & McBean Parkway	1,050	6,620	2,330	10,000	870	5,500	1,930	8,300
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	910	6,430	2,260	9,600	800	5,620	1,980	8,400
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	850	5,960	2,090	8,900	800	5,620	1,980	8,400
Between Calgrove Boulevard & SR-14	830	5,900	2,070	8,800	770	5,500	1,930	8,200
South of SR-14	990	7,780	2,730	11,500	1,440	11,290	3,970	16,700

SOV = Single Occupant Vehicle

Table B-4: Peak Hour Traffic Volumes by Vehicle Type and Occupancy - Year 2030, Demand Model

Table B-4. Teak Hour Traine volumes by vehicle			bound		Northbound			
I-5 Segment	Trucks	SOVs	HOVs	Total	Trucks	SOVs	HOVs	Total
AM Peak Hour								
North of Parker Road	860	3,630	1,210	5,700	660	2,800	940	4,400
Between Parker Road & Hasley Canyon Road	940	4,690	1,570	7,200	690	3,460	1,150	5,300
Between Hasley Canyon Road & SR-126	870	5,270	1,760	7,900	760	4,600	1,540	6,900
Between SR-126 & Rye Canyon Road	870	5,270	1,760	7,900	800	4,870	1,630	7,300
Between Rye Canyon Road & Magic Mountain Parkway	920	5,610	1,870	8,400	800	4,870	1,630	7,300
Between Magic Mountain Pkwy & Valencia Boulevard	860	5,800	1,940	8,600	820	5,530	1,850	8,200
Between Valencia Boulevard & McBean Parkway	960	6,480	2,160	9,600	910	6,140	2,050	9,100
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	900	6,450	2,150	9,500	900	6,450	2,150	9,500
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	900	6,450	2,150	9,500	890	6,380	2,130	9,400
Between Calgrove Boulevard & SR-14	900	6,520	2,180	9,600	840	6,040	2,020	8,900
South of SR-14	1,980	15,760	5,260	23,000	1,060	8,430	2,810	12,300
PM Peak Hour								
North of Parker Road	1,080	4,590	1,530	7,200	1,140	4,840	1,620	7,600
Between Parker Road & Hasley Canyon Road	1,080	5,410	1,810	8,300	1,180	5,940	1,980	9,100
Between Hasley Canyon Road & SR-126	1,080	6,540	2,180	9,800	1,060	6,400	2,140	9,600
Between SR-126 & Rye Canyon Road	1,130	6,880	2,290	10,300	980	5,940	1,980	8,900
Between Rye Canyon Road & Magic Mountain Parkway	1,330	8,080	2,690	12,100	980	5,940	1,980	8,900
Between Magic Mountain Pkwy & Valencia Boulevard	1,210	8,170	2,720	12,100	950	6,410	2,140	9,500
Between Valencia Boulevard & McBean Parkway	1,300	8,770	2,930	13,000	1,030	6,950	2,320	10,300
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	1,170	8,350	2,780	12,300	1,000	7,120	2,380	10,500
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	1,130	8,080	2,690	11,900	1,040	7,390	2,470	10,900
Between Calgrove Boulevard & SR-14	1,100	7,950	2,650	11,700	1,030	7,480	2,490	11,000
South of SR-14	1,330	10,630	3,540	15,500	1,920	15,280	5,100	22,300

SOV = Single Occupant Vehicle

APPENDIX C EARLY IMPLEMENTATION PROJECTS TRAFFIC ANALYSIS

I-5 PA&ED HOV & TRUCK LANES EARLY IMPLEMENTATION PROJECTS (EIP) TRAFFIC ANALYSIS

07-LA-5, PM R 45.5/R 59.0 EA 2332E0

Southbound Truck Climbing Lane EA 2332A Northbound HOV Lane Extension EA 2332C

Prepared for:

The California Department of Transportation

July 9, 2007

Prepared By: DMJM Harris 999 Town & Country Road Orange, CA 92868

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	Southbound Truck Lane Volume Calculations
	HCS2000 Report Sheets Southbound Truck Climbing Lane Analysis

Northbound HOV Lane Extension Analysis

INTRODUCTION

This traffic analysis evaluates the traffic impact of two early implementation projects (EIP) from the I-5 PA&ED Truck & HOV Lane Widening Improvements from SR-14 to the Parker Road Interchange (07-LA-5, PM R 45.4/R 59.0, EA 2332E0). The two early implementation components are the extension of the northbound HOV lane on I-5 from the SR-14 interchange north to the summit (EA 2332C) and a truck climbing lane southbound from the Lyons Canyon/Pico Canyon Road interchange to the SR-14 interchange (EA 2332A). The analysis conducted considered the following three scenarios:

- 1. Existing 2006 Conditions
- 2. 2010 Conditions with No Improvements
- 3. 2010 Conditions with Improvements

Vehicle counts were obtained from "I-5 HOV and Truck Lanes Projects – SR-14 to Parker Road Traffic Volume Data Summary," prepared by Austin-Foust and Associates, Inc. A copy of the count information from the document is provided in the Appendix. The existing counts given in the document were obtained from multiple sources, including published Caltrans data and field surveys by Austin-Foust Associates, Inc. and Korve Engineering, Inc. Future year forecasts were obtained from the Santa Clarita Valley Consolidated Traffic Model (SCVCTM). The SCVCTM was developed jointly by the County of Los Angeles Department of Public Works and the City of Santa Clarita. The model is the primary tool used by both agencies for transportation planning in this area.

The analysis was accomplished with HCS2000 software using the freeways module. Two freeway sections for each improvement were analyzed for each scenario. The next two sections describe the details of the analyses followed by the results of the analyses.

TRUCK CLIMBING LANE ANALYSIS DETAILS

A truck climbing lane is proposed to be added to the existing four lane southbound facility. The analysis uses counts obtained 1) between Lyons Avenue/Pico Canyon Road and Calgrove Boulevard and 2) between Calgrove Boulevard and SR-14. These two sections were analyzed considering each of the analysis scenarios.

It was assumed that most of the trucks would remain in the outermost lane as they climbed up the grade. However, not all trucks are heavily loaded and will enter the inner lanes in order to pass slow moving trucks. The outermost lane was removed from the analysis of all the scenarios and the trucks anticipated to use that lane were subtracted from the volume. However, in order to represent the lighter trucks passing in the inner lanes a small percentage of trucks was used in the analysis. Approximately 20% of the trucks (2% of the total traffic stream) were assumed to use the inner lanes of the freeway. Tables summarizing these calculations are provided in the Appendix.

To summarize, an analysis of one less lane was done instead of the total number of lanes and the volume was reduced to reflect the trucks that would use the outermost lane. The number of trucks in the outermost lane is not expected to reach the capacity of the truck lane, estimated at 1200 trucks per hour, by 2010. This was done for all scenarios; thus, the outermost lane is considered the truck climbing lane even in the existing and 2010 no improvements scenarios.

The grades used for the two sections analyzed were provided by Caltrans (California Department of Transportation).

HOV LANE EXTENSION ANALYSIS DETAILS

This analysis included two sections: 1) between the off-ramp to SR-14 northbound and the on-ramp from the SR-14 southbound and 2) between the on-ramp from SR-14 southbound and the truck route on-ramp.

Volume data was not available for the two sections listed above. However, by subtracting known off-ramp data and adding known on-ramp data the mainline volumes in these sections were determined for the existing condition. Model data for the on/off-ramps in 2010 was not available; thus, the process used for the existing conditions could not be repeated for the 2010 scenarios. However, the ramp volumes were estimated by calculated the percent change between the existing mainline volumes and 2010 model mainline volumes and then applying the same percent change to the ramp volumes. The same process was then used to obtain the 2010 volumes in the sections desired for the analysis.

The analysis of the existing and 2010 with no improvements was a straight forward three lane section analysis. The 2010 scenario with improvements was analyzed as a four lane freeway even though the added lane was a HOV lane. Based on an occupancy study conducted in April 2005, Korve Engineering employees found that eligible vehicles for the HOV lane make up 27% of the total volume. It is expected that the maximum percentage of volume in the HOV lane of a four lane freeway would be 25%. Any greater proportion of the volume would result in a negative benefit for eligible vehicles. Therefore, eligible motorists would chose to use the mixed flow lanes instead of the HOV lane.

RESULTS OF THE ANALYSIS

An HCM Level of Service (LOS) analysis was used to compare the impacts of the study scenarios. The detailed report sheets are provided in the Appendix. LOS is a quality measure describing operation conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six LOS are defined for each type of facility that has analysis procedures available. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each LOS



represents a range of operating conditions and the driver's perception of those conditions. The LOS for a basic freeway segment is based on density given in units of passenger cars per mile per lane (1). The LOS thresholds are given in Table 1.

TABLE 1 LOS Thresholds for a Basic Freeway Segment (1)

LOS	Density Range (pc/mi/ln)
Α	(pc/m/m) 0-11
В	>11-18
C	>18-26
D	>26-35
E	>35-45
F	>45

The results of analysis of the truck lane addition to southbound I-5 are provided in Table 2. The approach of the analysis was to assume that one lane was not usable by passenger cars because of slow moving trucks. The analysis was done by subtracting most of the trucks from the volume and subtracting one lane. For example, the 2006 existing condition was analyzed as a three lane freeway with 2% percent trucks. The analysis based on the methodology is anticipated to be representative of actual conditions in this segment of I-5. Based on this analysis the addition of a truck lane will improve the peak hour operating conditions in 2010 from LOS E and F to LOS C and D.

TABLE 2
Southbound Truck Lane Addition LOS Analysis Results

Freeway Section	n		een Lyons grove Blvd	SB Between Calgrove Blvd & SR-14		
Peak Hour		AM PM		AM	PM	
	LOS	E	\mathbf{E}	F	F	
2006 Existing	Density (pc/mi/ln)	35.5	38.3	*	*	
	Ave pc Speed (mph)	61.1	58.6	*	*	
2010 No	LOS	E	\mathbf{E}	F	F	
Improvements	Density (pc/mi/ln)	36.4	43.3	*	*	
improvements	Ave pc Speed (mph)	60.3	54.6	*	*	
2010 With Truck Lane	LOS	C	D	D	D	
	Density (pc/mi/ln)	23.8	26.1	27.5	29.3	
Truck Lane	Ave pc Speed (mph)	69.2	68.1	67.3	66.0	

^{*}Density and average passenger car speed are not calculated when LOS F.

As shown in Table 2, the addition of a southbound truck lane is expected to improve the 2010 operating conditions from an unacceptable (LOS E or F) to an acceptable (LOS C or D) service level. The single truck lane is expected to operate at an acceptable level of service. The highest flow rate is expected to be about 410 trucks per hour. Capacity of a truck lane in the grapevine was measured by Caltrans to be 1200 trucks per hour. Based on this capacity, the truck lane is expected to have a volume-to-capacity ratio of 0.34.

The results of the HOV lane extension analysis are provided in Table 3. The analysis shows that extending the HOV lane will generally improve the operating conditions by one service level during the peak hours in 2010.

TABLE 3
Northbound HOV Lane Extension LOS Analysis Results

			n Off-Ramp		en On-ramp
Freeway Section	n	to SR-14 &	& On-Ramp	From SR-	14 & Truck
		From	SR-14	Route (On-Ramp
Peak Hour		AM	PM	AM	PM
	LOS	В	C	C	D
2006 Existing	Density (pc/mi/ln)	17.8	25.4	19.5	30.2
	Ave pc Speed (mph)	70.0	68.5	70.0	65.3
2010 No	LOS	C	C	C	D
Improvements	Density (pc/mi/ln)	18.6	25.9	20.4	30.9
improvements	Ave pc Speed (mph)	B C C c/mi/ln) 17.8 25.4 19.5 eed (mph) 70.0 68.5 70.0 C C C c/mi/ln) 18.6 25.9 20.4 eed (mph) 70.0 68.2 69.9 B C B c/mi/ln) 13.9 18.9 15.3	64.8		
2010 W:4b	LOS	В	C	В	C
2010 With	Density (pc/mi/ln)	13.9	18.9	15.3	21.5
Improvements	Ave pc Speed (mph)	70.0	70.0	70.0	69.8

REFERENCES

1. Highway Capacity Manual 2000. Transportation Research Board, National Research Council, Washington, D.C., 2000, pp. 2-2 – 2-3.

APPENDIX

I-5 HOV and Truck Lanes Projects – SR-14 to Parker Road Traffic Volume Data Summary

Southbound Truck Lane Volume Calculations

HCS2000 Report Sheets

Southbound Truck Climbing Lane Analysis Northbound HOV Lane Extension Analysis

I-5 HOV and Truck Lanes Projects – SR-14 to Parker Road Traffic Volume Data Summary

Table 2: Existing (2006) Traffic Volumes

	% Trucks	AM Pea	kHour	PM Pea	k Hour		
I-5 Segment	(Daily)	SB	NB	SB	NB	ADT	
North of Parker Road	26.6%	1,600	1,190	2,040	2,250	65,000	
Between Parker Road & Hasley Canyon Road	20.8%	2,210	1,570	2,420	2,790	83,000	
Between Hasley Canyon Road & SR-126	17.3%	3,110	2,170	3,010	3,620	100,000	
Between SR-126 & Rye Canyon Road	15.3%	3,420	3,340	4,150	4,080	124,000	
Between Rye Canyon Road & Magic Mountain Parkway	14.2%	4,200	3,340	5,350	4,080	134,000	
Between Magic Mountain Parkway & Valencia Boulevard	12.2%	4,490	4,490	5,600	5,270	156,000	
Between Valencia Boulevard & McBean Parkway	10.6%	5,310	5,430	6,420	6,050	179,000	
Between McBean Parkway & Lyons Avenue/Pico Canyon Road	10.1%	5,730	5,560	6,450	6,610	189,000	
Between Lyons Avenue/Pico Canyon Road & Calgrove Blvd.	9.5%	6,320	5,620	6,460	7,020	199,000	
Between Calgrove Boulevard & SR-14	9.4%1	6,610	5,600	6,410	6,970	202,000	
South of SR-14	5.8%	13,270	7,390	9,180	13,710	325,000	

¹ Peak Hour Truck Percentages (2005 Survey): AM NB = 7.0%; AM SB = 8.2%; PM NB = 6.5%; PM SB = 6.7%

Sources:

Korve Engineering, Mainline Counts (Peak Hour), April 2005 Austin-Foust Associates, Inc., Ramp Counts (Peak Hour), 2004-2006

Korve Engineering, Mainline Truck Counts (Peak Hour), April 2005

Caltrans, Mainline AADT, 2005 Caltrans, Ramp Volumes ADT, 2005 Caltrans, AADT Daily Truck Traffic, 2004

Caltrans, Count Station Data (Hourly), 2003

Table 8: Year 2010 - Early Implementation Project Opening Day Forecasts

	AM Pe	ak Hour	PM Pe	PM Peak Hour		
I-5 Segment	SB	NB	SB	NB	ADT	
North of Parker Road	2,400	1,900	3,000	3,400	100,000	
Between Parker Road & Hasley Canyon Road	3,400	2,300	3,500	4,400	122,000	
Between Hasley Canyon Road & SR-126	4,200	3,400	4,600	5,000	138,000	
Between SR-126 & Rye Canyon Road	4,100	4,400	5,400	4,900	146,000	
Between Rye Canyon Road & Magic Mountain Parkway	4,600	4,400	6,600	4,900	160,000	
Between Magic Mountain Pkwy & Valencia Boulevard	4,800	5,300	6,500	5,700	176,000	
Between Valencia Boulevard & McBean Parkway	5,600	6,100	7,100	6,400	194,000	
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	5,800	6,200	7,100	6,800	204,000	
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	6,400	6,000	6,800	7,100	206,000	
Between Calgrove Boulevard & SR-14	6,600	5,800	6,800	7,100	214,000	
South of SR-14	13,800	7,700	9,500	13,900	394,000	

·····

Source: SCVCTM Ver. 4.1

Table 9: Year 2015 - Full Project Opening Day Forecasts

	AM Pe	ak Hour	PM Pea		
I-5 Segment	SB	NB	SB	NB	ADT
North of Parker Road	3,300	2,700	4,100	4,700	137,000
Between Parker Road & Hasley Canyon Road	4,700	3,100	4,700	6,100	163,000
Between Hasley Canyon Road & SR-126	5,300	4,800	6,400	6,500	179,000
Between SR-126 & Rye Canyon Road	4,900	5,600	6,800	5,800	171,000
Between Rye Canyon Road & Magic Mountain Parkway	5,100	5,600	8,100	5,800	191,000
Between Magic Mountain Pkwy & Valencia Boulevard	5,400	6,200	7,800	6,200	203,000
Between Valencia Boulevard & McBean Parkway	6,100	7,000	8,200	6,800	216,000
Between McBean Pkwy & Lyons Ave./Pico Canyon Rd.	5,900	6,900	8,000	7,000	226,000
Between Lyons Ave./Pico Canyon Rd. & Calgrove Blvd.	6,600	6,500	7,400	7,300	220,000
Between Calgrove Boulevard & SR-14	6,700	6,100	7,400	7,200	229,000
South of SR-14	14,500	8,200	9,900	14,100	471,000

Source: SCVCTM Ver. 4.1

Southbound Truck Lane Volume Calculations

2006 Existing Southbound Traffic on I-5

			AM		Remaining			PM		Remaining
Section	Volume (veh/hr)	Total % Trucks	% Trucks to use outermost lane	Number of trucks to use outermost lane (tr/hr)	volume to use inner lanes	Volume (veh/hr)	Total % Trucks	% Trucks to use outermost lane	Number of trucks to use outermost lane (tr/hr)	volume to use inner lanes
SB Between Lyons Ave & Calgrove Blvd	6320	8.2%	6.2%	392	5928	6460	6.7%	4.7%	304	6156
SB Between Calgrove Blvd & SR-14	6610	8.2%	6.2%	410	6200	6410	6.7%	4.7%	301	6109

2010 Southbound Traffic on I-5

	AM			Remaining	Remaining PM				Remaining	
Section	Volume (veh/hr)	Total % Trucks	% Trucks to use outermost lane	Number of trucks to use outermost lane (tr/hr)	volume to use inner lanes	Volume (veh/hr)	Total % Trucks	% Trucks to use outermost lane	Number of trucks to use outermost lane (tr/hr)	volume to use inner lanes
SB Between Lyons Ave & Calgrove Blvd	6400	8.2%	6.2%	397	6003	6800	6.7%	4.7%	320	6480
SB Between Calgrove Blvd & SR-14	6600	8.2%	6.2%	409	6191	6800	6.7%	4.7%	320	6480

HCS2000 Report Sheets

Southbound Truck Climbing Land Analysis Northbound HOV Lane Extension Analysis

Southbound Truck Climbing Lane Analysis

SB AM Between Lyons Ave & Calgrove Blvd.txt

HCS2000: Basic Freeway Segments Release 4.1f

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E-mail: Iseegmiller@korve.com				
Operational Analys	si s			
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: Jurisdiction: Analysis Year: Description: Removing Luke Seegmiller Korve/DMJM Harris 1/25/2007 AM Peak I -5/SB Between Lyons Ave 8 Existing 2006 Description: Removing Lane for trucks	& Calgrove B			
Flow Inputs and Ad	djustments			
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	5928 0. 97 1528 2 0 Level 0. 00 0. 00 1. 5 1. 2 0. 990 0. 95 2166	veh/h v % % mi pc/h/I n		
Speed Inputs and A	Adjustments			
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	12. 0 6. 0 0. 50 3 Measured 70. 0 0. 0 0. 0 0. 0 3. 0 70. 0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h		
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D Level of service, LOS	2166 70. 0 61. 1 3 35. 5 E	pc/h/ln mi/h mi/h pc/mi/ln		

SB PM Between Lyons Ave & Calgrove Blvd.txt

HCS2000: Basic Freeway Segments Release 4.1f

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	Operational Analys	i s	
Analysis Time Period:	1/25/2007	Cal grove B	
Analysis Year: Description: Removing			
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment Length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	ET CE, ER nt, fHV	6156 0.97 1587 2 0 Level 0.00 0.00 1.5 1.2 0.990 0.95 2249	veh/h v % % mi

Flow rate, vp	2249	pc/h/l n
Speed Inputs	and Adiustments	

Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N	12. 0 6. 0 0. 50 3	ft ft i nterchange/mi
Free-flow speed:	Measured	m: /la
FFS or BFFS Lane width adjustment, fLW	70. 0 0. 0	mi/h mi/h
Lateral clearance adjustment, fLC	0. 0	mi /h
Interchange density adjustment, fID Number of Lanes adjustment, fN	0. 0 3. 0	mi/h mi/h
Free-flow speed, FFS	70. 0	mi /h
	Urban Freeway	

____LOS and Performance Measures__

Flow rate, vp Free-flow speed, FFS		2249 70. 0	pc/h/ln mi/h
Average passenger-car speed, 5	S	, 0, 0	mi /h
Number of Lanes, N	5	3	1111 / 11
Density, D		38. 3	pc/mi/In
Level of service, LOS		E	

SB AM Between Calgrove Blvd & SR-14.txt

HCS2000: Basic Freeway Segments Release 4.1f

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E-mail: Iseegmiller@korve.com	TAX. 001-304	-2147
Operation	al Analysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: Removing lane for tr	l Harris Ilgrove Blvd & SR-14	
Flow Inpu	its and Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	6200 0. 97 1598 2 0 Grade 5. 10 1. 84 6. 0 6. 0 0. 909 0. 95 2467	veh/h v % % mi pc/h/l n
Speed Inp	outs and Adjustments	
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fl Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	ft ft i nterchange/mi mi /h
LOS and P	erformance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D Level of service, LOS	2467 70. 0 3 F	pc/h/ln mi/h mi/h pc/mi/ln

SB PM Between Calgrove Blvd & SR-14.txt

HCS2000: Basic Freeway Segments Release 4.1f

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E-mail: Iseegmiller@korve.com	1 d.X. 001 007	2117
Operati onal	Anal ysi s	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: Removing lane for truck	rris rove Blvd & SR-14	
Flow Inputs	and Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	6109 0.97 1574 2 0 Grade 5.10 1.84 6.0 6.0 0.909 0.95 2431	veh/h V % % mi pc/h/l n
Speed Inputs	and Adjustments	
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Perf	ormance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D Level of service, LOS	2431 70. 0 3 F	pc/h/l n mi /h mi /h pc/mi /l n

SB AM Between Lyons Ave & Calgrove Blvd.txt

HCS2000: Basic Freeway Segments Release 4.1f

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Phone: 801-569-2131 E-mail: Iseegmiller@korve.com	Fax: 801-569-	2149
Operational Analys	si s	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: Jurisdiction: Analysis Year: Description: Removing Luke Seegmiller Korve/DMJM Harris 1/25/2007 AM Peak I-5/SB Between Lyons Ave 8 2010 No Improvement truck lane	· ·	
Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	6003 0. 97 1547 2 0 Level 0. 00 0. 00 1. 5 1. 2 0. 990 0. 95 2193	veh/h v % % mi pc/h/I n
Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 70.0 Urban Freeway	ft ft i nterchange/mi mi /h
LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D Level of service, LOS	2193 70. 0 60. 3 3 36. 4 E	pc/h/l n mi /h mi /h pc/mi /l n

SB PM Between Lyons Ave & Calgrove Blvd.txt

HCS2000: Basic Freeway Segments Release 4.1f

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201_560_21/0

Phone: 801-569-2131 E-mail: Iseegmiller@korve.com	Fax: 801-569-	2149
Operational Analys	ii s	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: Removing Luke Seegmiller Korve/DMJM Harris 1/25/2007 PM Peak I-5/SB Between Lyons Ave & 2010 No Improvement	_	
Flow Inputs and Ad	liustments	
Volume, V Peak-hour factor, PHF	6480 0. 97	veh/h
Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment Length Trucks and buses PCE, ET	1670 2 0 Level 0.00 0.00 1.5	V % % mi
Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	1. 2 0. 990 0. 95 2367	pc/h/l n
Speed Inputs and A	djustments	
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed:	12.0 6.0 0.50 3 Measured	ft ft interchange/mi
FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D Level of service, LOS	2367 70.0 54.6 3 43.3 E	pc/h/ln mi/h mi/h pc/mi/ln

SB AM Between Calgrove Blvd & SR-14.txt

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__Operational Analysis___

Anal yst: Luke Seegmiller Agency or Company: Date Performed: Korve/DMJM Harris

1/25/2007 Analysis Time Period: AM Peak Freeway/Di recti on: I-5/SB

From/To: Between Calgrove Blvd & SR-14

Juri sdi cti on: Analysis Year: 2010 No Improvements

Description: Removing truck lane

FI ow	Inputs and Adjustments		
Volume, V Peak-hour factor, PHF	6191 0. 97	veh/h	

Peak-hour factor, PHF	0. 97	
Peak 15-min volume, v15	1596	V
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Grade	
Grade	5. 10	%
Segment Length	1. 84	mi
Trucks and buses PCE, ET	6. 0	
Recreational vehicle PCE, ER	6. 0	
Heavy vehicle adjustment, fHV	0. 909	
Driver population factor, fp	0. 95	
Flow rate, vp	2463	pc/h/l n

____Speed Inputs and Adjustments___

Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed:	12.0 6.0 0.50 3 Measured	ft ft i nterchange/mi
FFS or BFFS	70. 0	mi/h
Lane width adjustment, fLW	0. 0	mi/h
Lateral clearance adjustment, fLC	0. 0	mi/h
Interchange density adjustment, fID	0. 0	mi/h
Number of lanes adjustment, fN	3. 0	mi/h

Number of lanes adjustment, fN Free-flow speed, FFS 3. 0 70. 0 mi/h Urban Freeway

____LOS and Performance Measures_

Flow rate, vp Free-flow speed, FFS	2463 70. 0	pc/h/ln mi/h
Average passenger-car speed, S	70.0	mi/h
Number of Lanes, N	3	
Density, D	_	pc/mi/ln
Level of service, LOS	F	

SB PM Between Calgrove Blvd & SR-14.txt

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___Operational Analysis___

Anal yst: Luke Seegmiller Agency or Company: Date Performed: Korve/DMJM Harris

1/25/2007 Analysis Time Period: PM Peak Freeway/Di recti on: I-5/SB

From/To: Between Calgrove Blvd & SR-14

Juri sdi cti on: Analysis Year: 2010 No Improvements

Description: Removing truck lane

_Flow Inputs and Adjustments____

Volume, V	6480	veh/h
Peak-hour factor, PHF	0. 97	
Peak 15-min volume, v15	1670	V
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Grade	
Grade	5. 10	%
Segment Length	1. 84	mi
Trucks and buses PCE, ET	6. 0	
Recreational vehicle PCE, ER	6. 0	
Heavy vehicle adjustment, fHV	0. 909	
Driver population factor, fp	0. 95	
Flow rate, vp	2578	pc/h/l n

_____Speed Inputs and Adjustments_____

Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed:	12.0 6.0 0.50 3 Measured	ft ft i nterchange/mi
FFS or BFFS	70. 0	mi/h
Lane width adjustment, fLW	0. 0	mi /h
Lateral clearance adjustment, fLC	0. 0	mi/h
Interchange density adjustment, flD	0. 0	mi/h
Number of lanes adjustment, fN	3. 0	mi/h
Free-flow speed, FFS	70. 0	mi/h

____LOS and Performance Measures_

Urban Freeway

Flow rate, vp Free-flow speed, FFS	2578 70. 0	pc/h/l n mi/h
Average passenger-car speed, S Number of Lanes, N	3	mi /h
Density, D Level of service, LOS	F	pc/mi/ln

SB AM Between Lyons Ave & Calgrove Blvd.txt

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Operational Analys	si s			
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: Jurisdiction: Analysis Year: Description: Agency or Company: Korve/DMJM Harris Analysis Time Period: All Peak I -5/SB Between Lyons Ave All 2010 With EIP Description: Removing truck lane	& Calgrove B			
Flow Inputs and Ad	djustments			
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	6003 0. 97 1547 2 0 Level 0. 00 0. 00 1. 5 1. 2 0. 990 0. 95 1645	veh/h v % % mi pc/h/l n		
Speed Inputs and Adjustments				
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	ft ft i nterchange/mi mi /h		
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D Level of service, LOS	1645 70. 0 69. 2 4 23. 8 C	pc/h/ln mi/h mi/h pc/mi/ln		

Overall results are not computed when free-flow speed is less than 55 mph.

SB PM Between Lyons Ave & Calgrove Blvd.txt

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Operational Analys	si s		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: Jurisdiction: Analysis Year: Description: Removing Luke Seegmiller Korve/DMJM Harris 1/25/2007 PM Peak I-5/SB Between Lyons Ave 8 2010 With EIP Description: Removing truck lane	& Calgrove B		
Flow Inputs and Ad	djustments		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	6480 0. 97 1670 2 0 Level 0. 00 0. 00 1. 5 1. 2 0. 990 0. 95 1776	veh/h v % % mi pc/h/I n	
Speed Inputs and A	Adjustments		
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h	
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D Level of service, LOS	1776 70. 0 68. 1 4 26. 1 D	pc/h/ln mi/h mi/h pc/mi/ln	

SB AM Between Calgrove Blvd & SR-14.txt

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Operational Analys	si s		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: Agency or Company: Korve/DMJM Harris 1/25/2007 AM Peak I -5/SB Between Calgrove Bl 2010 With EIP Description: Removing truck lane	vd & SR-14		
Flow Inputs and Ad	djustments		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	6191 0.97 1596 2 0 Grade 5.10 1.84 6.0 6.0 0.909 0.95 1848	veh/h v % % mi pc/h/l n	
Speed Inputs and A	Adjustments		
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, fID Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	ft ft i nterchange/mi mi /h	
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D Level of service, LOS	1848 70. 0 67. 3 4 27. 5 D	pc/h/l n mi /h mi /h pc/mi /l n	

SB PM Between Calgrove Blvd & SR-14.txt

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Operational Analys	si s		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: Jurisdiction: Analysis Year: Description: Removing Luke Seegmiller Korve/DMJM Harris 1/25/2007 PM Peak I -5/SB Between Calgrove Bl 2010 With EIP Description: Removing truck lane	vd & SR-14		
Flow Inputs and Ad	djustments		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	6480 0. 97 1670 2 0 Grade 5. 10 1. 84 6. 0 6. 0 0. 909 0. 95 1934	veh/h v % % mi pc/h/l n	
Speed Inputs and A	Adjustments		
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, flD Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	ft ft i nterchange/mi mi /h	
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D Level of service, LOS	1934 70. 0 66. 0 4 29. 3 D	pc/h/l n mi /h mi /h pc/mi /l n	

Northbound HOV Lane Extension Analysis

NB AM Between Off Ramp To SR-14 NB & On Ramp from SR-14 SB.txt

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	Operational Analys	si s	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description:	Luke Seegmiller Korve/DMJM Harris 1/25/2007 AM Peak I-5/NB SR-14 Off to SR-14 Existing 2006	On-Ramp	
·	Flow Inputs and Ac	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment Length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	3450 0.97 889 0 0 Grade 4.43 0.59 3.5 4.5 1.000 0.95 1248	veh/h v % % mi pc/h/I n
Speed Inputs and Adjustments			
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	ft ft i nterchange/mi mi /h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1248 70. 0 70. 0 3 17. 8 B	pc/h/ln mi/h mi/h pc/mi/ln

NB PM Between Off Ramp To SR-14 NB & On Ramp from SR-14 SB.txt

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Operational A	Anal ysi s		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: Luke Seegmille Korve/DMJM Har 1/25/2007 PM Peak 1-5/NB SR-14 Off to S Existing 2006	rri s		
Flow Inputs a	and Adjustments		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	4810 0.97 1240 0 0 Grade 4.43 0.59 3.5 2.0* 1.000 0.95 1740	veh/h v % % mi pc/h/I n	
Speed Inputs	and Adjustments		
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fLC Interchange density adjustment, flD Number of lanes adjustment, fN Free-flow speed, FFS	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h	
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D Level of service, LOS	1740 70. 0 68. 5 3 25. 4	pc/h/l n mi /h mi /h pc/mi /l n	

NB AM Between On Ramp From SR-14 SB & Truck Route On Ramp.txt

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	Operational Analys	ii s		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description:	Luke Seegmiller Korve/DMJM Harris 1/25/2007 AM Peak I-5/NB SR-14 On Ramp & Tru Existing 2006	ock Rte On		
	Flow Inputs and Ad	ljustments		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	3780 0.97 974 0 0 Grade 4.53 0.51 3.5 4.5 1.000 0.95 1367	veh/h v % % mi pc/h/l n	
Speed Inputs and Adjustments				
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	ft ft i nterchange/mi mi /h	
	LOS and Performanc	e Measures		
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1367 70.0 70.0 3 19.5 C	pc/h/ln mi/h mi/h pc/mi/ln	

$NB\ PM\ Between\ On\ Ramp\ From\ SR-14\ SB\ \&\ Truck\ Route\ On\ Ramp.\ txt$

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Operation	onal Analysis
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: Luke See Korve/DM. 1/25/2007 PM Peak I -5/NB SR-14 On Existing	M Harris Ramp & Truck Rte On
Flow In	outs and Adjustments
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	5460 veh/h 0. 97 1407 v 0 % 0 % Grade 4. 53 % 0. 51 mi 3. 5 4. 5 1. 000 0. 95 1975 pc/h/l n
Speed Ir	nputs and Adjustments
Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustment, fL(Interchange density adjustment, fN Number of lanes adjustment, fN Free-flow speed, FFS	12.0 ft 6.0 ft 0.50 interchange/mi 3 Measured 70.0 mi/h 0.0 mi/h 0.0 mi/h 0.0 mi/h 3.0 mi/h 70.0 mi/h Urban Freeway
LOS and	Performance Measures
Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S Number of lanes, N Density, D Level of service, LOS	1975 pc/h/l n 70.0 mi /h 65.3 mi /h 3 30.2 pc/mi /l n D

NB AM Between Off Ramp To SR-14 NB & On Ramp from SR-14 SB.txt

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Phone: 801-569-2131 E-mail: Iseegmiller@ko	rve.com	Fax: 801-569-	2149	
	Operational Analys	si s		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description:	Luke Seegmiller Korve/DMJM Harris 1/25/2007 AM Peak I-5/NB SR-14 Off To SR-14 2010 No Improvement	·		
	Flow Inputs and Ad	ljustments		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment Length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	3595 0.97 927 0 0 Grade 4.43 0.59 3.5 4.5 1.000 0.95 1300	veh/h v % % mi pc/h/l n	
	Speed Inputs and A	djustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	ft ft i nterchange/mi mi /h	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1300 70. 0 70. 0 3 18. 6 C	pc/h/ln mi/h mi/h pc/mi/ln	

NB PM Between Off Ramp To SR-14 NB & On Ramp from SR-14 SB.txt

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Phone: 801-569-2131 E-mail: Iseegmiller@ko	rve.com	Fax: 801-569-	2149
	Operational Analys	si s	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description:	Luke Seegmiller Korve/DMJM Harris 1/25/2007 PM Peak I-5/NB SR-14 Off to SR-14 2010 No Improvement	·	
	Flow Inputs and Ac	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment Length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4877 0.97 1257 0 0 Grade 4.43 0.59 3.5 4.5 1.000 0.95	veh/h v % % mi pc/h/l n
	Speed Inputs and A	ndjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	ft ft i nterchange/mi mi /h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1764 70. 0 68. 2 3 25. 9	pc/h/ln mi/h mi/h pc/mi/ln

NB AM Between On Ramp From SR-14 SB & Truck Route On Ramp.txt

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Phone: 801-569-2131 E-mail: Iseegmiller@ko	rve.com	Fax: 801-569-	2149
	Operational Analys	si s	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description:	Luke Seegmiller Korve/DMJM Harris 1/25/2007 AM Peak I-5/NB SR-14 On Ramp & Tru 2010 No Improvement		
	Flow Inputs and Ac	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment Length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	3939 0.97 1015 0 0 Grade 4.53 0.51 3.5 4.5 1.000 0.95 1425	veh/h v % % mi pc/h/I n
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 Urban Freeway	ft ft i nterchange/mi mi /h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1425 70. 0 69. 9 3 20. 4 C	pc/h/ln mi/h mi/h pc/mi/ln

NB PM Between On Ramp From SR-14 SB & Truck Route On Ramp.txt

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Salt Lake City Office Korve Engineering 935 E. South Union Avenue Suite D203 Midvale IIT 84047

Mi dval e, UT 84047 Phone: 801-569-2131 Fax: 801-569-2149

Phone: 801-569-2131 E-mail: Iseegmiller@ko	rve.com	Fax: 801-569-	2149
	Operational Analys	si s	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description:	Luke Seegmiller Korve/DMJM Harris 1/25/2007 PM Peak I-5/NB SR-14 On Ramp & Tru 2010 No Improvement		
·	Flow Inputs and Ac	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment Length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5536 0. 97 1427 0 0 Grade 4. 53 0. 51 3. 5 4. 5 1. 000 0. 95 2003	veh/h v % % mi pc/h/I n
	Speed Inputs and A	Ndjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2003 70. 0 64. 8 3 30. 9 D	pc/h/ln mi/h mi/h pc/mi/ln

NB AM Between Off Ramp To SR-14 NB & On Ramp from SR-14 SB.txt

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Phone: 801-569-2131 Fax: 801-569-2149

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_____Operational Analysis_____

Analyst: Luke Seegmiller
Agency or Company: Korve/DMJM Harris
Date Performed: 1/25/2007

Date Performed: 1/25/2007 Analysis Time Period: AM Peak Freeway/Direction: I-5/NB

Freeway/Direction: I-5/NB From/To: SR-14 Off and SR-14 On-Ramp

Juri sdi cti on: Anal ysi s Year: 2010 Wi th EIP

Description:

 Flow	Inputs	and	Adjustments_	
	'		_	

Volume, V Peak-hour factor, PHF	3595 0. 97	veh/h
Peak 15-min volume, v15	927	V
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Grade	
Grade	4. 43	%
Segment Length	0. 59	mi
Trucks and buses PCE, ET	3. 5	
Recreational vehicle PCE, ER	4. 5	
Heavy vehicle adjustment, fHV	1. 000	
Driver population factor, fp	0. 95	
Flow rate, vp	975	pc/h/l n

_____Speed Inputs and Adjustments_____

Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N	12. 0 6. 0 0. 50 4	ft ft i nterchange/mi
Free-flow speed: FFS or BFFS	Measured 70.0	mi /h
Lane width adjustment, fLW	0. 0	mi /h
Lateral clearance adjustment, fLC Interchange density adjustment, fID	0. 0 0. 0	mi/h mi/h
Number of lanes adjustment, fN Free-flow speed, FFS	1. 5 70. 0	mi/h mi/h

_____LOS and Performance Measures_____

Urban Freeway

Flow rate, vp Free-flow speed, FFS Average passenger-car speed, S	975 70. 0 70. 0	pc/h/ln mi/h mi/h
Number of Lanes, N	4	1111 7 11
Density, D Level of service, LOS	13. 9 B	pc/mi/ln

NB PM Between Off Ramp To SR-14 NB & On Ramp from SR-14 SB.txt

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Phone: 801-569-2131 Fax: 801-569-2149

E-mail: Iseegmiller@korve.com

Average passenger-car speed, S

Number of Lanes, N

Density, D

__Operational Analysis__ Anal yst: Luke Seegmiller Agency or Company: Korve/DMJM Harris Date Performed: 1/25/2007 Analysis Time Period: PM Peak Freeway/Direction: I-5/NB From/To: SR-14 Off to SR-14 On-Ramp Juri sdi cti on: Analysis Year: 2010 With EIP Description: __Flow Inputs and Adjustments__ Volume, V 4877 veh/h Peak-hour factor, PHF Peak 15-min volume, v15 0.97 1257 Trucks and buses 0 % Recreational vehicles % 0 Terrain type: Grade % Grade 4.43 0.59 Segment Length mi 3. 5 4. 5 Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV 1.000 Driver population factor, fp 0.95 1323 Flow rate, vp pc/h/l n ____Speed Inputs and Adjustments_ ft Lane width 12.0 Right-shoulder lateral clearance 6.0 Interchange density 0.50 interchange/mi Number of lanes, N 4 Free-flow speed: Measured FFS or BFFS 70.0 mi/h Lane width adjustment, fLW 0.0 mi /h Lateral clearance adjustment, fLC 0.0 mi/h Interchange density adjustment, fID Number of lanes adjustment, fN 0.0 mi/h mi/h 1.5 Free-flow speed, FFS 70.0 mi /h Urban Freeway ____LOS and Performance Measures_ Flow rate, vp 1323 pc/h/l n mi /h Free-flow speed, FFS 70.0

Level of service, LOS Overall results are not computed when free-flow speed is less than 55 mph.

70.0

4 18.9 mi/h

pc/mi/ln

NB AM Between On Ramp From SR-14 SB & Truck Route On Ramp.txt

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0	perati onal	Anal	vsi s	

Analyst: Luke Seegmiller
Agency or Company: Korve/DMJM Harris
Date Performed: 1/25/2007

Date Performed: 1/25/2007 Analysis Time Period: AM Peak Freeway/Direction: I-5/NB

Freeway/Direction: I-5/NB From/To: SR-14 On Ramp & Truck Rte On

Juri sdiction: Anal ysis Year: 2010 With EIP

Description:

FI ow	Inputs and Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment Length Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, fp Flow rate, vp	3939 0. 97 1015 0 0 Grade 4. 53 0. 51 3. 5 4. 5 1. 000 0. 95 1069	veh/h v % % mi
•	I Inputs and Adjustments	

Lane width Right-shoulder lateral clearance Interchange density Number of lanes, N	12. 0 6. 0 0. 50 4	ft ft i nterchange/mi
Free-flow speed: FFS or BFFS	Measured 70.0	mi /h
Lane width adjustment, fLW	0. 0	mi /h
Lateral clearance adjustment, fLC	0. 0	mi /h
Interchange density adjustment, fID Number of lanes adjustment, fN	0. 0 1. 5	mi/h mi/h
Free-flow speed, FFS	70. 0	mi /h
	Urban Freeway	

_____LOS and Performance Measures_____

Flow rate, vp	1069	pc/h/l n
Free-flow speed, FFS	70. 0	mi/h
Average passenger-car speed, S	70. 0	mi/h
Number of Lanes, N	4	
Density, D	15. 3	pc/mi/ln
Level of service, LOS	В	•

NB PM Between On Ramp From SR-14 SB & Truck Route On Ramp.txt

HCS2000: Basic Freeway Segments Release 4.1f

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Midvale, UT 84047

Phone: 801-569-2131 Fax: 801-569-2149

E-mail: Iseegmiller@ko	rve.com	14%. 661 667	2117
	Operational Analys	si s	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description:	Luke Seegmiller Korve/DMJM Harris 1/25/2007 PM Peak I-5/NB SR-14 On Ramp & Tru	uck Rte On	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor	T E, ER t, fHV	5536 0.97 1427 0 0 Grade 4.53 0.51 3.5 4.5 1.000 0.95 1502	veh/h v % % mi pc/h/I n
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1502 70. 0 69. 8 4 21. 5	pc/h/ln mi/h mi/h pc/mi/ln

Overall results are not computed when free-flow speed is less than 55 mph.

APPENDIX D

HCS WORKSHEETS

(See also Appendix C for Early Implementation Segments)

a.	Existing Conditions – AM Peak Hour	D-2
b.	Existing Conditions – PM Peak Hour	D-27
c.	2015 No-Build Conditions – AM Peak Hour	D-52
d.	2015 No-Build Conditions – PM Peak Hour	D-77
e.	2015 Build Conditions – AM Peak Hour	D-102
f.	2015 Build Conditions – PM Peak Hour	D-128
g.	2030 No-Build Conditions – Constrained – AM Peak Hour	D-154
h.	2030 No-Build Conditions – Constrained – PM Peak Hour	D-179
i.	2030 Build Conditions – Constrained – AM Peak Hour	D-204
j.	2030 Build Conditions – Constrained – PM Peak Hour	D-230
k.	2030 No-Build Conditions – Demand – AM Peak Hour	D-257
1.	2030 No-Build Conditions – Demand – PM Peak Hour	D-282
m.	2030 Build Conditions – Demand – AM Peak Hour	D-307
n.	2030 Build Conditions – Demand – PM Peak Hour	D-333

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

a. Existing Conditions – AM Peak Hour

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 NB SR14 Ramp to SR14 1 Los Angeles/Distric 2006 - ExistingFlow Inputs and Ac	et 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	3450 0.97 889 0 0 Grade 4.43 0.59 3.5 4.5 1.000 0.95 1248	veh/h v % % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1248 70.0 70.0 3 17.8 B	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Ana	lysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR14 Ramp to Bal Los Angeles/Dist 2006	rict 7	
77-3		4600	1- /1-
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment	E, ER t, fHV	4690 0.97 1209 0 0 Grade -4.43 0.64 1.5 1.2	veh/h v % % % mi
Driver population factor Flow rate, vp	r, vp	0.95 1697	pc/h
	Control Township and		1 - /
	Speed inputs an	d Adjustments	
Lane width Right-shoulder lateral of Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjust Interchange density adjustment Number of lanes adjustment Free-flow speed, FFS	FLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Perform	ance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1697 70.0 68.8 3 24.7	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 to Truck Route Los Angeles/Distric 2006	et 7	
	riow inputs and Ac	1] 4.5 C	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	3780 0.97 974 0 0 Grade 4.53 0.51 3.5 4.5 1.000 0.95 1367	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1367 70.0 70.0 3 19.5	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 SB Truck Route Bypass Los Angeles/Districe 2006 - Existing Flow Inputs and Acceptable	ct 7	
	riow inputs and A	a jus cilicites	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fhV	4980 0.97 1284 0 0 Grade -4.53 0.30 1.5 1.2 1.000 0.95	veh/h v % % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1351 70.0 70.0 4 19.3 C	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Truck Route Bypass Los Angeles/Distric 2006	et 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	5600 0.97 1443 9 0 Grade -5.10 3.50 1.5 1.2 0.957 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1588 70.0 69.5 4 22.9 C	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck F Los Angeles/Distric 2006		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6200 0.97 1598 2 0 Grade 5.10 3.50 6.0 6.0 0.909 0.95 2467	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	<pre>ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h</pre>
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2467 70.0 3	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 NB Calgrove to Pico Los Angeles/Districe 2006 - Existing	ct 7	
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles		5620 0.97 1448 10	veh/h v % %
Terrain type: Grade Segment length		Level -2.50 1.10	% mi
Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	E, ER t, fHV	1.5 1.2 0.952 0.95 1601	pc/h
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed:		12.0 6.0 0.50 4 Measured	m m interchange/mi
FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1601 70.0 69.4 4 23.1 C	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Pico to Calgrove Los Angeles/Distric 2006	t 7	
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	5928 0.97 1528 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95 2166	veh/h v % % % mi pc/h/ln
	Speed Inputs and A	diustments	
Lane width	Speed Inputs and A	djustments	ft
Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	6.0 0.50 3 Measured 70.0 0.0 0.0 3.0 70.0 Urban Freeway	ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2166 70.0 61.1 3 35.5	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Pico to McBean Los Angeles/Distric 2006		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	5560 0.97 1433 10 0 Grade 2.50 1.10 2.0 3.0 0.909 0.95 1659	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1659 70.0 69.1 4 24.0 C	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 SB McBean to Pico Los Angeles/Distric 2006 - ExistingFlow Inputs and Ad		
Volume, V		5730	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		0.97 1477 10 0 Grade	veii/ii v % %
Grade		-2.50	%
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor	E, ER t, fHV	1.10 1.5 1.2 0.952	mi
Flow rate, vp	ι, νρ	1632	pc/h
· -	Speed Inputs and A	diustments	-
		<u></u>	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment,	fLW	12.0 6.0 0.50 4 Measured 70.0	m interchange/mi mi/h mi/h mi/h
Lateral clearance adjusting Interchange density adjusting to the control of the c		0.0	mi/h mi/h
Number of lanes adjustme		1.5	mi/h
Free-flow speed, FFS		70.0 Urban Freeway	mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D	peed, S	1632 70.0 69.3 4 23.6	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>
Level of service, LOS		C	

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB McBean to Valencia Los Angeles/Distric 2006		
****		F 4 3 0	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	5430 0.97 1399 11 0 Grade -3.70 1.00 1.5 1.2 0.948 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1554 70.0 69.6 4 22.3 C	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Anal	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Valencia to McBea Los Angeles/Distr 2006	ict 7	
17-1		F210	b /b
Volume, V		5310	veh/h
Peak-hour factor, PHF		0.97	
Peak 15-min volume, v15		1369	V •.
Trucks and buses		11	o _o o o _o
Recreational vehicles		0	8
Terrain type:		Grade	0
Grade		3.70	8
Segment length	_	1.00	mi
Trucks and buses PCE, E		2.4	
Recreational vehicle PC		3.0	
Heavy vehicle adjustmen		0.867	
Driver population facto	r, vp	0.95	/1
Flow rate, vp		1662	pc/h
	Speed Inputs and	Adjustments	
Lane width		12.0	m
Right-shoulder lateral	clearance	6.0	m
Interchange density	Crearance	0.50	interchange/mi
Number of lanes, N		4	incer change, mi
Free-flow speed:		Measured	
FFS or BFFS		70.0	mi/h
Lane width adjustment,	ft.W	0.0	mi/h
Lateral clearance adjus		0.0	mi/h
Interchange density adj		0.0	mi/h
Number of lanes adjustm		1.5	mi/h
Free-flow speed, FFS		70.0	mi/h
rice riow speed, ris		Urban Freeway	1117 11
	LOS and Performa	_	
_			
Flow rate, vp		1662	pc/h/ln
Free-flow speed, FFS	_	70.0	mi/h
Average passenger-car s	peed, S	69.1	mi/h
Number of lanes, N		4	
Density, D		24.1	pc/mi/ln
Level of service, LOS		С	

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 NB Valencia to Magic Los Angeles/Distri 2006 - Existing		
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fhV	4490 0.97 1157 12 0 Grade -2.80 1.10 1.5 1.2 0.943 0.95	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1291 70.0 70.0 4 18.4 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 SB Magic Mountain to Los Angeles/Distri 2006 - ExistingFlow Inputs and A	ct 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles		4490 0.97 1157 12 0	veh/h v % %
Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC	E, ER	Grade 2.80 1.10 2.0 3.0	% mi
Heavy vehicle adjustmen Driver population facto Flow rate, vp		0.893 0.95 1364	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus	fLW	12.0 6.0 0.50 4 Measured 70.0 0.0	m m interchange/mi mi/h mi/h mi/h
Interchange density adj Number of lanes adjustm Free-flow speed, FFS		0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1364 70.0 70.0 4 19.5	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Anal	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to Los Angeles/Distr 2006	ict 7	
Molumo M		2240	veh/h
Volume, V Peak-hour factor, PHF		3340 0.97	ven/n
Peak 15-min volume, v15		861	V
Trucks and buses		14	v %
Recreational vehicles		0	000
Terrain type:		Level	-0
Grade		-1.00	%
Segment length		2.40	mi
Trucks and buses PCE, E	т	1.5	шт
Recreational vehicle PC		1.2	
		0.935	
Heavy vehicle adjustmen Driver population facto		0.95	
	r, vp	970	pc/h
Flow rate, vp		970	pe/II
	Speed Inputs and	Adjustments	
Lane width		12.0	m
Right-shoulder lateral	clearance	6.0	m
Interchange density		0.50	interchange/mi
Number of lanes, N		4	_
Free-flow speed:		Measured	
FFS or BFFS		70.0	mi/h
Lane width adjustment,	fLW	0.0	mi/h
Lateral clearance adjus		0.0	mi/h
Interchange density adj	ustment, fID	0.0	mi/h
Number of lanes adjustm		1.5	mi/h
Free-flow speed, FFS		70.0	mi/h
		Urban Freeway	
	LOS and Performa	nce Measures	
Flow rate, vp		970	pc/h/ln
Free-flow speed, FFS		70.0	mi/h
Average passenger-car s	peed. S	70.0	mi/h
Number of lanes, N	E,	4	/
Density, D		13.9	pc/mi/ln
Level of service, LOS		В	/ /
,			

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Magic Los Angeles/Distric 2006	et 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	4200 0.97 1082 14 0 Level -1.00 2.40 1.5 1.2 0.935 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1219 70.0 70.0 4 17.4 B	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 NB Rye Canyon to SR-12 Los Angeles/Distric 2006 - ExistingFlow Inputs and Ad	t 7	
17.01		2240	la / la
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	E, ER t, fHV	3340 0.97 861 15 0 Level -1.00 2.40 1.5 1.2 0.930 0.95 974	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustme Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	974 70.0 70.0 4 13.9	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 SB SR-126 to Rye Canyo Los Angeles/Distric 2006 - Existing Flow Inputs and Ac	et 7	
77-1		2420	anala /la
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	3420 0.97 881 15 0 Level -1.00 2.40 1.5 1.2 0.930 0.95 997	veh/h v % % mi
Tiow race, vp	~ 1 1.		pc/11
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	997 70.0 70.0 4 14.2 B	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2006 - Existing Flow Inputs and Ac	et 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	2170 0.97 559 17 0 Level -1.00 2.40 1.5 1.2 0.922 0.95 639	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	639 70.0 70.0 4 9.1 A	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:		
	Operational Analys	sis		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 SB Hasley Canyon to SI Los Angeles/Distric 2006 - ExistingFlow Inputs and Ac	et 7		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	3110 0.97 802 17 0 Level -1.00 2.40 1.5 1.2 0.922 0.95 915	veh/h v % % % mi	
	Speed Inputs and A	Adjustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjust Interchange density adj Number of lanes adjustment	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h	
Free-flow speed, FFS		70.0	mi/h	
Urban FreewayLOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	915 70.0 70.0 4 13.1 B	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>	

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:				
	Operational Anal	ysis				
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to Los Angeles/Distr 2006	ict 7				
Molumo M		1570	rroh /h			
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV r, vp	1570 0.97 405 20 0 Grade 1.00 2.40 1.5 1.2 0.909 0.95 469	veh/h v % % mi			
	Speed Inputs and	Ad Justillents				
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h			
LOS and Performance Measures						
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	469 70.0 70.0 4 6.7 A	pc/h/ln mi/h mi/h pc/mi/ln			

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:			
	Operational Analys	sis			
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 SB Parker to Hasley Ca Los Angeles/Distric 2006 - Existing Flow Inputs and Ac	et 7			
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	2210 0.97 570 21 0 Grade -1.00 2.40 1.5 1.2 0.905 0.95 663	veh/h v % % % mi		
	Speed Inputs and A	Adjustments			
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h		
LOS and Performance Measures					
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	663 70.0 70.0 4 9.5 A	pc/h/ln mi/h mi/h pc/mi/ln		

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:			
	Operational Analys	sis			
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Parker to Lake Hugh Los Angeles/Distric 2006	et 7			
Volume V		1100	weh/h		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen	T E, ER t, fHV	1190 0.97 307 25 3 Level 3.60 1.00 1.5 1.2 0.884 0.95	veh/h v % % mi		
Driver population factor, vp Flow rate, vp		365	pc/h		
	Speed Inputs and A	Adjustments			
T 34-1-		_			
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/		
LOS and Performance Measures					
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	365 70.0 70.0 4 5.2 A	pc/h/ln mi/h mi/h pc/mi/ln		

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:				
Operational Analysis						
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 SB Lake Hughes to Parker Los Angeles/District 7 2006					
	Flow Inputs and Ad	ljustments				
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	1600 0.97 412 25 3 Level 3.60 1.00 1.5 1.2 0.884 0.95	veh/h v % % % mi			
	Speed Inputs and A	Adiustments				
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h			
LOS and Performance Measures						
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	491 70.0 70.0 4 7.0 A	pc/h/ln mi/h mi/h pc/mi/ln			

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

b. Existing Conditions – PM Peak Hour

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 PM Peak Hour I-5 NB SR14 Ramp to SR14 I Los Angeles/Distric 2006 - ExistingFlow Inputs and Ac	ct 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	4810 0.97 1240 0 0 Grade 4.43 0.59 3.5 4.5 1.000 0.95 1740	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1740 70.0 68.5 3 25.4	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	_Operational Analys	is	
Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction:	I-5 SB SR14 Ramp to Balboa Los Angeles/Distric 2006		
	_Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE Heavy vehicle adjustment Driver population factor Flow rate, vp	, fhV	4485 0.97 1156 0 0 Grade -4.43 0.64 1.5 1.2 1.000 0.95 1622	veh/h v % % % mi
	_Speed Inputs and A	diustments	
Lane width Right-shoulder lateral content of the shoulder lateral clearance adjusts and the should lateral content of the shoulder lateral content of the should lateral content of	learance LW ment, fLC stment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	_LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car spe Number of lanes, N Density, D Level of service, LOS	eed, S	1622 70.0 69.3 3 23.4	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 to Truck Route Los Angeles/Distric 2006	et 7	
	<u>-</u>		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		5460 0.97 1407 0 0 Grade 4.53	veh/h v % %
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	E, ER t, fHV	0.51 3.5 4.5 1.000 0.95 1975	mi pc/h
_	Chood Innuts and	Nd inatmonta	_
	Speed Inputs and I	Ad Justillents	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed:	clearance	12.0 6.0 0.50 3 Measured	m m interchange/mi
FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1975 70.0 65.3 3 30.2	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
Og	perational Analys	is	
Analysis Time Period: PM Freeway/Direction: I-5 From/To: Tru	ne 07 Peak Hour 5 SB ack Route Bypass 5 Angeles/Distric 06		
F	low Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE, Heavy vehicle adjustment, fi		5060 0.97 1304 0 0 Grade -4.53 0.30 1.5 1.2	veh/h v % % % mi
Driver population factor, v	7p	0.95	
Flow rate, vp		1373	pc/h
S _I	peed Inputs and Ad	djustments	
Lane width Right-shoulder lateral clea Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, fLW Lateral clearance adjustmen Interchange density adjustment Number of lanes adjustment, Free-flow speed, FFS	nt, fLC ment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LC	OS and Performance	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car speed Number of lanes, N Density, D Level of service, LOS		1373 70.0 70.0 4 19.6	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Truck Route Bypass Los Angeles/Distric 2006	_	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6970 0.97 1796 9 0 Grade -5.10 3.50 1.5 1.2 0.957 0.95	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1976 70.0 65.3 4 30.3	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	/sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck Los Angeles/Distri 2006	lct 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	6109 0.97 1574 2 0 Grade 5.10 3.50 6.0 6.0 0.909 0.95 2431	<pre>veh/h v % % % mi</pre>
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	<pre>ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h</pre>
	LOS and Performar	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2431 70.0 3 F	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB Calgrove to Pico Los Angeles/Distric 2006	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCH Heavy vehicle adjustment Driver population factor Flow rate, vp	E, ER E, fHV	7020 0.97 1809 10 0 Level -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral of Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, f Lateral clearance adjust Interchange density adju Number of lanes adjustme Free-flow speed, FFS	clearance ELW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car sp Number of lanes, N Density, D Level of service, LOS		2000 70.0 64.9 4 30.8	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Ana	lysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Pico to Calgrove Los Angeles/Dist 2006		
	rrow inputs and	Ad Juscilicites	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	6156 0.97 1587 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95 2249	veh/h v % % % mi pc/h/ln
	Speed Inputs and	d Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 0.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h
	100 1 D	_	
	LOS and Performa	ance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2249 70.0 58.6 3 38.3 E	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Pico to McBean Los Angeles/Distric 2006	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	6610 0.97 1704 10 0 Grade 2.50 1.10 2.0 3.0 0.909 0.95	veh/h v % % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1973 70.0 65.4 4 30.2	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB McBean to Pico Los Angeles/Distric 2006	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	6450 0.97 1662 10 0 Grade -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1837 70.0 67.4 4 27.2	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	is	
Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction:	I-5 NB McBean to Valencia Los Angeles/Distric 2006	t 7	
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE	E, ER	6050 0.97 1559 11 0 Grade -3.70 1.00 1.5 1.2	veh/h v % % % mi
Heavy vehicle adjustment Driver population factor		0.948	
Flow rate, vp	· / VP	1732	pc/h
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral of Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, f Lateral clearance adjust Interchange density adju Number of lanes adjustme Free-flow speed, FFS	ELW ment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	_LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car sp Number of lanes, N Density, D Level of service, LOS	peed, S	1732 70.0 68.5 4 25.3	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Anal	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Valencia to McBea Los Angeles/Distr 2006	ict 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	6420 0.97 1655 11 0 Grade 3.70 1.00 2.4 3.0 0.867 0.95 2010	veh/h v % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performa	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2010 70.0 64.7 4 31.1 D	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

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Phone: E-mail:		Fax:	
	Operational Anal	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Valencia to Magic Los Angeles/Distr 2006	ict 7	
Volume, V		6050	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length		0.97 1559 12 0 Grade -2.80 1.10	VCII/II V % % % mi
Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	E, ER t, fHV	1.5 1.2 0.943 0.95 1740	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjust Interchange density adj Number of lanes adjustmere-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h
rice from speed, fro		Urban Freeway	•
	LOS and Performa	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1740 70.0 68.5 4 25.4	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

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Phone: E-mail:		Fax:	
	Operational Analy:	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Magic Mountain to V Los Angeles/Districe 2006		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5600 0.97 1443 12 0 Grade 2.80 1.10 2.0 3.0 0.893 0.95 1702	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1702 70.0 68.8 4 24.7 C	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to F Los Angeles/Distric 2006		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4080 0.97 1052 14 0 Level -1.00 2.40 1.5 1.2 0.935 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1184 70.0 70.0 4 16.9 B	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Anal	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Mag Los Angeles/Distr 2006	ict 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fhV	5350 0.97 1379 14 0 Level -1.00 2.40 1.5 1.2 0.935 0.95 1553	veh/h v % % % mi
	Speed Inputs and	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performa	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1553 70.0 69.6 4 22.3	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Rye Canyon to SR-12 Los Angeles/Distric 2006 - Existing	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4080 0.97 1052 15 0 Level -1.00 2.40 1.5 1.2 0.930 0.95	veh/h v % % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1190 70.0 70.0 4 17.0	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
·	_Operational Analys	is	
Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction:	I-5 SB SR-126 to Rye Canyo Los Angeles/Distric 2006		
	_Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, ET Recreational vehicle PCE Heavy vehicle adjustment Driver population factor	, ER , fHV	4150 0.97 1070 15 0 Level -1.00 2.40 1.5 1.2 0.930 0.95	veh/h v % % % mi
Flow rate, vp		1210	pc/h
	_Speed Inputs and A	djustments	
Lane width Right-shoulder lateral c Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, f Lateral clearance adjust Interchange density adju Number of lanes adjustme Free-flow speed, FFS	LW ment, fLC stment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	_LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car sp Number of lanes, N Density, D Level of service, LOS		1210 70.0 70.0 4 17.3	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2006	_	
	Flow Inputs and Ac	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4080 0.97 1052 17 0 Level -1.00 2.40 1.5 1.2 0.922 0.95	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1201 70.0 70.0 4 17.2	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Hasley Canyon to SF Los Angeles/Distric 2006		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	3010 0.97 776 17 0 Level -1.00 2.40 1.5 1.2 0.922 0.95 886	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	886 70.0 70.0 4 12.7 B	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to P Los Angeles/Distri 2006	ct 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	2790 0.97 719 20 0 Grade 1.00 2.40 1.5 1.2 0.909 0.95	veh/h v % % % mi
, _	Speed Inputs and	Adiustments	•
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	833 70.0 70.0 4 11.9 B	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 SB Parker to Hasley Ca Los Angeles/Districe 2006	-	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	2420 0.97 624 21 0 Grade -1.00 2.40 1.5 1.2 0.905 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		725 70.0 70.0 4 10.4 A	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
From/To:	I-5 NB Parker to Lake Hug Los Angeles/Distri 2006		
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	2250 0.97 580 25 3 Level 3.60 1.00 1.5 1.2 0.884 0.95 690	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		690 70.0 70.0 4 9.9	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB Lake Hughes to Park Los Angeles/Distric 2006		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	2040 0.97 526 25 3 Level 3.60 1.00 1.5 1.2 0.884 0.95 626	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		626 70.0 70.0 4 8.9 A	pc/h/ln mi/h mi/h pc/mi/ln

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

c. 2015 No-Build Conditions - AM Peak Hour

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 NB SR14 Ramp to SR14 F Los Angeles/Districe 2015 - No-Build Alternate Flow Inputs and Ac	ct 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	3760 0.97 969 2 0 Grade 4.43 0.59 3.5 4.5 0.952 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1428 70.0 69.9 3 20.4	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:		
	Operational Anal	ysis		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR14 Ramp to Balb Los Angeles/Distr 2015	ict 7 ative		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	4760 0.97 1227 0 0 Grade -4.43 0.64 1.5 1.2 1.000 0.95 1722	veh/h v % % mi pc/h	
	Speed Inputs and	Adjustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1722 70.0 68.6 3 25.1	pc/h/ln mi/h mi/h pc/mi/ln	

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational A	nalysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 to Truck : Los Angeles/Di 2015 - No-Build Alt	strict 7	
	<u>-</u>	<u></u>	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		4120 0.97 1062 0 0 Grade	veh/h v % %
Grade Segment length Trucks and buses PCE, E' Recreational vehicle PCI Heavy vehicle adjustment	E, ER	4.53 0.51 3.5 4.5 1.000	% mi
Driver population factor	·	0.95	
Flow rate, vp		1490	pc/h
	Speed Inputs	and Adjustments	
T 343-		10.0	
Lane width Right-shoulder lateral of Interchange density Number of lanes, N Free-flow speed:	clearance	12.0 6.0 0.50 3 Measured	m m interchange/mi
FFS or BFFS		70.0	mi/h
Lane width adjustment,		0.0	mi/h
Lateral clearance adjust		0.0	mi/h
Interchange density adju Number of lanes adjustme	·	0.0	mi/h mi/h
Free-flow speed, FFS		70.0	mi/h
		Urban Freew	ay
	LOS and Perfo	rmance Measures	
			(2. (2.
Flow rate, vp		1490 70.0	pc/h/ln mi/h
Free-flow speed, FFS Average passenger-car sp	peed. S	69.8	mi/h mi/h
Number of lanes, N	 / 	3	,
Density, D Level of service, LOS		21.3 C	pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Truck Route Bypass Los Angeles/Distri 2015	ct 7 tive	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	5050 0.97 1302 0 0 Grade -4.53 0.30 1.5 1.2 1.000 0.95	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1370 70.0 70.0 4 19.6	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:		
	Operational Analys	sis		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Truck Route Bypass Los Angeles/Distric 2015	et 7		
	Flow Inputs and Ad	djustments		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fhV	6100 0.97 1572 9 0 Grade -5.10 3.50 1.5 1.2 0.957 0.95	veh/h v % % mi	
	Speed Inputs and A	Adjustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1729 70.0 68.6 4 25.2	pc/h/ln mi/h mi/h pc/mi/ln	

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:		
	Operational Analys	sis		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck F Los Angeles/Distric 2015	et 7		
	Flow Inputs and Ad	djustments		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	6231 0.97 1606 2 0 Grade 5.10 3.50 6.0 6.0 0.909 0.95 2479	veh/h v % % % mi	
	Speed Inputs and A	Adjustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2479 70.0 3	pc/h/ln mi/h mi/h pc/mi/ln	

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB Calgrove to Pico Los Angeles/Distric 2015		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6500 0.97 1675 10 0 Level -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1852 70.0 67.2 4 27.5	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 SB Pico to Calgrove Los Angeles/Distri 2015	ct 7 tive	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	6072 0.97 1565 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95 2218	<pre>veh/h v % % % mi</pre>
	Speed Inputs and	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2218 70.0 59.6 3 37.2	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB Pico to McBean Los Angeles/Distric 2015		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E' Recreational vehicle PC: Heavy vehicle adjustment Driver population factor Flow rate, vp	E, ER t, fHV	6900 0.97 1778 10 0 Grade 2.50 1.10 2.0 3.0 0.909 0.95 2059	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral of Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, I Lateral clearance adjustinterchange density adjustment of lanes adjustment Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car sy Number of lanes, N Density, D Level of service, LOS		2059 70.0 63.6 4 32.3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB McBean to Pico Los Angeles/Distric 2015		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5900 0.97 1521 10 0 Grade -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1681 70.0 68.9 4 24.4 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB McBean to Valencia Los Angeles/Distric 2015		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7000 0.97 1804 11 0 Grade -3.70 1.00 1.5 1.2 0.948 0.95 2004	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2004 70.0 64.8 4 30.9	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB Valencia to McBean Los Angeles/Distric 2015		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6100 0.97 1572 11 0 Grade 3.70 1.00 2.4 3.0 0.867 0.95 1910	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1910 70.0 66.4 4 28.8 D	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Valencia to Magic N Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6200 0.97 1598 12 0 Grade -2.80 1.10 1.5 1.2 0.943 0.95 1783	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1783 70.0 68.0 4 26.2	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:		
	Operational Analy	rsis		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Magic Mountain to Los Angeles/Distri 2015	ct 7		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5400 0.97 1392 12 0 Grade 2.80 1.10 2.0 3.0 0.893 0.95 1641	veh/h v % % % mi	
Speed Inputs and Adjustments				
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/	
	LOS and Performan	ce Measures		
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1641 70.0 69.2 4 23.7	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>	

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to H Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5600 0.97 1443 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1610	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1610 70.0 69.4 4 23.2 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Magic Los Angeles/Distric 2015	t 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5100 0.97 1314 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1467	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1467 70.0 69.9 4 21.0	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB Rye Canyon to SR-12 Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	5600 0.97 1443 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1610	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1610 70.0 69.4 4 23.2 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	/sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR-126 to Rye Cany Los Angeles/Distri 2015	ict 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	4900 0.97 1263 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1409	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performar	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1409 70.0 70.0 4 20.1	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2015	ct ⁷ 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4800 0.97 1237 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1380 70.0 70.0 4 19.7	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Hasley Canyon to SF Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5300 0.97 1366 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1524	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1524 70.0 69.7 4 21.9	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to F Los Angeles/Distri 2015	ct 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	3100 0.97 799 13 0 Grade 1.00 2.40 1.5 1.2 0.939 0.95	veh/h v % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	896 70.0 70.0 4 12.8 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Parker to Hasley Ca Los Angeles/Distric 2015	ct ⁷ 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4700 0.97 1211 13 0 Grade -1.00 2.40 1.5 1.2 0.939 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1358 70.0 70.0 4 19.4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 NB Parker to Lake Hugh Los Angeles/Districe 2015	ct 7	
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	2700 0.97 696 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		787 70.0 70.0 4 11.2 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Lake Hughes to Park Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	3300 0.97 851 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	962 70.0 70.0 4 13.7 B	pc/h/ln mi/h mi/h pc/mi/ln

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

d. 2015 No-Build Conditions - PM Peak Hour

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 PM Peak Hour I-5 NB SR14 Ramp to SR14 R Los Angeles/Distric 2015 - No-Build Alternat _Flow Inputs and Ad	t 7	
Volume V		1970	weh/h
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length		4970 0.97 1281 0 0 Grade 4.43 0.59	veh/h v % % mi
Trucks and buses PCE, E'Recreational vehicle PC: Heavy vehicle adjustment Driver population factor Flow rate, vp	E, ER t, fHV	3.59 4.5 1.000 0.95 1798	pc/h
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adjustment Number of lanes adjustment Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car sp Number of lanes, N Density, D Level of service, LOS	peed, S	1798 70.0 67.9 3 26.5	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
From/To:	I-5 SB SR14 Ramp to Balbo Los Angeles/Distri 2015	ct 7	
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5180 0.97 1335 0 Grade -4.43 0.64 1.5 1.2 1.000 0.95 1405	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1405 70.0 70.0 4 20.1	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

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Phone:
                                              Fax:
E-mail:
                         _Operational Analysis_____
Analyst:
Agency or Company:
                         AFA
Date Performed:
                         June 07
Analysis Time Period:
                         PM Peak Hour
Freeway/Direction:
                         I-5 NB
                         SR14 to Truck Route Bypass
From/To:
Jurisdiction:
                         Los Angeles/District 7
                         2015
Analysis Year:
Description: I-5 PA&ED - No-Build Alternative
                        __Flow Inputs and Adjustments_
Volume, V
                                              5640
                                                              veh/h
Peak-hour factor, PHF
                                              0.97
Peak 15-min volume, v15
                                              1454
                                                              v
Trucks and buses
                                                              ્ર
                                              Ω
Recreational vehicles
                                              0
                                                              응
Terrain type:
                                              Grade
    Grade
                                              4.53
                                                              ્ર
    Segment length
                                              0.51
                                                              mi
Trucks and buses PCE, ET
                                              3.5
Recreational vehicle PCE, ER
                                              4.5
Heavy vehicle adjustment, fHV Driver population factor, vp
                                              1.000
                                              0.95
Flow rate, vp
                                              1530
                                                              pc/h
                         __Speed Inputs and Adjustments__
Lane width
                                              12.0
Right-shoulder lateral clearance
                                              6.0
                                                              interchange/mi
Interchange density
                                              0.50
Number of lanes, N
                                              Measured
Free-flow speed:
     FFS or BFFS
                                              70.0
                                                              mi/h
Lane width adjustment, fLW
                                              0.0
                                                              mi/h
Lateral clearance adjustment, fLC
                                              0.0
                                                              mi/h
Interchange density adjustment, fID
                                              0.0
                                                              mi/h
Number of lanes adjustment, fN
                                                              mi/h
                                              1.5
Free-flow speed, FFS
                                              70.0
                                                              mi/h
                                              Urban Freeway
                      LOS and Performance Measures_
Flow rate, vp
                                              1530
                                                              pc/h/ln
                                              70.0
Free-flow speed, FFS
                                                              mi/h
Average passenger-car speed, S
                                              69.7
                                                              mi/h
Number of lanes, N
                                              4
Density, D
                                              21.9
                                                              pc/mi/ln
Level of service, LOS
```

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Truck Route Bypass Los Angeles/Distr: 2015	ict 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	5840 0.97 1505 0 Grade -4.53 0.64 1.5 1.2 1.000 0.95 2112	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2112 70.0 62.4 3 33.8	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB Truck Route Bypass Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7200 0.97 1856 9 0 Grade -5.10 3.50 1.5 1.2 0.957 0.95	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2041 70.0 64.0 4 31.9	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck F Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6882 0.97 1774 2 0 Grade 5.10 3.50 6.0 6.0 0.909 0.95 2738	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 3.0 70.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performano	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2738 70.0 3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	/sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Calgrove to Pico Los Angeles/Distri 2015	ative	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	7300 0.97 1881 10 0 Level -2.50 1.10 1.5 1.2 0.952 0.95 2079	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performar	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2079 70.0 63.2 4 32.9	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Pico to Calgrove Los Angeles/Distri 2015	tive	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	6808 0.97 1755 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95 2487	<pre>veh/h v % % % mi pc/h/ln</pre>
	Speed Inputs and .	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	<pre>ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h</pre>
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2487 70.0 3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	Pico to McBean Los Angeles/Distric 2015		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7000 0.97 1804 10 0 Grade 2.50 1.10 2.0 3.0 0.909 0.95 2089	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2089 70.0 63.0 4 33.2	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 SB McBean to Pico Los Angeles/Distric 2015		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	8000 0.97 2062 10 0 Grade -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2279 70.0 57.7 4 39.5	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB McBean to Valencia Los Angeles/Distr: 2015	ict 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	6800 0.97 1753 11 0 Grade -3.70 1.00 1.5 1.2 0.948 0.95 1946	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1946 70.0 65.8 4 29.6	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Valencia to McBean Los Angeles/Distric 2015		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	8200 0.97 2113 11 0 Grade 3.70 1.00 2.4 3.0 0.867 0.95 2567	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performano	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2567 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Valencia to Magic N Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6200 0.97 1598 12 0 Grade -2.80 1.10 1.5 1.2 0.943 0.95 1783	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1783 70.0 68.0 4 26.2	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Magic Mountain to V Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7800 0.97 2010 12 0 Grade 2.80 1.10 2.0 3.0 0.893 0.95 2370	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2370 70.0 54.5 4 43.5	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to F Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5800 0.97 1495 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1668	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1668 70.0 69.0 4 24.2	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB Rye Canyon to Magic Los Angeles/Distric 2015	t 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	8100 0.97 2088 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 2329	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2329 70.0 56.0 4 41.6 E	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Anal	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Rye Canyon to SR- Los Angeles/Distr 2015	rict 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	5800 0.97 1495 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1668	veh/h v % % % mi
	Speed Inputs and	l Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performa	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1668 70.0 69.0 4 24.2 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Anal	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR-126 to Rye Can Los Angeles/Distr 2015	ict 7 ative	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	6800 0.97 1753 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95	veh/h v % % mi pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performa	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1956 70.0 65.7 4 29.8 D	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2015	ct ⁷ 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6500 0.97 1675 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1869	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1869 70.0 67.0 4 27.9	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Hasley Canyon to SF Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6400 0.97 1649 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1840	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1840 70.0 67.4 4 27.3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 PM Peak Hour I-5 NB Hasley Canyon to 1 Los Angeles/Distriction	Parker ict 7 ative	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	6100 0.97 1572 13 0 Grade 1.00 2.40 1.5 1.2 0.939 0.95 1762	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1762 70.0 68.3 4 25.8	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Parker to Hasley (Los Angeles/Distri 2015	ict 7	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fhV	4700 0.97 1211 13 0 Grade -1.00 2.40 1.5 1.2 0.939 0.95 1358	veh/h v % % mi pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performar	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1358 70.0 70.0 4 19.4 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analysis Year: Description: I-5 PA&ED	I-5 NB Parker to Lake Hugh Los Angeles/Distric 2015 - No-Build Alternat	ct 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4700 0.97 1211 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95	veh/h v % % % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1371 70.0 70.0 4 19.6 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB Lake Hughes to Park Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E' Recreational vehicle PC: Heavy vehicle adjustment Driver population factor Flow rate, vp	E, ER t, fHV	4100 0.97 1057 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral of Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, I Lateral clearance adjustinterchange density adjustment of lanes adjustment Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car sy Number of lanes, N Density, D Level of service, LOS		1196 70.0 70.0 4 17.1 B	pc/h/ln mi/h mi/h pc/mi/ln

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

e. 2015 Build Conditions - AM Peak Hour

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 NB SR14 Ramp to SR14; Los Angeles/Districe 2015 - Build AlternativeFlow Inputs and Actions	ct 7	
1		0630	1 (1
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	2630 0.97 678 2 0 Grade 4.43 0.59 3.5 4.5 0.952 0.95	veh/h v % % % mi
	Speed Inputs and i	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	999 70.0 70.0 3 14.3 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB SR14 Ramp to Balboa Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	3550 0.97 915 0 0 Grade -4.43 0.64 1.5 1.2 1.000 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1284 70.0 70.0 3 18.3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB SR14 to Truck Route Los Angeles/Distric 2015	t 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	2990 0.97 771 0 0 Grade 4.53 0.51 3.5 4.5 1.000 0.95 1082	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1082 70.0 70.0 3 15.5	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB Truck Route Bypass Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	3840 0.97 990 0 Grade -4.53 0.30 1.5 1.2 1.000 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1042 70.0 70.0 4 14.9 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Truck Route Bypass Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4540 0.97 1170 2 0 Grade -5.10 3.50 1.5 1.2 0.990 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1244 70.0 70.0 4 17.8 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck D Los Angeles/Distric 2015	ct 7 e (Single Truck	Lane)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	4980 0.97 1284 2 0 Grade 5.10 3.50 6.0 0.909 0.95 1486	veh/h v % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1486 70.0 69.8 4 21.3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck D Los Angeles/Districe 2015	ct 7	
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4860 0.97 1253 0 Grade 5.10 3.50 6.0 6.0 1.000 0.95 1319	veh/h v % % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1319 70.0 70.0 4 18.8 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB Calgrove to Pico Los Angeles/Distric 2015		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5370 0.97 1384 10 0 Level -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1530 70.0 69.7 4 21.9	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB Pico to Calgrove Los Angeles/Distric 2015		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4910 0.97 1265 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1345 70.0 70.0 4 19.2 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB Pico to McBean Los Angeles/Distric 2015		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5660 0.97 1459 10 0 Grade 2.50 1.10 2.0 3.0 0.909 0.95 1689	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1689 70.0 68.9 4 24.5	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 SB McBean to Pico Los Angeles/Distric 2015		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4720 0.97 1216 10 0 Grade -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1345 70.0 70.0 4 19.2	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB McBean to Valencia Los Angeles/Distric 2015		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5760 0.97 1485 11 0 Grade -3.70 1.00 1.5 1.2 0.948 0.95 1649	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1649 70.0 69.2 4 23.8 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Valencia to McBean Los Angeles/Distric 2015		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4920 0.97 1268 11 0 Grade 3.70 1.00 2.4 3.0 0.867 0.95	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 5 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1232 70.0 70.0 5 17.6 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Valencia to Magic N Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	4960 0.97 1278 12 0 Grade -2.80 1.10 1.5 1.2 0.943 0.95	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1426 70.0 69.9 4 20.4 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Magic Mountain to Los Angeles/Distri 2015	ct 7	
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4320 0.97 1113 12 0 Grade 2.80 1.10 2.0 3.0 0.893 0.95 1313	veh/h v % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1313 70.0 70.0 4 18.8 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to 1 Los Angeles/Districe 2015	ct 7	
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4640 0.97 1196 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95	veh/h v % % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1334 70.0 70.0 4 19.1 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Magic Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	4160 0.97 1072 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1196 70.0 70.0 4 17.1 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Rye Canyon to SR-1 Los Angeles/Distri 2015	re	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	4640 0.97 1196 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1334	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1334 70.0 70.0 4 19.1	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 SB SR-126 to Rye Canyo Los Angeles/Distric 2015	ct 7	
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	3960 0.97 1021 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1139	veh/h v % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1139 70.0 70.0 4 16.3 B	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2015	ct ⁷ 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	3840 0.97 990 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1104	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1104 70.0 70.0 4 15.8 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Hasley Canyon to S Los Angeles/Distri 2015	ct 7 e	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	4360 0.97 1124 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1254	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1254 70.0 70.0 4 17.9 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to Pa Los Angeles/Distric 2015 - Build Alternative	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	2480 0.97 639 13 0 Grade 1.00 2.40 1.5 1.2 0.939 0.95	veh/h v % % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	717 70.0 70.0 4 10.2	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Parker to Hasley Ca Los Angeles/Distric 2015	ct ⁷ 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	3760 0.97 969 13 0 Grade -1.00 2.40 1.5 1.2 0.939 0.95	veh/h v % % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1086 70.0 70.0 4 15.5	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Parker to Lake Hug Los Angeles/Distri 2015	ct 7	
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	2700 0.97 696 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95	veh/h v % % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		787 70.0 70.0 4 11.2 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Lake Hughes to Park Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	3300 0.97 851 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95	veh/h v % % mi
	Speed Inputs and 7	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	962 70.0 70.0 4 13.7 B	pc/h/ln mi/h mi/h pc/mi/ln

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

f. 2015 Build Conditions - PM Peak Hour

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 PM Peak Hour I-5 NB SR14 Ramp to SR14 Los Angeles/Distri 2015 - Build AlternativFlow Inputs and A	ct 7 e	
77-7		2620	1- /1-
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen	T E, ER t, fHV	3630 0.97 936 0 0 Grade 4.43 0.59 3.5 4.5	veh/h v % % % mi
Driver population factor, vp Flow rate, vp		0.95 1313	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1313 70.0 70.0 3 18.8	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

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Phone:
                                              Fax:
E-mail:
                         _Operational Analysis_____
Analyst:
Agency or Company:
                         AFA
Date Performed:
                         June 07
Analysis Time Period:
                         PM Peak Hour
Freeway/Direction:
                         I-5 SB
                         SR14 Ramp to Balboa
From/To:
                         Los Angeles/District 7
Jurisdiction:
                         2015
Analysis Year:
Description: I-5 PA&ED - Build Alternative
                        __Flow Inputs and Adjustments_
Volume, V
                                              3840
                                                              veh/h
Peak-hour factor, PHF
                                              0.97
Peak 15-min volume, v15
                                              990
                                                              v
Trucks and buses
                                              Ω
                                                              ્ર
Recreational vehicles
                                              0
                                                              응
Terrain type:
                                              Grade
    Grade
                                              -4.43
                                                              ્ર
    Segment length
                                              0.64
                                                              mi
Trucks and buses PCE, ET
                                              1.5
Recreational vehicle PCE, ER
                                              1.2
Heavy vehicle adjustment, fHV Driver population factor, vp
                                              1.000
                                              0.95
Flow rate, vp
                                              1042
                                                              pc/h
                        __Speed Inputs and Adjustments_
Lane width
                                              12.0
Right-shoulder lateral clearance
                                              6.0
                                                              interchange/mi
Interchange density
                                              0.50
Number of lanes, N
                                              Measured
Free-flow speed:
     FFS or BFFS
                                              70.0
                                                              mi/h
Lane width adjustment, fLW
                                              0.0
                                                              mi/h
Lateral clearance adjustment, fLC
                                              0.0
                                                              mi/h
Interchange density adjustment, fID
                                              0.0
                                                              mi/h
Number of lanes adjustment, fN
                                                              mi/h
                                              1.5
Free-flow speed, FFS
                                              70.0
                                                              mi/h
                                              Urban Freeway
                     ____LOS and Performance Measures_
Flow rate, vp
                                              1042
                                                              pc/h/ln
Free-flow speed, FFS
                                              70.0
                                                             mi/h
Average passenger-car speed, S
                                              70.0
                                                              mi/h
Number of lanes, N
                                              4
                                              14.9
Density, D
                                                              pc/mi/ln
Level of service, LOS
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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 to Truck Route Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fhV	4300 0.97 1108 0 0 Grade 4.53 0.51 3.5 4.5 1.000 0.95	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1167 70.0 70.0 4 16.7 B	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Truck Route Bypass Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4500 0.97 1160 0 Grade -4.53 0.64 1.5 1.2 1.000 0.95	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1628 70.0 69.3 3 23.5	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Truck Route Bypass Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5350 0.97 1379 2 0 Grade -5.10 3.50 1.5 1.2 0.990 0.95	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1466 70.0 69.9 4 21.0	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck 1 Los Angeles/Distri 2015	ct 7 e (Single Truck	Lane)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	5500 0.97 1418 2 0 Grade 5.10 3.50 6.0 6.0 0.909 0.95 1641	veh/h v % % % mi
	Speed Inputs and I	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1641 70.0 69.2 4 23.7	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck I Los Angeles/Distri 2015	ct 7	
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5360 0.97 1381 0 Grade 5.10 3.50 6.0 6.0 1.000 0.95 1454	veh/h v % % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1454 70.0 69.9 4 20.8	pc/h/ln mi/h mi/h pc/mi/ln

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Phone:
                                              Fax:
E-mail:
                         _Operational Analysis_____
Analyst:
Agency or Company:
                         AFA
Date Performed:
                         June 07
Analysis Time Period:
                         PM Peak Hour
Freeway/Direction:
                         I-5 NB
From/To:
                         Calgrove to Pico
Jurisdiction:
                         Los Angeles/District 7
                         2015
Analysis Year:
Description: I-5 PA&ED - Build Alternative
                        ___Flow Inputs and Adjustments_
Volume, V
                                              5960
                                                              veh/h
Peak-hour factor, PHF
                                              0.97
Peak 15-min volume, v15
                                              1536
                                                              v
Trucks and buses
                                                              ્ર
                                              10
Recreational vehicles
                                              0
                                                              응
Terrain type:
                                              Level
    Grade
                                              -2.50
                                                              ્ર
    Segment length
                                              1.10
                                                              mi
Trucks and buses PCE, ET
                                              1.5
Recreational vehicle PCE, ER
                                              1.2
Heavy vehicle adjustment, fHV Driver population factor, vp
                                              0.952
                                              0.95
Flow rate, vp
                                              1698
                                                              pc/h
                        __Speed Inputs and Adjustments_
Lane width
                                              12.0
Right-shoulder lateral clearance
                                              6.0
                                                              interchange/mi
Interchange density
                                              0.50
Number of lanes, N
                                              Measured
Free-flow speed:
     FFS or BFFS
                                              70.0
                                                              mi/h
Lane width adjustment, fLW
                                              0.0
                                                              mi/h
Lateral clearance adjustment, fLC
                                              0.0
                                                              mi/h
Interchange density adjustment, fID
                                              0.0
                                                              mi/h
Number of lanes adjustment, fN
                                                              mi/h
                                              1.5
Free-flow speed, FFS
                                              70.0
                                                              mi/h
                                              Urban Freeway
                     ____LOS and Performance Measures_
Flow rate, vp
                                              1698
                                                              pc/h/ln
Free-flow speed, FFS
                                              70.0
                                                              mi/h
Average passenger-car speed, S
                                              68.8
                                                              mi/h
Number of lanes, N
                                              4
Density, D
                                              24.7
                                                              pc/mi/ln
Level of service, LOS
```

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB Pico to Calgrove Los Angeles/Distric 2015		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5530 0.97 1425 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1515 70.0 69.8 4 21.7	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	Pico to McBean Los Angeles/Distric 2015		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5660 0.97 1459 10 0 Grade 2.50 1.10 2.0 3.0 0.909 0.95 1689	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1689 70.0 68.9 4 24.5	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 SB McBean to Pico Los Angeles/Distric 2015		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6660 0.97 1716 10 0 Grade -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1897 70.0 66.6 4 28.5	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB McBean to Valencia Los Angeles/Distric 2015		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5460 0.97 1407 11 0 Grade -3.70 1.00 1.5 1.2 0.948 0.95 1563	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1563 70.0 69.6 4 22.5	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	rsis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Valencia to McBean Los Angeles/Distri 2015	re	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	6860 0.97 1768 11 0 Grade 3.70 1.00 2.4 3.0 0.867 0.95 1718	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 5 Measured 70.0 0.0 0.0 0.0 0.0 0.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1718 70.0 68.7 5 25.0	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Valencia to Magic N Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4960 0.97 1278 12 0 Grade -2.80 1.10 1.5 1.2 0.943 0.95	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1426 70.0 69.9 4 20.4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Magic Mountain to Los Angeles/Distriction 2015	ct 7	
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6460 0.97 1665 12 0 Grade 2.80 1.10 2.0 3.0 0.893 0.95 1963	veh/h v % % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1963 70.0 65.5 4 30.0	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to F Los Angeles/Distric 2015	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4640 0.97 1196 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1334 70.0 70.0 4 19.1	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Magi Los Angeles/Distri 2015	ct 7 re	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	6820 0.97 1758 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1961 70.0 65.6 4 29.9	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB Rye Canyon to SR-12 Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4640 0.97 1196 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1334	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1334 70.0 70.0 4 19.1	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB SR-126 to Rye Canyo Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5520 0.97 1423 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1587	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1587 70.0 69.5 4 22.8 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2015	ct ⁷ 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5340 0.97 1376 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95 1536	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1536 70.0 69.7 4 22.0	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Hasley Canyon to S Los Angeles/Distri 2015	ct 7 e	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	5120 0.97 1320 12 0 Level -1.00 2.40 1.5 1.2 0.943 0.95	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1472 70.0 69.9 4 21.1	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to Pa Los Angeles/Distric 2015	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4940 0.97 1273 13 0 Grade 1.00 2.40 1.5 1.2 0.939 0.95 1427	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1427 70.0 69.9 4 20.4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy:	sis	
From/To:	I-5 SB Parker to Hasley Ca Los Angeles/Distric 2015	ct ⁷ 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	3760 0.97 969 13 0 Grade -1.00 2.40 1.5 1.2 0.939 0.95 1086	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1086 70.0 70.0 4 15.5	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analysis Year: Description: I-5 PA&ED	I-5 NB Parker to Lake Hugh Los Angeles/Distric 2015 - Build Alternative	et 7	
	Flow Inputs and Ac	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4700 0.97 1211 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1371 70.0 70.0 4 19.6 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	rsis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Lake Hughes to Par Los Angeles/Distri 2015	re	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	4100 0.97 1057 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95 1196	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performar	ice Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1196 70.0 70.0 4 17.1 B	pc/h/ln mi/h mi/h pc/mi/ln

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

g. 2030 No-Build Conditions – Constrained – AM Peak Hour

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Anal	lysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 NB SR14 Ramp to SR14 Los Angeles/Distr 2030 - No-Build Altern Flow Inputs and	rict 7 native (Constraine	ed Flow Model)
	-	_	1 /1
Volume, V		3940	veh/h
Peak-hour factor, PHF		0.97	
Peak 15-min volume, v15		1015	V
Trucks and buses		2	%
Recreational vehicles		0	%
Terrain type:		Grade	
Grade		4.43	8
Segment length		0.59	mi
Trucks and buses PCE, E	T	3.5	
Recreational vehicle PC	E, ER	4.5	
Heavy vehicle adjustmen	t, fHV	0.952	
Driver population facto	r, vp	0.95	
Flow rate, vp	_	1496	pc/h
	Speed Inputs and	d Adjustments	
Lane width		12.0	
Right-shoulder lateral	alaamanaa	6.0	m
Interchange density	Clearance	0.50	m interchance/mi
			interchange/mi
Number of lanes, N		3 Management	
Free-flow speed:		Measured	
FFS or BFFS	ETTI	70.0	mi/h
Lane width adjustment,		0.0	mi/h
Lateral clearance adjus		0.0	mi/h
Interchange density adj		0.0	mi/h
Number of lanes adjustm	ent, iN	3.0	mi/h
Free-flow speed, FFS		70.0	mi/h
		Urban Freeway	
	LOS and Performa	ance Measures	
Flow rate, vp		1496	pc/h/ln
Free-flow speed, FFS		70.0	mi/h
Average passenger-car s	peed. S	69.8	mi/h
Number of lanes, N	E , ~	3	,
Density, D		21.4	pc/mi/ln
Level of service, LOS		C	F 0, 1111

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Anal	lysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR14 Ramp to Balk Los Angeles/Distr 2030	rict 7 native (Constrain	ed Flow Model)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	5260 0.97 1356 0 Grade -4.43 0.64 1.5 1.2 1.000 0.95 1903	veh/h v % % mi
	Speed Inputs and	d Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performa	ance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1903 70.0 66.5 3 28.6	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 to Truck Route Los Angeles/Distric 2030	et 7	d Flow Model)
77.] 77		4220	lo /lo
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length		4320 0.97 1113 0 0 Grade 4.53 0.51	veh/h v % % mi
Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	3.5 4.5 1.000 0.95 1563	pc/h
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
		Urban Freeway	
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1563 70.0 69.6 3 22.5	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Truck Route Bypass Los Angeles/Distric 2030	ct 7	ed Flow Model)
Volumo V		EEOO	woh/h
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		5580 0.97 1438 0 0 Grade	veh/h v %
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	-4.53 0.30 1.5 1.2 1.000	% mi
Flow rate, vp	- / · · · · ·	1514	pc/h
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N	clearance	12.0 6.0 0.50	m m interchange/mi
Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustmere-flow speed, FFS	tment, fLC ustment, fID	Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1514 70.0 69.8 4 21.7 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	/sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Truck Route Bypass Los Angeles/Distri 2030	ict 7	ed Flow Model)
Volume, V		6400	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length		0.97 1649 9 0 Grade -5.10 3.50	v % % % mi
Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	E, ER t, fHV	1.5 1.2 0.957 0.95 1814	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performar	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1814 70.0 67.7 4 26.8	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck D Los Angeles/Districe 2030	ct 7	ed Flow Model)
Volume, V		6882	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		0.97 1774 2 0 Grade	V % %
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	5.10 3.50 6.0 6.0 0.909 0.95 2738	% mi pc/h/ln
· -	Chood Inputs and		pc/11/111
	Speed Inputs and I	Ad Justillerits	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj	fLW tment, fLC	12.0 6.0 0.50 3 Measured 70.0 0.0	<pre>ft ft interchange/mi mi/h mi/h mi/h mi/h</pre>
Number of lanes adjustm Free-flow speed, FFS	ent, fN	3.0 70.0 Urban Freeway	mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D	peed, S	2738 70.0	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>
Level of service, LOS		F	

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB Calgrove to Pico Los Angeles/Distric 2030		ed Flow Model)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7000 0.97 1804 10 0 Level -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1994 70.0 65.0 4 30.7	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:		
	Operational Analys	sis		
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB Pico to Calgrove Los Angeles/Distric 2030		ed Flow Model)	
	Flow Inputs and Ad	djustments		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6716 0.97 1731 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95 2454	veh/h v % % mi pc/h/ln	
	Speed Inputs and A	Adjustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	<pre>ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h</pre>	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2454 70.0 3	pc/h/ln mi/h mi/h pc/mi/ln	

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Pico to McBean Los Angeles/Distric 2030	tive (Constraine	d Flow Model)
77-7		7500	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		7500 0.97 1933 10 0 Grade	veh/h v %
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	2.50 1.10 2.0 3.0 0.909	% mi
Flow rate, vp		2238	pc/h
	$_$ Speed Inputs and P	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS	clearance	12.0 6.0 0.50 4 Measured 70.0	m m interchange/mi mi/h
Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	0.0 0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2238 70.0 59.0 4 37.9	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB McBean to Pico Los Angeles/Distri 2030	tive (Constrain	ed Flow Model)
Volume, V		7800	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		0.97 2010 10 0 Grade -2.50	V % % %
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	1.10 1.5 1.2 0.952 0.95 2222	mi pc/h
riow race, vp	Spood Inputs and		pc/11
	Speed Inputs and	Ad Justillerits	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h
Free-flow speed, FFS	·	70.0 Urban Freeway	mi/h
	LOS and Performan	-	
Flow rate, vp		2222	pc/h/ln
Free-flow speed, FFS		70.0	mi/h
Average passenger-car s	peed, S	59.5	mi/h
Number of lanes, N Density, D Level of service, LOS		4 37.4 E	pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:		
	Operational Analys	is		
Analysis Year: Description: I-5 PA&ED	I-5 NB McBean to Valencia Los Angeles/Distric 2030 - No-Build Alternat	ive (Constraine	d Flow Model)	
	Flow Inputs and Ad	justments		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	7600 0.97 1959 11 0 Grade -3.70 1.00 1.5 1.2 0.948 0.95 2175	veh/h V % % % mi	
	Speed Inputs and A	diustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2175 70.0 60.8 4 35.8 E	pc/h/ln mi/h mi/h pc/mi/ln	

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Valencia to McBean Los Angeles/Distric 2030		ed Flow Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	8100 0.97 2088 11 0 Grade 3.70 1.00 2.4 3.0 0.867 0.95 2536	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performano	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2536 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Valencia to Magic Los Angeles/Distri 2030	ct 7	ed Flow Model)
Volume V		71.00	weh/h
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC	T E, ER	7100 0.97 1830 11 0 Grade -2.80 1.10 1.5	veh/h v % % mi
Heavy vehicle adjustmen Driver population facto	-	0.948 0.95	
Flow rate, vp		2032	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ice Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2032 70.0 64.2 4 31.6 D	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Magic Mountain to Los Angeles/Distriction 2030	ct 7 tive (Constraine	ed Flow Model)
			1 /1
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC	T E, ER	7300 0.97 1881 11 0 Grade 2.80 1.10 2.0 3.0	veh/h v % % % mi
Heavy vehicle adjustment, fHV		0.901	
Driver population factor, vp Flow rate, vp		0.95 2198	pc/h
	Speed Inputs and I	Adjustments	
* 1.7.1		10.0	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2198 70.0 60.2 4 36.5 E	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:		
	Operational Anal	ysis		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to Los Angeles/Distr 2030	rict 7 native (Constrain	ned Flow Model)	
Volume, V		6900	veh/h	
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E	т	0.97 1778 11 0 Level -1.00 2.40 1.5	Ven/n V % % % mi	
Recreational vehicle PC Heavy vehicle adjustmen	-	1.2 0.948		
Driver population factor	-	0.95		
Flow rate, vp		1975	pc/h	
	Speed Inputs and	l Adjustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustment	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h	
Free-flow speed, FFS	CIIC, IN	70.0	mi/h	
		Urban Freeway	7	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1975 70.0 65.3 4 30.2	pc/h/ln mi/h mi/h pc/mi/ln	

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Magic Los Angeles/Distric 2030	t 7	d Flow Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	7200 0.97 1856 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2061	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2061 70.0 63.6 4 32.4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	is	
Analysis Year: Description: I-5 PA&ED	I-5 NB Rye Canyon to SR-12 Los Angeles/Distric 2030 - No-Build Alternat	t 7	d Flow Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	6900 0.97 1778 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95	veh/h v % % % mi
· -	g 1	7.	_
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustmere-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1975 70.0 65.3 4 30.2	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR-126 to Rye Canyo Los Angeles/Distric 2030	et 7	ed Flow Model)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7000 0.97 1804 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2004	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2004 70.0 64.8 4 30.9	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2030	ct ⁷ 7	ed Flow Model)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6500 0.97 1675 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1860 70.0 67.1 4 27.7	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Hasley Canyon to S Los Angeles/Distri 2030	ct 7	ed Flow Model)
Volume, V		7200	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		7200 0.97 1856 11 0 Level	ven/n v % %
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment	E, ER t, fHV	-1.00 2.40 1.5 1.2 0.948	% mi
Driver population factor Flow rate, vp	r, vp	0.95 2061	pc/h
	Speed Inputs and	Adjustments	
Lane width		12.0	m
Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed:	clearance	6.0 0.50 4 Measured	m interchange/mi
FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm	tment, fLC ustment, fID	70.0 0.0 0.0 0.0 1.5	mi/h mi/h mi/h mi/h mi/h
Free-flow speed, FFS		70.0 Urban Freeway	mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2061 70.0 63.6 4 32.4 D	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to F Los Angeles/Distri 2030	ct 7	ed Flow Model)
17-1 17		4000	h /h
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		4900 0.97 1263 12 0 Grade	veh/h v %
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	1.00 2.40 1.5 1.2 0.943 0.95	% mi
Flow rate, vp	, _	1409	pc/h
	Speed Inputs and	Adjustments	
- 1313		10.0	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment,	fLW	12.0 6.0 0.50 4 Measured 70.0	m interchange/mi mi/h mi/h
Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	ustment, fID	0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h
	LOS and Performan	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1409 70.0 70.0 4 20.1	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Parker to Hasley C Los Angeles/Distri 2030	ct 7	ed Flow Model)
17-1 17		6700	la /la
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles		6700 0.97 1727 12 0	veh/h v %
Terrain type: Grade Segment length		Grade -1.00 2.40	% mi
Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	1.5 1.2 0.943 0.95	
Flow rate, vp		1927	pc/h
	Speed Inputs and .	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS	clearance	12.0 6.0 0.50 4 Measured 70.0	m m interchange/mi mi/h
Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	0.0 0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1927 70.0 66.1 4 29.1 D	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Parker to Lake Hug Los Angeles/Distri 2030	ct 7 tive (Constraine	ed Flow Model)
1		41.00	1 (1
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		4100 0.97 1057 15 0 Level 3.60	veh/h v %
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	1.00 1.5 1.2 0.930 0.95 1196	mi pc/h
	Speed Inputs and .	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h
Free-flow speed, FFS	ent, in	70.0 Urban Freeway	mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1196 70.0 70.0 4 17.1 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Lake Hughes to Parl Los Angeles/Distric 2030	ct 7 tive (Constraine	d Flow Model)
Volumo V		E200	troh /h
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		5200 0.97 1340 15 0 Level 3.60	veh/h v % %
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	1.00 1.5 1.2 0.930 0.95 1517	mi pc/h
· -	Speed Inputs and I		F - 7 - 1
	speca inpues and i	Ad Jus cilicites	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment,		12.0 6.0 0.50 4 Measured 70.0 0.0	m interchange/mi mi/h mi/h
Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1517 70.0 69.8 4 21.7	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

h. 2030 No-Build Conditions - Constrained - PM Peak Hour

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 Ramp to SR14 I Los Angeles/Distri 2030	ct 7	ed Flow Model)
	r row impacts and re	a Jub ciliciteb	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fhV	5660 0.97 1459 0 0 Grade 4.43 0.59 3.5 4.5 1.000 0.95 2047	veh/h v % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustmere-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	speed, S	2047 70.0 63.9 3 32.0	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR14 Ramp to Balboa Los Angeles/Distric 2030	t 7	d Flow Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	6160 0.97 1588 0 0 Grade -4.53 0.64 1.5 1.2 1.000 0.95 2228	veh/h V % % % mi
	Chood Inputs and A	dingtmonts	
	Speed Inputs and A	ajustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2228 70.0 59.3 3 37.6 E	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 to Truck Route Los Angeles/Distric 2030	ct 7	ed Flow Model)
Volume, V		6420	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		0.97 1655 0 0 Grade 4.53	Veii/ii V % % %
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	0.51 3.5 4.5 1.000 0.95	mi
Flow rate, vp		2322	pc/h
	Speed Inputs and <i>I</i>	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment,		12.0 6.0 0.50 3 Measured 70.0 0.0	m m interchange/mi mi/h mi/h
Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	0.0 0.0 3.0 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2322 70.0 56.2 3 41.3	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Truck Route Bypass Los Angeles/Distri 2030	ct 7 tive (Constraine	ed Flow Model)
Volumo V		6050	woh/h
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		6950 0.97 1791 0 0 Grade	veh/h v %
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor	E, ER t, fHV	-4.53 0.30 1.5 1.2 1.000	% mi
Flow rate, vp		1886	pc/h
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus	fLW	12.0 6.0 0.50 4 Measured 70.0 0.0	m minterchange/mi mi/h mi/h mi/h
Interchange density adj Number of lanes adjustm Free-flow speed, FFS	ustment, fID	0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1886 70.0 66.8 4 28.3	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

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Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Truck Route Bypass Los Angeles/Distric 2030	t 7	d Flow Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	8200 0.97 2113 9 0 Grade -5.10 3.50 1.5 1.2 0.957 0.95	veh/h v % % % mi
, -	0 1 7 1 1 1 1	7.	_
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2325 70.0 56.1 4 41.4 E	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck F Los Angeles/Distric 2030	et 7	ed Flow Model)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	8184 0.97 2109 2 0 Grade 5.10 3.50 6.0 6.0 0.909 0.95 3256	<pre>veh/h v % % mi pc/h/ln</pre>
	One and Transfer and 7	\ -	
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustmere-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		3256 70.0 3	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Calgrove to Pico Los Angeles/Distri 2030	tive (Constraine	ed Flow Model)
77.] 77		0.4.0.0	anala /la
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length		8400 0.97 2165 10 0 Level -2.50 1.10	veh/h v % % % mi
Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	1.5 1.2 0.952 0.95 2393	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustmere-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
		Urban Freeway	
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2393 70.0 53.6 4 44.6 E	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Anal	ysis	
Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Pico to Calgrove Los Angeles/Distr 2030	ative (Constrain	ed Flow Model)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	8188 0.97 2110 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95 2991	veh/h v % % mi pc/h/ln
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performa	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2991 70.0 3 F	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Pico to McBean Los Angeles/Distric 2030		ed Flow Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	8400 0.97 2165 10 0 Grade 2.50 1.10 2.0 3.0 0.909 0.95 2507	veh/h v % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2507 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB McBean to Pico Los Angeles/Distric 2030		ed Flow Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	9600 0.97 2474 10 0 Grade -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2735 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB McBean to Valencia Los Angeles/Distri 2030	ct 7 tive (Constraine	ed Flow Model)
Volumo V		0200	woh/h
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E	т	8300 0.97 2139 11 0 Grade -3.70 1.00 1.5	veh/h v % % % mi
Recreational vehicle PC Heavy vehicle adjustmen	•	1.2 0.948	
Driver population factor	•	0.95	
Flow rate, vp		2376	pc/h
	Speed Inputs and .	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjust Interchange density adj Number of lanes adjustmere-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
rice rion speed, ris		Urban Freeway	
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2376 70.0 54.3 4 43.8 E	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

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Phone: E-mail:		Fax:	
	Operational Analys	is	
Analysis Year: Description: I-5 PA&ED	I-5 SB Valencia to McBean Los Angeles/Distric 2030 - No-Build Alternat	ive (Constraine	d Flow Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	10000 0.97 2577 11 0 Grade 3.70 1.00 2.4 3.0 0.867 0.95 3131	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	3131 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Anal	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Valencia to Magic Los Angeles/Distr 2030	ict 7 ative (Constrain	ed Flow Model)
Volume, V		7900	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fhV	7900 0.97 2036 11 0 Grade -2.80 1.10 1.5 1.2 0.948 0.95 2261	ven/n v % % % mi
	Speed Inputs and		L 0 / 11
	bpeca inpues ana		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performa	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2261 70.0 58.3 4 38.8 E	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

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Phone: E-mail:		Fax:	
	Operational Analys	is	
Analysis Year: Description: I-5 PA&ED	I-5 SB Magic Mountain to V Los Angeles/Distric 2030 - No-Build Alternat	t 7	d Flow Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	9800 0.97 2526 11 0 Grade 2.80 1.10 2.0 3.0 0.901 0.95 2951	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2951 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to Los Angeles/Distri 2030	.ct 7 Ltive (Constraine	ed Flow Model)
	-		1. (1)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length		7700 0.97 1985 11 0 Level -1.00 2.40	veh/h v % % mi
Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	1.5 1.2 0.948 0.95 2204	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS	clearance	12.0 6.0 0.50 4 Measured 70.0	m minterchange/mi mi/h
Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	0.0 0.0 0.0 1.5 70.0 Urban Freeway	<pre>mi/h mi/h mi/h mi/h mi/h mi/h</pre>
	LOS and Performan	ice Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2204 70.0 60.0 4 36.7	pc/h/ln mi/h mi/h pc/mi/ln
•			

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Magi Los Angeles/Distri 2030	ct 7	ed Flow Model)
Volume, V		10100	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		0.97 2603 11 0	V % %
Grade Segment length Trucks and buses PCE, E		-1.00 2.40 1.5	% mi
Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	t, fHV	1.2 0.948 0.95 2891	pc/h
	Speed Inputs and I		
T 34-h			
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed:	clearance	12.0 6.0 0.50 4 Measured	m m interchange/mi
FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj	tment, fLC ustment, fID	70.0 0.0 0.0 0.0	mi/h mi/h mi/h mi/h mi/h
Number of lanes adjustm Free-flow speed, FFS	ent, in	70.0 Urban Freeway	mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2891 70.0 4	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analysis Year: Description: I-5 PA&ED	I-5 NB Rye Canyon to SR-12 Los Angeles/Distric 2030 - No-Build Alternat	t 7	d Flow Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	7700 0.97 1985 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2204	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2204 70.0 60.0 4 36.7	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:		
	Operational Analys	sis		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 PM Peak Hour I-5 SB SR-126 to Rye Canyo Los Angeles/Distric 2030 - No-Build Alternat _Flow Inputs and Ac	ct 7 tive (Constraine	ed Flow Model)	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	9200 0.97 2371 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2633	veh/h v % % % mi	
	Speed Inputs and A	Adjustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2633 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln	

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2030	ct 7 tive (Constraine	ed Flow Model)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	8700 0.97 2242 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95	veh/h v % % % mi
Flow rate, vp		2490	pc/h
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h
Number of lanes adjustment, fN Free-flow speed, FFS		70.0	mi/h
-		Urban Freeway	
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2490 70.0 4	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

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Phone: E-mail:		Fax:		
	Operational Analys	is		
Analysis Year: Description: I-5 PA&ED	I-5 SB Hasley Canyon to SR Los Angeles/Distric 2030 - No-Build Alternat	t 7	d Flow Model)	
	Flow Inputs and Ad	justments		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	9100 0.97 2345 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2605	veh/h v % % % mi	
	Speed Inputs and A	djustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2605 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln	

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to P Los Angeles/Distri 2030 - No-Build Alterna	ct 7 tive (Constraine	ed Flow Model)
	Flow Inputs and A	a justillerits	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	8200 0.97 2113 12 0 Grade 1.00 2.40 1.5 1.2 0.943 0.95 2358	veh/h v % % % mi
	Speed Inputs and	Adiustments	
	speca inpacs and	Ad Justilicites	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m m interchange/mi mi/h mi/h mi/h mi/h
Number of lanes adjustm Free-flow speed, FFS	ent, fN	1.5 70.0 Urban Freeway	mi/h mi/h
	LOS and Performan	-	
	Lob and refrorman		
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N	peed, S	2358 70.0 54.9 4	pc/h/ln mi/h mi/h
Density, D Level of service, LOS		42.9 E	pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Parker to Hasley C Los Angeles/Distri 2030	ct 7	d Flow Model)
17-1 17		7600	la /la
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC	T	7600 0.97 1959 12 0 Grade -1.00 2.40 1.5 1.2	veh/h v % % % mi
Heavy vehicle adjustment, fHV		0.943	
Driver population factor, vp		0.95	
Flow rate, vp		2186	pc/h
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS	clearance	12.0 6.0 0.50 4 Measured 70.0	m m interchange/mi mi/h
Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	0.0 0.0 0.0 1.5 70.0	mi/h mi/h mi/h mi/h mi/h mi/h
The second secon		Urban Freeway	
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2186 70.0 60.5 4 36.1	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Parker to Lake Hug Los Angeles/Distri 2030	ct 7	ed Flow Model)
Volumo V		6900	woh/h
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen	T E, ER	6800 0.97 1753 15 0 Level 3.60 1.00 1.5 1.2	veh/h v % % mi
Driver population facto		0.95	/1-
Flow rate, vp		1983	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustment	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m m interchange/mi mi/h mi/h mi/h mi/h mi/h
Free-flow speed, FFS		70.0 Urban Freeway	mi/h
		-	
	LOS and Performan	ice Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1983 70.0 65.2 4 30.4 D	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:		
	Operational Ana	lysis		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Lake Hughes to Pa Los Angeles/Dista 2030	rict 7 native (Constrain	ed Flow Model)	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	6500 0.97 1675 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95 1896	veh/h v % % % mi	
	Speed Inputs and	d Adjustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1896 70.0 66.6 4 28.5	pc/h/ln mi/h mi/h pc/mi/ln	

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

i. 2030 Build Conditions - Constrained - AM Peak Hour

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Phone: E-mail:		Fax:		
	Operational Analys	sis		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 Ramp to SR14 F Los Angeles/Distric 2030	et 7 e (Constrained E	rlow Model)	
	1 10W 111pueb and 11c		······································	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	2750 0.97 709 2 0 Grade 4.43 0.59 3.5 4.5 0.952 0.95 1044	veh/h v % % % mi	
	$_$ Speed Inputs and I	Adjustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustmere-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1044 70.0 70.0 3 14.9	pc/h/ln mi/h mi/h pc/mi/ln	

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR14 Ramp to Balboa Los Angeles/Distric 2030	t 7	low Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	3920 0.97 1010 0 0 Grade -4.43 0.64 1.5 1.2 1.000 0.95 1418	veh/h v % % % mi
, -	Crood Transfer and D	al	•
	Speed Inputs and A	ajustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1418 70.0 69.9 3 20.3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 to Truck Route Los Angeles/Distric 2030	t 7	'low Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fhV	3130 0.97 807 0 0 Grade 4.53 0.51 3.5 4.5 1.000 0.95	veh/h v % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1132 70.0 70.0 3 16.2 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Truck Route Bypass Los Angeles/Distric 2030	ct 7 e (Constrained B	Flow Model)
Volume, V		4240	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		0.97 1093 0 0 Grade -4.53	V CH7 H
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	0.30 1.5 1.2 1.000 0.95 1150	mi pc/h
riow race, vp	Speed Inputs and A		P 0 / 11
	specu inpues and i	_	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustmere-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
		Urban Freeway	
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1150 70.0 70.0 4 16.4 B	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Truck Route Bypass Los Angeles/Distric 2030	t 7	low Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	4760 0.97 1227 2 0 Grade -5.10 3.50 1.5 1.2 0.990 0.95 1304	veh/h v % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1304 70.0 70.0 4 18.6	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 SB Calgrove to Truck Los Angeles/Distri 2030 - Build Alt/SingleFlow Inputs and A	ct 7 Truck Lane (Con	nst. Flow Model)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	5500 0.97 1418 2 0 Grade 5.10 3.50 6.0 6.0 0.909 0.95 1641	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1641 70.0 69.2 4 23.7 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Anal	ysis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB Calgrove to Truck Los Angeles/Distr 2030	ict 7	st. Flow Model)
	Flow Inputs and	Adjustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5360 0.97 1381 0 0 Grade 5.10 3.50 6.0 6.0 1.000 0.95 1454	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performa	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1454 70.0 69.9 4 20.8	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Calgrove to Pico Los Angeles/Distric 2030		low Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	5740 0.97 1479 10 0 Level -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1635 70.0 69.2 4 23.6 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 SB Pico to Calgrove Los Angeles/Distric 2030		'low Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5420 0.97 1397 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1485 70.0 69.8 4 21.3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 NB Pico to McBean Los Angeles/Distric 2030		rlow Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6080 0.97 1567 10 0 Grade 2.50 1.10 2.0 3.0 0.909 0.95	veh/h v % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1814 70.0 67.7 4 26.8	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB McBean to Pico Los Angeles/Distric 2030		Flow Model)
	Flow Inputs and Ac	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6470 0.97 1668 10 0 Grade -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1843 70.0 67.3 4 27.4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB McBean to Valencia Los Angeles/Distric 2030		low Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	6180 0.97 1593 11 0 Grade -3.70 1.00 1.5 1.2 0.948 0.95	veh/h v % % % mi
Flow rate, vp		1769	pc/h
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1769 70.0 68.2 4 25.9	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Description: I-5 PA&ED	I-5 SB Valencia to McBean Los Angeles/Distric 2030	e (Constrained F	low Model)
Molumo M		6770	rroh /h
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		6770 0.97 1745 11 0 Grade	veh/h v %
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen	E, ER	3.70 1.00 2.4 3.0 0.867	% mi
Driver population facto Flow rate, vp	r, vp	0.95 1696	pc/h
· -			F - 7
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment,		12.0 6.0 0.50 5 Measured 70.0	m m interchange/mi mi/h mi/h
Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	0.0 0.0 0.0 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1696 70.0 68.8 5 24.6	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	rsis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Valencia to Magic Los Angeles/Distri 2030	ct 7 re (Constrained)	Flow Model)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	5680 0.97 1464 11 0 Grade -2.80 1.10 1.5 1.2 0.948 0.95 1626	veh/h v % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1626 70.0 69.3 4 23.5	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Magic Mountain to V Los Angeles/Districe 2030	ct 7 e (Constrained F	'low Model)
	_		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length		5960 0.97 1536 11 0 Grade 2.80 1.10	veh/h v % % % mi
Trucks and buses PCE, ET Recreational vehicle PCE, ER Heavy vehicle adjustment, fHV Driver population factor, vp Flow rate, vp		2.0 3.0 0.901 0.95 1795	pc/h
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h
Free-flow speed, FFS		70.0	mi/h
		Urban Freeway	
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1795 70.0 67.9 4 26.4 D	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to Los Angeles/Distri 2030	ct 7 e (Constrained)	Flow Model)
Volume, V		5690	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		0.97 1466 11 0 Level -1.00	V C11/11 V % %
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	2.40 1.5 1.2 0.948 0.95 1629	mi pc/h
riow race, vp	Chood Inputs and		pc/11
	Speed Inputs and .	Ad Justillerits	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj	fLW tment, fLC	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m interchange/mi mi/h mi/h mi/h mi/h mi/h
Number of lanes adjustm Free-flow speed, FFS		1.5 70.0 Urban Freeway	mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1629 70.0 69.3 4 23.5 C	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Magic Los Angeles/Distric 2030	t 7 (Constrained F	low Model)
	row inpact and na	Jasemerres	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	5860 0.97 1510 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 1677	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	a Maagurag	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1677 70.0 69.0 4 24.3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Rye Canyon to SR-12 Los Angeles/Distric 2030	t 7	low Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	5690 0.97 1466 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 1629	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1629 70.0 69.3 4 23.5	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR-126 to Rye Cany Los Angeles/Distri 2030	ct 7 re (Constrained)	Flow Model)
Volume, V		5660	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E		0.97 1459 11 0 Level -1.00 2.40 1.5	ven/n v % % % mi
Recreational vehicle PC Heavy vehicle adjustmen	E, ER	1.2 0.948	
Driver population factor Flow rate, vp	•	0.95 1620	pc/h
· -	Speed Inputs and	Adjustments	-
- 12.3		_	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustmere-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
		Urban Freeway	
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1620 70.0 69.3 4 23.4 C	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
·	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2030	t 7	low Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC	E, ER	5860 0.97 1510 11 0 Level -1.00 2.40 1.5 1.2	veh/h v % % % mi
Heavy vehicle adjustmen Driver population facto		0.948 0.95	
Flow rate, vp	Ι, νρ	1677	pc/h
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	_	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1677 70.0 69.0 4 24.3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Hasley Canyon to S Los Angeles/Distri 2030	ct 7 e (Constrained)	Flow Model)
Volume, V		5290	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E		0.97 1363 11 0 Level -1.00 2.40 1.5	V % % % mi
Recreational vehicle PC Heavy vehicle adjustmen	•	1.2 0.948	
Driver population factor Flow rate, vp	•	0.95 1514	pc/h
riow race, vp	Control Transaction and		pc/ II
	Speed Inputs and	Ad Justments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h
Free-flow speed, FFS	ent, in	70.0	mi/h
		Urban Freeway	
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1514 70.0 69.8 4 21.7	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to Pa Los Angeles/Distric 2030	ct 7	rlow Model)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	3920 0.97 1010 12 0 Grade 1.00 2.40 1.5 1.2 0.943 0.95	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1127 70.0 70.0 4 16.1 B	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Parker to Hasley Ca Los Angeles/Distric 2030	:t ⁻ 7	low Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	5360 0.97 1381 12 0 Grade -1.00 2.40 1.5 1.2 0.943 0.95	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1541 70.0 69.7 4 22.1	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Parker to Lake Hugh Los Angeles/Distric 2030	t 7	low Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	4100 0.97 1057 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95 1196	veh/h v % % % mi
	Chood Innuts and A	dinatmonta	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS		12.0 6.0 0.50 4 Measured 70.0	m m interchange/mi mi/h
Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	0.0 0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1196 70.0 70.0 4 17.1	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Lake Hughes to Par Los Angeles/Distri 2030	ct 7 e (Constrained D	Flow Model)
Volume, V		5200	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		0.97 1340 15 0 Level 3.60	V % %
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	1.00 1.5 1.2 0.930 0.95 1517	mi pc/h
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustmere-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	-	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	_	1517 70.0 69.8 4 21.7	pc/h/ln mi/h mi/h pc/mi/ln

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

j. 2030 Build Conditions - Constrained - PM Peak Hour

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 Ramp to SR14 N Los Angeles/Districe 2030	ct 7 e (Constrained F	'low Model)
	-		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV r, vp	4140 0.97 1067 0 0 Grade 4.43 0.59 3.5 4.5 1.000 0.95 1498	veh/h v % % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1498 70.0 69.8 3 21.5	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR14 Ramp to Balboa Los Angeles/Distric 2030	t 7	low Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	4570 0.97 1178 0 0 Grade -4.53 0.64 1.5 1.2 1.000	veh/h v % % % mi
Flow rate, vp		1653	pc/h
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1653 70.0 69.1 3 23.9	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
·	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 to Truck Route Los Angeles/Distric 2030	t 7	low Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen	E, ER t, fHV	4900 0.97 1263 0 0 Grade 4.53 0.51 3.5 4.5	veh/h v % % % mi
Driver population facto Flow rate, vp	r, vp	0.95 1772	pc/h
, .F			_
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1772 70.0 68.2 3 26.0+	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Truck Route Bypass Los Angeles/Distric 2030	t 7 c (Constrained F	low Model)
1		5260	1 /1
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		5360 0.97 1381 0 0 Grade -4.53	veh/h v %
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	0.30 1.5 1.2 1.000 0.95 1454	mi pc/h
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS		12.0 6.0 0.50 4 Measured 70.0	m m interchange/mi mi/h
Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	0.0 0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h
	LOS and Performano	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1454 70.0 69.9 4 20.8	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Truck Route Bypass Los Angeles/Distric 2030	ct 7	Flow Model)
Volumo V		6100	roh/h
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		6100 0.97 1572 2 0 Grade -5.10	veh/h V % %
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	3.50 1.5 1.2 0.990 0.95 1671	mi pc/h
	Speed Inputs and <i>I</i>	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjust Interchange density adj Number of lanes adjustment Free-flow speed FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
Free-flow speed, FFS		Urban Freeway	m1/11
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1671 70.0 69.0 4 24.2 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
·	Operational Analys	sis	
Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck F Los Angeles/Distric 2030 - Build Alt/Single	et 7 Truck Lane (Con	st. Flow Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	6540 0.97 1686 2 0 Grade 5.10 3.50 6.0 0.909 0.95 1952	veh/h v % % % mi
Flow rate, vp		1932	pc/h
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performano	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1952 70.0 65.7 4 29.7	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	/sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck Los Angeles/Distri 2030	ct 7	st. Flow Model)
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	6380 0.97 1644 0 Grade 5.10 3.50 6.0 6.0 1.000 0.95	veh/h v % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	IOS and Derforman	oge Meagures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	LOS and Performar peed, S	1731 70.0 68.5 4 25.3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Calgrove to Pico Los Angeles/Distric 2030		Flow Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6910 0.97 1781 10 0 Level -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1968 70.0 65.4 4 30.1	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	Pico to Calgrove Los Angeles/Distric 2030		'low Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6610 0.97 1704 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.995 1811	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustmere-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	re Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1811 70.0 67.7 4 26.7	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analysis Year: Description: I-5 PA&ED	I-5 NB Pico to McBean Los Angeles/Distric 2030 - Build Alternative	(Constrained F	low Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	6910 0.97 1781 10 0 Grade 2.50 1.10 2.0 3.0 0.909	veh/h v % % % mi
Flow rate, vp		2062	pc/h
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2062 70.0 63.6 4 32.4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Description: I-5 PA&ED	I-5 SB McBean to Pico Los Angeles/Distric 2030	(Constrained F	low Model)
		7600	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		7680 0.97 1979 10 0 Grade	veh/h v %
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	-2.50 1.10 1.5 1.2 0.952 0.95 2188	pc/h
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N		12.0 6.0 0.50	m m interchange/mi
Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2188 70.0 60.4 4 36.2 E	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 NB McBean to Valencia Los Angeles/Distric 2030		Flow Model)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	6720 0.97 1732 11 0 Grade -3.70 1.00 1.5 1.2 0.948 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1923 70.0 66.2 4 29.0	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Valencia to McBean Los Angeles/Distric 2030		low Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	8040 0.97 2072 11 0 Grade 3.70 1.00 2.4 3.0 0.867 0.95	veh/h v % % % mi
Flow rate, vp	I, VP	2014	pc/h
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 5 Measured 70.0 0.0 0.0 0.0 0.0 0.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2014 70.0 64.6 5 31.2	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	ysis	
Description: I-5 PA&ED	I-5 NB Valencia to Magic Los Angeles/Distr: 2030	ict 7 ve (Constrained)	Flow Model)
77-7		6200	1- /1-
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		6320 0.97 1629 11 0 Grade	veh/h v %
Grade Segment length Trucks and buses PCE, E		-2.80 1.10 1.5	% mi
Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	t, fHV	1.2 0.948 0.95 1809	pc/h
	Speed Inputs and	Adjustments	
		_	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed:	clearance	12.0 6.0 0.50 4 Measured	m m interchange/mi
FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	70.0 0.0 0.0 0.0 1.5 70.0	mi/h mi/h mi/h mi/h mi/h mi/h
riee-liow speed, rrs		Urban Freeway	•
	LOS and Performan	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1809 70.0 67.8 4 26.7 D	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Magic Mountain to Los Angeles/Distri 2030	ct 7 re (Constrained H	Flow Model)
	-		
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC	T	7840 0.97 2021 11 0 Grade 2.80 1.10 2.0 3.0	veh/h v % % % mi
Heavy vehicle adjustmen	The state of the s	0.901	
Driver population facto	r, vp	0.95	ng/h
Flow rate, vp		2361	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h
Free-flow speed, FFS		70.0	mi/h
		Urban Freeway	
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2361 70.0 54.8 4 43.1 E	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: (714) 667-0496 E-mail: mail@austinfoust.com Fax:

	Operational	Analysis	
Analyst:			

Agency or Company: Date Performed: AFA June 07 Analysis Time Period: PM Peak Hour Freeway/Direction: I-5 SB

From/To: Magic Mountain to Valencia Jurisdiction: Los Angeles/District 7

2030 Analysis Year:

Flow Inputs and Adjustments				
Volume, V 9212 veh/h				
Peak-hour factor, PHF 0.97				
Peak 15-min volume, v15 2374 v				
Trucks and buses 11 %				
Recreational vehicles 0 %				
Terrain type: Grade				
Grade 2.80 %				
Segment length 1.10 mi				
Trucks and buses PCE, ET 2.0				
Recreational vehicle PCE, ER 3.0				
Heavy vehicle adjustment, fHV 0.901				
Driver population factor, fp 0.95				
Flow rate, vp 2774 pc/h/ln				
Speed Inputs and Adjustments				
Lane width 12.0 ft				
Right-shoulder lateral clearance 6.0 ft				
Interchange density 0.50 interchange/mi				
Number of lanes, N 4				
Free-flow speed: Measured				
FFS or BFFS 70.0 mi/h				
Lane width adjustment, fLW 0.0 mi/h				
Lateral clearance adjustment, fLC 0.0 mi/h				
Interchange density adjustment, fID 0.0 mi/h				
Number of lanes adjustment, fN 1.5 mi/h				
Free-flow speed, FFS 70.0 mi/h				
Urban Freeway				
LOS and Performance Measures				
Flow rate, vp 2774 pc/h/ln				
Free-flow speed, FFS 70.0 mi/h				
Average passenger-car speed, S mi/h				
Number of lanes, N 4				
Density, D pc/mi/ln				

Overall results are not computed when free-flow speed is less than 55 mph.

Level of service, LOS

F

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	rsis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to Los Angeles/Distri 2030	ct 7	Flow Model)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	6160 0.97 1588 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 1763	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1763 70.0 68.2 4 25.8 C	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Magic Los Angeles/Distric 2030	t 7	'low Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fhV	8120 0.97 2093 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2324	veh/h v % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2324 70.0 56.2 4 41.4 E	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Rye Canyon to SR-12 Los Angeles/Distric 2030	ct 7 e (Constrained F	low Model)
17-1 17		6160	la /la
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		6160 0.97 1588 11 0 Level -1.00	veh/h v % %
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	2.40 1.5 1.2 0.948 0.95	mi pc/h
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N		12.0 6.0 0.50	m m interchange/mi
Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1763 70.0 68.2 4 25.8	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR-126 to Rye Canyo Los Angeles/Distric 2030	t 7	low Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	7360 0.97 1897 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2107	veh/h v % % % mi
Speed Inputs and Adjustments			
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2107 70.0 62.6 4 33.7	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR-126 to Hasley C Los Angeles/Distri 2030	ct ⁷	Flow Model)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	7130 0.97 1838 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2041	veh/h v % % % mi
	Speed Inputs and .	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2041 70.0 64.0 4 31.9	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Hasley Canyon to SF Los Angeles/Distric 2030	et 7	Flow Model)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7280 0.97 1876 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2084	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2084 70.0 63.1 4 33.0	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to Pa Los Angeles/Distric 2030	t 7	low Model)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	6630 0.97 1709 12 0 Grade 1.00 2.40 1.5 1.2 0.943 0.95	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1907 70.0 66.4 4 28.7	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Parker to Hasley C Los Angeles/Distri 2030	ct ⁷	Flow Model)
Volume, V		6080	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		0.97 1567 12 0 Grade -1.00	V % %
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	2.40 1.5 1.2 0.943 0.95 1748	mi pc/h
<u>.</u>	Speed Inputs and I		1 - /
Lane width Right-shoulder lateral Interchange density Number of lanes, N	_	12.0 6.0 0.50	m m interchange/mi
Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1748 70.0 68.4 4 25.6	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Parker to Lake Hugh Los Angeles/Distric 2030	et 7	Flow Model)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6800 0.97 1753 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1983 70.0 65.2 4 30.4 D	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Lake Hughes to Par Los Angeles/Distri 2030	ct 7 e (Constrained)	Flow Model)
Volume, V		6500	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		0.97 1675 15 0 Level 3.60	V 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor	E, ER t, fHV	1.00 1.5 1.2 0.930 0.95	mi
Flow rate, vp		1896	pc/h
	Speed Inputs and .	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment,		12.0 6.0 0.50 4 Measured 70.0 0.0	m m interchange/mi mi/h mi/h
Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	ustment, fID	0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1896 70.0 66.6 4 28.5	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

k. 2030 No-Build Conditions - Demand - AM Peak Hour

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 Ramp to SR14 I Los Angeles/Distri 2030	ct 7 tive (Demand Moo	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV r, vp	5480 0.97 1412 0 0 Grade 4.43 0.59 3.5 4.5 1.000 0.95 1982	veh/h v % % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 0.0 To.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1982 70.0 65.2 3 30.4	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 SB SR14 Ramp to Balboa Los Angeles/Distric 2030 - No-Build Alternat _Flow Inputs and Ac	et 7 Live (Demand Mod	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	6810 0.97 1755 0 0 Grade -4.43 0.64 1.5 1.2 1.000 0.95 2463	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2463 70.0 3	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 to Truck Route Los Angeles/Distric 2030	ct 7	del)
Volume, V		6010	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		0.97 1549 0 0 Grade 4.53 0.51	V e i i i i i i i i i i i i i i i i i i
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	3.5 4.5 1.000 0.95 2174	pc/h
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2174 70.0 60.8 3 35.7	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Truck Route Bypass Los Angeles/Distri 2030	ct 7 tive (Demand Mod	del)
Volume, V		7230	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC	T E, ER	0.97 1863 0 0 Grade -4.53 0.30 1.5	Ven/n V % % % mi
Heavy vehicle adjustmen Driver population facto	•	1.000 0.95	
Flow rate, vp	_	1961	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjust Interchange density adj Number of lanes adjustment	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
Free-flow speed, FFS		70.0 Urban Freeway	mi/h
	LOS and Performan	-	
	LOS and Performan		
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N	peed, S	1961 70.0 65.6 4	pc/h/ln mi/h mi/h
Density, D Level of service, LOS		29.9 D	pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 NB Truck Route Bypass Los Angeles/Districe 2030 - No-Build Alternat _Flow Inputs and Acceptable	ct 7	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	8900 0.97 2294 9 0 Grade -5.10 3.50 1.5 1.2 0.957 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2523 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Anal	lysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck Los Angeles/Distr 2030	rict 7 native (Demand Mo	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	8928 0.97 2301 2 0 Grade 5.10 3.50 6.0 6.0 0.909 0.95 3552	<pre>veh/h v % % % mi pc/h/ln</pre>
	Speed Inputs and	d Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performa	ance Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	3552 70.0 3	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 NB Calgrove to Pico Los Angeles/Distric 2030 - No-Build Alterna:Flow Inputs and Ac	tive (Demand Mod	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	9400 0.97 2423 10 0 Level -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2678 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Pico to Calgrove Los Angeles/Distri 2030	tive (Demand Mod	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fhV	8740 0.97 2253 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95 3193	<pre>veh/h v % % % mi pc/h/ln</pre>
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	<pre>ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h</pre>
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	3193 70.0 3 F	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Pico to McBean Los Angeles/Distric 2030 - No-Build Alternat	cive (Demand Mod	del)
	Flow Inputs and Ad	ijustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	9500 0.97 2448 10 0 Grade 2.50 1.10 2.0 3.0 0.909 0.95 2835	veh/h v % % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2835 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB McBean to Pico Los Angeles/Distric 2030	cive (Demand Mod	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	9500 0.97 2448 10 0 Grade -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2706 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB McBean to Valencia Los Angeles/Distric 2030	cive (Demand Mod	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	9100 0.97 2345 10 0 Grade -3.70 1.00 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2592 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Valencia to McBean Los Angeles/Distric 2030	cive (Demand Mod	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	9600 0.97 2474 10 0 Grade 3.70 1.00 2.5 3.0 0.870 0.95 2995	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2995 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	is	
Analysis Year: Description: I-5 PA&ED	I-5 NB Valencia to Magic M Los Angeles/Distric 2030 - No-Build Alternat	t 7	el)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	8200 0.97 2113 10 0 Grade -2.80 1.10 1.5 1.2 0.952 0.95 2336	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2336 70.0 55.7 4 41.9	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 AM Peak Hour I-5 SB Magic Mountain to Los Angeles/Distri 2030 - No-Build Alterna _Flow Inputs and A	ct 7 tive (Demand Mod	del)
Volume, V		8600	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		0.97 2216 10 0 Grade	V 8 8
Grade Segment length		2.80 1.10	% mi
Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor	E, ER t, fHV	2.0 3.0 0.909	<u>-</u>
Flow rate, vp	- / VP	2566	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N	clearance	12.0 6.0 0.50 4	m m interchange/mi
Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus	tment, fLC	Measured 70.0 0.0 0.0 0.0	mi/h mi/h mi/h mi/h
Interchange density adj Number of lanes adjustm Free-flow speed, FFS		1.5 70.0 Urban Freeway	mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2566 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy:	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to I Los Angeles/Distric 2030	ct 7	del)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	7300 0.97 1881 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2089	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2089 70.0 63.0 4 33.2	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Magic Los Angeles/Distric 2030	et 7	del)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	8400 0.97 2165 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2404	veh/h v % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performano	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2404 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	vsis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Rye Canyon to SR-1 Los Angeles/Distri 2030	ct 7	del)
Volume, V		7300	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor	T E, ER t, fHV	0.97 1881 11 0 Level -1.00 2.40 1.5 1.2 0.948	V % % mi
Flow rate, vp		2089	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	IOS and Donforman	-	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	LOS and Performar	2089 70.0 63.0 4 33.2	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR-126 to Rye Canyo Los Angeles/Distric 2030	et 7	del)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7900 0.97 2036 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2261	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2261 70.0 58.3 4 38.8 E	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	is	
Analysis Year: Description: I-5 PA&ED	I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2030 - No-Build Alternat	t ⁷ 7	el)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	6900 0.97 1778 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95	veh/h v % % % mi
_			_
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustmere-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1975 70.0 65.3 4 30.2	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Anal	ysis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Hasley Canyon to Los Angeles/Distr 2030	ict 7 ative (Demand Mo	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	7900 0.97 2036 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2261	veh/h v % % mi pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performa	nce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2261 70.0 58.3 4 38.8	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to P Los Angeles/Distri 2030	ct 7	del)
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	5300 0.97 1366 13 0 Grade 1.00 2.40 1.5 1.2 0.939 0.95 1531	veh/h v % % mi
	Speed Inputs and .	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1531 70.0 69.7 4 22.0	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analysis Year: Description: I-5 PA&ED	I-5 SB Parker to Hasley Ca Los Angeles/Distric 2030 - No-Build Alternat	ive (Demand Mod	el)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	7200 0.97 1856 13 0 Grade -1.00 2.40 1.5 1.2 0.939 0.95 2080	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2080 70.0 63.2 4 32.9	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analysis Year: Description: I-5 PA&ED	I-5 NB Parker to Lake Hugh Los Angeles/Distric 2030 - No-Build Alternat	ive (Demand Mod	el)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	4400 0.97 1134 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95 1283	veh/h v % % % mi pc/h
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1283 70.0 70.0 4 18.3 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Lake Hughes to Parl Los Angeles/Distric 2030	ct 7	del)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	5700 0.97 1469 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95	veh/h v % % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1662 70.0 69.1 4 24.1 C	pc/h/ln mi/h mi/h pc/mi/ln

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

1. 2030 No-Build Conditions - Demand - PM Peak Hour

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 Ramp to SR14 I Los Angeles/Distri 2030	ct 7 tive (Demand Mod	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fhV	7590 0.97 1956 0 0 Grade 4.43 0.59 3.5 4.5 1.000 0.95 2746	veh/h v % % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjustinterchange density adjustment of lanes adjustment, Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2746 70.0 3	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR14 Ramp to Balboa Los Angeles/Distric 2030	et 7	del)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	8190 0.97 2111 0 Grade -4.43 0.64 1.5 1.2 1.000 0.95 2963	veh/h v % % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2963 70.0 3	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 to Truck Route Los Angeles/Distric 2030	et 7	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	8620 0.97 2222 0 0 Grade 4.53 0.51 3.5 4.5 1.000 0.95 3118	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	3118 70.0 3	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Truck Route Bypass Los Angeles/Distric 2030	et 7	del)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	9240 0.97 2381 0 0 Grade -4.53 0.30 1.5 1.2 1.000 0.95 2507	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2507 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 PM Peak Hour I-5 NB Truck Route Bypass Los Angeles/Distric 2030 - No-Build Alterna	ct 7	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	11000 0.97 2835 9 0 Grade -5.10 3.50 1.5 1.2 0.957 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	3119 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck F Los Angeles/Distric 2030	et 7	del)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	10881 0.97 2804 2 0 Grade 5.10 3.50 6.0 6.0 0.909 0.95 4330	veh/h v % % mi pc/h/ln
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		4330 70.0 3	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 PM Peak Hour I-5 NB Calgrove to Pico Los Angeles/Distric 2030 - No-Build Alternat _Flow Inputs and Ac	cive (Demand Mod	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	10900 0.97 2809 10 0 Level -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	3105 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 SB Pico to Calgrove Los Angeles/Distric 2030		del)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	10948 0.97 2822 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95 4000	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	ft ft interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	4000 70.0 3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Pico to McBean Los Angeles/Distric 2030	cive (Demand Mod	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	10500 0.97 2706 10 0 Grade 2.50 1.10 2.0 3.0 0.909 0.95 3133	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	3133 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB McBean to Pico Los Angeles/Distric 2030		del)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	12300 0.97 3170 10 0 Grade -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	3504 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB McBean to Valencia Los Angeles/Distric 2030	cive (Demand Mod	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	10300 0.97 2655 10 0 Grade -3.70 1.00 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2934 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analysis Year: Description: I-5 PA&ED	I-5 SB Valencia to McBean Los Angeles/Distric 2030 - No-Build Alternat	ive (Demand Mod	del)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	13000 0.97 3351 10 0 Grade 3.70 1.00 2.5 3.0 0.870 0.95 4056	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	4056 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Valencia to Magic Los Angeles/Distri 2030	ct 7 tive (Demand Mod	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fhV	9500 0.97 2448 10 0 Grade -2.80 1.10 1.5 1.2 0.952 0.95 2706	veh/h v % % % mi
	Speed Inputs and .	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2706 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Magic Mountain to N Los Angeles/Distric 2030 - No-Build Alternat	et 7 Live (Demand Mod	del)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	12100 0.97 3119 10 0 Grade 2.80 1.10 2.0 3.0 0.909 0.95 3611	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	3611 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to F Los Angeles/Distric 2030	et 7	del)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	8900 0.97 2294 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2547	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2547 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Magic Los Angeles/Distric 2030	et 7	del)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	12100 0.97 3119 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 3463	veh/h v % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	3463 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Rye Canyon to SR-12 Los Angeles/Distric 2030	et 7	del)
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	8900 0.97 2294 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2547	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2547 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR-126 to Rye Canyo Los Angeles/Distric 2030	ct 7	del)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	10300 0.97 2655 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2948	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2948 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2030	ct ⁷ 7	del)
	Flow Inputs and Ac	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	9600 0.97 2474 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2748	veh/h v % % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2748 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 PM Peak Hour I-5 SB Hasley Canyon to S Los Angeles/Distri 2030 - No-Build Alterna _Flow Inputs and A	ct 7 tive (Demand Mod	del)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	9800 0.97 2526 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2805	veh/h v % % % mi
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2805 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to Pa Los Angeles/Distric 2030 - No-Build Alternat	et 7 Live (Demand Mod	del)
	Flow Inputs and Ad	ijustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	9100 0.97 2345 13 0 Grade 1.00 2.40 1.5 1.2 0.939 0.95 2629	veh/h v % % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2629 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	Parker to Hasley Colos Angeles/Distriction 2030	ct ⁻ 7	del)
	Flow Inputs and A	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	8300 0.97 2139 13 0 Grade -1.00 2.40 1.5 1.2 0.939 0.95 2398	veh/h v % % % mi
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2398 70.0 53.4 4 44.9 E	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analysis Year: Description: I-5 PA&ED	I-5 NB Parker to Lake Hugh Los Angeles/Distric 2030 - No-Build Alternat	ive (Demand Mod	el)
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	7600 0.97 1959 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95 2216	veh/h v % % % mi pc/h
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2216 70.0 59.6 4 37.2 E	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:		
	Operational Analy	/sis		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Lake Hughes to Par Los Angeles/Distri 2030	ict 7 ative (Demand Mo	del)	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	7200 0.97 1856 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95 2100	veh/h v % % mi	
	Speed Inputs and	Adjustments		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2100 70.0 62.7 4 33.5	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>	

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

m. 2030 Build Conditions - Demand - AM Peak Hour

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 Ramp to SR14 I Los Angeles/Distric 2030	ct 7 e (Demand Model)	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	3830 0.97 987 0 0 Grade 4.43 0.59 3.5 4.5 1.000 0.95 1385	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	speed, S	1385 70.0 70.0 3 19.8 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	is	
Analysis Year: Description: I-5 PA&ED	I-5 SB SR14 Ramp to Balboa Los Angeles/Distric 2030 - Build Alternative	et 7 e (Demand Model)	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	5090 0.97 1312 0 0 Grade -4.43 0.64 1.5 1.2 1.000 0.95	veh/h v % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1841 70.0 67.4 3 27.3	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB SR14 to Truck Route Los Angeles/Distric 2030	t 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fhV	4360 0.97 1124 0 0 Grade 4.53 0.51 3.5 4.5 1.000 0.95	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 3.0 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1577 70.0 69.5 3 22.7	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Truck Route Bypass Los Angeles/Distri 2030	ct 7 e (Demand Model))
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	5510 0.97 1420 0 Grade -4.53 0.30 1.5 1.2 1.000 0.95 1495	veh/h v % % % mi
	Speed Inputs and .	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1495 70.0 69.8 4 21.4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Truck Route Bypass Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	6620 0.97 1706 2 0 Grade -5.10 3.50 1.5 1.2 0.990 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1814 70.0 67.7 4 26.8	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:		
	Operational Analy	rsis		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck Los Angeles/Distri 2030	ct 7	mand Model)	
Volume, V		7150	veh/h	
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		0.97 1843 2 0 Grade 5.10	Veii/ii V % %	
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor	E, ER t, fHV	3.50 6.0 6.0 0.909 0.95 2134	mi	
Flow rate, vp	Conned Township and	-	pc/h	
	Speed Inputs and	Ad Justillents		
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjustment	fLW	12.0 6.0 0.50 4 Measured 70.0 0.0	m m interchange/mi mi/h mi/h mi/h	
Interchange density adj Number of lanes adjustm Free-flow speed, FFS		0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2134 70.0 61.9 4 34.5	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>	

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck D Los Angeles/Districe 2030	ct 7 e (Demand Model))
Volume, V		6981	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		0.97 1799 0 0 Grade	V %
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	5.10 3.50 6.0 6.0 1.000 0.95	% mi
Flow rate, vp	_	1894	pc/h
	Speed Inputs and I	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj	fLW tment, fLC	12.0 6.0 0.50 4 Measured 70.0 0.0	m mi/h mi/h mi/h mi/h mi/h
Number of lanes adjustm Free-flow speed, FFS		1.5 70.0 Urban Freeway	mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1894 70.0 66.6 4 28.4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Calgrove to Pico Los Angeles/Distric 2030		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7790 0.97 2008 10 0 Level -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2219 70.0 59.6 4 37.3	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Pico to Calgrove Los Angeles/Distric 2030		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	7060 0.97 1820 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95	veh/h v % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1935 70.0 66.0 4 29.3	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB Pico to McBean Los Angeles/Distric 2030		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7880 0.97 2031 10 0 Grade 2.50 1.10 2.0 3.0 0.909 0.95 2352	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2352 70.0 55.2 4 42.6 E	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB McBean to Pico Los Angeles/Distric 2030		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7780 0.97 2005 10 0 Grade -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2216 70.0 59.6 4 37.2	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB McBean to Valencia Los Angeles/Distric 2030		
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7460 0.97 1923 10 0 Grade -3.70 1.00 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2125 70.0 62.1 4 34.2 D	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB Valencia to McBean Los Angeles/Distric 2030		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7880 0.97 2031 10 0 Grade 3.70 1.00 2.5 3.0 0.870 0.95	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 5 Measured 70.0 0.0 0.0 0.0 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1967 70.0 65.5 5 30.0	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Valencia to Magic N Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6560 0.97 1691 10 0 Grade -2.80 1.10 1.5 1.2 0.952 0.95	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1869 70.0 67.0 4 27.9	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Magic Mountain to V Los Angeles/Districe 2030	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6880 0.97 1773 10 0 Grade 2.80 1.10 2.0 3.0 0.909 0.95 2053	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2053 70.0 63.8 4 32.2	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to H Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	5920 0.97 1526 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 1694	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1694 70.0 68.8 4 24.6 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Magic Los Angeles/Distric 2030	t 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	6980 0.97 1799 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1998 70.0 64.9 4 30.8	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Rye Canyon to SR-12 Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	5920 0.97 1526 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 1694	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1694 70.0 68.8 4 24.6 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR-126 to Rye Canyo Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	6460 0.97 1665 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 1849	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1849 70.0 67.3 4 27.5	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2030	ct 7 e (Demand Model))
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	5520 0.97 1423 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 1580	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1580 70.0 69.5 4 22.7 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Hasley Canyon to SF Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6460 0.97 1665 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 1849	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1849 70.0 67.3 4 27.5	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy:	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to Pa Los Angeles/Distric 2030	ct 7 e (Demand Model)	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade		4240 0.97 1093 13 0 Grade 1.00	veh/h v % %
Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	2.40 1.5 1.2 0.939 0.95 1225	mi pc/h
	Speed Inputs and <i>i</i>	\diugtments	•
	speed inputs and i	ad Juscillettes	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment,		12.0 6.0 0.50 4 Measured 70.0	m m interchange/mi mi/h mi/h
Lateral clearance adjustinterchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h
	LOS and Performan	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1225 70.0 70.0 4 17.5	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analysis Year: Description: I-5 PA&ED	I-5 SB Parker to Hasley Ca Los Angeles/Distric 2030 - Build Alternative	et 7 e (Demand Model)	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	5760 0.97 1485 13 0 Grade -1.00 2.40 1.5 1.2 0.939 0.95 1664	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1664 70.0 69.1 4 24.1 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB Parker to Lake Hugh Los Angeles/Distric 2030	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	4400 0.97 1134 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95	veh/h v % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1283 70.0 70.0 4 18.3 C	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analysis Year: Description: I-5 PA&ED	I-5 SB Lake Hughes to Park Los Angeles/Distric 2030 - Build Alternative	et 7 e (Demand Model)	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	5700 0.97 1469 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	1662 70.0 69.1 4 24.1	pc/h/ln mi/h mi/h pc/mi/ln

APPENDIX D (Cont.) HIGHWAY CAPACITY MANUAL WORKSHEETS

n. 2030 Build Conditions - Demand - PM Peak Hour

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 Ramp to SR14 F Los Angeles/Distric 2030	et 7 e (Demand Model)	
Volume, V		5550	veh/h
Peak-hour factor, PHF		0.97	VCII/ II
Peak 15-min volume, v15		1430	V
Trucks and buses		0	8
Recreational vehicles		0	90
Terrain type:		Grade	
Grade		4.43	%
Segment length		0.59	mi
Trucks and buses PCE, E	Т	3.5	
Recreational vehicle PC		4.5	
Heavy vehicle adjustmen		1.000	
Driver population facto	· ·	0.95	
Flow rate, vp	- / · · P	2008	pc/h
	Speed Inputs and A	Adjustments	
T		10.0	
Lane width	-1	12.0	m
Right-shoulder lateral	clearance	6.0	m
Interchange density		0.50	interchange/mi
Number of lanes, N		3	
Free-flow speed:		Measured	mi/h
FFS or BFFS	£T W	70.0 0.0	mi/h mi/h
Lane width adjustment, Lateral clearance adjus		0.0	mi/h
-	· · · · · · · · · · · · · · · · · · ·	0.0	mi/h
Interchange density adj Number of lanes adjustm		3.0	mi/h
Free-flow speed, FFS	enc, in	70.0	mi/h
rice flow speed, fro		Urban Freeway	1117 11
	LOS and Performand	_	
Elev mete		2000	ng/h/ln
Flow rate, vp		2008	pc/h/ln
Free-flow speed, FFS	nood C	70.0	mi/h
Average passenger-car s	peeu, s	64.7	mi/h
Number of lanes, N Density, D		3 31.0	pc/mi/ln
		D D	PC/1111
Level of service, LOS		ט	

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB SR14 Ramp to Balboa Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	6070 0.97 1564 0 0 Grade -4.43 0.64 1.5 1.2 1.000 0.95 2196	veh/h v % % mi
	Speed Inputs and A	dinatmenta	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustmere-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0 0.0 0.0 0.0 Jonath Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2196 70.0 60.2 3 36.5	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB SR14 to Truck Route Los Angeles/Distric 2030	et 7 e (Demand Model)	
Volume, V		6580	veh/h
Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type:		0.97 1696 0 0 Grade	V 617/11 V 8 8
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto	E, ER t, fHV	4.53 0.51 3.5 4.5 1.000 0.95	% mi
Flow rate, vp	_	2380	pc/h
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj	fLW tment, fLC ustment, fID	12.0 6.0 0.50 3 Measured 70.0 0.0	m m interchange/mi mi/h mi/h mi/h mi/h
Number of lanes adjustm Free-flow speed, FFS	ent, fN	3.0 70.0	mi/h mi/h
and and any area.		Urban Freeway	,
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2380 70.0 54.1 3 44.0	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB Truck Route Bypass Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7120 0.97 1835 0 0 Grade -4.53 0.30 1.5 1.2 1.000 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1932 70.0 66.1 4 29.2 D	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Truck Route Bypass Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	8180 0.97 2108 2 0 Grade -5.10 3.50 1.5 1.2 0.990 0.95 2241	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2241 70.0 58.9 4 38.1 E	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck F Los Angeles/Distric 2030	ct 7	nand Model)
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	8690 0.97 2240 2 0 Grade 5.10 3.50 6.0 6.0 0.909 0.95 2593	veh/h v % % mi
	Speed Inputs and A	Adiustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2593 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analy	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Calgrove to Truck Los Angeles/Distri 2030	ct 7 re (Demand Model)
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15		8480 0.97 2186	veh/h v
Trucks and buses Recreational vehicles Terrain type:		0 0 Grade	96 96
Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen	E, ER t, fHV	5.10 3.50 6.0 6.0 1.000	% mi
Driver population facto Flow rate, vp	τ, νρ	0.95 2301	pc/h
	Speed Inputs and	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed:	clearance	12.0 6.0 0.50 4 Measured	m interchange/mi
FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	tment, fLC ustment, fID	70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performan	.ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2301 70.0 57.0 4 40.4 E	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analysis Year: Description: I-5 PA&ED	I-5 NB Calgrove to Pico Los Angeles/Distric 2030 - Build Alternative	e (Demand Model)	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	8910 0.97 2296 10 0 Level -2.50 1.10 1.5 1.2 0.952 0.95 2538	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2538 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Pico to Calgrove Los Angeles/Distric 2030		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	8870 0.97 2286 2 0 Level -2.50 1.10 1.5 1.2 0.990 0.95 2430	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2430 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analysis Year: Description: I-5 PA&ED	I-5 NB Pico to McBean Los Angeles/Distric 2030 - Build Alternative	e (Demand Model)	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	8510 0.97 2193 10 0 Grade 2.50 1.10 2.0 3.0 0.909 0.95 2540	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2540 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB McBean to Pico Los Angeles/Distric 2030		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	10180 0.97 2624 10 0 Grade -2.50 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	dingtments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2900 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	is	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB McBean to Valencia Los Angeles/Distric 2030		
	Flow Inputs and Ad	justments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	E, ER t, fHV	8400 0.97 2165 10 0 Grade -3.70 1.00 1.5 1.2 0.952 0.95 2393	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 0.0 1.5 70.0 Urban Freeway	m minterchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h m
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2393 70.0 53.6 4 44.6 E	<pre>pc/h/ln mi/h mi/h pc/mi/ln</pre>

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Valencia to McBean Los Angeles/Distric 2030		
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	10880 0.97 2804 10 0 Grade 3.70 1.00 2.5 3.0 0.870 0.95 2716	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 5 Measured 70.0 0.0 0.0 0.0 0.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performand	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2716 70.0 5	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Valencia to Magic N Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7600 0.97 1959 10 0 Grade -2.80 1.10 1.5 1.2 0.952 0.95	veh/h v % % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2165 70.0 61.1 4 35.4 E	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 PM Peak Hour I-5 SB Magic Mountain to V Los Angeles/Districe 2030 - Build AlternativeFlow Inputs and Ac	ct 7 e (Demand Model)	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	10040 0.97 2588 10 0 Grade 2.80 1.10 2.0 3.0 0.909 0.95 2996	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2996 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Magic Mountain to F Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7120 0.97 1835 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2038	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2038 70.0 64.1 4 31.8 D	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Rye Canyon to Magic Los Angeles/Distric 2030	t 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population factor Flow rate, vp	T E, ER t, fHV	10040 0.97 2588 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2874	veh/h v % % % mi
	Speed Inputs and A	diustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
	LOS and Performanc	e Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2874 70.0 4	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB Rye Canyon to SR-12 Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7120 0.97 1835 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2038	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
	LOS and Performand	ce Measures	
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2038 70.0 64.1 4 31.8 D	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:		
	Operational Analy	sis		
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	AFA June 07 PM Peak Hour I-5 SB SR-126 to Rye Cany Los Angeles/Distri 2030	on ct 7 e (Demand Model)	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustment Driver population factor Flow rate, vp	T E, ER t, fHV	7840 0.97 2021 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2244	veh/h v % % mi	
Speed Inputs and Adjustments				
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	clearance fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h	
LOS and Performance Measures				
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS	peed, S	2244 70.0 58.8 4 38.2	pc/h/ln mi/h mi/h pc/mi/ln	

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 NB SR-126 to Hasley Ca Los Angeles/Distric 2030	et ⁷ 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7120 0.97 1835 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2038	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2038 70.0 64.1 4 31.8 D	pc/h/ln mi/h mi/h pc/mi/ln

Austin-Foust Associates, Inc.

Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 SB Hasley Canyon to SF Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	ljustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7840 0.97 2021 11 0 Level -1.00 2.40 1.5 1.2 0.948 0.95 2244	veh/h v % % mi
	Speed Inputs and A	djustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2244 70.0 58.8 4 38.2 E	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Analyst: Agency or Company: Date Performed: Analysis Time Period: Freeway/Direction: From/To: Jurisdiction: Analysis Year: Description: I-5 PA&ED	I-5 NB Hasley Canyon to Pa Los Angeles/Distric 2030	et 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7320 0.97 1887 13 0 Grade 1.00 2.40 1.5 1.2 0.939 0.95 2115	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2115 70.0 62.4 4 33.9	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
From/To:	I-5 SB Parker to Hasley Ca Los Angeles/Distric 2030	ct ⁷ 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	6640 0.97 1711 13 0 Grade -1.00 2.40 1.5 1.2 0.939 0.95	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m m interchange/mi mi/h mi/h mi/h mi/h mi/h mi/h mi/h
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		1919 70.0 66.3 4 29.0	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	Parker to Lake Hugh Los Angeles/Distric 2030	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7600 0.97 1959 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95 2216	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2216 70.0 59.6 4 37.2	pc/h/ln mi/h mi/h pc/mi/ln

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Phone: E-mail:		Fax:	
	Operational Analys	sis	
Date Performed: Analysis Time Period: Freeway/Direction: From/To:	I-5 SB Lake Hughes to Park Los Angeles/Distric 2030	ct 7	
	Flow Inputs and Ad	djustments	
Volume, V Peak-hour factor, PHF Peak 15-min volume, v15 Trucks and buses Recreational vehicles Terrain type: Grade Segment length Trucks and buses PCE, E Recreational vehicle PC Heavy vehicle adjustmen Driver population facto Flow rate, vp	T E, ER t, fHV	7200 0.97 1856 15 0 Level 3.60 1.00 1.5 1.2 0.930 0.95 2100	veh/h v % % % mi
	Speed Inputs and A	Adjustments	
Lane width Right-shoulder lateral Interchange density Number of lanes, N Free-flow speed: FFS or BFFS Lane width adjustment, Lateral clearance adjus Interchange density adj Number of lanes adjustm Free-flow speed, FFS	fLW tment, fLC ustment, fID	12.0 6.0 0.50 4 Measured 70.0 0.0 0.0 1.5 70.0 Urban Freeway	m mi/h mi/h mi/h mi/h mi/h mi/h mi/h mi/
LOS and Performance Measures			
Flow rate, vp Free-flow speed, FFS Average passenger-car s Number of lanes, N Density, D Level of service, LOS		2100 70.0 62.7 4 33.5	pc/h/ln mi/h mi/h pc/mi/ln