APPENDIX Q

Traffic Study Response to Comments Memo

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To:	Bibiana Alvarez & Erin Quinn AES	Date:	11/23/11
From:	John Boarman & Cara Leone LLG, Engineers	LLG Ref:	3-09-1876
Subject:	Los Coyotes Casino – Reponses to Comments on 5/19/10 Traffic Study		

The following is a response to the comments received for the Los Coyotes Casino traffic impact analysis (TIA) conducted by LLG on May 19, 2010. Comment letters were received from the City of Barstow, County of San Bernardino, and Caltrans. The responses to each agency's comments are provided below.

City of Barstow Comments dated September 23, 2011

Comment 1:
Clarify the trip generation reduction as "diverted link" trips, not "pass-by" trips, where appropriate. The current TIA uses 40% pass-by for casino land uses and 20% pass-by for restaurant land uses. A 40% diverted link trip for all of the proposed uses would be reasonable.

Response 1:
"Pass-by" trips are made as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. Pass-by trips are not diverted from another roadway. "Diverted Link" trips are trips that are attracted from the traffic volume on roadways within the vicinity of the generator but that require a diversion from that roadway to gain access to the site. These trips could travel on highways or freeways adjacent to a generator, but without access to the generator. Diverted link trips add traffic to streets adjacent to a site, but may not add traffic to the area's major travel routes.

In this particular case, the traffic study is incorrect in terming these as "pass-by" trips since they are indeed "diverted link" trips as they are assumed to exit the Lenwood Road interchange from I-15 to reach the project site. The terminology in the EIR will be revised.

The TIA is conservative in using 40% diverted link trips for the casino and 20% for the restaurant as opposed to the recommended 40% diverted link reduction for all land uses. Thus, no changes to the trip generation volumes are necessary.

Comment 2:
The peaks for the I-15 freeway, and the local streets in the Lenwood Road interchange area are typically late Friday and Sunday afternoons (PM peaks). The traffic analysis should consider the analysis of the Friday and Sunday PM peak hours.

Response 2:
A Sunday analysis has been prepared to analyze the 2:00 PM to 4:00 PM peak hour condition. This time period was selected based on previous traffic analyses conducted in the area identifying this hour as the peak period for Sunday area traffic. ***Section A*** of this memo provides the Sunday PM peak hour analysis for study area intersections.

County of San Bernardino Comments dated September 13, 2011

Comment 1:
For clarity, it should be noted in the TIA regarding the 5.0 Existing Roadway Network, Lenwood Road is within the County's jurisdiction and is classified as a Major Highway.

Response 1:
The portions of Lenwood Road analyzed in the TIA are contained within the City of Barstow which is located in the County of San Bernardino. The TIA accurately identifies Lenwood Road as a Major Highway, as identified on the City of Barstow Circulation Plan, December 1996 and County of San Bernardino Circulation Plan, December 2005.

Comment 2:
Main Street is also within the County's jurisdiction and is classified as a Major Highway.

Response 2:
The portions of Main Street analyzed in the TIA are contained within the City of Barstow which is located in the County of San Bernardino. The TIA accurately identifies Main Street as a Major Highway, as identified on the City of Barstow Circulation Plan, December 1996 and County of San Bernardino Circulation Plan, December 2005.

Comment 3:
SANBAG is currently working on the Lenwood Grade Separation Project. As part of this project, an additional southbound through lane will be added.

Response 3:
Comment noted. Please see Response #5.

Comment 4:
The restaurant should be classified as a fast-food restaurant for project trip generation.

Response 4:
As stated in the traffic study, the proposed drive-in restaurant would be similar in nature to a Sonic Drive-In. This type of eatery operates differently than a typical fast food restaurant. The drive-in spaces provided serve as indoor restaurant tables in effect, since patrons drive into the canopy space and remain in their automobiles while ordering and eating their meal. Therefore, the ITE trip generation rate for "high-turnover (sit-down) restaurant" was used to determine the number of trips.

Comment 5:
Mitigation for the Lenwood Grade Separation shall be included in the study.

Response 5:
The section of Lenwood Road between Main Street and SR 58 was not analyzed since only 5% of project traffic is forecasted to use this roadway, which equates to 300 Weekday ADT and 460 Weekend ADT. The project adds this small amount since the majority of casino traffic will be oriented to/from the freeway. The existing volumes on this portion of Lenwood Road are about 3,000 ADT which equates to LOS A operations. The addition of project traffic will result in continued LOS A operations. Therefore, no significant impact would occur and mitigation would not be necessary.

Comment 6:
Additionally, mitigation for the Lenwood Bridge over the Mojave River shall be included in the study. The EIS should be updated as well to reflect these additions and request for defined mitigation measures.

Response 6:
See Response #5.

The proposed project is south of the Mojave River and the Lenwood Road overcrossing (bridge no. 54-0511). It is understood that recent area flooding has resulted in a bridge due to heavy December 2010 rainfall. During such an occasion as a bridge washout, the minimal amount of project trips distributed to/from the proposed project site using the portion of Lenwood Road between SR-58 and Main Street would be required to utilize the Main Street/SR-58 ramps or Lenwood Road/I-15 ramps to reach their ultimate destination. This would be a short-term impact to the local roadway system and would not be considered significant. The diversion of project-related traffic due to flooding/rehab would be considered temporary in nature, and need not be analyzed in this traffic study/EIR.

<u>Caltrans Comments dated August 18, 2011</u>

Traffic Operations (EIR):
Comment 1:
Please provide ramp junction analysis at I-15 SB off-ramp/Lenwood Road and at I-15 NB off-ramp/Lenwood Road, for Opening Year 2013 and Horizon Year 2035.

Response 1:
Tables 1, 2, 3 and ***4*** provide a ramp junction (diverge) analysis at these locations for the Weekday and Saturday mid-day and PM peak periods. As shown in the tables, the diverge operations at the northbound and southbound off-ramps are calculated to operate at acceptable levels of service under opening year and horizon year conditions both with and without each of the proposed project alternatives. ***Attachment A*** contains the diverge analysis worksheets.

Comment 2:
Provide the queue analysis at I-15 NB/SB off-ramps to Lenwood Road and at I-15 NB/SB off-ramps to Outlet Center Road which is accessed to the project site for Opening Year 2013 and Horizon Year 2035.

Response 2:
Tables 5, 6, 7 and ***8a*** provide a queuing analysis at the requested locations for the Weekday and Saturday mid-day and PM peak periods. The Sunday queue analysis is contained in ***Section A*** of this response to comments package, however, the results of this analysis is included below. Based on the project trip distribution, project trips are only added to the I-15 SB Off-Ramp/Lenwood Road southbound left-turn movement and the I-15 NB Off-Ramp/Lenwood Road northbound right-turn movement. As shown in these tables, there is sufficient storage to accommodate the expected 50th and 95th percentile queues at the I-15/Lenwood Road northbound and southbound off-ramps with and without each of the proposed project alternatives during opening year and horizon year conditions at the movements in which the project adds trips to except for the following:

Saturday

- Northbound Right during the MD (95th Percentile) peak hour for Horizon Year 2035
- Northbound Right during the MD (50th and 95th Percentile) peak hour for Horizon Year 2035 with Project Alt. A and Alt. B

Sunday

- Northbound Right during the PM peak hour (50th and 95th Percentile) for Horizon Year 2035 with Project Alt. A and Alt. B

It should be noted that there are no published significance thresholds for a queue analysis. However, in order to alleviate the potential queue issue at the I-15 northbound off-ramp at Lenwood Road, which includes both project and non-project traffic, the following measures are recommended:

1. Require all casino/hotel employees to utilize the Outlet Center Drive interchange and not the Lenwood Road interchange.
2. Require that hotel/casino literature list the Outlet Center Drive interchange as the main access to the hotel/casino.
3. Require that traffic control personnel direct the majority of traffic to the Outlet Center Drive interchange for special events.
4. Provide signs on northbound I-15 south of the Outlet Center Drive interchange directing casino/hotel traffic to use the Outlet Center Drive interchange.
5. Signalize the two ramps at the Outlet Center Drive interchange. This will improve operation at this interchange, thereby making it a more attractive option for project and non-project traffic.

Implementation of these measures will result in a shift of project and non-project traffic from Lenwood Road to Outlet Center Drive.

A post-mitigation queue analysis was conducted at the Lenwood Road interchange and the results are shown in ***Tables 8b*** and ***17b (Section A)***. It was assumed that the inbound northbound project traffic split would be an 80/20 split (i.e. of the northbound project traffic, 80% would use the Outlet Center Drive interchange and 20% would use the Lenwood Road interchange). It was also assumed that with the signalization of the two Outlet Center Drive ramps, 10% of the forecasted non-project Lenwood Road northbound off-ramp traffic would instead use the Outlet Center Drive interchange. *Tables 8b* and *17b* show that with the recommended improvements, the forecasted queues are within the available storage with two exceptions. The Saturday 95th percentile queue is exceeded and the Sunday 95th percentile queue is exceeded, but for Alt. A only. However, since the 50th percentile queues are still well within available storage, queue storage lengths are not designed to the 95th percentile level during the peak hour on the worst case day, and the recommended improvements have a major positive effect on the forecasted queues. Thus, the recommended improvements are sufficient to alleviate the queue issues.

An analysis of the Outlet Center Drive interchange was conducted to ensure that this interchange could accommodate the additional traffic which would utilize this interchange once the improvements outlined above are implemented. *Tables 8b* and *17b* ***(Section A)*** show that LOS C or better operations are forecasted at this interchange, assuming both ramps are signalized. The unsignalized ramps would operate at LOS E/F with the additional traffic shifted from Lenwood Road.

Attachment B contains the queuing analysis worksheets.

The I-15/Outlet Center Road interchange is currently unsignalized. The Highway Capacity Software (HCS) is limited in its ability to measure the queuing results for unsignalized intersections. However, the Caltrans Highway Design Manual 2009 (HDM) provides direction for calculating queues at unsignalized intersections using storage length and number of vehicles per two-minute period per lane. The explanation and formula are as follows:

> Chapter 405.2 Item (e): Storage Length--At unsignalized inter-sections, storage length may be based on the number of turning vehicles likely to arrive in an average 2-minute period during the peak hour. As a minimum, space for 2-passenger cars should be provided at 25 feet per car. If the peak hour truck traffic is 10 percent or more, space for one passenger car and one truck should be provided.

$$\frac{\text{\# Approach Vehicles}}{\text{30 two-min periods per peak hour}} \times \text{25 feet per vehicle*} = \text{Queue Length (ft)}$$

*Existing volumes increase by 100% PCE factor. Therefore, no adjustment in feet per vehicle for trucks is required.

Tables 5, 6, 7 and ***8a*** provide a queuing analysis at the Outlet Center Drive off-ramp locations. Based on the project trip distribution, project trips are only added to the I-15 NB Off-Ramp/Outlet Center Drive northbound right-turn movement. As shown in these tables, sufficient storage is available to serve the Opening Year and Horizon Year queues with and without each of the proposed project alternatives.

Forecasting (Traffic Study):
Comment 1:
Page 10, could not verify the 2008 traffic count in Appendix C.

Response 1:
This traffic count is included in Appendix C of the traffic study.

Comment 2:
Peak hour traffic analysis should include the Sunday PM traffic which is impacting traffic traveling to/from Las Vegas.

Response 2:
A Sunday analysis has been prepared analyzing the 2:00 PM to 4:00 PM peak hour condition. This time period was selected based on previous traffic analyses conducted in the area identifying this hour as the peak period for area traffic on a Sunday. ***Section A*** of this memo provides the Sunday PM peak hour analysis for study area intersections.

Comment 3:
Figures 5–2, ***5–3a***, and ***5–3b***; please include the existing year information (i.e. 2009). Missing I-15 NB and SB on-ramp traffic volumes (see intersection numbers 5 & 6).

Response 3:
The year 2009 has been added to ***Figure 5–2*** representing the date of the field observations. ***Figures 5–3a*** and ***5–3b*** have been updated to indicate the year 2009 date representing the date of the traffic count data and are provided at the end of this memo.

The I-15 NB and SB on-ramp traffic volumes were not displayed in the graphics since they are free movements and do not affect traffic operations at the signalized intersections. ***Attachment C*** provides the I-15 NB and SB ramp volumes at Lenwood Road for all study scenarios.

Comment 4:
Page 20, could not verify the existing intersection analysis worksheets in Appendix E.

Response 4:
The existing intersection analysis worksheets are included in Appendix E of the traffic study.

Comment 5:
Page 23, ***Table 6–3***, existing freeway traffic volume should be consistent with other existing traffic network volumes (2009) and please include the existing year information on the table title.

Response 5:
The footnote referencing the freeway ADT's to 2007 Caltrans data is incorrect. During preparation of the traffic study, the most recent available freeway volumes were provided by Horatius Petreaca since the Caltrans website only posted volumes as recent as 2007. The table should have stated the correct date of the volume data. However, in order to be consistent with the analysis year for intersections and street segments in the report, as requested by this comment, the freeway analysis has been revised to use the 2009 Caltrans volumes.

In addition, when updating the freeway volumes to 2009 conditions, a reduction in volumes was observed from 2008. In order to accurately forecast future freeway conditions for the purpose of the Year 2013 and 2035 analyses, the average annual growth was calculated for freeway traffic volumes over the past 10 years (2000-2010). The result was an average growth of 2% per year. Opening Year 2013 freeway ADT's were forecasted assuming 2% growth per year for four years and Horizon Year 2035 freeway ADT's were forecasted at 2% per year for 26 years. The results of the analysis are included in ***Table 6–3***, ***9–3***, ***11–3*** at the end of this memo. As seen in the tables, all segments of I-15 are calculated to operate at acceptable levels of service during the MD & PM peak hours. No new significant impacts are calculated.

Comment 6:
Table 6–3, ***9–3***, ***11–3***; freeway segment should be divided into two segments from L Street to SR-58 and from SR-58 to Lenwood Road, instead of L Street to Lenwood Road. The traffic volume changes after the I-15/SR-58 interchange.

Response 6:
The freeway analysis has been revised to separate the segment of L Street to SR-58 into two segments. Revised ***Tables 6–3, 9–3*** and ***11–3*** are provided at the end of this memo.

Comment 7:
Page 23, ***Table 6–3***; ADT volume seems to be one direction ADT. It should include total ADT of NB and SB.

Response 7:
The ADT volumes in ***Table 6–3*** are indeed two-way volumes and are taken from the Caltrans Traffic Data Branch website which provides bi-directional ADT volumes. K and D factors provided by Caltrans data are then applied to the bi-directional ADT to determine the separate NB and SB peak hour volumes.

Comment 8:
Page 24, could not verify Appendix F for trip generation excerpts in the report from the Shingle Rancheria Interchange Transportation/Circulation report.

Response 8:
The Shingle Rancheria Interchange Transportation/Circulation report is provided in Appendix F of the traffic study.

Comment 9:
All the existing and horizon years turning peak hour volumes need to be balanced. We are aware of the roadway entry and exit points between study intersections, but unbalanced volumes will disappear during the traffic simulation if volumes are not balanced.

Response 9:
All area traffic volumes do in fact balance through the intersections, where appropriate (i.e. I-15 and SR-58 ramps). The TIA figures currently do not show the turn volumes onto the I-15/Lenwood Road northbound and southbound on-ramps, as these are free movements and do not affect the average delay and LOS operations at these intersections. The analysis uses the correct traffic volumes and accurately represents the existing and forecasted conditions. In addition, restaurant diverted link trips traveling north and south through the Lenwood Road/Mercantile Road intersection are assumed to be oriented to/from the various land uses between this intersection and the I-15 NB Ramps at Lenwood Road to the north. Lastly, there are hotel land uses between the intersections of Lenwood Road/Mercantile Road and Lenwood Road/Project Access. Thus, the total project trips and existing trips traveling along these segments seem to "disappear" between intersections. ***Attachment C*** provides the I-15 NB and SB ramp volumes at Lenwood Road for all study scenarios.

TABLE 1
WEEKDAY OPENING YEAR 2013
RAMP DIVERGE OPERATIONS

Ramp Location	Opening Year				Opening Year 2013 with Project Alt. A				Opening Year 2013 with Project Alt. B			
	MD		PM		MD		PM		MD		PM	
	Density (pc/mi/ln) [a]	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
I-15 SB Ramp Off-Ramp at Lenwood Road	14.6	B	13.1	B	14.8	B	13.4	B	14.7	B	13.4	B
I-15 NB Off-Ramp at Lenwood Road	10.4	B	9.8	A	11.1	B	8.4	A	10.9	B	8.2	A

Footnotes:

a. Pc/mi/ln = passenger cars/per mile/per lane.

LOS	Maximum Density (pc/mi/ln)
A	< 10
B	10 ≥20
C	20 ≥ 28
D	28 ≥ 35
E	> 35
F	Demand ex□□eds capacity

TABLE 2
WEEKDAY HORIZON YEAR 2035
RAMP DIVERGE OPERATIONS

Ramp Location	Horizon Year 2035				Horizon Year 2035 with Project Alt. A				Horizon Year 2035 with Project Alt. B			
	MD		PM		MD		PM		MD		PM	
	Density (pc/mi/ln)[a]	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
I-15 SB Ramp Off-Ramp at Lenwood Road	21.5	C	19.0	B	23.5	C	21.3	C	23.0	C	20.7	C
I-15 NB Off-Ramp at Lenwood Road	16.2	B	11.9	B	16.8	B	12.6	B	16.6	B	12.4	B

Footnotes:

a. Pc/mi/ln = passenger cars/per mile/per lane.

LOS	Maximum Density (pc/mi/ln)
A	< 10
B	10 ≥20
C	20 ≥ 28
D	28 ≥ 35
E	> 35
F	Demand exceeds capacity

TABLE 3
SATURDAY OPENING YEAR 2013
RAMP DIVERGE OPERATIONS

Ramp Location	Opening Year				Opening Year 2013 with Project Alt. A				Opening Year 2013 with Project Alt. B			
	MD		PM		MD		PM		MD		PM	
	Density (pc/mi/ln)[a]	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
I-15 SB Ramp Off-Ramp at Lenwood Road	17.1	B	8.9	A	19.9	B	11.7	B	19.2	B	10.9	B
I-15 NB Off-Ramp at Lenwood Road	18.6	B	7.7	A	17.5	B	8.6	A	19.2	B	8.4	A

Footnotes:

a. Pc/mi/ln = passenger cars/per mile/per lane.

General Notes:

1. Since Saturday Caltrans traffic volumes were not available, downstream peak hour freeway volumes forecasted using calculated growth between Weekday and Saturday peak hour off-ramp volumes for use in the analysis.

LOS	Maximum Density (pc/mi/ln)
A	< 10
B	10 ≥20
C	20 ≥ 28
D	28 ≥ 35
E	> 35
F	Demand exceeds capacity

TABLE 4
SATURDAY HORIZON YEAR 2035
RAMP DIVERGE OPERATIONS

Ramp Location	Horizon Year 2035				Horizon Year 2035 with Project Alt. A				Horizon Year 2035 with Project Alt. B			
	MD		PM		MD		PM		MD		PM	
	Density (pc/mi/ln) [a]	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
I-15 SB Ramp Off-Ramp at Lenwood Road	28.1	D	14.3	B	30.8	D	17.0	B	31.1	D	16.3	B
I-15 NB Off-Ramp at Lenwood Road	29.0	D	12.9	B	29.9	D	13.7	B	29.6	D	13.5	B

Footnotes:

a. Pc/mi/ln = passenger cars/per mile/per lane.

General Notes:

1. Since Saturday Caltrans traffic volumes were not available, downstream peak hour freeway volumes forecasted using calculated growth between Weekday and Saturday peak hour off-ramp volumes for use in the analysis.

LOS	Maximum Density (pc/mi/ln)
A	< 10
B	10 ≥20
C	20 ≥ 28
D	28 ≥ 35
E	> 35
F	Demand exceeds capacity

TABLE 5
WEEKDAY OPENING YEAR 2013
INTERSECTION QUEUING OPERATIONS

Intersection	Critical Movement	Storage (feet)	Opening Year 2013				Opening Year 2013 with Project Alt. A				Opening Year 2013 with Project Alt. B			
			50th Percentile Queue[a]		95th Percentile Queue[b]		50th Percentile Queue		95th Percentile Queue		50th Percentile Queue		95th Percentile Queue	
			MD	PM	MD	PM	MD	PM	MD	PM	MD	PM	MD	PM
I-15 SB Ramp Off-Ramp at Lenwood Road	**SBL_2**[d]	710[c]	73	65	106	95	131	126	179	170	118	111	161	152
I-15 NB Off-Ramp at Lenwood Road	**NBR_2**[d]	360	0	0	35	27	25	0	66	33	6	0	45	32
Intersection	**Critical Movement**	**Storage (feet)**	**Queue Length (feet)**				**Queue Length (feet)**				**Queue Length (feet)**			
			MD		**PM**		**MD**		**PM**		**MD**		**PM**	
I-15 NB Off-Ramp at Outlet Center Drive	NBL/T/**R**[f]	725[e]	72		33		215		192		175		148	

Footnotes:
a. 50th percentile queue is defined as the average queue length that has 50% probability of being exceeded.
b. 95th percentile queue is defined as the queue length that has only a 5% probability of being exceeded.
c. SBL Off-ramp capacity assumed to be half the distance of the entire ramp length.
d. Proposed project only adds vehicular trips to the SBL-turn movement and NBR-turn movement.
e. NB Off-ramp capacity assumed to be half the distance of the entire ramp length.
f. Proposed project only adds vehicular trips to the NBR-turn movement.

General Notes:
1. Calculated queue lengths in feet per lane.

TABLE 6
WEEKDAY HORIZON YEAR 2035
INTERSECTION QUEUING OPERATIONS

Intersection	Critical Movement	Storage (feet)	Horizon Year 2035				Horizon Year 2035 with Project Alt. A				Horizon Year 2035 with Project Alt. B			
			50th Percentile Queue[a]		95th Percentile Queue[b]		50th Percentile Queue		95th Percentile Queue		50th Percentile Queue		95th Percentile Queue	
			MD	PM	MD	PM	MD	PM	MD	PM	MD	PM	MD	PM
I-15 SB Ramp Off-Ramp at Lenwood Road	**SBL_2**[d]	710[c]	153	150	205	201	214	229	282	302	198	211	262	278
I-15 NB Off-Ramp at Lenwood Road	**NBR_2**	360	57	1	115	35	128	63	229	113	113	48	207	94

Intersection	Critical Movement	Storage (feet)	Queue Length (feet)		Queue Length (feet)		Queue Length (feet)	
			MD	PM	MD	PM	MD	PM
I-15 NB Off-Ramp at Outlet Center Drive	NBL/T/**R** [f]	725 [e]	117	50	260	210	220	165

Footnotes:
a. 50th percentile queue is defined as the average queue length that has 50% probability of being exceeded.
b. 95th percentile queue is defined as the queue length that has only a 5% probability of being exceeded.
c. SBL Off-ramp capacity assumed to be half the distance of the entire ramp length.
d. Proposed project only adds vehicular trips to the SBL-turn movement and NBR-turn movement.
e. NB Off-ramp capacity assumed to be half the distance of the entire ramp length.
f. Proposed project only adds vehicular trips to the NBR-turn movement.

General Notes:
1. Calculated queue lengths in feet per lane.

TABLE 7
SATURDAY OPENING YEAR 2013
INTERSECTION QUEUING OPERATIONS

Intersection	Critical Movement	Storage (feet)	Opening Year 2013				Opening Year 2013 with Project Alt. A				Opening Year 2013 with Project Alt. B			
			50th Percentile Queue[a]		95th Percentile Queue[b]		50th Percentile Queue		95th Percentile Queue		50th Percentile Queue		95th Percentile Queue	
			MD	PM	MD	PM	MD	PM	MD	PM	MD	PM	MD	PM
I-15 SB Ramp Off-Ramp at Lenwood Road	**SBL_2**[d]	710[c]	86	57	122	86	174	139	231	188	148	115	198	158
I-15 NB Off-Ramp at Lenwood Road	**NBR_2**	360	17	0	64	31	121	15	232	53	94	0	189	35

Intersection	Critical Movement	Storage (feet)	Queue Length (feet)		Queue Length (feet)		Queue Length (feet)	
			MD	PM	MD	PM	MD	PM
I-15 NB Off-Ramp at Outlet Center Drive	NBL/T/**R** [f]	725 [e]	61	44	254	236	200	183

Footnotes:
a. 50th percentile queue is defined as the average queue length that has 50% probability of being exceeded.
b. 95th percentile queue is defined as the queue length that has only a 5% probability of being exceeded.
c. SBL Off-ramp capacity assumed to be half the distance of the entire ramp length.
d. Proposed project only adds vehicular trips to the SBL-turn movement and NBR-turn movement.
e. NB Off-ramp capacity assumed to be half the distance of the entire ramp length.
f. Proposed project only adds vehicular trips to the NBR-turn movement.

General Notes:
1. Calculated queue lengths in feet per lane.

TABLE 8A
SATURDAY HORIZON YEAR 2035
INTERSECTION QUEUING OPERATIONS

Intersection	Critical Movement	Storage (feet)	Horizon Year 2035				Horizon Year 2035 with Project Alt. A				Horizon Year 2035 with Project Alt. B			
			50th Percentile Queue[a]		95th Percentile Queue[b]		50th Percentile Queue		95th Percentile Queue		50th Percentile Queue		95th Percentile Queue	
			MD	PM	MD	PM	MD	PM	MD	PM	MD	PM	MD	PM
I-15 SB Off-Ramp at Lenwood Road	**SBL_2**[d]	710[c]	227	106	282	145	382	193	462	255	345	171	418	227
I-15 NB Off-Ramp at Lenwood Road	**NBR_2**	360	273	0	**415**	36	**500**	71	**547**	131	**445**	49	**591**	102
Intersection	**Critical Movement**	**Storage (feet)**	**Queue Length (feet)**				**Queue Length (feet)**				**Queue Length (feet)**			
			MD		**PM**		**MD**		**PM**		**MD**		**PM**	
I-15 NB Off-Ramp at Outlet Center Drive	NBL/T/**R**[f]	725[e]	92		59		285		251		231		198	

Footnotes:
a. 50th percentile queue is defined as the average queue length that has 50% probability of being exceeded.
b. 95th percentile queue is defined as the queue length that has only a 5% probability of being exceeded.
c. SBL Off-ramp capacity assumed to be half the distance of the entire ramp length.
d. Proposed project only adds vehicular trips to the SBL-turn movement and NBR-turn movement.
e. NB Off-ramp capacity assumed to be half the distance of the entire ramp length.
f. Proposed project only adds vehicular trips to the NBR-turn movement.

General Notes:
1. Calculated queue lengths in feet per lane.

TABLE 8B
SATURDAY HORIZON YEAR 2035
PRE- AND POST- IMPROVEMENTS
INTERSECTION QUEUING OPERATIONS

Intersection	Critical Movement	Storage (feet)	Horizon Year 2035		Horizon Year 2035 with Project Alt. A		Horizon Year 2035 with Project Alt. B	
			50th Percentile Queue[a]	95th Percentile Queue[b]	50th Percentile Queue	95th Percentile Queue	50th Percentile Queue	95th Percentile Queue
			MD	MD	MD	MD	MD	MD
Pre-Mitigation								
I-15 NB Off-Ramp at Lenwood Road	NBR_2	360	273	**415**	**500**	**547**	**445**	**591**
Post-Mitigation								
I-15 NB Off-Ramp at Lenwood Road	NBR_2	360	175	255	306	**440**	275	**379**

Intersection	Traffic Control	Peak Hour	Horizon Year 2035		Horizon Year 2035 with Project Alt. A		Horizon Year 2035 with Project Alt. B	
			Delay[c]	LOS[d]	Delay	LOS	Delay	LOS
Post-Mitigation								
8. I-15 NB Ramps / Outlet Center Drive	Signal[e]	MD	7.2	A	29.3	C	18.6	B

Footnotes:
a. 50th percentile queue is defined as the average queue length that has 50% probability of being exceeded.
b. 95th percentile queue is defined as the queue length that has only a 5% probability of being exceeded.
c. Average delay expressed in seconds per vehicle.
d. Level of Service.
e. The unsignalized ramps at Outlet Center Road would operate at LOS E/F with the additional traffic shifted from Lenwood Road.

General Notes:
1. Calculated queue lengths in feet per lane.

TIA REPORT TABLE 6–3
EXISTING YEAR 2009 FREEWAY SEGMENT OPERATIONS

Weekday																
Freeway Segment	**Dir.**	**# of Lanes**	**Hourly Capacity[a]**	**Volume[b]**	**% K[c]**		**% D[c]**		**Truck Factor[d]**	**Peak Hour Volume[e]**		**V/C[f]**		**LOS**	
					MD	**PM**	**MD**	**PM**		**MD**	**PM**	**MD**	**PM**	**MD**	**PM**
I-15															
L Street to SR-58	NB	3M	6,900	74,000	0.071	0.057	0.471	0.443	0.76	3,080	2,327	0.446	0.337	B	B
	SB	3M	6,900		0.071	0.057	0.529	0.556		3,459	2,923	0.501	0.424	B	B
SR-58 to Lenwood Road	NB	4M	9,200	61,000	0.071	0.057	0.471	0.443	0.76	2,508	1,895	0.273	0.206	B	B
	SB	3M	6,900		0.071	0.057	0.529	0.556		2,817	2,380	0.408	0.345	B	B
Outlet Center Drive to Hodge Road	NB	3M	6,900	56,000	0.071	0.057	0.471	0.443	0.76	2,376	1,795	0.344	0.260	B	B
	SB	3M	6,900		0.071	0.057	0.529	0.556		2,669	2,255	0.387	0.327	B	B

Footnotes:

a. Capacity calculated at 2300 vehicles per hour (vph) per lane
b. Existing ADT Volumes from CALTRANS online Traffic and Vehicle Data Systems Unit, 2009
c. Peak Hour Percentage (K) and Direction Split (D) derived from CALTRANS most current volumes (June 2008)
d. Truck Factor from "2009 Annual Average Daily Truck Traffic on the California State Highway System"
e. Peak Hour Volume = ((ADT)(K)(D)/Truck Factor)
f. V/C = ((ADT)(K)(D)/Truck Factor/Capacity)

General Notes:

1. MD = Mid-Day

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

TIA REPORT TABLE 9–3
OPENING YEAR 2013 FREEWAY SEGMENT OPERATIONS

Freeway Segment	Dir.	# of Lanes	Hourly Capacity [a]	Volume [b]	Opening Year 2013 Peak Hour Volume [c]		V/C [d]		LOS		Project Volumes		Opening Year 2013 with Project Peak Hour Volume		V/C [d]		LOS	
					MD	PM	MD	PM	MD	PM	MD	PM	MD	PM	MD	PM	MD	PM
Alternative A – Weekday																		
I-15																		
L Street to SR-58	NB	3M	6,900	75,600	3,326	2,514	0.482	0.364	B	B	45	59	3,371	2,573	0.489	0.373	B	B
	SB	3M	6,900		3,736	3,156	0.541	0.457	B	B	62	68	3,798	3,224	0.550	0.467	B	B
SR-58 to Lenwood Road	NB	4M	9,200	61,600	2,710	2,048	0.295	0.223	B	B	86	113	2,796	2,161	0.304	0.235	B	B
	SB	3M	6,900		3,044	2,572	0.441	0.373	B	B	118	131	3,162	2,703	0.458	0.392	B	B
Outlet Center Drive to Hodge Road	NB	3M	6,900	58,400	2,570	1,942	0.372	0.281	B	B	207	230	2,777	2,172	0.402	0.315	B	B
	SB	3M	6,900		2,886	2,438	0.418	0.353	B	B	145	204	3,031	2,642	0.439	0.383	B	B
Alternative B – Weekday																		
I-15																		
L Street to SR-58	NB	3M	6,900	75,600	3,326	2,514	0.482	0.364	B	B	35	44	3,361	2,558	0.487	0.371	B	B
	SB	3M	6,900		3,736	3,156	0.541	0.457	B	B	47	52	3,783	3,208	0.548	0.465	B	B
SR-58 to Lenwood Road	NB	4M	9,200	61,600	2,710	2,048	0.295	0.223	B	B	66	85	2,776	2,133	0.302	0.232	B	B
	SB	3M	6,900		3,044	2,572	0.441	0.373	B	B	89	99	3,133	2,671	0.454	0.387	B	B
Outlet Center Drive to Hodge Road	NB	3M	6,900	58,400	2,570	1,942	0.372	0.281	B	B	149	166	2,719	2,108	0.394	0.305	B	B
	SB	3M	6,900		2,886	2,438	0.418	0.353	B	B	104	147	2,990	2,585	0.433	0.375	B	B

Footnotes:

a. Capacity calculated at 2300 vehicles per hour (vph) per lane.
b. Opening Year ADT Volumes grown by 2% per year for 4 years based on average annual growth from 2000-2009 CALTRANS historical traffic volumes.
c. Peak Hour Volume = ((ADT)(K)(D)/Truck Factor)
d. V/C = ((ADT)(K)(D)/Truck Factor/Capacity)

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

General Notes:

1. MD = Mid-Day
2. Peak hour K & D and truck factors shown in Existing Freeway Analysis table.

TIA REPORT TABLE 11–3
HORIZON YEAR 2035 FREEWAY SEGMENT OPERATIONS

Freeway Segment	Dir.	# of Lanes	Hourly Capacity [a]	Volume [b]	Horizon Year 2035 Peak Hour Volume [c]		V/C [d]		LOS		Project Volumes		Horizon Year 2035 with Project Peak Hour Volume		V/C [d]		LOS	
					MD	PM	MD	PM	MD	PM	MD	PM	MD	PM	MD	PM	MD	PM
Alternative A – Weekday																		
I-15																		
L Street to SR-58	NB	3M	6,900	106,400	4,682	3,538	0.679	0.513	C	B	45	59	4,727	3,597	0.685	0.521	C	B
	SB	3M	6,900		5,258	4,442	0.762	0.644	C	C	62	68	5,320	4,510	0.771	0.654	C	C
SR-58 to Lenwood Road	NB	4M	9,200	86,700	3,815	2,883	0.415	0.313	B	B	86	113	3,901	2,996	0.424	0.326	B	B
	SB	3M	6,900		4,285	3,620	0.621	0.525	C	B	118	131	4,403	3,751	0.638	0.544	C	B
Outlet Center Drive to Hodge Road	NB	3M	6,900	82,100	3,613	2,730	0.524	0.396	B	B	207	230	3,820	2,960	0.554	0.429	B	B
	SB	3M	6,900		4,057	3,428	0.588	0.497	B	B	145	204	4,202	3,632	0.609	0.526	B	B
Alternative B – Weekday																		
I-15																		
L Street to SR-58	NB	3M	6,900	106,400	4,682	3,538	0.679	0.513	C	B	35	44	4,717	3,582	0.684	0.519	C	B
	SB	3M	6,900		5,258	4,442	0.762	0.644	C	C	47	52	5,305	4,494	0.769	0.651	C	C
SR-58 to Lenwood Road	NB	4M	9,200	86,700	3,815	2,883	0.415	0.313	B	B	66	85	3,881	2,968	0.422	0.323	B	B
	SB	3M	6,900		4,285	3,620	0.621	0.525	C	B	89	99	4,374	3,719	0.634	0.539	C	B
Outlet Center Drive to Hodge Road	NB	3M	6,900	82,100	3,613	2,730	0.524	0.396	B	B	149	166	3,762	2,896	0.545	0.420	B	B
	SB	3M	6,900		4,057	3,428	0.588	0.497	B	B	104	147	4,161	3,575	0.603	0.518	B	B

Footnotes:

a. Capacity calculated at 2300 vehicles per hour (vph) per lane.
b. Opening Year ADT Volumes grown by 2% per year for 26 years based on average annual growth from 2000-2009 historical CALTRANS traffic volumes.
c. Peak Hour Volume = ((ADT)(K)(D)/Truck Factor)
d. V/C = ((ADT)(K)(D)/Truck Factor/Capacity)

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

General Notes:

1. MD = Mid-Day
2. Peak hour K & D and truck factors shown in Existing Freeway Analysis table.

SECTION A: SUNDAY ANALYSIS

Peak hour traffic count data was collected at the study area intersections on Sunday October 24, 2011 during the 2:00 PM to 4:00 PM peak hour. This time period was selected based on previous traffic analyses conducted in the area identifying this time frame as the peak period for Sunday traffic. This Section contains the Sunday peak hour results for each study area intersection for each analysis scenario included in the original TIA. The Saturday project trip generation/distribution/assignment was applied to the Sunday analysis. In addition, the I-15/Lenwood Road off-ramp junction analysis and I-15/Lenwood Road and I-15/Outlet Center Drive queuing analyses for a Sunday are provided. Sunday freeway average daily traffic volumes were not available from Caltrans to conduct a Sunday freeway mainline analysis.

Attachment D contains the Sunday traffic volume data collection sheets and traffic volume forecasts for all scenarios analyzed.

INTERSECTION ANALYSIS

As shown in ***Tables 9***, ***10,*** and ***12,*** all study area intersections are calculated to operate at acceptable Levels of Service with and without the project except for the intersection of Lenwood Road at the Project Access which is calculated to be impacted with the addition of the project. No new significant impacts were calculated with the project. The recommended mitigation measures, as stated in the May 19, 2010 traffic study, would mitigate this potential significant impact to below a level of significance. The following is recommended since this intersection is already identified in the traffic study as a significant impact:

Lenwood Road/ Project Access Intersection

Ensure corner sight distance standards are met to the satisfaction of the City Engineer. Install a traffic signal when signal warrants are met and provide the following lane geometry:

- Northbound: 1 thru lane and 1 dedicated right-turn lane
- Southbound: 2 dedicated left-turn lanes and 1 thru lane
- Westbound: 1 dedicated left-turn lane and 2 dedicated right-turn lanes

Tables 11 and ***13*** show the results of the intersection analysis with implementation of the recommended mitigation measures. All potential significant impacts are mitigated to levels less than significant. ***Attachment E*** contains the Sunday intersection analysis worksheets.

RAMP DIVERGE ANALYSIS

Tables 14 and ***15*** summarize the results of the Sunday ramp junction diverge analysis. As shown in these tables, adequate operations are calculated on the northbound and southbound I-15 off-ramps at Lenwood Road except for the I-15 SB Off-Ramp at Lenwood Road under Horizon Year 2035 conditions both with and without each of the proposed project alternatives. There is no significance criteria for ramp diverge analysis and the poor LOS occurs with or without the project. Therefore, no significant impact is calculated. However, it should be noted that mitigation measures recommended in Caltrans Response #2 would result in adequate ramp diverge operations at this location.

Attachment A contains the ramp diverge analysis worksheets.

QUEUING ANALYSIS

Tables 16 and ***17a*** display the results of a Sunday queuing analysis at the I-15 southbound and northbound off-ramps at Lenwood Road and Outlet Center Drive. Based on the project trip distribution, project trips are only added to the I-15 SB Off-Ramp/Lenwood Road southbound left-turn movement and the I-15 NB Off-Ramp/Lenwood Road northbound right-turn movement. As shown in these tables, there is sufficient storage to accommodate the expected 50th and 95th percentile queues at the I-15/Lenwood Road northbound and southbound off-ramps without and with each of the proposed alternatives during opening year and horizon year conditions at the movements in which the project adds trips except for the following:

- Northbound Right during the PM peak hour (50th and 95th percentile) for Horizon Year 2035 with Project Alt. A and B

As discussed in Response #2 to the Caltrans comment letter, the worst-case expected queue at this location would be during the Saturday Horizon Year 2035 with Project Alternative B condition. Improvements to alleviate this potential issue are discussed in Caltrans response #2.

Attachment B contains the queuing analysis worksheets.

The I-15/Outlet Center Road interchange is currently unsignalized. The Highway Capacity Software (HCS) is limited in its ability to measure the queuing results for unsignalized intersections. However, the Caltran's Highway Design Manual 2009 (HDM) provides direction for calculating queues at unsignalized intersections using storage length and number of vehicles per two-minute period per lane. The explanation and formula are as follows:

> Chapter 405.2 Item (e): Storage Length--At unsignalized inter-sections, storage length may be based on the number of turning vehicles likely to arrive in an average 2-minute period during the peak hour. As a minimum, space for 2-passenger cars should be provided at 25 feet per car. If the peak hour truck traffic is 10 percent or more, space for one passenger car and one truck should be provided.

$$\frac{\text{\# Approach Vehicles}}{\text{30 two-min periods per peak hour}} \times \text{25 feet per vehicle*} = \text{Queue Length (ft)}$$

*Existing volumes increase by 100% PCE factor. Therefore, no adjustment in feet per vehicle for trucks is required.

Tables 16 and ***17*** provide a Sunday queuing analysis at the Outlet Center Drive off-ramp locations. As shown in these tables, sufficient storage is available to serve the Opening Year and Horizon Year queues with and without each of the proposed project alternatives.

TABLE 9
SUNDAY EXISTING 2011
INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Delay [a]	LOS [b]
1. Lenwood Rd/ SR-58	Signal	PM	7.7	A
2. Lenwood Rd/ Main Street	Signal	PM	29.2	C
3. Main St/ SR-58 EB Ramps	Signal	PM	3.9	A
4. Main St/ SR-58 WB Ramps	Signal	PM	11.1	B
5. Lenwood Rd/ I-15 SB Ramps	Signal	PM	11.3	B
6. Lenwood Rd/ I-15 NB Ramps	Signal	PM	17.7	B
7. Outlet Center Dr/ I-15 SB Ramps	OWSC[c]	PM	9.8	A
8. Outlet Center Dr/ I-15 NB Ramps	OWSC	PM	8.7	A
9. Lenwood Rd/ Mercantile Way	Signal	PM	29.8	C
10. Lenwood Rd/ Proposed Project Access	DNE	PM	—	—
11. Factory Outlet Ave/ Mercantile Way	OWSC	PM	9.1	A

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. OWSC – One-Way Stop Controlled intersection. Minor street left turn delay is reported.

General Notes:
1. PM Peak Hour 2:00-4:00 PM
2. DNE = Does not exist

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

TABLE 10
SUNDAY OPENING YEAR 2013
INTERSECTION OPERATIONS

Intersection	Traffic Control	Peak Hour	Opening Year 2013		Opening Year 2013 with Project Alt. A		Opening Year 2013 with Project Alt. B	
			Delay [a]	LOS [b]	Delay	LOS	Delay	LOS
1. Lenwood Rd/ SR-58	Signal	PM	12.5	B	13.9	B	13.5	B
2. Lenwood Rd/ Main Street	Signal	PM	34.7	C	35.7	D	35.4	D
3. Main St/ SR-58 EB Ramps	Signal	PM	4.1	A	4.9	A	4.8	A
4. Main St/ SR-58 WB Ramps	Signal	PM	15.1	B	15.1	B	15.1	B
5. Lenwood Rd/ I-15 SB Ramps	Signal	PM	14.3	B	15.6	B	15.0	B
6. Lenwood Rd/ I-15 NB Ramps	Signal	PM	20.1	C	24.3	C	22.3	C
7. Outlet Center Dr/ I-15 SB Ramps	OWSC[c]	PM	10.0	A	19.3	C	15.2	C
8. Outlet Center Dr/ I-15 NB Ramps	OWSC	PM	8.7	A	10.0	B	9.5	A
9. Lenwood Rd/ Mercantile Way	Signal	PM	33.7	C	34.9	C	33.7	C
10. Lenwood Rd/ Project Access	OWSC	PM	DNE	—	**>100**	**F**	**>100**	**F**
11. Factory Outlet Ave/ Mercantile Way	OWSC	PM	9.5	A	9.5	A	9.5	A

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. OWSC – One-Way Stop Controlled intersection. Minor street left turn delay is reported.

General Notes:

1. PM Peak Hour 2:00-4:00 PM
2. DNE = Does not exist
3. **Bold typeface** and shading represent a potential project-related impact.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

TABLE 11
SUNDAY OPENING YEAR 2013
INTERSECTION OPERATIONS WITH MITIGATION

Intersection	Traffic Control	Peak Hour	Opening Year 2013		Opening Year 2013 with Project Alt. A		Opening Year 2013 with Project Alt. B	
			Delay [a]	LOS [b]	Delay	LOS	Delay	LOS
10. Lenwood Rd/ Project Access								
Without Mitigation	OWSC[c]	PM	DNE	—	>100	F	>100	F
With Mitigation	**Signal**	**PM**	**DNE**	**—**	**28.3**	**C**	**25.1**	**C**

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. OWSC – One-Way Stop Controlled intersection. Minor street left turn delay is reported.

General Notes:

1. PM Peak Hour 2:00-4:00 PM
2. DNE = Does not exist
3. Mitigation for Sunday analysis assumes recommended improvements from Weekday and Saturday analysis in the May 19, 2010 traffic study.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 < 10.0	A	0.0 < 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
> 80.1	F	> 50.1	F

TABLE 12
SUNDAY HORIZON YEAR 2035
INTERSECTION OPERATIONS

Intersection	Traffic Control	Peak Hour	Horizon Year 2035		Horizon Year 2035 with Project Alt. A		Horizon Year 2035 with Project Alt. B	
			Delay [a]	LOS [b]	Delay	LOS	Delay	LOS
1. Lenwood Rd/ SR-58	Signal	PM	16.9	B	18.0	B	17.7	B
2. Lenwood Rd/ Main Street	Signal	PM	35.0	D	36.0	D	35.7	D
3. Main St/ SR-58 EB Ramps	Signal	PM	4.0	A	4.9	A	4.7	A
4. Main St/ SR-58 WB Ramps	Signal	PM	13.4	B	13.4	B	13.4	B
5. Lenwood Rd/ I-15 SB Ramps	Signal	PM	15.8	B	41.1	D	30.1	C
6. Lenwood Rd/ I-15 NB Ramps	Signal	PM	27.3	C	34.6	C	30.9	C
7. Outlet Center Dr/ I-15 SB Ramps	OWSC[c]	PM	10.3	B	17.0	C	14.1	B
8. Outlet Center Dr/ I-15 NB Ramps	OWSC	PM	9.1	A	10.4	B	9.9	A
9. Lenwood Rd/ Mercantile Way	Signal	PM	38.8	D	39.5	D	39.8	D
10. Lenwood Rd/ Project Access	OWSC	PM	DNE	—	**>100**	**F**	**>100**	**F**
11. Factory Outlet Ave/ Mercantile Way	OWSC	PM	10.0	B	10.0	B	10.0	B

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. OWSC – One-Way Stop Controlled intersection. Minor street left turn delay is reported.

General Notes:

1. PM Peak Hour 2:00-4:00 PM
2. DNE = Does not exist
3. **Bold typeface** and shading represent a potential project-related impact.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 13
SUNDAY HORIZON YEAR 2035
INTERSECTION OPERATIONS WITH MITIGATION

Intersection	Traffic Control	Peak Hour	Horizon Year 2035		Horizon Year 2035 with Project Alt. A		Horizon Year 2035 with Project Alt. B	
			Delay [a]	LOS [b]	Delay	LOS	Delay	LOS
10. Lenwood Rd/ Project Access								
Without Mitigation	OWSC[c]	PM	DNE	—	>100	F	>100	F
With Mitigation	**Signal**	**PM**	**DNE**	**—**	**26.8**	**C**	**24.4**	**C**

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. OWSC – One-Way Stop Controlled intersection. Minor street left turn delay is reported.

General Notes:

1. PM Peak Hour 2:00-4:00 PM
2. DNE = Does not exist

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 14
SUNDAY OPENING YEAR 2013
RAMP DIVERGE OPERATIONS

Ramp Location	Opening Year		Opening Year 2013 with Project Alt. A		Opening Year 2013 with Project Alt. B	
	PM		PM		PM	
	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
I-15 SB Ramp Off-Ramp at Lenwood Road	25.3	C	28.1	C	27.4	C
I-15 NB Off-Ramp at Lenwood Road	16.1	B	17.0	B	16.7	B

Footnotes:

a. Pc/mi/ln = passenger cars/per mile/per lane.

General Notes:

1. Since Sunday Caltrans traffic volumes were not available, downstream peak hour freeway volumes forecasted using calculated growth between Weekday and Sunday peak hour off-ramp volumes for use in the analysis.

LOS	Maximum Density (pc/mi/ln)
A	< 10
B	10 ≥20
C	20 ≥ 28
D	28 ≥ 35
E	> 3□
F	Demand exce□ds capacit

TABLE 15
SUNDAY HORIZON YEAR 2035
RAMP DIVERGE OPERATIONS

Ramp Location	Horizon Year 2035		Horizon Year 2035 with Project Alt. A		Horizon Year 2035 with Project Alt. B	
	PM		PM		PM	
	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
I-15 SB Ramp Off-Ramp at Lenwood Road	**36.5**	**F**	**39.3**	**F**	**38.6**	**F**
I-15 NB Off-Ramp at Lenwood Road	25.3	C	25.5	C	25.9	C

Footnotes:

a. Pc/mi/ln = passenger cars/per mile/per lane.

General Notes:

1. Since Sunday Caltrans traffic volumes were not available, downstream peak hour freeway volumes forecasted using calculated growth between Weekday and Sunday peak hour off-ramp volumes for use in the analysis.

LOS	Maximum Density (pc/mi/ln)
A	< 10
B	10 ≥2
C	20 ≥ 28
D	28 ≥ 35
E	> 35
F	Demand exceeds cap□city

TABLE 16
SUNDAY OPENING YEAR 2013
INTERSECTION QUEUING OPERATIONS

Intersection	Critical Movement	Storage (feet)	Opening Year 2013		Opening Year 2013with Project Alt. A		Opening Year 2013with Project Alt. B	
			50th Percentile Queue[a]	95th Percentile Queue[b]	50th Percentile Queue	95th Percentile Queue	50th Percentile Queue	95th Percentile Queue
			PM	PM	PM	PM	PM	PM
I-15 SB Ramp Off-Ramp at Lenwood Road	**SBL_2**[d]	710[c]	96	132	178	235	153	204
I-15 NB Off-Ramp at Lenwood Road	**NBR_2**	360	17	60	109	214	85	165
Intersection	**Critical Movement**	**Storage (feet)**	**Queue Length (feet)**		**Queue Length (feet)**		**Queue Length (feet)**	
			PM		**PM**		**PM**	
I-15 NB Off-Ramp at Outlet Center Drive	NBL/T/**R**[f]	725[e]	47		240		186	

Footnotes:
a. 50th percentile queue is defined as the average queue length that has 50% probability of being exceeded.
b. 95th percentile queue is defined as the queue length that has only a 5% probability of being exceeded.
c. SBL Off-ramp capacity assumed to be half the distance of the entire ramp length.
d. Proposed project only adds vehicular trips to the SBL-turn movement and NBR-turn movement.
e. NB Off-ramp capacity assumed to be half the distance of the entire ramp length.
f. Proposed project only adds vehicular trips to the NBR-turn movement.

General Notes:
1. Calculated queue lengths in feet per lane.

TABLE 17A
SUNDAY HORIZON YEAR 2035
INTERSECTION QUEUING OPERATIONS

Intersection	Critical Movement	Storage (feet)	Horizon Year 2035		Horizon Year 2035 with Project Alt. A		Horizon Year 2035 with Project Alt. B	
			50th Percentile Queue[a]	95th Percentile Queue[b]	50th Percentile Queue	95th Percentile Queue	50th Percentile Queue	95th Percentile Queue
			PM	PM	PM	PM	PM	PM
I-15 SB Ramp Off-Ramp at Lenwood Road	**SBL_2**[d]	710[c]	252	322	470	568	438	529
I-15 NB Off-Ramp at Lenwood Road	**NBR_2**	360	182	321	**432**	**573**	**379**	**521**
Intersection	**Critical Movement**	**Storage (feet)**	**Queue Length (feet)**		**Queue Length (feet)**		**Queue Length (feet)**	
			PM		**PM**		**PM**	
I-15 NB Off-Ramp at Outlet Center Drive	NBL/T/**R** [f]	725 [e]	75		268		215	

Footnotes:
a. 50th percentile queue is defined as the average queue length that has 50% probability of being exceeded.
b. 95th percentile queue is defined as the queue length that has only a 5% probability of being exceeded.
c. SBL Off-ramp capacity assumed to be half the distance of the entire ramp length.
d. Proposed project only adds vehicular trips to the SBL-turn movement and NBR-turn movement.
e. NB Off-ramp capacity assumed to be half the distance of the entire ramp length.
f. Proposed project only adds vehicular trips to the NBR-turn movement.

General Notes:
1. Calculated queue lengths in feet per lane.

TABLE 17B
SUNDAY HORIZON YEAR 2035
PRE- AND POST- IMPROVEMENTS
INTERSECTION QUEUING OPERATIONS

Intersection	Critical Movement	Storage (feet)	Horizon Year 2035		Horizon Year 2035 with Project Alt. A		Horizon Year 2035 with Project Alt. B	
			50th Percentile Queue[a]	95th Percentile Queue[b]	50th Percentile Queue	95th Percentile Queue	50th Percentile Queue	95th Percentile Queue
			PM	PM	PM	PM	PM	PM
Pre-Mitigation								
I-15 NB Off-Ramp at Lenwood Road	NBR_2	360	182	321	**432**	**573**	**379**	**521**
Post-Mitigation								
I-15 NB Off-Ramp at Lenwood Road	NBR_2	360	121	200	265	**402**	237	355

Intersection	Traffic Control	Peak Hour	Horizon Year 2035		Horizon Year 2035 with Project Alt. A		Horizon Year 2035 with Project Alt. B	
			Delay [c]	LOS [d]	Delay	LOS	Delay	LOS
Post-Mitigation								
8. I-15 NB Ramps / Outlet Center Drive	Signal [e]	PM	6.5	A	22.7	C	14.9	B

Footnotes:
a. 50th percentile queue is defined as the average queue length that has 50% probability of being exceeded.
b. 95th percentile queue is defined as the queue length that has only a 5% probability of being exceeded.
c. Average delay expressed in seconds per vehicle.
d. Level of Service.
e. The unsignalized ramps at Outlet Center Road would operate at LOS E/F with the additional traffic shifted from Lenwood Road.

General Notes:
1. Calculated queue lengths in feet per lane.

End of Memo

ATTACHMENT A

RAMP JUNCTION DIVERGE ANALYSIS WORKSHEETS

ATTACHMENT A_1

RAMP JUNCTION DIVERGE ANALYSIS WORKSHEETS
WEEKDAY

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year-Mid day	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2521	0.90	Level	6	2	0.967	1.00	2896
Ramp	665	0.90	Level	6	2	0.967	1.00	764
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 1723 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	2896	7050	No
V_{12}	1723	4400:All	No
$V_{FO} = V_F - V_R$	2132	7050	No
V_R	764	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 10.4 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.497 (Exhibit 25-19)

S_R= 53.6 mph (Exhibit 25-19)

S_0= 70.6 mph (Exhibit 25-19)

S = 59.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year-PM Peak	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2377	0.90	Level	6	2	0.967	1.00	2731
Ramp	672	0.90	Level	6	2	0.967	1.00	772
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v_{12}	**Estimation of v_{12}**
$V_{12} = V_F (P_{FM})$	$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-2 or 25-3)	L_{EQ} = (Equation 25-8 or 25-9)
P_{FM}= using Equation	P_{FD} =0.450 using Equation 0
V_{12}= pc/h	V_{12} = 1654 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	2731	7050	No
V_{12}	1654	4400:All	No
$V_{FO} = V_F - V_R$	1959	7050	No
V_R	772	3800	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 9.8 (pc/ mi /ln)

LOS= A (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Speed Estimation

D_s = 0.497 (Exhibit 25-19)

S_R= 53.6 mph (Exhibit 25-19)

S_0= 71.0 mph (Exhibit 25-19)

S = 59.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt A Mid day	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2556	0.90	Level	6	2	0.967	1.00	2937
Ramp	753	0.90	Level	6	2	0.967	1.00	865
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 1797 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	2937	7050	No
V_{12}	1797	4400:All	No
$V_{FO} = V_F - V_R$	2072	7050	No
V_R	865	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 11.1 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.506 (Exhibit 25-19)

S_R= 53.4 mph (Exhibit 25-19)

S_0= 70.8 mph (Exhibit 25-19)

S = 59.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt A PM Peak	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	1944	0.90	Level	6	2	0.967	1.00	2233
Ramp	771	0.90	Level	6	2	0.967	1.00	886
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 1492 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	2233	7050	No
V_{12}	1492	4400:All	No
$V_{FO} = V_F - V_R$	1347	7050	No
V_R	886	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 8.4 (pc/ mi /ln)

LOS= A (Exhibit 25-4)

Speed Estimation

D_s = 0.508 (Exhibit 25-19)

S_R= 53.3 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 58.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt B Mid day	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2546	0.90	Level	6	2	0.967	1.00	2925
Ramp	728	0.90	Level	6	2	0.967	1.00	836
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 1776 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	2925	7050	No
V_{12}	1776	4400:All	No
$V_{FO} = V_F - V_R$	2089	7050	No
V_R	836	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 10.9 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.503 (Exhibit 25-19)

S_R= 53.4 mph (Exhibit 25-19)

S_0= 70.7 mph (Exhibit 25-19)

S = 59.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt B PM Peak	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	1933	0.90	Level	6	2	0.967	1.00	2221
Ramp	743	0.90	Level	6	2	0.967	1.00	854
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 1469 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	2221	7050	No
V_{12}	1469	4400:All	No
$V_{FO} = V_F - V_R$	1367	7050	No
V_R	854	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 8.2 (pc/ mi /ln)

LOS= A (Exhibit 25-4)

Speed Estimation

D_s = 0.505 (Exhibit 25-19)

S_R= 53.4 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 58.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035-Mid day	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3547	0.90	Level	6	2	0.967	1.00	4075
Ramp	880	0.90	Level	6	2	0.967	1.00	1011
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v_{12}	**Estimation of v_{12}**
$V_{12} = V_F (P_{FM})$	$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-2 or 25-3)	L_{EQ} = (Equation 25-8 or 25-9)
P_{FM}= using Equation	P_{FD} =0.450 using Equation 0
V_{12}= pc/h	V_{12} = 2390 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	4075	7050	No
V_{12}	2390	4400:All	No
$V_{FO} = V_F - V_R$	3064	7050	No
V_R	1011	3800	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 16.2 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Speed Estimation

D_s = 0.519 (Exhibit 25-19)

S_R= 53.1 mph (Exhibit 25-19)

S_0= 68.6 mph (Exhibit 25-19)

S = 58.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035-PM	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2680	0.90	Level	6	2	0.967	1.00	3079
Ramp	800	0.90	Level	6	2	0.967	1.00	919
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.450 using Equation (Exhibit 25-11)

V_{12} = 1891 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3079	7050	No
V_{12}	1891	4400:All	No
$V_{FO} = V_F - V_R$	2160	7050	No
V_R	919	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 11.9 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

D_s = 0.511 (Exhibit 25-19)

S_R= 53.3 mph (Exhibit 25-19)

S_0= 70.6 mph (Exhibit 25-19)

S = 58.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt A Mid day	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3582	0.90	Level	6	2	0.967	1.00	4115
Ramp	968	0.90	Level	6	2	0.967	1.00	1112
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v_{12}	**Estimation of v_{12}**
$V_{12} = V_F (P_{FM})$	$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-2 or 25-3)	L_{EQ} = (Equation 25-8 or 25-9)
P_{FM}= using Equation	P_{FD} =0.450 using Equation 0
V_{12}= pc/h	V_{12} = 2463 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	4115	7050	No
V_{12}	2463	4400:All	No
$V_{FO} = V_F - V_R$	3003	7050	No
V_R	1112	3800	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 16.8 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Speed Estimation

D_s = 0.528 (Exhibit 25-19)

S_R= 52.9 mph (Exhibit 25-19)

S_0= 68.8 mph (Exhibit 25-19)

S = 58.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt A PM Peak	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft	S_{FF} = 65.0 mph S_{FR} = 35.0 mph	L_{down} = ft
Vu = veh/h	Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2719	0.90	Level	6	2	0.967	1.00	3124
Ramp	899	0.90	Level	6	2	0.967	1.00	1033
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v_{12}	**Estimation of v_{12}**
$V_{12} = V_F (P_{FM})$	$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-2 or 25-3)	L_{EQ} = (Equation 25-8 or 25-9)
P_{FM}= using Equation	P_{FD} =0.450 using Equation 0
V_{12}= pc/h	V_{12} = 1974 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	3124	7050	No
V_{12}	1974	4400:All	No
$V_{FO} = V_F - V_R$	2091	7050	No
V_R	1033	3800	No

Level of Service Determination (if not F)	Level of Service Determination (if not F)
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$
D_R = (pc/ mi /ln)	D_R = 12.6 (pc/ mi /ln)
LOS = (Exhibit 25-4)	LOS= B (Exhibit 25-4)
Speed Estimation	**Speed Estimation**
M_S = (Exibit 25-19)	D_s = 0.521 (Exhibit 25-19)
S_R= mph (Exhibit 25-19)	S_R= 53.0 mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)	S_0= 70.7 mph (Exhibit 25-19)
S= mph (Exhibit 25-14)	S = 58.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt B Mid day	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3572	0.90	Level	6	2	0.967	1.00	4104
Ramp	943	0.90	Level	6	2	0.967	1.00	1083
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2442 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	4104	7050	No
V_{12}	2442	4400:All	No
$V_{FO} = V_F - V_R$	3021	7050	No
V_R	1083	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 16.6 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.525 (Exhibit 25-19)

S_R= 52.9 mph (Exhibit 25-19)

S_0= 68.7 mph (Exhibit 25-19)

S = 58.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt B PM Peak	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft	S_{FF} = 65.0 mph S_{FR} = 35.0 mph	L_{down} = ft
Vu = veh/h	Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2708	0.90	Level	6	2	0.967	1.00	3111
Ramp	871	0.90	Level	6	2	0.967	1.00	1001
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v_{12}	**Estimation of v_{12}**
$V_{12} = V_F (P_{FM})$	$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-2 or 25-3)	L_{EQ} = (Equation 25-8 or 25-9)
P_{FM}= using Equation	P_{FD} =0.450 using Equation 0
V_{12}= pc/h	V_{12} = 1950 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	3111	7050	No
V_{12}	1950	4400:All	No
$V_{FO} = V_F - V_R$	2110	7050	No
V_R	1001	3800	No

Level of Service Determination (if not F)	Level of Service Determination (if not F)
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$
D_R = (pc/ mi /ln)	D_R = 12.4 (pc/ mi /ln)
LOS = (Exhibit 25-4)	LOS= B (Exhibit 25-4)
Speed Estimation	**Speed Estimation**
M_S = (Exibit 25-19)	D_s = 0.518 (Exhibit 25-19)
S_R= mph (Exhibit 25-19)	S_R= 53.1 mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)	S_0= 70.7 mph (Exhibit 25-19)
S= mph (Exhibit 25-14)	S = 58.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year-Mid day	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3356	0.90	Level	6	2	0.967	1.00	3856
Ramp	753	0.90	Level	6	2	0.967	1.00	865
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2211 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	3856	7050	No
V_{12}	2211	4400:All	No
$V_{FO} = V_F - V_R$	2991	7050	No
V_R	865	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 14.6 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.506 (Exhibit 25-19)

S_R= 53.4 mph (Exhibit 25-19)

S_0= 68.8 mph (Exhibit 25-19)

S = 59.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year-PM Peak	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2874	0.90	Level	6	2	0.967	1.00	3302
Ramp	861	0.90	Level	6	2	0.967	1.00	989
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2030 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	3302	7050	No
V_{12}	2030	4400:All	No
$V_{FO} = V_F - V_R$	2313	7050	No
V_R	989	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 13.1 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.517 (Exhibit 25-19)

S_R= 53.1 mph (Exhibit 25-19)

S_0= 70.2 mph (Exhibit 25-19)

S = 58.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt A Mid day	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3044	0.90	Level	6	2	0.967	1.00	3497
Ramp	1032	0.90	Level	6	2	0.967	1.00	1186
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2226 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	3497	7050	No
V_{12}	2226	4400:All	No
$V_{FO} = V_F - V_R$	2311	7050	No
V_R	1186	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 14.8 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.535 (Exhibit 25-19)

S_R= 52.7 mph (Exhibit 25-19)

S_0= 70.2 mph (Exhibit 25-19)

S = 58.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt A PM Peak	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2572	0.90	Level	6	2	0.967	1.00	2955
Ramp	1172	0.90	Level	6	2	0.967	1.00	1346
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2070 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	2955	7050	No
V_{12}	2070	4400:All	No
$V_{FO} = V_F - V_R$	1609	7050	No
V_R	1346	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 13.4 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.549 (Exhibit 25-19)

S_R= 52.4 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 56.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt B Mid day	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3133	0.90	Level	6	2	0.967	1.00	3599
Ramp	958	0.90	Level	6	2	0.967	1.00	1101
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v_{12}	**Estimation of v_{12}**
$V_{12} = V_F (P_{FM})$	$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-2 or 25-3)	L_{EQ} = (Equation 25-8 or 25-9)
P_{FM}= using Equation	P_{FD} =0.450 using Equation 0
V_{12}= pc/h	V_{12} = 2225 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	3599	7050	No
V_{12}	2225	4400:All	No
$V_{FO} = V_F - V_R$	2498	7050	No
V_R	1101	3800	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 14.7 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Speed Estimation

D_s = 0.527 (Exhibit 25-19)

S_R= 52.9 mph (Exhibit 25-19)

S_0= 69.8 mph (Exhibit 25-19)

S = 58.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt B PM Peak	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2671	0.90	Level	6	2	0.967	1.00	3069
Ramp	1089	0.90	Level	6	2	0.967	1.00	1251
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2069 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	3069	7050	No
V_{12}	2069	4400:All	No
$V_{FO} = V_F - V_R$	1818	7050	No
V_R	1251	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 13.4 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.541 (Exhibit 25-19)

S_R= 52.6 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 57.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035-Mid day	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	4285	0.90	Level	6	2	0.967	1.00	4923
Ramp	1250	0.90	Level	6	2	0.967	1.00	1436
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3005 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	4923	7050	No
V_{12}	3005	4400:All	No
$V_{FO} = V_F - V_R$	3487	7050	No
V_R	1436	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 21.5 (pc/ mi /ln)

LOS= C (Exhibit 25-4)

Speed Estimation

D_s = 0.557 (Exhibit 25-19)

S_R= 52.2 mph (Exhibit 25-19)

S_0= 67.7 mph (Exhibit 25-19)

S = 57.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035-PM	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3620	0.90	Level	6	2	0.967	1.00	4159
Ramp	1340	0.90	Level	6	2	0.967	1.00	1540
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.450 using Equation (Exhibit 25-11)

V_{12} = 2719 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4159	7050	No
V_{12}	2719	4400:All	No
$V_{FO} = V_F - V_R$	2619	7050	No
V_R	1540	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 19.0 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

D_s = 0.567 (Exhibit 25-19)

S_R= 52.0 mph (Exhibit 25-19)

S_0= 69.6 mph (Exhibit 25-19)

S = 57.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt A Mid day	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	4403	0.90	Level	6	2	0.967	1.00	5059
Ramp	1529	0.90	Level	6	2	0.967	1.00	1757
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3243 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	5059	7050	No
V_{12}	3243	4400:All	No
$V_{FO} = V_F - V_R$	3302	7050	No
V_R	1757	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 23.5 (pc/ mi /ln)

LOS= C (Exhibit 25-4)

Speed Estimation

D_s = 0.586 (Exhibit 25-19)

S_R= 51.5 mph (Exhibit 25-19)

S_0= 68.1 mph (Exhibit 25-19)

S = 56.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt A PM Peak	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft	S_{FF} = 65.0 mph S_{FR} = 35.0 mph	L_{down} = ft
Vu = veh/h	Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3751	0.90	Level	6	2	0.967	1.00	4309
Ramp	1651	0.90	Level	6	2	0.967	1.00	1897
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v_{12}	**Estimation of v_{12}**
$V_{12} = V_F (P_{FM})$	$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-2 or 25-3)	L_{EQ} = (Equation 25-8 or 25-9)
P_{FM}= using Equation	P_{FD} =0.450 using Equation 0
V_{12}= pc/h	V_{12} = 2982 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	4309	7050	No
V_{12}	2982	4400:All	No
$V_{FO} = V_F - V_R$	2412	7050	No
V_R	1897	3800	No

Level of Service Determination (if not F)	Level of Service Determination (if not F)
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$
D_R = (pc/ mi /ln)	D_R = 21.3 (pc/ mi /ln)
LOS = (Exhibit 25-4)	LOS= C (Exhibit 25-4)
Speed Estimation	**Speed Estimation**
M_S = (Exibit 25-19)	D_s = 0.599 (Exhibit 25-19)
S_R= mph (Exhibit 25-19)	S_R= 51.2 mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)	S_0= 70.0 mph (Exhibit 25-19)
S= mph (Exhibit 25-14)	S = 55.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt B Mid day	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	4374	0.90	Level	6	2	0.967	1.00	5025
Ramp	1455	0.90	Level	6	2	0.967	1.00	1672
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3181 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	5025	7050	No
V_{12}	3181	4400:All	No
$V_{FO} = V_F - V_R$	3353	7050	No
V_R	1672	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 23.0 (pc/ mi /ln)

LOS= C (Exhibit 25-4)

Speed Estimation

D_s = 0.578 (Exhibit 25-19)

S_R= 51.7 mph (Exhibit 25-19)

S_0= 68.0 mph (Exhibit 25-19)

S = 56.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt B PM Peak	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft	S_{FF} = 65.0 mph S_{FR} = 35.0 mph	L_{down} = ft
Vu = veh/h	Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3719	0.90	Level	6	2	0.967	1.00	4273
Ramp	1568	0.90	Level	6	2	0.967	1.00	1801
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v_{12}	**Estimation of v_{12}**
$V_{12} = V_F (P_{FM})$	$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-2 or 25-3)	L_{EQ} = (Equation 25-8 or 25-9)
P_{FM}= using Equation	P_{FD} =0.450 using Equation 0
V_{12}= pc/h	V_{12} = 2913 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	4273	7050	No
V_{12}	2913	4400:All	No
$V_{FO} = V_F - V_R$	2472	7050	No
V_R	1801	3800	No

Level of Service Determination (if not F)	Level of Service Determination (if not F)
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$
D_R = (pc/ mi /ln)	D_R = 20.7 (pc/ mi /ln)
LOS = (Exhibit 25-4)	LOS= C (Exhibit 25-4)
Speed Estimation	**Speed Estimation**
M_S = (Exibit 25-19)	D_s = 0.590 (Exhibit 25-19)
S_R= mph (Exhibit 25-19)	S_R= 51.4 mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)	S_0= 69.9 mph (Exhibit 25-19)
S= mph (Exhibit 25-14)	S = 56.2 mph (Exhibit 25-15)

ATTACHMENT A_2

RAMP JUNCTION DIVERGE ANALYSIS WORKSHEETS
SATURDAY

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year-Mid day-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3909	0.90	Level	6	2	0.967	1.00	4491
Ramp	1031	0.90	Level	6	2	0.967	1.00	1185
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2673 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	4491	7050	No
V_{12}	2673	4400:All	No
$V_{FO} = V_F - V_R$	3306	7050	No
V_R	1185	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 18.6 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.535 (Exhibit 25-19)

S_R= 52.7 mph (Exhibit 25-19)

S_0= 68.1 mph (Exhibit 25-19)

S = 58.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year-PM Peak-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	1905	0.90	Level	6	2	0.967	1.00	2189
Ramp	672	0.90	Level	6	2	0.967	1.00	772
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 1410 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	2189	7050	No
V_{12}	1410	4400:All	No
$V_{FO} = V_F - V_R$	1417	7050	No
V_R	772	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 7.7 (pc/ mi /ln)

LOS= A (Exhibit 25-4)

Speed Estimation

D_s = 0.497 (Exhibit 25-19)

S_R= 53.6 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 58.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt A Mid day-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3956	0.90	Level	6	2	0.967	1.00	4545
Ramp	791	0.90	Level	6	2	0.967	1.00	909
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2545 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	4545	7050	No
V_{12}	2545	4400:All	No
$V_{FO} = V_F - V_R$	3636	7050	No
V_R	909	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 17.5 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.510 (Exhibit 25-19)

S_R= 53.3 mph (Exhibit 25-19)

S_0= 67.4 mph (Exhibit 25-19)

S = 58.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt A PM Peak-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	1952	0.90	Level	6	2	0.967	1.00	2243
Ramp	791	0.90	Level	6	2	0.967	1.00	909
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v_{12}	**Estimation of v_{12}**
$V_{12} = V_F (P_{FM})$	$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-2 or 25-3)	L_{EQ} = (Equation 25-8 or 25-9)
P_{FM}= using Equation	P_{FD} =0.450 using Equation 0
V_{12}= pc/h	V_{12} = 1509 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	2243	7050	No
V_{12}	1509	4400:All	No
$V_{FO} = V_F - V_R$	1334	7050	No
V_R	909	3800	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 8.6 (pc/ mi /ln)

LOS= A (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Speed Estimation

D_s = 0.510 (Exhibit 25-19)

S_R= 53.3 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 58.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt B Mid day-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3943	0.90	Level	6	2	0.967	1.00	4530
Ramp	1117	0.90	Level	6	2	0.967	1.00	1283
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2744 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	4530	7050	No
V_{12}	2744	4400:All	No
$V_{FO} = V_F - V_R$	3247	7050	No
V_R	1283	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 19.2 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.543 (Exhibit 25-19)

S_R= 52.5 mph (Exhibit 25-19)

S_0= 68.2 mph (Exhibit 25-19)

S = 57.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt B PM Peak-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	1939	0.90	Level	6	2	0.967	1.00	2228
Ramp	758	0.90	Level	6	2	0.967	1.00	871
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 1482 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	2228	7050	No
V_{12}	1482	4400:All	No
$V_{FO} = V_F - V_R$	1357	7050	No
V_R	871	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 8.4 (pc/ mi /ln)

LOS= A (Exhibit 25-4)

Speed Estimation

D_s = 0.506 (Exhibit 25-19)

S_R= 53.4 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 58.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035-Mid day-Sat	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5763	0.90	Level	6	2	0.967	1.00	6621
Ramp	1430	0.90	Level	6	2	0.967	1.00	1643
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3883 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	6621	7050	No
V_{12}	3883	4400:All	No
$V_{FO} = V_F - V_R$	4978	7050	No
V_R	1643	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 29.0 (pc/ mi /ln)

LOS= D (Exhibit 25-4)

Speed Estimation

D_s = 0.576 (Exhibit 25-19)

S_R= 51.8 mph (Exhibit 25-19)

S_0= 64.5 mph (Exhibit 25-19)

S = 56.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035-PM Peak-Sat	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2847	0.90	Level	6	2	0.967	1.00	3271
Ramp	850	0.90	Level	6	2	0.967	1.00	977
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.450 using Equation (Exhibit 25-11)

V_{12} = 2009 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3271	7050	No
V_{12}	2009	4400:All	No
$V_{FO} = V_F - V_R$	2294	7050	No
V_R	977	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 12.9 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

D_s = 0.516 (Exhibit 25-19)

S_R= 53.1 mph (Exhibit 25-19)

S_0= 70.3 mph (Exhibit 25-19)

S = 58.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt A Mid day-Sat	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5810	0.90	Level	6	2	0.967	1.00	6675
Ramp	1549	0.90	Level	6	2	0.967	1.00	1780
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3983 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	6675	7050	No
V_{12}	3983	4400:All	No
$V_{FO} = V_F - V_R$	4895	7050	No
V_R	1780	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 29.9 (pc/ mi /ln)

LOS= D (Exhibit 25-4)

Speed Estimation

D_s = 0.588 (Exhibit 25-19)

S_R= 51.5 mph (Exhibit 25-19)

S_0= 64.7 mph (Exhibit 25-19)

S = 56.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt A PM Peak-Sat	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2894	0.90	Level	6	2	0.967	1.00	3325
Ramp	969	0.90	Level	6	2	0.967	1.00	1113
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v_{12}	**Estimation of v_{12}**
$V_{12} = V_F (P_{FM})$	$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-2 or 25-3)	L_{EQ} = (Equation 25-8 or 25-9)
P_{FM}= using Equation	P_{FD} =0.450 using Equation 0
V_{12}= pc/h	V_{12} = 2108 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	3325	7050	No
V_{12}	2108	4400:All	No
$V_{FO} = V_F - V_R$	2212	7050	No
V_R	1113	3800	No

Level of Service Determination (if not F)	Level of Service Determination (if not F)
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$
D_R = (pc/ mi /ln)	D_R = 13.7 (pc/ mi /ln)
LOS = (Exhibit 25-4)	LOS= B (Exhibit 25-4)
Speed Estimation	**Speed Estimation**
M_S = (Exibit 25-19)	D_s = 0.528 (Exhibit 25-19)
S_R= mph (Exhibit 25-19)	S_R= 52.9 mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)	S_0= 70.5 mph (Exhibit 25-19)
S= mph (Exhibit 25-14)	S = 58.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt B Mid day-Sat	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5797	0.90	Level	6	2	0.967	1.00	6660
Ramp	1516	0.90	Level	6	2	0.967	1.00	1742
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3955 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	6660	7050	No
V_{12}	3955	4400:All	No
$V_{FO} = V_F - V_R$	4918	7050	No
V_R	1742	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 29.6 (pc/ mi /ln)

LOS= D (Exhibit 25-4)

Speed Estimation

D_s = 0.585 (Exhibit 25-19)

S_R= 51.6 mph (Exhibit 25-19)

S_0= 64.7 mph (Exhibit 25-19)

S = 56.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt B PM Peak-Sat	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2881	0.90	Level	6	2	0.967	1.00	3310
Ramp	936	0.90	Level	6	2	0.967	1.00	1075
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2081 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	3310	7050	No
V_{12}	2081	4400:All	No
$V_{FO} = V_F - V_R$	2235	7050	No
V_R	1075	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 13.5 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.525 (Exhibit 25-19)

S_R= 52.9 mph (Exhibit 25-19)

S_0= 70.4 mph (Exhibit 25-19)

S = 58.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year-Mid day-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3719	0.90	Level	6	2	0.967	1.00	4273
Ramp	920	0.90	Level	6	2	0.967	1.00	1057
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v_{12}	**Estimation of v_{12}**
$V_{12} = V_F (P_{FM})$	$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-2 or 25-3)	L_{EQ} = (Equation 25-8 or 25-9)
P_{FM}= using Equation	P_{FD} =0.450 using Equation 0
V_{12}= pc/h	V_{12} = 2504 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	4273	7050	No
V_{12}	2504	4400:All	No
$V_{FO} = V_F - V_R$	3216	7050	No
V_R	1057	3800	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 17.1 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Speed Estimation

D_s = 0.523 (Exhibit 25-19)

S_R= 53.0 mph (Exhibit 25-19)

S_0= 68.3 mph (Exhibit 25-19)

S = 58.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year-PM Peak-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2124	0.90	Level	6	2	0.967	1.00	2440
Ramp	711	0.90	Level	6	2	0.967	1.00	817
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 1547 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	2440	7050	No
V_{12}	1547	4400:All	No
$V_{FO} = V_F - V_R$	1623	7050	No
V_R	817	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 8.9 (pc/ mi /ln)

LOS= A (Exhibit 25-4)

Speed Estimation

D_s = 0.502 (Exhibit 25-19)

S_R= 53.5 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 58.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt A Mid day-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3876	0.90	Level	6	2	0.967	1.00	4453
Ramp	1295	0.90	Level	6	2	0.967	1.00	1488
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2822 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	4453	7050	No
V_{12}	2822	4400:All	No
$V_{FO} = V_F - V_R$	2965	7050	No
V_R	1488	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 19.9 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.562 (Exhibit 25-19)

S_R= 52.1 mph (Exhibit 25-19)

S_0= 68.8 mph (Exhibit 25-19)

S = 57.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt A PM Peak-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2281	0.90	Level	6	2	0.967	1.00	2621
Ramp	1086	0.90	Level	6	2	0.967	1.00	1248
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 1866 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	2621	7050	No
V_{12}	1866	4400:All	No
$V_{FO} = V_F - V_R$	1373	7050	No
V_R	1248	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 11.7 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.540 (Exhibit 25-19)

S_R= 52.6 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 56.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt B Mid day-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3838	0.90	Level	6	2	0.967	1.00	4409
Ramp	1195	0.90	Level	6	2	0.967	1.00	1373
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2739 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	4409	7050	No
V_{12}	2739	4400:All	No
$V_{FO} = V_F - V_R$	3036	7050	No
V_R	1373	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 19.2 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.552 (Exhibit 25-19)

S_R= 52.3 mph (Exhibit 25-19)

S_0= 68.7 mph (Exhibit 25-19)

S = 57.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt B PM Peak-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2243	0.90	Level	6	2	0.967	1.00	2577
Ramp	986	0.90	Level	6	2	0.967	1.00	1133
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 1783 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	2577	7050	No
V_{12}	1783	4400:All	No
$V_{FO} = V_F - V_R$	1444	7050	No
V_R	1133	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 10.9 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.530 (Exhibit 25-19)

S_R= 52.8 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 57.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035-Mid day-Sat	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5382	0.90	Level	6	2	0.967	1.00	6183
Ramp	1570	0.90	Level	6	2	0.967	1.00	1804
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3775 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	6183	7050	No
V_{12}	3775	4400:All	No
$V_{FO} = V_F - V_R$	4379	7050	No
V_R	1804	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 28.1 (pc/ mi /ln)

LOS= D (Exhibit 25-4)

Speed Estimation

D_s = 0.590 (Exhibit 25-19)

S_R= 51.4 mph (Exhibit 25-19)

S_0= 65.8 mph (Exhibit 25-19)

S = 56.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035-Mid day-Sat	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	2891	0.90	Level	6	2	0.967	1.00	3321
Ramp	1070	0.90	Level	6	2	0.967	1.00	1229
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2170 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	3321	7050	No
V_{12}	2170	4400:All	No
$V_{FO} = V_F - V_R$	2092	7050	No
V_R	1229	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 14.3 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.539 (Exhibit 25-19)

S_R= 52.6 mph (Exhibit 25-19)

S_0= 70.7 mph (Exhibit 25-19)

S = 57.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt A Mid day-Sat	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5539	0.90	Level	6	2	0.967	1.00	6364
Ramp	1945	0.90	Level	6	2	0.967	1.00	2235
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v_{12}	**Estimation of v_{12}**
$V_{12} = V_F (P_{FM})$	$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-2 or 25-3)	L_{EQ} = (Equation 25-8 or 25-9)
P_{FM}= using Equation	P_{FD} =0.450 using Equation 0
V_{12}= pc/h	V_{12} = 4093 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	6364	7050	No
V_{12}	4093	4400:All	No
$V_{FO} = V_F - V_R$	4129	7050	No
V_R	2235	3800	No

Level of Service Determination (if not F)	Level of Service Determination (if not F)
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$
D_R = (pc/ mi /ln)	D_R = 30.8 (pc/ mi /ln)
LOS = (Exhibit 25-4)	LOS= D (Exhibit 25-4)
Speed Estimation	**Speed Estimation**
M_S = (Exibit 25-19)	D_s = 0.629 (Exhibit 25-19)
S_R= mph (Exhibit 25-19)	S_R= 50.5 mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)	S_0= 66.3 mph (Exhibit 25-19)
S= mph (Exhibit 25-14)	S = 55.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt A PM Peak-Sun	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	6944	0.90	Level	6	2	0.967	1.00	7978
Ramp	2355	0.90	Level	6	2	0.967	1.00	2706
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 5078 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	7978	7050	Yes
V_{12}	5078	4400:All	Yes
$V_{FO} = V_F - V_R$	5272	7050	No
V_R	2706	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 39.3 (pc/ mi /ln)

LOS= F (Exhibit 25-4)

Speed Estimation

D_s = 0.672 (Exhibit 25-19)

S_R= 49.6 mph (Exhibit 25-19)

S_0= 63.9 mph (Exhibit 25-19)

S = 54.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt B Mid day-Sat	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5501	0.90	Level	6	2	0.967	1.00	6320
Ramp	1845	0.90	Level	6	2	0.967	1.00	2120
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 4010 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	6320	7050	No
V_{12}	4010	4400:All	No
$V_{FO} = V_F - V_R$	4200	7050	No
V_R	2120	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 30.1 (pc/ mi /ln)

LOS= D (Exhibit 25-4)

Speed Estimation

D_s = 0.619 (Exhibit 25-19)

S_R= 50.8 mph (Exhibit 25-19)

S_0= 66.2 mph (Exhibit 25-19)

S = 55.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt B PM Peak-Sun	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	6906	0.90	Level	6	2	0.967	1.00	7934
Ramp	2255	0.90	Level	6	2	0.967	1.00	2591
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 4995 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	7934	7050	Yes
V_{12}	4995	4400:All	Yes
$V_{FO} = V_F - V_R$	5343	7050	No
V_R	2591	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 38.6 (pc/ mi /ln)

LOS= F (Exhibit 25-4)

Speed Estimation

D_s = 0.661 (Exhibit 25-19)

S_R= 49.8 mph (Exhibit 25-19)

S_0= 63.7 mph (Exhibit 25-19)

S = 54.2 mph (Exhibit 25-15)

ATTACHMENT A_3

RAMP JUNCTION DIVERGE ANALYSIS WORKSHEETS
SUNDAY

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year-PM Peak-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3488	0.90	Level	6	2	0.967	1.00	4007
Ramp	920	0.90	Level	6	2	0.967	1.00	1057
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2384 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	4007	7050	No
V_{12}	2384	4400:All	No
$V_{FO} = V_F - V_R$	2950	7050	No
V_R	1057	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 16.1 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.523 (Exhibit 25-19)

S_R= 53.0 mph (Exhibit 25-19)

S_0= 68.9 mph (Exhibit 25-19)

S = 58.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt A PM Peak-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3535	0.90	Level	6	2	0.967	1.00	4061
Ramp	1039	0.90	Level	6	2	0.967	1.00	1194
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2484 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	4061	7050	No
V_{12}	2484	4400:All	No
$V_{FO} = V_F - V_R$	2867	7050	No
V_R	1194	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 17.0 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.535 (Exhibit 25-19)

S_R= 52.7 mph (Exhibit 25-19)

S_0= 69.1 mph (Exhibit 25-19)

S = 58.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt B PM Peak-Sat	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3522	0.90	Level	6	2	0.967	1.00	4046
Ramp	1006	0.90	Level	6	2	0.967	1.00	1156
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 2456 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	4046	7050	No
V_{12}	2456	4400:All	No
$V_{FO} = V_F - V_R$	2890	7050	No
V_R	1156	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 16.7 (pc/ mi /ln)

LOS= B (Exhibit 25-4)

Speed Estimation

D_s = 0.532 (Exhibit 25-19)

S_R= 52.8 mph (Exhibit 25-19)

S_0= 69.0 mph (Exhibit 25-19)

S = 58.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035-PM Peak-Sun	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5118	0.90	Level	6	2	0.967	1.00	5880
Ramp	1270	0.90	Level	6	2	0.967	1.00	1459
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3448 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	5880	7050	No
V_{12}	3448	4400:All	No
$V_{FO} = V_F - V_R$	4421	7050	No
V_R	1459	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 25.3 (pc/ mi /ln)

LOS= C (Exhibit 25-4)

Speed Estimation

D_s = 0.559 (Exhibit 25-19)

S_R= 52.1 mph (Exhibit 25-19)

S_0= 65.7 mph (Exhibit 25-19)

S = 57.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt A PM Peak-Sun	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5165	0.90	Level	6	2	0.967	1.00	5934
Ramp	1270	0.90	Level	6	2	0.967	1.00	1459
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3473 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	5934	7050	No
V_{12}	3473	4400:All	No
$V_{FO} = V_F - V_R$	4475	7050	No
V_R	1459	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 25.5 (pc/ mi /ln)

LOS= C (Exhibit 25-4)

Speed Estimation

D_s = 0.559 (Exhibit 25-19)

S_R= 52.1 mph (Exhibit 25-19)

S_0= 65.6 mph (Exhibit 25-19)

S = 57.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Northbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt B PM Peak-Sun	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5152	0.90	Level	6	2	0.967	1.00	5919
Ramp	1356	0.90	Level	6	2	0.967	1.00	1558
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3520 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	5919	7050	No
V_{12}	3520	4400:All	No
$V_{FO} = V_F - V_R$	4361	7050	No
V_R	1558	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 25.9 (pc/ mi /ln)

LOS= C (Exhibit 25-4)

Speed Estimation

D_s = 0.568 (Exhibit 25-19)

S_R= 51.9 mph (Exhibit 25-19)

S_0= 65.8 mph (Exhibit 25-19)

S = 56.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year-PM Peak-Sun	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft	S_{FF} = 65.0 mph S_{FR} = 35.0 mph	L_{down} = ft
Vu = veh/h	Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5134	0.90	Level	6	2	0.967	1.00	5898
Ramp	1270	0.90	Level	6	2	0.967	1.00	1459
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3457 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	5898	7050	No
V_{12}	3457	4400:All	No
$V_{FO} = V_F - V_R$	4439	7050	No
V_R	1459	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 25.3 (pc/ mi /ln)

LOS= C (Exhibit 25-4)

Speed Estimation

D_s = 0.559 (Exhibit 25-19)

S_R= 52.1 mph (Exhibit 25-19)

S_0= 65.7 mph (Exhibit 25-19)

S = 57.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt A PM Peak-Sun	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5291	0.90	Level	6	2	0.967	1.00	6079
Ramp	1645	0.90	Level	6	2	0.967	1.00	1890
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3775 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	6079	7050	No
V_{12}	3775	4400:All	No
$V_{FO} = V_F - V_R$	4189	7050	No
V_R	1890	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 28.1 (pc/ mi /ln)

LOS= D (Exhibit 25-4)

Speed Estimation

D_s = 0.598 (Exhibit 25-19)

S_R= 51.2 mph (Exhibit 25-19)

S_0= 66.2 mph (Exhibit 25-19)

S = 56.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Opening Year+alt B PM Peak-Sun	Analysis Year	2013

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5253	0.90	Level	6	2	0.967	1.00	6035
Ramp	1545	0.90	Level	6	2	0.967	1.00	1775
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 3692 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fi}=V_F$	6035	7050	No
V_{12}	3692	4400:All	No
$V_{FO} = V_F - V_R$	4260	7050	No
V_R	1775	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 27.4 (pc/ mi /ln)

LOS= C (Exhibit 25-4)

Speed Estimation

D_s = 0.588 (Exhibit 25-19)

S_R= 51.5 mph (Exhibit 25-19)

S_0= 66.1 mph (Exhibit 25-19)

S = 56.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035-PM-Sun	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	6787	0.90	Level	6	2	0.967	1.00	7798
Ramp	1980	0.90	Level	6	2	0.967	1.00	2275
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 4760 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	7798	7050	Yes
V_{12}	4760	4400:All	Yes
$V_{FO} = V_F - V_R$	5523	7050	No
V_R	2275	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 36.5 (pc/ mi /ln)

LOS= F (Exhibit 25-4)

Speed Estimation

D_s = 0.633 (Exhibit 25-19)

S_R= 50.4 mph (Exhibit 25-19)

S_0= 63.4 mph (Exhibit 25-19)

S = 54.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt A PM Peak-Sun	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	6944	0.90	Level	6	2	0.967	1.00	7978
Ramp	2355	0.90	Level	6	2	0.967	1.00	2706
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 5078 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	7978	7050	Yes
V_{12}	5078	4400:All	Yes
$V_{FO} = V_F - V_R$	5272	7050	No
V_R	2706	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 39.3 (pc/ mi /ln)

LOS= F (Exhibit 25-4)

Speed Estimation

D_s = 0.672 (Exhibit 25-19)

S_R= 49.6 mph (Exhibit 25-19)

S_0= 63.9 mph (Exhibit 25-19)

S = 54.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	praveen	Freeway/Dir of Travel	I-15 Southbound
Agency or Company		Junction	Lenwood Road
Date Performed	10/31/2011	Jurisdiction	Barstow, CA
Analysis Time Period	Year 2035+alt B PM Peak-Sun	Analysis Year	2035

Project Description

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	6906	0.90	Level	6	2	0.967	1.00	7934
Ramp	2255	0.90	Level	6	2	0.967	1.00	2591
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation 0

V_{12} = 4995 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{Fl}=V_F$	7934	7050	Yes
V_{12}	4995	4400:All	Yes
$V_{FO} = V_F - V_R$	5343	7050	No
V_R	2591	3800	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 38.6 (pc/ mi /ln)

LOS= F (Exhibit 25-4)

Speed Estimation

D_s = 0.661 (Exhibit 25-19)

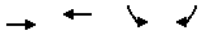
S_R= 49.8 mph (Exhibit 25-19)

S_0= 63.7 mph (Exhibit 25-19)

S = 54.2 mph (Exhibit 25-15)

ATTACHMENT B

I-15 RAMPS AT LENWOOD ROAD AND OUTLET CENTER DRIVE QUEUING ANALYSIS WORKSHEETS



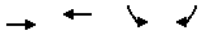
Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	520	471	464	354
v/c Ratio	0.32	0.29	0.30	0.41
Control Delay	15.2	7.9	14.9	5.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.2	7.9	14.9	5.3
Queue Length 50th (ft)	85	51	73	23
Queue Length 95th (ft)	121	69	106	74
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1602	1602	1554	869
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.32	0.29	0.30	0.41

Intersection Summary

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	122	530	817	194	201	328	48	238
v/c Ratio	0.47	0.20	0.41	0.54	0.55	0.39	0.33	0.31
Control Delay	34.5	6.8	17.8	34.6	34.6	4.8	41.4	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	6.8	17.8	34.6	34.6	4.8	41.4	7.6
Queue Length 50th (ft)	22	47	102	91	94	0	23	9
Queue Length 95th (ft)	45	54	134	160	164	35	56	39
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	257	2701	1991	357	366	851	144	765
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.20	0.41	0.54	0.55	0.39	0.33	0.31

Intersection Summary

Wkdy OY MD
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	445	614	453	483
v/c Ratio	0.30	0.42	0.27	0.56
Control Delay	16.8	10.5	12.9	12.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.8	10.5	12.9	12.9
Queue Length 50th (ft)	76	87	65	109
Queue Length 95th (ft)	111	121	95	199
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1467	1467	1685	855
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.42	0.27	0.56

Intersection Summary

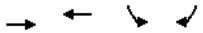
Wkdy OY MD
2: Lenwood Rd & High Point Pkwy 11/9/2011

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	136	471	702	263	268	200	41	210
v/c Ratio	0.63	0.17	0.34	0.70	0.70	0.26	0.34	0.30
Control Delay	43.7	6.9	16.5	39.8	39.6	5.1	43.4	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.7	6.9	16.5	39.8	39.6	5.1	43.4	6.6
Queue Length 50th (ft)	26	43	83	127	130	0	20	2
Queue Length 95th (ft)	#65	59	112	#232	#234	27	51	32
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2701	2054	378	385	782	122	700
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.17	0.34	0.70	0.70	0.26	0.34	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Wkdy OY+A MD
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	562	501	767	354
v/c Ratio	0.36	0.32	0.48	0.41
Control Delay	16.2	9.5	16.4	6.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.2	9.5	16.4	6.3
Queue Length 50th (ft)	95	50	131	32
Queue Length 95th (ft)	134	67	179	87
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1557	1557	1598	867
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.32	0.48	0.41

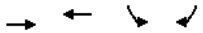
Intersection Summary

Wkdy OY+A MD
2: Lenwood Rd & High Point Pkwy 11/9/2011

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	122	876	1127	194	201	424	48	238
v/c Ratio	0.47	0.32	0.57	0.54	0.55	0.50	0.33	0.42
Control Delay	35.4	7.2	20.0	34.6	34.6	9.8	41.4	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	7.2	20.0	34.6	34.6	9.8	41.4	9.6
Queue Length 50th (ft)	26	87	154	91	94	25	23	14
Queue Length 95th (ft)	50	91	196	160	164	66	56	34
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	257	2701	1993	357	366	843	144	564
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.32	0.57	0.54	0.55	0.50	0.33	0.42

Intersection Summary

Wkdy OY+A PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	491	654	791	483
v/c Ratio	0.35	0.46	0.46	0.56
Control Delay	17.9	12.3	14.3	13.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.9	12.3	14.3	13.3
Queue Length 50th (ft)	88	81	126	116
Queue Length 95th (ft)	125	110	170	205
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1421	1421	1729	859
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.46	0.46	0.56

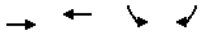
Intersection Summary

Wkdy OY+A PM
2: Lenwood Rd & High Point Pkwy 11/9/2011

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	136	855	1135	263	268	308	41	210
v/c Ratio	0.63	0.32	0.55	0.70	0.70	0.36	0.34	0.46
Control Delay	44.8	7.6	19.3	39.8	39.6	4.6	43.4	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	7.6	19.3	39.8	39.6	4.6	43.4	13.5
Queue Length 50th (ft)	30	89	153	127	130	0	20	18
Queue Length 95th (ft)	#68	104	194	#232	#234	33	51	38
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2701	2058	378	385	866	122	454
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.32	0.55	0.70	0.70	0.36	0.34	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



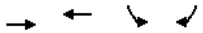
Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	551	493	687	354
v/c Ratio	0.34	0.31	0.44	0.41
Control Delay	15.4	9.2	16.5	5.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.4	9.2	16.5	5.9
Queue Length 50th (ft)	91	48	118	28
Queue Length 95th (ft)	128	67	161	81
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1602	1602	1554	860
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.31	0.44	0.41

Intersection Summary

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	122	785	1047	194	201	397	48	238
v/c Ratio	0.47	0.29	0.53	0.54	0.55	0.45	0.33	0.42
Control Delay	35.2	6.8	19.4	34.6	34.6	6.1	41.4	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	6.8	19.4	34.6	34.6	6.1	41.4	8.9
Queue Length 50th (ft)	24	64	140	91	94	6	23	13
Queue Length 95th (ft)	49	75	179	160	164	45	56	32
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	257	2701	1994	357	366	881	144	573
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.29	0.53	0.54	0.55	0.45	0.33	0.42

Intersection Summary

Wkdy OY+B PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	479	645	701	483
v/c Ratio	0.33	0.44	0.42	0.57
Control Delay	17.0	12.0	14.4	13.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.0	12.0	14.4	13.5
Queue Length 50th (ft)	83	89	111	115
Queue Length 95th (ft)	120	116	152	205
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1467	1467	1685	847
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.33	0.44	0.42	0.57

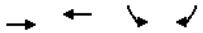
Intersection Summary

Wkdy OY+B PM
2: Lenwood Rd & High Point Pkwy 11/9/2011

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	136	754	1017	263	268	277	41	210
v/c Ratio	0.63	0.28	0.49	0.70	0.70	0.33	0.34	0.45
Control Delay	43.6	7.1	18.4	39.8	39.6	4.7	43.4	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	7.1	18.4	39.8	39.6	4.7	43.4	12.0
Queue Length 50th (ft)	30	60	132	127	130	0	20	15
Queue Length 95th (ft)	#67	85	169	#232	#234	32	51	35
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2701	2059	378	385	842	122	469
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.28	0.49	0.70	0.70	0.33	0.34	0.45

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



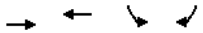
Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	478	576	880	478
v/c Ratio	0.32	0.38	0.54	0.56
Control Delay	16.3	10.8	16.6	12.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.3	10.8	16.6	12.1
Queue Length 50th (ft)	81	64	153	97
Queue Length 95th (ft)	116	87	205	185
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1512	1512	1642	853
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.32	0.38	0.54	0.56

Intersection Summary

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	185	891	1228	213	221	522	76	359
v/c Ratio	0.72	0.32	0.60	0.68	0.68	0.69	0.46	0.63
Control Delay	46.4	5.6	19.8	42.6	42.4	18.1	43.9	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	5.6	19.8	42.6	42.4	18.1	43.9	17.5
Queue Length 50th (ft)	40	43	168	105	109	57	37	39
Queue Length 95th (ft)	#91	68	212	#200	#205	115	78	67
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	257	2765	2053	315	325	762	166	571
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.32	0.60	0.68	0.68	0.69	0.46	0.63

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	391	674	902	554
v/c Ratio	0.28	0.47	0.52	0.65
Control Delay	17.2	13.2	15.2	16.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.2	13.2	15.2	16.0
Queue Length 50th (ft)	67	103	150	154
Queue Length 95th (ft)	100	m132	201	264
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1421	1421	1729	855
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.47	0.52	0.65

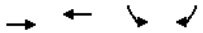
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	196	826	913	281	285	304	65	293
v/c Ratio	0.76	0.30	0.44	0.79	0.78	0.37	0.53	0.56
Control Delay	49.1	5.6	17.6	47.5	46.4	5.2	53.1	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	5.6	17.6	47.5	46.4	5.2	53.1	14.2
Queue Length 50th (ft)	41	61	114	141	142	1	32	25
Queue Length 95th (ft)	#96	65	149	#267	#268	35	#83	49
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	257	2765	2054	357	366	827	122	521
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.30	0.44	0.79	0.78	0.37	0.53	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	521	607	1184	478
v/c Ratio	0.38	0.44	0.67	0.54
Control Delay	18.9	11.9	17.1	12.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.9	11.9	17.1	12.0
Queue Length 50th (ft)	96	63	214	106
Queue Length 95th (ft)	137	m100	282	190
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1376	1376	1773	884
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.44	0.67	0.54

Intersection Summary

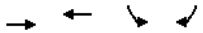
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	185	1237	1538	213	221	617	76	359
v/c Ratio	0.72	0.46	0.77	0.60	0.60	0.86	0.53	0.66
Control Delay	46.2	7.7	24.1	36.3	36.2	36.8	49.5	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	7.7	24.1	36.3	36.2	36.8	49.5	17.9
Queue Length 50th (ft)	42	105	236	102	105	128	37	36
Queue Length 95th (ft)	m#82	138	293	175	181	#229	#88	63
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	257	2701	1992	357	368	715	144	546
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.46	0.77	0.60	0.60	0.86	0.53	0.66

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	438	714	1240	554
v/c Ratio	0.32	0.52	0.70	0.64
Control Delay	18.2	12.8	17.8	16.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.2	12.8	17.8	16.0
Queue Length 50th (ft)	79	85	229	158
Queue Length 95th (ft)	114	110	302	267
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1376	1376	1773	863
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.32	0.52	0.70	0.64

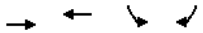
Intersection Summary

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	196	1211	1346	281	285	412	65	293
v/c Ratio	0.76	0.44	0.65	0.79	0.78	0.58	0.53	0.63
Control Delay	48.0	5.8	20.9	47.5	46.4	20.9	53.1	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	5.8	20.9	47.5	46.4	20.9	53.1	20.0
Queue Length 50th (ft)	46	70	191	141	142	63	32	35
Queue Length 95th (ft)	m#85	100	239	#267	#268	113	#83	60
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	257	2765	2058	357	366	715	122	467
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.44	0.65	0.79	0.78	0.58	0.53	0.63

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

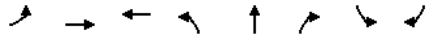
Wkdy 2035+B MD
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	510	599	1103	478
v/c Ratio	0.36	0.42	0.64	0.55
Control Delay	18.0	10.8	17.1	12.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.0	10.8	17.1	12.2
Queue Length 50th (ft)	92	63	198	104
Queue Length 95th (ft)	131	84	262	190
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1421	1421	1729	872
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.42	0.64	0.55

Intersection Summary

Wkdy 2035+B MD
2: Lenwood Rd & High Point Pkwy 11/9/2011

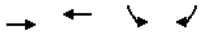


Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	185	1146	1458	213	221	590	76	359
v/c Ratio	0.72	0.41	0.71	0.63	0.64	0.84	0.53	0.67
Control Delay	46.2	6.5	21.9	39.0	38.8	33.8	49.5	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	6.5	21.9	39.0	38.8	33.8	49.5	19.3
Queue Length 50th (ft)	41	74	213	103	107	113	37	40
Queue Length 95th (ft)	m#87	108	265	#178	#184	#207	#88	68
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	257	2765	2055	336	347	702	144	536
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.41	0.71	0.63	0.64	0.84	0.53	0.67

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Wkdy 2035+B PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011

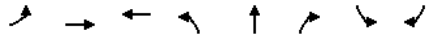


Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	426	704	1150	554
v/c Ratio	0.30	0.50	0.67	0.65
Control Delay	17.4	12.8	17.6	16.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.4	12.8	17.6	16.5
Queue Length 50th (ft)	74	86	211	158
Queue Length 95th (ft)	109	m111	278	269
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1421	1421	1729	849
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.50	0.67	0.65

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Wkdy 2035+B PM
2: Lenwood Rd & High Point Pkwy 11/9/2011



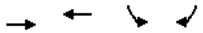
Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	196	1110	1228	281	285	382	65	293
v/c Ratio	0.76	0.40	0.60	0.79	0.78	0.52	0.53	0.62
Control Delay	48.1	5.3	19.9	47.5	46.4	17.2	53.1	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.1	5.3	19.9	47.5	46.4	17.2	53.1	18.9
Queue Length 50th (ft)	45	55	169	141	142	48	32	34
Queue Length 95th (ft)	m#90	82	213	#267	#268	94	#83	59
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	257	2765	2056	357	366	735	122	475
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.40	0.60	0.79	0.78	0.52	0.53	0.62

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

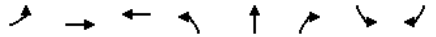
Sat OY MD
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	492	616	558	442
v/c Ratio	0.33	0.41	0.34	0.53
Control Delay	16.4	11.4	14.2	11.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.4	11.4	14.2	11.9
Queue Length 50th (ft)	84	84	86	90
Queue Length 95th (ft)	120	109	122	172
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1512	1512	1642	841
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.33	0.41	0.34	0.53

Intersection Summary

Sat OY MD
2: Lenwood Rd & High Point Pkwy 11/9/2011

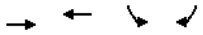


Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	140	615	1055	259	261	601	35	323
v/c Ratio	0.65	0.23	0.51	0.73	0.71	0.60	0.24	0.64
Control Delay	45.1	7.3	18.5	42.9	41.8	7.4	39.0	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.1	7.3	18.5	42.9	41.8	7.4	39.0	17.8
Queue Length 50th (ft)	32	44	137	127	128	17	17	33
Queue Length 95th (ft)	#71	70	176	#237	#235	64	44	59
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2701	2052	357	366	1006	144	505
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.23	0.51	0.73	0.71	0.60	0.24	0.64

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Sat OY PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	446	557	375	398
v/c Ratio	0.28	0.35	0.24	0.48
Control Delay	14.7	7.8	14.4	9.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.7	7.8	14.4	9.1
Queue Length 50th (ft)	71	63	57	57
Queue Length 95th (ft)	103	86	86	127
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1602	1602	1554	834
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.35	0.24	0.48

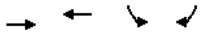
Intersection Summary

Sat OY PM
2: Lenwood Rd & High Point Pkwy 11/9/2011

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	92	425	810	229	232	270	25	157
v/c Ratio	0.43	0.16	0.41	0.57	0.57	0.31	0.20	0.24
Control Delay	34.6	7.1	17.9	33.5	33.4	4.5	39.4	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.6	7.1	17.9	33.5	33.4	4.5	39.4	6.0
Queue Length 50th (ft)	16	39	101	106	108	0	12	0
Queue Length 95th (ft)	35	48	134	181	183	31	36	26
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2638	1991	399	406	868	122	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.16	0.41	0.57	0.57	0.31	0.20	0.24

Intersection Summary

Sat OY+A MD
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	548	679	965	442
v/c Ratio	0.36	0.45	0.59	0.54
Control Delay	16.8	11.0	17.4	13.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.8	11.0	17.4	13.2
Queue Length 50th (ft)	95	67	174	102
Queue Length 95th (ft)	134	m97	231	186
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1512	1512	1642	825
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.45	0.59	0.54

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Sat OY+A MD
2: Lenwood Rd & High Point Pkwy 11/9/2011

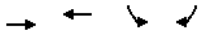
Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	140	1079	1741	259	261	730	35	323
v/c Ratio	0.65	0.41	0.87	0.73	0.71	0.88	0.21	0.65
Control Delay	45.6	7.9	28.5	42.9	41.8	31.6	36.9	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	7.9	28.5	42.9	41.8	31.6	36.9	21.2
Queue Length 50th (ft)	30	84	285	127	128	121	16	40
Queue Length 95th (ft)	m#70	120	350	#237	#235	#232	44	66
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2638	1994	357	366	830	166	499
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.41	0.87	0.73	0.71	0.88	0.21	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

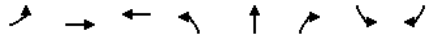
Sat OY+A PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	501	620	783	398
v/c Ratio	0.31	0.39	0.50	0.49
Control Delay	15.0	7.8	17.4	10.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.0	7.8	17.4	10.8
Queue Length 50th (ft)	82	51	139	70
Queue Length 95th (ft)	116	69	188	145
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1602	1602	1554	813
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.31	0.39	0.50	0.49

Intersection Summary

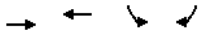
Sat OY+A PM
2: Lenwood Rd & High Point Pkwy 11/9/2011



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	92	889	1496	229	232	399	25	157
v/c Ratio	0.43	0.34	0.75	0.57	0.57	0.44	0.20	0.34
Control Delay	36.0	6.7	23.6	33.5	33.4	7.1	39.4	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	6.7	23.6	33.5	33.4	7.1	39.4	9.9
Queue Length 50th (ft)	19	53	228	106	108	15	12	9
Queue Length 95th (ft)	40	80	283	181	183	53	36	26
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2638	1996	399	406	914	122	459
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.34	0.75	0.57	0.57	0.44	0.20	0.34

Intersection Summary

Sat OY+B MD
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	534	663	857	442
v/c Ratio	0.35	0.44	0.52	0.53
Control Delay	16.7	10.7	16.4	12.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.7	10.7	16.4	12.9
Queue Length 50th (ft)	92	70	148	100
Queue Length 95th (ft)	131	m101	198	183
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1512	1512	1642	829
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.44	0.52	0.53

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

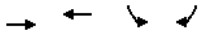
Sat OY+B MD
2: Lenwood Rd & High Point Pkwy 11/9/2011

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	140	955	1555	259	261	695	35	323
v/c Ratio	0.65	0.36	0.78	0.73	0.71	0.81	0.21	0.64
Control Delay	46.1	7.8	24.4	42.9	41.8	23.6	36.9	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	7.8	24.4	42.9	41.8	23.6	36.9	20.8
Queue Length 50th (ft)	30	75	240	127	128	94	16	39
Queue Length 95th (ft)	#71	110	297	#237	#235	#189	44	65
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2638	1995	357	366	862	166	502
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.36	0.78	0.73	0.71	0.81	0.21	0.64

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Sat OY+B PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	487	603	674	398
v/c Ratio	0.30	0.38	0.43	0.49
Control Delay	15.0	6.9	16.4	10.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.0	6.9	16.4	10.4
Queue Length 50th (ft)	79	55	115	66
Queue Length 95th (ft)	113	68	158	140
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1602	1602	1554	819
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.38	0.43	0.49

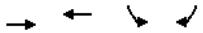
Intersection Summary

Sat OY+B PM
2: Lenwood Rd & High Point Pkwy 11/9/2011

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	92	765	1310	229	232	363	25	157
v/c Ratio	0.43	0.29	0.66	0.57	0.57	0.39	0.20	0.25
Control Delay	35.5	6.8	21.6	33.5	33.4	4.3	39.4	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	6.8	21.6	33.5	33.4	4.3	39.4	13.2
Queue Length 50th (ft)	19	65	189	106	108	0	12	14
Queue Length 95th (ft)	39	72	237	181	183	35	36	42
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2638	1995	399	406	939	122	617
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.29	0.66	0.57	0.57	0.39	0.20	0.25

Intersection Summary

Sat 2035 MD
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	587	598	1120	587
v/c Ratio	0.50	0.51	0.54	0.59
Control Delay	32.0	22.2	14.4	14.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.0	22.2	14.4	14.2
Queue Length 50th (ft)	175	105	227	201
Queue Length 95th (ft)	231	m157	282	307
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1165	1165	2085	999
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.50	0.51	0.54	0.59

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

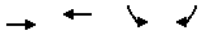
Sat 2035 MD
2: Lenwood Rd & High Point Pkwy 11/9/2011

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	196	1163	1510	302	307	946	43	478
v/c Ratio	0.90	0.49	0.83	0.60	0.59	0.92	0.23	0.82
Control Delay	83.6	18.8	36.8	38.8	38.4	40.7	48.7	31.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.6	18.8	36.8	38.8	38.4	40.7	48.7	31.2
Queue Length 50th (ft)	65	189	350	191	193	273	28	68
Queue Length 95th (ft)	#139	249	413	289	292	#415	65	#145
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	218	2381	1813	504	518	1031	185	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.49	0.83	0.60	0.59	0.92	0.23	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

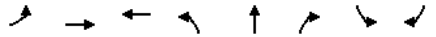
Sat 2035 PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	511	554	674	489
v/c Ratio	0.35	0.38	0.40	0.56
Control Delay	17.3	11.4	14.2	11.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.3	11.4	14.2	11.7
Queue Length 50th (ft)	90	66	106	97
Queue Length 95th (ft)	127	88	145	186
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1467	1467	1685	872
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.38	0.40	0.56

Intersection Summary

Sat 2035 PM
2: Lenwood Rd & High Point Pkwy 11/9/2011

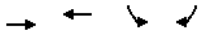


Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	120	587	1120	252	259	413	33	207
v/c Ratio	0.56	0.22	0.56	0.63	0.64	0.42	0.27	0.44
Control Delay	40.4	7.5	19.9	35.5	35.6	4.3	41.3	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.4	7.5	19.9	35.5	35.6	4.3	41.3	11.9
Queue Length 50th (ft)	25	58	152	118	122	0	16	15
Queue Length 95th (ft)	#51	72	194	200	205	36	43	34
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2638	1990	399	406	977	122	468
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.22	0.56	0.63	0.64	0.42	0.27	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Sat 2035+A MD
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011

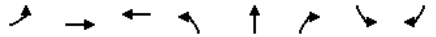


Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	642	661	1527	587
v/c Ratio	0.58	0.60	0.70	0.57
Control Delay	37.9	24.8	17.5	14.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	37.9	24.8	17.5	14.5
Queue Length 50th (ft)	221	216	382	223
Queue Length 95th (ft)	283	m214	462	327
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1098	1098	2174	1025
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.58	0.60	0.70	0.57

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Sat 2035+A MD
2: Lenwood Rd & High Point Pkwy 11/9/2011

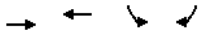


Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	196	1627	2196	302	307	1075	43	478
v/c Ratio	0.98	0.63	1.07	0.60	0.59	1.14	0.31	0.98
Control Delay	112.7	19.7	78.2	41.7	41.4	107.4	58.4	57.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.7	19.7	78.2	41.7	41.4	107.4	58.4	57.5
Queue Length 50th (ft)	76	310	~693	209	212	~500	32	86
Queue Length 95th (ft)	m#150	331	#789	312	315	#647	70	#206
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	200	2564	2043	504	518	947	140	490
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.63	1.07	0.60	0.59	1.14	0.31	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Sat 2035+A PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011

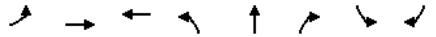


Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	566	617	1082	489
v/c Ratio	0.40	0.43	0.63	0.56
Control Delay	18.5	12.1	16.9	12.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.5	12.1	16.9	12.8
Queue Length 50th (ft)	104	62	193	112
Queue Length 95th (ft)	146	m98	255	202
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1421	1421	1729	867
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.40	0.43	0.63	0.56

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Sat 2035+A PM
2: Lenwood Rd & High Point Pkwy 11/9/2011



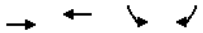
Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	120	1051	1805	252	259	542	33	207
v/c Ratio	0.56	0.37	0.83	0.75	0.76	0.70	0.27	0.50
Control Delay	40.7	6.2	24.0	46.0	46.3	20.6	41.3	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	6.2	24.0	46.0	46.3	20.6	41.3	18.3
Queue Length 50th (ft)	26	63	280	125	129	71	16	26
Queue Length 95th (ft)	m48	95	343	#240	#247	131	43	48
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2829	2185	336	342	769	122	416
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.37	0.83	0.75	0.76	0.70	0.27	0.50

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Sat 2035+B MD
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	628	645	1418	587
v/c Ratio	0.56	0.57	0.66	0.58
Control Delay	36.6	30.5	17.0	14.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.6	30.5	17.0	14.8
Queue Length 50th (ft)	212	237	345	225
Queue Length 95th (ft)	273	m258	418	330
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1128	1128	2145	1016
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.56	0.57	0.66	0.58

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

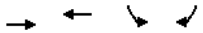
Sat 2035+B MD
2: Lenwood Rd & High Point Pkwy 11/9/2011

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	196	1503	2010	302	307	1039	43	478
v/c Ratio	0.98	0.60	1.01	0.60	0.59	1.07	0.28	0.93
Control Delay	111.4	17.2	57.6	41.7	41.4	83.2	56.2	47.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	111.4	17.2	57.6	41.7	41.4	83.2	56.2	47.6
Queue Length 50th (ft)	82	220	~568	209	212	~445	32	84
Queue Length 95th (ft)	#161	245	#692	312	315	#591	70	#194
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	200	2521	1999	504	518	970	155	514
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.60	1.01	0.60	0.59	1.07	0.28	0.93

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Sat 2035+B PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	552	601	973	489
v/c Ratio	0.38	0.41	0.58	0.57
Control Delay	17.6	10.9	16.6	12.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.6	10.9	16.6	12.8
Queue Length 50th (ft)	98	60	171	108
Queue Length 95th (ft)	138	m95	227	200
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1467	1467	1685	858
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.41	0.58	0.57

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Sat 2035+B PM
2: Lenwood Rd & High Point Pkwy 11/9/2011

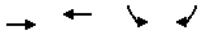
Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	120	927	1620	252	259	507	33	207
v/c Ratio	0.56	0.34	0.79	0.67	0.67	0.59	0.27	0.48
Control Delay	40.6	7.0	24.0	38.2	38.3	14.2	41.3	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	7.0	24.0	38.2	38.3	14.2	41.3	15.6
Queue Length 50th (ft)	25	67	249	121	125	49	16	22
Queue Length 95th (ft)	m51	95	308	#208	#214	102	43	42
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2701	2057	378	385	859	122	434
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.34	0.79	0.67	0.67	0.59	0.27	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

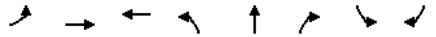
Sun OY PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	513	618	707	674
v/c Ratio	0.41	0.50	0.37	0.73
Control Delay	21.3	14.9	11.1	17.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.3	14.9	11.1	17.3
Queue Length 50th (ft)	101	82	96	202
Queue Length 95th (ft)	144	118	132	339
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1241	1241	1904	924
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.41	0.50	0.37	0.73

Intersection Summary

Sun OY PM
2: Lenwood Rd & High Point Pkwy 11/9/2011

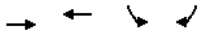


Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	175	753	1373	266	268	465	39	314
v/c Ratio	0.68	0.27	0.67	0.75	0.73	0.52	0.32	0.67
Control Delay	46.3	8.5	20.9	44.2	43.2	7.8	42.8	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	8.5	20.9	44.2	43.2	7.8	42.8	21.1
Queue Length 50th (ft)	34	69	195	131	132	17	19	38
Queue Length 95th (ft)	#82	108	243	#247	#246	60	49	64
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	257	2765	2052	357	365	899	122	472
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.27	0.67	0.75	0.73	0.52	0.32	0.67

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Sun OY+A PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011

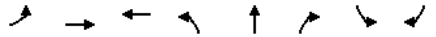


Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	568	682	1114	674
v/c Ratio	0.46	0.55	0.59	0.74
Control Delay	21.9	13.8	13.8	18.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.9	13.8	13.8	18.2
Queue Length 50th (ft)	114	106	178	212
Queue Length 95th (ft)	160	m120	235	352
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1241	1241	1904	914
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.46	0.55	0.59	0.74

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Sun OY+A PM
2: Lenwood Rd & High Point Pkwy 11/9/2011

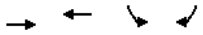


Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	175	1217	2059	266	268	595	39	314
v/c Ratio	0.81	0.41	0.89	0.90	0.89	0.90	0.32	0.78
Control Delay	66.8	8.2	26.2	68.0	65.6	39.4	42.8	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.8	8.2	26.2	68.0	65.6	39.4	42.8	34.1
Queue Length 50th (ft)	48	96	329	138	138	109	19	50
Queue Length 95th (ft)	#102	116	402	#282	#282	#214	49	#101
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2956	2307	294	300	663	122	403
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.41	0.89	0.90	0.89	0.90	0.32	0.78

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Sun OY+B PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011

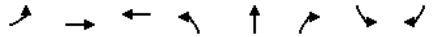


Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	554	665	1005	674
v/c Ratio	0.45	0.54	0.53	0.74
Control Delay	21.8	14.0	12.9	18.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.8	14.0	12.9	18.0
Queue Length 50th (ft)	111	101	153	209
Queue Length 95th (ft)	156	m122	204	349
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1241	1241	1904	916
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.45	0.54	0.53	0.74

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Sun OY+B PM
2: Lenwood Rd & High Point Pkwy 11/9/2011

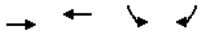


Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	175	1093	1873	266	268	559	39	314
v/c Ratio	0.81	0.38	0.84	0.84	0.83	0.78	0.32	0.76
Control Delay	68.4	8.8	23.6	56.8	54.9	26.0	42.8	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.4	8.8	23.6	56.8	54.9	26.0	42.8	31.7
Queue Length 50th (ft)	48	89	289	136	136	85	19	47
Queue Length 95th (ft)	#102	109	354	#270	#270	#165	49	#94
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	215	2892	2243	315	322	719	122	411
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.38	0.84	0.84	0.83	0.78	0.32	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Sun 2035 PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	630	609	1391	761
v/c Ratio	0.57	0.55	0.67	0.77
Control Delay	28.7	18.6	14.3	18.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	28.7	18.6	14.3	18.6
Queue Length 50th (ft)	157	117	252	268
Queue Length 95th (ft)	213	m130	322	434
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1103	1103	2082	991
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.57	0.55	0.67	0.77

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Sun 2035 PM
2: Lenwood Rd & High Point Pkwy 11/9/2011

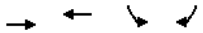
Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	239	1326	1880	313	317	750	54	478
v/c Ratio	0.90	0.48	0.92	0.88	0.87	1.00	0.32	0.91
Control Delay	77.0	11.2	33.7	61.8	59.8	58.9	43.8	44.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.0	11.2	33.7	61.8	59.8	58.9	43.8	44.4
Queue Length 50th (ft)	71	114	357	183	185	182	29	82
Queue Length 95th (ft)	m#138	139	#467	#338	#340	#321	66	#163
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	267	2740	2046	355	364	753	167	523
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.48	0.92	0.88	0.87	1.00	0.32	0.91

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Sun 2035+A PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011

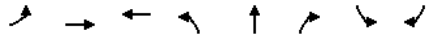


Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	686	672	1799	761
v/c Ratio	0.70	0.69	0.79	0.71
Control Delay	43.9	30.9	18.0	17.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	43.9	30.9	18.0	17.3
Queue Length 50th (ft)	252	248	470	334
Queue Length 95th (ft)	321	m237	568	487
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	978	978	2291	1070
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.70	0.69	0.79	0.71

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Sun 2035+A PM
2: Lenwood Rd & High Point Pkwy 11/9/2011

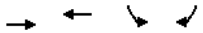


Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	239	1790	2566	313	317	879	54	478
v/c Ratio	1.20	0.61	1.06	0.80	0.79	1.20	0.43	1.18
Control Delay	167.8	13.5	68.6	59.7	58.5	138.1	64.7	131.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	167.8	13.5	68.6	59.7	58.5	138.1	64.7	131.5
Queue Length 50th (ft)	~119	235	~801	242	244	~432	41	~153
Queue Length 95th (ft)	m#183	267	#893	#388	#387	#573	84	#275
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	200	2945	2414	392	402	733	125	406
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.20	0.61	1.06	0.80	0.79	1.20	0.43	1.18

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Sun 2035+B PM
1: Lenwood Rd & I-15 SB Off-Ramp 11/9/2011

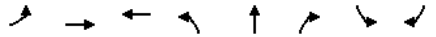


Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	672	655	1690	761
v/c Ratio	0.65	0.63	0.76	0.73
Control Delay	40.9	26.1	18.1	18.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	40.9	26.1	18.1	18.6
Queue Length 50th (ft)	240	197	438	346
Queue Length 95th (ft)	306	m200	529	506
Internal Link Dist (ft)	340	264	1340	
Turn Bay Length (ft)			710	200
Base Capacity (vph)	1038	1038	2233	1048
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.65	0.63	0.76	0.73

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Sun 2035+B PM
2: Lenwood Rd & High Point Pkwy 11/9/2011



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	239	1666	2380	313	317	843	54	478
v/c Ratio	1.04	0.57	1.02	0.80	0.79	1.12	0.39	1.06
Control Delay	117.8	15.9	56.5	59.7	58.5	106.2	61.0	87.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	117.8	15.9	56.5	59.7	58.5	106.2	61.0	87.0
Queue Length 50th (ft)	~102	290	~715	242	244	~379	40	~135
Queue Length 95th (ft)	m#173	302	#810	#388	#387	#521	83	#242
Internal Link Dist (ft)		200	378		1030			
Turn Bay Length (ft)				555		360	140	
Base Capacity (vph)	229	2903	2329	392	402	754	140	453
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.57	1.02	0.80	0.79	1.12	0.39	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

INTERSECTION	DIRECTION	OPENING YEAR (2011)						OPENING YEAR + ALT A						OPENING YEAR + ALT B					
		Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm
7. I-15 SB Ramps/ Outlet Center Drive	**Sb**	0	2	5	12	7	6	0	2	5	12	7	6	0	2	5	12	7	6
	Wb	0	0	6	2	37	77	0	0	6	2	157	246	0	0	6	2	123	199
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	1	1	6	2	0	0	1	1	6	2	0	0	1	1	6	2	0	0
Queue length every 2 mins				10	17					10	17					10	17		
8. I-15 NB Ramps/ Outlet Center Drive	**Sb**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	2	0	36	77	0	0	2	0	156	246	0	0	2	0	122	199	0	0
	Nb	64	33	15	4	7	2	236	223	15	4	7	2	188	171	15	4	7	2
	Eb	0	0	5	5	8	4	0	0	5	5	8	4	0	0	5	5	8	4
Queue length every 2 mins				72	33					215	191					175	148		

INTERSECTION	DIRECTION	Year 2035						Year 2035+ Alt A						Year 2035+ Alt B					
		Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm
7. I-15 SB Ramps/ Outlet Center Drive	**Sb**	10	0	10	20	10	10	10	0	10	20	10	10	10	0	10	20	10	10
	Wb	0	0	10	0	90	120	0	0	10	0	210	289	0	0	10	0	176	242
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	10	10	10	0	0	0	10	10	10	0	0	0	10	10	10	0	0	0
Queue length every 2 mins				25	25					25	25					25	25		
8. I-15 NB Ramps/ Outlet Center Drive	**Sb**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	0	10	50	120	0	0	0	10	170	289	0	0	0	10	136	242	0	0
	Nb	100	50	30	10	10	0	272	240	30	10	10	0	224	188	30	10	10	0
	Eb	0	0	10	10	10	10	0	0	10	10	10	10	0	0	10	10	10	10
Queue length every 2 mins				117	50					260	209					220	165		

INTERSECTION	DIRECTION	OPENING YEAR (2011)						OPENING YEAR + ALT A						OPENING YEAR + ALT B					
		Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm
7. I-15 SB Ramps/ Outlet Center Drive	Sb	0	0	8	4	12	6	0	0	8	4	12	6	0	0	8	4	12	6
	Wb	0	0	12	2	117	69	0	0	12	2	384	336	0	0	12	2	309	261
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	2	2	9	5	0	0	2	2	9	5	0	0	2	2	9	5	0	0
Queue length every 2 mins				17	9					17	9					17	9		
8. I-15 NB Ramps/ Outlet Center Drive	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	9	6	118	68	0	0	9	6	385	335	0	0	9	6	310	260	0	0
	Nb	52	39	9	8	12	5	283	270	9	8	12	5	219	206	9	8	12	5
	Eb	0	0	12	12	21	7	0	0	12	12	21	7	0	0	12	12	21	7
Queue length every 2 mins				61	44					254	236					200	183		

INTERSECTION	DIRECTION	Year 2035						Year 2035+ Alt A						Year 2035+ Alt B					
		Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm
7. I-15 SB Ramps/ Outlet Center Drive	Sb	10	10	10	10	20	50	10	10	10	10	20	50	10	10	10	10	20	50
	Wb	0	0	20	0	180	110	0	0	20	0	447	377	0	0	20	0	372	302
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	0	0	30	10	0	0	0	0	30	10	0	0	0	0	30	10	0	0
Queue length every 2 mins				34	59					34	59					34	59		
8. I-15 NB Ramps/ Outlet Center Drive	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	20	10	180	100	0	0	20	10	447	367	0	0	20	10	372	292	0	0
	Nb	70	50	20	10	20	10	301	281	20	10	20	10	237	217	20	10	20	10
	Eb	0	0	20	20	30	10	0	0	20	20	30	10	0	0	20	20	30	10
Queue length every 2 mins				92	59					285	251					231	198		

INTERSECTION	DIRECTION	OPENING YEAR (2011)						OPENING YEAR + ALT A						OPENING YEAR + ALT B					
		Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm
7. I-15 SB Ramps/ Outlet Center Drive	Sb	1	0	0	0	2	0	1	0	0	0	2	0	1	0	0	0	2	0
	Wb	0	0	1	0	124	0	0	0	1	0	391	0	0	0	1	0	316	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	1	0	2	0	0	0	1	0	2	0	0	0	1	0	2	0	0	0
Queue length every 2 mins				3	0					3	0					3	0		
8. I-15 NB Ramps/ Outlet Center Drive	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	2	0	122	0	0	0	2	0	389	0	0	0	2	0	314	0	0	0
	Nb	50	0	3	0	3	0	281	0	3	0	3	0	217	0	3	0	3	0
	Eb	0	0	3	0	1	0	0	0	3	0	1	0	0	0	3	0	1	0
Queue length every 2 mins				47	0					240	0					186	0		

INTERSECTION	DIRECTION	Year 2035						Year 2035+ Alt A						Year 2035+ Alt B					
		Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm
7. I-15 SB Ramps/ Outlet Center Drive	**S**b	10	0	0	0	10	0	10	0	0	0	10	0	10	0	0	0	10	0
	Wb	0	0	10	0	190	0	0	0	10	0	457	0	0	0	10	0	382	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	10	0	10	0	0	0	10	0	10	0	0	0	10	0	10	0	0	0
Queue length every 2 mins				17	0					17	0					17	0		
8. I-15 NB Ramps/ Outlet Center Drive	**S**b	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	10	0	190	0	0	0	10	0	457	0	0	0	10	0	382	0	0	0
	Nb	70	0	10	0	10	0	301	0	10	0	10	0	237	0	10	0	10	0
	Eb	0	0	10	0	10	0	0	0	10	0	10	0	0	0	10	0	10	0
Queue length every 2 mins				75	0					268	0					215	0		

ATTACHMENT C

I-15 RAMPS AT LENWOOD ROAD
BALANCED TRAFFIC VOLUMES

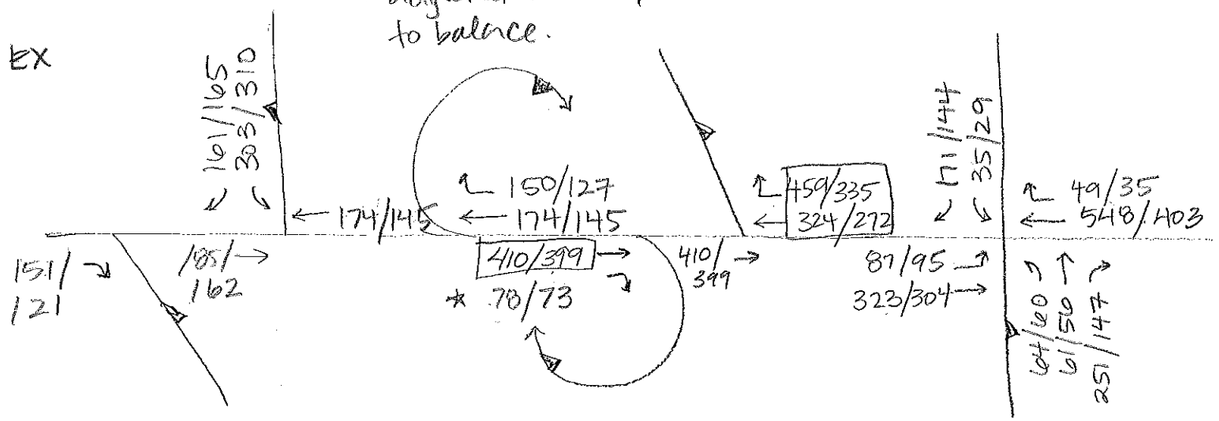
I-15 NB & SB @ Lennoool

WEEKDAY

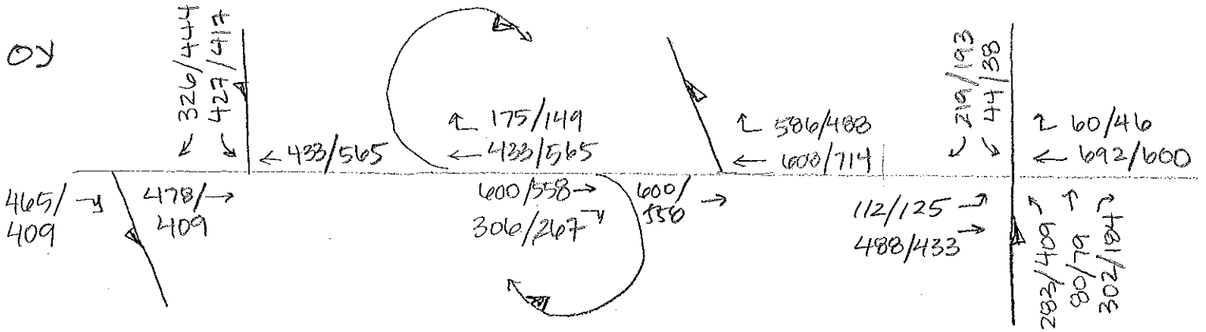
▭ = calculated volumes

10/26/11

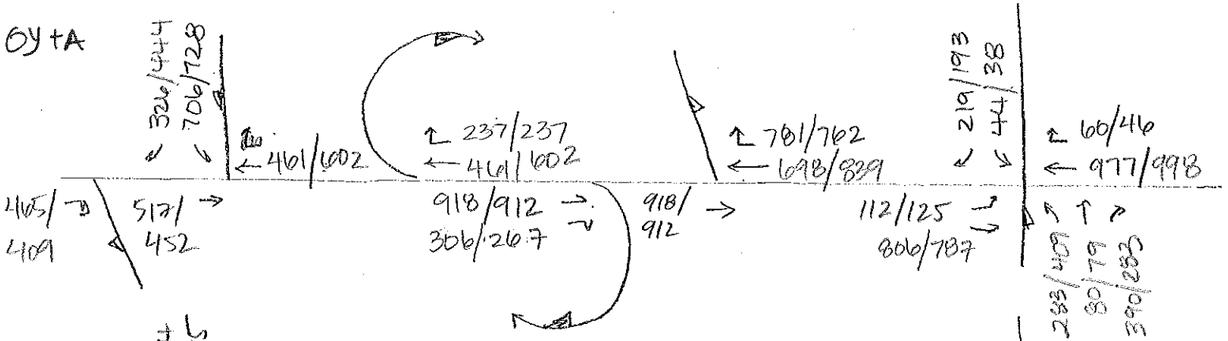
EX



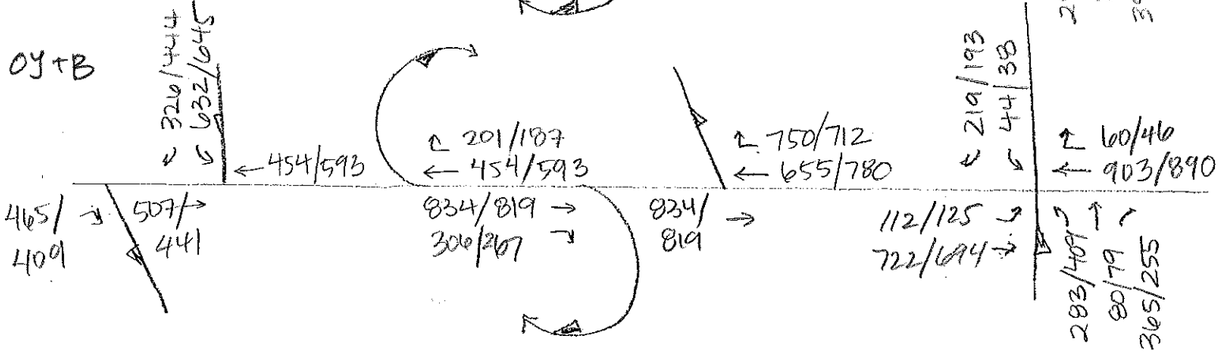
OY



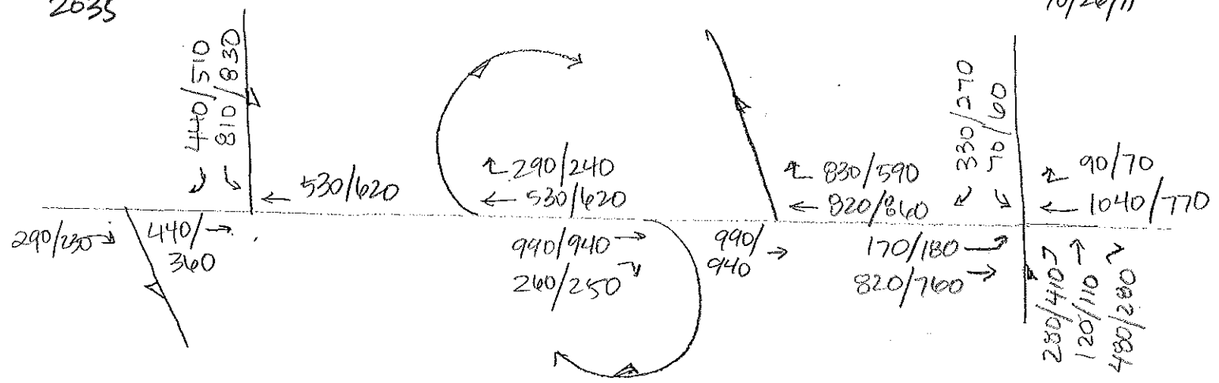
OY+A



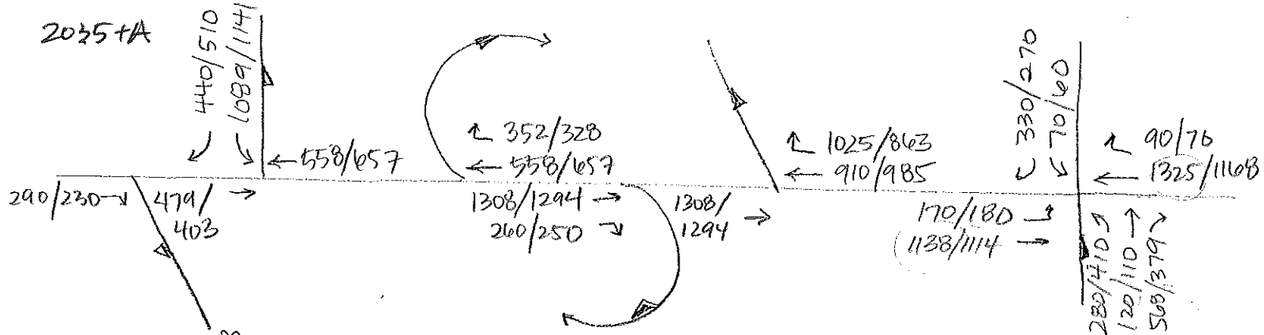
OY+B



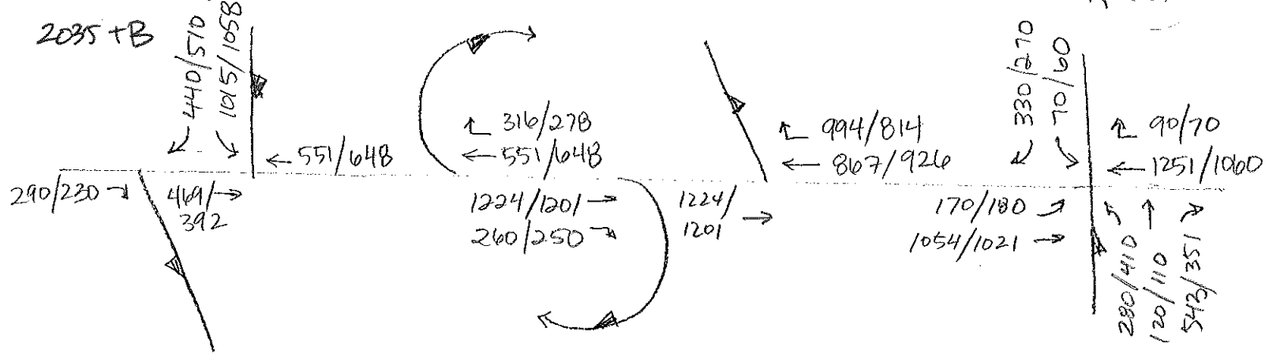
2035



2035+A



2035+B



3-09-1876

I-15 NB & SB @ Lenwood

SATURDAY

10/26/11

EX

OY

OY+A

OY+B

2035

2035+A

2035+B

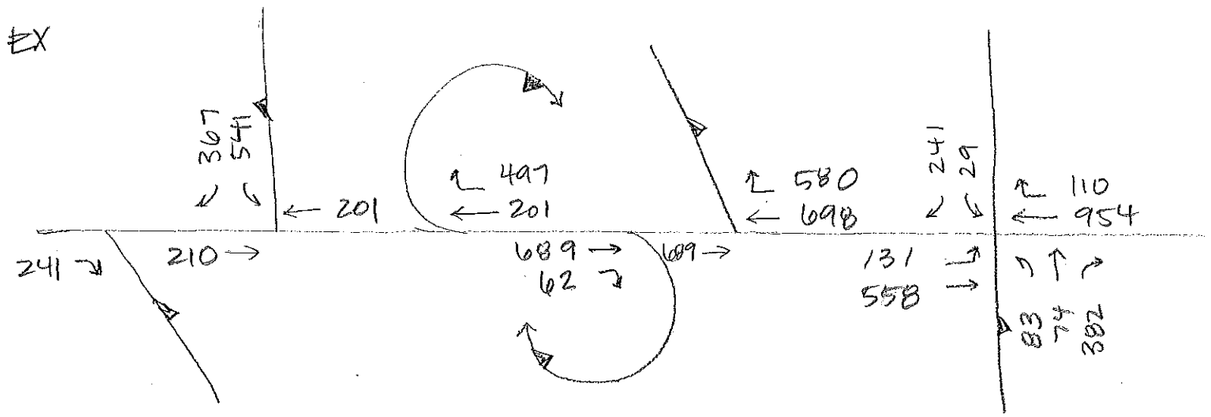
3-09-1876

I-15 NB & SB @ Lennocol

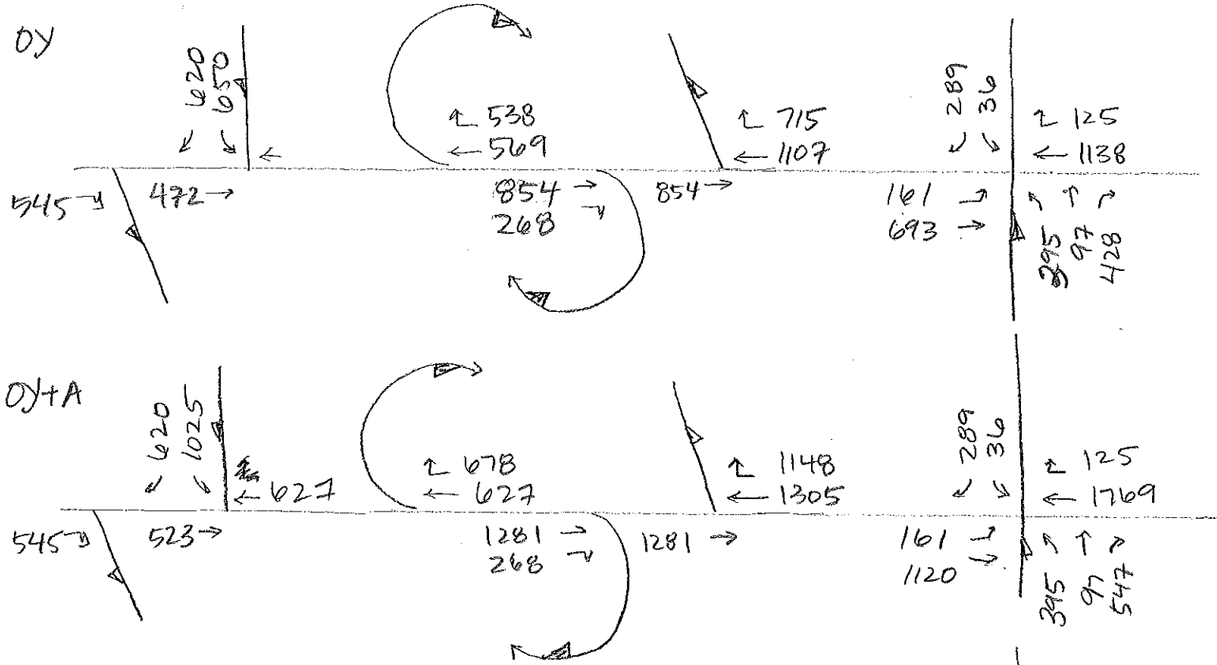
SUNDAY MIDDAY ONLY

CL 10/27/11

EX

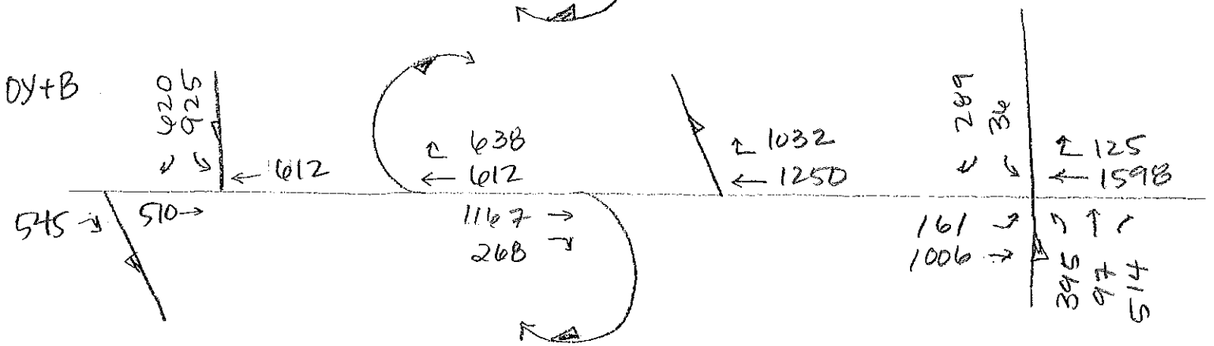


OY

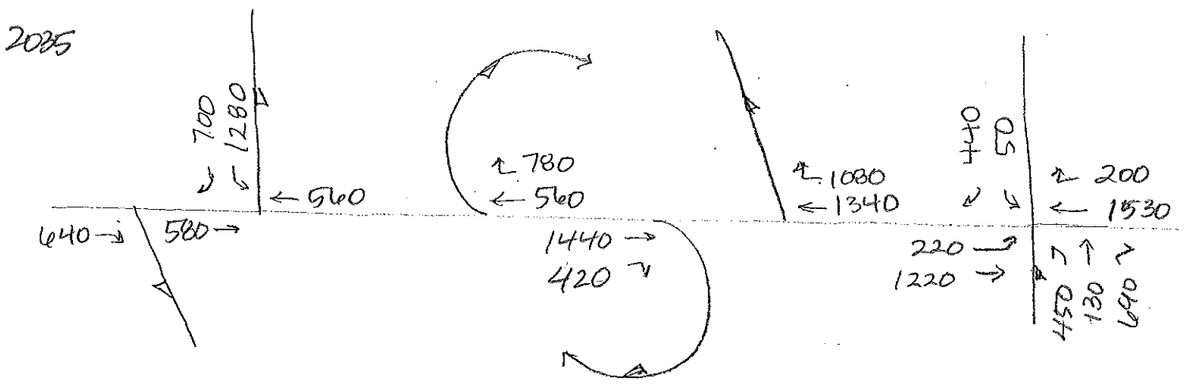


OY+A

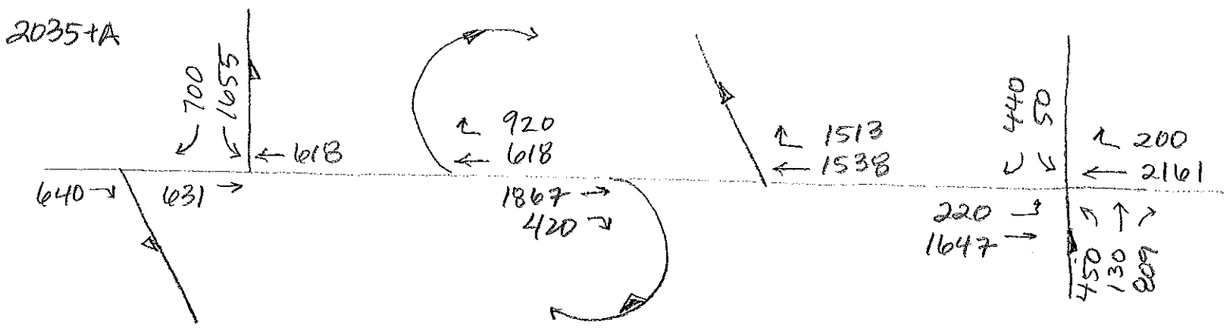
OY+B



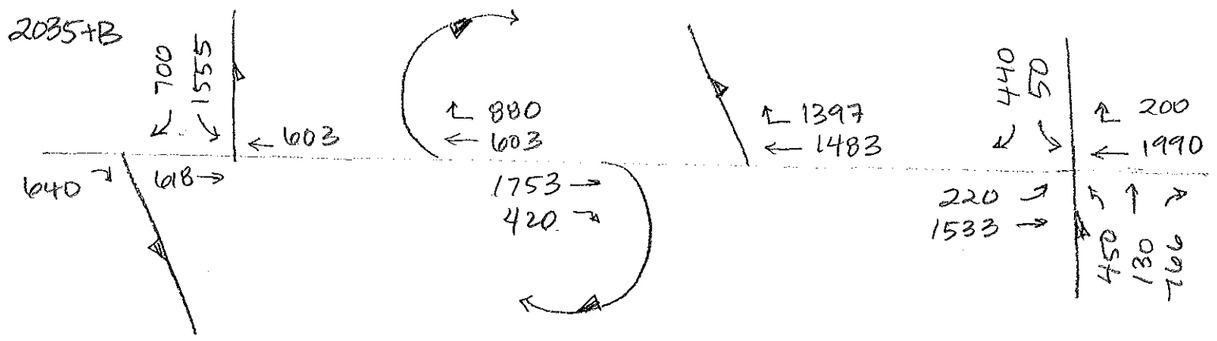
2035



2035+A



2035+B



3-09-1876

ATTACHMENT D

MANUAL COUNT DATA – SUNDAY PM PEAK HOUR & ALL SUNDAY PEAK HOUR FORECAST VOLUMES

Counts Unlimited Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Barstow
N/S: Main Street
E/W: SR-58 Eastbound Ramps
Weather: Sunny

File Name : BARMA58ESUN
Site Code : 00000035
Start Date : 10/23/2011

Groups Printed- Total Volume

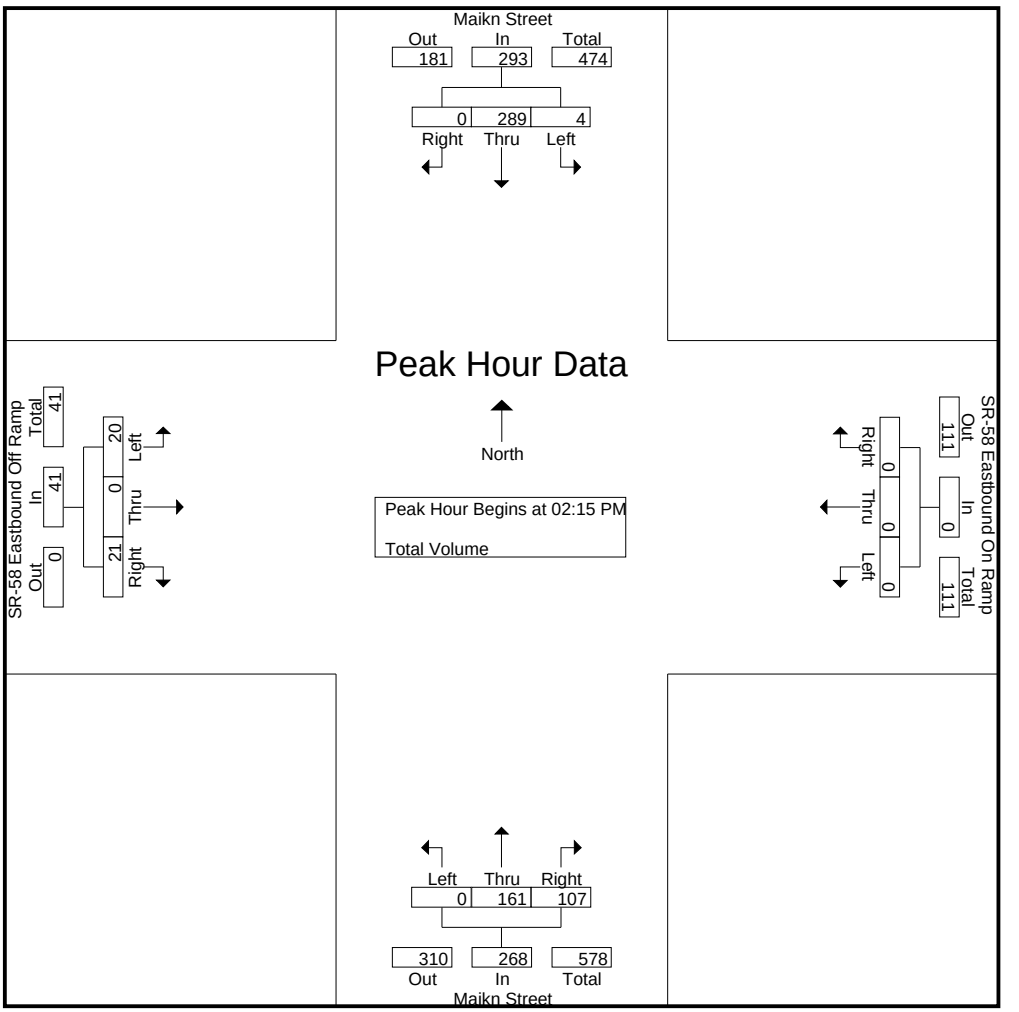
	Maikn Street Southbound				SR-58 Eastbound On Ramp Westbound				Maikn Street Northbound				SR-58 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
02:00 PM	4	55	0	59	0	0	0	0	0	35	21	56	2	0	3	5	120
02:15 PM	0	56	0	56	0	0	0	0	0	38	17	55	5	0	6	11	122
02:30 PM	0	77	0	77	0	0	0	0	0	35	25	60	7	0	9	16	153
02:45 PM	2	82	0	84	0	0	0	0	0	42	30	72	4	0	2	6	162
Total	6	270	0	276	0	0	0	0	0	150	93	243	18	0	20	38	557
03:00 PM	2	74	0	76	0	0	0	0	0	46	35	81	4	0	4	8	165
03:15 PM	1	58	0	59	0	0	0	0	0	35	17	52	4	0	3	7	118
03:30 PM	3	51	0	54	0	0	0	0	0	43	22	65	5	0	7	12	131
03:45 PM	6	65	0	71	0	0	0	0	0	34	23	57	8	0	4	12	140
Total	12	248	0	260	0	0	0	0	0	158	97	255	21	0	18	39	554
Grand Total	18	518	0	536	0	0	0	0	0	308	190	498	39	0	38	77	1111
Apprch %	3.4	96.6	0		0	0	0		0	61.8	38.2		50.6	0	49.4		
Total %	1.6	46.6	0	48.2	0	0	0	0	0	27.7	17.1	44.8	3.5	0	3.4	6.9	

	Maikn Street Southbound				SR-58 Eastbound On Ramp Westbound				Maikn Street Northbound				SR-58 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:15 PM																	
02:15 PM	0	56	0	56	0	0	0	0	0	38	17	55	5	0	6	11	122
02:30 PM	0	77	0	77	0	0	0	0	0	35	25	60	**7**	0	**9**	**16**	153
02:45 PM	**2**	**82**	0	**84**	0	0	0	0	0	42	30	72	4	0	2	6	162
03:00 PM	2	74	0	76	0	0	0	0	0	**46**	**35**	**81**	4	0	4	8	**165**
Total Volume	4	289	0	293	0	0	0	0	0	161	107	268	20	0	21	41	602
% App. Total	1.4	98.6	0		0	0	0		0	60.1	39.9		48.8	0	51.2		
PHF	.500	.881	.000	.872	.000	.000	.000	.000	.000	.875	.764	.827	.714	.000	.583	.641	.912

Counts Unlimited Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Barstow
N/S: Main Street
E/W: SR-58 Eastbound Ramps
Weather: Sunny

File Name : BARMA58ESUN
Site Code : 00000035
Start Date : 10/23/2011
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:30 PM				02:00 PM				02:45 PM				02:15 PM			
+0 mins.	0	77	0	77	0	0	0	0	0	42	30	72	5	0	6	11
+15 mins.	**2**	**82**	0	**84**	0	0	0	0	0	**46**	**35**	**81**	**7**	0	**9**	**16**
+30 mins.	2	74	0	76	0	0	0	0	0	35	17	52	4	0	2	6
+45 mins.	1	58	0	59	0	0	0	0	0	43	22	65	4	0	4	8
Total Volume	5	291	0	296	0	0	0	0	0	166	104	270	20	0	21	41
% App. Total	1.7	98.3	0		0	0	0		0	61.5	38.5		48.8	0	51.2	
PHF	.625	.887	.000	.881	.000	.000	.000	.000	.000	.902	.743	.833	.714	.000	.583	.641

Counts Unlimited Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Barstow
N/S: Lenwood Road
E/W: Mercantile Way
Weather: Sunny

File Name : BARLEMESUN
Site Code : 00000001
Start Date : 10/23/2011
Page No : 1

Groups Printed- Total Volume

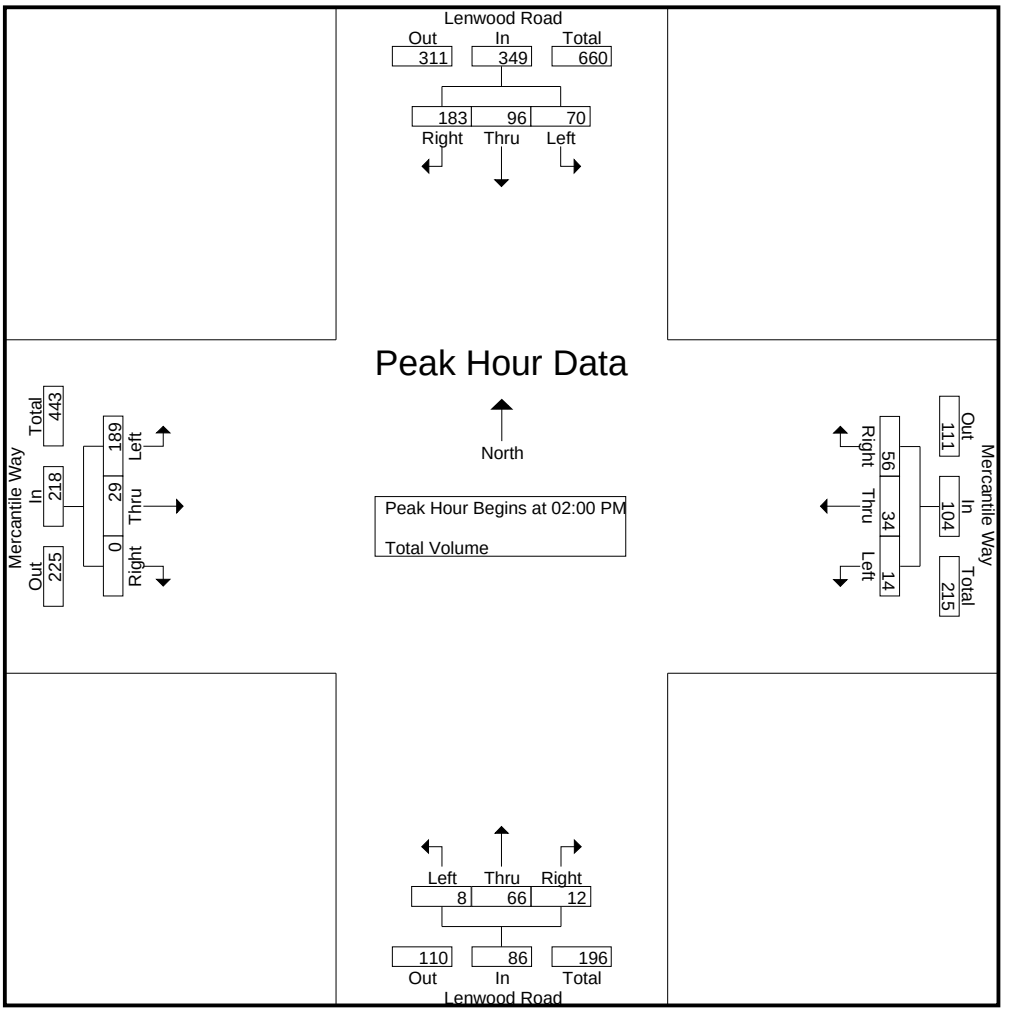
	Lenwood Road Southbound				Mercantile Way Westbound				Lenwood Road Northbound				Mercantile Way Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
02:00 PM	24	26	49	99	3	7	13	23	3	18	3	24	44	4	0	48	194
02:15 PM	21	31	41	93	4	7	18	29	4	25	2	31	58	7	0	65	218
02:30 PM	11	22	45	78	3	11	14	28	0	2	4	6	50	13	0	63	175
02:45 PM	14	17	48	79	4	9	11	24	1	21	3	25	37	5	0	42	170
Total	70	96	183	349	14	34	56	104	8	66	12	86	189	29	0	218	757
03:00 PM	7	10	36	53	1	6	11	18	4	15	0	19	34	4	0	38	128
03:15 PM	15	18	46	79	3	4	6	13	4	22	4	30	43	4	0	47	169
03:30 PM	7	18	35	60	1	6	7	14	2	10	4	16	55	10	0	65	155
03:45 PM	12	24	40	76	2	11	12	25	3	23	1	27	41	1	0	42	170
Total	41	70	157	268	7	27	36	70	13	70	9	92	173	19	0	192	622
Grand Total	111	166	340	617	21	61	92	174	21	136	21	178	362	48	0	410	1379
Apprch %	18	26.9	55.1		12.1	35.1	52.9		11.8	76.4	11.8		88.3	11.7	0		
Total %	8	12	24.7	44.7	1.5	4.4	6.7	12.6	1.5	9.9	1.5	12.9	26.3	3.5	0	29.7	

	Lenwood Road Southbound				Mercantile Way Westbound				Lenwood Road Northbound				Mercantile Way Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:00 PM																	
02:00 PM	**24**	26	**49**	**99**	3	7	13	23	3	18	3	24	44	4	0	48	194
02:15 PM	21	**31**	41	93	**4**	7	**18**	**29**	**4**	**25**	2	**31**	**58**	7	0	**65**	**218**
02:30 PM	11	22	45	78	3	**11**	14	28	0	2	**4**	6	50	**13**	0	63	175
02:45 PM	14	17	48	79	4	9	11	24	1	21	3	25	37	5	0	42	170
Total Volume	70	96	183	349	14	34	56	104	8	66	12	86	189	29	0	218	757
% App. Total	20.1	27.5	52.4		13.5	32.7	53.8		9.3	76.7	14		86.7	13.3	0		
PHF	.729	.774	.934	.881	.875	.773	.778	.897	.500	.660	.750	.694	.815	.558	.000	.838	.868

Counts Unlimited Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Barstow
N/S: Lenwood Road
E/W: Mercantile Way
Weather: Sunny

File Name : BARLEMESUN
Site Code : 00000001
Start Date : 10/23/2011
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	02:00 PM				02:00 PM				03:00 PM				02:00 PM			
+0 mins.	**24**	26	**49**	**99**	3	7	13	23	**4**	15	0	19	44	4	0	48
+15 mins.	21	**31**	41	93	**4**	7	**18**	**29**	4	22	**4**	**30**	**58**	7	0	**65**
+30 mins.	11	22	45	78	3	**11**	14	28	2	10	4	16	50	**13**	0	63
+45 mins.	14	17	48	79	4	9	11	24	3	**23**	1	27	37	5	0	42
Total Volume	70	96	183	349	14	34	56	104	13	70	9	92	189	29	0	218
% App. Total	20.1	27.5	52.4		13.5	32.7	53.8		14.1	76.1	9.8		86.7	13.3	0	
PHF	.729	.774	.934	.881	.875	.773	.778	.897	.813	.761	.563	.767	.815	.558	.000	.838

Counts Unlimited Inc.
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Corona, CA 92878
(951) 268-6268

City of Barstow
N/S: Lenwood Road
E/W: Main Street
Weather: Sunny

File Name : BARLEMASUN
Site Code : 00000051
Start Date : 10/23/2011
Page No : 1

Groups Printed- Total Volume

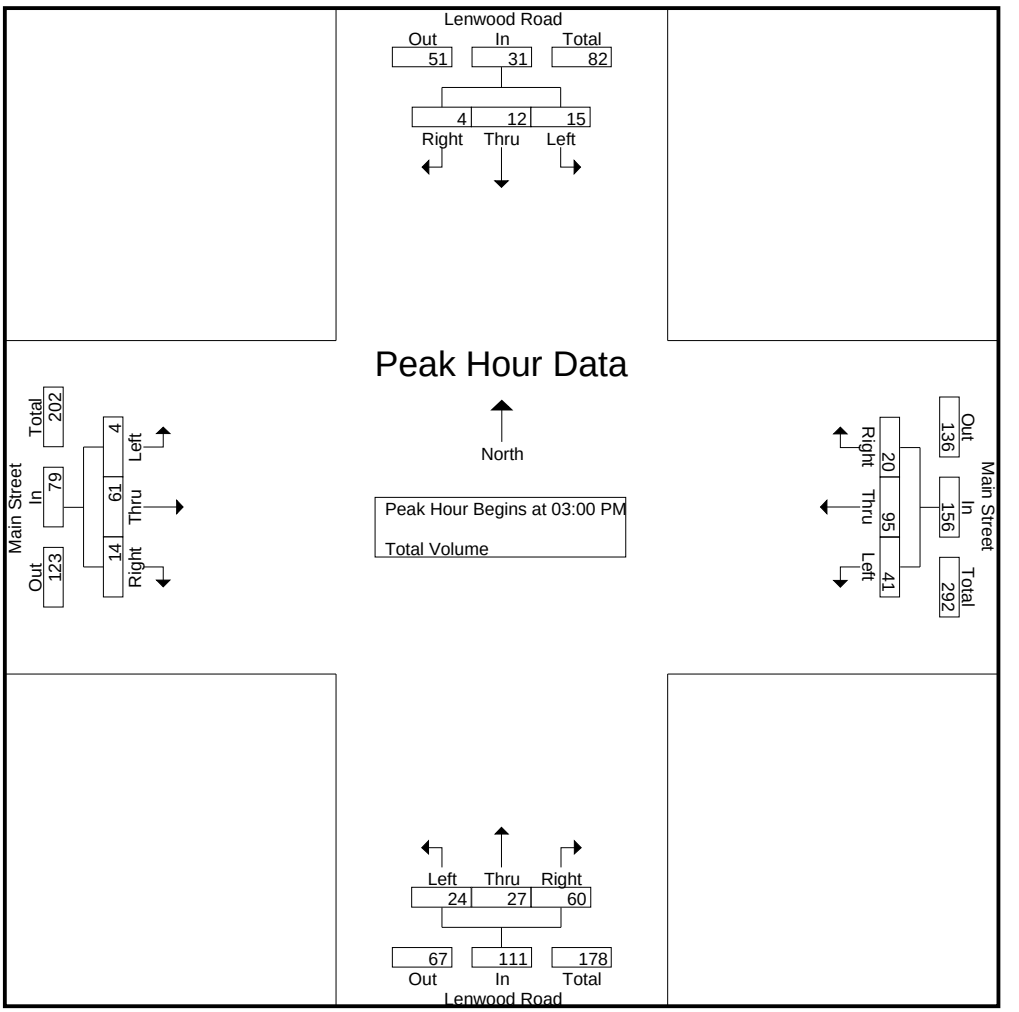
	Lenwood Road Southbound				Main Street Westbound				Lenwood Road Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
02:00 PM	1	11	0	12	8	16	2	26	9	7	17	33	0	19	2	21	92
02:15 PM	3	3	0	6	5	10	4	19	3	6	6	15	0	16	6	22	62
02:30 PM	8	3	1	12	6	23	8	37	8	5	6	19	0	17	4	21	89
02:45 PM	6	2	1	9	15	19	5	39	2	5	5	12	0	20	5	25	85
Total	18	19	2	39	34	68	19	121	22	23	34	79	0	72	17	89	328
03:00 PM	3	5	3	11	10	23	5	38	5	9	17	31	1	17	4	22	102
03:15 PM	2	3	1	6	7	17	5	29	7	9	12	28	0	8	2	10	73
03:30 PM	6	2	0	8	15	21	2	38	9	7	17	33	2	20	6	28	107
03:45 PM	4	2	0	6	9	34	8	51	3	2	14	19	1	16	2	19	95
Total	15	12	4	31	41	95	20	156	24	27	60	111	4	61	14	79	377
Grand Total	33	31	6	70	75	163	39	277	46	50	94	190	4	133	31	168	705
Apprch %	47.1	44.3	8.6		27.1	58.8	14.1		24.2	26.3	49.5		2.4	79.2	18.5		
Total %	4.7	4.4	0.9	9.9	10.6	23.1	5.5	39.3	6.5	7.1	13.3	27	0.6	18.9	4.4	23.8	

	Lenwood Road Southbound				Main Street Westbound				Lenwood Road Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	3	**5**	**3**	**11**	10	23	5	38	5	**9**	**17**	31	1	17	4	22	102
03:15 PM	2	3	1	6	7	17	5	29	7	9	12	28	0	8	2	10	73
03:30 PM	**6**	2	0	8	**15**	21	2	38	**9**	7	17	**33**	**2**	**20**	**6**	**28**	**107**
03:45 PM	4	2	0	6	9	**34**	**8**	**51**	3	2	14	19	1	16	2	19	95
Total Volume	15	12	4	31	41	95	20	156	24	27	60	111	4	61	14	79	377
% App. Total	48.4	38.7	12.9		26.3	60.9	12.8		21.6	24.3	54.1		5.1	77.2	17.7		
PHF	.625	.600	.333	.705	.683	.699	.625	.765	.667	.750	.882	.841	.500	.763	.583	.705	.881

Counts Unlimited Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Barstow
N/S: Lenwood Road
E/W: Main Street
Weather: Sunny

File Name : BARLEMASUN
Site Code : 00000051
Start Date : 10/23/2011
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:00 PM				03:00 PM				03:00 PM				02:15 PM			
+0 mins.	1	**11**	0	**12**	10	23	5	38	5	**9**	**17**	31	0	16	**6**	22
+15 mins.	3	3	0	6	7	17	5	29	7	9	12	28	0	17	4	21
+30 mins.	**8**	3	**1**	12	**15**	21	2	38	**9**	7	17	**33**	0	**20**	5	**25**
+45 mins.	6	2	1	9	9	**34**	**8**	**51**	3	2	14	19	**1**	17	4	22
Total Volume	18	19	2	39	41	95	20	156	24	27	60	111	1	70	19	90
% App. Total	46.2	48.7	5.1		26.3	60.9	12.8		21.6	24.3	54.1		1.1	77.8	21.1	
PHF	.563	.432	.500	.813	.683	.699	.625	.765	.667	.750	.882	.841	.250	.875	.792	.900

Counts Unlimited Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Barstow
N/S: Lenwood Road
E/W: SR-58
Weather: Sunny

File Name : BARLE58SUN
Site Code : 00000066
Start Date : 10/23/2011
Page No : 1

Groups Printed- Total Volume

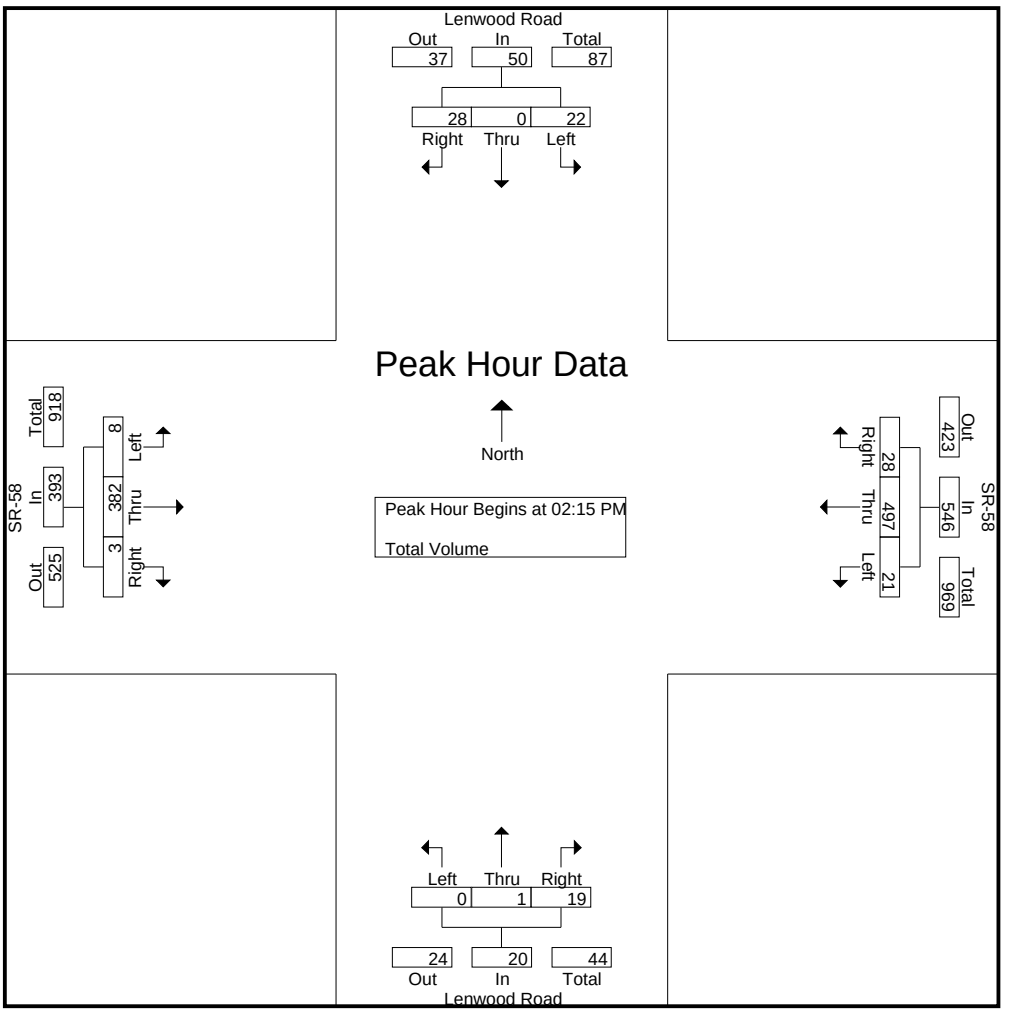
	Lenwood Road Southbound				SR-58 Westbound				Lenwood Road Northbound				SR-58 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
02:00 PM	3	0	3	6	4	150	5	159	1	0	4	5	2	81	0	83	253
02:15 PM	7	0	4	11	5	132	8	145	0	1	6	7	4	92	0	96	259
02:30 PM	8	0	13	21	3	124	6	133	0	0	4	4	2	94	1	97	255
02:45 PM	3	0	5	8	7	120	4	131	0	0	7	7	1	92	1	94	240
Total	21	0	25	46	19	526	23	568	1	1	21	23	9	359	2	370	1007
03:00 PM	4	0	6	10	6	121	10	137	0	0	2	2	1	104	1	106	255
03:15 PM	6	1	6	13	11	108	10	129	0	0	3	3	1	95	1	97	242
03:30 PM	3	0	7	10	1	116	7	124	0	0	7	7	1	90	1	92	233
03:45 PM	5	0	11	16	4	134	12	150	0	1	4	5	5	75	0	80	251
Total	18	1	30	49	22	479	39	540	0	1	16	17	8	364	3	375	981
Grand Total	39	1	55	95	41	1005	62	1108	1	2	37	40	17	723	5	745	1988
Apprch %	41.1	1.1	57.9		3.7	90.7	5.6		2.5	5	92.5		2.3	97	0.7		
Total %	2	0.1	2.8	4.8	2.1	50.6	3.1	55.7	0.1	0.1	1.9	2	0.9	36.4	0.3	37.5	

	Lenwood Road Southbound				SR-58 Westbound				Lenwood Road Northbound				SR-58 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:15 PM																	
02:15 PM	7	0	4	11	5	**132**	8	**145**	0	**1**	6	**7**	**4**	92	0	96	**259**
02:30 PM	**8**	0	**13**	**21**	3	124	6	133	0	0	4	4	2	94	**1**	97	255
02:45 PM	3	0	5	8	**7**	120	4	131	0	0	**7**	7	1	92	1	94	240
03:00 PM	4	0	6	10	6	121	**10**	137	0	0	2	2	1	**104**	1	**106**	255
Total Volume	22	0	28	50	21	497	28	546	0	1	19	20	8	382	3	393	1009
% App. Total	44	0	56		3.8	91	5.1		0	5	95		2	97.2	0.8		
PHF	.688	.000	.538	.595	.750	.941	.700	.941	.000	.250	.679	.714	.500	.918	.750	.927	.974

Counts Unlimited Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Barstow
N/S: Lenwood Road
E/W: SR-58
Weather: Sunny

File Name : BARLE58SUN
Site Code : 00000066
Start Date : 10/23/2011
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:30 PM				02:00 PM				02:00 PM				02:30 PM			
+0 mins.	**8**	0	**13**	**21**	4	**150**	5	**159**	**1**	0	4	5	**2**	94	**1**	97
+15 mins.	3	0	5	8	5	132	**8**	145	0	**1**	6	**7**	1	92	1	94
+30 mins.	4	0	6	10	3	124	6	133	0	0	4	4	1	**104**	1	**106**
+45 mins.	6	**1**	6	13	**7**	120	4	131	0	0	**7**	7	1	95	1	97
Total Volume	21	1	30	52	19	526	23	568	1	1	21	23	5	385	4	394
% App. Total	40.4	1.9	57.7		3.3	92.6	4		4.3	4.3	91.3		1.3	97.7	1	
PHF	.656	.250	.577	.619	.679	.877	.719	.893	.250	.250	.750	.821	.625	.925	1.000	.929

Counts Unlimited Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Barstow
N/S: Factory Outlet Avenue
E/W: Mercantile Way
Weather: Sunny

File Name : BARFOMESUN
Site Code : 00000001
Start Date : 10/23/2011

Groups Printed- Total Volume

	Factory Outlet Avenue Southbound			Mercantile Way Westbound			Mercantile Way Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
02:00 PM	1	17	18	11	1	12	24	8	32	62
02:15 PM	1	18	19	5	4	9	19	8	27	55
02:30 PM	1	15	16	12	0	12	21	8	29	57
02:45 PM	2	12	14	9	5	14	11	10	21	49
Total	5	62	67	37	10	47	75	34	109	223
03:00 PM	3	10	13	12	0	12	6	7	13	38
03:15 PM	1	9	10	4	0	4	12	5	17	31
03:30 PM	4	10	14	7	2	9	13	8	21	44
03:45 PM	2	14	16	7	1	8	13	6	19	43
Total	10	43	53	30	3	33	44	26	70	156
Grand Total	15	105	120	67	13	80	119	60	179	379
Apprch %	12.5	87.5		83.8	16.2		66.5	33.5		
Total %	4	27.7	31.7	17.7	3.4	21.1	31.4	15.8	47.2	

	Factory Outlet Avenue Southbound			Mercantile Way Westbound			Mercantile Way Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:00 PM										
02:00 PM	1	17	18	11	1	12	**24**	8	**32**	**62**
02:15 PM	1	**18**	**19**	5	4	9	19	8	27	55
02:30 PM	1	15	16	**12**	0	12	21	8	29	57
02:45 PM	**2**	12	14	9	**5**	**14**	11	**10**	21	49
Total Volume	5	62	67	37	10	47	75	34	109	223
% App. Total	7.5	92.5		78.7	21.3		68.8	31.2		
PHF	.625	.861	.882	.771	.500	.839	.781	.850	.852	.899

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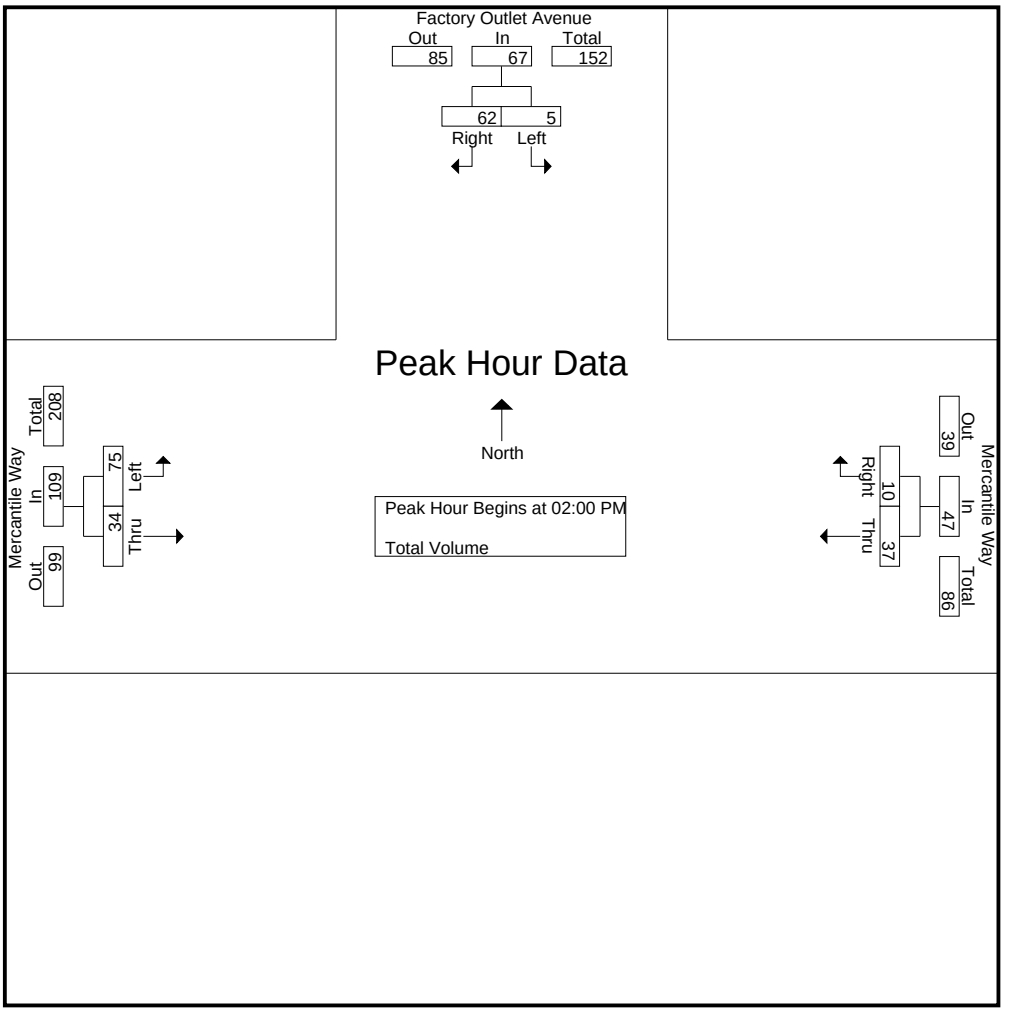
City of Barstow
N/S: Factory Outlet Avenue
E/W: Mercantile Way
Weather: Sunny

File Name : BARFOMESUN
Site Code : 00000001
Start Date : 10/23/2011
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	02:00 PM			02:00 PM			02:00 PM		
+0 mins.	1	17	18	11	1	12	**24**	8	**32**
+15 mins.	1	**18**	**19**	5	4	9	19	8	27
+30 mins.	1	15	16	**12**	0	12	21	8	29
+45 mins.	**2**	12	14	9	**5**	**14**	11	**10**	21
Total Volume	5	62	67	37	10	47	75	34	109
% App. Total	7.5	92.5		78.7	21.3		68.8	31.2	
PHF	.625	.861	.882	.771	.500	.839	.781	.850	.852

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City of Barstow
N/S: I-15 Northbound Ramps
E/W: Outlet Center Drive
Weather: Sunny

File Name : BAR15SOCSUN
Site Code : 00000001
Start Date : 10/23/2011

Groups Printed- Total Volume

	I-15 Northbound On Ramp Southbound				Outlet Center Drive Westbound				I-15 Northbound Off Ramp Northbound				Outlet Center Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
02:00 PM	1	0	1	2	28	0	0	28	0	0	0	0	0	0	0	0	30
02:15 PM	4	1	0	5	24	0	0	24	0	0	0	0	0	1	0	1	30
02:30 PM	2	0	0	2	28	1	0	29	0	0	0	0	0	0	0	0	31
02:45 PM	3	1	0	4	24	0	0	24	0	0	0	0	0	1	1	2	30
Total	10	2	1	13	104	1	0	105	0	0	0	0	0	2	1	3	121
03:00 PM	4	0	1	5	17	0	0	17	0	0	0	0	0	0	0	0	22
03:15 PM	6	0	0	6	22	1	0	23	0	0	0	0	0	0	0	0	29
03:30 PM	3	1	1	5	22	0	0	22	0	0	0	0	0	1	1	2	29
03:45 PM	2	0	0	2	17	0	0	17	0	0	0	0	0	0	0	0	19
Total	15	1	2	18	78	1	0	79	0	0	0	0	0	1	1	2	99
Grand Total	25	3	3	31	182	2	0	184	0	0	0	0	0	3	2	5	220
Apprch %	80.6	9.7	9.7		98.9	1.1	0		0	0	0		0	60	40		
Total %	11.4	1.4	1.4	14.1	82.7	0.9	0	83.6	0	0	0	0	0	1.4	0.9	2.3	

	I-15 Northbound On Ramp Southbound				Outlet Center Drive Westbound				I-15 Northbound Off Ramp Northbound				Outlet Center Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:00 PM																	
02:00 PM	1	0	**1**	2	**28**	0	0	28	0	0	0	0	0	0	0	0	30
02:15 PM	**4**	**1**	0	**5**	24	0	0	24	0	0	0	0	0	**1**	0	1	30
02:30 PM	2	0	0	2	28	**1**	0	**29**	0	0	0	0	0	0	0	0	**31**
02:45 PM	3	1	0	4	24	0	0	24	0	0	0	0	0	1	**1**	**2**	30
Total Volume	10	2	1	13	104	1	0	105	0	0	0	0	0	2	1	3	121
% App. Total	76.9	15.4	7.7		99	1	0		0	0	0		0	66.7	33.3		
PHF	.625	.500	.250	.650	.929	.250	.000	.905	.000	.000	.000	.000	.000	.500	.250	.375	.976

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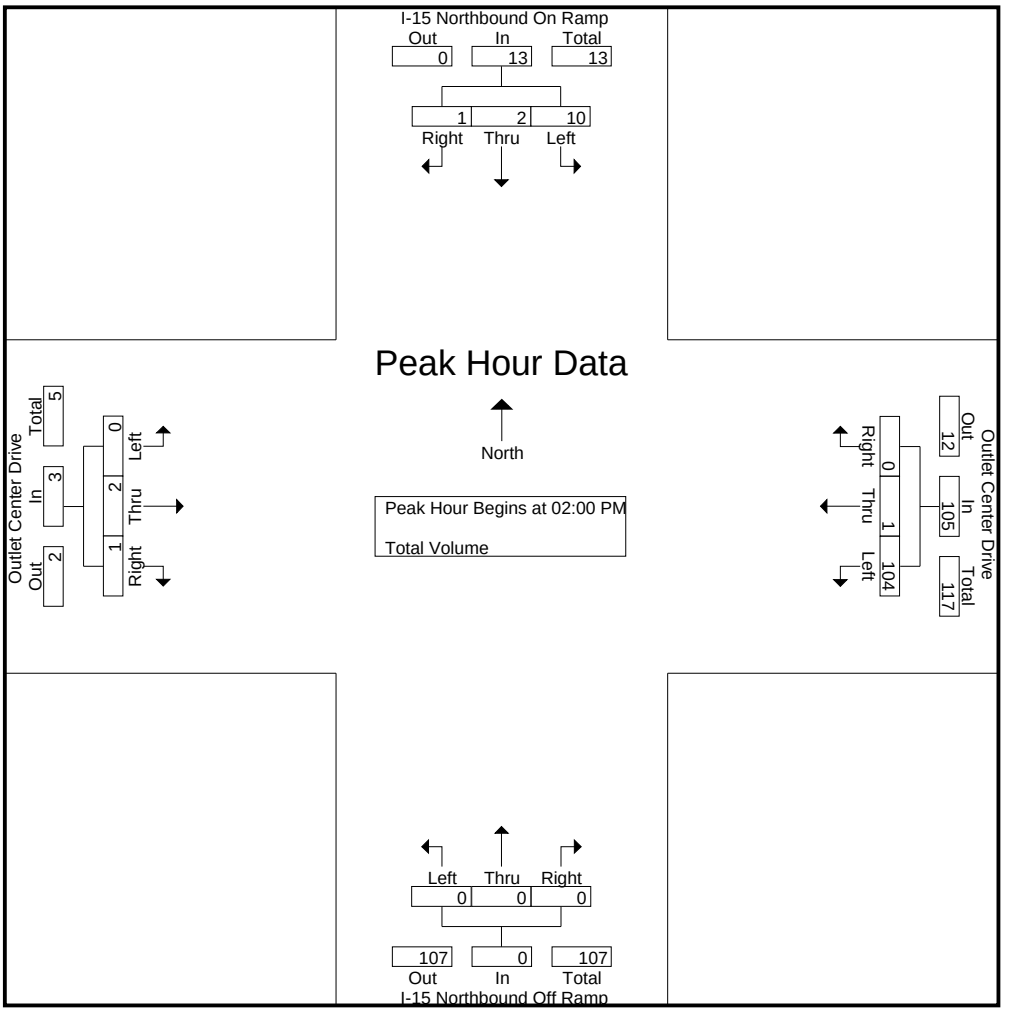
City of Barstow
N/S: I-15 Northbound Ramps
E/W: Outlet Center Drive
Weather: Sunny

File Name : BAR15SOCSUN
Site Code : 00000001
Start Date : 10/23/2011
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	02:45 PM				02:00 PM				02:00 PM				02:45 PM			
+0 mins.	3	**1**	0	4	**28**	0	0	28	0	0	0	0	0	**1**	**1**	**2**
+15 mins.	4	0	**1**	5	24	0	0	24	0	0	0	0	0	0	0	0
+30 mins.	**6**	0	0	**6**	28	**1**	0	**29**	0	0	0	0	0	0	0	0
+45 mins.	3	1	1	5	24	0	0	24	0	0	0	0	0	1	1	2
Total Volume	16	2	2	20	104	1	0	105	0	0	0	0	0	2	2	4
% App. Total	80	10	10		99	1	0		0	0	0		0	50	50	
PHF	.667	.500	.500	.833	.929	.250	.000	.905	.000	.000	.000	.000	.000	.500	.500	.500

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City of Barstow
N/S:I-15 Southbound Ramps
E/W: Lenwood Road
Weather: Sunny

File Name : BAR15SLESUN
Site Code : 00000063
Start Date : 10/23/2011
Page No : 1

Groups Printed- Total Volume

	I-15 Southbound On-Off Ramps Southbound				Lenwood Road Westbound				I-15 Southbound On Ramp Northbound				Lenwood Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
02:00 PM	122	0	83	205	0	36	106	142	0	0	0	0	0	55	61	116	463
02:15 PM	154	0	71	225	0	44	102	146	0	0	0	0	0	38	52	90	461
02:30 PM	139	0	105	244	0	55	116	171	0	0	0	0	0	57	46	103	518
02:45 PM	117	0	82	199	0	27	127	154	0	0	0	0	0	49	64	113	466
Total	532	0	341	873	0	162	451	613	0	0	0	0	0	199	223	422	1908
03:00 PM	100	0	88	188	0	64	124	188	0	0	0	0	0	54	65	119	495
03:15 PM	107	0	70	177	0	35	107	142	0	0	0	0	0	39	57	96	415
03:30 PM	97	0	75	172	0	56	95	151	0	0	0	0	0	42	52	94	417
03:45 PM	118	0	73	191	0	26	103	129	0	0	0	0	0	42	48	90	410
Total	422	0	306	728	0	181	429	610	0	0	0	0	0	177	222	399	1737
Grand Total	954	0	647	1601	0	343	880	1223	0	0	0	0	0	376	445	821	3645
Apprch %	59.6	0	40.4		0	28	72		0	0	0		0	45.8	54.2		
Total %	26.2	0	17.8	43.9	0	9.4	24.1	33.6	0	0	0	0	0	10.3	12.2	22.5	

	I-15 Southbound On-Off Ramps Southbound				Lenwood Road Westbound				I-15 Southbound On Ramp Northbound				Lenwood Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:15 PM																	
02:15 PM	**154**	0	71	225	0	44	102	146	0	0	0	0	0	38	52	90	461
02:30 PM	139	0	**105**	**244**	0	55	116	171	0	0	0	0	0	**57**	46	103	**518**
02:45 PM	117	0	82	199	0	27	**127**	154	0	0	0	0	0	49	64	113	466
03:00 PM	100	0	88	188	0	**64**	124	**188**	0	0	0	0	0	54	**65**	**119**	495
Total Volume	510	0	346	856	0	190	469	659	0	0	0	0	0	198	227	425	1940
% App. Total	59.6	0	40.4		0	28.8	71.2		0	0	0		0	46.6	53.4		
PHF	.828	.000	.824	.877	.000	.742	.923	.876	.000	.000	.000	.000	.000	.868	.873	.893	.936

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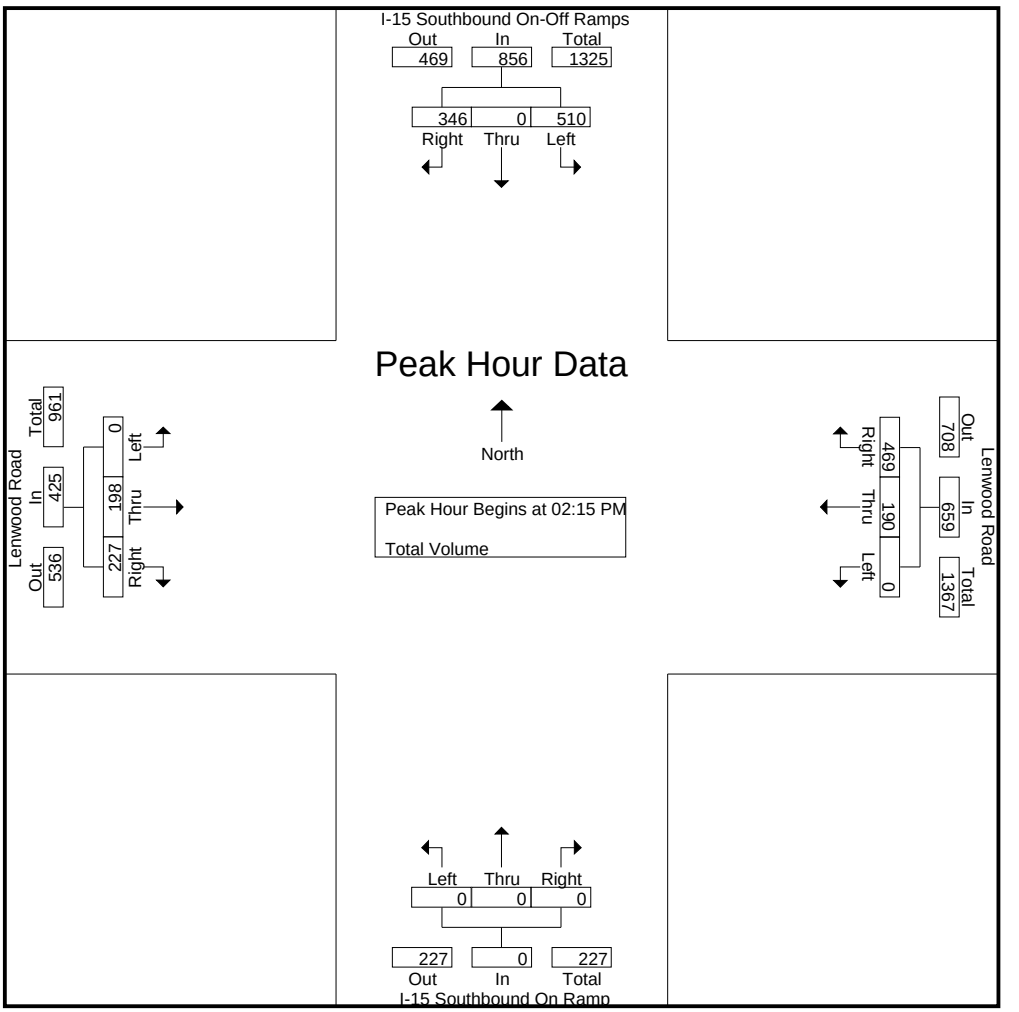
City of Barstow
N/S:I-15 Southbound Ramps
E/W: Lenwood Road
Weather: Sunny

File Name : BAR15SLESUN
Site Code : 00000063
Start Date : 10/23/2011
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:00 PM				02:15 PM				02:00 PM				02:30 PM			
+0 mins.	122	0	83	205	0	44	102	146	0	0	0	0	0	**57**	46	103
+15 mins.	**154**	0	71	225	0	55	116	171	0	0	0	0	0	49	64	113
+30 mins.	139	0	**105**	**244**	0	27	**127**	154	0	0	0	0	0	54	**65**	**119**
+45 mins.	117	0	82	199	0	**64**	124	**188**	0	0	0	0	0	39	57	96
Total Volume	532	0	341	873	0	190	469	659	0	0	0	0	0	199	232	431
% App. Total	60.9	0	39.1		0	28.8	71.2		0	0	0		0	46.2	53.8	
PHF	.864	.000	.812	.894	.000	.742	.923	.876	.000	.000	.000	.000	.000	.873	.892	.905

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City of Barstow
N/S: I-15 Northbound Ramps
E/W: Outlet Center Drive
Weather: Sunny

File Name : BAR15NOCSUN
Site Code : 00000001
Start Date : 10/23/2011

Groups Printed- Total Volume

	I-15 Northbound On Ramp Southbound				Outlet Center Drive Westbound				I-15 Northbound Off Ramp Northbound				Outlet Center Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
02:00 PM	0	0	0	0	0	29	1	30	1	1	10	12	0	1	0	1	43
02:15 PM	0	0	0	0	0	23	0	23	2	1	14	17	3	1	0	4	44
02:30 PM	0	0	0	0	0	27	1	28	0	1	9	10	0	2	0	2	40
02:45 PM	0	0	0	0	0	23	0	23	0	0	6	6	2	1	0	3	32
Total	0	0	0	0	0	102	2	104	3	3	39	45	5	5	0	10	159
03:00 PM	0	0	0	0	0	16	5	21	0	1	11	12	2	2	0	4	37
03:15 PM	0	0	0	0	0	18	1	19	0	3	9	12	2	4	0	6	37
03:30 PM	0	0	0	0	0	19	1	20	0	4	10	14	3	0	0	3	37
03:45 PM	0	0	0	0	0	15	0	15	1	2	9	12	2	0	0	2	29
Total	0	0	0	0	0	68	7	75	1	10	39	50	9	6	0	15	140
Grand Total	0	0	0	0	0	170	9	179	4	13	78	95	14	11	0	25	299
Apprch %	0	0	0		0	95	5		4.2	13.7	82.1		56	44	0		
Total %	0	0	0	0	0	56.9	3	59.9	1.3	4.3	26.1	31.8	4.7	3.7	0	8.4	

	I-15 Northbound On Ramp Southbound				Outlet Center Drive Westbound				I-15 Northbound Off Ramp Northbound				Outlet Center Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:00 PM																	
02:00 PM	0	0	0	0	0	**29**	**1**	**30**	1	**1**	10	12	0	1	0	1	43
02:15 PM	0	0	0	0	0	23	0	23	**2**	1	**14**	**17**	**3**	1	0	**4**	**44**
02:30 PM	0	0	0	0	0	27	1	28	0	1	9	10	0	**2**	0	2	40
02:45 PM	0	0	0	0	0	23	0	23	0	0	6	6	2	1	0	3	32
Total Volume	0	0	0	0	0	102	2	104	3	3	39	45	5	5	0	10	159
% App. Total	0	0	0		0	98.1	1.9		6.7	6.7	86.7		50	50	0		
PHF	.000	.000	.000	.000	.000	.879	.500	.867	.375	.750	.696	.662	.417	.625	.000	.625	.903

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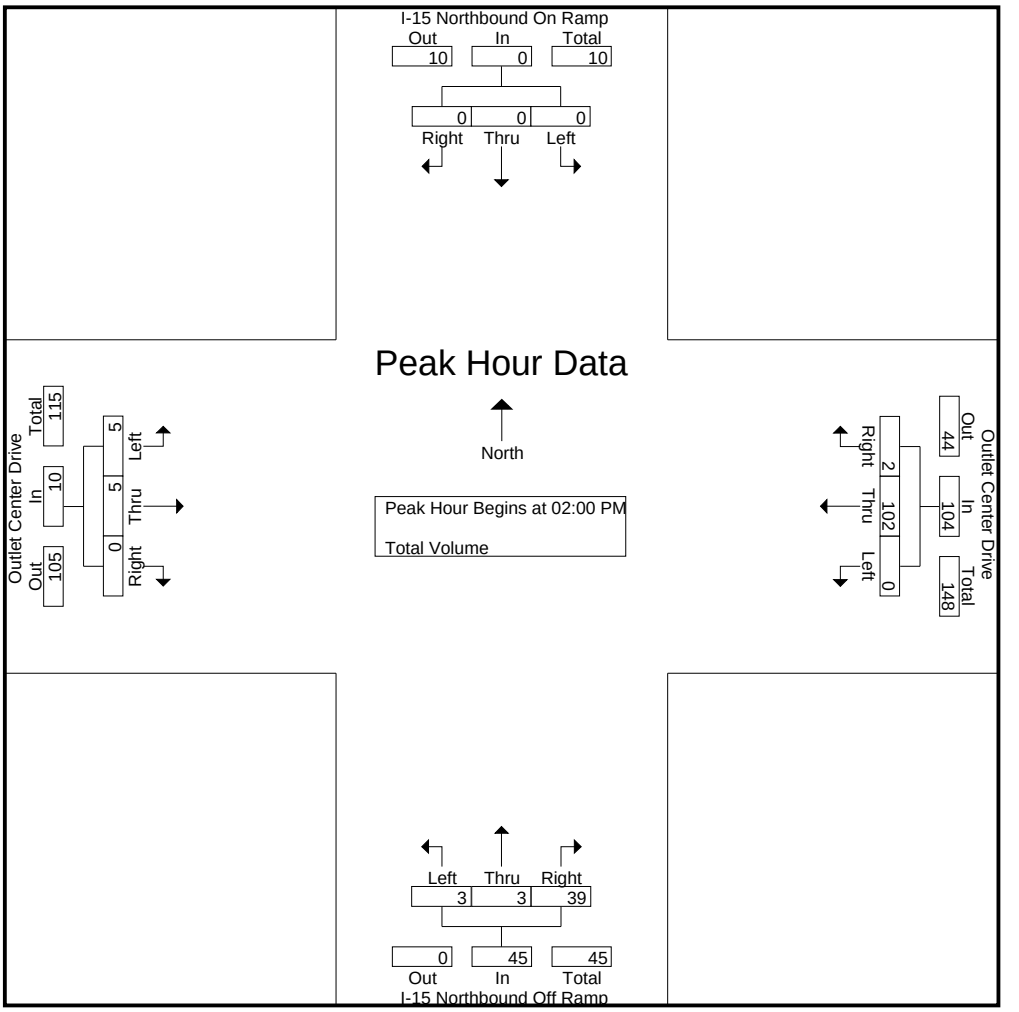
City of Barstow
N/S: I-15 Northbound Ramps
E/W: Outlet Center Drive
Weather: Sunny

File Name : BAR15NOCSUN
Site Code : 00000001
Start Date : 10/23/2011
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	02:00 PM				02:00 PM				03:00 PM				02:45 PM			
+0 mins.	0	0	0	0	0	**29**	**1**	**30**	0	1	**11**	12	2	1	0	3
+15 mins.	0	0	0	0	0	23	0	23	0	3	9	12	2	2	0	4
+30 mins.	0	0	0	0	0	27	1	28	0	**4**	10	**14**	2	**4**	0	**6**
+45 mins.	0	0	0	0	0	23	0	23	**1**	2	9	12	**3**	0	0	3
Total Volume	0	0	0	0	0	102	2	104	1	10	39	50	9	7	0	16
% App. Total	0	0	0		0	98.1	1.9		2	20	78		56.2	43.8	0	
PHF	.000	.000	.000	.000	.000	.879	.500	.867	.250	.625	.886	.893	.750	.438	.000	.667

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City of Barstow
N/S: I-15 NB Ramps/High Point Pkwy
E/W:Lenwood Road
Weather:Sunny

File Name : BAR15NLESUN
Site Code : 00000001
Start Date : 10/23/2011
Page No : 1

Groups Printed- Total Volume

	High Point Parkway Southbound					Lenwood Road Westbound					I-15 Northbound On-Off Ramps Northbound					Lenwood Road Eastbound					I-15 Northbound On Ramp Southeastbound						
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Int. Total
02:00 PM	5	1	17	26	49	0	113	128	26	267	12	1	30	83	126	0	34	125	21	180	0	0	0	0	0	0	622
02:15 PM	4	1	21	38	64	0	104	124	24	252	21	2	14	110	147	0	27	142	26	195	0	0	0	0	0	0	658
02:30 PM	9	0	29	40	78	0	119	104	30	253	23	0	9	97	129	0	28	144	27	199	0	0	0	0	0	0	659
02:45 PM	9	0	29	27	65	0	106	102	24	232	19	0	17	70	106	0	35	115	29	179	0	0	0	0	0	0	582
Total	27	2	96	131	256	0	442	458	104	1004	75	3	70	360	508	0	124	526	103	753	0	0	0	0	0	0	2521
03:00 PM	9	0	38	36	83	0	126	90	15	231	24	4	12	83	123	0	26	102	37	165	0	0	0	0	0	0	602
03:15 PM	9	0	33	36	78	0	96	102	24	222	13	0	17	99	129	0	22	115	20	157	0	0	0	0	0	0	586
03:30 PM	9	0	24	18	51	0	104	103	21	228	23	0	10	70	103	0	34	96	17	147	0	0	0	0	0	0	529
03:45 PM	7	0	25	37	69	0	91	91	19	201	13	0	15	86	114	0	32	105	19	156	0	0	0	0	0	0	540
Total	34	0	120	127	281	0	417	386	79	882	73	4	54	338	469	0	114	418	93	625	0	0	0	0	0	0	2257
Grand Total	61	2	216	258	537	0	859	844	183	1886	148	7	124	698	977	0	238	944	196	1378	0	0	0	0	0	0	4778
Apprch %	11.4	0.4	40.2	48		0	45.5	44.8	9.7		15.1	0.7	12.7	71.4		0	17.3	68.5	14.2		0	0	0	0	0		
Total %	1.3	0	4.5	5.4	11.2	0	18	17.7	3.8	39.5	3.1	0.1	2.6	14.6	20.4	0	5	19.8	4.1	28.8	0	0	0	0	0	0	

	High Point Parkway Southbound					Lenwood Road Westbound					I-15 Northbound On-Off Ramps Northbound					Lenwood Road Eastbound					I-15 Northbound On Ramp Southeastbound						
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 02:00 PM																										
02:00 PM	5	**1**	17	26	49	0	113	**128**	26	**267**	12	1	**30**	83	126	0	34	125	21	180	0	0	0	0	0	0	622
02:15 PM	4	1	21	38	64	0	104	124	24	252	21	**2**	14	**110**	**147**	0	27	142	26	195	0	0	0	0	0	0	658
02:30 PM	**9**	0	**29**	**40**	**78**	0	**119**	104	**30**	253	**23**	0	9	97	129	0	28	**144**	27	**199**	0	0	0	0	0	0	**659**
02:45 PM	9	0	29	27	65	0	106	102	24	232	19	0	17	70	106	0	**35**	115	**29**	179	0	0	0	0	0	0	582
Total Volume	27	2	96	131	256	0	442	458	104	1004	75	3	70	360	508	0	124	526	103	753	0	0	0	0	0	0	2521
% App. Total	10.5	0.8	37.5	51.2		0	44	45.6	10.4		14.8	0.6	13.8	70.9		0	16.5	69.9	13.7		0	0	0	0	0		
PHF	.750	.500	.828	.819	.821	.000	.929	.895	.867	.940	.815	.375	.583	.818	.864	.000	.886	.913	.888	.946	.000	.000	.000	.000	.000	.000	.956

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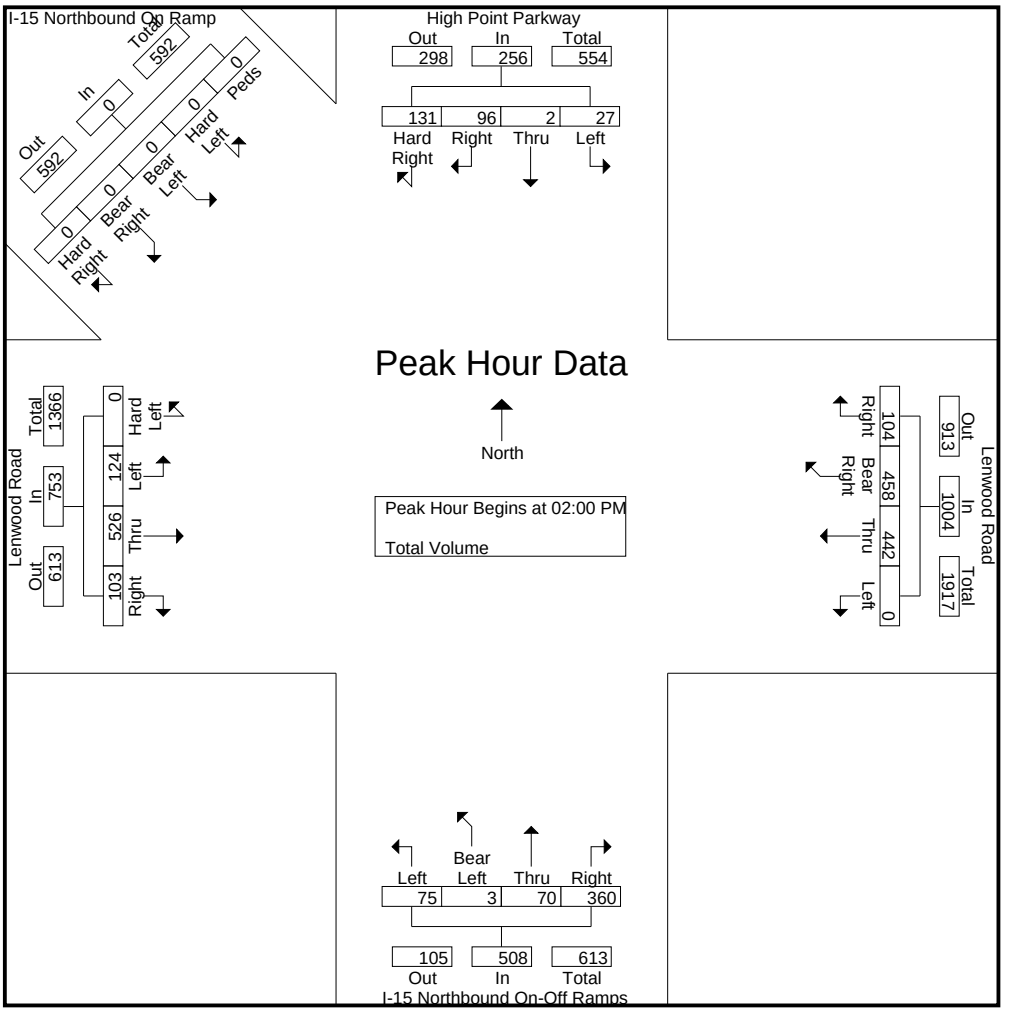
City of Barstow
N/S: I-15 NB Ramps/High Point Pkwy
E/W:Lenwood Road
Weather:Sunny

File Name : BAR15NLESUN
Site Code : 00000001
Start Date : 10/23/2011
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	02:30 PM					02:00 PM					02:00 PM					02:00 PM					02:00 PM					
+0 mins.	**9**	0	29	**40**	78	0	113	**128**	26	**267**	12	1	**30**	83	126	0	34	125	21	180	0	0	0	0	0	0
+15 mins.	9	0	29	27	65	0	104	124	24	252	21	**2**	14	**110**	**147**	0	27	142	26	195	0	0	0	0	0	0
+30 mins.	9	0	**38**	36	**83**	0	**119**	104	**30**	253	**23**	0	9	97	129	0	28	**144**	27	**199**	0	0	0	0	0	0
+45 mins.	9	0	33	36	78	0	106	102	24	232	19	0	17	70	106	0	**35**	115	**29**	179	0	0	0	0	0	0
Total Volume	36	0	129	139	304	0	442	458	104	1004	75	3	70	360	508	0	124	526	103	753	0	0	0	0	0	0
% App. Total	11.8	0	42.4	45.7		0	44	45.6	10.4		14.8	0.6	13.8	70.9		0	16.5	69.9	13.7		0	0	0	0	0	
PHF	1.000	.000	.849	.869	.916	.000	.929	.895	.867	.940	.815	.375	.583	.818	.864	.000	.886	.913	.888	.946	.000	.000	.000	.000	.000	.000

Counts Unlimited Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Barstow
N/S: Main Street
E/W: SR-58 Westbound Ramps
Weather: Sunny

File Name : BARMA58WSUN
Site Code : 00000662
Start Date : 10/23/2011
Page No : 1

Groups Printed- Total Volume

	Main Street Southbound				SR-58 Westbound Off Ramp Westbound				Main Street Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
02:00 PM	0	40	3	43	25	2	5	32	5	29	0	34	0	0	0	0	109
02:15 PM	0	30	3	33	29	0	2	31	6	35	0	41	0	0	0	0	105
02:30 PM	0	47	8	55	36	0	5	41	8	31	0	39	0	0	0	0	135
02:45 PM	0	57	12	69	26	0	3	29	4	34	0	38	0	0	0	0	136
Total	0	174	26	200	116	2	15	133	23	129	0	152	0	0	0	0	485
03:00 PM	0	55	5	60	24	0	0	24	9	39	0	48	0	0	0	0	132
03:15 PM	0	35	6	41	24	0	3	27	5	30	0	35	0	0	0	0	103
03:30 PM	0	40	9	49	17	0	3	20	9	37	0	46	0	0	0	0	115
03:45 PM	0	53	4	57	19	0	3	22	6	31	0	37	0	0	0	0	116
Total	0	183	24	207	84	0	9	93	29	137	0	166	0	0	0	0	466
Grand Total	0	357	50	407	200	2	24	226	52	266	0	318	0	0	0	0	951
Apprch %	0	87.7	12.3		88.5	0.9	10.6		16.4	83.6	0		0	0	0		
Total %	0	37.5	5.3	42.8	21	0.2	2.5	23.8	5.5	28	0	33.4	0	0	0	0	

	Main Street Southbound				SR-58 Westbound Off Ramp Westbound				Main Street Northbound				SR-58 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:15 PM																	
02:15 PM	0	30	3	33	29	0	2	31	6	35	0	41	0	0	0	0	105
02:30 PM	0	47	8	55	**36**	0	**5**	**41**	8	31	0	39	0	0	0	0	135
02:45 PM	0	**57**	**12**	**69**	26	0	3	29	4	34	0	38	0	0	0	0	**136**
03:00 PM	0	55	5	60	24	0	0	24	**9**	**39**	0	**48**	0	0	0	0	132
Total Volume	0	189	28	217	115	0	10	125	27	139	0	166	0	0	0	0	508
% App. Total	0	87.1	12.9		92	0	8		16.3	83.7	0		0	0	0		
PHF	.000	.829	.583	.786	.799	.000	.500	.762	.750	.891	.000	.865	.000	.000	.000	.000	.934

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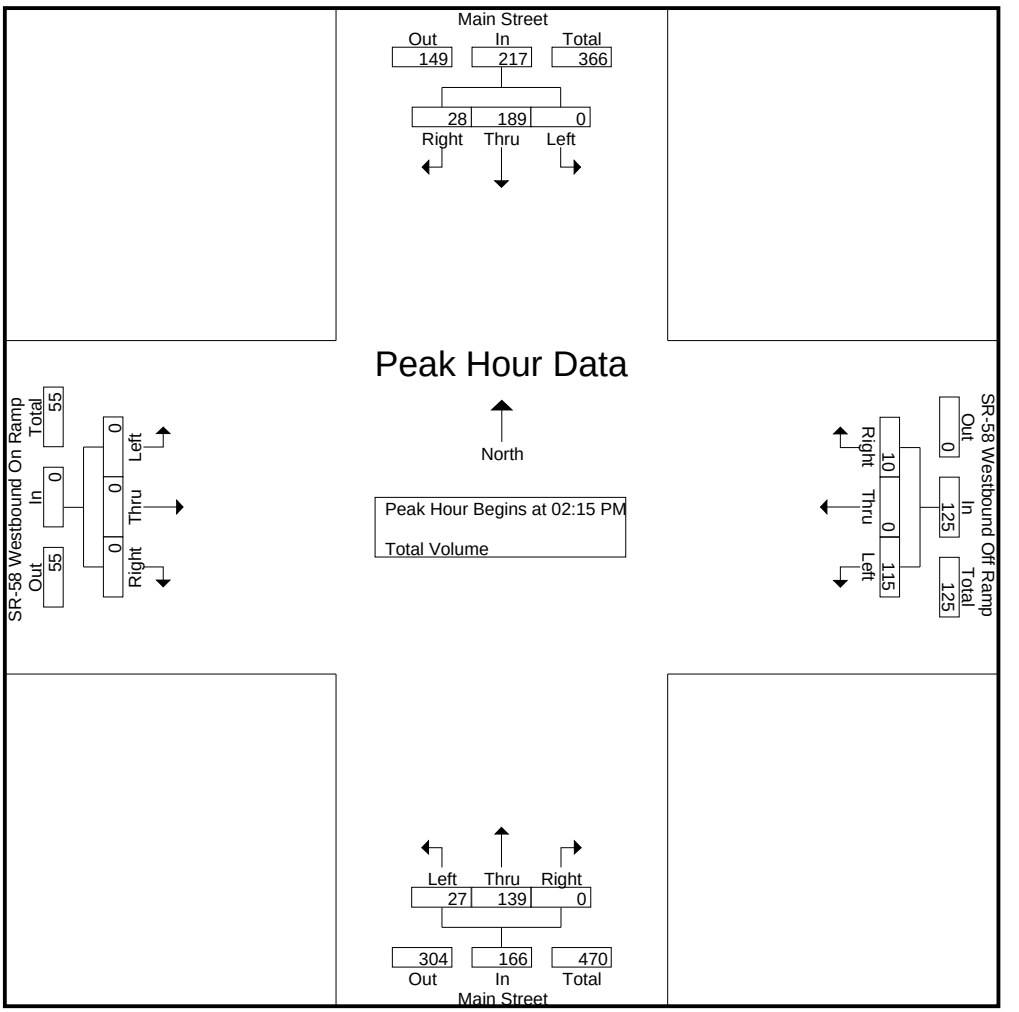
City of Barstow
N/S: Main Street
E/W: SR-58 Westbound Ramps
Weather: Sunny

File Name : BARMA58WSUN
Site Code : 00000662
Start Date : 10/23/2011
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:30 PM				02:00 PM				02:45 PM				02:00 PM			
+0 mins.	0	47	8	55	25	**2**	**5**	32	4	34	0	38	0	0	0	0
+15 mins.	0	**57**	**12**	**69**	29	0	2	31	**9**	**39**	0	**48**	0	0	0	0
+30 mins.	0	55	5	60	**36**	0	5	**41**	5	30	0	35	0	0	0	0
+45 mins.	0	35	6	41	26	0	3	29	9	37	0	46	0	0	0	0
Total Volume	0	194	31	225	116	2	15	133	27	140	0	167	0	0	0	0
% App. Total	0	86.2	13.8		87.2	1.5	11.3		16.2	83.8	0		0	0	0	
PHF	.000	.851	.646	.815	.806	.250	.750	.811	.750	.897	.000	.870	.000	.000	.000	.000

INTERSECTION	DIRECTION	EXISTING (with PCE)						OPENING YEAR (2013)					
		Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm
1. Lenwood Road/ SR-58	Sb	30	0	0	0	23	0	32	0	0	0	25	0
	Wb	30	0	527	0	54	0	32	0	637	0	87	0
	Nb	20	0	1	0	0	0	58	0	1	0	75	0
	Eb	3	0	405	0	8	0	85	0	513	0	9	0
2. Lenwood Road/ Main Street	Sb	4	0	13	0	16	0	51	0	68	0	26	0
	Wb	21	0	101	0	43	0	29	0	342	0	145	0
	Nb	64	0	29	0	25	0	160	0	73	0	224	0
	Eb	15	0	65	0	4	0	195	0	284	0	45	0
3. SR-58 EB Ramps/ Main Street	Sb	22	0	0	0	21	0	35	0	0	0	59	0
	Wb	0	0	318	0	4	0	0	0	768	0	10	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	113	0	171	0	0	0	336	0	370	0	0	0
4. SR-58 WB Ramps/ Main Street	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	30	0	200	0	0	0	64	0	406	0	0	0
	Nb	11	0	0	0	122	0	17	0	0	0	371	0
	Eb	29	0	163	0	0	0	31	0	385	0	13	0
5. I-15 SB Ramps/ Lenwood Road	Sb	367	0	0	0	541	0	620	0	0	0	650	0
	Wb	497	0	201	0	0	0	538	0	569	0	0	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	241	0	210	0	0	0	545	0	472	0	0	0
6. I-15 NB Ramps/ Lenwood Rd/ High Point Pkwy	Sb	241	0	0	0	29	0	289	0	0	0	36	0
	Wb	110	0	954	0	0	0	125	0	1138	0	0	0
	Nb	382	0	74	0	83	0	428	0	97	0	395	0
	Eb	62	0	558	0	131	0	268	0	693	0	161	0
7. I-15 SB Ramps/ Outlet Center Drive	Sb	1	0	0	0	2	0	1	0	0	0	2	0
	Wb	0	0	1	0	110	0	0	0	1	0	124	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	1	0	2	0	0	0	1	0	2	0	0	0
8. I-15 NB Ramps/ Outlet Center Drive	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	2	0	108	0	0	0	2	0	122	0	0	0
	Nb	41	0	3	0	3	0	50	0	3	0	3	0
	Eb	0	0	3	0	1	0	0	0	3	0	1	0
9. Lenwood Road/ Mercantile Way	Sb	194	0	102	0	74	0	238	0	115	0	127	0
	Wb	59	0	36	0	15	0	118	0	39	0	16	0
	Nb	13	0	70	0	8	0	14	0	82	0	9	0
	Eb	0	0	31	0	200	0	0	0	34	0	248	0
10. Lenwood Road/ Project Access #1	Sb	0	0	117	0	0	0	0	0	131	0	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	91	0	0	0	0	0	105	0	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
11. Factory Outlet Ave/ Mercantile Way	Sb	66	0	0	0	5	0	125	0	0	0	5	0
	Wb	11	0	39	0	0	0	12	0	42	0	0	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	0	0	36	0	80	0	0	0	39	0	134	0

INTERSECTION	DIRECTION	PROJECT ALT A						PROJECT ALT B					
		Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm
1. Lenwood Road/ SR-58	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	0	0	53	0	0	0	0	0	38	0	0	0
	Nb	0	0	0	0	27	0	0	0	0	0	20	0
	Eb	24	0	46	0	0	0	17	0	33	0	0	0
2. Lenwood Road/ Main Street	Sb	0	0	24	0	0	0	0	0	17	0	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	27	0	31	0	0	0	20	0	23	0
	Eb	28	0	0	0	0	0	21	0	0	0	0	0
3. SR-58 EB Ramps/ Main Street	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	0	0	0	0	30	0	0	0	0	0	23	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
4. SR-58 WB Ramps/ Main Street	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	0	0	30	0	0	0	0	0	23	0	0	0
	Nb	32	0	0	0	0	0	25	0	0	0	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
5. I-15 SB Ramps/ Lenwood Road	Sb	0	0	0	0	375	0	0	0	0	0	275	0
	Wb	140	0	58	0	0	0	100	0	43	0	0	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	0	0	51	0	0	0	0	0	38	0	0	0
6. I-15 NB Ramps/ Lenwood Rd/ High Point Pkwy	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	0	0	631	0	0	0	0	0	460	0	0	0
	Nb	119	0	0	0	0	0	86	0	0	0	0	0
	Eb	0	0	427	0	0	0	0	0	313	0	0	0
7. I-15 SB Ramps/ Outlet Center Drive	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	0	0	0	0	267	0	0	0	0	0	192	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
8. I-15 NB Ramps/ Outlet Center Drive	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	0	0	267	0	0	0	0	0	192	0	0	0
	Nb	231	0	0	0	0	0	167	0	0	0	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
9. Lenwood Road/ Mercantile Way	Sb	0	0	553	0	0	0	0	0	408	0	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	637	0	0	0	0	0	468	0	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
10. Lenwood Road/ Project Access #1	Sb	0	0	0	0	553	0	0	0	0	0	408	0
	Wb	637	0	0	0	267	0	468	0	0	0	192	0
	Nb	231	0	0	0	0	0	167	0	0	0	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
11. Factory Outlet Ave/ Mercantile Way	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION	DIRECTION	OPENING YEAR + ALT A						OPENING YEAR + ALT B					
		Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm
1. Lenwood Road/ SR-58	Sb	32	0	0	0	25	0	32	0	0	0	25	0
	Wb	32	0	690	0	87	0	32	0	675	0	87	0
	Nb	58	0	1	0	102	0	58	0	1	0	95	0
	Eb	109	0	559	0	9	0	102	0	546	0	9	0
2. Lenwood Road/ Main Street	Sb	51	0	92	0	26	0	51	0	85	0	26	0
	Wb	29	0	342	0	145	0	29	0	342	0	145	0
	Nb	160	0	100	0	255	0	160	0	93	0	247	0
	Eb	223	0	284	0	45	0	216	0	284	0	45	0
3. SR-58 EB Ramps/ Main Street	Sb	35	0	0	0	59	0	35	0	0	0	59	0
	Wb	0	0	768	0	40	0	0	0	768	0	33	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	336	0	370	0	0	0	336	0	370	0	0	0
4. SR-58 WB Ramps/ Main Street	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	64	0	436	0	0	0	64	0	429	0	0	0
	Nb	49	0	0	0	371	0	42	0	0	0	371	0
	Eb	31	0	385	0	13	0	31	0	385	0	13	0
5. I-15 SB Ramps/ Lenwood Road	Sb	620	0	0	0	1025	0	620	0	0	0	925	0
	Wb	678	0	627	0	0	0	638	0	612	0	0	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	545	0	523	0	0	0	545	0	510	0	0	0
6. I-15 NB Ramps/ Lenwood Rd/ High Point Pkwy	Sb	289	0	0	0	36	0	289	0	0	0	36	0
	Wb	125	0	1769	0	0	0	125	0	1598	0	0	0
	Nb	547	0	97	0	395	0	514	0	97	0	395	0
	Eb	268	0	1120	0	161	0	268	0	1006	0	161	0
7. I-15 SB Ramps/ Outlet Center Drive	Sb	1	0	0	0	2	0	1	0	0	0	2	0
	Wb	0	0	1	0	391	0	0	0	1	0	316	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	1	0	2	0	0	0	1	0	2	0	0	0
8. I-15 NB Ramps/ Outlet Center Drive	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	2	0	389	0	0	0	2	0	314	0	0	0
	Nb	281	0	3	0	3	0	217	0	3	0	3	0
	Eb	0	0	3	0	1	0	0	0	3	0	1	0
9. Lenwood Road/ Mercantile Way	Sb	238	0	668	0	127	0	238	0	523	0	127	0
	Wb	118	0	39	0	16	0	118	0	39	0	16	0
	Nb	14	0	719	0	9	0	14	0	550	0	9	0
	Eb	0	0	34	0	248	0	0	0	34	0	248	0
10. Lenwood Road/ Project Access #1	Sb	0	0	131	0	553	0	0	0	131	0	408	0
	Wb	637	0	0	0	267	0	468	0	0	0	192	0
	Nb	231	0	105	0	0	0	167	0	105	0	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
11. Factory Outlet Ave/ Mercantile Way	Sb	125	0	0	0	5	0	125	0	0	0	5	0
	Wb	12	0	42	0	0	0	12	0	42	0	0	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	0	0	39	0	134	0	0	0	39	0	134	0

INTERSECTION	DIRECTION	Year 2035						Year 2035+ Alt A					
		Rmd	Rpm	Tmd	Tpm	Lmd	Lpm	Rmd	Rpm	Tmd	Tpm	Lmd	Lpm
1. Lenwood Road/ SR-58	Sb	130	0	10	0	40	0	130	0	10	0	40	0
	Wb	50	0	850	0	130	0	50	0	903	0	130	0
	Nb	80	0	10	0	90	0	80	0	10	0	117	0
	Eb	120	0	700	0	110	0	144	0	746	0	110	0
		0	0	0	0	0	0	0	0	0	0	0	0
2. Lenwood Road/ Main Street	Sb	70	0	70	0	30	0	70	0	94	0	30	0
	Wb	40	0	400	0	180	0	40	0	400	0	180	0
	Nb	200	0	90	0	310	0	200	0	117	0	341	0
	Eb	260	0	320	0	60	0	288	0	320	0	60	0
3. SR-58 EB Ramps/ Main Street	Sb	60	0	0	0	70	0	60	0	0	0	70	0
	Wb	0	0	920	0	10	0	0	0	920	0	40	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	350	0	430	0	0	0	350	0	430	0	0	0
4. SR-58 WB Ramps/ Main Street	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	90	0	550	0	0	0	90	0	580	0	0	0
	Nb	20	0	0	0	380	0	52	0	0	0	380	0
	Eb	50	0	450	0	0	0	50	0	450	0	0	0
5. I-15 SB Ramps/ Lenwood Road	Sb	700	0	0	0	1280	0	700	0	0	0	1655	0
	Wb	780	0	560	0	0	0	920	0	618	0	0	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	640	0	580	0	0	0	640	0	631	0	0	0
6. I-15 NB Ramps/ Lenwood Rd/ High Point Pkwy	Sb	440	0	0	0	50	0	440	0	0	0	50	0
	Wb	200	0	1530	0	0	0	200	0	2161	0	0	0
	Nb	690	0	130	0	450	0	809	0	130	0	450	0
	Eb	420	0	1220	0	220	0	420	0	1647	0	220	0
7. I-15 SB Ramps/ Outlet Center Drive	Sb	10	0	0	0	10	0	10	0	0	0	10	0
	Wb	0	0	10	0	190	0	0	0	10	0	457	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	10	0	10	0	0	0	10	0	10	0	0	0
8. I-15 NB Ramps/ Outlet Center Drive	Sb	0	0	0	0	0	0	0	0	0	0	0	0
	Wb	10	0	190	0	0	0	10	0	457	0	0	0
	Nb	70	0	10	0	10	0	301	0	10	0	10	0
	Eb	0	0	10	0	10	0	0	0	10	0	10	0
9. Lenwood Road/ Mercantile Way	Sb	250	0	180	0	150	0	250	0	733	0	150	0
	Wb	170	0	70	0	30	0	170	0	70	0	30	0
	Nb	20	0	130	0	10	0	20	0	767	0	10	0
	Eb	10	0	60	0	260	0	10	0	60	0	260	0
10. Lenwood Road/ Project Access #1	Sb	0	0	220	0	0	0	0	0	220	0	553	0
	Wb	0	0	0	0	0	0	637	0	0	0	267	0
	Nb	0	0	160	0	0	0	231	0	160	0	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
11. Factory Outlet Ave/ Mercantile Way	Sb	180	0	0	0	10	0	180	0	0	0	10	0
	Wb	30	0	70	0	0	0	30	0	70	0	0	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	0	0	70	0	200	0	0	0	70	0	200	0

INTERSECTION	DIRECTION	Year 2035+ Alt B					
		Rmd	Rpm	Tmd	Tpm	Lmd	Lpm
1. Lenwood Road/ SR-58	Sb	130	0	10	0	40	0
	Wb	50	0	888	0	130	0
	Nb	80	0	10	0	110	0
	Eb	137	0	733	0	110	0
		0	0	0	0	0	0
2. Lenwood Road/ Main Street	Sb	70	0	87	0	30	0
	Wb	40	0	400	0	180	0
	Nb	200	0	110	0	333	0
	Eb	281	0	320	0	60	0
3. SR-58 EB Ramps/ Main Street	Sb	60	0	0	0	70	0
	Wb	0	0	920	0	33	0
	Nb	0	0	0	0	0	0
	Eb	350	0	430	0	0	0
4. SR-58 WB Ramps/ Main Street	Sb	0	0	0	0	0	0
	Wb	90	0	573	0	0	0
	Nb	45	0	0	0	380	0
	Eb	50	0	450	0	0	0
5. I-15 SB Ramps/ Lenwood Road	Sb	700	0	0	0	1555	0
	Wb	880	0	603	0	0	0
	Nb	0	0	0	0	0	0
	Eb	640	0	618	0	0	0
6. I-15 NB Ramps/ Lenwood Rd/ High Point Pkwy	Sb	440	0	0	0	50	0
	Wb	200	0	1990	0	0	0
	Nb	776	0	130	0	450	0
	Eb	420	0	1533	0	220	0
7. I-15 SB Ramps/ Outlet Center Drive	Sb	10	0	0	0	10	0
	Wb	0	0	10	0	382	0
	Nb	0	0	0	0	0	0
	Eb	10	0	10	0	0	0
8. I-15 NB Ramps/ Outlet Center Drive	Sb	0	0	0	0	0	0
	Wb	10	0	382	0	0	0
	Nb	237	0	10	0	10	0
	Eb	0	0	10	0	10	0
9. Lenwood Road/ Mercantile Way	Sb	250	0	588	0	150	0
	Wb	170	0	70	0	30	0
	Nb	20	0	598	0	10	0
	Eb	10	0	60	0	260	0
10. Lenwood Road/ Project Access #1	Sb	0	0	220	0	408	0
	Wb	468	0	0	0	192	0
	Nb	167	0	160	0	0	0
	Eb	0	0	0	0	0	0
		0	0	0	0	0	0
11. Factory Outlet Ave/ Mercantile Way	Sb	180	0	0	0	10	0
	Wb	30	0	70	0	0	0
	Nb	0	0	0	0	0	0
	Eb	0	0	70	0	200	0

ATTACHMENT E

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS
SUNDAY ANALYSIS

PM SUNDAY ANALYSIS (Disregard Traffic MD Title)

Barstow Casinos Project - Saturday
Existing MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Lenwood/SR-58

Cycle (sec):	60	Critical Vol./Cap.(X):	0.437
Loss Time (sec):	6	Average Delay (sec/veh):	7.7
Optimal Cycle:	24	Level Of Service:	A

Street Name:	Lenwood						SR-58					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1 0	0	0	1! 0	1	0	0 1	1	0	1 0 1
Volume Module:												
Base Vol:	0	1	20	23	0	30	8	405	3	54	527	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1	20	23	0	30	8	405	3	54	527	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1	20	23	0	30	8	405	3	54	527	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.70	0.70	0.70	0.70	0.70	0.70	0.87	0.87	0.87	0.85	0.85	0.85
PHF Volume:	0	1	28	33	0	43	9	468	3	64	621	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1	28	33	0	43	9	468	3	64	621	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.00	1.00
FinalVolume:	0	1	28	33	0	43	9	491	4	64	621	35
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	0.00	0.05	0.95	0.45	0.00	0.55	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	0	86	1714	762	0	993	1700	1800	1800	1700	1800	1800
Capacity Analysis Module:												
Vol/Sat:	0.00	0.02	0.02	0.04	0.00	0.04	0.01	0.27	0.00	0.04	0.35	0.02
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.10	0.10	0.10	0.00	0.10	0.01	0.70	0.70	0.10	0.79	0.79
Volume/Cap:	0.00	0.17	0.17	0.44	0.00	0.44	0.44	0.39	0.00	0.39	0.44	0.02
Delay/Veh:	0.0	26.9	26.9	33.4	0.0	33.4	83.9	4.5	2.6	32.2	3.0	1.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	26.9	26.9	33.4	0.0	33.4	83.9	4.5	2.6	32.2	3.0	1.4
LOS by Move:	A	C	C	C	A	C	F	A	A	C	A	A
HCM2kAvgQ:	0	1	1	2	0	2	1	4	0	2	4	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Existing MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Lenwood/ Main St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.119
Loss Time (sec):	8	Average Delay (sec/veh):	29.2
Optimal Cycle:	48	Level Of Service:	C

Street Name:	Lenwood						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 0	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	25	29	64	16	13	4	4	65	15	43	101	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	29	64	16	13	4	4	65	15	43	101	21
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	29	64	16	13	4	4	65	15	43	101	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.78	0.78	0.78	0.90	0.90	0.90	0.95	0.95	0.95
PHF Volume:	30	35	76	20	17	5	4	72	17	45	107	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	35	76	20	17	5	4	72	17	45	107	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
FinalVolume:	30	36	80	20	17	5	4	76	18	45	112	23
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.76	0.24	1.00	1.62	0.38	1.00	1.66	0.34
Final Sat.:	1700	1800	1800	1700	1376	424	1700	2925	675	1700	2980	620
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.04	0.01	0.01	0.01	0.00	0.03	0.03	0.03	0.04	0.04
Crit Moves:			****	****				****		****		
Green/Cycle:	0.24	0.38	0.38	0.10	0.24	0.24	0.22	0.22	0.22	0.22	0.22	0.22
Volume/Cap:	0.07	0.05	0.12	0.12	0.05	0.05	0.01	0.12	0.12	0.12	0.17	0.17
Delay/Veh:	29.9	20.0	20.7	42.3	29.6	29.6	30.4	31.7	31.7	31.5	31.9	31.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.9	20.0	20.7	42.3	29.6	29.6	30.4	31.7	31.7	31.5	31.9	31.9
LOS by Move:	C	B	C	D	C	C	C	C	C	C	C	C
HCM2kAvgQ:	1	1	2	1	1	1	0	1	1	1	2	2

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Existing MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Main St/ SR-58 EB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.132
Loss Time (sec):	6	Average Delay (sec/veh):	3.9
Optimal Cycle:	16	Level Of Service:	A

Street Name:	SR-58						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	0	1	1	0	0	1	0	0	1	1	0	1	0	2	0	0
Volume Module:												
Base Vol:	0	0	0	21	0	22	0	171	113	4	318	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	21	0	22	0	171	113	4	318	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	21	0	22	0	171	113	4	318	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.72	0.72	0.72	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	0	0	0	29	0	31	0	188	124	4	350	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	29	0	31	0	188	124	4	350	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.05	1.05	1.00	1.00	1.05	1.05	1.00	1.05	1.00
FinalVolume:	0	0	0	31	0	31	0	198	131	4	368	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	1.20	0.80	1.00	2.00	0.00
Final Sat.:	0	0	0	3400	0	1800	0	2168	1432	1700	3600	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.09	0.09	0.00	0.10	0.00
Crit Moves:						****	****				****	
Green/Cycle:	0.00	0.00	0.00	0.13	0.00	0.13	0.00	0.75	0.75	0.02	0.77	0.00
Volume/Cap:	0.00	0.00	0.00	0.07	0.00	0.13	0.00	0.12	0.12	0.12	0.13	0.00
Delay/Veh:	0.0	0.0	0.0	23.3	0.0	24.4	0.0	2.2	2.2	35.6	1.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	23.3	0.0	24.4	0.0	2.2	2.2	35.6	1.8	0.0
LOS by Move:	A	A	A	C	A	C	A	A	A	D	A	A
HCM2kAvgQ:	0	0	0	0	0	1	0	1	1	0	1	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Existing MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Main St/ SR-58 WB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.166
Loss Time (sec):	6	Average Delay (sec/veh):	11.1
Optimal Cycle:	17	Level Of Service:	B

Street Name:	SR-58						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	0	0	0	0	1	0	1	1	0	0	0	2	0	1
Volume Module:												
Base Vol:	122	0	11	0	0	0	0	163	29	0	200	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	122	0	11	0	0	0	0	163	29	0	200	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	122	0	11	0	0	0	0	163	29	0	200	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	1.00	1.00	1.00	0.94	0.94	0.94	0.89	0.89	0.89
PHF Volume:	142	0	13	0	0	0	0	173	31	0	224	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	142	0	13	0	0	0	0	173	31	0	224	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.00
FinalVolume:	142	0	13	0	0	0	0	181	32	0	235	34
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.70	0.30	0.00	2.00	1.00
Final Sat.:	1700	0	1800	0	0	0	1700	3056	544	0	3600	1800
Capacity Analysis Module:												
Vol/Sat:	0.08	0.00	0.01	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.07	0.02
Crit Moves:	****						****				****	
Green/Cycle:	0.51	0.00	0.51	0.00	0.00	0.00	0.00	0.39	0.39	0.00	0.39	0.39
Volume/Cap:	0.17	0.00	0.01	0.00	0.00	0.00	0.00	0.15	0.15	0.00	0.17	0.05
Delay/Veh:	8.4	0.0	7.4	0.0	0.0	0.0	0.0	11.9	11.9	0.0	12.0	11.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.4	0.0	7.4	0.0	0.0	0.0	0.0	11.9	11.9	0.0	12.0	11.3
LOS by Move:	A	A	A	A	A	A	A	B	B	A	B	B
HCM2kAvgQ:	2	0	0	0	0	0	0	1	1	0	1	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Existing MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Lenwood/ I-15 SB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.318
Loss Time (sec):	6	Average Delay (sec/veh):	11.3
Optimal Cycle:	32	Level Of Service:	B

Street Name:	I-15							Lenwood							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Split Phase				Split Phase				Permitted				Permitted			
Rights:	Include				Include				Ignore				Ignore			
Min. Green:	0	0	0		0	0	0		0	26	26		0	26	26	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	0	0	2	0	0	1	0	0	2	0 1	0	0	2	0 1
Volume Module:																
Base Vol:	0	0	0		541	0	367		0	210	241		0	201	497	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		541	0	367		0	210	241		0	201	497	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	0		541	0	367		0	210	241		0	201	497	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		0.97	0.97	0.97		0.81	0.81	0.00		0.77	0.77	0.00	
PHF Volume:	0	0	0		558	0	379		0	258	0		0	260	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	0	0		558	0	379		0	258	0		0	260	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.03	1.00	1.00		1.00	1.05	0.00		1.00	1.05	0.00	
FinalVolume:	0	0	0		575	0	379		0	271	0		0	273	0	
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800		1800	1800	1800		1800	1800	1800		1800	1800	1800	
Adjustment:	0.94	1.00	1.00		0.89	1.00	1.00		0.94	1.00	1.00		0.94	1.00	1.00	
Lanes:	0.00	0.00	0.00		2.00	0.00	1.00		0.00	2.00	1.00		0.00	2.00	1.00	
Final Sat.:	0	0	0		3200	0	1800		0	3600	1800		0	3600	1800	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.18	0.00	0.21		0.00	0.08	0.00		0.00	0.08	0.00	
Crit Moves:							****							****		
Green/Cycle:	0.00	0.00	0.00		0.47	0.00	0.47		0.00	0.43	0.00		0.00	0.43	0.00	
Volume/Cap:	0.00	0.00	0.00		0.39	0.00	0.45		0.00	0.17	0.00		0.00	0.18	0.00	
Delay/Veh:	0.0	0.0	0.0		11.2	0.0	12.6		0.0	10.7	0.0		0.0	10.7	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	0.0	0.0	0.0		11.2	0.0	12.6		0.0	10.7	0.0		0.0	10.7	0.0	
LOS by Move:	A	A	A		B	A	B		A	B	A		A	B	A	
HCM2kAvgQ:	0	0	0		4	0	5		0	2	0		0	2	0	

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Existing MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #6 Lenwood/SR-15 NB Ramps/High Point Pkwy

Cycle (sec):	60	Critical Vol./Cap.(X):	0.581
Loss Time (sec):	8	Average Delay (sec/veh):	17.7
Optimal Cycle:	35	Level Of Service:	B

Street Name:	I-15							Lenwood							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Ovl				Ignore				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	1	0	0 2	1	0	0	0 2	2	0	2	1 0	0	0	2	1 0
Volume Module:																
Base Vol:	83	74	382		29	0	241		131	558	184		0	954	110	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	83	74	382		29	0	241		131	558	184		0	954	110	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	83	74	382		29	0	241		131	558	184		0	954	110	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
PHF Adj:	0.77	0.77	0.77		0.82	0.82	0.82		0.89	0.89	0.00		0.97	0.97	0.97	
PHF Volume:	108	96	497		36	0	296		148	631	0		0	986	114	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	108	96	497		36	0	296		148	631	0		0	986	114	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
MLF Adj:	1.05	1.05	1.13		1.00	1.00	1.13		1.03	1.10	0.00		1.00	1.10	1.10	
FinalVolume:	113	101	562		36	0	334		152	694	0		0	1084	125	
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800		1800	1800	1800		1800	1800	1800		1800	1800	1800	
Adjustment:	0.94	1.00	1.00		0.94	1.00	0.75		0.89	1.00	1.00		0.94	1.00	1.00	
Lanes:	1.09	0.91	2.00		1.00	0.00	2.00		2.00	3.00	0.00		0.00	2.69	0.31	
Final Sat.:	1846	1646	3600		1700	0	2700		3200	5400	0		0	4842	558	
Capacity Analysis Module:																
Vol/Sat:	0.06	0.06	0.16		0.02	0.00	0.12		0.05	0.13	0.00		0.00	0.22	0.22	
Crit Moves:			****				****		****					****		
Green/Cycle:	0.27	0.27	0.27		0.13	0.00	0.21		0.08	0.47	0.00		0.00	0.39	0.39	
Volume/Cap:	0.23	0.23	0.58		0.16	0.00	0.58		0.58	0.27	0.00		0.00	0.58	0.58	
Delay/Veh:	17.7	17.7	21.6		24.7	0.0	25.5		35.6	10.0	0.0		0.0	15.8	15.8	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	17.7	17.7	21.6		24.7	0.0	25.5		35.6	10.0	0.0		0.0	15.8	15.8	
LOS by Move:	B	B	C		C	A	C		D	B	A		A	B	B	
HCM2kAvgQ:	2	2	5		1	0	4		3	3	0		0	7	7	

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Existing MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Outlet Center Dr/ I-15 SB Ramps

Average Delay (sec/veh): 7.2 Worst Case Level Of Service: A[9.8]

Street Name:	I-15						Outlet Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			0 0 0 1 0			0 1 0 0 0		
Volume Module:												
Base Vol:	0	0	0	2	0	1	0	2	1	110	1	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	2	0	1	0	2	1	110	1	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	2	0	1	0	2	1	110	1	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.53	0.53	0.53	0.63	0.63	0.63	0.79	0.79	0.79
PHF Volume:	0	0	0	4	0	2	0	3	2	139	1	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	4	0	2	0	3	2	139	1	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	283	284	1	xxxx	xxxx	xxxxx	5	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	711	629	1089	xxxx	xxxx	xxxxx	1630	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	661	571	1089	xxxx	xxxx	xxxxx	1630	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	0.00	0.00	xxxx	xxxx	xxxx	0.09	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	761	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	9.8	xxxxx	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			9.8			xxxxxx			xxxxxx		
ApproachLOS:	*			A			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Existing MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Outlet Center Dr/ I-15 NB Ramps

Average Delay (sec/veh): 2.5 Worst Case Level Of Service: A[8.7]

Street Name:	I-15						Outlet Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 1 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	3	3	41	0	0	0	1	3	0	0	108	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	3	41	0	0	0	1	3	0	0	108	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	3	41	0	0	0	1	3	0	0	108	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	1.00	1.00	1.00	0.58	0.58	0.58	0.82	0.82	0.82
PHF Volume:	4	4	49	0	0	0	2	5	0	0	132	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	4	49	0	0	0	2	5	0	0	132	2
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	142	143	5	xxxx	xxxx	xxxxx	135	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	856	752	1084	xxxx	xxxx	xxxxx	1462	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	855	751	1084	xxxx	xxxx	xxxxx	1462	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.05	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	A	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	1037	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.2	xxxxx	xxxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	8.7	xxxxx	xxxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	*	*	A	*	*	*	*	*
ApproachDel:		8.7		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		A		*			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Existing MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Lenwood/ Mercantile

Cycle (sec): 90 Critical Vol./Cap.(X): 0.300
Loss Time (sec): 8 Average Delay (sec/veh): 29.8
Optimal Cycle: 82 Level Of Service: C

Street Name:	Lenwood						Mercantile					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Ovl		
Min. Green:	10	26	26	10	26	26	10	28	28	10	28	28
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 2	0 1	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	8	70	13	74	102	194	200	31	0	15	36	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	70	13	74	102	194	200	31	0	15	36	59
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	70	13	74	102	194	200	31	0	15	36	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.97	0.97	0.97	0.94	0.94	0.00	0.65	0.65	0.65
PHF Volume:	9	75	14	77	106	201	214	33	0	23	55	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	75	14	77	106	201	214	33	0	23	55	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	9	79	15	77	111	201	214	33	0	23	55	91
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	1.00	1.69	0.31	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1700	3036	564	1700	3600	1800	1700	1800	1800	1700	1800	1800
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.05	0.03	0.11	0.13	0.02	0.00	0.01	0.03	0.05
Crit Moves:	****					****	****				****	
Green/Cycle:	0.11	0.29	0.29	0.11	0.29	0.29	0.20	0.38	0.00	0.13	0.31	0.42
Volume/Cap:	0.05	0.09	0.09	0.41	0.11	0.39	0.63	0.05	0.00	0.10	0.10	0.12
Delay/Veh:	36.2	23.5	23.5	43.6	23.7	27.8	41.5	18.0	0.0	35.1	22.4	16.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.2	23.5	23.5	43.6	23.7	27.8	41.5	18.0	0.0	35.1	22.4	16.1
LOS by Move:	D	C	C	D	C	C	D	B	A	D	C	B
HCM2kAvgQ:	0	1	1	3	1	5	7	1	0	1	1	2

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Existing MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #10 Lenwood/Project Access

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Street Name:	Lenwood						Project Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0 1	0 0	0	0 1	0 0	0	0 0	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	0	91	0	0	117	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	91	0	0	117	0	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	91	0	0	117	0	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	99	0	0	127	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	99	0	0	127	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	226	226	99
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	767	677	962
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	767	677	962
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	0.00
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Existing MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Mercantile Way/Factory Outlet Ave

Average Delay (sec/veh): 4.9 Worst Case Level Of Service: A[9.1]

Street Name:	Factory Outlet						Mercantile					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			1 0 2 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	0	0	0	5	0	66	80	36	0	0	39	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	66	80	36	0	0	39	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	5	0	66	80	36	0	0	39	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.86	0.86	0.86	0.66	0.66	0.66	0.63	0.63	0.63
PHF Volume:	0	0	0	6	0	77	121	54	0	0	62	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	6	0	77	121	54	0	0	62	18
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	340	368	71	80	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	660	564	997	1531	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	620	520	997	1531	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	0.00	0.08	0.08	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	956	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	9.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			9.1			xxxxxx			xxxxxx		
ApproachLOS:	*			A			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Lenwood/SR-58

Cycle (sec): 60 Critical Vol./Cap.(X): 0.592
Loss Time (sec): 6 Average Delay (sec/veh): 12.5
Optimal Cycle: 31 Level Of Service: B

Street Name:	Lenwood						SR-58					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	0 1	1	1 0	1 0	1
Volume Module:												
Base Vol:	0	1	22	25	0	32	9	438	3	58	570	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1	22	25	0	32	9	438	3	58	570	32
Added Vol:	75	0	36	0	0	0	0	75	82	29	67	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	1	58	25	0	32	9	513	85	87	637	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.70	0.70	0.70	0.70	0.70	0.70	0.87	0.87	0.87	0.85	0.85	0.85
PHF Volume:	107	1	83	36	0	46	10	592	98	103	751	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	1	83	36	0	46	10	592	98	103	751	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.00	1.00
FinalVolume:	107	1	83	36	0	46	10	622	103	103	751	38
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	0.57	0.01	0.42	0.45	0.00	0.55	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	975	13	754	770	0	985	1700	1800	1800	1700	1800	1800
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.11	0.05	0.00	0.05	0.01	0.35	0.06	0.06	0.42	0.02
Crit Moves:		****					****				****	
Green/Cycle:	0.18	0.18	0.18	0.18	0.00	0.18	0.01	0.61	0.61	0.11	0.70	0.70
Volume/Cap:	0.59	0.59	0.59	0.25	0.00	0.25	0.59	0.57	0.09	0.57	0.59	0.03
Delay/Veh:	30.2	30.2	30.2	22.7	0.0	22.7	126.8	8.8	4.9	37.8	6.5	2.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.2	30.2	30.2	22.7	0.0	22.7	126.8	8.8	4.9	37.8	6.5	2.7
LOS by Move:	C	C	C	C	A	C	F	A	A	D	A	A
HCM2kAvgQ:	4	4	4	2	0	2	1	7	1	3	8	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Lenwood/ Main St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.529
Loss Time (sec):	8	Average Delay (sec/veh):	34.7
Optimal Cycle:	48	Level Of Service:	C

Street Name:	Lenwood						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 0	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	27	31	69	17	14	4	4	70	16	47	109	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	27	31	69	17	14	4	4	70	16	47	109	23
Added Vol:	197	42	91	9	54	47	41	214	179	98	233	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	224	73	160	26	68	51	45	284	195	145	342	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.78	0.78	0.78	0.90	0.90	0.90	0.95	0.95	0.95
PHF Volume:	267	87	191	33	87	65	50	316	217	153	361	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	267	87	191	33	87	65	50	316	217	153	361	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
FinalVolume:	267	91	200	33	87	65	50	331	228	153	379	32
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.57	0.43	1.00	1.19	0.81	1.00	1.84	0.16
Final Sat.:	1700	1800	1800	1700	1029	771	1700	2134	1466	1700	3319	281
Capacity Analysis Module:												
Vol/Sat:	0.16	0.05	0.11	0.02	0.08	0.08	0.03	0.16	0.16	0.09	0.11	0.11
Crit Moves:	****				****			****			****	
Green/Cycle:	0.30	0.24	0.24	0.22	0.16	0.16	0.22	0.29	0.29	0.17	0.25	0.25
Volume/Cap:	0.53	0.21	0.46	0.09	0.53	0.53	0.14	0.53	0.53	0.53	0.46	0.46
Delay/Veh:	33.2	30.7	34.9	31.8	45.4	45.4	32.4	31.5	31.5	44.6	33.7	33.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.2	30.7	34.9	31.8	45.4	45.4	32.4	31.5	31.5	44.6	33.7	33.7
LOS by Move:	C	C	C	C	D	D	C	C	C	D	C	C
HCM2kAvgQ:	8	2	6	1	5	5	1	8	8	5	6	6

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Main St/ SR-58 EB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.304
Loss Time (sec):	6	Average Delay (sec/veh):	4.1
Optimal Cycle:	20	Level Of Service:	A

Street Name:	SR-58						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 0	0 0	1	1 0	0 1	0	0 1	1 0	1	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	23	0	24	0	185	122	4	344	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	23	0	24	0	185	122	4	344	0
Added Vol:	0	0	0	36	0	11	0	185	214	6	424	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	59	0	35	0	370	336	10	768	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.72	0.72	0.72	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	0	0	0	82	0	49	0	407	370	11	846	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	82	0	49	0	407	370	11	846	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.05	1.05	1.00	1.00	1.05	1.05	1.00	1.05	1.00
FinalVolume:	0	0	0	86	0	49	0	428	389	11	888	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	1.05	0.95	1.00	2.00	0.00
Final Sat.:	0	0	0	3400	0	1800	0	1887	1713	1700	3600	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.23	0.23	0.01	0.25	0.00
Crit Moves:						****	****				****	
Green/Cycle:	0.00	0.00	0.00	0.09	0.00	0.09	0.00	0.79	0.79	0.02	0.81	0.00
Volume/Cap:	0.00	0.00	0.00	0.29	0.00	0.30	0.00	0.29	0.29	0.29	0.30	0.00
Delay/Veh:	0.0	0.0	0.0	27.9	0.0	30.4	0.0	2.0	2.0	46.8	1.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.9	0.0	30.4	0.0	2.0	2.0	46.8	1.7	0.0
LOS by Move:	A	A	A	C	A	C	A	A	A	D	A	A
HCM2kAvgQ:	0	0	0	1	0	1	0	2	2	0	2	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Main St/ SR-58 WB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.439
Loss Time (sec):	6	Average Delay (sec/veh):	15.1
Optimal Cycle:	24	Level Of Service:	B

Street Name:	SR-58						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	0	0	0	1	0	1	1	0	0	0	2	0	1
Volume Module:												
Base Vol:	132	0	12	0	0	0	0	176	31	0	216	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	132	0	12	0	0	0	0	176	31	0	216	32
Added Vol:	239	0	5	0	0	0	13	209	0	0	190	32
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	371	0	17	0	0	0	13	385	31	0	406	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	1.00	1.00	1.00	0.94	0.94	0.94	0.89	0.89	0.89
PHF Volume:	433	0	20	0	0	0	14	408	33	0	455	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	433	0	20	0	0	0	14	408	33	0	455	72
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.00
FinalVolume:	433	0	20	0	0	0	14	429	35	0	478	72
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.85	0.15	0.00	2.00	1.00
Final Sat.:	1700	0	1800	0	0	0	1700	3332	268	0	3600	1800
Capacity Analysis Module:												
Vol/Sat:	0.25	0.00	0.01	0.00	0.00	0.00	0.01	0.13	0.13	0.00	0.13	0.04
Crit Moves:	****						****				****	
Green/Cycle:	0.58	0.00	0.58	0.00	0.00	0.00	0.02	0.32	0.32	0.00	0.30	0.30
Volume/Cap:	0.44	0.00	0.02	0.00	0.00	0.00	0.44	0.40	0.40	0.00	0.44	0.13
Delay/Veh:	8.5	0.0	5.4	0.0	0.0	0.0	68.1	16.9	16.9	0.0	18.1	15.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.5	0.0	5.4	0.0	0.0	0.0	68.1	16.9	16.9	0.0	18.1	15.7
LOS by Move:	A	A	A	A	A	A	E	B	B	A	B	B
HCM2kAvgQ:	5	0	0	0	0	0	0	3	3	0	4	1

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Lenwood/ I-15 SB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.634
Loss Time (sec):	6	Average Delay (sec/veh):	14.3
Optimal Cycle:	34	Level Of Service:	B

Street Name:	I-15						Lenwood					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Ignore			Ignore		
Min. Green:	0	0	0	0	0	0	0	26	26	0	26	26
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	0	0	2	0	0	0	1	0	0	2	0	1	0	0	2	0	1
Volume Module:												
Base Vol:	0	0	0	585	0	397	0	227	261	0	217	538
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	585	0	397	0	227	261	0	217	538
Added Vol:	0	0	0	65	0	223	0	245	0	0	352	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	650	0	620	0	472	261	0	569	538
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	0.97	0.97	0.97	0.81	0.81	0.00	0.77	0.77	0.00
PHF Volume:	0	0	0	671	0	640	0	581	0	0	737	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	671	0	640	0	581	0	0	737	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.03	1.00	1.00	1.00	1.05	0.00	1.00	1.05	0.00
FinalVolume:	0	0	0	691	0	640	0	610	0	0	774	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.89	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3200	0	1800	0	3600	1800	0	3600	1800
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.22	0.00	0.36	0.00	0.17	0.00	0.00	0.21	0.00
Crit Moves:						****					****	
Green/Cycle:	0.00	0.00	0.00	0.47	0.00	0.47	0.00	0.43	0.00	0.00	0.43	0.00
Volume/Cap:	0.00	0.00	0.00	0.46	0.00	0.76	0.00	0.39	0.00	0.00	0.50	0.00
Delay/Veh:	0.0	0.0	0.0	11.9	0.0	19.7	0.0	12.3	0.0	0.0	13.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	11.9	0.0	19.7	0.0	12.3	0.0	0.0	13.4	0.0
LOS by Move:	A	A	A	B	A	B	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	5	0	12	0	4	0	0	6	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #6 Lenwood/SR-15 NB Ramps/High Point Pkwy

Cycle (sec):	60					Critical Vol./Cap.(X):					0.704				
Loss Time (sec):	8					Average Delay (sec/veh):					20.1				
Optimal Cycle:	44					Level Of Service:					C				
Street Name:	I-15								Lenwood						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Ovl				Ignore				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	1	0	0	2	1	0	0	0	2	2	0	2	1	0	0	0	2	1	0
Volume Module:																
Base Vol:	90	80	413		31	0	261		142	604	199		0	1032	119	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	90	80	413		31	0	261		142	604	199		0	1032	119	
Added Vol:	305	17	15		5	0	28		19	89	0		0	106	6	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	395	97	428		36	0	289		161	693	199		0	1138	125	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
PHF Adj:	0.77	0.77	0.77		0.82	0.82	0.82		0.89	0.89	0.00		0.97	0.97	0.97	
PHF Volume:	514	126	557		44	0	355		182	783	0		0	1176	129	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	514	126	557		44	0	355		182	783	0		0	1176	129	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
MLF Adj:	1.05	1.05	1.13		1.00	1.00	1.13		1.03	1.10	0.00		1.00	1.10	1.10	
FinalVolume:	540	133	630		44	0	401		187	861	0		0	1293	142	
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800		1800	1800	1800		1800	1800	1800		1800	1800	1800	
Adjustment:	0.94	1.00	1.00		0.94	1.00	0.75		0.89	1.00	1.00		0.94	1.00	1.00	
Lanes:	1.62	0.38	2.00		1.00	0.00	2.00		2.00	3.00	0.00		0.00	2.70	0.30	
Final Sat.:	2760	678	3600		1700	0	2700		3200	5400	0		0	4866	534	
Capacity Analysis Module:																
Vol/Sat:	0.20	0.20	0.17		0.03	0.00	0.15		0.06	0.16	0.00		0.00	0.27	0.27	
Crit Moves:	****						****		****					****		
Green/Cycle:	0.28	0.28	0.28		0.13	0.00	0.21		0.08	0.46	0.00		0.00	0.38	0.38	
Volume/Cap:	0.70	0.70	0.63		0.20	0.00	0.70		0.70	0.35	0.00		0.00	0.70	0.70	
Delay/Veh:	23.8	23.8	21.9		25.5	0.0	29.1		41.3	10.8	0.0		0.0	17.9	17.9	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	23.8	23.8	21.9		25.5	0.0	29.1		41.3	10.8	0.0		0.0	17.9	17.9	
LOS by Move:	C	C	C		C	A	C		D	B	A		A	B	B	
HCM2kAvgQ:	7	7	6		1	0	5		4	4	0		0	9	9	

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Outlet Center Dr/ I-15 SB Ramps

Average Delay (sec/veh): 7.3 Worst Case Level Of Service: A[10.0]

Street Name:	I-15								Outlet Center Dr						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0	0	0	0	1!	0	0	0	0	0	1	0	0	1	0	0	0
Volume Module:																
Base Vol:	0	0	0		2	0	1		0	2	1		119	1	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		2	0	1		0	2	1		119	1	0	
Added Vol:	0	0	0		0	0	0		0	0	0		5	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	0		2	0	1		0	2	1		124	1	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		0.53	0.53	0.53		0.63	0.63	0.63		0.79	0.79	0.79	
PHF Volume:	0	0	0		4	0	2		0	3	2		157	1	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	0	0		4	0	2		0	3	2		157	1	0	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		6.4	6.5	6.2		xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx	
FollowUpTim:	xxxxx	xxxx	xxxxx		3.5	4.0	3.3		xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		318	319	1		xxxx	xxxx	xxxxx		5	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		679	601	1089		xxxx	xxxx	xxxxx		1630	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		624	538	1089		xxxx	xxxx	xxxxx		1630	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		0.01	0.00	0.00		xxxx	xxxx	xxxx		0.10	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		0.3	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		7.4	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	*		*	*	*		A	*	*	
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	728	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	0.0	xxxxx		xxxxx	xxxx	xxxxx		0.3	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	10.0	xxxxx		xxxxx	xxxx	xxxxx		7.4	xxxx	xxxxx	
Shared LOS:	*	*	*		*	A	*		*	*	*		A	*	*	
ApproachDel:	xxxxxx				10.0				xxxxxx				xxxxxx			
ApproachLOS:	*				A				*				*			

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Outlet Center Dr/ I-15 NB Ramps

Average Delay (sec/veh): 2.6 Worst Case Level Of Service: A[8.7]

Street Name:	I-15						Outlet Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0		0	0 0 0 0		0	0 1 0 0		0	0 0 0 1		0
Volume Module:												
Base Vol:	3	3	44	0	0	0	1	3	0	0	117	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	3	44	0	0	0	1	3	0	0	117	2
Added Vol:	0	0	6	0	0	0	0	0	0	0	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	3	50	0	0	0	1	3	0	0	122	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	1.00	1.00	1.00	0.58	0.58	0.58	0.82	0.82	0.82
PHF Volume:	4	4	60	0	0	0	2	5	0	0	149	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	4	60	0	0	0	2	5	0	0	149	2
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	159	160	5	xxxx	xxxx	xxxxx	152	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	837	736	1084	xxxx	xxxx	xxxxx	1441	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	836	735	1084	xxxx	xxxx	xxxxx	1441	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.06	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	1041	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.2	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	8.7	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	*	*	A	*	*	*	*	*
ApproachDel:		8.7		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		A		*			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Lenwood/ Mercantile

Cycle (sec): 90 Critical Vol./Cap.(X): 0.364
Loss Time (sec): 8 Average Delay (sec/veh): 33.7
Optimal Cycle: 82 Level Of Service: C

Street Name:	Lenwood						Mercantile					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Ovl		
Min. Green:	10	26	26	10	26	26	10	28	28	10	28	28
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	2	0 1	1 0	1	0 1	1 0	1	0 1
Volume Module:												
Base Vol:	9	76	14	80	110	210	216	34	0	16	39	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	76	14	80	110	210	216	34	0	16	39	64
Added Vol:	0	6	0	47	5	28	32	0	0	0	0	54
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	82	14	127	115	238	248	34	0	16	39	118
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.97	0.97	0.97	0.94	0.94	0.00	0.65	0.65	0.65
PHF Volume:	10	88	15	132	119	247	265	36	0	25	60	182
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	88	15	132	119	247	265	36	0	25	60	182
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	10	93	16	132	125	247	265	36	0	25	60	182
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	1.00	1.71	0.29	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1700	3075	525	1700	3600	1800	1700	1800	1800	1700	1800	1800
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.03	0.08	0.03	0.14	0.16	0.02	0.00	0.01	0.03	0.10
Crit Moves:	****					****	****				****	
Green/Cycle:	0.11	0.29	0.29	0.11	0.29	0.29	0.20	0.38	0.00	0.13	0.31	0.42
Volume/Cap:	0.05	0.10	0.10	0.70	0.12	0.47	0.78	0.05	0.00	0.11	0.11	0.24
Delay/Veh:	36.3	23.7	23.7	57.7	23.8	29.5	50.3	18.0	0.0	35.2	22.5	17.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.3	23.7	23.7	57.7	23.8	29.5	50.3	18.0	0.0	35.2	22.5	17.4
LOS by Move:	D	C	C	E	C	C	D	B	A	D	C	B
HCM2kAvgQ:	0	1	1	5	1	6	9	1	0	1	1	3

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #10 Lenwood/Project Access

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Street Name:	Lenwood						Project Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	0	0	0 0 1	0	0	0 0 0	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	0	98	0	0	127	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	98	0	0	127	0	0	0	0	0	0	0
Added Vol:	0	6	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	104	0	0	132	0	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	113	0	0	143	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	113	0	0	143	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	257	257	113
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	737	651	945
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	737	651	945
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	0.00
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Mercantile Way/Factory Outlet Ave

Average Delay (sec/veh): 6.0 Worst Case Level Of Service: A[9.5]

Street Name:	Factory Outlet						Mercantile					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0	0	0 0 1!	0	0	1 0 2	0	0	0 0 0	1	0
Volume Module:												
Base Vol:	0	0	0	5	0	71	87	39	0	0	42	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	71	87	39	0	0	42	12
Added Vol:	0	0	0	0	0	54	47	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	5	0	125	134	39	0	0	42	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.86	0.86	0.86	0.66	0.66	0.66	0.63	0.63	0.63
PHF Volume:	0	0	0	6	0	145	203	59	0	0	67	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	6	0	145	203	59	0	0	67	19
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	512	541	77	86	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	526	451	990	1523	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	472	391	990	1523	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	0.00	0.15	0.13	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	950	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	9.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			9.5			xxxxxx			xxxxxx		
ApproachLOS:	*			A			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt A MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Lenwood/SR-58

Cycle (sec):	60	Critical Vol./Cap.(X):	0.656
Loss Time (sec):	6	Average Delay (sec/veh):	13.9
Optimal Cycle:	35	Level Of Service:	B

Street Name:	Lenwood						SR-58					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	1	0	0 1	1	0	1 0 1
Volume Module:												
Base Vol:	0	1	22	25	0	32	9	438	3	58	570	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1	22	25	0	32	9	438	3	58	570	32
Added Vol:	102	0	36	0	0	0	0	121	106	29	120	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	102	1	58	25	0	32	9	559	109	87	690	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.70	0.70	0.70	0.70	0.70	0.70	0.87	0.87	0.87	0.85	0.85	0.85
PHF Volume:	145	1	83	36	0	46	10	645	126	103	814	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	145	1	83	36	0	46	10	645	126	103	814	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.00	1.00
FinalVolume:	145	1	83	36	0	46	10	678	132	103	814	38
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	0.64	0.01	0.35	0.45	0.00	0.55	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1099	11	625	770	0	985	1700	1800	1800	1700	1800	1800
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.13	0.05	0.00	0.05	0.01	0.38	0.07	0.06	0.45	0.02
Crit Moves:		****					****				****	
Green/Cycle:	0.20	0.20	0.20	0.20	0.00	0.20	0.01	0.60	0.60	0.10	0.69	0.69
Volume/Cap:	0.66	0.66	0.66	0.23	0.00	0.23	0.66	0.63	0.12	0.63	0.66	0.03
Delay/Veh:	31.3	31.3	31.3	21.6	0.0	21.6	150.9	9.9	5.2	42.7	8.0	3.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.3	31.3	31.3	21.6	0.0	21.6	150.9	9.9	5.2	42.7	8.0	3.0
LOS by Move:	C	C	C	C	A	C	F	A	A	D	A	A
HCM2kAvgQ:	5	5	5	1	0	1	1	9	1	3	10	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt A MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Lenwood/ Main St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.581
Loss Time (sec):	8	Average Delay (sec/veh):	35.7
Optimal Cycle:	48	Level Of Service:	D

Street Name:	Lenwood						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 1 0	1	0	0 1 0	1	0	1 1 0	1	0	1 1 0
Volume Module:												
Base Vol:	27	31	69	17	14	4	4	70	16	47	109	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	27	31	69	17	14	4	4	70	16	47	109	23
Added Vol:	228	69	91	9	78	47	41	214	207	98	233	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	255	100	160	26	92	51	45	284	223	145	342	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.78	0.78	0.78	0.90	0.90	0.90	0.95	0.95	0.95
PHF Volume:	304	119	191	33	117	65	50	316	248	153	361	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	304	119	191	33	117	65	50	316	248	153	361	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
FinalVolume:	304	125	200	33	117	65	50	331	260	153	379	32
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.64	0.36	1.00	1.12	0.88	1.00	1.84	0.16
Final Sat.:	1700	1800	1800	1700	1158	642	1700	2017	1583	1700	3319	281
Capacity Analysis Module:												
Vol/Sat:	0.18	0.07	0.11	0.02	0.10	0.10	0.03	0.16	0.16	0.09	0.11	0.11
Crit Moves:	****				****			****		****		
Green/Cycle:	0.31	0.25	0.25	0.23	0.17	0.17	0.20	0.28	0.28	0.15	0.23	0.23
Volume/Cap:	0.58	0.27	0.44	0.09	0.58	0.58	0.14	0.58	0.58	0.58	0.49	0.49
Delay/Veh:	33.8	30.5	33.2	30.8	45.6	45.6	33.5	33.2	33.2	48.3	35.2	35.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.8	30.5	33.2	30.8	45.6	45.6	33.5	33.2	33.2	48.3	35.2	35.2
LOS by Move:	C	C	C	C	D	D	C	C	C	D	D	D
HCM2kAvgQ:	9	3	5	1	6	6	1	8	8	5	6	6

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt A MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Main St/ SR-58 EB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.310
Loss Time (sec):	6	Average Delay (sec/veh):	4.9
Optimal Cycle:	20	Level Of Service:	A

Street Name:	SR-58						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	0	1	1	0	0	1	0	0	1	1	0	1	0	2	0	0
Volume Module:												
Base Vol:	0	0	0	23	0	24	0	185	122	4	344	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	23	0	24	0	185	122	4	344	0
Added Vol:	0	0	0	36	0	11	0	185	214	35	424	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	59	0	35	0	370	336	39	768	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.72	0.72	0.72	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	0	0	0	82	0	49	0	407	370	43	846	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	82	0	49	0	407	370	43	846	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.05	1.05	1.00	1.00	1.05	1.05	1.00	1.05	1.00
FinalVolume:	0	0	0	86	0	49	0	428	389	43	888	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	1.05	0.95	1.00	2.00	0.00
Final Sat.:	0	0	0	3400	0	1800	0	1887	1713	1700	3600	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.23	0.23	0.03	0.25	0.00
Crit Moves:						****		****			****	
Green/Cycle:	0.00	0.00	0.00	0.09	0.00	0.09	0.00	0.73	0.73	0.08	0.81	0.00
Volume/Cap:	0.00	0.00	0.00	0.29	0.00	0.31	0.00	0.31	0.31	0.31	0.30	0.00
Delay/Veh:	0.0	0.0	0.0	28.1	0.0	30.8	0.0	3.1	3.1	31.7	1.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	28.1	0.0	30.8	0.0	3.1	3.1	31.7	1.7	0.0
LOS by Move:	A	A	A	C	A	C	A	A	A	C	A	A
HCM2kAvgQ:	0	0	0	1	0	1	0	3	3	1	2	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt A MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Main St/ SR-58 WB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.450
Loss Time (sec):	6	Average Delay (sec/veh):	14.7
Optimal Cycle:	24	Level Of Service:	B

Street Name:	SR-58						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	0	0	0	0	1	0	1	1	0	0	0	2	0	1
Volume Module:												
Base Vol:	132	0	12	0	0	0	0	176	31	0	216	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	132	0	12	0	0	0	0	176	31	0	216	32
Added Vol:	239	0	37	0	0	0	13	209	0	0	220	32
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	371	0	49	0	0	0	13	385	31	0	436	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	1.00	1.00	1.00	0.94	0.94	0.94	0.89	0.89	0.89
PHF Volume:	433	0	57	0	0	0	14	408	33	0	489	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	433	0	57	0	0	0	14	408	33	0	489	72
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.00
FinalVolume:	433	0	57	0	0	0	14	429	35	0	513	72
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.85	0.15	0.00	2.00	1.00
Final Sat.:	1700	0	1800	0	0	0	1700	3332	268	0	3600	1800
Capacity Analysis Module:												
Vol/Sat:	0.25	0.00	0.03	0.00	0.00	0.00	0.01	0.13	0.13	0.00	0.14	0.04
Crit Moves:	****						****				****	
Green/Cycle:	0.57	0.00	0.57	0.00	0.00	0.00	0.02	0.33	0.33	0.00	0.32	0.32
Volume/Cap:	0.45	0.00	0.06	0.00	0.00	0.00	0.45	0.38	0.38	0.00	0.45	0.13
Delay/Veh:	9.1	0.0	6.0	0.0	0.0	0.0	70.5	16.2	16.2	0.0	17.6	15.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.1	0.0	6.0	0.0	0.0	0.0	70.5	16.2	16.2	0.0	17.6	15.0
LOS by Move:	A	A	A	A	A	A	E	B	B	A	B	B
HCM2kAvgQ:	5	0	0	0	0	0	0	3	3	0	4	1

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt A MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Lenwood/ I-15 SB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.658
Loss Time (sec):	6	Average Delay (sec/veh):	15.6
Optimal Cycle:	35	Level Of Service:	B

Street Name:	I-15						Lenwood					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Ignore			Ignore		
Min. Green:	0	0	0	0	0	0	0	26	26	0	26	26
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	0	2	0	0	1	0	0	2	0	1	0	0	2	0	1
Volume Module:												
Base Vol:	0	0	0	585	0	397	0	227	261	0	217	538
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	585	0	397	0	227	261	0	217	538
Added Vol:	0	0	0	222	0	223	0	297	0	0	410	0
PasserByVol:	0	0	0	218	0	0	0	0	0	0	0	85
Initial Fut:	0	0	0	1025	0	620	0	524	261	0	627	623
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	0.97	0.97	0.97	0.81	0.81	0.00	0.77	0.77	0.00
PHF Volume:	0	0	0	1058	0	640	0	645	0	0	812	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1058	0	640	0	645	0	0	812	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.03	1.00	1.00	1.00	1.05	0.00	1.00	1.05	0.00
FinalVolume:	0	0	0	1090	0	640	0	677	0	0	853	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.89	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3200	0	1800	0	3600	1800	0	3600	1800
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.34	0.00	0.36	0.00	0.19	0.00	0.00	0.24	0.00
Crit Moves:						****					****	
Green/Cycle:	0.00	0.00	0.00	0.47	0.00	0.47	0.00	0.43	0.00	0.00	0.43	0.00
Volume/Cap:	0.00	0.00	0.00	0.73	0.00	0.76	0.00	0.43	0.00	0.00	0.55	0.00
Delay/Veh:	0.0	0.0	0.0	16.1	0.0	19.7	0.0	12.7	0.0	0.0	14.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.1	0.0	19.7	0.0	12.7	0.0	0.0	14.0	0.0
LOS by Move:	A	A	A	B	A	B	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	11	0	12	0	5	0	0	6	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt A MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #6 Lenwood/SR-15 NB Ramps/High Point Pkwy

Cycle (sec):	60	Critical Vol./Cap.(X):	0.889
Loss Time (sec):	8	Average Delay (sec/veh):	24.3
Optimal Cycle:	75	Level Of Service:	C

Street Name:	I-15						Lenwood					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1	0	0	2	1	0	0	0	2	2	0	2	1	0	0	0	2	1	0
Volume Module:												
Base Vol:	90	80	413	31	0	261	142	604	199	0	1032	119
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	80	413	31	0	261	142	604	199	0	1032	119
Added Vol:	305	17	62	5	0	28	19	297	0	0	396	6
PasserByVol:	0	0	72	0	0	0	0	218	0	0	342	0
Initial Fut:	395	97	547	36	0	289	161	1119	199	0	1770	125
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.77	0.77	0.77	0.82	0.82	0.82	0.89	0.89	0.00	0.97	0.97	0.97
PHF Volume:	514	126	712	44	0	355	182	1264	0	0	1829	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	514	126	712	44	0	355	182	1264	0	0	1829	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.13	1.00	1.00	1.13	1.03	1.10	0.00	1.00	1.10	1.10
FinalVolume:	540	133	805	44	0	401	187	1391	0	0	2011	142
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	0.75	0.89	1.00	1.00	0.94	1.00	1.00
Lanes:	1.62	0.38	2.00	1.00	0.00	2.00	2.00	3.00	0.00	0.00	2.80	0.20
Final Sat.:	2760	678	3600	1700	0	2700	3200	5400	0	0	5044	356
Capacity Analysis Module:												
Vol/Sat:	0.20	0.20	0.22	0.03	0.00	0.15	0.06	0.26	0.00	0.00	0.40	0.40
Crit Moves:			****			****	****				****	
Green/Cycle:	0.25	0.25	0.25	0.10	0.00	0.17	0.07	0.51	0.00	0.00	0.45	0.45
Volume/Cap:	0.78	0.78	0.89	0.26	0.00	0.89	0.89	0.50	0.00	0.00	0.89	0.89
Delay/Veh:	27.8	27.8	34.4	28.5	0.0	46.7	66.5	10.2	0.0	0.0	20.6	20.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.8	27.8	34.4	28.5	0.0	46.7	66.5	10.2	0.0	0.0	20.6	20.6
LOS by Move:	C	C	C	C	A	D	E	B	A	A	C	C
HCM2kAvgQ:	8	8	11	1	0	7	5	6	0	0	16	16

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt A MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Outlet Center Dr/ I-15 SB Ramps

Average Delay (sec/veh): 8.2 Worst Case Level Of Service: C[19.3]

Street Name:	I-15						Outlet Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0	0	0 0	1!	0 0	0 0	1	0 0	0	1	0 0 0
Volume Module:												
Base Vol:	0	0	0	2	0	1	0	2	1	119	1	0
Growth Adj:	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
Initial Bse:	0	0	0	2	0	1	0	2	1	119	1	0
Added Vol:	0	0	0	0	0	0	0	0	0	271	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	2	0	1	0	2	1	390	1	0
User Adj:	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
PHF Adj:	1.00 1.00	1.00	0.53	0.53 0.53	0.53	0.63	0.63 0.63	0.63	0.79	0.79 0.79	0.79	
PHF Volume:	0	0	0	4	0	2	0	3	2	492	1	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	4	0	2	0	3	2	492	1	0
Critical Gap Module:												
Critical Gp:	xxxxx xxxx xxxxx			6.4 6.5		6.2	xxxxx xxxx xxxxx			4.1	xxxx xxxxx	
FollowUpTim:	xxxxx xxxx xxxxx			3.5 4.0		3.3	xxxxx xxxx xxxxx			2.2	xxxx xxxxx	
Capacity Module:												
Cnflict Vol:	xxxx xxxx xxxxx			990 991		1	xxxx xxxx xxxxx			5	xxxx xxxxx	
Potent Cap.:	xxxx xxxx xxxxx			276 248		1089	xxxx xxxx xxxxx			1630	xxxx xxxxx	
Move Cap.:	xxxx xxxx xxxxx			186 145		1089	xxxx xxxx xxxxx			1630	xxxx xxxxx	
Volume/Cap:	xxxx xxxx	xxxx		0.02 0.00		0.00	xxxx xxxx	xxxx		0.30	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx			1.3	xxxx xxxxx	
Control Del:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			8.2	xxxx xxxxx	
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx xxxxx			xxxx 257 xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx		
SharedQueue:	xxxxx xxxx xxxxx			xxxxx 0.1 xxxxx			xxxxx xxxx xxxxx			1.3	xxxx xxxxx	
Shrd ConDel:	xxxxx xxxx xxxxx			xxxxx 19.3 xxxxx			xxxxx xxxx xxxxx			8.2	xxxx xxxxx	
Shared LOS:	*	*	*	*	C	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			19.3			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt A MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Outlet Center Dr/ I-15 NB Ramps

Average Delay (sec/veh): 4.2 Worst Case Level Of Service: B[10.0]

Street Name:	I-15						Outlet Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1!	0 0	0 0	0	0 0	0 1	0	0 0	0 0	0	1 0
Volume Module:												
Base Vol:	3	3	44	0	0	0	1	3	0	0	117	2
Growth Adj:	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
Initial Bse:	3	3	44	0	0	0	1	3	0	0	117	2
Added Vol:	0	0	237	0	0	0	0	0	0	0	271	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	3	281	0	0	0	1	3	0	0	388	2
User Adj:	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
PHF Adj:	0.83 0.83	0.83	1.00	1.00 1.00	1.00	0.58	0.58 0.58	0.58	0.82	0.82 0.82	0.82	
PHF Volume:	4	4	337	0	0	0	2	5	0	0	475	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	4	337	0	0	0	2	5	0	0	475	2
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx xxxx xxxxx			4.1	xxxx xxxxx		xxxxx xxxx xxxxx		
FollowUpTim:	3.5	4.0	3.3	xxxxx xxxx xxxxx			2.2	xxxx xxxxx		xxxxx xxxx xxxxx		
Capacity Module:												
Cnflict Vol:	485	486	5	xxxx xxxx xxxxx			477	xxxx xxxxx		xxxx xxxx xxxxx		
Potent Cap.:	545	484	1084	xxxx xxxx xxxxx			1095	xxxx xxxxx		xxxx xxxx xxxxx		
Move Cap.:	544	484	1084	xxxx xxxx xxxxx			1095	xxxx xxxxx		xxxx xxxx xxxxx		
Volume/Cap:	0.01	0.01	0.31	xxxx xxxx	xxxx		0.00	xxxx	xxxx	xxxx xxxx	xxxx	
Level Of Service Module:												
2Way95thQ:	xxxx xxxx xxxxx			xxxx xxxx xxxxx			0.0	xxxx xxxxx		xxxx xxxx xxxxx		
Control Del:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			8.3	xxxx xxxxx		xxxxx xxxx xxxxx		
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx 1059 xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx		
SharedQueue:	xxxxx 1.4 xxxxx			xxxxx xxxx xxxxx			0.0	xxxx xxxxx		xxxxx xxxx xxxxx		
Shrd ConDel:	xxxxx 10.0 xxxxx			xxxxx xxxx xxxxx			8.3	xxxx xxxxx		xxxxx xxxx xxxxx		
Shared LOS:	*	B	*	*	*	*	A	*	*	*	*	*
ApproachDel:	10.0			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	B			*			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt A MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Lenwood/ Mercantile

Cycle (sec):	90	Critical Vol./Cap.(X):	0.545
Loss Time (sec):	8	Average Delay (sec/veh):	34.9
Optimal Cycle:	82	Level Of Service:	C

Street Name:	Lenwood						Mercantile					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Ovl		
Min. Green:	10	26	26	10	26	26	10	28	28	10	28	28
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 2	0 1	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	9	76	14	80	110	210	216	34	0	16	39	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	76	14	80	110	210	216	34	0	16	39	64
Added Vol:	0	295	0	47	261	28	32	0	0	0	0	54
PasserByVol:	0	348	0	0	297	0	0	0	0	0	0	0
Initial Fut:	9	719	14	127	668	238	248	34	0	16	39	118
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.97	0.97	0.97	0.94	0.94	0.00	0.65	0.65	0.65
PHF Volume:	10	774	15	132	692	247	265	36	0	25	60	182
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	774	15	132	692	247	265	36	0	25	60	182
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	10	813	16	132	727	247	265	36	0	25	60	182
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	1.00	1.96	0.04	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1700	3531	69	1700	3600	1800	1700	1800	1800	1700	1800	1800
Capacity Analysis Module:												
Vol/Sat:	0.01	0.23	0.23	0.08	0.20	0.14	0.16	0.02	0.00	0.01	0.03	0.10
Crit Moves:		****			****			****			****	
Green/Cycle:	0.11	0.29	0.29	0.11	0.29	0.29	0.20	0.37	0.00	0.13	0.31	0.42
Volume/Cap:	0.05	0.79	0.79	0.70	0.69	0.47	0.79	0.05	0.00	0.11	0.11	0.24
Delay/Veh:	36.2	35.4	35.4	57.7	32.2	29.3	51.4	18.1	0.0	35.2	22.5	17.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.2	35.4	35.4	57.7	32.2	29.3	51.4	18.1	0.0	35.2	22.5	17.4
LOS by Move:	D	D	D	E	C	C	D	B	A	D	C	B
HCM2kAvgQ:	0	13	13	5	10	6	10	1	0	1	1	3

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt A MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #10 Lenwood/Project Access

Average Delay (sec/veh): 1316.7 Worst Case Level Of Service: F[2795.6]

Street Name:	Lenwood						Project Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0 0	1 0	0	1 0	0 0	0	0 0	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	0	98	0	0	127	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	98	0	0	127	0	0	0	0	0	0	0
Added Vol:	0	6	231	256	5	0	0	0	0	267	0	289
PasserByVol:	0	0	0	297	0	0	0	0	0	0	0	348
Initial Fut:	0	104	231	553	132	0	0	0	0	267	0	637
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	113	251	601	143	0	0	0	0	290	0	692
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	113	251	601	143	0	0	0	0	290	0	692
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	364	xxxx	xxxxx	xxxx	xxxx	xxxxx	1584	1584	239
Potent Cap.:	xxxx	xxxx	xxxxx	1206	xxxx	xxxxx	xxxx	xxxx	xxxxx	121	110	805
Move Cap.:	xxxx	xxxx	xxxxx	1206	xxxx	xxxxx	xxxx	xxxx	xxxxx	47	28	805
Volume/Cap:	xxxx	xxxx	xxxx	0.50	xxxx	xxxx	xxxx	xxxx	xxxx	6.22	0.00	0.86
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	2.9	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	10.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	139	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	2.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	109	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	10.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2796	xxxxx
Shared LOS:	*	*	*	B	*	*	*	*	*	*	F	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			2795.6		
ApproachLOS:	*			*			*			F		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt A MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Mercantile Way/Factory Outlet Ave

Average Delay (sec/veh): 6.0 Worst Case Level Of Service: A[9.5]

Street Name:	Factory Outlet								Mercantile							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	1!	0 0	1	0	2	0 0	0	0	0	1 0
Volume Module:																
Base Vol:	0	0	0	5	0	71	87	39	0	0	42	12				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	5	0	71	87	39	0	0	42	12				
Added Vol:	0	0	0	0	0	54	47	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	5	0	125	134	39	0	0	42	12				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	0.86	0.86	0.86	0.66	0.66	0.66	0.63	0.63	0.63				
PHF Volume:	0	0	0	6	0	145	203	59	0	0	67	19				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	6	0	145	203	59	0	0	67	19				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	512	541	77	86	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	526	451	990	1523	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	472	391	990	1523	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	0.01	0.00	0.15	0.13	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*				
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT				
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	950	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	9.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	A	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			9.5			xxxxxx			xxxxxx						
ApproachLOS:	*			A			*			*						

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Lenwood/SR-58

Cycle (sec): 60 Critical Vol./Cap.(X): 0.638
Loss Time (sec): 6 Average Delay (sec/veh): 13.5
Optimal Cycle: 34 Level Of Service: B

Street Name:	Lenwood								SR-58							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1!	0 0	0	0	1!	0 0	1	0	0	1 1	1	0	1	0 1
Volume Module:																
Base Vol:	0	1	22	25	0	32	9	438	3	58	570	32				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	1	22	25	0	32	9	438	3	58	570	32				
Added Vol:	95	0	36	0	0	0	0	108	99	29	105	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	95	1	58	25	0	32	9	546	102	87	675	32				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	0.70	0.70	0.70	0.70	0.70	0.70	0.87	0.87	0.87	0.85	0.85	0.85				
PHF Volume:	135	1	83	36	0	46	10	630	118	103	796	38				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	135	1	83	36	0	46	10	630	118	103	796	38				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.00	1.00				
FinalVolume:	135	1	83	36	0	46	10	662	124	103	796	38				
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800				
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00				
Lanes:	0.63	0.01	0.36	0.45	0.00	0.55	1.00	1.00	1.00	1.00	1.00	1.00				
Final Sat.:	1071	11	654	770	0	985	1700	1800	1800	1700	1800	1800				
Capacity Analysis Module:																
Vol/Sat:	0.13	0.13	0.13	0.05	0.00	0.05	0.01	0.37	0.07	0.06	0.44	0.02				
Crit Moves:		****					****				****					
Green/Cycle:	0.20	0.20	0.20	0.20	0.00	0.20	0.01	0.60	0.60	0.10	0.69	0.69				
Volume/Cap:	0.64	0.64	0.64	0.23	0.00	0.23	0.64	0.61	0.11	0.61	0.64	0.03				
Delay/Veh:	30.9	30.9	30.9	21.8	0.0	21.8	144.1	9.6	5.1	41.3	7.6	2.9				
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	30.9	30.9	30.9	21.8	0.0	21.8	144.1	9.6	5.1	41.3	7.6	2.9				
LOS by Move:	C	C	C	C	A	C	F	A	A	D	A	A				
HCM2kAvgQ:	5	5	5	1	0	1	1	8	1	3	9	0				

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Lenwood/ Main St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.567
Loss Time (sec): 8 Average Delay (sec/veh): 35.4
Optimal Cycle: 48 Level Of Service: D

Street Name:	Lenwood						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 0	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	27	31	69	17	14	4	4	70	16	47	109	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	27	31	69	17	14	4	4	70	16	47	109	23
Added Vol:	220	61	91	9	71	47	41	214	200	98	233	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	247	92	160	26	85	51	45	284	216	145	342	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.78	0.78	0.78	0.90	0.90	0.90	0.95	0.95	0.95
PHF Volume:	295	110	191	33	109	65	50	316	240	153	361	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	295	110	191	33	109	65	50	316	240	153	361	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
FinalVolume:	295	115	200	33	109	65	50	331	252	153	379	32
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.62	0.38	1.00	1.14	0.86	1.00	1.84	0.16
Final Sat.:	1700	1800	1800	1700	1125	675	1700	2045	1555	1700	3319	281
Capacity Analysis Module:												
Vol/Sat:	0.17	0.06	0.11	0.02	0.10	0.10	0.03	0.16	0.16	0.09	0.11	0.11
Crit Moves:	****				****			****		****		
Green/Cycle:	0.31	0.25	0.25	0.23	0.17	0.17	0.21	0.29	0.29	0.16	0.24	0.24
Volume/Cap:	0.57	0.26	0.44	0.09	0.57	0.57	0.14	0.57	0.57	0.57	0.48	0.48
Delay/Veh:	33.6	30.5	33.6	31.1	45.5	45.5	33.2	32.7	32.7	47.3	34.8	34.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.6	30.5	33.6	31.1	45.5	45.5	33.2	32.7	32.7	47.3	34.8	34.8
LOS by Move:	C	C	C	C	D	D	C	C	C	D	C	C
HCM2kAvgQ:	9	3	5	1	6	6	1	8	8	5	6	6

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Main St/ SR-58 EB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.306
Loss Time (sec): 6 Average Delay (sec/veh): 4.8
Optimal Cycle: 20 Level Of Service: A

Street Name:	SR-58						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 0	0 0	1	1 0	0 1	0	0 1	1 0	1	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	23	0	24	0	185	122	4	344	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	23	0	24	0	185	122	4	344	0
Added Vol:	0	0	0	36	0	11	0	185	214	29	424	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	59	0	35	0	370	336	33	768	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.72	0.72	0.72	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	0	0	0	82	0	49	0	407	370	36	846	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	82	0	49	0	407	370	36	846	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.05	1.05	1.00	1.00	1.05	1.05	1.00	1.05	1.00
FinalVolume:	0	0	0	86	0	49	0	428	389	36	888	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	1.05	0.95	1.00	2.00	0.00
Final Sat.:	0	0	0	3400	0	1800	0	1887	1713	1700	3600	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.23	0.23	0.02	0.25	0.00
Crit Moves:						****		****		****		
Green/Cycle:	0.00	0.00	0.00	0.09	0.00	0.09	0.00	0.74	0.74	0.07	0.81	0.00
Volume/Cap:	0.00	0.00	0.00	0.29	0.00	0.31	0.00	0.31	0.31	0.31	0.30	0.00
Delay/Veh:	0.0	0.0	0.0	28.0	0.0	30.5	0.0	2.9	2.9	33.1	1.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	28.0	0.0	30.5	0.0	2.9	2.9	33.1	1.7	0.0
LOS by Move:	A	A	A	C	A	C	A	A	A	C	A	A
HCM2kAvgQ:	0	0	0	1	0	1	0	3	3	1	2	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Main St/ SR-58 WB Ramps

Cycle (sec):	60				Critical Vol./Cap.(X):				0.448							
Loss Time (sec):	6				Average Delay (sec/veh):				14.8							
Optimal Cycle:	24				Level Of Service:				B							
Street Name:	SR-58						Main St									
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	1	0	0 1	0	0	0	0 0	1	0	1	1 0	0	0	2	0 1
Volume Module:																
Base Vol:	132	0	12		0	0	0		0	176	31		0	216	32	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	132	0	12		0	0	0		0	176	31		0	216	32	
Added Vol:	239	0	30		0	0	0		13	209	0		0	214	32	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	371	0	42		0	0	0		13	385	31		0	430	64	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.86	0.86	0.86		1.00	1.00	1.00		0.94	0.94	0.94		0.89	0.89	0.89	
PHF Volume:	433	0	49		0	0	0		14	408	33		0	482	72	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	433	0	49		0	0	0		14	408	33		0	482	72	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.05	1.05		1.00	1.05	1.00	
FinalVolume:	433	0	49		0	0	0		14	429	35		0	506	72	
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800		1800	1800	1800		1800	1800	1800		1800	1800	1800	
Adjustment:	0.94	1.00	1.00		0.94	1.00	1.00		0.94	1.00	1.00		0.94	1.00	1.00	
Lanes:	1.00	0.00	1.00		0.00	0.00	0.00		1.00	1.85	0.15		0.00	2.00	1.00	
Final Sat.:	1700	0	1800		0	0	0		1700	3332	268		0	3600	1800	
Capacity Analysis Module:																
Vol/Sat:	0.25	0.00	0.03		0.00	0.00	0.00		0.01	0.13	0.13		0.00	0.14	0.04	
Crit Moves:	****								****					****		
Green/Cycle:	0.57	0.00	0.57		0.00	0.00	0.00		0.02	0.33	0.33		0.00	0.31	0.31	
Volume/Cap:	0.45	0.00	0.05		0.00	0.00	0.00		0.45	0.39	0.39		0.00	0.45	0.13	
Delay/Veh:	9.0	0.0	5.8		0.0	0.0	0.0		70.0	16.3	16.3		0.0	17.7	15.2	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	9.0	0.0	5.8		0.0	0.0	0.0		70.0	16.3	16.3		0.0	17.7	15.2	
LOS by Move:	A	A	A		A	A	A		E	B	B		A	B	B	
HCM2kAvgQ:	5	0	0		0	0	0		0	3	3		0	4	1	

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Lenwood/ I-15 SB Ramps

Cycle (sec):	60				Critical Vol./Cap.(X):				0.652							
Loss Time (sec):	6				Average Delay (sec/veh):				15.0							
Optimal Cycle:	35				Level Of Service:				B							
Street Name:	I-15						Lenwood									
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Split Phase				Split Phase				Permitted				Permitted			
Rights:	Include				Include				Ignore				Ignore			
Min. Green:	0	0	0		0	0	0		0	26	26		0	26	26	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	0	0 0	2	0	0	0 1	0	0	2	0 1	0	0	2	0 1
Volume Module:																
Base Vol:	0	0	0		585	0	397		0	227	261		0	217	538	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		585	0	397		0	227	261		0	217	538	
Added Vol:	0	0	0		183	0	223		0	284	0		0	395	0	
PasserByVol:	0	0	0		156	0	0		0	0	0		0	0	61	
Initial Fut:	0	0	0		924	0	620		0	511	261		0	612	599	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		0.97	0.97	0.97		0.81	0.81	0.00		0.77	0.77	0.00	
PHF Volume:	0	0	0		954	0	640		0	629	0		0	793	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	0	0		954	0	640		0	629	0		0	793	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.03	1.00	1.00		1.00	1.05	0.00		1.00	1.05	0.00	
FinalVolume:	0	0	0		982	0	640		0	660	0		0	832	0	
Saturation Flow Module:																
Sat/Lane:	1800	1800	1800		1800	1800	1800		1800	1800	1800		1800	1800	1800	
Adjustment:	0.94	1.00	1.00		0.89	1.00	1.00		0.94	1.00	1.00		0.94	1.00	1.00	
Lanes:	0.00	0.00	0.00		2.00	0.00	1.00		0.00	2.00	1.00		0.00	2.00	1.00	
Final Sat.:	0	0	0		3200	0	1800		0	3600	1800		0	3600	1800	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.31	0.00	0.36		0.00	0.18	0.00		0.00	0.23	0.00	
Crit Moves:							****							****		
Green/Cycle:	0.00	0.00	0.00		0.47	0.00	0.47		0.00	0.43	0.00		0.00	0.43	0.00	
Volume/Cap:	0.00	0.00	0.00		0.66	0.00	0.76		0.00	0.42	0.00		0.00	0.53	0.00	
Delay/Veh:	0.0	0.0	0.0		14.6	0.0	19.7		0.0	12.6	0.0		0.0	13.8	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	0.0	0.0	0.0		14.6	0.0	19.7		0.0	12.6	0.0		0.0	13.8	0.0	
LOS by Move:	A	A	A		B	A	B		A	B	A		A	B	A	
HCM2kAvgQ:	0	0	0		9	0	12		0	5	0		0	6	0	

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #6 Lenwood/SR-15 NB Ramps/High Point Pkwy

Cycle (sec):	60	Critical Vol./Cap.(X):	0.832
Loss Time (sec):	8	Average Delay (sec/veh):	22.3
Optimal Cycle:	62	Level Of Service:	C

Street Name:	I-15							Lenwood					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1 0	0 2	1	0 0	0 2	2	0 2	1 0	0	0 2	1 0
Volume Module:												
Base Vol:	90	80	413	31	0	261	142	604	199	0	1032	119
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	80	413	31	0	261	142	604	199	0	1032	119
Added Vol:	305	17	49	5	0	28	19	246	0	0	321	6
PasserByVol:	0	0	52	0	0	0	0	156	0	0	245	0
Initial Fut:	395	97	514	36	0	289	161	1006	199	0	1598	125
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.77	0.77	0.77	0.82	0.82	0.82	0.89	0.89	0.00	0.97	0.97	0.97
PHF Volume:	514	126	669	44	0	355	182	1137	0	0	1651	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	514	126	669	44	0	355	182	1137	0	0	1651	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.05	1.05	1.13	1.00	1.00	1.13	1.03	1.10	0.00	1.00	1.10	1.10
FinalVolume:	540	133	756	44	0	401	187	1250	0	0	1816	142
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	0.75	0.89	1.00	1.00	0.94	1.00	1.00
Lanes:	1.62	0.38	2.00	1.00	0.00	2.00	2.00	3.00	0.00	0.00	2.78	0.22
Final Sat.:	2760	678	3600	1700	0	2700	3200	5400	0	0	5008	392
Capacity Analysis Module:												
Vol/Sat:	0.20	0.20	0.21	0.03	0.00	0.15	0.06	0.23	0.00	0.00	0.36	0.36
Crit Moves:			****			****	****				****	
Green/Cycle:	0.25	0.25	0.25	0.11	0.00	0.18	0.07	0.51	0.00	0.00	0.44	0.44
Volume/Cap:	0.77	0.77	0.83	0.24	0.00	0.83	0.83	0.46	0.00	0.00	0.83	0.83
Delay/Veh:	27.5	27.5	30.0	27.6	0.0	39.2	56.2	10.1	0.0	0.0	18.6	18.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.5	27.5	30.0	27.6	0.0	39.2	56.2	10.1	0.0	0.0	18.6	18.6
LOS by Move:	C	C	C	C	A	D	E	B	A	A	B	B
HCM2kAvgQ:	8	8	10	1	0	6	4	5	0	0	14	14

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt B MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Outlet Center Dr/ I-15 SB Ramps

Average Delay (sec/veh): 7.9 Worst Case Level Of Service: C[15.2]

Street Name:	I-15							Outlet Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0 0	0 0	0	0 0	1! 0	0	0 0	1 0	0	1 0	0 0
Volume Module:												
Base Vol:	0	0	0	2	0	1	0	2	1	119	1	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	2	0	1	0	2	1	119	1	0
Added Vol:	0	0	0	0	0	0	0	0	0	197	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	2	0	1	0	2	1	316	1	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.53	0.53	0.53	0.63	0.63	0.63	0.79	0.79	0.79
PHF Volume:	0	0	0	4	0	2	0	3	2	399	1	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	4	0	2	0	3	2	399	1	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	803	804	1	xxxx	xxxx	xxxxx	5	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	355	319	1089	xxxx	xxxx	xxxxx	1630	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	269	218	1089	xxxx	xxxx	xxxxx	1630	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	0.00	0.00	xxxx	xxxx	xxxx	0.24	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	359	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx	1.0	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	15.2	xxxxx	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			15.2			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt B MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Outlet Center Dr/ I-15 NB Ramps

Average Delay (sec/veh): 3.9 Worst Case Level Of Service: A[9.5]

Street Name:	I-15						Outlet Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0 1! 0	0	0	0 0 0 0	0	0	1 0 0 0	0	0	0 0 1	0
Volume Module:												
Base Vol:	3	3	44	0	0	0	1	3	0	0	117	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	3	44	0	0	0	1	3	0	0	117	2
Added Vol:	0	0	172	0	0	0	0	0	0	0	197	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	3	216	0	0	0	1	3	0	0	314	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	1.00	1.00	1.00	0.58	0.58	0.58	0.82	0.82	0.82
PHF Volume:	4	4	259	0	0	0	2	5	0	0	384	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	4	259	0	0	0	2	5	0	0	384	2
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	394	395	5	xxxx	xxxx	xxxxx	387	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	614	545	1084	xxxx	xxxx	xxxxx	1183	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	614	544	1084	xxxx	xxxx	xxxxx	1183	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	0.01	0.24	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	1059	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.0	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	9.5	xxxxx	xxxxx	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	*	*	A	*	*	*	*	*
ApproachDel:		9.5		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		A		*			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Lenwood/ Mercantile

Cycle (sec): 90 Critical Vol./Cap.(X): 0.487
Loss Time (sec): 8 Average Delay (sec/veh): 32.6
Optimal Cycle: 82 Level Of Service: C

Street Name:	Lenwood								Mercantile			
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Ovl		
Min. Green:	10	26	26	10	26	26	10	28	28	10	28	28
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 2	0 1	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	9	76	14	80	110	210	216	34	0	16	39	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	76	14	80	110	210	216	34	0	16	39	64
Added Vol:	0	220	0	47	196	28	32	0	0	0	0	54
PasserByVol:	0	253	0	0	217	0	0	0	0	0	0	0
Initial Fut:	9	549	14	127	523	238	248	34	0	16	39	118
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.97	0.97	0.97	0.94	0.94	0.00	0.65	0.65	0.65
PHF Volume:	10	591	15	132	542	247	265	36	0	25	60	182
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	591	15	132	542	247	265	36	0	25	60	182
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	10	621	16	132	569	247	265	36	0	25	60	182
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00	0.94	1.00	1.00
Lanes:	1.00	1.95	0.05	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1700	3510	90	1700	3600	1800	1700	1800	1800	1700	1800	1800
Capacity Analysis Module:												
Vol/Sat:	0.01	0.18	0.18	0.08	0.16	0.14	0.16	0.02	0.00	0.01	0.03	0.10
Crit Moves:		****			****			****			****	
Green/Cycle:	0.11	0.29	0.29	0.11	0.29	0.29	0.20	0.38	0.00	0.13	0.31	0.42
Volume/Cap:	0.05	0.61	0.61	0.70	0.55	0.47	0.78	0.05	0.00	0.11	0.11	0.24
Delay/Veh:	36.3	30.3	30.3	57.7	29.1	29.5	50.3	18.0	0.0	35.2	22.5	17.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.3	30.3	30.3	57.7	29.1	29.5	50.3	18.0	0.0	35.2	22.5	17.4
LOS by Move:	D	C	C	E	C	C	D	B	A	D	C	B
HCM2kAvgQ:	0	8	8	5	7	6	9	1	0	1	1	3

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt B MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #10 Lenwood/Project Access

Average Delay (sec/veh): 273.8 Worst Case Level Of Service: F[604.4]

Street Name:	Lenwood								Project Access							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	1 0	0	1	0	0 0	0	0	0	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	0	98	0	0	127	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	98	0	0	127	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	6	167	191	5	0	0	0	0	192	0	215				
PasserByVol:	0	0	0	217	0	0	0	0	0	0	0	253				
Initial Fut:	0	104	167	408	132	0	0	0	0	192	0	468				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92				
PHF Volume:	0	113	182	443	143	0	0	0	0	209	0	509				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	113	182	443	143	0	0	0	0	209	0	509				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2				
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	295	xxxx	xxxxx	xxxx	xxxx	xxxxx	1234	1234	204				
Potent Cap.:	xxxx	xxxx	xxxxx	1278	xxxx	xxxxx	xxxx	xxxx	xxxxx	197	178	842				
Move Cap.:	xxxx	xxxx	xxxxx	1278	xxxx	xxxxx	xxxx	xxxx	xxxxx	126	96	842				
Volume/Cap:	xxxx	xxxx	xxxx	0.35	xxxx	xxxx	xxxx	xxxx	xxxx	1.66	0.00	0.60				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	1.6	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	9.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	317	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	1.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	54.9	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	9.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	604	xxxxx				
Shared LOS:	*	*	*	A	*	*	*	*	*	*	F	*				
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			604.4						
ApproachLOS:	*			*			*			F						

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Opening Year + Alt B MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Mercantile Way/Factory Outlet Ave

Average Delay (sec/veh): 6.0 Worst Case Level Of Service: A[9.5]

Street Name:	Factory Outlet								Mercantile							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	1!	0 0	1	0	2	0 0	0	0	0	1 0
Volume Module:																
Base Vol:	0	0	0	5	0	71	87	39	0	0	42	12				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	5	0	71	87	39	0	0	42	12				
Added Vol:	0	0	0	0	0	54	47	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	5	0	125	134	39	0	0	42	12				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	0.86	0.86	0.86	0.66	0.66	0.66	0.63	0.63	0.63				
PHF Volume:	0	0	0	6	0	145	203	59	0	0	67	19				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	6	0	145	203	59	0	0	67	19				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	512	541	77	86	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	526	451	990	1523	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	472	391	990	1523	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	0.01	0.00	0.15	0.13	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*				
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT						
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	950	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	9.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	A	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			9.5			xxxxxx			xxxxxx						
ApproachLOS:	*			A			*			*						

Note: Queue reported is the number of cars per lane.

WITH MITIGATION

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Barstow Casinos Project - Saturday
Opening Year + Alt A MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Lenwood/Project Access

Cycle (sec):	100	Critical Vol./Cap.(X):	0.663
Loss Time (sec):	6	Average Delay (sec/veh):	28.3
Optimal Cycle:	38	Level Of Service:	C

Street Name:	Lenwood						Project Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1 0	1	2	0 1 0	0	0	0 0	1	0	0 0 2
Volume Module:												
Base Vol:	0	98	0	0	127	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	98	0	0	127	0	0	0	0	0	0	0
Added Vol:	0	6	231	256	5	0	0	0	0	267	0	289
PasserByVol:	0	0	0	297	0	0	0	0	0	0	0	348
Initial Fut:	0	104	231	553	132	0	0	0	0	267	0	637
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	113	251	601	143	0	0	0	0	290	0	692
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	113	251	601	143	0	0	0	0	290	0	692
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.13
FinalVolume:	0	113	251	619	143	0	0	0	0	290	0	782
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	0.85	0.84	1.00	1.00	0.94	1.00	1.00	0.90	1.00	0.85
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	2.00
Final Sat.:	0	1800	1530	3040	1800	0	0	0	0	1615	0	3060
Capacity Analysis Module:												
Vol/Sat:	0.00	0.06	0.16	0.20	0.08	0.00	0.00	0.00	0.00	0.18	0.00	0.26
Crit Moves:			****	****								****
Green/Cycle:	0.00	0.25	0.25	0.31	0.55	0.00	0.00	0.00	0.00	0.39	0.00	0.39
Volume/Cap:	0.00	0.25	0.66	0.66	0.14	0.00	0.00	0.00	0.00	0.47	0.00	0.66
Delay/Veh:	0.0	30.5	38.3	32.0	10.8	0.0	0.0	0.0	0.0	23.6	0.0	26.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	30.5	38.3	32.0	10.8	0.0	0.0	0.0	0.0	23.6	0.0	26.8
LOS by Move:	A	C	D	C	B	A	A	A	A	C	A	C
HCM2kAvgQ:	0	3	8	10	2	0	0	0	0	7	0	11

Note: Queue reported is the number of cars per lane.

WITH MITIGATION

Opening Year + Alt B MD SunWed Nov 9, 2011 14:10:46 Page 3-1

Barstow Casinos Project - Saturday
Opening Year + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Lenwood/Project Access

Cycle (sec):	100	Critical Vol./Cap.(X):	0.486
Loss Time (sec):	6	Average Delay (sec/veh):	25.1
Optimal Cycle:	27	Level Of Service:	C

Street Name:	Lenwood						Project Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1 0	1	2	0 1 0	0	0	0 0	1	0	0 0 2
Volume Module:												
Base Vol:	0	98	0	0	127	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	98	0	0	127	0	0	0	0	0	0	0
Added Vol:	0	6	167	191	5	0	0	0	0	192	0	215
PasserByVol:	0	0	0	217	0	0	0	0	0	0	0	253
Initial Fut:	0	104	167	408	132	0	0	0	0	192	0	468
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	113	182	443	143	0	0	0	0	209	0	509
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	113	182	443	143	0	0	0	0	209	0	509
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.13
FinalVolume:	0	113	182	457	143	0	0	0	0	209	0	575
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	1.00	0.85	0.84	1.00	1.00	0.94	1.00	1.00	0.90	1.00	0.85
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	2.00
Final Sat.:	0	1800	1530	3040	1800	0	0	0	0	1615	0	3060
Capacity Analysis Module:												
Vol/Sat:	0.00	0.06	0.12	0.15	0.08	0.00	0.00	0.00	0.00	0.13	0.00	0.19
Crit Moves:			****	****								****
Green/Cycle:	0.00	0.24	0.24	0.31	0.55	0.00	0.00	0.00	0.00	0.39	0.00	0.39
Volume/Cap:	0.00	0.26	0.49	0.49	0.14	0.00	0.00	0.00	0.00	0.33	0.00	0.49
Delay/Veh:	0.0	30.8	33.4	28.5	10.9	0.0	0.0	0.0	0.0	21.9	0.0	23.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	30.8	33.4	28.5	10.9	0.0	0.0	0.0	0.0	21.9	0.0	23.5
LOS by Move:	A	C	C	C	B	A	A	A	A	C	A	C
HCM2kAvgQ:	0	3	5	7	2	0	0	0	0	5	0	7

Note: Queue reported is the number of cars per lane.

PM SUNDAY ANALYSIS (Disregard Traffic MD Title)

Barstow Casinos Project - Saturday
Year 2030 MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Lenwood/SR-58

Cycle (sec):	60	Critical Vol./Cap.(X):	0.709
Loss Time (sec):	6	Average Delay (sec/veh):	16.9
Optimal Cycle:	40	Level Of Service:	B

Street Name:	Lenwood						SR-58					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	1	0	0 1	1	0	1 0 1
Volume Module:												
Base Vol:	90	10	80	40	10	130	110	700	120	130	850	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	10	80	40	10	130	110	700	120	130	850	50
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	10	80	40	10	130	110	700	120	130	850	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	95	11	84	42	11	137	116	737	126	137	895	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	11	84	42	11	137	116	737	126	137	895	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.00	1.00
FinalVolume:	95	11	84	42	11	137	116	774	133	137	895	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	0.52	0.05	0.43	0.23	0.05	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	924	103	822	417	104	1355	1800	1900	1900	1800	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.10	0.10	0.10	0.10	0.06	0.41	0.07	0.08	0.47	0.03
Crit Moves:		****					****				****	
Green/Cycle:	0.14	0.14	0.14	0.14	0.14	0.14	0.09	0.64	0.64	0.12	0.66	0.66
Volume/Cap:	0.71	0.71	0.71	0.70	0.70	0.70	0.71	0.64	0.11	0.64	0.71	0.04
Delay/Veh:	39.2	39.2	39.2	38.3	38.3	38.3	49.3	8.9	4.3	39.0	9.8	3.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.2	39.2	39.2	38.3	38.3	38.3	49.3	8.9	4.3	39.0	9.8	3.5
LOS by Move:	D	D	D	D	D	D	D	A	A	D	A	A
HCM2kAvgQ:	5	5	5	5	5	5	4	10	1	4	12	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Lenwood/ Main St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.579
Loss Time (sec):	8	Average Delay (sec/veh):	35.0
Optimal Cycle:	48	Level Of Service:	D

Street Name:	Lenwood						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 1 0	1	0	0 1 0	1	0	1 1 0	1	0	1 1 0
Volume Module:												
Base Vol:	310	90	200	30	70	70	60	320	260	180	400	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	310	90	200	30	70	70	60	320	260	180	400	40
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	310	90	200	30	70	70	60	320	260	180	400	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	326	95	211	32	74	74	63	337	274	189	421	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	326	95	211	32	74	74	63	337	274	189	421	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
FinalVolume:	326	99	221	32	74	74	63	354	287	189	442	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.50	0.50	1.00	1.10	0.90	1.00	1.82	0.18
Final Sat.:	1800	1900	1900	1800	950	950	1800	2097	1703	1800	3455	345
Capacity Analysis Module:												
Vol/Sat:	0.18	0.05	0.12	0.02	0.08	0.08	0.04	0.17	0.17	0.11	0.13	0.13
Crit Moves:	****				****			****		****		
Green/Cycle:	0.31	0.24	0.24	0.21	0.13	0.13	0.21	0.29	0.29	0.18	0.27	0.27
Volume/Cap:	0.58	0.22	0.48	0.08	0.58	0.58	0.17	0.58	0.58	0.58	0.48	0.48
Delay/Veh:	33.1	30.8	35.2	32.5	49.9	49.9	33.5	32.4	32.4	44.7	32.6	32.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.1	30.8	35.2	32.5	49.9	49.9	33.5	32.4	32.4	44.7	32.6	32.6
LOS by Move:	C	C	D	C	D	D	C	C	C	D	C	C
HCM2kAvgQ:	9	2	6	1	5	5	2	9	9	6	7	7

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Main St/ SR-58 EB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.334
Loss Time (sec):	6	Average Delay (sec/veh):	4.0
Optimal Cycle:	21	Level Of Service:	A

Street Name:	SR-58						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	0	1	1	0	0	1	0	0	1	1	0	1	0	2	0	0
Volume Module:												
Base Vol:	0	0	0	70	0	60	0	430	350	10	920	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	70	0	60	0	430	350	10	920	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	70	0	60	0	430	350	10	920	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	74	0	63	0	453	368	11	968	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	74	0	63	0	453	368	11	968	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.05	1.05	1.00	1.00	1.05	1.05	1.00	1.05	1.00
FinalVolume:	0	0	0	77	0	63	0	475	387	11	1017	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	1.10	0.90	1.00	2.00	0.00
Final Sat.:	0	0	0	3600	0	1900	0	2095	1705	1800	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.23	0.23	0.01	0.27	0.00
Crit Moves:						****	****				****	
Green/Cycle:	0.00	0.00	0.00	0.10	0.00	0.10	0.00	0.78	0.78	0.02	0.80	0.00
Volume/Cap:	0.00	0.00	0.00	0.22	0.00	0.33	0.00	0.29	0.29	0.29	0.33	0.00
Delay/Veh:	0.0	0.0	0.0	26.2	0.0	29.9	0.0	2.1	2.1	48.2	1.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	26.2	0.0	29.9	0.0	2.1	2.1	48.2	1.9	0.0
LOS by Move:	A	A	A	C	A	C	A	A	A	D	A	A
HCM2kAvgQ:	0	0	0	1	0	1	0	2	2	0	3	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Main St/ SR-58 WB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.425
Loss Time (sec):	6	Average Delay (sec/veh):	13.4
Optimal Cycle:	23	Level Of Service:	B

Street Name:	SR-58						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	0	0	0	0	1	0	1	1	0	0	0	2	0	1
Volume Module:												
Base Vol:	380	0	20	0	0	0	0	450	50	0	550	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	380	0	20	0	0	0	0	450	50	0	550	90
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	380	0	20	0	0	0	0	450	50	0	550	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	400	0	21	0	0	0	0	474	53	0	579	95
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	400	0	21	0	0	0	0	474	53	0	579	95
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.00
FinalVolume:	400	0	21	0	0	0	0	497	55	0	608	95
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.80	0.20	0.00	2.00	1.00
Final Sat.:	1800	0	1900	0	0	0	1800	3420	380	0	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.22	0.00	0.01	0.00	0.00	0.00	0.00	0.15	0.15	0.00	0.16	0.05
Crit Moves:	****						****				****	
Green/Cycle:	0.52	0.00	0.52	0.00	0.00	0.00	0.00	0.38	0.38	0.00	0.38	0.38
Volume/Cap:	0.42	0.00	0.02	0.00	0.00	0.00	0.00	0.39	0.39	0.00	0.42	0.13
Delay/Veh:	10.2	0.0	6.9	0.0	0.0	0.0	0.0	14.4	14.4	0.0	14.8	12.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.2	0.0	6.9	0.0	0.0	0.0	0.0	14.4	14.4	0.0	14.8	12.6
LOS by Move:	B	A	A	A	A	A	A	B	B	A	B	B
HCM2kAvgQ:	5	0	0	0	0	0	0	4	4	0	4	1

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Lenwood/ I-15 SB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.641
Loss Time (sec):	6	Average Delay (sec/veh):	15.8
Optimal Cycle:	34	Level Of Service:	B

Street Name:	I-15							Lenwood							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Split Phase				Split Phase				Permitted				Permitted			
Rights:	Include				Include				Ignore				Ignore			
Min. Green:	0	0	0		0	0	0		0	26	26		0	26	26	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	0	0	2	0	0	1	0	0	2	0 1	0	0	2	0 1
Volume Module:																
Base Vol:	0	0	0		1280	0	700		0	580	640		0	560	780	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		1280	0	700		0	580	640		0	560	780	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	0		1280	0	700		0	580	640		0	560	780	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	0.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.00		0.95	0.95	0.00	
PHF Volume:	0	0	0		1347	0	737		0	611	0		0	589	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	0	0		1347	0	737		0	611	0		0	589	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.03	1.00	1.00		1.00	1.05	0.00		1.00	1.05	0.00	
FinalVolume:	0	0	0		1388	0	737		0	641	0		0	619	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	1.00		0.89	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Lanes:	0.00	0.00	0.00		2.00	0.00	1.00		0.00	2.00	1.00		0.00	2.00	1.00	
Final Sat.:	0	0	0		3400	0	1900		0	3800	1900		0	3800	1900	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.41	0.00	0.39		0.00	0.17	0.00		0.00	0.16	0.00	
Crit Moves:					****					****						
Green/Cycle:	0.00	0.00	0.00		0.47	0.00	0.47		0.00	0.43	0.00		0.00	0.43	0.00	
Volume/Cap:	0.00	0.00	0.00		0.87	0.00	0.83		0.00	0.39	0.00		0.00	0.38	0.00	
Delay/Veh:	0.0	0.0	0.0		21.5	0.0	22.9		0.0	12.3	0.0		0.0	12.2	0.0	
User DelAdj:	1.00	1.00	1.00		0.88	0.90	0.70		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	0.0	0.0	0.0		18.9	0.0	16.0		0.0	12.3	0.0		0.0	12.2	0.0	
LOS by Move:	A	A	A		B	A	B		A	B	A		A	B	A	
HCM2kAvgQ:	0	0	0		17	0	15		0	4	0		0	4	0	

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #6 Lenwood/SR-15 NB Ramps/High Point Pkwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.788
Loss Time (sec):	8	Average Delay (sec/veh):	27.3
Optimal Cycle:	62	Level Of Service:	C

Street Name:	I-15							Lenwood							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Ovl				Ignore				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	1	0	0 2	1	0	0	0 2	2	0	2	1 0	0	0	2	1 0
Volume Module:																
Base Vol:	450	130	690		50	0	440		220	1220	640		0	1530	200	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	450	130	690		50	0	440		220	1220	640		0	1530	200	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	450	130	690		50	0	440		220	1220	640		0	1530	200	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.00		0.95	0.95	0.95	
PHF Volume:	474	137	726		53	0	463		232	1284	0		0	1611	211	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	474	137	726		53	0	463		232	1284	0		0	1611	211	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
MLF Adj:	1.05	1.05	1.13		1.00	1.00	1.13		1.03	1.10	0.00		1.00	1.10	1.10	
FinalVolume:	497	144	821		53	0	523		239	1413	0		0	1772	232	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	0.95		0.95	1.00	0.95		0.89	1.00	1.00		0.95	1.00	1.00	
Lanes:	1.57	0.43	2.00		1.00	0.00	2.00		2.00	3.00	0.00		0.00	2.65	0.35	
Final Sat.:	2827	817	3600		1800	0	3600		3400	5700	0		0	5041	659	
Capacity Analysis Module:																
Vol/Sat:	0.18	0.18	0.23		0.03	0.00	0.15		0.07	0.25	0.00		0.00	0.35	0.35	
Crit Moves:			****				****		****					****		
Green/Cycle:	0.29	0.29	0.29		0.10	0.00	0.18		0.09	0.54	0.00		0.00	0.45	0.45	
Volume/Cap:	0.61	0.61	0.79		0.31	0.00	0.79		0.79	0.46	0.00		0.00	0.79	0.79	
Delay/Veh:	33.1	33.1	38.5		46.7	0.0	48.1		63.1	10.7	0.0		0.0	22.5	22.5	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	33.1	33.1	38.5		46.7	0.0	48.1		63.1	10.7	0.0		0.0	22.5	22.5	
LOS by Move:	C	C	D		D	A	D		E	B	A		A	C	C	
HCM2kAvgQ:	9	9	14		2	0	10		6	6	0		0	17	17	

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Outlet Center Dr/ I-15 SB Ramps

Average Delay (sec/veh): 6.8 Worst Case Level Of Service: B[10.3]

Street Name:	I-15						Outlet Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			0 0 0 1 0			0 1 0 0 0		
Volume Module:												
Base Vol:	0	0	0	10	0	10	0	10	10	190	10	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	10	0	10	10	190	10	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	10	0	10	0	10	10	190	10	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	11	0	11	0	11	11	200	11	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	11	0	11	0	11	11	200	11	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	426	432	11	xxxx	xxxx	xxxxx	21	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	589	520	1076	xxxx	xxxx	xxxxx	1608	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	526	447	1076	xxxx	xxxx	xxxxx	1608	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.02	0.00	0.01	xxxx	xxxx	xxxx	0.12	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	706	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx	0.4	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	10.3	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			10.3			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Outlet Center Dr/ I-15 NB Ramps

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: A[9.1]

Street Name:	I-15						Outlet Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 1 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	10	10	70	0	0	0	10	10	0	0	190	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	70	0	0	0	10	10	0	0	190	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	10	70	0	0	0	10	10	0	0	190	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	11	11	74	0	0	0	11	11	0	0	200	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	11	11	74	0	0	0	11	11	0	0	200	11
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	237	242	11	xxxx	xxxx	xxxxx	211	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	756	663	1076	xxxx	xxxx	xxxxx	1372	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	751	658	1076	xxxx	xxxx	xxxxx	1372	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	0.02	0.07	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	962	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	9.1	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	*	*	A	*	*	*	*	*
ApproachDel:		9.1		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		A		*			*			*		

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Lenwood/ Mercantile

Cycle (sec):	130	Critical Vol./Cap.(X):	0.343
Loss Time (sec):	8	Average Delay (sec/veh):	38.8
Optimal Cycle:	82	Level Of Service:	D

Street Name:	Lenwood						Mercantile					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Ovl		
Min. Green:	10	26	26	10	26	26	10	28	28	10	28	28
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 2	0 1	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	10	130	20	150	180	250	260	60	10	30	70	170
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	130	20	150	180	250	260	60	10	30	70	170
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	130	20	150	180	250	260	60	10	30	70	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.00	0.95	0.95	0.95
PHF Volume:	11	137	21	158	189	263	274	63	0	32	74	179
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	137	21	158	189	263	274	63	0	32	74	179
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	11	144	22	158	199	263	274	63	0	32	74	179
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	1.73	0.27	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1800	3293	507	1800	3800	1900	1800	1900	1900	1800	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.01	0.04	0.04	0.09	0.05	0.14	0.15	0.03	0.00	0.02	0.04	0.09
Crit Moves:		****			****			****			****	
Green/Cycle:	0.11	0.20	0.20	0.19	0.28	0.28	0.33	0.40	0.00	0.14	0.22	0.41
Volume/Cap:	0.05	0.22	0.22	0.46	0.19	0.49	0.46	0.08	0.00	0.12	0.18	0.23
Delay/Veh:	52.5	44.2	44.2	50.9	35.7	42.0	36.8	24.2	0.0	49.4	42.6	26.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.5	44.2	44.2	50.9	35.7	42.0	36.8	24.2	0.0	49.4	42.6	26.0
LOS by Move:	D	D	D	D	D	D	D	C	A	D	D	C
HCM2kAvgQ:	0	3	3	6	3	9	9	1	0	1	2	5

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #10 Lenwood/Project Access

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Street Name:	Lenwood						Project Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0 1	0 0	0	0 1	0 0	0	0 0	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	0	160	0	0	220	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	160	0	0	220	0	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	160	0	0	220	0	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	168	0	0	232	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	168	0	0	232	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	400	400	168
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	610	541	881
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	610	541	881
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	0.00
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Mercantile Way/Factory Outlet Ave

Average Delay (sec/veh): 6.2 Worst Case Level Of Service: B[10.0]

Street Name:	Factory Outlet						Mercantile					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			1 0 2 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	0	0	0	10	0	180	200	70	0	0	70	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	180	200	70	0	0	70	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	10	0	180	200	70	0	0	70	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	11	0	189	211	74	0	0	74	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	11	0	189	211	74	0	0	74	32
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	547	584	89	105	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	501	426	974	1499	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	447	366	974	1499	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.02	0.00	0.19	0.14	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	917	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	10.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			10.0			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 + Alt A MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Lenwood/SR-58

Cycle (sec): 60 Critical Vol./Cap.(X): 0.759
Loss Time (sec): 6 Average Delay (sec/veh): 18.0
Optimal Cycle: 45 Level Of Service: B

Street Name:	Lenwood						SR-58					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	1 0	0 1	1	1 0	1 0	1
Volume Module:												
Base Vol:	90	10	80	40	10	130	110	700	120	130	850	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	10	80	40	10	130	110	700	120	130	850	50
Added Vol:	27	0	0	0	0	0	0	46	24	0	53	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	10	80	40	10	130	110	746	144	130	903	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	123	11	84	42	11	137	116	785	152	137	951	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	123	11	84	42	11	137	116	785	152	137	951	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.00	1.00
FinalVolume:	123	11	84	42	11	137	116	825	159	137	951	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	0.58	0.05	0.37	0.23	0.05	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1041	89	712	417	104	1355	1800	1900	1900	1800	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.12	0.10	0.10	0.10	0.06	0.43	0.08	0.08	0.50	0.03
Crit Moves:		****					****				****	
Green/Cycle:	0.16	0.16	0.16	0.16	0.16	0.16	0.08	0.63	0.63	0.11	0.66	0.66
Volume/Cap:	0.76	0.76	0.76	0.65	0.65	0.65	0.76	0.69	0.13	0.69	0.76	0.04
Delay/Veh:	41.3	41.3	41.3	34.4	34.4	34.4	56.1	9.8	4.4	43.1	11.3	3.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.3	41.3	41.3	34.4	34.4	34.4	56.1	9.8	4.4	43.1	11.3	3.6
LOS by Move:	D	D	D	C	C	C	E	A	A	D	B	A
HCM2kAvgQ:	6	6	6	5	5	5	4	11	1	4	14	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 + Alt A MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Lenwood/ Main St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.622
Loss Time (sec):	8	Average Delay (sec/veh):	36.0
Optimal Cycle:	48	Level Of Service:	D

Street Name:	Lenwood						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	0	0	1	0	1	0	1	1	0	1	0	1	1	0
Volume Module:												
Base Vol:	310	90	200	30	70	70	60	320	260	180	400	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	310	90	200	30	70	70	60	320	260	180	400	40
Added Vol:	31	27	0	0	24	0	0	0	28	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	341	117	200	30	94	70	60	320	288	180	400	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	359	123	211	32	99	74	63	337	303	189	421	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	359	123	211	32	99	74	63	337	303	189	421	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
FinalVolume:	359	129	221	32	99	74	63	354	318	189	442	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.57	0.43	1.00	1.05	0.95	1.00	1.82	0.18
Final Sat.:	1800	1900	1900	1800	1089	811	1800	2000	1800	1800	3455	345
Capacity Analysis Module:												
Vol/Sat:	0.20	0.07	0.12	0.02	0.09	0.09	0.04	0.18	0.18	0.11	0.13	0.13
Crit Moves:	****				****			****			****	
Green/Cycle:	0.32	0.25	0.25	0.22	0.15	0.15	0.20	0.28	0.28	0.17	0.25	0.25
Volume/Cap:	0.62	0.27	0.46	0.08	0.62	0.62	0.18	0.62	0.62	0.62	0.50	0.50
Delay/Veh:	33.8	30.6	33.8	31.7	50.2	50.2	34.3	33.8	33.8	47.8	33.7	33.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.8	30.6	33.8	31.7	50.2	50.2	34.3	33.8	33.8	47.8	33.7	33.7
LOS by Move:	C	C	C	C	D	D	C	C	C	D	C	C
HCM2kAvgQ:	10	3	6	1	6	6	2	10	10	7	7	7

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 + Alt A MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Main St/ SR-58 EB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.334
Loss Time (sec):	6	Average Delay (sec/veh):	4.9
Optimal Cycle:	21	Level Of Service:	A

Street Name:	SR-58						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	0	0	1	1	0	0	1	0	2	0	0
Volume Module:												
Base Vol:	0	0	0	70	0	60	0	430	350	10	920	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	70	0	60	0	430	350	10	920	0
Added Vol:	0	0	0	0	0	0	0	0	0	30	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	70	0	60	0	430	350	40	920	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	74	0	63	0	453	368	42	968	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	74	0	63	0	453	368	42	968	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.05	1.00	1.00	1.05	1.05	1.00	1.05	1.00
FinalVolume:	0	0	0	77	0	63	0	475	387	42	1017	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	1.10	0.90	1.00	2.00	0.00
Final Sat.:	0	0	0	3600	0	1900	0	2095	1705	1800	3800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.23	0.23	0.02	0.27	0.00
Crit Moves:						****	****				****	
Green/Cycle:	0.00	0.00	0.00	0.10	0.00	0.10	0.00	0.73	0.73	0.07	0.80	0.00
Volume/Cap:	0.00	0.00	0.00	0.22	0.00	0.33	0.00	0.31	0.31	0.31	0.33	0.00
Delay/Veh:	0.0	0.0	0.0	26.2	0.0	29.9	0.0	3.2	3.2	32.3	1.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	26.2	0.0	29.9	0.0	3.2	3.2	32.3	1.9	0.0
LOS by Move:	A	A	A	C	A	C	A	A	A	C	A	A
HCM2kAvgQ:	0	0	0	1	0	1	0	3	3	1	3	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Main St/ SR-58 WB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.434
Loss Time (sec):	6	Average Delay (sec/veh):	13.1
Optimal Cycle:	24	Level Of Service:	B

Street Name:	SR-58						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	0	0	0	1	0	1	1	0	0	0	2	0	1
Volume Module:												
Base Vol:	380	0	20	0	0	0	0	450	50	0	550	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	380	0	20	0	0	0	0	450	50	0	550	90
Added Vol:	0	0	32	0	0	0	0	0	0	0	30	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	380	0	52	0	0	0	0	450	50	0	580	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	400	0	55	0	0	0	0	474	53	0	611	95
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	400	0	55	0	0	0	0	474	53	0	611	95
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.00
FinalVolume:	400	0	55	0	0	0	0	497	55	0	641	95
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.80	0.20	0.00	2.00	1.00
Final Sat.:	1800	0	1900	0	0	0	1800	3420	380	0	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.22	0.00	0.03	0.00	0.00	0.00	0.00	0.15	0.15	0.00	0.17	0.05
Crit Moves:	****						****				****	
Green/Cycle:	0.51	0.00	0.51	0.00	0.00	0.00	0.00	0.39	0.39	0.00	0.39	0.39
Volume/Cap:	0.43	0.00	0.06	0.00	0.00	0.00	0.00	0.37	0.37	0.00	0.43	0.13
Delay/Veh:	10.7	0.0	7.5	0.0	0.0	0.0	0.0	13.9	13.9	0.0	14.4	12.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.7	0.0	7.5	0.0	0.0	0.0	0.0	13.9	13.9	0.0	14.4	12.2
LOS by Move:	B	A	A	A	A	A	A	B	B	A	B	B
HCM2kAvgQ:	5	0	1	0	0	0	0	4	4	0	5	1

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Lenwood/ I-15 SB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.790
Loss Time (sec):	6	Average Delay (sec/veh):	41.1
Optimal Cycle:	50	Level Of Service:	D

Street Name:	I-15						Lenwood					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Ignore			Ignore		
Min. Green:	0	0	0	0	0	0	0	26	26	0	26	26
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	0	0	2	0	0	0	1	0	0	2	0	1	0	0	2	0	1
Volume Module:												
Base Vol:	0	0	0	1280	0	700	0	580	640	0	560	780
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1280	0	700	0	580	640	0	560	780
Added Vol:	0	0	0	157	0	0	0	51	0	0	58	0
PasserByVol:	0	0	0	218	0	0	0	0	0	0	0	85
Initial Fut:	0	0	0	1655	0	700	0	631	640	0	618	865
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.00	0.95	0.95	0.00
PHF Volume:	0	0	0	1742	0	737	0	664	0	0	651	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1742	0	737	0	664	0	0	651	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.03	1.00	1.00	1.00	1.05	0.00	1.00	1.05	0.00
FinalVolume:	0	0	0	1794	0	737	0	697	0	0	683	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.89	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3400	0	1900	0	3800	1900	0	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.53	0.00	0.39	0.00	0.18	0.00	0.00	0.18	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.47	0.00	0.47	0.00	0.43	0.00	0.00	0.43	0.00
Volume/Cap:	0.00	0.00	0.00	1.13	0.00	0.83	0.00	0.42	0.00	0.00	0.41	0.00
Delay/Veh:	0.0	0.0	0.0	83.5	0.0	22.9	0.0	12.6	0.0	0.0	12.5	0.0
User DelAdj:	1.00	1.00	1.00	0.88	0.90	0.70	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	73.5	0.0	16.0	0.0	12.6	0.0	0.0	12.5	0.0
LOS by Move:	A	A	A	E	A	B	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	37	0	15	0	5	0	0	5	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #6 Lenwood/SR-15 NB Ramps/High Point Pkwy

Cycle (sec):	100					Critical Vol./Cap.(X):					0.970				
Loss Time (sec):	8					Average Delay (sec/veh):					34.6				
Optimal Cycle:	130					Level Of Service:					C				
Street Name:	I-15								Lenwood						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Ovl				Ignore				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	1 0	0	2	1	0 0	0	2	2	0 2	1	0	0	0 2	1	0
Volume Module:																
Base Vol:	450	130	690		50	0	440		220	1220	640		0	1530	200	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	450	130	690		50	0	440		220	1220	640		0	1530	200	
Added Vol:	0	0	47		0	0	0		0	209	0		0	289	0	
PasserByVol:	0	0	72		0	0	0		0	218	0		0	342	0	
Initial Fut:	450	130	809		50	0	440		220	1647	640		0	2161	200	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.00		0.95	0.95	0.95	
PHF Volume:	474	137	852		53	0	463		232	1734	0		0	2275	211	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	474	137	852		53	0	463		232	1734	0		0	2275	211	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
MLF Adj:	1.05	1.05	1.13		1.00	1.00	1.13		1.03	1.10	0.00		1.00	1.10	1.10	
FinalVolume:	497	144	962		53	0	523		239	1907	0		0	2502	232	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	0.95		0.95	1.00	0.95		0.89	1.00	1.00		0.95	1.00	1.00	
Lanes:	1.57	0.43	2.00		1.00	0.00	2.00		2.00	3.00	0.00		0.00	2.75	0.25	
Final Sat.:	2827	817	3600		1800	0	3600		3400	5700	0		0	5217	483	
Capacity Analysis Module:																
Vol/Sat:	0.18	0.18	0.27		0.03	0.00	0.15		0.07	0.33	0.00		0.00	0.48	0.48	
Crit Moves:			****				****		****					****		
Green/Cycle:	0.28	0.28	0.28		0.08	0.00	0.15		0.07	0.57	0.00		0.00	0.49	0.49	
Volume/Cap:	0.64	0.64	0.97		0.38	0.00	0.97		0.97	0.59	0.00		0.00	0.97	0.97	
Delay/Veh:	34.9	34.9	58.0		51.4	0.0	74.3		96.4	9.9	0.0		0.0	30.3	30.3	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	34.9	34.9	58.0		51.4	0.0	74.3		96.4	9.9	0.0		0.0	30.3	30.3	
LOS by Move:	C	C	E		D	A	E		F	A	A		A	C	C	
HCM2kAvgQ:	9	9	21		2	0	13		8	9	0		0	33	33	

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Outlet Center Dr/ I-15 SB Ramps

Average Delay (sec/veh): 8.1 Worst Case Level Of Service: C[17.0]

Street Name:	I-15								Outlet Center Dr						
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0 0	0	0	0	0 1!	0	0	0	0 0	1	0	0	1 0	0	0
Volume Module:																
Base Vol:	0	0	0		10	0	10		0	10	10		190	10	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		10	0	10		0	10	10		190	10	0	
Added Vol:	0	0	0		0	0	0		0	0	0		267	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		457	10	0	
Initial Fut:	0	0	0		10	0	10		0	10	10		457	10	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95	
PHF Volume:	0	0	0		11	0	11		0	11	11		481	11	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	0	0		11	0	11		0	11	11		481	11	0	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		6.4	6.5	6.2		xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx	
FollowUpTim:	xxxxx	xxxx	xxxxx		3.5	4.0	3.3		xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		988	994	11		xxxx	xxxx	xxxxx		21	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		276	247	1076		xxxx	xxxx	xxxxx		1608	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		188	146	1076		xxxx	xxxx	xxxxx		1608	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		0.06	0.00	0.01		xxxx	xxxx	xxxx		0.30	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		1.3	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		8.2	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	*		*	*	*		A	*	*	
Movement:	LT	- LTR	- RT		LT	- LTR	- RT		LT	- LTR	- RT		LT	- LTR	- RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	320	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	0.2	xxxxx		xxxxx	xxxx	xxxxx		1.3	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	17.0	xxxxx		xxxxx	xxxx	xxxxx		8.2	xxxx	xxxxx	
Shared LOS:	*	*	*		*	C	*		*	*	*		A	*	*	
ApproachDel:	xxxxxx				17.0				xxxxxx				xxxxxx			
ApproachLOS:	*				C				*				*			

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Outlet Center Dr/ I-15 NB Ramps

Average Delay (sec/veh): 4.2 Worst Case Level Of Service: B[10.4]

Street Name:	I-15						Outlet Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 1	0 0	0	0 0	0 1	0
Volume Module:												
Base Vol:	10	10	70	0	0	0	10	10	0	0	190	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	70	0	0	0	10	10	0	0	190	10
Added Vol:	0	0	231	0	0	0	0	0	0	0	267	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	10	301	0	0	0	10	10	0	0	457	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	11	11	317	0	0	0	11	11	0	0	481	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	11	11	317	0	0	0	11	11	0	0	481	11
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	518	523	11	xxxx	xxxx	xxxxx	492	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	521	461	1076	xxxx	xxxx	xxxxx	1082	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	517	457	1076	xxxx	xxxx	xxxxx	1082	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	0.02	0.29	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	1001	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.5	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	10.4	xxxxx	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	*	*	A	*	*	*	*	*
ApproachDel:		10.4			xxxxx			xxxxx			xxxxx	
ApproachLOS:		B			*			*			*	

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Lenwood/ Mercantile

Cycle (sec): 130 Critical Vol./Cap.(X): 0.541
Loss Time (sec): 8 Average Delay (sec/veh): 39.5
Optimal Cycle: 82 Level Of Service: D

Street Name:	Lenwood						Mercantile					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Ovl		
Min. Green:	10	26	26	10	26	26	10	28	28	10	28	28
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 1	0	1 0	2 0	1	1 0	1 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	10	130	20	150	180	250	260	60	10	30	70	170
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	130	20	150	180	250	260	60	10	30	70	170
Added Vol:	0	289	0	0	256	0	0	0	0	0	0	0
PasserByVol:	0	348	0	0	297	0	0	0	0	0	0	0
Initial Fut:	10	767	20	150	733	250	260	60	10	30	70	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.00	0.95	0.95	0.95
PHF Volume:	11	807	21	158	772	263	274	63	0	32	74	179
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	807	21	158	772	263	274	63	0	32	74	179
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	11	848	22	158	810	263	274	63	0	32	74	179
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	1.95	0.05	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1800	3703	97	1800	3800	1900	1800	1900	1900	1800	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.01	0.23	0.23	0.09	0.21	0.14	0.15	0.03	0.00	0.02	0.04	0.09
Crit Moves:		****			****			****			****	
Green/Cycle:	0.13	0.35	0.35	0.14	0.36	0.36	0.23	0.33	0.00	0.12	0.22	0.35
Volume/Cap:	0.05	0.65	0.65	0.65	0.59	0.39	0.65	0.10	0.00	0.15	0.18	0.27
Delay/Veh:	49.9	37.7	37.7	65.9	35.9	32.7	52.4	30.4	0.0	52.9	42.6	31.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.9	37.7	37.7	65.9	35.9	32.7	52.4	30.4	0.0	52.9	42.6	31.2
LOS by Move:	D	D	D	E	D	C	D	C	A	D	D	C
HCM2kAvgQ:	0	15	15	7	13	8	11	2	0	1	2	5

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #10 Lenwood/Project Access

Average Delay (sec/veh): 1359.1 Worst Case Level Of Service: F[3102.2]

Street Name:	Lenwood								Project Access							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1!	0	0
Volume Module:																				
Base Vol:	0	160		0		0	220		0		0	0		0		0	0		0	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	0	160		0		0	220		0		0	0		0		0	0		0	
Added Vol:	0	0		231		256	0		0		0	0		0		267	0		289	
PasserByVol:	0	0		0		297	0		0		0	0		0		0	0		348	
Initial Fut:	0	160		231		553	220		0		0	0		0		267	0		637	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	0.95	0.95		0.95		0.95	0.95		0.95		0.95	0.95		0.95		0.95	0.95		0.95	
PHF Volume:	0	168		243		582	232		0		0	0		0		281	0		671	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
FinalVolume:	0	168		243		582	232		0		0	0		0		281	0		671	
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx	xxxxx			4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx			6.4	6.5		6.2			
FollowUpTim:	xxxxx	xxxx	xxxxx			2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx			3.5	4.0		3.3			
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx			412	xxxx	xxxxx	xxxx	xxxx	xxxxx			1686	1686		290			
Potent Cap.:	xxxx	xxxx	xxxxx			1158	xxxx	xxxxx	xxxx	xxxx	xxxxx			104	95		754			
Move Cap.:	xxxx	xxxx	xxxxx			1158	xxxx	xxxxx	xxxx	xxxx	xxxxx			41	24		754			
Volume/Cap:	xxxx	xxxx	xxxx			0.50	xxxx	xxxx	xxxx	xxxx	xxxx			6.85	0.00		0.89			
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx			2.9	xxxx	xxxxx	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx			11.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*			B	*	*	*	*	*			*	*	*				
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx		123	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx			2.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx				107	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx			11.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx				3102	xxxxx				
Shared LOS:	*	*	*			B	*	*	*	*	*			*		F	*			
ApproachDel:	xxxxxx					xxxxxx			xxxxxx					3102.2						
ApproachLOS:	*					*			*					F						

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Mercantile Way/Factory Outlet Ave

Average Delay (sec/veh): 6.2 Worst Case Level Of Service: B[10.0]

Street Name:	Factory Outlet								Mercantile							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	0	0	0	0	0	1!	0	0	1	0	2	0	0	0	0	0	1	0
Volume Module:																				
Base Vol:	0	0		0		10	0		180		200	70		0		0	70		30	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	0	0		0		10	0		180		200	70		0		0	70		30	
Added Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	0	0		0		10	0		180		200	70		0		0	70		30	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	0.95	0.95		0.95		0.95	0.95		0.95		0.95	0.95		0.95		0.95	0.95		0.95	
PHF Volume:	0	0		0		11	0		189		211	74		0		0	74		32	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
FinalVolume:	0	0		0		11	0		189		211	74		0		0	74		32	
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx	xxxxx			6.4	6.5		6.2		4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx			3.5	4.0		3.3		2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx			547	584		89		105	xxxx	xxxxx		xxxx	xxxx	xxxxx			
Potent Cap.:	xxxx	xxxx	xxxxx			501	426		974		1499	xxxx	xxxxx		xxxx	xxxx	xxxxx			
Move Cap.:	xxxx	xxxx	xxxxx			447	366		974		1499	xxxx	xxxxx		xxxx	xxxx	xxxxx			
Volume/Cap:	xxxx	xxxx	xxxx			0.02	0.00		0.19		0.14	xxxx	xxxx		xxxx	xxxx	xxxx			
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			0.5	xxxx	xxxxx		xxxx	xxxx	xxxxx			
Control Del:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			7.8	xxxx	xxxxx		xxxxx	xxxx	xxxxx			
LOS by Move:	*	*	*			*	*	*			A	*	*		*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx		917	xxxxx		xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx		0.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			10.0	xxxxx	xxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*			*		B	*		*	*	*			*	*	*		
ApproachDel:	xxxxxx					10.0			xxxxxx					xxxxxx						
ApproachLOS:	*					B			*					*						

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Lenwood/SR-58

Cycle (sec):	60	Critical Vol./Cap.(X):	0.745
Loss Time (sec):	6	Average Delay (sec/veh):	17.7
Optimal Cycle:	44	Level Of Service:	B

Street Name:	Lenwood						SR-58					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	1	0	0 1	1	0	1 0 1
Volume Module:												
Base Vol:	90	10	80	40	10	130	110	700	120	130	850	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	10	80	40	10	130	110	700	120	130	850	50
Added Vol:	20	0	0	0	0	0	0	33	17	0	38	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	110	10	80	40	10	130	110	733	137	130	888	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	116	11	84	42	11	137	116	772	144	137	935	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	11	84	42	11	137	116	772	144	137	935	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.00	1.00
FinalVolume:	116	11	84	42	11	137	116	810	151	137	935	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	0.56	0.05	0.39	0.23	0.05	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1014	92	737	417	104	1355	1800	1900	1900	1800	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.11	0.10	0.10	0.10	0.06	0.43	0.08	0.08	0.49	0.03
Crit Moves:		****					****				****	
Green/Cycle:	0.15	0.15	0.15	0.15	0.15	0.15	0.09	0.63	0.63	0.11	0.66	0.66
Volume/Cap:	0.74	0.74	0.74	0.66	0.66	0.66	0.74	0.67	0.13	0.67	0.74	0.04
Delay/Veh:	40.6	40.6	40.6	35.2	35.2	35.2	54.1	9.6	4.4	41.9	10.9	3.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.6	40.6	40.6	35.2	35.2	35.2	54.1	9.6	4.4	41.9	10.9	3.6
LOS by Move:	D	D	D	D	D	D	D	A	A	D	B	A
HCM2kAvgQ:	6	6	6	5	5	5	4	11	1	4	13	0

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Lenwood/ Main St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.611
Loss Time (sec):	8	Average Delay (sec/veh):	35.7
Optimal Cycle:	48	Level Of Service:	D

Street Name:	Lenwood						Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 1 0	1	0	0 1 0	1	0	1 1 0	1	0	1 1 0
Volume Module:												
Base Vol:	310	90	200	30	70	70	60	320	260	180	400	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	310	90	200	30	70	70	60	320	260	180	400	40
Added Vol:	23	20	0	0	17	0	0	0	21	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	333	110	200	30	87	70	60	320	281	180	400	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	351	116	211	32	92	74	63	337	296	189	421	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	351	116	211	32	92	74	63	337	296	189	421	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.00	1.00	1.00	1.05	1.05	1.00	1.05	1.05
FinalVolume:	351	122	221	32	92	74	63	354	311	189	442	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.55	0.45	1.00	1.06	0.94	1.00	1.82	0.18
Final Sat.:	1800	1900	1900	1800	1053	847	1800	2023	1777	1800	3455	345
Capacity Analysis Module:												
Vol/Sat:	0.19	0.06	0.12	0.02	0.09	0.09	0.04	0.17	0.17	0.11	0.13	0.13
Crit Moves:	****				****			****		****		
Green/Cycle:	0.32	0.25	0.25	0.21	0.14	0.14	0.20	0.29	0.29	0.17	0.26	0.26
Volume/Cap:	0.61	0.26	0.47	0.08	0.61	0.61	0.17	0.61	0.61	0.61	0.50	0.50
Delay/Veh:	33.6	30.7	34.1	31.9	50.1	50.1	34.1	33.4	33.4	46.9	33.4	33.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.6	30.7	34.1	31.9	50.1	50.1	34.1	33.4	33.4	46.9	33.4	33.4
LOS by Move:	C	C	C	C	D	D	C	C	C	D	C	C
HCM2kAvgQ:	10	3	6	1	6	6	2	9	9	7	7	7

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Main St/ SR-58 EB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.334
Loss Time (sec):	6	Average Delay (sec/veh):	4.7
Optimal Cycle:	21	Level Of Service:	A

Street Name:	SR-58				Main St							
Approach:	North Bound				South Bound				East Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected			
Rights:	Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	0	0	1	1	0	0	1	0	0	1
Volume Module:												
Base Vol:	0	0	0		70	0	60		0	430	350	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		70	0	60		0	430	350	
Added Vol:	0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	0		70	0	60		0	430	350	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95	
PHF Volume:	0	0	0		74	0	63		0	453	368	
Reduct Vol:	0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	0	0		74	0	63		0	453	368	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.05	1.05	1.00		1.00	1.05	1.05	
FinalVolume:	0	0	0		77	0	63		0	475	387	
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Lanes:	0.00	0.00	0.00		2.00	0.00	1.00		0.00	1.10	0.90	
Final Sat.:	0	0	0		3600	0	1900		0	2095	1705	
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00		0.02	0.00	0.03		0.00	0.23	0.23	
Crit Moves:							****		****			
Green/Cycle:	0.00	0.00	0.00		0.10	0.00	0.10		0.00	0.74	0.74	
Volume/Cap:	0.00	0.00	0.00		0.22	0.00	0.33		0.00	0.31	0.31	
Delay/Veh:	0.0	0.0	0.0		26.2	0.0	29.9		0.0	3.0	3.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	0.0	0.0	0.0		26.2	0.0	29.9		0.0	3.0	3.0	
LOS by Move:	A	A	A		C	A	C		A	A	A	
HCM2kAvgQ:	0	0	0		1	0	1		0	3	3	

Street Name:	SR-58				Main St							
Approach:	North Bound				South Bound				East Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected			
Rights:	Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	1	0	0	1	0	0	0	0	0	1	0
Volume Module:												
Base Vol:	380	0	20		0	0	0		0	450	50	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	380	0	20		0	0	0		0	450	50	
Added Vol:	0	0	25		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0	
Initial Fut:	380	0	45		0	0	0		0	450	50	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95	
PHF Volume:	400	0	47		0	0	0		0	474	53	
Reduct Vol:	0	0	0		0	0	0		0	0	0	
Reduced Vol:	400	0	47		0	0	0		0	474	53	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.05	1.05	
FinalVolume:	400	0	47		0	0	0		0	497	55	
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Lanes:	1.00	0.00	1.00		0.00	0.00	0.00		1.00	1.80	0.20	
Final Sat.:	1800	0	1900		0	0	0		1800	3420	380	
Capacity Analysis Module:												
Vol/Sat:	0.22	0.00	0.02		0.00	0.00	0.00		0.00	0.15	0.15	
Crit Moves:	****								****			
Green/Cycle:	0.51	0.00	0.51		0.00	0.00	0.00		0.00	0.39	0.39	
Volume/Cap:	0.43	0.00	0.05		0.00	0.00	0.00		0.00	0.38	0.38	
Delay/Veh:	10.6	0.0	7.4		0.0	0.0	0.0		0.0	14.0	14.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	10.6	0.0	7.4		0.0	0.0	0.0		0.0	14.0	14.0	
LOS by Move:	B	A	A		A	A	A		A	B	B	
HCM2kAvgQ:	5	0	0		0	0	0		0	4	4	

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Main St/ SR-58 WB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.432
Loss Time (sec):	6	Average Delay (sec/veh):	13.1
Optimal Cycle:	24	Level Of Service:	B

Street Name:	SR-58				Main St							
Approach:	North Bound				South Bound				East Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected			
Rights:	Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	1	0	0	1	0	0	0	0	0	1	0
Volume Module:												
Base Vol:	380	0	20		0	0	0		0	450	50	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	380	0	20		0	0	0		0	450	50	
Added Vol:	0	0	25		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0	
Initial Fut:	380	0	45		0	0	0		0	450	50	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95	
PHF Volume:	400	0	47		0	0	0		0	474	53	
Reduct Vol:	0	0	0		0	0	0		0	0	0	
Reduced Vol:	400	0	47		0	0	0		0	474	53	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.05	1.05	
FinalVolume:	400	0	47		0	0	0		0	497	55	
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Lanes:	1.00	0.00	1.00		0.00	0.00	0.00		1.00	1.80	0.20	
Final Sat.:	1800	0	1900		0	0	0		1800	3420	380	
Capacity Analysis Module:												
Vol/Sat:	0.22	0.00	0.02		0.00	0.00	0.00		0.00	0.15	0.15	
Crit Moves:	****								****			
Green/Cycle:	0.51	0.00	0.51		0.00	0.00	0.00		0.00	0.39	0.39	
Volume/Cap:	0.43	0.00	0.05		0.00	0.00	0.00		0.00	0.38	0.38	
Delay/Veh:	10.6	0.0	7.4		0.0	0.0	0.0		0.0	14.0	14.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	10.6	0.0	7.4		0.0	0.0	0.0		0.0	14.0	14.0	
LOS by Move:	B	A	A		A	A	A		A	B	B	
HCM2kAvgQ:	5	0	0		0	0	0		0	4	4	

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 Lenwood/ I-15 SB Ramps

Cycle (sec):	60	Critical Vol./Cap.(X):	0.751
Loss Time (sec):	6	Average Delay (sec/veh):	30.1
Optimal Cycle:	44	Level Of Service:	C

Street Name:	I-15							Lenwood							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Split Phase				Split Phase				Permitted				Permitted			
Rights:	Include				Include				Ignore				Ignore			
Min. Green:	0	0	0		0	0	0		0	26	26		0	26	26	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	0	0	2	0	0	1	0	0	2	0 1	0	0	2	0 1
Volume Module:																
Base Vol:	0	0	0		1280	0	700		0	580	640		0	560	780	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		1280	0	700		0	580	640		0	560	780	
Added Vol:	0	0	0		119	0	0		0	38	0		0	43	0	
PasserByVol:	0	0	0		156	0	0		0	0	0		0	0	61	
Initial Fut:	0	0	0		1555	0	700		0	618	640		0	603	841	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	0.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.00		0.95	0.95	0.00	
PHF Volume:	0	0	0		1637	0	737		0	651	0		0	635	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	0	0		1637	0	737		0	651	0		0	635	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.03	1.00	1.00		1.00	1.05	0.00		1.00	1.05	0.00	
FinalVolume:	0	0	0		1686	0	737		0	683	0		0	666	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	1.00		0.89	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Lanes:	0.00	0.00	0.00		2.00	0.00	1.00		0.00	2.00	1.00		0.00	2.00	1.00	
Final Sat.:	0	0	0		3400	0	1900		0	3800	1900		0	3800	1900	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.50	0.00	0.39		0.00	0.18	0.00		0.00	0.18	0.00	
Crit Moves:					****					****						
Green/Cycle:	0.00	0.00	0.00		0.47	0.00	0.47		0.00	0.43	0.00		0.00	0.43	0.00	
Volume/Cap:	0.00	0.00	0.00		1.06	0.00	0.83		0.00	0.41	0.00		0.00	0.40	0.00	
Delay/Veh:	0.0	0.0	0.0		57.3	0.0	22.9		0.0	12.5	0.0		0.0	12.4	0.0	
User DelAdj:	1.00	1.00	1.00		0.88	0.90	0.70		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	0.0	0.0	0.0		50.4	0.0	16.0		0.0	12.5	0.0		0.0	12.4	0.0	
LOS by Move:	A	A	A		D	A	B		A	B	A		A	B	A	
HCM2kAvgQ:	0	0	0		31	0	15		0	5	0		0	4	0	

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #6 Lenwood/SR-15 NB Ramps/High Point Pkwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.920
Loss Time (sec):	8	Average Delay (sec/veh):	30.9
Optimal Cycle:	112	Level Of Service:	C

Street Name:	I-15							Lenwood							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Ovl				Ignore				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	1	0	0 2	1	0	0	0 2	2	0	2	1 0	0	0	2	1 0
Volume Module:																
Base Vol:	450	130	690		50	0	440		220	1220	640		0	1530	200	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	450	130	690		50	0	440		220	1220	640		0	1530	200	
Added Vol:	0	0	34		0	0	0		0	157	0		0	215	0	
PasserByVol:	0	0	52		0	0	0		0	156	0		0	245	0	
Initial Fut:	450	130	776		50	0	440		220	1533	640		0	1990	200	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.00		0.95	0.95	0.95	
PHF Volume:	474	137	817		53	0	463		232	1614	0		0	2095	211	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	474	137	817		53	0	463		232	1614	0		0	2095	211	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
MLF Adj:	1.05	1.05	1.13		1.00	1.00	1.13		1.03	1.10	0.00		1.00	1.10	1.10	
FinalVolume:	497	144	923		53	0	523		239	1775	0		0	2304	232	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	0.95		0.95	1.00	0.95		0.89	1.00	1.00		0.95	1.00	1.00	
Lanes:	1.57	0.43	2.00		1.00	0.00	2.00		2.00	3.00	0.00		0.00	2.73	0.27	
Final Sat.:	2827	817	3600		1800	0	3600		3400	5700	0		0	5179	521	
Capacity Analysis Module:																
Vol/Sat:	0.18	0.18	0.26		0.03	0.00	0.15		0.07	0.31	0.00		0.00	0.44	0.44	
Crit Moves:			****				****		****					****		
Green/Cycle:	0.28	0.28	0.28		0.08	0.00	0.16		0.08	0.56	0.00		0.00	0.48	0.48	
Volume/Cap:	0.63	0.63	0.92		0.36	0.00	0.92		0.92	0.56	0.00		0.00	0.92	0.92	
Delay/Veh:	34.6	34.6	49.7		50.1	0.0	63.9		84.5	10.0	0.0		0.0	25.4	25.4	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	34.6	34.6	49.7		50.1	0.0	63.9		84.5	10.0	0.0		0.0	25.4	25.4	
LOS by Move:	C	C	D		D	A	E		F	B	A		A	C	C	
HCM2kAvgQ:	9	9	19		2	0	12		7	8	0		0	27	27	

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Outlet Center Dr/ I-15 SB Ramps

Average Delay (sec/veh): 7.7 Worst Case Level Of Service: B[14.1]

Street Name:	I-15						Outlet Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			0 0 0 1 0			0 1 0 0 0		
Volume Module:												
Base Vol:	0	0	0	10	0	10	0	10	10	190	10	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	10	0	10	10	190	10	0
Added Vol:	0	0	0	0	0	0	0	0	0	192	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	10	0	10	0	10	10	382	10	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	11	0	11	0	11	11	402	11	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	11	0	11	0	11	11	402	11	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	831	836	11	xxxx	xxxx	xxxxx	21	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	342	306	1076	xxxx	xxxx	xxxxx	1608	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	257	207	1076	xxxx	xxxx	xxxxx	1608	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.04	0.00	0.01	xxxx	xxxx	xxxx	0.25	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.0	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	415	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	xxxx	xxxxx	1.0	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	14.1	xxxxx	xxxxx	xxxx	xxxxx	8.0	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			14.1			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Outlet Center Dr/ I-15 NB Ramps

Average Delay (sec/veh): 3.9 Worst Case Level Of Service: A[9.9]

Street Name:	I-15						Outlet Center Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 1 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	10	10	70	0	0	0	10	10	0	0	190	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	70	0	0	0	10	10	0	0	190	10
Added Vol:	0	0	167	0	0	0	0	0	0	0	192	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	10	237	0	0	0	10	10	0	0	382	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	11	11	249	0	0	0	11	11	0	0	402	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	11	11	249	0	0	0	11	11	0	0	402	11
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	439	444	11	xxxx	xxxx	xxxxx	413	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	579	511	1076	xxxx	xxxx	xxxxx	1157	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	575	507	1076	xxxx	xxxx	xxxxx	1157	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	0.02	0.23	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	999	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.1	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	9.9	xxxxx	xxxxx	xxxx	xxxxx	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	*	*	A	*	*	*	*	*
ApproachDel:		9.9		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		A		*			*			*		

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Lenwood/ Mercantile

Cycle (sec): 130 Critical Vol./Cap.(X): 0.488
Loss Time (sec): 8 Average Delay (sec/veh): 39.8
Optimal Cycle: 82 Level Of Service: D

Street Name:	Lenwood						Mercantile					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Ovl		
Min. Green:	10	26	26	10	26	26	10	28	28	10	28	28
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	1	0 2	0 1	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	10	130	20	150	180	250	260	60	10	30	70	170
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	130	20	150	180	250	260	60	10	30	70	170
Added Vol:	0	215	0	0	191	0	0	0	0	0	0	0
PasserByVol:	0	253	0	0	217	0	0	0	0	0	0	0
Initial Fut:	10	598	20	150	588	250	260	60	10	30	70	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.00	0.95	0.95	0.95
PHF Volume:	11	629	21	158	619	263	274	63	0	32	74	179
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	629	21	158	619	263	274	63	0	32	74	179
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	11	661	22	158	650	263	274	63	0	32	74	179
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Lanes:	1.00	1.94	0.06	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1800	3677	123	1800	3800	1900	1800	1900	1900	1800	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.01	0.18	0.18	0.09	0.17	0.14	0.15	0.03	0.00	0.02	0.04	0.09
Crit Moves:		****			****			****				
Green/Cycle:	0.13	0.31	0.31	0.15	0.33	0.33	0.26	0.35	0.00	0.13	0.22	0.37
Volume/Cap:	0.05	0.58	0.58	0.58	0.51	0.42	0.58	0.09	0.00	0.14	0.18	0.26
Delay/Veh:	50.1	39.8	39.8	60.1	36.4	35.6	46.9	28.5	0.0	51.9	42.6	29.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.1	39.8	39.8	60.1	36.4	35.6	46.9	28.5	0.0	51.9	42.6	29.7
LOS by Move:	D	D	D	E	D	D	D	C	A	D	D	C
HCM2kAvgQ:	0	12	12	7	10	8	10	2	0	1	2	5

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #10 Lenwood/Project Access

Average Delay (sec/veh): 294.9 Worst Case Level Of Service: F[715.7]

Street Name:	Lenwood						Project Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0 0	1 0	0	1 0	0 0	0	0 0	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	0	160	0	0	220	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	160	0	0	220	0	0	0	0	0	0	0
Added Vol:	0	0	167	191	0	0	0	0	0	192	0	215
PasserByVol:	0	0	0	217	0	0	0	0	0	0	0	253
Initial Fut:	0	160	167	408	220	0	0	0	0	192	0	468
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	168	176	429	232	0	0	0	0	202	0	493
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	168	176	429	232	0	0	0	0	202	0	493
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	344	xxxx	xxxxx	xxxx	xxxx	xxxxx	1347	1347	256
Potent Cap.:	xxxx	xxxx	xxxxx	1226	xxxx	xxxxx	xxxx	xxxx	xxxxx	168	153	787
Move Cap.:	xxxx	xxxx	xxxxx	1226	xxxx	xxxxx	xxxx	xxxx	xxxxx	108	82	787
Volume/Cap:	xxxx	xxxx	xxxx	0.35	xxxx	xxxx	xxxx	xxxx	xxxx	1.88	0.00	0.63
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	1.6	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	9.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	277	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	1.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	56.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	9.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	716	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	F	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			715.7		
ApproachLOS:	*			*			*			F		

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 + Alt B MD

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Mercantile Way/Factory Outlet Ave

Average Delay (sec/veh): 6.2 Worst Case Level Of Service: B[10.0]

Street Name:	Factory Outlet								Mercantile							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	1!	0 0	1	0	2	0 0	0	0	0	1 0
Volume Module:																
Base Vol:	0	0	0		10	0	180		200	70	0		0	70	30	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		10	0	180		200	70	0		0	70	30	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	0		10	0	180		200	70	0		0	70	30	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95	
PHF Volume:	0	0	0		11	0	189		211	74	0		0	74	32	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	0	0		11	0	189		211	74	0		0	74	32	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		6.4	6.5	6.2		4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
FollowUpTim:	xxxxx	xxxx	xxxxx		3.5	4.0	3.3		2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		547	584	89		105	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		501	426	974		1499	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		447	366	974		1499	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		0.02	0.00	0.19		0.14	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		0.5	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		7.8	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	*		A	*	*		*	*	*	
Movement:	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	917	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	0.8	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	10.0	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	B	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				10.0				xxxxxx				xxxxxx			
ApproachLOS:	*				B				*				*			

Note: Queue reported is the number of cars per lane.

WITH MITIGATION

Barstow Casinos Project - Saturday
Year 2030 + Alt A MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Lenwood/Project Access

Cycle (sec): 100 Critical Vol./Cap.(X): 0.621
Loss Time (sec): 6 Average Delay (sec/veh): 26.8
Optimal Cycle: 35 Level Of Service: C

Street Name:	Lenwood								Project Access							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	1	0 1	2	0	1	0 0	0	0	0	0 0	1	0	0	0 2
Volume Module:																
Base Vol:	0	160	0		0	220	0		0	0	0		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	160	0		0	220	0		0	0	0		0	0	0	
Added Vol:	0	0	231		256	0	0		0	0	0		267	0	289	
PasserByVol:	0	0	0		297	0	0		0	0	0		0	0	348	
Initial Fut:	0	160	231		553	220	0		0	0	0		267	0	637	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95	
PHF Volume:	0	168	243		582	232	0		0	0	0		281	0	671	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	168	243		582	232	0		0	0	0		281	0	671	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.03	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.13	
FinalVolume:	0	168	243		600	232	0		0	0	0		281	0	758	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	0.85		0.85	1.00	1.00		0.95	1.00	1.00		0.90	1.00	0.81	
Lanes:	0.00	1.00	1.00		2.00	1.00	0.00		0.00	0.00	0.00		1.00	0.00	2.00	
Final Sat.:	0	1900	1615		3230	1900	0		0	0	0		1710	0	3060	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.09	0.15		0.19	0.12	0.00		0.00	0.00	0.00		0.16	0.00	0.25	
Crit Moves:			****		****										****	
Green/Cycle:	0.00	0.24	0.24		0.30	0.54	0.00		0.00	0.00	0.00		0.40	0.00	0.40	
Volume/Cap:	0.00	0.37	0.62		0.62	0.23	0.00		0.00	0.00	0.00		0.41	0.00	0.62	
Delay/Veh:	0.0	32.0	36.8		31.4	12.1	0.0		0.0	0.0	0.0		22.0	0.0	25.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	0.0	32.0	36.8		31.4	12.1	0.0		0.0	0.0	0.0		22.0	0.0	25.0	
LOS by Move:	A	C	D		C	B	A		A	A	A		C	A	C	
HCM2kAvgQ:	0	4	8		10	4	0		0	0	0		7	0	10	

Note: Queue reported is the number of cars per lane.

Barstow Casinos Project - Saturday
Year 2030 + Alt B MD

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Lenwood/Project Access

Cycle (sec):	100	Critical Vol./Cap.(X):	0.455
Loss Time (sec):	6	Average Delay (sec/veh):	24.4
Optimal Cycle:	25	Level Of Service:	C

Street Name:	Lenwood						Project Access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 1	0 1	2	0 1	0 0	0	0 0	0 0	1	0 0	0 2
Volume Module:												
Base Vol:	0	160	0	0	220	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	160	0	0	220	0	0	0	0	0	0	0
Added Vol:	0	0	167	191	0	0	0	0	0	192	0	215
PasserByVol:	0	0	0	217	0	0	0	0	0	0	0	253
Initial Fut:	0	160	167	408	220	0	0	0	0	192	0	468
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	168	176	429	232	0	0	0	0	202	0	493
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	168	176	429	232	0	0	0	0	202	0	493
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.13
FinalVolume:	0	168	176	442	232	0	0	0	0	202	0	557
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.85	1.00	1.00	0.95	1.00	1.00	0.90	1.00	0.81
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	2.00
Final Sat.:	0	1900	1615	3230	1900	0	0	0	0	1710	0	3060
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.11	0.14	0.12	0.00	0.00	0.00	0.00	0.12	0.00	0.18
Crit Moves:			****	****								****
Green/Cycle:	0.00	0.24	0.24	0.30	0.54	0.00	0.00	0.00	0.00	0.40	0.00	0.40
Volume/Cap:	0.00	0.37	0.46	0.46	0.23	0.00	0.00	0.00	0.00	0.30	0.00	0.46
Delay/Veh:	0.0	32.3	33.3	28.6	12.1	0.0	0.0	0.0	0.0	20.7	0.0	22.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	32.3	33.3	28.6	12.1	0.0	0.0	0.0	0.0	20.7	0.0	22.3
LOS by Move:	A	C	C	C	B	A	A	A	A	C	A	C
HCM2kAvgQ:	0	4	5	6	4	0	0	0	0	4	0	7

Note: Queue reported is the number of cars per lane.