

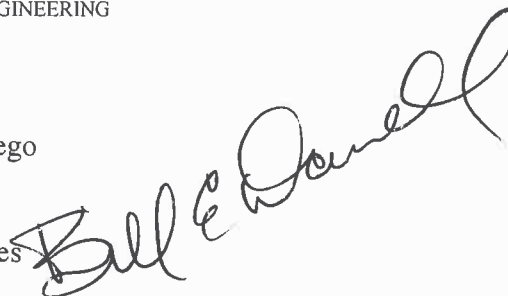
Darnell & ASSOCIATES

TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

March 19, 2020

To: Sean Oberbauer, County of San Diego
Eugene Martini, K&AEnterprises

From: Bill E. Darnell, Darnell & Associates



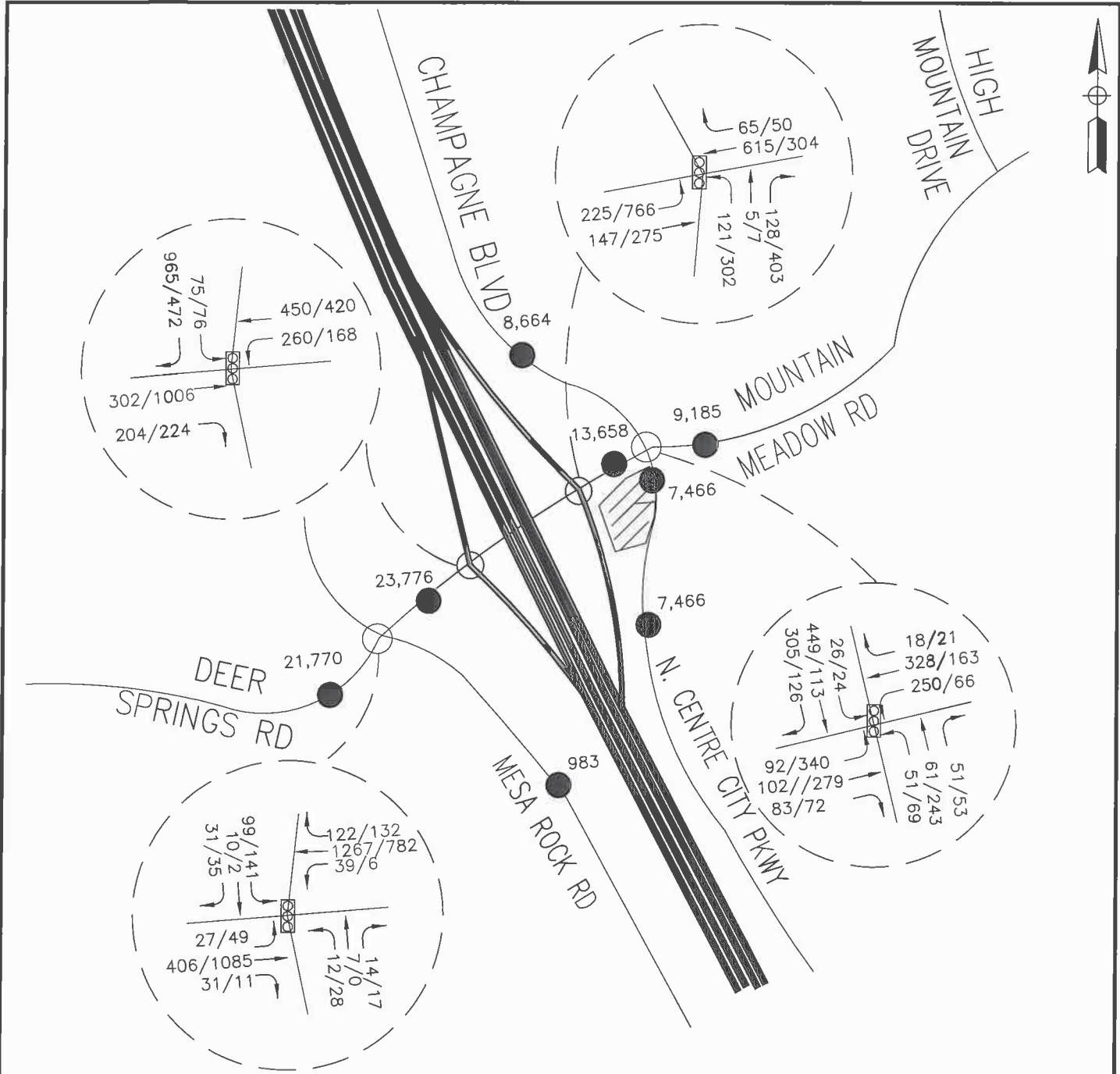
D&A Ref. No: 170405

RE: Response to Comments- Deer Springs Project

This letter report addresses comments on the 2017 Traffic Impact Study (TIS) for the KA Shell Station and Convenience Store development at Deer Springs Road and Interstate 15 (Project). Those comments claimed that the TIS failed to properly analyze the traffic impacts of the Project because it assumed an opening date in 2018 rather than in 2020. The TIS assumed that traffic counts on an Opening Day in 2018 would be 5% higher than the traffic counts used in the TIS. The use of a 5% increase was challenged based largely on the assumption that the Newland-Sierra project would generate even more traffic. That project has been rejected, but Darnell & Associates has revised the TIS to assume an Opening Day of 2020 or 2021.

In this process, Darnell & Associates relied on more-recent traffic-count data collected in March of 2019. Those data show that the average daily traffic on all the segments of Deer Springs Road in the study area are an average of 3.4% less than the 2018 traffic counts used in the TIS, and that the traffic volumes at the study-area intersections are 6% less (AM) and 4% less (PM) than the traffic volumes that were assumed to occur in 2018. Those comparisons are shown in Tables 1 and 2.

Although the 2019 data show a downward trend in traffic volumes from those used in the TIS, Darnell & Associates also calculated LOS values at each affected intersection by increasing the 2019 traffic counts by 2% to estimate the traffic volume for a 2020 opening date and for a 2021 opening date. Figure 9A presents the Opening Day 2021 Project traffic volumes and Figure 10A presents the Opening Day 2021 plus Project traffic volumes. Table 13A shows that the 2021 Opening Day plus Project traffic volumes at every intersection in the study area will operate at LOS "D" or better. The analysis confirms that the Project will not cause a significant direct impact on traffic whether it opens in 2018, 2020 or 2021.



LEGEND

-  - PROJECT SITE
-  - DIRECTION OF TRAVEL
- XX/YY - AM/PM PEAK HOUR TURN VOLUMES
- Z,ZZZ - AVERAGE DAILY TRAFFIC

Darnell & ASSOCIATES, INC.

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JAM

FIGURE 9
OPENING DAY (2018) TRAFFIC VOLUMES

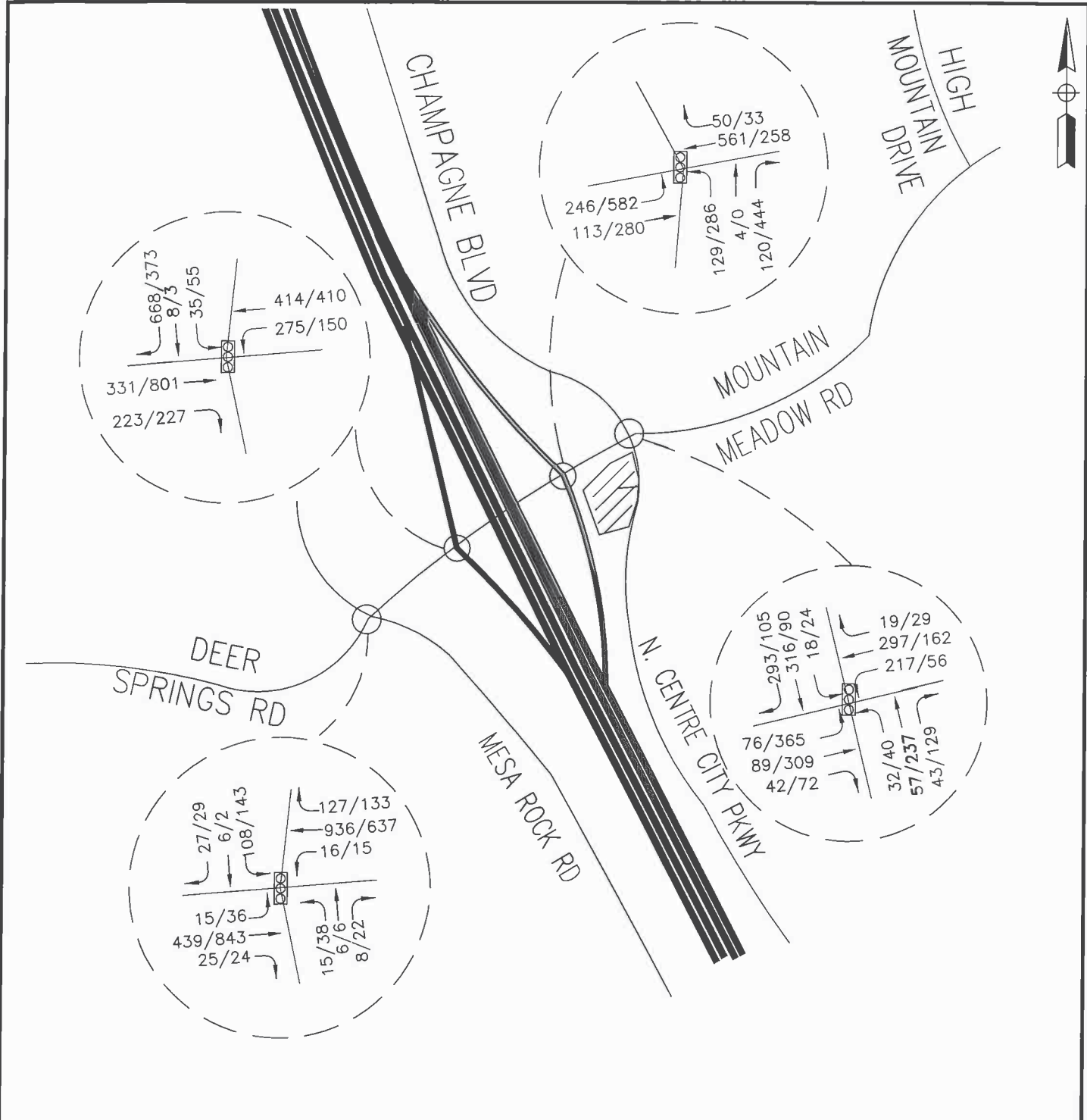
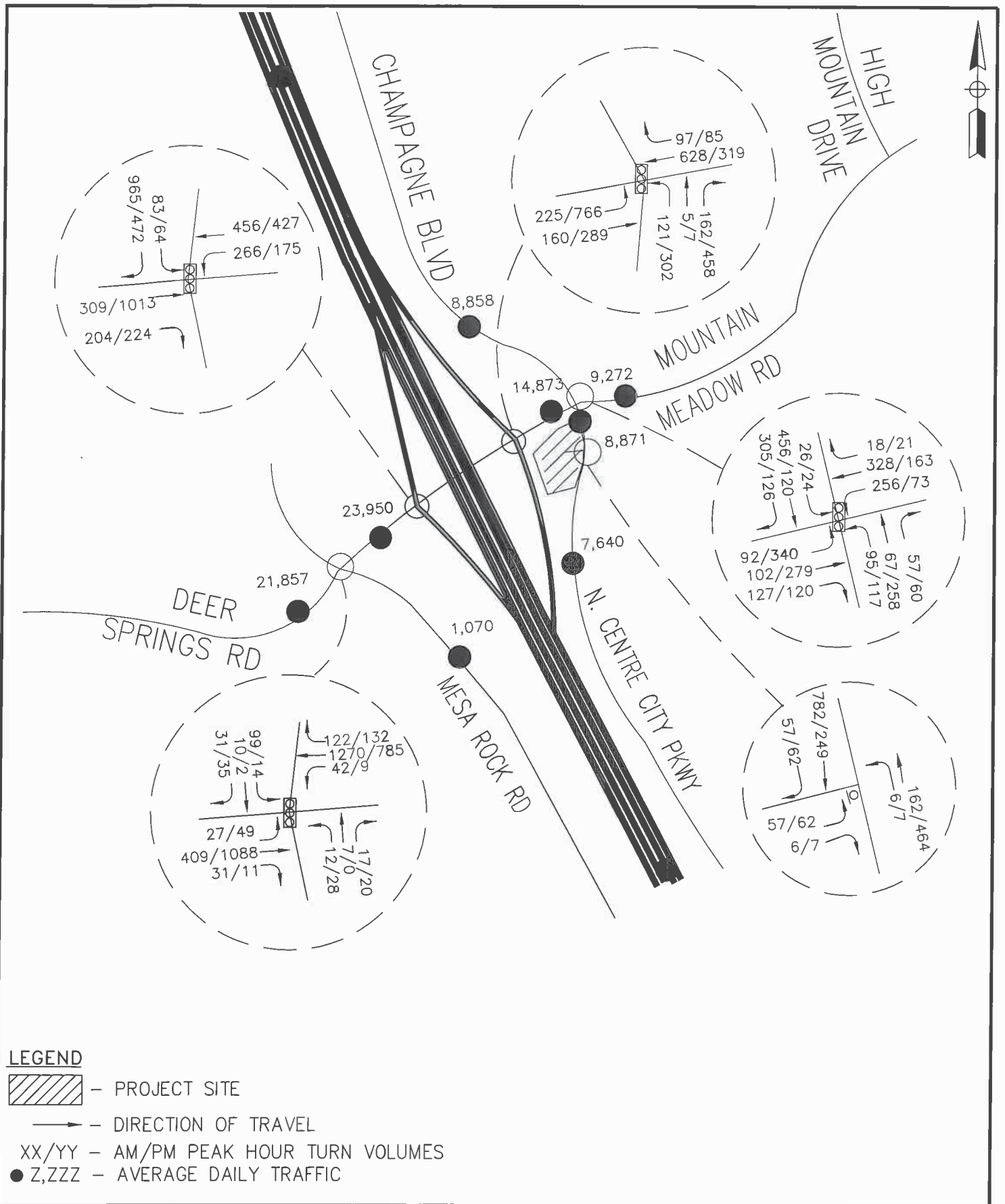


FIGURE 9A

OPENING DAY (2021) AM/PM TRAFFIC VOLUMES

Darnell & ASSOCIATES, INC.

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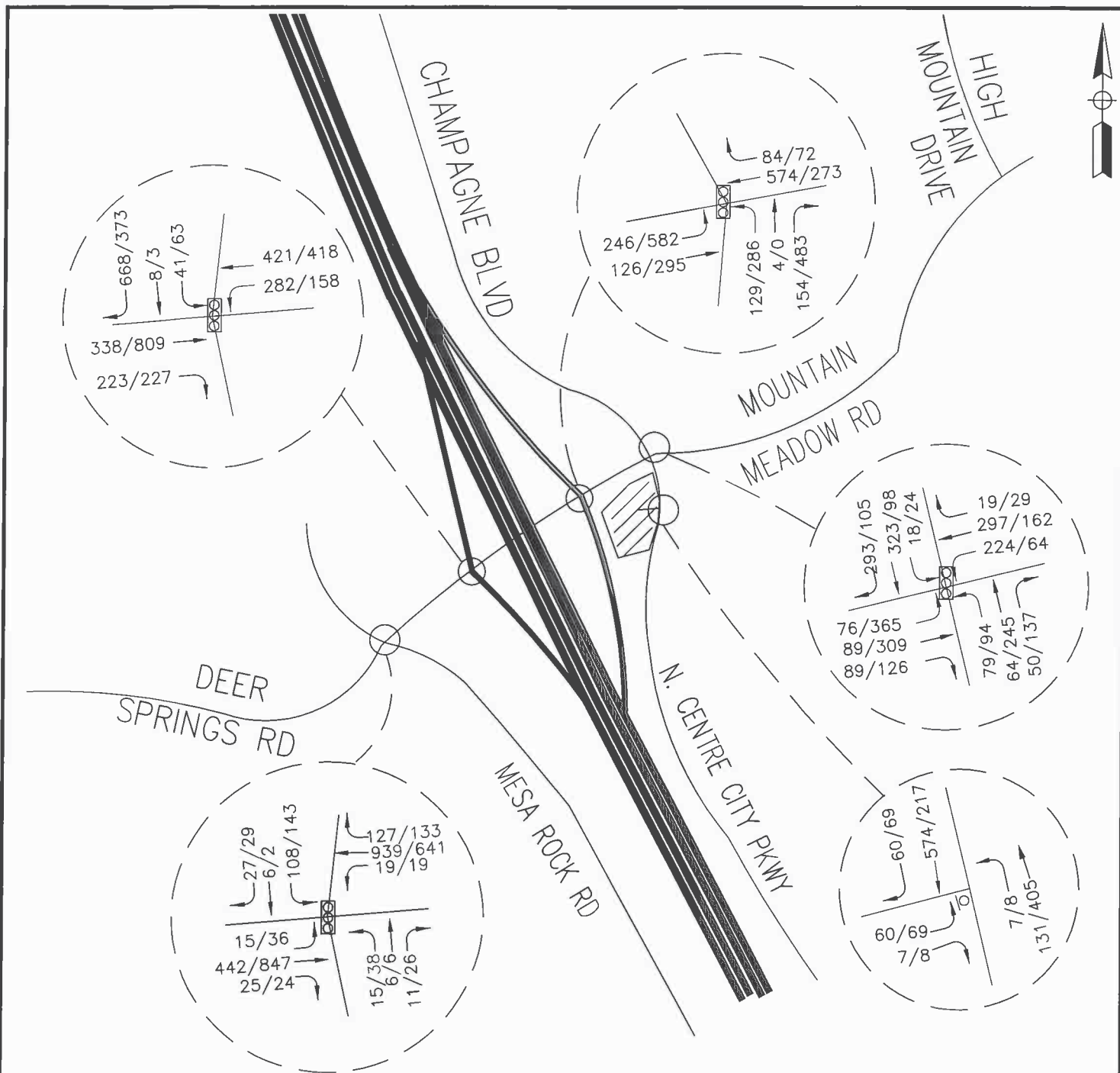


Darnell & ASSOCIATES, INC.

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JAM

FIGURE 10
OPENING DAY (2018) PLUS PROJECT
TRAFFIC VOLUMES



Darnell & ASSOCIATES, INC.

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JAM

FIGURE 10A

OPENING DAY (2021) AM/PM PLUS PROJECT
TRAFFIC VOLUMES

Table 1 – Comparison of April 2017 to March 2019 Traffic Counts						
Segment	Date of Count	ADT	Δ in ADT	Δ in %	Annual Growth %	
Deer Springs Rd (w/o Mesa Rd Rd)	Thu, 04/27/17	20,734	-2,779	-13%	-7%	
	Wed, 03/27/19	17,955				
Deer Springs Rd (Mesa Rock Rd to I-15 SB Ramps)	Thu, 04/27/17	22,644	-1,967	-9%	-4%	
	Wed, 03/27/19	20,677				
Deer Springs Rd (I-15 NB Ramps to Centre City Pkwy)	Thu, 04/27/17	13,008	-332	-3%	-1%	
	Wed, 03/27/19	12,676				
Deer Springs Rd (e/o Centre City Pkwy)	Thu, 04/27/17	8,748	136	2%	1%	
	Wed, 03/27/19	8,884				
Champagne Blvd (e/o Centre City Pkwy)	Thu, 04/27/17	8,251	-102	-1%	-1%	
	Wed, 03/27/19	8,149				
Centre City Pkwy (s/o Deer Springs Rd)	Thu, 04/27/17	7,110	-457	-6%	-3%	
	Wed, 03/27/19	6,653				
			Avg. Annual Growth %:		-3.4%	

Table 2 – Comparison of April 2017 to March 2019 Traffic Counts					
Intersection	Peak Hour	Total Entering Volume		Δ in %	Annual Growth %
		4/27/2017	3/27/2019		
Mesa Rock Rd & Deer Springs Rd	AM	1,961	1,686	-14%	-7%
	PM	2,173	1,884	-13%	-7%
I-15 SB Ramps & Deer Springs Rd	AM	2,146	1,910	-11%	-5%
	PM	2,233	1,975	-12%	-6%
I-15 NB Ramps & Deer Springs Rd	AM	1,240	1,196	-4%	-2%
	PM	2,002	1,843	-8%	-4%
Centre City Pkwy & Deer Springs Rd	AM	1,725	1,464	-15%	-8%
	PM	1,583	1,579	0%	0%
Average	AM	7,072	6,256	-12%	-6%
	PM	7,991	7,281	-9%	-4%

Table 13 - Opening Day (2018) + Project Intersection Level of Service Summary														
Intersection	Traffic Control	Critical Move	Opening Day (2018)						Opening Day (2018) + Project					
			AM Peak			PM Peak			AM Peak			PM Peak		
			Delay	LOS	LOS	Delay	LOS	LOS	Delay	LOS	LOS	Δ Delay	Proj. Trips	Sig.?
Deer Springs Road (E-W) @ Mesa Rock Road (N-S)	Signalized	Intersection	22.7	C	C	21.0	C	C	22.8	C	C	0.1	12	No
Deer Springs Rd (E-W) @ I-15 SB Ramps (N-S)	Signalized	Intersection	31.8	C	C	34.0	C	C	32.1	C	C	0.3	28	No
Deer Springs Rd (E-W) @ I-15 NB Ramps (N-S)	Signalized	Intersection	26.5	C	C	53.0	D	D	26.5	C	C	0.0	92	No
Deer Springs Rd (E-W) @ Champagne Blvd/ N. Centre City Parkway & Mountain Meadow Road (N-S)	Signalized	Intersection	35.4	C	C	28.1	C	C	35.9	C	C	0.5	120	No
Center City Parkway (N/S) @ Project Driveway Access	QOSC	EB	DNE			DNE			27.7	D	D	27.7	180	No
									17.8	C	C	17.8	154	No
sec/veh = seconds of delay per vehicle; LOS = Level of Service; E-W = East-West Roadway; N-S = North-South Roadway, OWSC = One Way Stop Control, EB = East Bound Approach, DNE = Does Not Exist.														

Table 13A – Opening Day 2021 Intersection Level of Service Summary														
Intersection	Traffic Control	Critical Move	Opening Day 2021						Opening Day 2021 plus Project					
			AM Peak			PM Peak			AM Peak			PM Peak		
			Delay	LOS	LOS	Delay	LOS	LOS	Delay	LOS	LOS	Δ Delay	Proj. Trips	Sig.?
Deer Springs Road (E-W) @ Mesa Rock Road (N-S)	Signalized	Intersection	16.5	B	C	24.1	C	C	16.7	B	C	0.2	12	No
Deer Springs Rd (E-W) @ I-15 SB Ramps (N-S)	Signalized	Intersection	26.0	C	C	35.5	D	D	26.2	C	C	0.2	28	No
Deer Springs Rd (E-W) @ I-15 NB Ramps (N-S)	Signalized	Intersection	23.9	C	C	28.9	D	D	23.9	C	C	0.0	92	No
Deer Springs Rd (E-W) @ Champagne Blvd/ N. Centre City Parkway & Mountain Meadow Road (N-S)	Signalized	Intersection	26.7	C	C	26.3	C	C	27.0	C	C	0.4	120	No
Center City Parkway (N/S) @ Project Driveway Access	OWSC	Intersection	Does Not Exist			Does Not Exist			17.3	C	C	17.3	134	No
									15.8	C	C	15.8	154	No
sec/veh = seconds of delay per vehicle; LOS = Level of Service; OWSC = One Way Stop Control														

ATTACHMENT A

YEAR 2018

- 2018 Traffic Counts
- Synchro Worksheets
 - Existing 2018
 - 2018 Existing plus Project

FUTURE

- 2019 Traffic Counts
- Synchro Worksheets
 - Opening Year 2021
 - Opening Year 2021 plus Project

YEAR 2018

➤ 2018 Traffic Counts

THURSDAY - APRIL 27, 2017

CITY: SAN DIEGO

PROJECT: PTD17-0428-02

DEER SPRINGS - E/O MESA ROCK

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			7	9	12:00			123	132
00:15			18	10	12:15			102	118
00:30			3	3	12:30			137	116
00:45			5	33	12:45			148	510
01:00			7	4	13:00			120	117
01:15			4	8	13:15			148	84
01:30			6	3	13:30			132	120
01:45			2	19	13:45			140	540
02:00			5	4	14:00			151	153
02:15			8	7	14:15			187	119
02:30			2	7	14:30			219	165
02:45			6	21	14:45			233	790
03:00			1	5	15:00			199	145
03:15			11	17	15:15			203	186
03:30			7	14	15:30			222	152
03:45			4	23	15:45			232	856
04:00			9	21	16:00			288	184
04:15			11	27	16:15			262	191
04:30			21	49	16:30			284	206
04:45			23	64	16:45			291	1125
05:00			25	87	17:00			284	205
05:15			22	109	17:15			305	226
05:30			43	164	17:30			288	212
05:45			66	156	17:45			268	1145
06:00			60	167	18:00			238	153
06:15			95	253	18:15			179	133
06:30			103	294	18:30			158	96
06:45			141	399	18:45			137	712
07:00			116	324	19:00			140	71
07:15			123	348	19:15			127	59
07:30			124	350	19:30			109	45
07:45			126	489	19:45			94	470
08:00			111	223	20:00			103	33
08:15			108	240	20:15			96	37
08:30			118	237	20:30			109	35
08:45			100	437	20:45			113	421
09:00			100	251	21:00			82	36
09:15			93	190	21:15			76	37
09:30			104	194	21:30			71	41
09:45			81	378	21:45			41	270
10:00			83	125	22:00			42	21
10:15			99	136	22:15			45	19
10:30			107	178	22:30			32	27
10:45			81	370	22:45			30	149
11:00			115	135	23:00			25	8
11:15			96	116	23:15			25	14
11:30			84	128	23:30			24	9
11:45			93	388	23:45			19	93

Total Vol.	2777	5964	8741	7081	4912	11993
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		Daily Totals		
NB	SB	EB	WB	Combined
		9858	10876	20734

Split %	AM			PM		
	31.8%	68.2%	42.2%	59.0%	41.0%	57.8%
Peak Hour	06:45	07:00	07:00	16:45	16:45	16:45
Volume	504	1362	1851	1168	855	2023
P.H.F.	0.89	0.97	0.98	0.96	0.95	0.95

PACIFIC TECHNICAL DATA

THURSDAY - APRIL 27, 2017

CITY: SAN DIEGO

PROJECT: PTD17-0428-02

DEER SPRINGS - MESA ROCK TO 15 SB RAMPS

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			8	10	12:00			140	152
00:15			20	14	12:15			125	152
00:30			5	7	12:30			167	150
00:45			6	39	12:45			172	604
01:00			12	8	13:00			144	135
01:15			9	14	13:15			185	115
01:30			6	4	13:30			151	140
01:45			8	35	13:45			167	647
02:00			10	5	14:00			186	165
02:15			5	8	14:15			215	157
02:30			4	10	14:30			260	175
02:45			6	25	14:45			246	907
03:00			6	10	15:00			209	162
03:15			13	19	15:15			240	199
03:30			13	14	15:30			257	185
03:45			5	37	15:45			275	981
04:00			11	26	16:00			251	166
04:15			9	38	16:15			262	184
04:30			36	64	16:30			248	166
04:45			31	87	16:45			288	1049
05:00			33	106	17:00			261	208
05:15			35	137	17:15			284	219
05:30			53	174	17:30			262	215
05:45			86	207	17:45			255	1062
06:00			72	194	18:00			270	170
06:15			114	275	18:15			198	155
06:30			113	292	18:30			173	101
06:45			146	445	18:45			164	805
07:00			103	312	19:00			166	79
07:15			110	351	19:15			149	77
07:30			121	311	19:30			131	61
07:45			115	449	19:45			108	554
08:00			101	222	20:00			119	54
08:15			88	219	20:15			119	56
08:30			116	235	20:30			124	45
08:45			94	399	20:45			129	491
09:00			120	263	21:00			96	53
09:15			119	214	21:15			87	51
09:30			128	205	21:30			71	45
09:45			83	450	21:45			59	313
10:00			108	143	22:00			43	33
10:15			125	158	22:15			57	26
10:30			142	201	22:30			40	34
10:45			101	476	22:45			39	179
11:00			160	147	23:00			27	14
11:15			108	130	23:15			36	21
11:30			107	170	23:30			30	13
11:45			146	521	23:45			23	116

Total Vol.		3170	6297	9467			7708	5469	13177
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	Daily Totals			Daily Totals		
	NB	SB	EB	WB	Combined	
			10878	11766	22644	
			58.5%	41.5%	58.2%	
Split %			33.5%	66.5%	41.8%	
Peak Hour			11:45	06:45	06:45	
Volume			578	1302	1782	
P.H.F.			0.87	0.93	0.94	

PACIFIC TECHNICAL DATA

PROJECT: PTD17-0428-02

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB			
00:00			15	2	12:00			91	84			
00:15			10	7	12:15			77	90			
00:30			8	3	12:30			89	83			
00:45			6	39	3	15	54	113	370	69	326	696
01:00			7	2	13:00			89	96			
01:15			2	2	13:15			115	86			
01:30			2	2	13:30			113	87			
01:45			0	11	3	9	20	101	418	78	347	765
02:00			2	0	14:00			86	88			
02:15			8	2	14:15			130	87			
02:30			9	3	14:30			150	73			
02:45			6	25	2	7	32	143	509	90	338	847
03:00			0	1	15:00			138	66			
03:15			4	3	15:15			157	95			
03:30			1	3	15:30			167	100			
03:45			2	7	8	15	22	155	617	106	367	984
04:00			1	4	16:00			169	78			
04:15			3	13	16:15			178	95			
04:30			7	24	16:30			186	79			
04:45			14	25	29	70	95	170	703	86	338	1041
05:00			6	32	17:00			149	82			
05:15			14	43	17:15			178	94			
05:30			13	73	17:30			167	73			
05:45			36	69	69	217	286	167	661	78	327	988
06:00			20	115	18:00			181	67			
06:15			42	181	18:15			156	89			
06:30			45	170	18:30			127	56			
06:45			47	154	170	636	790	119	583	54	266	849
07:00			50	207	19:00			102	42			
07:15			31	162	19:15			109	44			
07:30			87	153	19:30			86	32			
07:45			101	269	117	639	908	106	403	48	166	569
08:00			76	118	20:00			78	43			
08:15			65	119	20:15			80	30			
08:30			77	107	20:30			83	24			
08:45			85	303	102	446	749	91	332	23	120	452
09:00			107	115	21:00			56	33			
09:15			77	131	21:15			73	21			
09:30			63	111	21:30			59	20			
09:45			68	315	111	468	783	52	240	17	91	331
10:00			79	120	22:00			43	20			
10:15			82	101	22:15			38	14			
10:30			74	88	22:30			33	13			
10:45			72	307	95	404	711	26	140	8	55	195
11:00			94	93	23:00			22	8			
11:15			92	91	23:15			15	9			
11:30			93	99	23:30			12	3			
11:45			104	383	86	369	752	18	67	2	22	89

Daily Totals				
NB	SB	EB	WB	Combined
		6950	6058	13008

	AM			PM		
Split %	36.7%	63.3%	40.0%	64.6%	35.4%	60.0%
Peak Hour	11:00	06:15	06:15	16:00	15:15	15:30
Volume	383	728	912	703	379	1048
P.H.F.	0.92	0.88	0.89	0.94	0.89	0.96

PACIFIC TECHNICAL DATA

THURSDAY - APRIL 27, 2017

CITY: SAN DIEGO

PROJECT: PTD17-0428-02

DEER SPRINGS - E/O CENTRE CITY

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB			
00:00			9	1	12:00			60	63			
00:15			11	1	12:15			54	65			
00:30			4	3	12:30			51	49			
00:45			3	27	2	7	34	75	240	46	223	463
01:00			4	2	13:00			57	71			
01:15			1	0	13:15			60	76			
01:30			4	1	13:30			61	65			
01:45			0	9	2	5	14	74	252	66	278	530
02:00			2	0	14:00			62	69			
02:15			4	0	14:15			74	63			
02:30			2	1	14:30			87	54			
02:45			4	12	2	3	15	79	302	74	260	562
03:00			1	0	15:00			89	58			
03:15			1	1	15:15			77	70			
03:30			1	2	15:30			91	60			
03:45			0	3	8	11	14	101	358	57	245	603
04:00			2	3	16:00			97	58			
04:15			1	9	16:15			109	62			
04:30			4	13	16:30			112	57			
04:45			6	13	16	41	54	107	425	59	236	661
05:00			0	19	17:00			87	68			
05:15			2	24	17:15			108	61			
05:30			6	38	17:30			94	68			
05:45			6	14	49	130	144	112	401	61	258	659
06:00			7	55	18:00			96	51			
06:15			19	88	18:15			90	73			
06:30			25	94	18:30			89	48			
06:45			23	74	109	346	420	80	355	36	208	563
07:00			30	144	19:00			79	26			
07:15			24	134	19:15			75	28			
07:30			39	130	19:30			58	25			
07:45			72	165	146	554	719	73	285	29	108	393
08:00			55	110	20:00			54	16			
08:15			59	93	20:15			44	18			
08:30			53	82	20:30			67	21			
08:45			67	234	89	374	608	58	223	16	71	294
09:00			51	95	21:00			39	26			
09:15			47	108	21:15			50	15			
09:30			42	70	21:30			49	9			
09:45			44	184	102	375	559	26	164	6	56	220
10:00			52	77	22:00			31	7			
10:15			51	78	22:15			21	7			
10:30			54	77	22:30			23	8			
10:45			43	200	78	310	510	16	91	2	24	115
11:00			57	77	23:00			15	2			
11:15			66	70	23:15			10	3			
11:30			53	79	23:30			5	1			
11:45			65	241	74	300	541	15	45	2	8	53

Total Vol.		1176	2456	3632		3141	1975	5116
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		Daily Totals		
NB	SB	EB	WB	Combined
		4317	4431	8748

Split %	AM			PM		
	32.4%	67.6%	41.5%	61.4%	38.6%	58.5%
Peak Hour	11:15	07:00	07:00	16:00	13:00	16:00
Volume	244	554	719	425	278	661
P.H.F.	0.92	0.95	0.82	0.95	0.91	0.97

PACIFIC TECHNICAL DATA

THURSDAY - APRIL 27, 2017

CITY: SAN DIEGO

PROJECT: PTD17-0428-02

CHAMPAGNE - N/O DEER SPRINGS

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	3	3			12:00	50	53		
00:15	1	7			12:15	46	52		
00:30	2	1			12:30	54	43		
00:45	1	7	1	12	12:45	58	208	46	194
01:00	1	0			13:00	53	51		
01:15	0	1			13:15	74	52		
01:30	0	2			13:30	64	43		
01:45	0	1	1	4	13:45	64	255	43	189
02:00	1	0			14:00	64	38		
02:15	2	1			14:15	76	53		
02:30	5	2			14:30	79	52		
02:45	2	10	1	4	14:45	87	306	46	189
03:00	0	1			15:00	105	36		
03:15	0	0			15:15	111	61		
03:30	0	2			15:30	143	76		
03:45	4	4	1	4	15:45	143	502	63	236
04:00	0	2			16:00	135	49		
04:15	0	3			16:15	168	56		
04:30	2	8			16:30	135	57		
04:45	8	10	17	30	16:45	132	570	53	215
05:00	4	10			17:00	137	55		
05:15	14	20			17:15	151	45		
05:30	8	35			17:30	137	48		
05:45	28	54	39	104	17:45	133	558	43	191
06:00	10	84			18:00	124	44		
06:15	28	136			18:15	88	30		
06:30	24	150			18:30	61	26		
06:45	28	90	138	508	18:45	59	332	35	135
07:00	34	190			19:00	45	33		
07:15	33	211			19:15	62	23		
07:30	45	211			19:30	43	21		
07:45	45	157	123	735	19:45	47	197	27	104
08:00	43	83			20:00	26	30		
08:15	30	82			20:15	44	15		
08:30	45	63			20:30	27	9		
08:45	42	160	59	287	20:45	41	138	13	67
09:00	55	54			21:00	34	14		
09:15	42	54			21:15	26	18		
09:30	30	51			21:30	13	14		
09:45	37	164	70	229	21:45	32	105	7	53
10:00	43	65			22:00	15	12		
10:15	41	60			22:15	19	11		
10:30	38	54			22:30	18	8		
10:45	41	163	57	236	22:45	7	59	6	37
11:00	52	54			23:00	8	2		
11:15	51	53			23:15	3	7		
11:30	51	46			23:30	5	1		
11:45	54	208	46	199	23:45	2	18	3	13
Total Vol.	1028	2352		3380		3248	1623		4871
					Daily Totals				
					NB	SB	EB	WB	Combined
					4276	3975			8251
AM					PM				
Split %	30.4%	69.6%		41.0%	66.7%	33.3%			59.0%
Peak Hour	11:00	06:45		07:00	15:30	15:15			15:30
Volume	208	750		892	589	249			833
P.H.F.	0.96	0.89		0.87	0.97	0.82			0.93

PACIFIC TECHNICAL DATA

PROJECT: PTD17-0428-02

AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB
00:00	2		6				12:00	49		48			
00:15	2		3				12:15	44		41			
00:30	0		3				12:30	44		31			
00:45	0	4	0	12		16	12:45	46	183	33	153		336
01:00	0		1				13:00	51		47			
01:15	1		1				13:15	49		54			
01:30	2		1				13:30	54		52			
01:45	0	3	0	3		6	13:45	66	220	54	207		427
02:00	1		1				14:00	61		41			
02:15	0		0				14:15	44		40			
02:30	0		1				14:30	45		62			
02:45	1	2	1	3		5	14:45	55	205	65	208		413
03:00	0		0				15:00	77		38			
03:15	2		1				15:15	77		78			
03:30	1		0				15:30	95		60			
03:45	0	3	2	3		6	15:45	95	344	54	230		574
04:00	2		0				16:00	103		53			
04:15	3		0				16:15	121		44			
04:30	3		4				16:30	99		65			
04:45	4	12	7	11		23	16:45	105	428	58	220		648
05:00	4		5				17:00	101		62			
05:15	14		10				17:15	124		57			
05:30	19		12				17:30	108		76			
05:45	17	54	33	60		114	17:45	99	432	44	239		671
06:00	26		30				18:00	61		53			
06:15	29		63				18:15	60		39			
06:30	29		86				18:30	49		38			
06:45	28	112	99	278		390	18:45	45	215	36	166		381
07:00	37		147				19:00	45		27			
07:15	30		172				19:15	47		27			
07:30	38		226				19:30	36		23			
07:45	43	148	216	761		909	19:45	41	169	31	108		277
08:00	56		98				20:00	26		22			
08:15	46		66				20:15	26		20			
08:30	51		61				20:30	32		17			
08:45	46	199	65	290		489	20:45	24	108	13	72		180
09:00	32		52				21:00	23		15			
09:15	37		37				21:15	18		22			
09:30	39		43				21:30	19		16			
09:45	22	130	54	186		316	21:45	15	75	9	62		137
10:00	36		41				22:00	10		7			
10:15	30		46				22:15	13		7			
10:30	34		55				22:30	9		6			
10:45	35	135	48	190		325	22:45	6	38	9	29		67
11:00	36		55				23:00	6		4			
11:15	49		50				23						

A-7

THURSDAY - APRIL 27, 2017

CITY: SAN DIEGO

PROJECT: PTD17-0428-02

MESA ROCK - S/O DEER SPRINGS

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	0	0			12:00	12	10		
00:15	1	0			12:15	11	7		
00:30	0	0			12:30	8	6		
00:45	0	1	0	0	12:45	9	40	5	28
01:00	0	0			13:00	10	12		
01:15	0	1			13:15	5	11		
01:30	0	0			13:30	4	5		
01:45	0	0	0	1	13:45	5	24	6	34
02:00	1	0			14:00	3	5		
02:15	0	0			14:15	4	8		
02:30	1	0			14:30	8	9		
02:45	0	2	0	0	14:45	9	24	5	27
03:00	0	0			15:00	5	5		
03:15	0	0			15:15	12	3		
03:30	0	0			15:30	11	5		
03:45	0	0	0	0	15:45	16	44	4	17
04:00	0	0			16:00	28	8		
04:15	0	1			16:15	14	5		
04:30	0	1			16:30	13	12		
04:45	1	1	0	2	16:45	11	66	6	31
05:00	0	0			17:00	15	5		
05:15	0	2			17:15	9	4		
05:30	0	2			17:30	5	2		
05:45	1	1	1	5	17:45	5	34	10	21
06:00	2	0			18:00	6	8		
06:15	2	2			18:15	4	9		
06:30	4	3			18:30	2	1		
06:45	5	13	8	13	18:45	3	15	3	21
07:00	8	15			19:00	2	2		
07:15	9	12			19:15	2	1		
07:30	11	18			19:30	0	4		
07:45	5	33	28	73	19:45	0	4	1	8
08:00	6	15			20:00	1	2		
08:15	7	8			20:15	0	0		
08:30	12	12			20:30	0	0		
08:45	5	30	8	43	20:45	1	2	1	3
09:00	12	10			21:00	2	1		
09:15	11	8			21:15	1	0		
09:30	15	9			21:30	0	0		
09:45	9	47	5	32	21:45	0	3	1	2
10:00	11	4			22:00	0	1		
10:15	8	9			22:15	1	0		
10:30	9	10			22:30	1	0		
10:45	10	38	5	28	22:45	0	2	0	1
11:00	5	8			23:00	0	0		
11:15	4	9			23:15	0	0		
11:30	9	11			23:30	1	1		
11:45	12	30	17	45	23:45	0	1	1	2
Total Vol.	196	242			438	259	195		
					Daily Totals				
					NB	SB	EB	WB	Combined
					455	437			892
AM					PM				
Split %	44.7%	55.3%			57.0%	43.0%			50.9%
Peak Hour	09:00	07:00			15:45	12:30			15:45
Volume	47	73			71	34			100
P.H.F.	0.78	0.65			0.64	0.71			0.69

PACIFIC TECHNICAL DATA

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

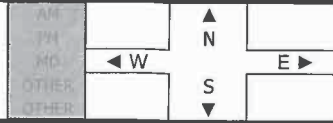
DATE:
4/27/17
THURSDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

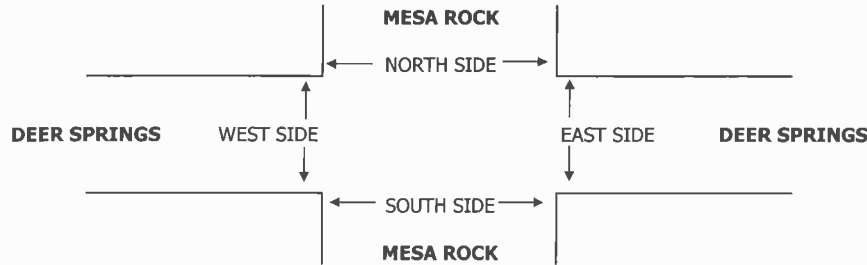
DEER SPRINGS I-15
MESA ROCK
DEER SPRINGS

PROJECT #: PTD17-0428-02
LOCATION #: 1
CONTROL: SIGNAL

NOTES:



	NORTHBOUND MESA ROCK			SOUTHBOUND MESA ROCK			EASTBOUND DEER SPRINGS			WESTBOUND DEER SPRINGS			TOTAL	U-TURNS				
	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0		NB X	SB X	EB X	WB X	TTL
7:00 AM	1	3	3	25	2	5	8	75	11	6	305	26	470					0
7:15 AM	5	0	2	20	3	7	6	103	3	2	343	28	522					0
7:30 AM	5	2	3	25	1	7	4	108	8	8	294	36	501					0
7:45 AM	0	1	5	24	3	10	7	100	7	21	264	26	468					0
8:00 AM	1	1	3	23	1	14	4	89	4	11	221	27	399					0
8:15 AM	3	1	4	27	1	3	3	79	5	1	220	24	371					0
8:30 AM	6	2	3	20	3	9	6	99	4	7	221	31	411					0
8:45 AM	3	0	4	25	1	14	5	82	2	3	188	32	359					0
VOLUMES	24	10	27	189	15	69	43	735	44	59	2,056	230	3,501	0	0	0	0	0
APPROACH %	39%	16%	44%	69%	5%	25%	5%	89%	5%	3%	88%	10%						
APP/DEPART	61	/	283	273	/	118	822	/	951	2,345	/	2,149	0					
BEGIN PEAK HR	7:00 AM																	
VOLUMES	11	6	13	94	9	29	25	386	29	37	1,206	116	1,961					
APPROACH %	37%	20%	43%	71%	7%	22%	6%	88%	7%	3%	89%	9%						
PEAK HR FACTOR	0.750			0.892			0.917			0.911			0.939					
APP/DEPART	30	/	147	132	/	75	440	/	493	1,359	/	1,246	0					
4:00 PM	15	3	6	51	2	7	11	227	5	0	142	32	501					0
4:15 PM	10	0	6	32	0	6	7	243	2	3	161	31	501					0
4:30 PM	6	4	5	37	1	7	11	236	5	5	162	32	511					0
4:45 PM	10	0	0	37	0	6	10	256	4	0	172	37	532					0
5:00 PM	8	0	9	34	0	8	12	252	3	3	188	28	545					0
5:15 PM	7	0	4	33	0	9	11	267	2	1	201	29	564					0
5:30 PM	1	0	3	30	1	10	13	258	1	1	183	31	532				1	1
5:45 PM	4	0	1	30	0	6	8	246	8	4	153	33	493				1	0
VOLUMES	61	7	34	284	4	59	83	1,985	30	17	1,362	253	4,179	0	0	0	1	1
APPROACH %	60%	7%	33%	82%	1%	17%	4%	95%	1%	1%	83%	16%						
APP/DEPART	102	/	343	347	/	51	2,098	/	2,303	1,632	/	1,482	0					
BEGIN PEAK HR	4:45 PM																	
VOLUMES	26	0	16	134	1	33	46	1,033	10	5	744	125	2,173					
APPROACH %	62%	0%	38%	80%	1%	20%	4%	95%	1%	1%	85%	14%						
PEAK HR FACTOR	0.618			0.977			0.972			0.946			0.963					
APP/DEPART	42	/	171	168	/	16	1,089	/	1,183	874	/	803	0					



		PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
	TOTAL	0	0	0	0	0
PM	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

		PEDESTRIAN ACTIVATIONS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
	TOTAL	0	0	0	0	0
PM	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

		BICYCLE CROSSINGS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
	TOTAL	0	0	0	0	0
PM	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

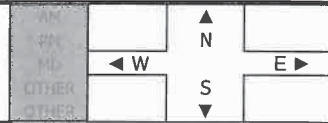
		BICYCLE ACTIVATIONS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
	TOTAL	0	0	0	0	0
PM	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

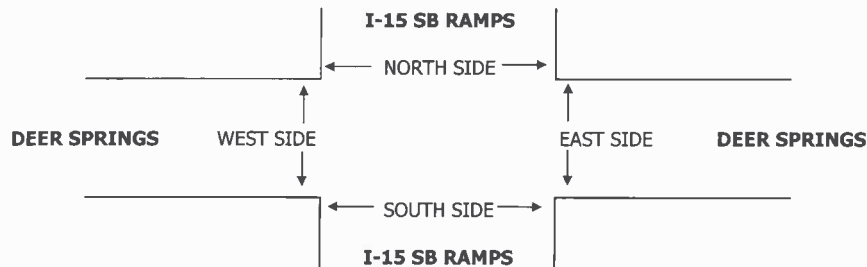
PREPARED BY: PACIFIC TECHNICAL DATA

DATE: 4/27/17 THURSDAY LOCATION: NORTH & SOUTH: EAST & WEST: DEER SPRINGS I-15 I-15 SB RAMPS DEER SPRINGS PROJECT #: PTD17-0428-02 LOCATION #: 2 CONTROL: SIGNAL

NOTES:



	NORTHBOUND I-15 SB RAMPS			SOUTHBOUND I-15 SB RAMPS			EASTBOUND DEER SPRINGS			WESTBOUND DEER SPRINGS			TOTAL	U-TURNS				
	NL X	NT X	NR X	SL 0.5	ST 0.5	SR 2	EL X	ET 1	ER 1	WL 1	WT 1	WR X		NB X	SB X	EB X	WB X	TTL
AM	7:00 AM			8	0	211		57	46	84	127		533					0
	7:15 AM			8	0	239		63	56	65	116		547					0
	7:30 AM			16	0	234		88	53	54	98		543					0
	7:45 AM			39	0	235		79	39	44	87		523					0
	8:00 AM			13	0	168		81	34	63	75		434					0
	8:15 AM			6	0	167		63	38	58	88		420					0
	8:30 AM			14	0	170		85	37	52	78		436					0
	8:45 AM			12	0	167		68	32	62	59		400					0
	VOLUMES	0	0	0	116	0	1,591	0	584	335	482	728	0	3,836	0	0	0	0
	APPROACH %	0%	0%	0%	7%	0%	93%	0%	64%	36%	40%	60%	0%					
PM	APP/DEPART	0	/	0	1,707	/	817	919	/	700	1,210	/	2,319	0				
	BEGIN PEAK HR	7:00 AM																
	VOLUMES	0	0	0	71	0	919	0	287	194	247	428	0	2,146				
	APPROACH %	0%	0%	0%	7%	0%	93%	0%	60%	40%	37%	63%	0%					
	PEAK HR FACTOR	0.000			0.903			0.853			0.800			0.981				
	APP/DEPART	0	/	0	990	/	441	481	/	358	675	/	1,347	0				
	4:00 PM				13	0	76		228	54	39	98		508				0
	4:15 PM				17	0	98		224	46	42	97		524				0
	4:30 PM				14	0	98		242	38	47	89		528				0
	4:45 PM				9	0	112		233	51	40	96		541				0
PM	5:00 PM				12	0	113		239	53	42	95		554				0
	5:15 PM				14	0	115		248	55	35	119		586				0
	5:30 PM				18	0	109		238	54	43	90		552				0
	5:45 PM				11	0	98		238	37	42	106		532				0
	VOLUMES	0	0	0	108	0	819	0	1,890	388	330	790	0	4,325	0	0	0	0
	APPROACH %	0%	0%	0%	12%	0%	88%	0%	83%	17%	29%	71%	0%					
	APP/DEPART	0	/	0	927	/	718	2,278	/	1,998	1,120	/	1,609	0				
	BEGIN PEAK HR	4:45 PM																
	VOLUMES	0	0	0	53	0	449	0	958	213	160	400	0	2,233				
	APPROACH %	0%	0%	0%	11%	0%	89%	0%	82%	18%	29%	71%	0%					
PM	PEAK HR FACTOR	0.000			0.973			0.966			0.909			0.953				
	APP/DEPART	0	/	0	502	/	373	1,171	/	1,011	560	/	849	0				



		PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
PM	TOTAL	0	0	0	0	0
	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

		PEDESTRIAN ACTIVATIONS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
PM	TOTAL	0	0	0	0	0
	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

		BICYCLE CROSSINGS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
PM	TOTAL	0	0	0	0	0
	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

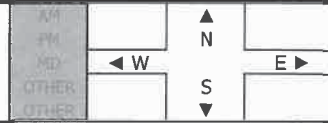
		BICYCLE ACTIVATIONS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
PM	TOTAL	0	0	0	0	0
	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

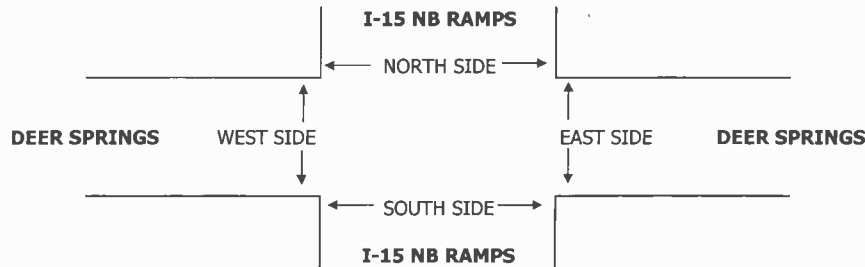
PREPARED BY: PACIFIC TECHNICAL DATA

DATE: 4/27/17 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	DEER SPRINGS I-15 I-15 NB RAMPS DEER SPRINGS	PROJECT #: LOCATION #: CONTROL:	PTD17-0428-02 3 SIGNAL
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NOTES:



	NORTHBOUND I-15 NB RAMPS			SOUTHBOUND I-15 NB RAMPS			EASTBOUND DEER SPRINGS			WESTBOUND DEER SPRINGS			TOTAL	U-TURNS				
	NL 0.5	NT 0.5	NR 1	SL X	ST X	SR X	EL 1	ET 1	ER X	WL X	WT 1	WR 1		NB X	SB X	EB X	WB X	TTL
7:00 AM	24	1	25				43	22			195	18	328					0
7:15 AM	31	0	14				55	16			153	16	285					0
7:30 AM	32	0	35				52	47			139	12	317					0
7:45 AM	28	3	47				64	55			98	15	310					0
8:00 AM	31	0	35				52	51			105	18	292					0
8:15 AM	34	1	36				47	25			110	5	258					0
8:30 AM	33	0	40				48	30			101	9	261					0
8:45 AM	28	2	47				54	34			92	13	270					0
VOLUMES	241	7	279	0	0	0	415	280	0	0	993	106	2,321	0	0	0	0	0
APPROACH %	46%	1%	53%	0%	0%	0%	60%	40%	0%	0%	90%	10%						
APP/DEPART	527	/	528	0	/	0	695	/	559	1,099	/	1,234	0					
BEGIN PEAK HR	7:00 AM																	
VOLUMES	115	4	121	0	0	0	214	140	0	0	585	61	1,240					
APPROACH %	48%	2%	50%	0%	0%	0%	60%	40%	0%	0%	91%	9%						
PEAK HR FACTOR	0.769			0.000			0.744			0.758			0.945					
APP/DEPART	240	/	279	0	/	0	354	/	261	646	/	700	0					
4:00 PM	72	2	85				167	70			66	13	475					0
4:15 PM	64	1	92				160	74			72	12	475					0
4:30 PM	72	2	98				169	81			67	14	503					0
4:45 PM	66	3	109				189	51			74	11	503					0
5:00 PM	77	1	77				182	64			68	9	478					0
5:15 PM	72	0	99				189	65			80	13	518					0
5:30 PM	81	2	80				175	84			64	10	496					0
5:45 PM	70	0	93				185	62			71	5	486					0
VOLUMES	574	11	733	0	0	0	1,416	551	0	0	562	87	3,934	0	0	0	0	0
APPROACH %	44%	1%	56%	0%	0%	0%	72%	28%	0%	0%	87%	13%						
APP/DEPART	1,318	/	1,514	0	/	0	1,967	/	1,284	649	/	1,136	0					
BEGIN PEAK HR	4:30 PM																	
VOLUMES	287	6	383	0	0	0	729	261	0	0	289	47	2,002					
APPROACH %	42%	1%	57%	0%	0%	0%	74%	26%	0%	0%	86%	14%						
PEAK HR FACTOR	0.949			0.000			0.974			0.903			0.966					
APP/DEPART	676	/	782	0	/	0	990	/	644	336	/	576	0					



		PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
	TOTAL	0	0	0	0	0
PM	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

		PEDESTRIAN ACTIVATIONS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
	TOTAL	0	0	0	0	0
PM	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

		BICYCLE CROSSINGS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
	TOTAL	0	0	0	0	0
PM	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

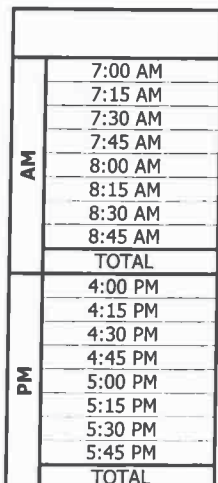
		BICYCLE ACTIVATIONS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
	TOTAL	0	0	0	0	0
PM	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

PREPARED BY: PACIFIC TECHNICAL DATA

PROJECT #: PTD17-0428-02
LOCATION #: 4
CONTROL: SIGNAL

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	

					0
					0
					0
					0
					0
					0
					0
					0
0	0	0	0	0	0
0	0	0	0	0	0



PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

[illegible]

➤ Synchro Worksheets

- Existing 2018
- 2018 Existing plus Project

I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Existing Conditions
Timing Plan: AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	14	430	15	917	5	5
Future Volume (vph)	14	430	15	917	5	5
Turn Type	Prot	NA	Prot	NA	NA	NA
Protected Phases	5	2	1	6	8	4
Permitted Phases						
Detector Phase	5	2	1	6	8	4
Switch Phase						
Minimum Initial (s)	4.0	5.0	4.0	5.0	4.0	4.0
Minimum Split (s)	9.0	24.0	9.0	23.0	26.0	28.0
Total Split (s)	9.0	36.0	10.0	37.0	26.0	28.0
Total Split (%)	9.0%	36.0%	10.0%	37.0%	26.0%	28.0%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	None	C-Max	Min	Min

Intersection Summary

Cycle Length: 100

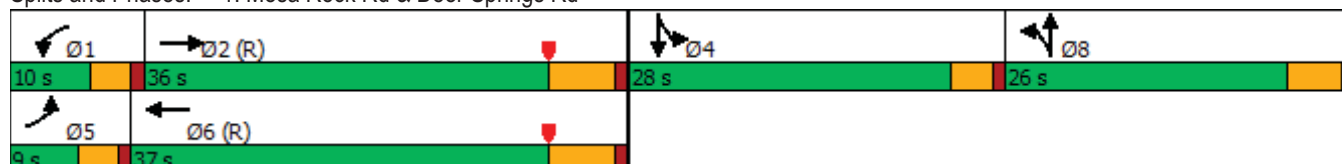
Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 1: Mesa Rock Rd & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Existing Conditions
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	430	24	15	917	124	14	5	7	105	5	26
Future Volume (vph)	14	430	24	15	917	124	14	5	7	105	5	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.98			0.96			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.96	
Satd. Flow (prot)	1770	3511		1770	3476			1744			1747	
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.96	
Satd. Flow (perm)	1770	3511		1770	3476			1744			1747	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	467	26	16	997	135	15	5	8	114	5	28
RTOR Reduction (vph)	0	3	0	0	6	0	0	7	0	0	10	0
Lane Group Flow (vph)	15	490	0	16	1126	0	0	21	0	0	137	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	2.2	56.7		2.4	56.9			8.4			13.5	
Effective Green, g (s)	2.2	56.7		2.4	56.9			8.4			13.5	
Actuated g/C Ratio	0.02	0.57		0.02	0.57			0.08			0.14	
Clearance Time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Vehicle Extension (s)	2.0	2.5		2.0	2.5			2.0			2.0	
Lane Grp Cap (vph)	38	1990		42	1977			146			235	
v/s Ratio Prot	0.01	0.14		c0.01	c0.32			c0.01			c0.08	
v/s Ratio Perm												
v/c Ratio	0.39	0.25		0.38	0.57			0.14			0.59	
Uniform Delay, d1	48.2	10.9		48.1	13.7			42.5			40.6	
Progression Factor	1.00	1.00		1.05	0.93			1.00			1.00	
Incremental Delay, d2	2.4	0.3		1.9	1.1			0.2			2.4	
Delay (s)	50.7	11.2		52.2	13.8			42.6			43.0	
Level of Service	D	B		D	B			D			D	
Approach Delay (s)		12.4			14.3			42.6			43.0	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			16.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			19.0			
Intersection Capacity Utilization			48.7%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Existing Conditions
Timing Plan: PM Peak

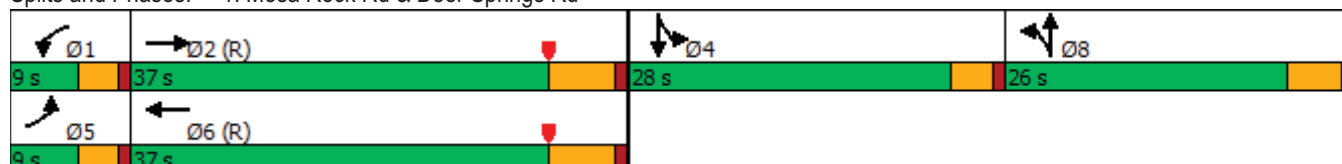


Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	35	826	14	624	5	1
Future Volume (vph)	35	826	14	624	5	1
Turn Type	Prot	NA	Prot	NA	NA	NA
Protected Phases	5	2	1	6	8	4
Permitted Phases						
Detector Phase	5	2	1	6	8	4
Switch Phase						
Minimum Initial (s)	4.0	5.0	4.0	5.0	4.0	4.0
Minimum Split (s)	9.0	24.0	9.0	23.0	26.0	28.0
Total Split (s)	9.0	37.0	9.0	37.0	26.0	28.0
Total Split (%)	9.0%	37.0%	9.0%	37.0%	26.0%	28.0%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	None	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 70 (70%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Mesa Rock Rd & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	826	23	14	624	130	37	5	21	140	1	28
Future Volume (vph)	35	826	23	14	624	130	37	5	21	140	1	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.97			0.95			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.96	
Satd. Flow (prot)	1770	3525		1770	3448			1727			1749	
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.96	
Satd. Flow (perm)	1770	3525		1770	3448			1727			1749	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	898	25	15	678	141	40	5	23	152	1	30
RTOR Reduction (vph)	0	1	0	0	12	0	0	21	0	0	8	0
Lane Group Flow (vph)	38	922	0	15	807	0	0	47	0	0	175	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	3.8	54.4		2.2	52.8			9.3			15.1	
Effective Green, g (s)	3.8	54.4		2.2	52.8			9.3			15.1	
Actuated g/C Ratio	0.04	0.54		0.02	0.53			0.09			0.15	
Clearance Time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Vehicle Extension (s)	2.0	2.5		2.0	2.5			2.0			2.0	
Lane Grp Cap (vph)	67	1917		38	1820			160			264	
v/s Ratio Prot	c0.02	c0.26		0.01	0.23			c0.03			c0.10	
v/s Ratio Perm												
v/c Ratio	0.57	0.48		0.39	0.44			0.29			0.66	
Uniform Delay, d1	47.3	14.1		48.2	14.5			42.3			40.1	
Progression Factor	1.00	1.00		0.95	1.77			1.00			1.00	
Incremental Delay, d2	6.4	0.9		2.3	0.7			0.4			4.8	
Delay (s)	53.7	14.9		48.0	26.5			42.7			44.9	
Level of Service	D	B		D	C			D			D	
Approach Delay (s)		16.5			26.9			42.7			44.9	
Approach LOS		B			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			24.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			19.0			
Intersection Capacity Utilization			50.7%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

Existing Conditions
Timing Plan: AM Peak

	→	↘	↙	←	↓	↙
Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↑	↘	↑	↘	↘
Traffic Volume (vph)	324	218	269	405	7	654
Future Volume (vph)	324	218	269	405	7	654
Turn Type	NA	Perm	Prot	NA	NA	custom
Protected Phases	2		1	6	4	5
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	5
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	6.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.8	10.1	9.7
Total Split (s)	50.2	50.2	34.7	60.2	15.1	24.7
Total Split (%)	50.2%	50.2%	34.7%	60.2%	15.1%	24.7%
Yellow Time (s)	4.8	4.8	3.7	4.8	4.1	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.7	5.8	5.1	4.7
Lead/Lag	Lead	Lead	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 15 (15%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated

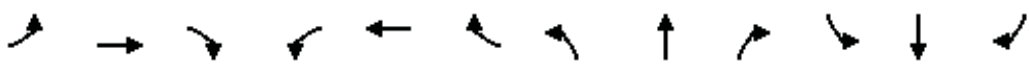
Splits and Phases: 2: I-15 SB Ramps & Deer Springs Rd

→ Ø2 (R)	↘ Ø1	↓ Ø4
50.2 s	34.7 s	15.1 s
↙ Ø5	← Ø6 (R)	
24.7 s	60.2 s	

I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

Existing Conditions

Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (vph)	0	324	218	269	405	0	0	0	0	33	7	654
Future Volume (vph)	0	324	218	269	405	0	0	0	0	33	7	654
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	0.88
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (prot)		1863	1583	1770	1863						1790	2787
Flt Permitted		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (perm)		1863	1583	1770	1863						1790	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	352	237	292	440	0	0	0	0	36	8	711
RTOR Reduction (vph)	0	0	127	0	0	0	0	0	0	0	0	580
Lane Group Flow (vph)	0	352	110	292	440	0	0	0	0	0	44	131
Turn Type		NA	Perm	Prot	NA					Perm	NA	custom
Protected Phases		2		1	6						4	5
Permitted Phases			2							4		4
Actuated Green, G (s)		46.6	46.6	30.0	70.3						7.8	14.1
Effective Green, g (s)		46.6	46.6	30.0	70.3						7.8	14.1
Actuated g/C Ratio		0.47	0.47	0.30	0.70						0.08	0.14
Clearance Time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		868	737	531	1309						139	392
v/s Ratio Prot		c0.19		c0.17	0.24							c0.02
v/s Ratio Perm			0.07								0.02	0.03
v/c Ratio		0.41	0.15	0.55	0.34						0.32	0.33
Uniform Delay, d1		17.6	15.3	29.3	5.8						43.6	38.7
Progression Factor		0.88	1.77	1.00	1.00						1.00	1.00
Incremental Delay, d2		1.4	0.4	1.2	0.7						1.3	0.5
Delay (s)		16.8	27.5	30.5	6.5						44.9	39.2
Level of Service		B	C	C	A						D	D
Approach Delay (s)		21.1			16.1			0.0			39.6	
Approach LOS		C			B			A			D	
Intersection Summary												
HCM 2000 Control Delay			26.0			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				15.6		
Intersection Capacity Utilization			62.4%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

Existing Conditions
Timing Plan: PM Peak

	→	↘	↙	←	↓	↙
Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↑	↘	↑	↑	↘
Traffic Volume (vph)	785	222	147	401	2	365
Future Volume (vph)	785	222	147	401	2	365
Turn Type	NA	Perm	Prot	NA	NA	custom
Protected Phases	2		1	6	4	5
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	5
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	6.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.8	10.1	10.0
Total Split (s)	55.2	55.2	29.7	70.2	15.1	14.7
Total Split (%)	55.2%	55.2%	29.7%	70.2%	15.1%	14.7%
Yellow Time (s)	4.8	4.8	3.7	4.8	4.1	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.7	5.8	5.1	4.7
Lead/Lag	Lead	Lead	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	Min	C-Max	Min	None

Intersection Summary

Cycle Length: 100

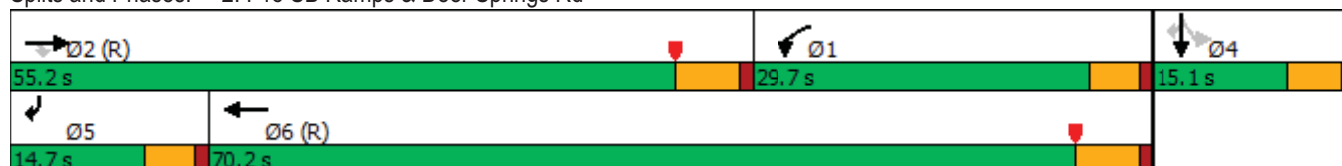
Actuated Cycle Length: 100

Offset: 5 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 2: I-15 SB Ramps & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

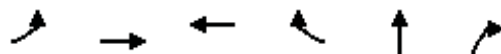
Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↖	↗
Traffic Volume (vph)	0	785	222	147	401	0	0	0	0	53	2	365
Future Volume (vph)	0	785	222	147	401	0	0	0	0	53	2	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	0.88
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1863	1583	1770	1863						1777	2787
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1863	1583	1770	1863						1777	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	853	241	160	436	0	0	0	0	58	2	397
RTOR Reduction (vph)	0	0	108	0	0	0	0	0	0	0	0	342
Lane Group Flow (vph)	0	853	133	160	436	0	0	0	0	0	60	55
Turn Type		NA	Perm	Prot	NA					Perm	NA	custom
Protected Phases		2		1	6						4	5
Permitted Phases			2							4		4
Actuated Green, G (s)		51.1	51.1	25.0	70.5						8.3	13.9
Effective Green, g (s)		51.1	51.1	25.0	70.5						8.3	13.9
Actuated g/C Ratio		0.51	0.51	0.25	0.70						0.08	0.14
Clearance Time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		951	808	442	1313						147	387
v/s Ratio Prot		c0.46		c0.09	0.23							0.01
v/s Ratio Perm			0.08								0.03	0.01
v/c Ratio		0.90	0.16	0.36	0.33						0.41	0.14
Uniform Delay, d1		22.1	13.1	30.9	5.7						43.5	37.8
Progression Factor		1.24	2.54	1.81	3.06						1.00	1.00
Incremental Delay, d2		12.0	0.4	0.3	0.4						1.8	0.2
Delay (s)		39.4	33.6	56.4	17.8						45.4	38.0
Level of Service		D	C	E	B						D	D
Approach Delay (s)		38.1			28.2			0.0			39.0	
Approach LOS		D			C			A			D	
Intersection Summary												
HCM 2000 Control Delay			35.5			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				15.6		
Intersection Capacity Utilization			73.4%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Existing Conditions
Timing Plan: AM Peak



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	241	110	550	49	3	117
Future Volume (vph)	241	110	550	49	3	117
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.1	10.1
Total Split (s)	24.0	77.0	53.0	53.0	23.0	23.0
Total Split (%)	24.0%	77.0%	53.0%	53.0%	23.0%	23.0%
Yellow Time (s)	3.7	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	5.8	5.8	5.8	5.1	5.1
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 74.8

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: I-15 NB Ramps & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Existing Conditions
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	110	0	0	550	49	126	3	117	0	0	0
Future Volume (vph)	241	110	0	0	550	49	126	3	117	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	1863			1863	1583		1776	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	1863			1863	1583		1776	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	120	0	0	598	53	137	3	127	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	31	0	0	107	0	0	0
Lane Group Flow (vph)	262	120	0	0	598	22	0	140	20	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	16.0	51.5			30.8	30.8		11.7	11.7			
Effective Green, g (s)	16.0	51.5			30.8	30.8		11.7	11.7			
Actuated g/C Ratio	0.22	0.70			0.42	0.42		0.16	0.16			
Clearance Time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	382	1294			774	657		280	249			
v/s Ratio Prot	c0.15	0.06			c0.32							
v/s Ratio Perm						0.01		0.08	0.01			
v/c Ratio	0.69	0.09			0.77	0.03		0.50	0.08			
Uniform Delay, d1	26.7	3.7			18.6	12.8		28.5	26.6			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	5.0	0.0			4.8	0.0		1.4	0.1			
Delay (s)	31.8	3.7			23.5	12.9		29.9	26.8			
Level of Service	C	A			C	B		C	C			
Approach Delay (s)		23.0			22.6			28.4			0.0	
Approach LOS		C			C			C			A	
Intersection Summary												
HCM 2000 Control Delay			23.9				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			74.1				Sum of lost time (s)			15.6		
Intersection Capacity Utilization			62.4%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Existing Conditions
Timing Plan: PM Peak

						
Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	570	274	252	32	0	435
Future Volume (vph)	570	274	252	32	0	435
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.1	10.1
Total Split (s)	49.7	75.9	26.2	26.2	24.1	24.1
Total Split (%)	49.7%	75.9%	26.2%	26.2%	24.1%	24.1%
Yellow Time (s)	3.7	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	5.8	5.8	5.8	5.1	5.1
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min	C-Max	C-Max	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 65 (65%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 3: I-15 NB Ramps & Deer Springs Rd

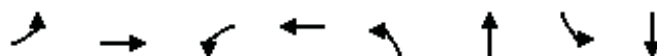


I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	570	274	0	0	252	32	280	0	435	0	0	0
Future Volume (vph)	570	274	0	0	252	32	280	0	435	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	1863			1863	1583		1770	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	1863			1863	1583		1770	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	620	298	0	0	274	35	304	0	473	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	28	0	0	384	0	0	0
Lane Group Flow (vph)	620	298	0	0	274	7	0	304	89	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	45.0	70.2			20.5	20.5		18.9	18.9			
Effective Green, g (s)	45.0	70.2			20.5	20.5		18.9	18.9			
Actuated g/C Ratio	0.45	0.70			0.20	0.20		0.19	0.19			
Clearance Time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	796	1307			381	324		334	299			
v/s Ratio Prot	c0.35	0.16			c0.15			c0.17				
v/s Ratio Perm						0.00			0.06			
v/c Ratio	0.78	0.23			0.72	0.02		0.91	0.30			
Uniform Delay, d1	23.3	5.3			37.1	31.7		39.7	34.9			
Progression Factor	0.27	0.52			1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.4	0.2			11.1	0.1		27.7	0.6			
Delay (s)	8.7	3.0			48.2	31.9		67.4	35.4			
Level of Service	A	A			D	C		E	D			
Approach Delay (s)		6.8			46.3			47.9			0.0	
Approach LOS		A			D			D			A	
Intersection Summary												
HCM 2000 Control Delay		28.9			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.79										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			15.6				
Intersection Capacity Utilization		73.4%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	74	87	212	291	31	55	17	309
Future Volume (vph)	74	87	212	291	31	55	17	309
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	6.0	4.0	6.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.4	23.0	9.4	25.2	28.5	28.5	32.5	32.5
Total Split (s)	16.0	23.0	22.0	29.0	55.0	55.0	55.0	55.0
Total Split (%)	16.0%	23.0%	22.0%	29.0%	55.0%	55.0%	55.0%	55.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	5.5	5.5	5.5	5.5
All-Red Time (s)	0.5	1.0	0.5	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.9	6.2	4.9	6.2		6.5		6.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

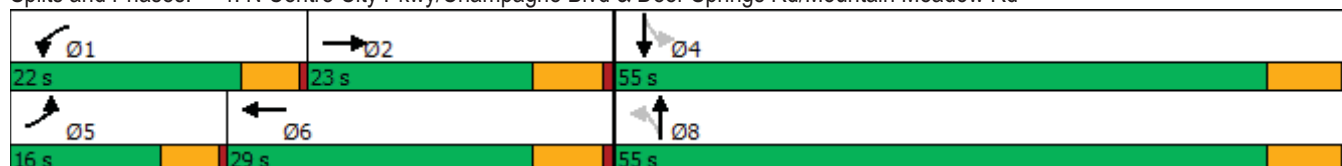
Cycle Length: 100

Actuated Cycle Length: 70.5

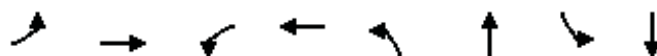
Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 4: N Centre City Pkwy/Champagne Blvd & Deer Springs Rd/Mountain Meadow Rd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	87	41	212	291	18	31	55	42	17	309	287
Future Volume (vph)	74	87	41	212	291	18	31	55	42	17	309	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.95		1.00	0.99			0.96			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1770	3369		1770	3508			1759			1743	
Flt Permitted	0.95	1.00		0.95	1.00			0.81			0.99	
Satd. Flow (perm)	1770	3369		1770	3508			1440			1729	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	95	45	230	316	20	34	60	46	18	336	312
RTOR Reduction (vph)	0	39	0	0	5	0	0	19	0	0	35	0
Lane Group Flow (vph)	80	101	0	230	331	0	0	121	0	0	631	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	6.4	9.2		13.7	16.5			30.4			30.4	
Effective Green, g (s)	6.4	9.2		13.7	16.5			30.4			30.4	
Actuated g/C Ratio	0.09	0.13		0.19	0.23			0.43			0.43	
Clearance Time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	159	437		342	816			617			741	
v/s Ratio Prot	0.05	0.03		c0.13	c0.09							
v/s Ratio Perm								0.08			c0.36	
v/c Ratio	0.50	0.23		0.67	0.41			0.20			0.85	
Uniform Delay, d1	30.7	27.7		26.5	23.0			12.6			18.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.9	0.1		4.1	0.1			0.1			8.9	
Delay (s)	31.6	27.8		30.6	23.2			12.7			27.1	
Level of Service	C	C		C	C			B			C	
Approach Delay (s)		29.2			26.2			12.7			27.1	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			25.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			70.9			Sum of lost time (s)			17.6			
Intersection Capacity Utilization			67.0%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	357	302	54	158	39	232	23	88
Future Volume (vph)	357	302	54	158	39	232	23	88
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	6.0	4.0	6.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.4	23.0	9.4	25.2	28.5	28.5	32.5	32.5
Total Split (s)	31.0	43.6	14.4	27.0	42.0	42.0	42.0	42.0
Total Split (%)	31.0%	43.6%	14.4%	27.0%	42.0%	42.0%	42.0%	42.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	5.5	5.5	5.5	5.5
All-Red Time (s)	0.5	1.0	0.5	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.9	6.2	4.9	6.2		6.5		6.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

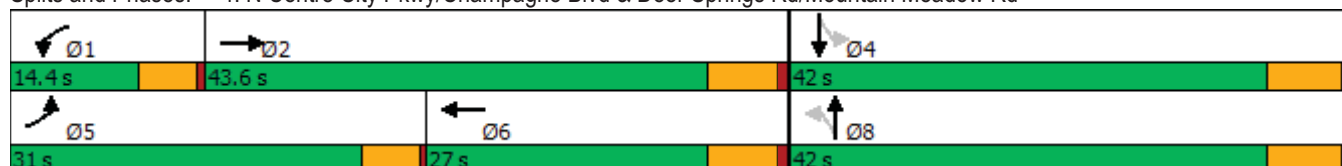
Cycle Length: 100

Actuated Cycle Length: 71.4

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 4: N Centre City Pkwy/Champagne Blvd & Deer Springs Rd/Mountain Meadow Rd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	357	302	70	54	158	28	39	232	126	23	88	102
Future Volume (vph)	357	302	70	54	158	28	39	232	126	23	88	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.97		1.00	0.98			0.96			0.94	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	3439		1770	3460			1774			1733	
Flt Permitted	0.95	1.00		0.95	1.00			0.95			0.92	
Satd. Flow (perm)	1770	3439		1770	3460			1689			1602	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	388	328	76	59	172	30	42	252	137	25	96	111
RTOR Reduction (vph)	0	19	0	0	15	0	0	18	0	0	35	0
Lane Group Flow (vph)	388	385	0	59	187	0	0	413	0	0	197	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	20.6	28.8		4.3	12.5			22.3			22.3	
Effective Green, g (s)	20.6	28.8		4.3	12.5			22.3			22.3	
Actuated g/C Ratio	0.28	0.39		0.06	0.17			0.31			0.31	
Clearance Time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	499	1356		104	592			515			489	
v/s Ratio Prot	c0.22	c0.11		0.03	0.05							
v/s Ratio Perm								c0.24			0.12	
v/c Ratio	0.78	0.28		0.57	0.32			0.80			0.40	
Uniform Delay, d1	24.1	15.1		33.4	26.5			23.3			20.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	6.8	0.0		4.2	0.1			8.3			0.2	
Delay (s)	30.9	15.1		37.6	26.6			31.6			20.3	
Level of Service	C	B		D	C			C			C	
Approach Delay (s)		22.9			29.1			31.6			20.3	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			25.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			73.0			Sum of lost time (s)			17.6			
Intersection Capacity Utilization			68.2%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Existing Plus Proj
Timing Plan: AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	14	433	18	920	5	5
Future Volume (vph)	14	433	18	920	5	5
Turn Type	Prot	NA	Prot	NA	NA	NA
Protected Phases	5	2	1	6	8	4
Permitted Phases						
Detector Phase	5	2	1	6	8	4
Switch Phase						
Minimum Initial (s)	4.0	5.0	4.0	5.0	4.0	4.0
Minimum Split (s)	9.0	24.0	9.0	23.0	26.0	28.0
Total Split (s)	9.0	36.0	10.0	37.0	26.0	28.0
Total Split (%)	9.0%	36.0%	10.0%	37.0%	26.0%	28.0%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	None	C-Max	Min	Min

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 1: Mesa Rock Rd & Deer Springs Rd

Ø1	Ø2 (R)	Ø4	Ø8
10 s	36 s	28 s	26 s
Ø5	Ø6 (R)		
9 s	37 s		

I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Existing Plus Proj
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	433	24	18	920	124	14	5	10	105	5	26
Future Volume (vph)	14	433	24	18	920	124	14	5	10	105	5	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.98			0.95			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	
Satd. Flow (prot)	1770	3511		1770	3476			1732			1747	
Flt Permitted	0.95	1.00		0.95	1.00			0.98			0.96	
Satd. Flow (perm)	1770	3511		1770	3476			1732			1747	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	471	26	20	1000	135	15	5	11	114	5	28
RTOR Reduction (vph)	0	3	0	0	6	0	0	10	0	0	10	0
Lane Group Flow (vph)	15	494	0	20	1129	0	0	21	0	0	137	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	2.2	56.5		2.5	56.8			8.5			13.5	
Effective Green, g (s)	2.2	56.5		2.5	56.8			8.5			13.5	
Actuated g/C Ratio	0.02	0.56		0.02	0.57			0.08			0.14	
Clearance Time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Vehicle Extension (s)	2.0	2.5		2.0	2.5			2.0			2.0	
Lane Grp Cap (vph)	38	1983		44	1974			147			235	
v/s Ratio Prot	0.01	0.14		c0.01	c0.32			c0.01			c0.08	
v/s Ratio Perm												
v/c Ratio	0.39	0.25		0.45	0.57			0.14			0.59	
Uniform Delay, d1	48.2	11.0		48.1	13.8			42.4			40.6	
Progression Factor	1.00	1.00		1.04	0.93			1.00			1.00	
Incremental Delay, d2	2.4	0.3		2.5	1.1			0.2			2.4	
Delay (s)	50.7	11.3		52.3	13.9			42.5			43.0	
Level of Service	D	B		D	B			D			D	
Approach Delay (s)		12.5			14.6			42.5			43.0	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			16.7			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			19.0			
Intersection Capacity Utilization			49.7%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Existing Plus Proj
Timing Plan: PM Peak

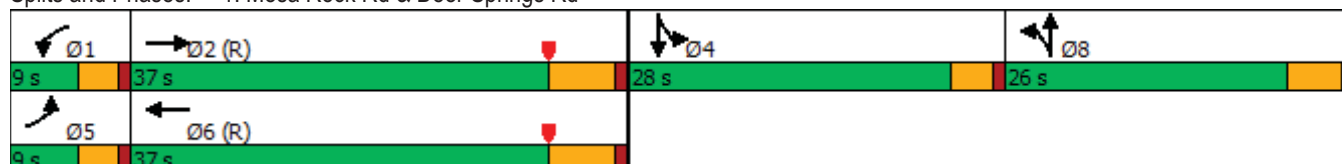


Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	35	830	18	628	5	1
Future Volume (vph)	35	830	18	628	5	1
Turn Type	Prot	NA	Prot	NA	NA	NA
Protected Phases	5	2	1	6	8	4
Permitted Phases						
Detector Phase	5	2	1	6	8	4
Switch Phase						
Minimum Initial (s)	4.0	5.0	4.0	5.0	4.0	4.0
Minimum Split (s)	9.0	24.0	9.0	23.0	26.0	28.0
Total Split (s)	9.0	37.0	9.0	37.0	26.0	28.0
Total Split (%)	9.0%	37.0%	9.0%	37.0%	26.0%	28.0%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	None	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 70 (70%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Mesa Rock Rd & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Existing Plus Proj
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	830	23	18	628	130	37	5	25	140	1	28
Future Volume (vph)	35	830	23	18	628	130	37	5	25	140	1	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.97			0.95			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.96	
Satd. Flow (prot)	1770	3525		1770	3448			1721			1749	
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.96	
Satd. Flow (perm)	1770	3525		1770	3448			1721			1749	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	902	25	20	683	141	40	5	27	152	1	30
RTOR Reduction (vph)	0	1	0	0	12	0	0	24	0	0	8	0
Lane Group Flow (vph)	38	926	0	20	812	0	0	48	0	0	175	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	3.8	54.3		2.3	52.8			9.3			15.1	
Effective Green, g (s)	3.8	54.3		2.3	52.8			9.3			15.1	
Actuated g/C Ratio	0.04	0.54		0.02	0.53			0.09			0.15	
Clearance Time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Vehicle Extension (s)	2.0	2.5		2.0	2.5			2.0			2.0	
Lane Grp Cap (vph)	67	1914		40	1820			160			264	
v/s Ratio Prot	c0.02	c0.26		0.01	0.24			c0.03			c0.10	
v/s Ratio Perm												
v/c Ratio	0.57	0.48		0.50	0.45			0.30			0.66	
Uniform Delay, d1	47.3	14.2		48.3	14.6			42.3			40.1	
Progression Factor	1.00	1.00		0.92	1.77			1.00			1.00	
Incremental Delay, d2	6.4	0.9		3.4	0.8			0.4			4.8	
Delay (s)	53.7	15.0		47.9	26.6			42.7			44.9	
Level of Service	D	B		D	C			D			D	
Approach Delay (s)		16.6			27.1			42.7			44.9	
Approach LOS		B			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			24.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			19.0			
Intersection Capacity Utilization			51.4%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

Existing Plus Proj
Timing Plan: AM Peak

	→	↘	↙	←	↓	↙
Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↑	↘	↑	↘	↘
Traffic Volume (vph)	331	218	276	412	7	654
Future Volume (vph)	331	218	276	412	7	654
Turn Type	NA	Perm	Prot	NA	NA	custom
Protected Phases	2		1	6	4	5
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	5
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	6.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.8	10.1	9.7
Total Split (s)	50.2	50.2	34.7	60.2	15.1	24.7
Total Split (%)	50.2%	50.2%	34.7%	60.2%	15.1%	24.7%
Yellow Time (s)	4.8	4.8	3.7	4.8	4.1	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.7	5.8	5.1	4.7
Lead/Lag	Lead	Lead	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 15 (15%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 2: I-15 SB Ramps & Deer Springs Rd

→ Ø2 (R)	↙ Ø1	↓ Ø4
50.2 s	34.7 s	15.1 s
↙ Ø5	← Ø6 (R)	
24.7 s	60.2 s	

I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

Existing Plus Proj
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	331	218	276	412	0	0	0	0	40	7	654
Future Volume (vph)	0	331	218	276	412	0	0	0	0	40	7	654
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	0.88
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (prot)		1863	1583	1770	1863						1787	2787
Flt Permitted		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (perm)		1863	1583	1770	1863						1787	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	360	237	300	448	0	0	0	0	43	8	711
RTOR Reduction (vph)	0	0	127	0	0	0	0	0	0	0	0	567
Lane Group Flow (vph)	0	360	110	300	448	0	0	0	0	0	51	144
Turn Type		NA	Perm	Prot	NA					Perm	NA	custom
Protected Phases		2		1	6						4	5
Permitted Phases			2							4		4
Actuated Green, G (s)		46.4	46.4	30.0	70.0						8.0	14.4
Effective Green, g (s)		46.4	46.4	30.0	70.0						8.0	14.4
Actuated g/C Ratio		0.46	0.46	0.30	0.70						0.08	0.14
Clearance Time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		864	734	531	1304						142	401
v/s Ratio Prot		c0.19		c0.17	0.24							c0.02
v/s Ratio Perm			0.07								0.03	0.03
v/c Ratio		0.42	0.15	0.56	0.34						0.36	0.36
Uniform Delay, d1		17.8	15.4	29.5	5.9						43.6	38.6
Progression Factor		0.88	1.77	1.00	1.00						1.00	1.00
Incremental Delay, d2		1.5	0.4	1.4	0.7						1.6	0.6
Delay (s)		17.1	27.7	30.9	6.6						45.1	39.2
Level of Service		B	C	C	A						D	D
Approach Delay (s)		21.3			16.4			0.0			39.6	
Approach LOS		C			B			A			D	
Intersection Summary												
HCM 2000 Control Delay			26.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				15.6		
Intersection Capacity Utilization			63.1%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

Existing Plus Proj
Timing Plan: PM Peak



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑↑
Traffic Volume (vph)	793	222	155	409	2	365
Future Volume (vph)	793	222	155	409	2	365
Turn Type	NA	Perm	Prot	NA	NA	custom
Protected Phases	2		1	6	4	5
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	5
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	6.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.8	10.1	10.0
Total Split (s)	55.2	55.2	29.7	70.2	15.1	14.7
Total Split (%)	55.2%	55.2%	29.7%	70.2%	15.1%	14.7%
Yellow Time (s)	4.8	4.8	3.7	4.8	4.1	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.7	5.8	5.1	4.7
Lead/Lag	Lead	Lead	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	Min	C-Max	Min	None

Intersection Summary

Cycle Length: 100

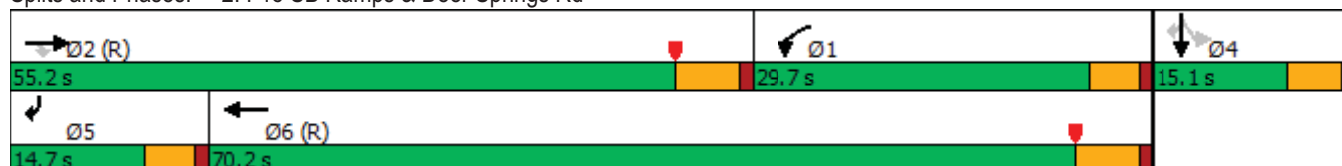
Actuated Cycle Length: 100

Offset: 5 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 2: I-15 SB Ramps & Deer Springs Rd



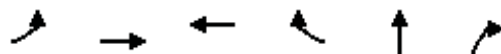
I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

Existing Plus Proj
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	793	222	155	409	0	0	0	0	61	2	365
Future Volume (vph)	0	793	222	155	409	0	0	0	0	61	2	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	0.88
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1863	1583	1770	1863						1777	2787
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1863	1583	1770	1863						1777	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	862	241	168	445	0	0	0	0	66	2	397
RTOR Reduction (vph)	0	0	108	0	0	0	0	0	0	0	0	341
Lane Group Flow (vph)	0	862	133	168	445	0	0	0	0	0	68	56
Turn Type		NA	Perm	Prot	NA					Perm	NA	custom
Protected Phases		2		1	6						4	5
Permitted Phases			2							4		4
Actuated Green, G (s)		50.9	50.9	25.0	70.3						8.5	14.1
Effective Green, g (s)		50.9	50.9	25.0	70.3						8.5	14.1
Actuated g/C Ratio		0.51	0.51	0.25	0.70						0.08	0.14
Clearance Time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		948	805	442	1309						151	392
v/s Ratio Prot		c0.46		c0.09	0.24							0.01
v/s Ratio Perm			0.08								0.04	0.01
v/c Ratio		0.91	0.17	0.38	0.34						0.45	0.14
Uniform Delay, d1		22.4	13.2	31.1	5.8						43.5	37.7
Progression Factor		1.24	2.47	1.80	3.01						1.00	1.00
Incremental Delay, d2		13.1	0.4	0.3	0.4						2.1	0.2
Delay (s)		41.1	33.0	56.1	17.8						45.7	37.8
Level of Service		D	C	E	B						D	D
Approach Delay (s)		39.3			28.3			0.0			39.0	
Approach LOS		D			C			A			D	
Intersection Summary												
HCM 2000 Control Delay			36.1			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				15.6		
Intersection Capacity Utilization			74.1%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Existing Plus Proj
Timing Plan: AM Peak



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	241	123	563	83	3	151
Future Volume (vph)	241	123	563	83	3	151
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.1	10.1
Total Split (s)	24.0	77.0	53.0	53.0	23.0	23.0
Total Split (%)	24.0%	77.0%	53.0%	53.0%	23.0%	23.0%
Yellow Time (s)	3.7	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	5.8	5.8	5.8	5.1	5.1
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 75.7

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: I-15 NB Ramps & Deer Springs Rd



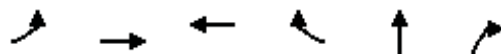
I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Existing Plus Proj
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	123	0	0	563	83	126	3	151	0	0	0
Future Volume (vph)	241	123	0	0	563	83	126	3	151	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	1863			1863	1583		1776	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	1863			1863	1583		1776	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	134	0	0	612	90	137	3	164	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	52	0	0	138	0	0	0
Lane Group Flow (vph)	262	134	0	0	612	38	0	140	26	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	16.1	52.4			31.6	31.6		11.8	11.8			
Effective Green, g (s)	16.1	52.4			31.6	31.6		11.8	11.8			
Actuated g/C Ratio	0.21	0.70			0.42	0.42		0.16	0.16			
Clearance Time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	379	1299			783	666		279	248			
v/s Ratio Prot	c0.15	0.07			c0.33							
v/s Ratio Perm						0.02		0.08	0.02			
v/c Ratio	0.69	0.10			0.78	0.06		0.50	0.10			
Uniform Delay, d1	27.2	3.7			18.8	12.9		29.0	27.1			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	5.4	0.0			5.1	0.0		1.4	0.2			
Delay (s)	32.6	3.7			23.9	12.9		30.4	27.3			
Level of Service	C	A			C	B		C	C			
Approach Delay (s)		22.8			22.5			28.7			0.0	
Approach LOS		C			C			C			A	
Intersection Summary												
HCM 2000 Control Delay			23.9				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			75.1				Sum of lost time (s)			15.6		
Intersection Capacity Utilization			63.1%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Existing Plus Proj
Timing Plan: PM Peak



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	570	289	267	71	0	474
Future Volume (vph)	570	289	267	71	0	474
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.1	10.1
Total Split (s)	49.7	75.9	26.2	26.2	24.1	24.1
Total Split (%)	49.7%	75.9%	26.2%	26.2%	24.1%	24.1%
Yellow Time (s)	3.7	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	5.8	5.8	5.8	5.1	5.1
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min	C-Max	C-Max	C-Max	Min	Min

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 65 (65%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

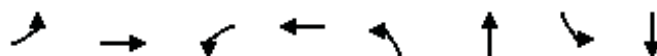
Splits and Phases: 3: I-15 NB Ramps & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Existing Plus Proj
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	570	289	0	0	267	71	280	0	474	0	0	0
Future Volume (vph)	570	289	0	0	267	71	280	0	474	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	1863			1863	1583		1770	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	1863			1863	1583		1770	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	620	314	0	0	290	77	304	0	515	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	61	0	0	418	0	0	0
Lane Group Flow (vph)	620	314	0	0	290	16	0	304	97	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	45.0	70.2			20.5	20.5		18.9	18.9			
Effective Green, g (s)	45.0	70.2			20.5	20.5		18.9	18.9			
Actuated g/C Ratio	0.45	0.70			0.20	0.20		0.19	0.19			
Clearance Time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	796	1307			381	324		334	299			
v/s Ratio Prot	c0.35	0.17			c0.16			c0.17				
v/s Ratio Perm						0.01			0.06			
v/c Ratio	0.78	0.24			0.76	0.05		0.91	0.33			
Uniform Delay, d1	23.3	5.3			37.4	31.9		39.7	35.0			
Progression Factor	0.28	0.52			1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.3	0.2			13.4	0.3		27.7	0.6			
Delay (s)	8.9	3.0			50.8	32.2		67.4	35.7			
Level of Service	A	A			D	C		E	D			
Approach Delay (s)		6.9			46.9			47.5			0.0	
Approach LOS		A			D			D			A	
Intersection Summary												
HCM 2000 Control Delay		29.5			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.80										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			15.6				
Intersection Capacity Utilization		74.1%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	74	87	219	291	78	62	17	316
Future Volume (vph)	74	87	219	291	78	62	17	316
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	6.0	4.0	6.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.4	23.0	9.4	25.2	28.5	28.5	32.5	32.5
Total Split (s)	16.0	23.0	22.0	29.0	55.0	55.0	55.0	55.0
Total Split (%)	16.0%	23.0%	22.0%	29.0%	55.0%	55.0%	55.0%	55.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	5.5	5.5	5.5	5.5
All-Red Time (s)	0.5	1.0	0.5	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.9	6.2	4.9	6.2		6.5		6.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

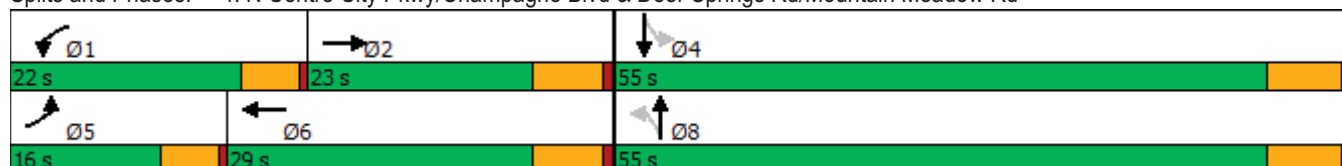
Cycle Length: 100

Actuated Cycle Length: 71.6

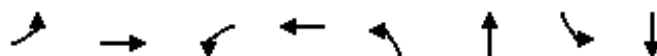
Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 4: N Centre City Pkwy/Champagne Blvd & Deer Springs Rd/Mountain Meadow Rd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	87	88	219	291	18	78	62	49	17	316	287
Future Volume (vph)	74	87	88	219	291	18	78	62	49	17	316	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.92		1.00	0.99			0.97			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)	1770	3272		1770	3508			1761			1744	
Flt Permitted	0.95	1.00		0.95	1.00			0.55			0.99	
Satd. Flow (perm)	1770	3272		1770	3508			997			1728	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	95	96	238	316	20	85	67	53	18	343	312
RTOR Reduction (vph)	0	84	0	0	5	0	0	14	0	0	34	0
Lane Group Flow (vph)	80	107	0	238	331	0	0	191	0	0	639	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	6.5	9.3		14.1	16.9			31.1			31.1	
Effective Green, g (s)	6.5	9.3		14.1	16.9			31.1			31.1	
Actuated g/C Ratio	0.09	0.13		0.20	0.23			0.43			0.43	
Clearance Time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	159	422		346	822			430			745	
v/s Ratio Prot	0.05	0.03		c0.13	c0.09							
v/s Ratio Perm								0.19			c0.37	
v/c Ratio	0.50	0.25		0.69	0.40			0.45			0.86	
Uniform Delay, d1	31.3	28.3		27.0	23.3			14.4			18.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.9	0.1		4.5	0.1			0.3			9.3	
Delay (s)	32.2	28.4		31.4	23.5			14.7			27.8	
Level of Service	C	C		C	C			B			C	
Approach Delay (s)		29.5			26.8			14.7			27.8	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			26.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			72.1			Sum of lost time (s)			17.6			
Intersection Capacity Utilization			83.1%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	357	302	62	158	93	240	23	96
Future Volume (vph)	357	302	62	158	93	240	23	96
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	6.0	4.0	6.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.4	23.0	9.4	25.2	28.5	28.5	32.5	32.5
Total Split (s)	31.0	43.6	14.4	27.0	42.0	42.0	42.0	42.0
Total Split (%)	31.0%	43.6%	14.4%	27.0%	42.0%	42.0%	42.0%	42.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	5.5	5.5	5.5	5.5
All-Red Time (s)	0.5	1.0	0.5	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.9	6.2	4.9	6.2		6.5		6.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

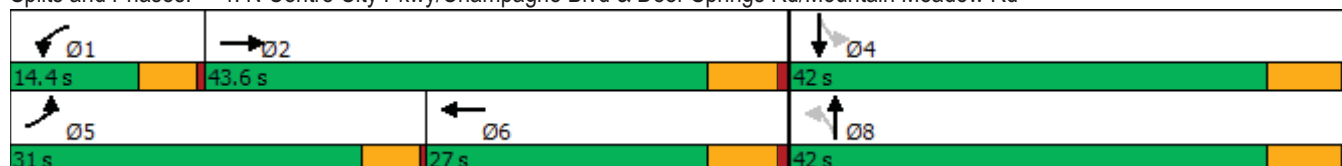
Cycle Length: 100

Actuated Cycle Length: 83.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 4: N Centre City Pkwy/Champagne Blvd & Deer Springs Rd/Mountain Meadow Rd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	357	302	124	62	158	28	93	240	134	23	96	102
Future Volume (vph)	357	302	124	62	158	28	93	240	134	23	96	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.96		1.00	0.98			0.96			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3384		1770	3460			1773			1737	
Flt Permitted	0.95	1.00		0.95	1.00			0.87			0.93	
Satd. Flow (perm)	1770	3384		1770	3460			1564			1620	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	388	328	135	67	172	30	101	261	146	25	104	111
RTOR Reduction (vph)	0	48	0	0	16	0	0	14	0	0	29	0
Lane Group Flow (vph)	388	415	0	67	186	0	0	494	0	0	211	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	22.1	27.5		6.1	11.5			32.8			32.8	
Effective Green, g (s)	22.1	27.5		6.1	11.5			32.8			32.8	
Actuated g/C Ratio	0.26	0.33		0.07	0.14			0.39			0.39	
Clearance Time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	465	1107		128	473			610			632	
v/s Ratio Prot	c0.22	c0.12		0.04	0.05							
v/s Ratio Perm								c0.32			0.13	
v/c Ratio	0.83	0.38		0.52	0.39			0.81			0.33	
Uniform Delay, d1	29.2	21.7		37.5	33.1			22.8			17.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	11.7	0.1		1.8	0.2			7.4			0.1	
Delay (s)	40.9	21.7		39.3	33.3			30.2			18.1	
Level of Service	D	C		D	C			C			B	
Approach Delay (s)		30.5			34.8			30.2			18.1	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			29.4									
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			84.0									
Intersection Capacity Utilization			83.6%									
Analysis Period (min)			15									
c Critical Lane Group												

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	7	7	128	562	60
Future Volume (Veh/h)	60	7	7	128	562	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	8	8	139	611	65
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)					255	
pX, platoon unblocked						
vC, conflicting volume	798	644	676			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	798	644	676			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	98	99			
cM capacity (veh/h)	352	473	915			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	65	8	147	676		
Volume Left	65	0	8	0		
Volume Right	0	8	0	65		
cSH	352	473	915	1700		
Volume to Capacity	0.18	0.02	0.01	0.40		
Queue Length 95th (ft)	17	1	1	0		
Control Delay (s)	17.5	12.7	0.6	0.0		
Lane LOS	C	B	A			
Approach Delay (s)	17.0		0.6	0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			43.2%	ICU Level of Service		A
Analysis Period (min)			15			

I-15 & Deer Springs Rd Mini Mart
5: N Centre City Pkwy

Existing Plus Proj
Timing Plan: PM Peak

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	69	8	8	397	212	69
Future Volume (Veh/h)	69	8	8	397	212	69
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	75	9	9	432	230	75
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)					255	
pX, platoon unblocked						
vC, conflicting volume	718	268	305			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	718	268	305			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	99	99			
cM capacity (veh/h)	393	771	1256			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	75	9	441	305		
Volume Left	75	0	9	0		
Volume Right	0	9	0	75		
cSH	393	771	1256	1700		
Volume to Capacity	0.19	0.01	0.01	0.18		
Queue Length 95th (ft)	17	1	1	0		
Control Delay (s)	16.3	9.7	0.2	0.0		
Lane LOS	C	A	A			
Approach Delay (s)	15.6		0.2	0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			37.8%	ICU Level of Service		A
Analysis Period (min)			15			

FUTURE

- 2019 Traffic Counts

National Data & Surveying Services

Intersection Turning Movement Count

Location: Centre City Pkwy & Protea Gardens Rd
City: Escondido
Control: No Control

Project ID: 19-04136-005
Date: 3/27/2019

Total

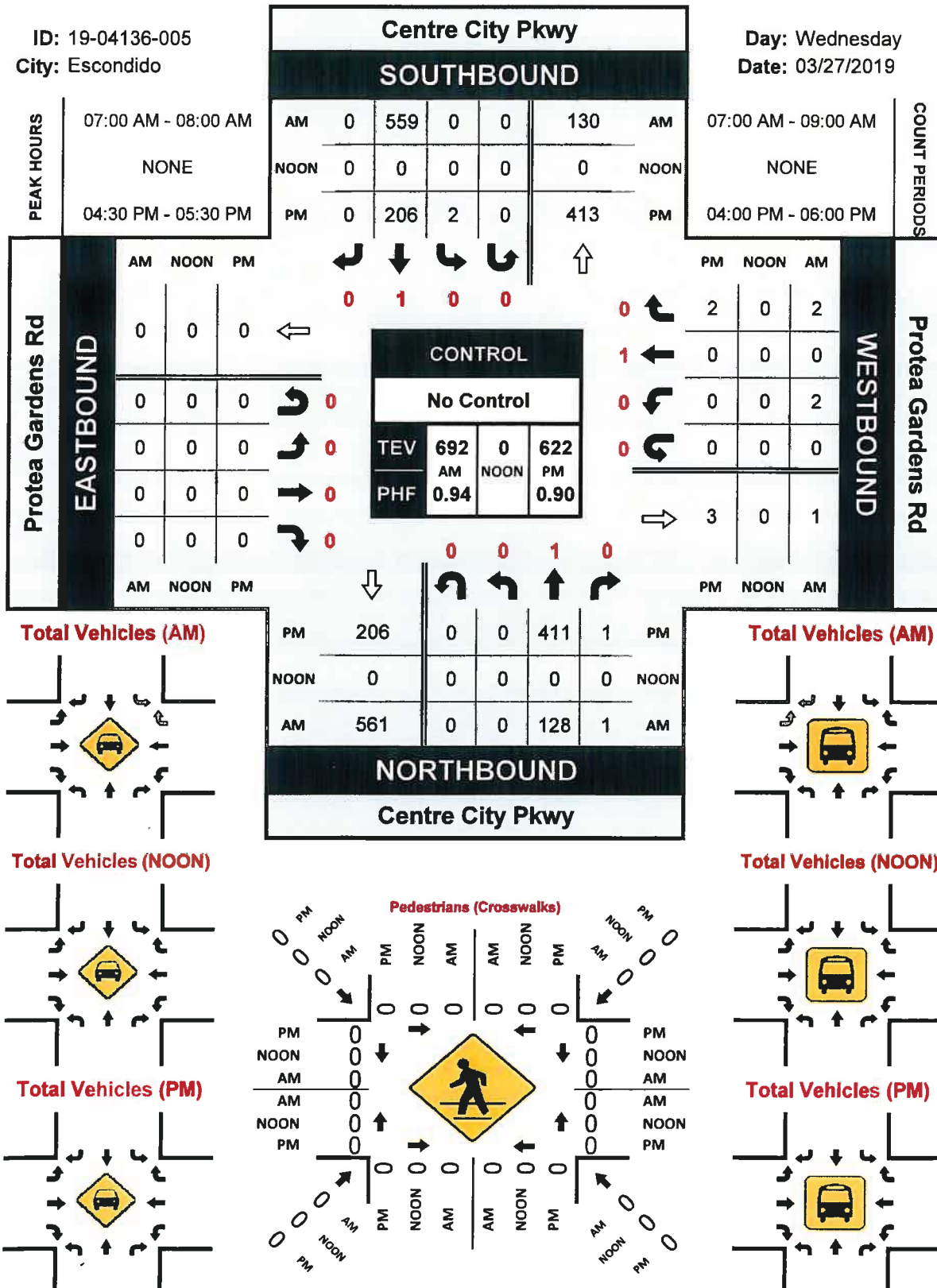
NS/EW Streets:	Centre City Pkwy				Centre City Pkwy				Protea Gardens Rd				Protea Gardens Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	24	0	0	0	140	0	0	0	0	0	0	1	0	1	0	166
7:15 AM	0	29	0	0	0	132	0	0	0	0	0	0	0	0	0	0	161
7:30 AM	0	34	1	0	0	148	0	0	0	0	0	0	0	0	1	0	184
7:45 AM	0	41	0	0	0	139	0	0	0	0	0	0	1	0	0	0	181
8:00 AM	0	49	0	0	0	87	0	0	0	0	0	0	0	0	1	0	137
8:15 AM	0	45	0	0	0	79	0	0	0	0	0	0	1	0	1	0	126
8:30 AM	0	54	0	0	0	69	0	0	0	0	0	0	0	0	0	0	123
8:45 AM	0	39	0	0	0	51	0	0	0	0	0	0	0	0	1	0	91
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	315	1	0	0	845	0	0	0	0	0	0	3	0	5	0	1169
	0.00%	99.68%	0.32%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	37.50%	0.00%	62.50%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	128	1	0	0	559	0	0	0	0	0	0	2	0	2	0	692
PEAK HR FACTOR :	0.000	0.780	0.250	0.000	0.000	0.944	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.940
	0.787				0.944								0.500				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	99	0	0	0	57	0	0	0	0	0	0	0	0	0	0	156
4:15 PM	0	83	1	0	0	48	0	0	0	0	0	0	0	0	1	0	133
4:30 PM	0	103	0	0	0	47	0	0	0	0	0	0	0	0	0	0	150
4:45 PM	0	98	0	0	1	48	0	0	0	0	0	0	0	0	0	0	147
5:00 PM	0	110	1	0	0	59	0	0	0	0	0	0	0	0	2	0	172
5:15 PM	0	100	0	0	1	52	0	0	0	0	0	0	0	0	0	0	153
5:30 PM	0	78	1	0	0	50	0	0	0	0	0	0	0	0	1	0	130
5:45 PM	0	61	0	0	2	55	0	0	0	0	0	0	0	0	0	0	118
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	732	3	0	4	416	0	0	0	0	0	0	0	0	4	0	1159
	0.00%	99.59%	0.41%	0.00%	0.95%	99.05%	0.00%	0.00%	0	0	0	0	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	411	1	0	2	206	0	0	0	0	0	0	0	0	2	0	622
PEAK HR FACTOR :	0.000	0.934	0.250	0.000	0.500	0.873	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.904
	0.928				0.881								0.250				

Centre City Pkwy & Protea Gardens Rd

Peak Hour Turning Movement Count

ID: 19-04136-005
City: Escondido

Day: Wednesday
Date: 03/27/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: Old Hwy 395/Centre City Pkwy & Deer Springs Rd/Mountain Meadow Rd
City: Escondido
Control: Signalized

Project ID: 19-04136-004
Date: 3/27/2019

Total

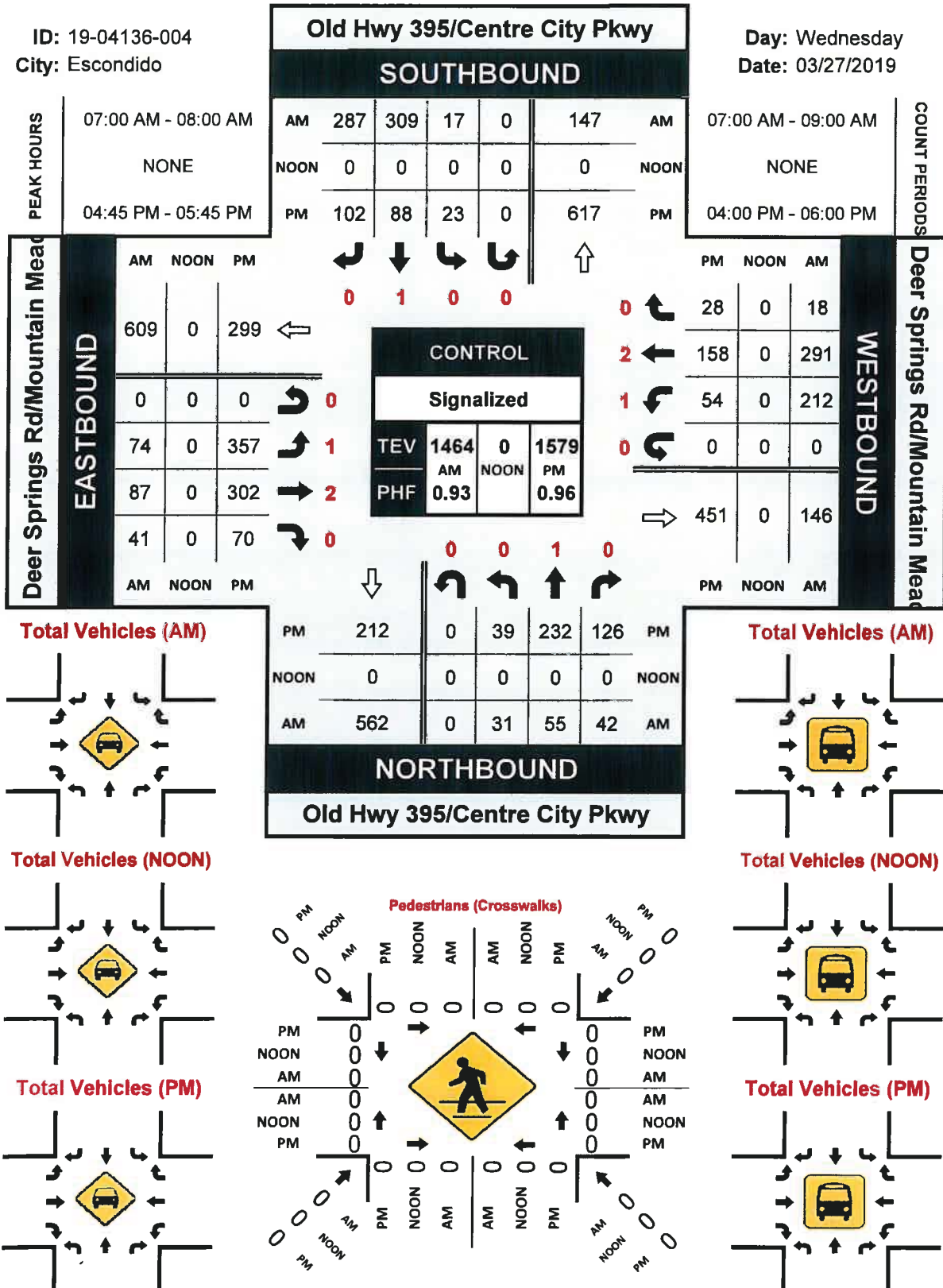
NS/EW Streets:	Old Hwy 395/Centre City Pkwy				Old Hwy 395/Centre City Pkwy				Deer Springs Rd/Mountain Meadow Rd				Deer Springs Rd/Mountain Meadow Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
7:00 AM	8	9	6	0	4	86	67	0	11	17	5	0	57	68	8	0	346
7:15 AM	5	16	10	0	5	80	72	0	15	23	9	0	35	79	6	0	355
7:30 AM	9	14	9	0	4	76	79	0	22	16	13	0	65	60	1	0	368
7:45 AM	9	16	17	0	4	67	69	0	26	31	14	0	55	84	3	0	395
8:00 AM	12	13	29	0	5	46	59	0	15	29	12	0	31	71	3	0	325
8:15 AM	12	21	12	0	1	47	37	0	19	27	12	0	16	79	5	0	288
8:30 AM	18	21	15	0	3	32	47	0	22	16	6	0	31	71	3	0	285
8:45 AM	9	17	11	0	2	24	34	0	28	30	14	0	16	58	3	0	246
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	82	127	109	0	28	458	464	0	158	189	85	0	306	570	32	0	2608
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	31	55	42	0	17	309	287	0	74	87	41	0	212	291	18	0	1464
PEAK HR FACTOR :	0.861	0.859	0.618	0.000	0.850	0.898	0.908	0.000	0.712	0.702	0.732	0.000	0.815	0.866	0.563	0.000	0.927
	0.762				0.964				0.711				0.917				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
4:00 PM	11	51	30	0	2	22	30	0	55	60	13	0	19	40	5	0	338
4:15 PM	12	45	35	0	3	17	36	0	59	77	12	0	20	47	6	0	369
4:30 PM	10	52	33	0	1	23	37	0	61	70	9	0	16	53	6	0	371
4:45 PM	10	55	37	0	7	18	25	0	109	61	20	0	9	32	9	0	392
5:00 PM	11	67	35	0	6	30	28	0	90	73	13	0	18	35	7	0	413
5:15 PM	9	62	29	0	5	21	26	0	78	79	17	0	14	45	6	0	391
5:30 PM	9	48	25	0	5	19	23	0	80	89	20	0	13	46	6	0	383
5:45 PM	6	28	23	0	6	22	20	0	83	69	18	0	18	28	1	0	322
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	78	408	247	0	35	172	225	0	615	578	122	0	127	326	46	0	2979
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	39	232	126	0	23	88	102	0	357	302	70	0	54	158	28	0	1579
PEAK HR FACTOR :	0.886	0.866	0.851	0.000	0.821	0.733	0.911	0.000	0.819	0.848	0.875	0.000	0.750	0.859	0.778	0.000	0.956
	0.878				0.832				0.959				0.923				

Old Hwy 395/Centre City Pkwy & Deer Springs Rd/Mountain Meadow Rd

Peak Hour Turning Movement Count

ID: 19-04136-004
City: Escondido

Day: Wednesday
Date: 03/27/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: I-15 SB Ramps & Deer Springs Rd
City: Escondido
Control: Signalized

Project ID: 19-04136-002
Date: 3/27/2019

Total

NS/EW Streets:	I-15 SB Ramps				I-15 SB Ramps				Deer Springs Rd				Deer Springs Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	2 SR	0 SU	0 EL	1 ET	1 ER	0 EU	1 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	1	0	149	0	0	67	54	0	73	97	0	0	441
7:15 AM	0	0	0	0	6	0	156	0	0	71	56	0	71	86	0	0	446
7:30 AM	0	0	0	0	8	3	141	0	0	80	52	0	57	116	0	0	457
7:45 AM	0	0	0	0	7	2	191	0	0	89	46	0	66	111	0	0	512
8:00 AM	0	0	0	0	12	2	166	0	0	84	64	0	75	92	0	0	495
8:15 AM	0	0	0	0	13	1	138	0	0	63	48	0	71	76	0	0	410
8:30 AM	0	0	0	0	7	1	123	0	0	62	46	0	73	84	0	0	396
8:45 AM	0	0	0	0	7	1	126	0	0	75	48	0	68	72	0	0	397
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	61	10	1190	0	0	591	414	0	554	734	0	0	3554
PEAK HR :	07:15 AM - 08:15 AM				4.84%	0.79%	94.37%	0.00%	0.00%	58.81%	41.19%	0.00%	43.01%	56.99%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	33	7	654	0	0	324	218	0	269	405	0	0	1910
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.688	0.583	0.856	0.000	0.000	0.910	0.852	0.000	0.897	0.873	0.000	0.000	0.933
							0.868				0.916				0.952		
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	2 SR	0 SU	0 EL	1 ET	1 ER	0 EU	1 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	15	1	99	0	0	181	33	0	38	100	0	0	467
4:15 PM	0	0	0	0	11	1	84	0	0	191	47	0	46	104	0	0	484
4:30 PM	0	0	0	0	9	1	77	0	0	198	30	0	54	99	0	0	468
4:45 PM	0	0	0	0	21	0	103	0	0	189	62	0	39	105	0	0	519
5:00 PM	0	0	0	0	7	0	88	0	0	200	40	0	29	98	0	0	462
5:15 PM	0	0	0	0	11	1	104	0	0	202	64	0	45	97	0	0	524
5:30 PM	0	0	0	0	14	1	70	0	0	194	56	0	34	101	0	0	470
5:45 PM	0	0	0	0	12	0	78	0	0	201	58	0	36	91	0	0	476
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	100	5	703	0	0	1556	390	0	321	795	0	0	3870
PEAK HR :	04:45 PM - 05:45 PM				12.38%	0.62%	87.00%	0.00%	0.00%	79.96%	20.04%	0.00%	28.76%	71.24%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	53	2	365	0	0	785	222	0	147	401	0	0	1975
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.631	0.500	0.877	0.000	0.000	0.972	0.867	0.000	0.817	0.955	0.000	0.000	0.942
							0.847				0.946				0.951		

I-15 SB Ramps & Deer Springs Rd

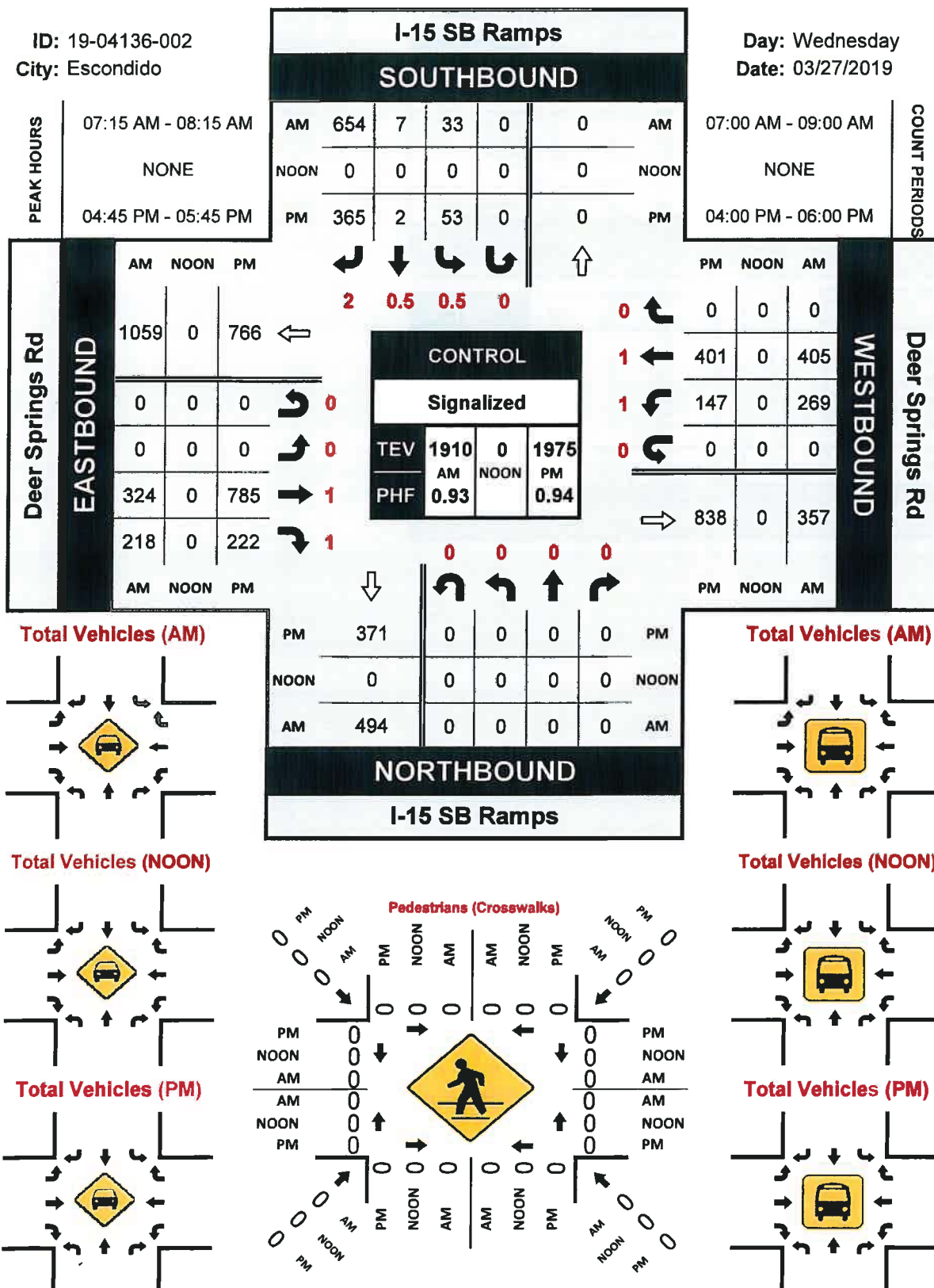
Peak Hour Turning Movement Count

ID: 19-04136-002

City: Escondido

Day: Wednesday

Date: 03/27/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: I-15 NB Ramps & Deer Springs Rd
City: Escondido
Control: Signalized

Project ID: 19-04136-003
Date: 3/27/2019

Total

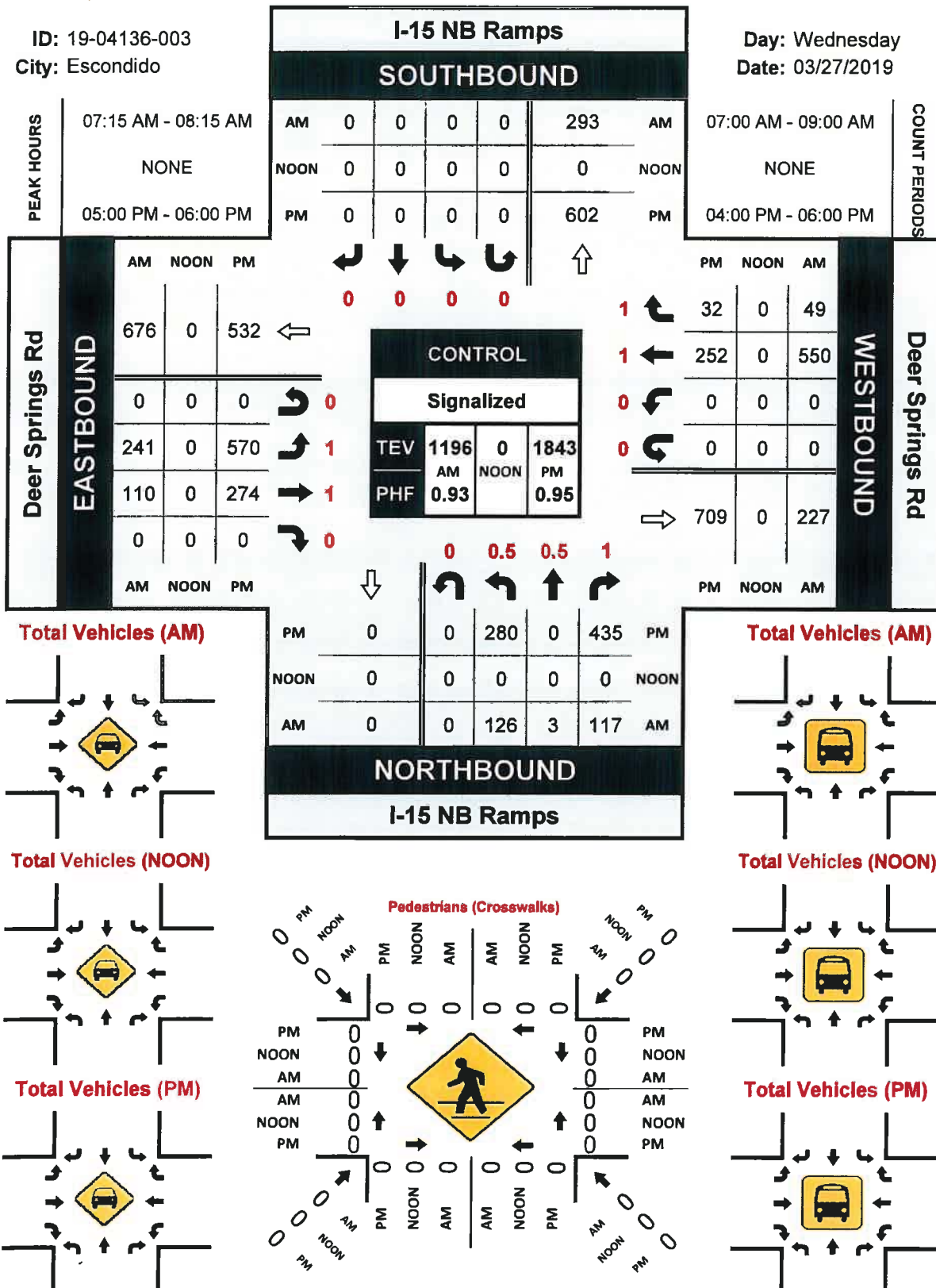
NS/EW Streets:	I-15 NB Ramps				I-15 NB Ramps				Deer Springs Rd				Deer Springs Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	1 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
7:00 AM	25	0	16	0	0	0	0	0	57	21	0	0	0	142	6	0	267
7:15 AM	25	1	25	0	0	0	0	0	46	15	0	0	0	133	12	0	257
7:30 AM	27	1	23	0	0	0	0	0	70	24	0	0	0	146	9	0	300
7:45 AM	43	0	36	0	0	0	0	0	62	34	0	0	0	133	14	0	322
8:00 AM	31	1	33	0	0	0	0	0	63	37	0	0	0	138	14	0	317
8:15 AM	30	0	23	0	0	0	0	0	46	26	0	0	0	112	11	0	248
8:30 AM	38	0	35	0	0	0	0	0	54	18	0	0	0	124	7	0	276
8:45 AM	31	0	36	0	0	0	0	0	50	29	0	0	0	112	7	0	265
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	250	3	227	0	0	0	0	0	448	204	0	0	0	1040	80	0	2252
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	126	3	117	0	0	0	0	0	241	110	0	0	0	550	49	0	1196
PEAK HR FACTOR :	0.733	0.750	0.813	0.000	0.000	0.000	0.000	0.000	0.861	0.743	0.000	0.000	0.000	0.942	0.875	0.000	0.929
	0.778								0.878				0.966				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	1 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
4:00 PM	75	1	73	0	0	0	0	0	140	61	0	0	0	64	4	0	418
4:15 PM	73	0	107	0	0	0	0	0	133	65	0	0	0	75	15	0	468
4:30 PM	60	0	74	0	0	0	0	0	146	67	0	0	0	95	9	0	451
4:45 PM	68	0	91	0	0	0	0	0	130	75	0	0	0	74	9	0	447
5:00 PM	65	0	110	0	0	0	0	0	144	62	0	0	0	60	9	0	450
5:15 PM	73	0	114	0	0	0	0	0	140	77	0	0	0	68	13	0	485
5:30 PM	68	0	104	0	0	0	0	0	148	65	0	0	0	66	3	0	454
5:45 PM	74	0	107	0	0	0	0	0	138	70	0	0	0	58	7	0	454
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	556	1	780	0	0	0	0	0	1119	542	0	0	0	560	69	0	3627
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	280	0	435	0	0	0	0	0	570	274	0	0	0	252	32	0	1843
PEAK HR FACTOR :	0.946	0.000	0.954	0.000	0.000	0.000	0.000	0.000	0.963	0.890	0.000	0.000	0.000	0.926	0.615	0.000	0.950
	0.956								0.972				0.877				

I-15 NB Ramps & Deer Springs Rd

Peak Hour Turning Movement Count

ID: 19-04136-003
City: Escondido

Day: Wednesday
Date: 03/27/2019



Location: Mesa Rock Rd & Deer Springs Rd
City: Escondido
Control: Signalized

Project ID: 19-04136-001
Date: 3/27/2019

Total

NS/EW Streets:		Mesa Rock Rd				Mesa Rock Rd				Deer Springs Rd				Deer Springs Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	7:00 AM	4	0	1	0	25	1	8	0	1	90	5	0	4	223	24		0
	7:15 AM	4	3	0	0	23	0	11	0	3	110	10	0	4	203	33		0
	7:30 AM	5	1	0	0	25	2	4	0	4	109	8	0	2	233	21		0
	7:45 AM	2	0	2	0	20	1	6	0	4	105	4	0	5	258	42		0
	8:00 AM	3	1	5	0	37	2	5	0	3	106	2	0	4	223	28		0
	8:15 AM	6	1	2	0	18	1	8	0	3	85	5	0	1	191	24		0
	8:30 AM	1	2	2	0	24	2	4	0	2	85	2	0	1	179	25		0
8:45 AM	2	1	1	0	17	3	6	0	4	109	3	0	2	177	22	0		
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		55.10%	18.37%	26.53%	0.00%	74.70%	4.74%	20.55%	0.00%	2.78%	92.69%	4.52%	0.00%	1.19%	87.45%	11.35%	0.00%	3093
PEAK HR:		07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL:		14	5	7	0	105	5	26	0	14	430	24	0	15	917	124	0	1686
PEAK HR FACTOR:		0.700	0.417	0.350	0.000	0.709	0.625	0.591	0.000	0.875	0.977	0.600	0.000	0.750	0.889	0.738	0.000	0.939
		0.722				0.773				0.951				0.866				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	4:00 PM	4	0	4	0	40	1	4	0	11	169	4	0	0	160	40		0
	4:15 PM	16	1	3	0	40	1	9	0	9	193	11	0	3	159	23		0
	4:30 PM	12	2	6	0	33	0	5	0	7	193	7	0	8	137	34		0
	4:45 PM	7	1	3	0	34	0	8	0	7	213	11	0	2	172	33		0
	5:00 PM	9	1	4	0	35	0	6	0	8	201	3	0	1	158	26		0
	5:15 PM	9	1	8	0	38	1	9	0	13	219	2	0	3	157	37		0
	5:30 PM	2	0	2	0	39	0	5	0	8	207	3	0	4	131	37		0
5:45 PM	4	0	0	0	28	0	12	0	6	234	9	0	2	145	26	0		
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		63.64	6	30	0	287	3	58	0	69	1629	50	0	23	1219	256	0	3693
PEAK HR:		04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:		37	5	21	0	140	1	28	0	35	826	23	0	14	624	130	0	1884
PEAK HR FACTOR:		0.771	0.625	0.656	0.000	0.921	0.250	0.778	0.000	0.673	0.943	0.523	0.000	0.438	0.907	0.878	0.000	0.948
		0.788				0.880				0.944				0.928				

Mesa Rock Rd & Deer Springs Rd

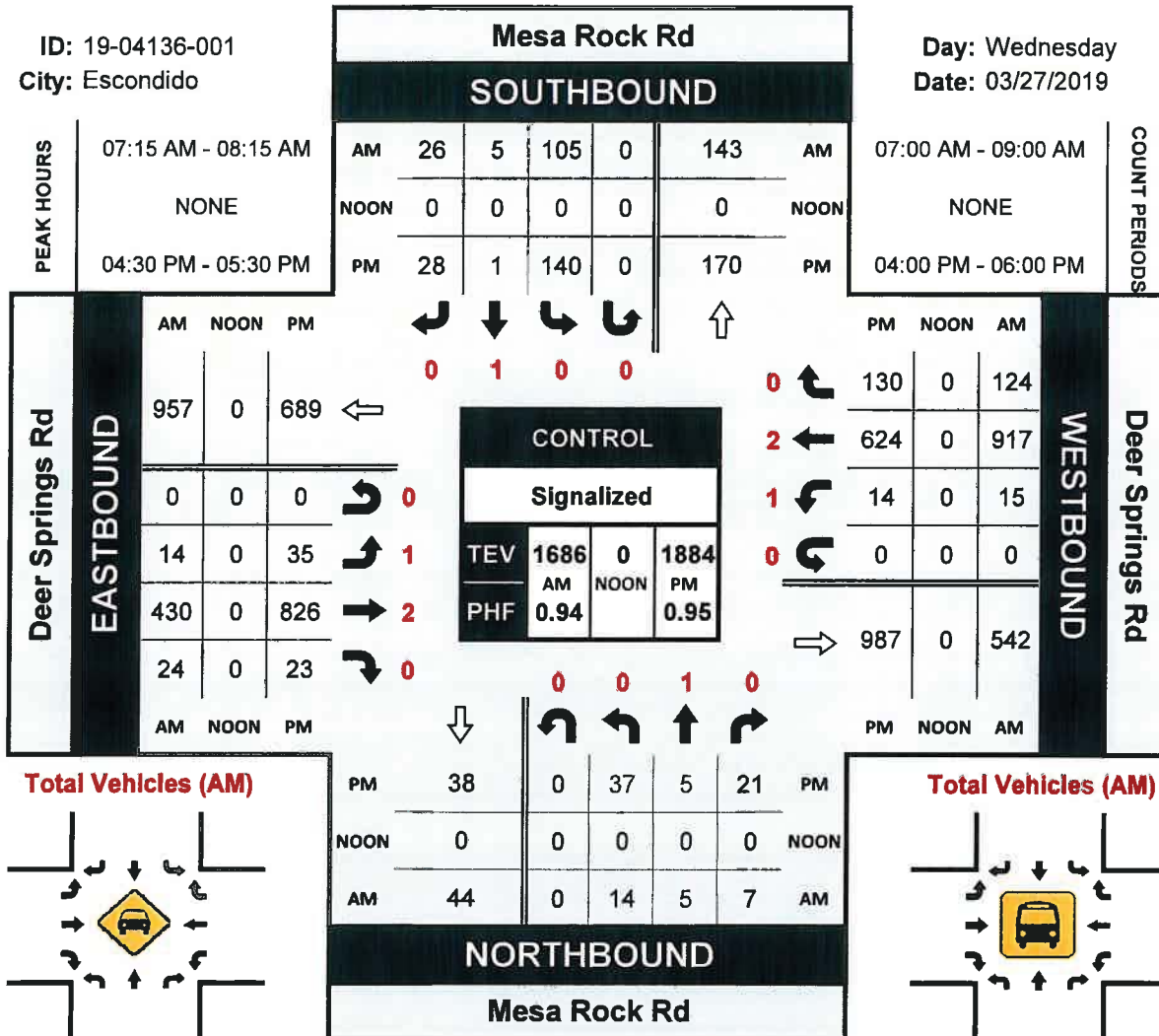
Peak Hour Turning Movement Count

ID: 19-04136-001

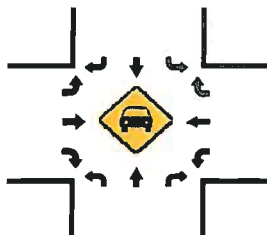
City: Escondido

Day: Wednesday

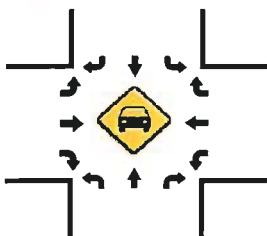
Date: 03/27/2019



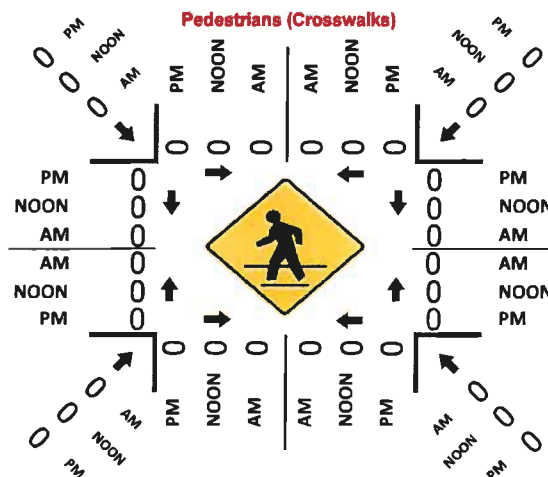
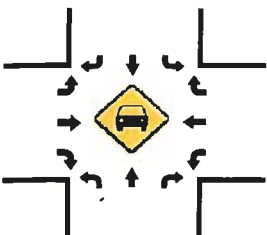
Total Vehicles (AM)



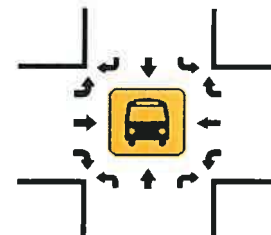
Total Vehicles (NOON)



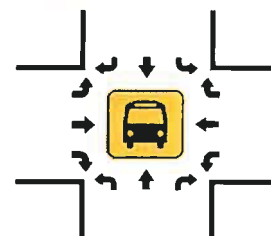
Total Vehicles (PM)



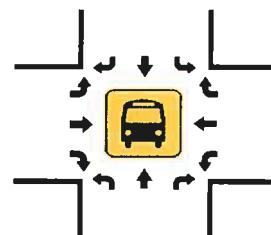
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



VOLUME

Deer Springs Rd Bet. Mesa Rock Rd & I-15 SB Ramps

Day: Wednesday

Date: 3/27/2019

City: Escondido

Project #: CA19_4137_002

DAILY TOTALS					NB	SB	EB		WB		Total				
					0	0	9,938		10,739		20,677				
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00			22	18	40		12:00			110	137	247			
00:15			19	11	30		12:15			136	135	271			
00:30			14	9	23		12:30			132	91	223			
00:45			12	67	10	48	12:45			115	493	136	499	251	992
01:00			9	8	17		13:00			118	129		247		
01:15			12	9	21		13:15			148	120		268		
01:30			6	8	14		13:30			143	123		266		
01:45			2	29	9	34	13:45			148	557	143	515	291	1072
02:00			8	7	15		14:00			164	122		286		
02:15			9	3	12		14:15			202	119		321		
02:30			10	7	17		14:30			221	149		370		
02:45			7	34	7	24	14:45			225	812	172	562	397	1374
03:00			11	11	22		15:00			252	169		421		
03:15			10	14	24		15:15			250	175		425		
03:30			8	22	30		15:30			263	177		440		
03:45			9	38	19	66	15:45			231	996	169	690	400	1686
04:00			11	23	34		16:00			218	214		432		
04:15			19	45	64		16:15			233	183		416		
04:30			15	63	78		16:30			231	166		397		
04:45			26	71	71	202	16:45			254	936	213	776	467	1712
05:00			29	108	137		17:00			244	185		429		
05:15			45	114	159		17:15			262	197		459		
05:30			46	149	195		17:30			245	179		424		
05:45			66	186	160	531	17:45			258	1009	162	723	420	1732
06:00			61	195	256		18:00			202	166		368		
06:15			111	219	330		18:15			178	131		309		
06:30			90	284	374		18:30			184	107		291		
06:45			120	382	292	990	18:45			153	717	108	512	261	1229
07:00			116	248	364		19:00			150	83		233		
07:15			127	235	362		19:15			100	76		176		
07:30			147	259	406		19:30			104	68		172		
07:45			124	514	293	1035	19:45			87	441	64	291	151	732
08:00			150	259	409		20:00			71	57		128		
08:15			110	216	326		20:15			85	50		135		
08:30			110	208	318		20:30			83	50		133		
08:45			123	493	196	879	20:45			67	306	56	213	123	519
09:00			103	167	270		21:00			81	38		119		
09:15			131	181	312		21:15			69	45		114		
09:30			108	194	302		21:30			61	46		107		
09:45			101	443	151	693	21:45			39	250	33	162	72	412
10:00			101	143	244		22:00			51	41		92		
10:15			102	144	246		22:15			42	33		75		
10:30			107	117	224		22:30			38	29		67		
10:45			113	423	131	535	22:45			31	162	18	121	49	283
11:00			135	137	272		23:00			28	21		49		
11:15			105	130	235		23:15			34	31		65		
11:30			106	155	261		23:30			18	25		43		
11:45			113	459	112	534	23:45			40	120	27	104	67	224
TOTALS			3139	5571	8710		TOTALS			6799	5168		11967		
SPLIT %			36.0%	64.0%	42.1%		SPLIT %			56.8%	43.2%		57.9%		

DAILY TOTALS					NB	SB	EB		WB		Total
					0	0	9,938		10,739		20,677

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	9,938	10,739	20,677
AM Peak Hour		07:15	06:30	07:15	PM Peak Hour		17:00	16:00	16:45
AM Pk Volume		548	1059	1594	PM Pk Volume		1009	776	1779
Pk Hr Factor		0.913	0.907	0.956	Pk Hr Factor		0.963	0.907	0.952
7 - 9 Volume		1007	1914	2921	4 - 6 Volume		1945	1499	3444
7 - 9 Peak Hour		07:15	07:15	07:15	4 - 6 Peak Hour		17:00	16:00	16:45
7 - 9 Pk Volume		548	1046	1594	4 - 6 Pk Volume		1009	776	1779
Pk Hr Factor		0.913	0.892	0.956	Pk Hr Factor		0.963	0.907	0.952

VOLUME

Deer Springs Rd W/O Mesa Rock Rd

Day: Wednesday
Date: 3/27/2019City: Escondido
Project #: CA19_4137_001

DAILY TOTALS					NB	SB	EB		WB		Total				
					0	0	8,629		9,326		17,955				
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00			15	8	23		12:00			99	98	197			
00:15			13	7	20		12:15			116	104	220			
00:30			13	6	19		12:30			92	63	155			
00:45			6	47	5	26	11	73	12:45	100	407	106	371	206	778
01:00			5		5	10	13:00			100		101		201	
01:15			6		8	14	13:15			128		91		219	
01:30			4		5	9	13:30			127		97		224	
01:45			2	17	6	24	8	41	13:45	142	497	123	412	265	909
02:00			3		4	7	14:00			144		102		246	
02:15			8		3	11	14:15			193		93		286	
02:30			10		5	15	14:30			210		117		327	
02:45			2	23	5	17	7	40	14:45	217	764	154	466	371	1230
03:00			6		9	15	15:00			236		151		387	
03:15			6		11	17	15:15			237		153		390	
03:30			0		15	15	15:30			247		157		404	
03:45			7	19	9	44	16	63	15:45	207	927	138	599	345	1526
04:00			8		24	32	16:00			190		175		365	
04:15			14		36	50	16:15			214		184		398	
04:30			10		51	61	16:30			212		155		367	
04:45			15	47	60	171	75	218	16:45	232	848	189	703	421	1551
05:00			25		88	113	17:00			218		171		389	
05:15			37		102	139	17:15			236		182		418	
05:30			28		135	163	17:30			209		140		349	
05:45			49	139	150	475	199	614	17:45	246	909	154	647	400	1556
06:00			52		171	223	18:00			177		169		346	
06:15			88		218	306	18:15			151		98		249	
06:30			83		291	374	18:30			154		91		245	
06:45			106	329	289	969	395	1298	18:45	131	613	82	440	213	1053
07:00			98		235	333	19:00			125		67		192	
07:15			127		219	346	19:15			97		69		166	
07:30			122		245	367	19:30			89		47		136	
07:45			113	460	262	961	375	1421	19:45	76	387	56	239	132	626
08:00			117		233	350	20:00			56		41		97	
08:15			94		209	303	20:15			74		40		114	
08:30			91		188	279	20:30			74		40		114	
08:45			109	411	184	814	293	1225	20:45	56	260	37	158	93	418
09:00			85		154	239	21:00			64		34		98	
09:15			104		167	271	21:15			67		41		108	
09:30			85		164	249	21:30			56		27		83	
09:45			85	359	134	619	219	978	21:45	36	223	22	124	58	347
10:00			86		124	210	22:00			30		25		55	
10:15			82		105	187	22:15			27		21		48	
10:30			83		101	184	22:30			24		29		53	
10:45			99	350	120	450	219	800	22:45	32	113	16	91	48	204
11:00			112		115	227	23:00			18		15		33	
11:15			90		95	185	23:15			24		14		38	
11:30			97		129	226	23:30			16		19		35	
11:45			93	392	101	440	194	832	23:45	30	88	18	66	48	154
TOTALS			2593		5010	7603		TOTALS		6036		4316	10352		
SPLIT %			34.1%		65.9%	42.3%		SPLIT %		58.3%		41.7%	57.7%		

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	8,629	9,326	17,955
AM Peak Hour		07:15	06:30	06:30	PM Peak Hour		14:45	16:00	16:30
AM Pk Volume		479	1034	1448	PM Pk Volume		937	703	1595
Pk Hr Factor		0.943	0.888	0.916	Pk Hr Factor		0.948	0.930	0.947
7 - 9 Volume		871	1775	2646	4 - 6 Volume		1757	1350	3107
7 - 9 Peak Hour		07:15	07:00	07:15	4 - 6 Peak Hour		17:00	16:00	16:30
7 - 9 Pk Volume		479	961	1438	4 - 6 Pk Volume		909	703	1595
Pk Hr Factor		0.943	0.917	0.959	Pk Hr Factor		0.924	0.930	0.947

VOLUME

Centre City Pkwy S/O Deer Springs Rd

Day: Wednesday

Date: 3/27/2019

City: Escondido

Project #: CA19_4137_005

DAILY TOTALS					NB	SB	EB		WB		Total
					3,268	3,385	0		0		6,653
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	3	3			6	12:00	31	36			67
00:15	4	2			6	12:15	39	34			73
00:30	0	2			2	12:30	54	41			95
00:45	2	9	5	12	21	12:45	51	175	56	167	342
01:00	0	0			0	13:00	46	38			84
01:15	2	2			4	13:15	51	35			86
01:30	3	1			4	13:30	51	48			99
01:45	1	6	1	4	10	13:45	53	201	58	179	380
02:00	0	1			1	14:00	48	45			93
02:15	2	3			5	14:15	68	54			122
02:30	3	3			6	14:30	69	51			120
02:45	0	5	1	8	13	14:45	84	269	49	199	468
03:00	0	0			0	15:00	69	60			129
03:15	2	1			3	15:15	85	58			143
03:30	1	3			4	15:30	76	45			121
03:45	1	4	2	6	10	15:45	86	316	48	211	527
04:00	3	2			5	16:00	101	61			162
04:15	3	3			6	16:15	84	44			128
04:30	2	2			4	16:30	105	47			152
04:45	4	12	9	16	28	16:45	99	389	46	198	587
05:00	6	7			13	17:00	106	55			161
05:15	14	21			35	17:15	103	59			162
05:30	13	30			43	17:30	81	51			132
05:45	8	41	32	90	131	17:45	66	356	58	223	579
06:00	15	55			70	18:00	66	38			104
06:15	19	52			71	18:15	63	36			99
06:30	27	56			83	18:30	47	45			92
06:45	45	106	102	265	371	18:45	41	217	27	146	363
07:00	25	139			164	19:00	52	34			86
07:15	26	135			161	19:15	42	16			58
07:30	36	150			186	19:30	30	27			57
07:45	42	129	139	563	692	19:45	32	156	18	95	251
08:00	52	101			153	20:00	25	22			47
08:15	46	78			124	20:15	28	8			36
08:30	55	66			121	20:30	21	19			40
08:45	39	192	49	294	486	20:45	29	103	13	62	165
09:00	49	59			108	21:00	28	15			43
09:15	29	45			74	21:15	17	15			32
09:30	30	59			89	21:30	11	11			22
09:45	23	131	32	195	326	21:45	16	72	14	55	127
10:00	31	51			82	22:00	12	9			21
10:15	48	31			79	22:15	14	10			24
10:30	38	45			83	22:30	11	11			22
10:45	42	159	49	176	335	22:45	6	43	3	33	76
11:00	48	54			102	23:00	5	4			9
11:15	31	30			61	23:15	3	4			7
11:30	35	42			77	23:30	1	2			3
11:45	49	163	47	173	336	23:45	5	14	5	15	29
TOTALS	957	1802			2759	TOTALS	2311	1583			3894
SPLIT %	34.7%	65.3%			41.5%	SPLIT %	59.3%	40.7%			58.5%

DAILY TOTALS					NB	SB	EB		WB		Total
					3,268	3,385	0		0		6,653

DAILY TOTALS					NB	SB	EB	WB	Total
					3,268	3,385	0	0	6,653
AM Peak Hour	07:45	07:00	07:00	PM Peak Hour	16:30	17:00	16:30		
AM Pk Volume	195	563	692	PM Pk Volume	413	223	620		
Pk Hr Factor	0.886	0.938	0.930	Pk Hr Factor	0.974	0.945	0.957		
7 - 9 Volume	321	857	1178	4 - 6 Volume	745	421	1166		
7 - 9 Peak Hour	07:45	07:00	07:00	4 - 6 Peak Hour	16:30	17:00	16:30		
7 - 9 Pk Volume	195	563	692	4 - 6 Pk Volume	413	223	620		
Pk Hr Factor	0.886	0.938	0.930	Pk Hr Factor	0.974	0.945	0.957		

VOLUME

Old Hwy 395 N/O Deer Springs Rd

Day: Wednesday

Date: 3/27/2019

City: Escondido

Project #: CA19_4137_006

DAILY TOTALS					NB	SB	EB	WB	Total		
					4,009	4,140	0	0	8,149		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	6	4			10	12:00	42	50			92
00:15	0	1			1	12:15	48	50			98
00:30	1	2			3	12:30	54	46			100
00:45	3	10	1	8	4	12:45	48	192	52	198	390
01:00	1	1			2	13:00	55	43			98
01:15	2	1			3	13:15	45	48			93
01:30	2	1			3	13:30	68	42			110
01:45	0	5	1	4	1	13:45	67	235	52	185	420
02:00	0	0			0	14:00	62	57			119
02:15	0	1			1	14:15	66	48			114
02:30	0	0			0	14:30	82	60			142
02:45	4	4	1	2	5	14:45	100	310	45	210	520
03:00	1	2			3	15:00	107	63			170
03:15	0	2			2	15:15	86	61			147
03:30	1	3			4	15:30	110	63			173
03:45	1	3	3	10	4	15:45	107	410	59	246	656
04:00	2	4			6	16:00	110	48			158
04:15	1	1			2	16:15	115	54			169
04:30	0	10			10	16:30	122	64			186
04:45	10	13	16	31	26	16:45	177	524	49	215	739
05:00	5	11			16	17:00	163	60			223
05:15	7	31			38	17:15	147	56			203
05:30	8	45			53	17:30	134	46			180
05:45	16	36	73	160	89	17:45	113	557	48	210	767
06:00	15	100			115	18:00	102	47			149
06:15	22	94			116	18:15	93	41			134
06:30	28	127			155	18:30	78	36			114
06:45	26	91	162	483	188	18:45	68	341	34	158	499
07:00	26	155			181	19:00	64	35			99
07:15	34	156			190	19:15	50	21			71
07:30	30	160			190	19:30	33	21			54
07:45	44	134	143	614	187	19:45	36	183	21	98	281
08:00	35	110			145	20:00	42	18			60
08:15	36	89			125	20:15	39	13			52
08:30	57	73			130	20:30	29	9			38
08:45	44	172	60	332	104	20:45	35	145	13	53	198
09:00	31	80			111	21:00	30	15			45
09:15	36	58			94	21:15	24	27			51
09:30	33	73			106	21:30	23	13			36
09:45	32	132	54	265	86	21:45	22	99	16	71	170
10:00	34	74			108	22:00	12	9			21
10:15	35	67			102	22:15	14	9			23
10:30	33	82			115	22:30	16	10			26
10:45	47	149	49	272	96	22:45	10	52	5	33	85
11:00	47	91			138	23:00	6	6			12
11:15	41	51			92	23:15	2	7			9
11:30	51	60			111	23:30	6	2			8
11:45	54	193	61	263	115	23:45	5	19	4	19	38
TOTALS	942	2444			3386	TOTALS	3067	1696			4763
SPLIT %	27.8%	72.2%			41.6%	SPLIT %	64.4%	35.6%			58.4%

DAILY TOTALS					NB	SB	EB	WB	Total
					4,009	4,140	0	0	8,149

DAILY TOTALS					NB	SB	EB	WB	Total
					4,009	4,140	0	0	8,149
AM Peak Hour	11:45	06:45	06:45	PM Peak Hour	16:45	15:00	16:30		
AM Pk Volume	198	633	749	PM Pk Volume	621	246	838		
Pk Hr Factor	0.917	0.977	0.986	Pk Hr Factor	0.877	0.976	0.927		
7 - 9 Volume	306	946	1252	4 - 6 Volume	1081	425	1506		
7 - 9 Peak Hour	07:45	07:00	07:00	4 - 6 Peak Hour	16:45	16:30	16:30		
7 - 9 Pk Volume	172	614	748	4 - 6 Pk Volume	621	229	838		
Pk Hr Factor	0.754	0.959	0.984	Pk Hr Factor	0.877	0.895	0.927		

VOLUME

Mountain Meadow Rd E/O Centre City Pkwy

Day: Wednesday

Date: 3/27/2019

City: Escondido

Project #: CA19_4137_004

DAILY TOTALS					NB	SB	EB		WB		Total			
					0	0	4,397		4,487		8,884			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			5	1	6	12:00			54	65	119			
00:15			3	1	4	12:15			56	58	114			
00:30			7	4	11	12:30			54	68	122			
00:45			7	22	4	10	11	32	51	215	67	258	118	473
01:00			1	2	3	13:00			61	71	132			
01:15			1	1	2	13:15			80	70	150			
01:30			2	1	3	13:30			55	55	110			
01:45			2	6	3	7	5	13	66	262	69	265	135	527
02:00			1	0	1	14:00			80	81	161			
02:15			1	0	1	14:15			67	57	124			
02:30			2	0	2	14:30			72	64	136			
02:45			0	4	1	1	5	102	321	59	261	161	582	
03:00			1	1	2	15:00			105	72	177			
03:15			0	2	2	15:15			103	65	168			
03:30			0	2	2	15:30			121	60	181			
03:45			2	3	2	7	4	10	107	436	54	251	161	687
04:00			2	12	14	16:00			90	65	155			
04:15			1	14	15	16:15			112	72	184			
04:30			0	13	13	16:30			103	77	180			
04:45			0	3	22	61	22	64	106	411	50	264	156	675
05:00			3	21	24	17:00			113	55	168			
05:15			5	32	37	17:15			110	62	172			
05:30			7	41	48	17:30			115	65	180			
05:45			9	24	33	127	42	151	96	434	49	231	145	665
06:00			13	79	92	18:00			101	44	145			
06:15			15	75	90	18:15			95	52	147			
06:30			17	110	127	18:30			111	65	176			
06:45			36	81	95	359	131	440	83	390	42	203	125	593
07:00			29	134	163	19:00			77	41	118			
07:15			43	118	161	19:15			66	27	93			
07:30			32	126	158	19:30			71	47	118			
07:45			40	144	136	514	176	658	72	286	36	151	108	437
08:00			65	104	169	20:00			65	36	101			
08:15			40	95	135	20:15			64	18	82			
08:30			38	103	141	20:30			60	26	86			
08:45			45	188	78	380	123	568	58	247	19	99	77	346
09:00			58	82	140	21:00			51	29	80			
09:15			31	86	117	21:15			49	17	66			
09:30			45	86	131	21:30			36	11	47			
09:45			63	197	82	336	145	533	19	155	8	65	27	220
10:00			39	73	112	22:00			35	10	45			
10:15			49	70	119	22:15			27	8	35			
10:30			55	78	133	22:30			18	10	28			
10:45			51	194	81	302	132	496	20	100	5	33	25	133
11:00			58	71	129	23:00			21	2	23			
11:15			47	66	113	23:15			15	8	23			
11:30			65	85	150	23:30			9	3	12			
11:45			50	220	64	286	114	506	9	54	3	16	12	70
TOTALS			1086	2390	3476	TOTALS			3311	2097	5408			
SPLIT %			31.2%	68.8%	39.1%	SPLIT %			61.2%	38.8%	60.9%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	4,397	4,487	8,884
AM Peak Hour		11:30	07:00	07:15	PM Peak Hour		16:45	12:30	16:15
AM Pk Volume		225	514	664	PM Pk Volume		444	276	688
Pk Hr Factor		0.865	0.945	0.943	Pk Hr Factor		0.965	0.972	0.935
7 - 9 Volume		332	894	1226	4 - 6 Volume		845	495	1340
7 - 9 Peak Hour		08:00	07:00	07:15	4 - 6 Peak Hour		16:45	16:00	16:15
7 - 9 Pk Volume		188	514	664	4 - 6 Pk Volume		444	264	688
Pk Hr Factor		0.723	0.945	0.943	Pk Hr Factor		0.965	0.857	0.935

VOLUME

Deer Springs Rd Bet. I-15 NB Ramps & Centre City Pkwy

Day: Wednesday
Date: 3/27/2019City: Escondido
Project #: CA19_4137_003

DAILY TOTALS					NB	SB					Total
					0	0					12,676
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			11	5	16	12:00			69	88	157
00:15			2	3	5	12:15			86	92	178
00:30			8	6	14	12:30			91	89	180
00:45			12	33	45	12:45			83	329	412
01:00			2	3	5	13:00			85	90	175
01:15			5	1	6	13:15			99	98	197
01:30			3	4	7	13:30			100	74	174
01:45			2	12	14	13:45			112	396	508
02:00			5	1	6	14:00			116	98	214
02:15			2	1	3	14:15			102	65	167
02:30			6	2	8	14:30			107	81	188
02:45			2	15	17	14:45			141	466	607
03:00			2	3	5	15:00			139	87	226
03:15			2	6	8	15:15			141	90	231
03:30			2	4	6	15:30			158	91	249
03:45			3	9	12	15:45			135	573	708
04:00			4	14	18	16:00			130	67	197
04:15			4	16	20	16:15			153	90	243
04:30			0	22	22	16:30			132	106	238
04:45			10	18	28	16:45			190	605	795
05:00			13	31	44	17:00			173	71	244
05:15			15	52	67	17:15			173	81	254
05:30			19	62	81	17:30			190	70	260
05:45			21	68	89	17:45			164	700	864
06:00			21	132	153	18:00			150	71	221
06:15			35	132	167	18:15			148	81	229
06:30			40	189	229	18:30			143	69	212
06:45			50	146	196	18:45			119	560	679
07:00			31	146	177	19:00			129	59	188
07:15			48	149	197	19:15			86	41	127
07:30			53	154	207	19:30			93	49	142
07:45			72	204	276	19:45			91	399	490
08:00			56	151	207	20:00			85	38	123
08:15			59	123	182	20:15			80	23	103
08:30			46	129	175	20:30			81	30	111
08:45			75	236	311	20:45			75	321	396
09:00			74	111	185	21:00			75	36	111
09:15			62	122	184	21:15			70	35	105
09:30			75	114	189	21:30			52	22	74
09:45			79	290	369	21:45			35	232	267
10:00			64	124	188	22:00			41	16	57
10:15			57	107	164	22:15			40	16	56
10:30			66	117	183	22:30			29	14	43
10:45			80	267	347	22:45			25	135	160
11:00			84	109	193	23:00			31	9	40
11:15			64	91	155	23:15			22	18	40
11:30			85	120	205	23:30			16	10	26
11:45			85	318	403	23:45			11	80	91
TOTALS			1616	3432	5048	TOTALS			4796	2832	7628
SPLIT %			32.0%	68.0%	39.8%	SPLIT %			62.9%	37.1%	60.2%

DAILY TOTALS					NB	SB					Total
					0	0					12,676
AM Peak Hour			11:45	06:30	06:30	PM Peak Hour			16:45	12:30	16:45
AM Pk Volume			331	666	835	PM Pk Volume			726	366	1034
Pk Hr Factor			0.909	0.881	0.900	Pk Hr Factor			0.955	0.934	0.937
7 - 9 Volume			440	1112	1552	4 - 6 Volume			1305	631	1936
7 - 9 Peak Hour			07:30	07:15	07:15	4 - 6 Peak Hour			16:45	16:15	16:45
7 - 9 Pk Volume			240	603	832	4 - 6 Pk Volume			726	353	1034
Pk Hr Factor			0.833	0.979	0.941	Pk Hr Factor			0.955	0.833	0.937

➤ Synchro Worksheets

- Opening Year 2021
- Opening Year 2021 plus Project

I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Opening Year 2021
Timing Plan: AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	15	439	16	936	6	6
Future Volume (vph)	15	439	16	936	6	6
Turn Type	Prot	NA	Prot	NA	NA	NA
Protected Phases	5	2	1	6	8	4
Permitted Phases						
Detector Phase	5	2	1	6	8	4
Switch Phase						
Minimum Initial (s)	4.0	5.0	4.0	5.0	4.0	4.0
Minimum Split (s)	9.0	24.0	9.0	23.0	26.0	28.0
Total Split (s)	9.0	36.0	10.0	37.0	26.0	28.0
Total Split (%)	9.0%	36.0%	10.0%	37.0%	26.0%	28.0%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	None	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 1: Mesa Rock Rd & Deer Springs Rd

Ø1	Ø2 (R)	Ø4	Ø8
10 s	36 s	28 s	26 s
Ø5	Ø6 (R)		
9 s	37 s		

I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Opening Year 2021
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	439	25	16	936	127	15	6	8	108	6	27
Future Volume (vph)	15	439	25	16	936	127	15	6	8	108	6	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.98			0.96			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	
Satd. Flow (prot)	1770	3511		1770	3476			1748			1748	
Flt Permitted	0.95	1.00		0.95	1.00			0.98			0.96	
Satd. Flow (perm)	1770	3511		1770	3476			1748			1748	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	477	27	17	1017	138	16	7	9	117	7	29
RTOR Reduction (vph)	0	3	0	0	7	0	0	8	0	0	9	0
Lane Group Flow (vph)	16	501	0	17	1148	0	0	24	0	0	144	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	2.2	56.3		2.4	56.5			8.5			13.8	
Effective Green, g (s)	2.2	56.3		2.4	56.5			8.5			13.8	
Actuated g/C Ratio	0.02	0.56		0.02	0.56			0.08			0.14	
Clearance Time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Vehicle Extension (s)	2.0	2.5		2.0	2.5			2.0			2.0	
Lane Grp Cap (vph)	38	1976		42	1963			148			241	
v/s Ratio Prot	0.01	0.14		c0.01	c0.33			c0.01			c0.08	
v/s Ratio Perm												
v/c Ratio	0.42	0.25		0.40	0.59			0.16			0.60	
Uniform Delay, d1	48.3	11.1		48.1	14.1			42.4			40.5	
Progression Factor	1.00	1.00		1.06	0.93			1.00			1.00	
Incremental Delay, d2	2.7	0.3		2.1	1.2			0.2			2.6	
Delay (s)	51.0	11.4		53.1	14.3			42.6			43.1	
Level of Service	D	B		D	B			D			D	
Approach Delay (s)		12.7			14.9			42.6			43.1	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			17.0			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			19.0			
Intersection Capacity Utilization			50.0%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Opening Year 2021
Timing Plan: PM Peak

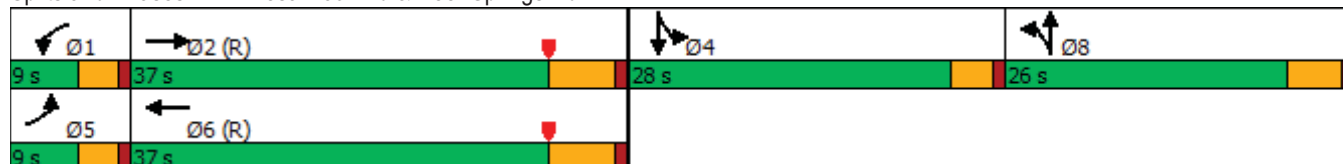


Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	36	843	15	637	6	2
Future Volume (vph)	36	843	15	637	6	2
Turn Type	Prot	NA	Prot	NA	NA	NA
Protected Phases	5	2	1	6	8	4
Permitted Phases						
Detector Phase	5	2	1	6	8	4
Switch Phase						
Minimum Initial (s)	4.0	5.0	4.0	5.0	4.0	4.0
Minimum Split (s)	9.0	24.0	9.0	23.0	26.0	28.0
Total Split (s)	9.0	37.0	9.0	37.0	26.0	28.0
Total Split (%)	9.0%	37.0%	9.0%	37.0%	26.0%	28.0%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	None	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 70 (70%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Mesa Rock Rd & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Opening Year 2021
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	843	24	15	637	133	38	6	22	143	2	29
Future Volume (vph)	36	843	24	15	637	133	38	6	22	143	2	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.97			0.95			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.96	
Satd. Flow (prot)	1770	3525		1770	3447			1730			1748	
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.96	
Satd. Flow (perm)	1770	3525		1770	3447			1730			1748	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	916	26	16	692	145	41	7	24	155	2	32
RTOR Reduction (vph)	0	1	0	0	12	0	0	21	0	0	8	0
Lane Group Flow (vph)	39	941	0	16	825	0	0	51	0	0	181	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	3.9	54.0		2.2	52.3			9.5			15.3	
Effective Green, g (s)	3.9	54.0		2.2	52.3			9.5			15.3	
Actuated g/C Ratio	0.04	0.54		0.02	0.52			0.10			0.15	
Clearance Time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Vehicle Extension (s)	2.0	2.5		2.0	2.5			2.0			2.0	
Lane Grp Cap (vph)	69	1903		38	1802			164			267	
v/s Ratio Prot	c0.02	c0.27		0.01	0.24			c0.03			c0.10	
v/s Ratio Perm												
v/c Ratio	0.57	0.49		0.42	0.46			0.31			0.68	
Uniform Delay, d1	47.2	14.4		48.3	15.0			42.2			40.0	
Progression Factor	1.00	1.00		0.94	1.76			1.00			1.00	
Incremental Delay, d2	6.2	0.9		2.6	0.8			0.4			5.2	
Delay (s)	53.4	15.4		48.1	27.1			42.6			45.3	
Level of Service	D	B		D	C			D			D	
Approach Delay (s)		16.9			27.5			42.6			45.3	
Approach LOS		B			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			24.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			19.0			
Intersection Capacity Utilization			52.1%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

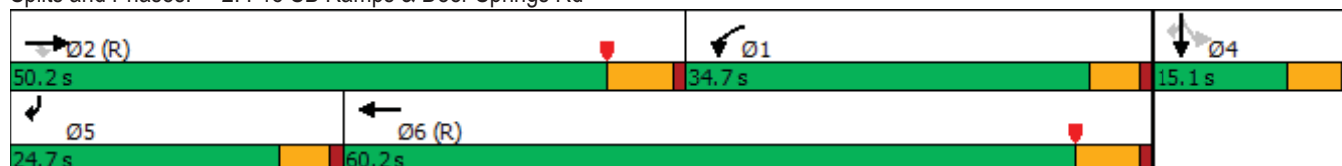
Opening Year 2021
Timing Plan: AM Peak

	→	↘	↙	←	↓	↙
Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↑	↘	↑	↘	↘
Traffic Volume (vph)	331	223	275	414	8	668
Future Volume (vph)	331	223	275	414	8	668
Turn Type	NA	Perm	Prot	NA	NA	custom
Protected Phases	2		1	6	4	5
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	5
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	6.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.8	10.1	9.7
Total Split (s)	50.2	50.2	34.7	60.2	15.1	24.7
Total Split (%)	50.2%	50.2%	34.7%	60.2%	15.1%	24.7%
Yellow Time (s)	4.8	4.8	3.7	4.8	4.1	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.7	5.8	5.1	4.7
Lead/Lag	Lead	Lead	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 15 (15%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-15 SB Ramps & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

Opening Year 2021
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	331	223	275	414	0	0	0	0	34	8	668
Future Volume (vph)	0	331	223	275	414	0	0	0	0	34	8	668
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	0.88
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (prot)		1863	1583	1770	1863						1791	2787
Flt Permitted		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (perm)		1863	1583	1770	1863						1791	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	360	242	299	450	0	0	0	0	37	9	726
RTOR Reduction (vph)	0	0	129	0	0	0	0	0	0	0	0	563
Lane Group Flow (vph)	0	360	113	299	450	0	0	0	0	0	46	163
Turn Type		NA	Perm	Prot	NA					Perm	NA	custom
Protected Phases		2		1	6						4	5
Permitted Phases			2							4		4
Actuated Green, G (s)		46.5	46.5	30.0	69.9						7.9	14.5
Effective Green, g (s)		46.5	46.5	30.0	69.9						7.9	14.5
Actuated g/C Ratio		0.46	0.46	0.30	0.70						0.08	0.14
Clearance Time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		866	736	531	1302						141	404
v/s Ratio Prot		c0.19		c0.17	0.24							c0.03
v/s Ratio Perm			0.07								0.03	0.03
v/c Ratio		0.42	0.15	0.56	0.35						0.33	0.40
Uniform Delay, d1		17.7	15.4	29.5	6.0						43.5	38.8
Progression Factor		0.88	1.76	1.00	1.00						1.00	1.00
Incremental Delay, d2		1.4	0.4	1.4	0.7						1.4	0.7
Delay (s)		17.0	27.6	30.9	6.7						44.9	39.5
Level of Service		B	C	C	A						D	D
Approach Delay (s)		21.3			16.3			0.0			39.8	
Approach LOS		C			B			A			D	
Intersection Summary												
HCM 2000 Control Delay			26.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				15.6		
Intersection Capacity Utilization			63.5%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

Opening Year 2021
Timing Plan: PM Peak

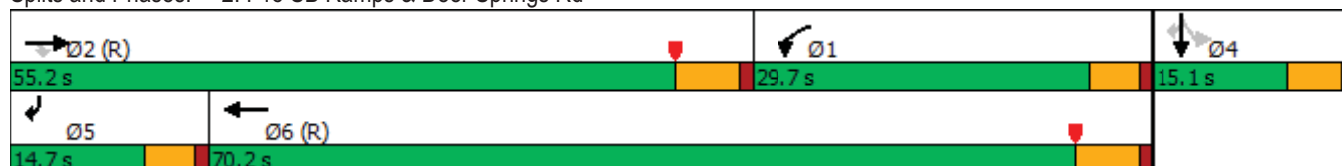


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↖	↑	↑	↗
Traffic Volume (vph)	801	227	150	410	3	373
Future Volume (vph)	801	227	150	410	3	373
Turn Type	NA	Perm	Prot	NA	NA	custom
Protected Phases	2		1	6	4	5
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	5
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	6.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.8	10.1	10.0
Total Split (s)	55.2	55.2	29.7	70.2	15.1	14.7
Total Split (%)	55.2%	55.2%	29.7%	70.2%	15.1%	14.7%
Yellow Time (s)	4.8	4.8	3.7	4.8	4.1	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.7	5.8	5.1	4.7
Lead/Lag	Lead	Lead	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	Min	C-Max	Min	None

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 5 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-15 SB Ramps & Deer Springs Rd



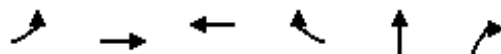
I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

Opening Year 2021
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	801	227	150	410	0	0	0	0	55	3	373
Future Volume (vph)	0	801	227	150	410	0	0	0	0	55	3	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	0.88
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1863	1583	1770	1863						1778	2787
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1863	1583	1770	1863						1778	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	871	247	163	446	0	0	0	0	60	3	405
RTOR Reduction (vph)	0	0	109	0	0	0	0	0	0	0	0	348
Lane Group Flow (vph)	0	871	138	163	446	0	0	0	0	0	63	57
Turn Type		NA	Perm	Prot	NA					Perm	NA	custom
Protected Phases		2		1	6						4	5
Permitted Phases			2							4		4
Actuated Green, G (s)		51.0	51.0	25.0	70.4						8.4	14.0
Effective Green, g (s)		51.0	51.0	25.0	70.4						8.4	14.0
Actuated g/C Ratio		0.51	0.51	0.25	0.70						0.08	0.14
Clearance Time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		950	807	442	1311						149	390
v/s Ratio Prot		c0.47		c0.09	0.24							0.01
v/s Ratio Perm			0.09								0.04	0.01
v/c Ratio		0.92	0.17	0.37	0.34						0.42	0.15
Uniform Delay, d1		22.5	13.2	31.0	5.8						43.5	37.7
Progression Factor		1.24	2.43	1.81	3.07						1.00	1.00
Incremental Delay, d2		13.8	0.4	0.3	0.4						1.9	0.2
Delay (s)		41.8	32.4	56.3	18.1						45.4	37.9
Level of Service		D	C	E	B						D	D
Approach Delay (s)		39.8			28.3			0.0			38.9	
Approach LOS		D			C			A			D	
Intersection Summary												
HCM 2000 Control Delay			36.4			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				15.6		
Intersection Capacity Utilization			74.7%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Opening Year 2021
Timing Plan: AM Peak



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	246	113	561	50	4	120
Future Volume (vph)	246	113	561	50	4	120
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.1	10.1
Total Split (s)	24.0	77.0	53.0	53.0	23.0	23.0
Total Split (%)	24.0%	77.0%	53.0%	53.0%	23.0%	23.0%
Yellow Time (s)	3.7	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	5.8	5.8	5.8	5.1	5.1
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 75.8

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: I-15 NB Ramps & Deer Springs Rd



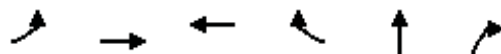
I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Opening Year 2021
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	113	0	0	561	50	129	4	120	0	0	0
Future Volume (vph)	246	113	0	0	561	50	129	4	120	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	1863			1863	1583		1776	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	1863			1863	1583		1776	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	267	123	0	0	610	54	140	4	130	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	31	0	0	109	0	0	0
Lane Group Flow (vph)	267	123	0	0	610	23	0	144	21	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	16.3	52.4			31.4	31.4		11.9	11.9			
Effective Green, g (s)	16.3	52.4			31.4	31.4		11.9	11.9			
Actuated g/C Ratio	0.22	0.70			0.42	0.42		0.16	0.16			
Clearance Time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	383	1298			777	660		281	250			
v/s Ratio Prot	c0.15	0.07			c0.33							
v/s Ratio Perm						0.01		0.08	0.01			
v/c Ratio	0.70	0.09			0.79	0.03		0.51	0.08			
Uniform Delay, d1	27.2	3.7			19.0	12.9		29.0	27.0			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	5.5	0.0			5.2	0.0		1.6	0.1			
Delay (s)	32.6	3.7			24.2	13.0		30.6	27.1			
Level of Service	C	A			C	B		C	C			
Approach Delay (s)		23.5			23.3			28.9			0.0	
Approach LOS		C			C			C			A	
Intersection Summary												
HCM 2000 Control Delay		24.5			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.71										
Actuated Cycle Length (s)		75.2			Sum of lost time (s)			15.6				
Intersection Capacity Utilization		63.5%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Opening Year 2021
Timing Plan: PM Peak



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	582	280	258	33	0	444
Future Volume (vph)	582	280	258	33	0	444
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.1	10.1
Total Split (s)	49.7	75.9	26.2	26.2	24.1	24.1
Total Split (%)	49.7%	75.9%	26.2%	26.2%	24.1%	24.1%
Yellow Time (s)	3.7	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	5.8	5.8	5.8	5.1	5.1
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min	C-Max	C-Max	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 65 (65%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

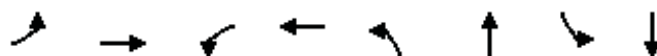
Splits and Phases: 3: I-15 NB Ramps & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Opening Year 2021
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	582	280	0	0	258	33	286	0	444	0	0	0
Future Volume (vph)	582	280	0	0	258	33	286	0	444	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	1863			1863	1583		1770	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	1863			1863	1583		1770	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	633	304	0	0	280	36	311	0	483	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	391	0	0	0
Lane Group Flow (vph)	633	304	0	0	280	7	0	311	92	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	45.0	70.1			20.4	20.4		19.0	19.0			
Effective Green, g (s)	45.0	70.1			20.4	20.4		19.0	19.0			
Actuated g/C Ratio	0.45	0.70			0.20	0.20		0.19	0.19			
Clearance Time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	796	1305			380	322		336	300			
v/s Ratio Prot	c0.36	0.16			c0.15			c0.18				
v/s Ratio Perm						0.00			0.06			
v/c Ratio	0.80	0.23			0.74	0.02		0.93	0.31			
Uniform Delay, d1	23.6	5.3			37.3	31.8		39.8	34.8			
Progression Factor	0.28	0.53			1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.6	0.2			12.0	0.1		30.4	0.6			
Delay (s)	9.2	3.0			49.3	32.0		70.2	35.4			
Level of Service	A	A			D	C		E	D			
Approach Delay (s)		7.2			47.3			49.1			0.0	
Approach LOS		A			D			D			A	
Intersection Summary												
HCM 2000 Control Delay			29.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			15.6		
Intersection Capacity Utilization			74.7%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	76	89	217	297	32	57	18	316
Future Volume (vph)	76	89	217	297	32	57	18	316
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	6.0	4.0	6.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.4	23.0	9.4	25.2	28.5	28.5	32.5	32.5
Total Split (s)	16.0	23.0	22.0	29.0	55.0	55.0	55.0	55.0
Total Split (%)	16.0%	23.0%	22.0%	29.0%	55.0%	55.0%	55.0%	55.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	5.5	5.5	5.5	5.5
All-Red Time (s)	0.5	1.0	0.5	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.9	6.2	4.9	6.2		6.5		6.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

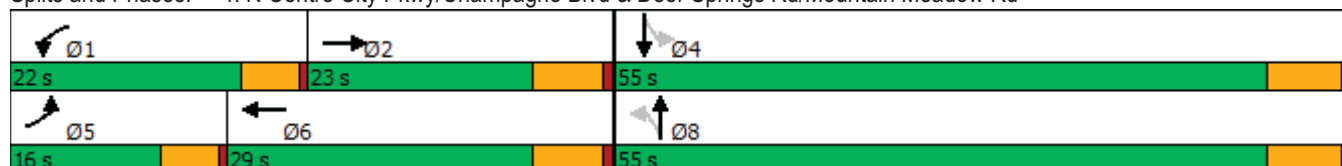
Cycle Length: 100

Actuated Cycle Length: 72

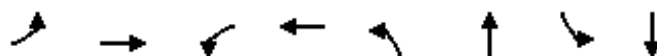
Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 4: N Centre City Pkwy/Champagne Blvd & Deer Springs Rd/Mountain Meadow Rd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	89	42	217	297	19	32	57	43	18	316	293
Future Volume (vph)	76	89	42	217	297	19	32	57	43	18	316	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.95		1.00	0.99			0.96			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1770	3368		1770	3507			1759			1743	
Flt Permitted	0.95	1.00		0.95	1.00			0.80			0.99	
Satd. Flow (perm)	1770	3368		1770	3507			1431			1727	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	97	46	236	323	21	35	62	47	20	343	318
RTOR Reduction (vph)	0	40	0	0	5	0	0	19	0	0	34	0
Lane Group Flow (vph)	83	103	0	236	339	0	0	125	0	0	647	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	6.5	9.3		14.0	16.8			31.5			31.5	
Effective Green, g (s)	6.5	9.3		14.0	16.8			31.5			31.5	
Actuated g/C Ratio	0.09	0.13		0.19	0.23			0.44			0.44	
Clearance Time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	158	432		342	813			622			751	
v/s Ratio Prot	0.05	0.03		c0.13	c0.10							
v/s Ratio Perm								0.09			c0.37	
v/c Ratio	0.53	0.24		0.69	0.42			0.20			0.86	
Uniform Delay, d1	31.5	28.4		27.2	23.6			12.7			18.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.5	0.1		4.8	0.1			0.1			9.6	
Delay (s)	32.9	28.5		32.0	23.8			12.7			28.1	
Level of Service	C	C		C	C			B			C	
Approach Delay (s)		30.1			27.1			12.7			28.1	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			26.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			72.4			Sum of lost time (s)			17.6			
Intersection Capacity Utilization			68.1%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	365	309	56	162	40	237	24	90
Future Volume (vph)	365	309	56	162	40	237	24	90
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	6.0	4.0	6.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.4	23.0	9.4	25.2	28.5	28.5	32.5	32.5
Total Split (s)	31.0	43.6	14.4	27.0	42.0	42.0	42.0	42.0
Total Split (%)	31.0%	43.6%	14.4%	27.0%	42.0%	42.0%	42.0%	42.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	5.5	5.5	5.5	5.5
All-Red Time (s)	0.5	1.0	0.5	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.9	6.2	4.9	6.2		6.5		6.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

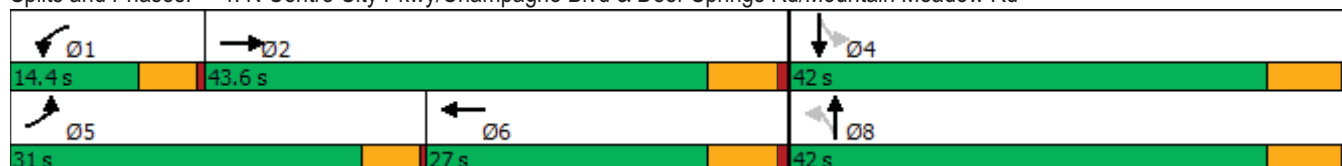
Cycle Length: 100

Actuated Cycle Length: 72.6

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 4: N Centre City Pkwy/Champagne Blvd & Deer Springs Rd/Mountain Meadow Rd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	365	309	72	56	162	29	40	237	129	24	90	105
Future Volume (vph)	365	309	72	56	162	29	40	237	129	24	90	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.97		1.00	0.98			0.96			0.94	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	3439		1770	3458			1774			1733	
Flt Permitted	0.95	1.00		0.95	1.00			0.95			0.91	
Satd. Flow (perm)	1770	3439		1770	3458			1689			1591	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	397	336	78	61	176	32	43	258	140	26	98	114
RTOR Reduction (vph)	0	19	0	0	16	0	0	18	0	0	35	0
Lane Group Flow (vph)	397	395	0	61	192	0	0	423	0	0	203	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	21.3	29.4		4.3	12.4			22.8			22.8	
Effective Green, g (s)	21.3	29.4		4.3	12.4			22.8			22.8	
Actuated g/C Ratio	0.29	0.40		0.06	0.17			0.31			0.31	
Clearance Time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	508	1364		102	578			519			489	
v/s Ratio Prot	c0.22	c0.11		0.03	0.06							
v/s Ratio Perm								c0.25			0.13	
v/c Ratio	0.78	0.29		0.60	0.33			0.82			0.41	
Uniform Delay, d1	24.3	15.2		34.1	27.2			23.7			20.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	7.1	0.0		6.1	0.1			9.1			0.2	
Delay (s)	31.4	15.3		40.2	27.3			32.8			20.6	
Level of Service	C	B		D	C			C			C	
Approach Delay (s)		23.1			30.2			32.8			20.6	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			26.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			74.1			Sum of lost time (s)			17.6			
Intersection Capacity Utilization			69.4%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Opening Year 2021 w/Proj
Timing Plan: AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	15	442	19	939	6	6
Future Volume (vph)	15	442	19	939	6	6
Turn Type	Prot	NA	Prot	NA	NA	NA
Protected Phases	5	2	1	6	8	4
Permitted Phases						
Detector Phase	5	2	1	6	8	4
Switch Phase						
Minimum Initial (s)	4.0	5.0	4.0	5.0	4.0	4.0
Minimum Split (s)	9.0	24.0	9.0	23.0	26.0	28.0
Total Split (s)	9.0	36.0	10.0	37.0	26.0	28.0
Total Split (%)	9.0%	36.0%	10.0%	37.0%	26.0%	28.0%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	None	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 1: Mesa Rock Rd & Deer Springs Rd

Ø1	Ø2 (R)	Ø4	Ø8
10 s	36 s	28 s	26 s
Ø5	Ø6 (R)		
9 s	37 s		

I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Opening Year 2021 w/Proj
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	442	25	19	939	127	15	6	11	108	6	27
Future Volume (vph)	15	442	25	19	939	127	15	6	11	108	6	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.98			0.95			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	
Satd. Flow (prot)	1770	3511		1770	3476			1737			1748	
Flt Permitted	0.95	1.00		0.95	1.00			0.98			0.96	
Satd. Flow (perm)	1770	3511		1770	3476			1737			1748	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	480	27	21	1021	138	16	7	12	117	7	29
RTOR Reduction (vph)	0	3	0	0	7	0	0	11	0	0	9	0
Lane Group Flow (vph)	16	504	0	21	1152	0	0	24	0	0	144	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	2.2	56.1		2.5	56.4			8.6			13.8	
Effective Green, g (s)	2.2	56.1		2.5	56.4			8.6			13.8	
Actuated g/C Ratio	0.02	0.56		0.02	0.56			0.09			0.14	
Clearance Time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Vehicle Extension (s)	2.0	2.5		2.0	2.5			2.0			2.0	
Lane Grp Cap (vph)	38	1969		44	1960			149			241	
v/s Ratio Prot	0.01	0.14		c0.01	c0.33			c0.01			c0.08	
v/s Ratio Perm												
v/c Ratio	0.42	0.26		0.48	0.59			0.16			0.60	
Uniform Delay, d1	48.3	11.3		48.1	14.2			42.4			40.5	
Progression Factor	1.00	1.00		1.05	0.94			1.00			1.00	
Incremental Delay, d2	2.7	0.3		2.7	1.2			0.2			2.6	
Delay (s)	51.0	11.6		53.2	14.5			42.5			43.1	
Level of Service	D	B		D	B			D			D	
Approach Delay (s)		12.8			15.2			42.5			43.1	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			17.3			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			19.0			
Intersection Capacity Utilization			51.0%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Opening Year 2021 w/Proj
Timing Plan: PM Peak

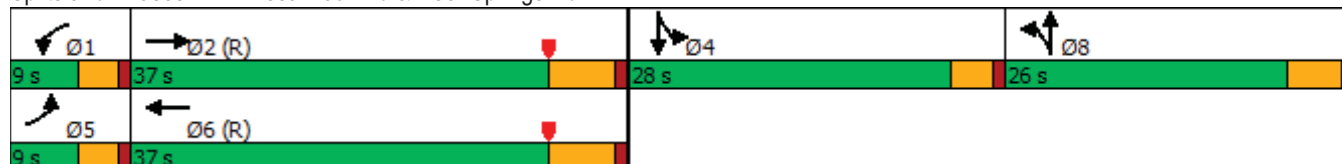


Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	36	847	19	641	6	2
Future Volume (vph)	36	847	19	641	6	2
Turn Type	Prot	NA	Prot	NA	NA	NA
Protected Phases	5	2	1	6	8	4
Permitted Phases						
Detector Phase	5	2	1	6	8	4
Switch Phase						
Minimum Initial (s)	4.0	5.0	4.0	5.0	4.0	4.0
Minimum Split (s)	9.0	24.0	9.0	23.0	26.0	28.0
Total Split (s)	9.0	37.0	9.0	37.0	26.0	28.0
Total Split (%)	9.0%	37.0%	9.0%	37.0%	26.0%	28.0%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	None	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 70 (70%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Mesa Rock Rd & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
1: Mesa Rock Rd & Deer Springs Rd

Opening Year 2021 w/Proj
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	847	24	19	641	133	38	6	26	143	2	29
Future Volume (vph)	36	847	24	19	641	133	38	6	26	143	2	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.97			0.95			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.96	
Satd. Flow (prot)	1770	3525		1770	3448			1724			1748	
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.96	
Satd. Flow (perm)	1770	3525		1770	3448			1724			1748	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	921	26	21	697	145	41	7	28	155	2	32
RTOR Reduction (vph)	0	1	0	0	12	0	0	24	0	0	8	0
Lane Group Flow (vph)	39	946	0	21	830	0	0	52	0	0	181	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Actuated Green, G (s)	3.9	53.9		2.3	52.3			9.5			15.3	
Effective Green, g (s)	3.9	53.9		2.3	52.3			9.5			15.3	
Actuated g/C Ratio	0.04	0.54		0.02	0.52			0.10			0.15	
Clearance Time (s)	4.0	6.0		4.0	6.0			5.0			4.0	
Vehicle Extension (s)	2.0	2.5		2.0	2.5			2.0			2.0	
Lane Grp Cap (vph)	69	1899		40	1803			163			267	
v/s Ratio Prot	c0.02	c0.27		0.01	0.24			c0.03			c0.10	
v/s Ratio Perm												
v/c Ratio	0.57	0.50		0.53	0.46			0.32			0.68	
Uniform Delay, d1	47.2	14.5		48.3	15.0			42.2			40.0	
Progression Factor	1.00	1.00		0.93	1.76			1.00			1.00	
Incremental Delay, d2	6.2	0.9		5.3	0.8			0.4			5.2	
Delay (s)	53.4	15.5		50.4	27.2			42.6			45.3	
Level of Service	D	B		D	C			D			D	
Approach Delay (s)		17.0			27.7			42.6			45.3	
Approach LOS		B			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			24.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			19.0			
Intersection Capacity Utilization			52.7%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
 2: I-15 SB Ramps & Deer Springs Rd

Opening Year 2021 w/Proj
 Timing Plan: AM Peak

	→	↘	↙	←	↓	↙
Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↑	↘	↑	↘	↘
Traffic Volume (vph)	338	223	282	421	8	668
Future Volume (vph)	338	223	282	421	8	668
Turn Type	NA	Perm	Prot	NA	NA	custom
Protected Phases	2		1	6	4	5
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	5
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	6.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.8	10.1	9.7
Total Split (s)	50.2	50.2	34.7	60.2	15.1	24.7
Total Split (%)	50.2%	50.2%	34.7%	60.2%	15.1%	24.7%
Yellow Time (s)	4.8	4.8	3.7	4.8	4.1	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.7	5.8	5.1	4.7
Lead/Lag	Lead	Lead	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 15 (15%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-15 SB Ramps & Deer Springs Rd

→ Ø2 (R)		↘ Ø1	↓ Ø4
50.2 s		34.7 s	15.1 s
↙ Ø5	← Ø6 (R)		
24.7 s	60.2 s		

I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

Opening Year 2021 w/Proj
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	338	223	282	421	0	0	0	0	41	8	668
Future Volume (vph)	0	338	223	282	421	0	0	0	0	41	8	668
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	0.88
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (prot)		1863	1583	1770	1863						1788	2787
Flt Permitted		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (perm)		1863	1583	1770	1863						1788	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	367	242	307	458	0	0	0	0	45	9	726
RTOR Reduction (vph)	0	0	130	0	0	0	0	0	0	0	0	550
Lane Group Flow (vph)	0	367	112	307	458	0	0	0	0	0	54	176
Turn Type		NA	Perm	Prot	NA					Perm	NA	custom
Protected Phases		2		1	6						4	5
Permitted Phases			2							4		4
Actuated Green, G (s)		46.3	46.3	30.0	69.6						8.1	14.8
Effective Green, g (s)		46.3	46.3	30.0	69.6						8.1	14.8
Actuated g/C Ratio		0.46	0.46	0.30	0.70						0.08	0.15
Clearance Time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		862	732	531	1296						144	412
v/s Ratio Prot		c0.20		c0.17	0.25							c0.03
v/s Ratio Perm			0.07								0.03	0.03
v/c Ratio		0.43	0.15	0.58	0.35						0.38	0.43
Uniform Delay, d1		18.0	15.5	29.6	6.1						43.6	38.7
Progression Factor		0.88	1.76	1.00	1.00						1.00	1.00
Incremental Delay, d2		1.5	0.4	1.5	0.8						1.6	0.7
Delay (s)		17.3	27.7	31.2	6.9						45.2	39.5
Level of Service		B	C	C	A						D	D
Approach Delay (s)		21.5			16.6			0.0			39.8	
Approach LOS		C			B			A			D	
Intersection Summary												
HCM 2000 Control Delay			26.4			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				15.6		
Intersection Capacity Utilization			64.2%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

Opening Year 2021 w/Proj
Timing Plan: PM Peak

	→	↘	↙	←	↓	↗
Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↘	↑	↗	↗
Traffic Volume (vph)	809	227	158	418	3	373
Future Volume (vph)	809	227	158	418	3	373
Turn Type	NA	Perm	Prot	NA	NA	custom
Protected Phases	2		1	6	4	5
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	5
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	6.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.8	10.1	10.0
Total Split (s)	55.2	55.2	29.7	70.2	15.1	14.7
Total Split (%)	55.2%	55.2%	29.7%	70.2%	15.1%	14.7%
Yellow Time (s)	4.8	4.8	3.7	4.8	4.1	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.7	5.8	5.1	4.7
Lead/Lag	Lead	Lead	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	Min	C-Max	Min	None

Intersection Summary

Cycle Length: 100

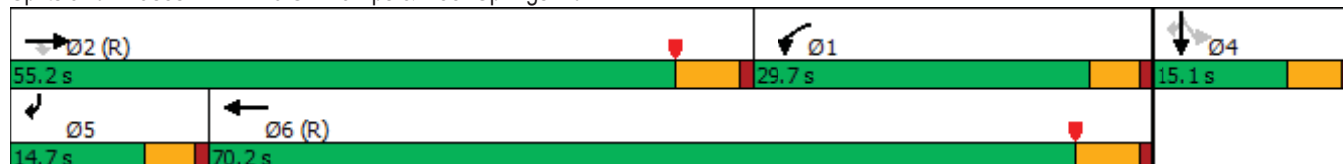
Actuated Cycle Length: 100

Offset: 5 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 2: I-15 SB Ramps & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
2: I-15 SB Ramps & Deer Springs Rd

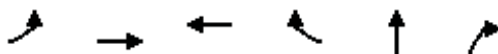
Opening Year 2021 w/Proj

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	809	227	158	418	0	0	0	0	63	3	373
Future Volume (vph)	0	809	227	158	418	0	0	0	0	63	3	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	0.88
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1863	1583	1770	1863						1778	2787
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1863	1583	1770	1863						1778	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	879	247	172	454	0	0	0	0	68	3	405
RTOR Reduction (vph)	0	0	108	0	0	0	0	0	0	0	0	347
Lane Group Flow (vph)	0	879	139	172	454	0	0	0	0	0	71	58
Turn Type		NA	Perm	Prot	NA					Perm	NA	custom
Protected Phases		2		1	6						4	5
Permitted Phases			2							4		4
Actuated Green, G (s)		50.8	50.8	25.0	70.2						8.6	14.2
Effective Green, g (s)		50.8	50.8	25.0	70.2						8.6	14.2
Actuated g/C Ratio		0.51	0.51	0.25	0.70						0.09	0.14
Clearance Time (s)		5.8	5.8	4.7	5.8						5.1	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		946	804	442	1307						152	395
v/s Ratio Prot		c0.47		c0.10	0.24							0.01
v/s Ratio Perm			0.09								0.04	0.01
v/c Ratio		0.93	0.17	0.39	0.35						0.47	0.15
Uniform Delay, d1		22.9	13.3	31.2	5.9						43.5	37.6
Progression Factor		1.24	2.38	1.79	3.01						1.00	1.00
Incremental Delay, d2		15.3	0.4	0.3	0.4						2.3	0.2
Delay (s)		43.7	32.0	56.2	18.0						45.8	37.8
Level of Service		D	C	E	B						D	D
Approach Delay (s)		41.2			28.5			0.0			39.0	
Approach LOS		D			C			A			D	
Intersection Summary												
HCM 2000 Control Delay			37.1			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				15.6		
Intersection Capacity Utilization			75.5%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
 3: I-15 NB Ramps & Deer Springs Rd

Opening Year 2021 w/Proj
 Timing Plan: AM Peak



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	246	126	574	84	4	154
Future Volume (vph)	246	126	574	84	4	154
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.1	10.1
Total Split (s)	24.0	77.0	53.0	53.0	23.0	23.0
Total Split (%)	24.0%	77.0%	53.0%	53.0%	23.0%	23.0%
Yellow Time (s)	3.7	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	5.8	5.8	5.8	5.1	5.1
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

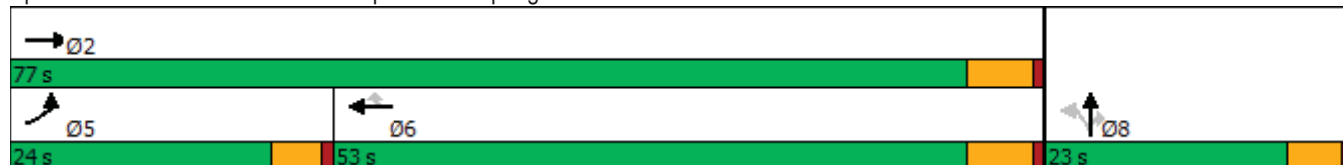
Cycle Length: 100

Actuated Cycle Length: 76.8

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: I-15 NB Ramps & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

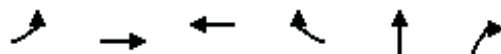
Opening Year 2021 w/Proj

Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	126	0	0	574	84	129	4	154	0	0	0
Future Volume (vph)	246	126	0	0	574	84	129	4	154	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	1863			1863	1583		1776	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	1863			1863	1583		1776	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	267	137	0	0	624	91	140	4	167	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	53	0	0	141	0	0	0
Lane Group Flow (vph)	267	137	0	0	624	38	0	144	26	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	16.4	53.3			32.2	32.2		12.0	12.0			
Effective Green, g (s)	16.4	53.3			32.2	32.2		12.0	12.0			
Actuated g/C Ratio	0.22	0.70			0.42	0.42		0.16	0.16			
Clearance Time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	380	1303			787	668		279	249			
v/s Ratio Prot	c0.15	0.07			c0.33							
v/s Ratio Perm						0.02		0.08	0.02			
v/c Ratio	0.70	0.11			0.79	0.06		0.52	0.11			
Uniform Delay, d1	27.6	3.7			19.1	13.0		29.4	27.5			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	5.8	0.0			5.5	0.0		1.6	0.2			
Delay (s)	33.4	3.7			24.6	13.1		31.0	27.7			
Level of Service	C	A			C	B		C	C			
Approach Delay (s)		23.4			23.1			29.2			0.0	
Approach LOS		C			C			C			A	
Intersection Summary												
HCM 2000 Control Delay			24.5				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			76.2				Sum of lost time (s)			15.6		
Intersection Capacity Utilization			64.2%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Opening Year 2021 w/Proj
Timing Plan: PM Peak



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	582	295	273	72	0	483
Future Volume (vph)	582	295	273	72	0	483
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.1	10.1
Total Split (s)	49.7	75.9	26.2	26.2	24.1	24.1
Total Split (%)	49.7%	75.9%	26.2%	26.2%	24.1%	24.1%
Yellow Time (s)	3.7	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	5.8	5.8	5.8	5.1	5.1
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min	C-Max	C-Max	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 65 (65%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

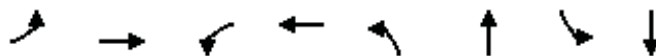
Splits and Phases: 3: I-15 NB Ramps & Deer Springs Rd



I-15 & Deer Springs Rd Mini Mart
3: I-15 NB Ramps & Deer Springs Rd

Opening Year 2021 w/Proj
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	582	295	0	0	273	72	286	0	483	0	0	0
Future Volume (vph)	582	295	0	0	273	72	286	0	483	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	1863			1863	1583		1770	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	1863			1863	1583		1770	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	633	321	0	0	297	78	311	0	525	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	62	0	0	425	0	0	0
Lane Group Flow (vph)	633	321	0	0	297	16	0	311	100	0	0	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	45.0	70.1			20.4	20.4		19.0	19.0			
Effective Green, g (s)	45.0	70.1			20.4	20.4		19.0	19.0			
Actuated g/C Ratio	0.45	0.70			0.20	0.20		0.19	0.19			
Clearance Time (s)	4.7	5.8			5.8	5.8		5.1	5.1			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	796	1305			380	322		336	300			
v/s Ratio Prot	c0.36	0.17			c0.16			c0.18				
v/s Ratio Perm						0.01			0.06			
v/c Ratio	0.80	0.25			0.78	0.05		0.93	0.33			
Uniform Delay, d1	23.6	5.4			37.7	32.0		39.8	35.0			
Progression Factor	0.29	0.53			1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.5	0.2			14.7	0.3		30.4	0.7			
Delay (s)	9.3	3.1			52.4	32.3		70.2	35.7			
Level of Service	A	A			D	C		E	D			
Approach Delay (s)		7.2			48.2			48.5			0.0	
Approach LOS		A			D			D			A	
Intersection Summary												
HCM 2000 Control Delay			30.3				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			15.6		
Intersection Capacity Utilization			75.5%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	76	89	224	297	79	64	18	323
Future Volume (vph)	76	89	224	297	79	64	18	323
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	6.0	4.0	6.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.4	23.0	9.4	25.2	28.5	28.5	32.5	32.5
Total Split (s)	16.0	23.0	22.0	29.0	55.0	55.0	55.0	55.0
Total Split (%)	16.0%	23.0%	22.0%	29.0%	55.0%	55.0%	55.0%	55.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	5.5	5.5	5.5	5.5
All-Red Time (s)	0.5	1.0	0.5	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.9	6.2	4.9	6.2		6.5		6.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

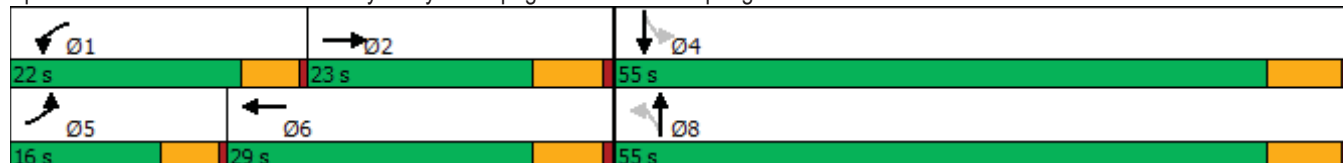
Cycle Length: 100

Actuated Cycle Length: 73.3

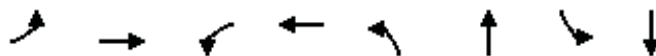
Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 4: N Centre City Pkwy/Champagne Blvd & Deer Springs Rd/Mountain Meadow Rd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	89	89	224	297	19	79	64	50	18	323	293
Future Volume (vph)	76	89	89	224	297	19	79	64	50	18	323	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.93		1.00	0.99			0.97			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)	1770	3274		1770	3507			1762			1744	
Flt Permitted	0.95	1.00		0.95	1.00			0.55			0.99	
Satd. Flow (perm)	1770	3274		1770	3507			994			1726	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	97	97	243	323	21	86	70	54	20	351	318
RTOR Reduction (vph)	0	85	0	0	5	0	0	13	0	0	34	0
Lane Group Flow (vph)	83	109	0	243	339	0	0	197	0	0	655	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	6.6	9.4		14.4	17.2			32.4			32.4	
Effective Green, g (s)	6.6	9.4		14.4	17.2			32.4			32.4	
Actuated g/C Ratio	0.09	0.13		0.20	0.23			0.44			0.44	
Clearance Time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	158	417		345	817			436			757	
v/s Ratio Prot	0.05	0.03		c0.14	c0.10							
v/s Ratio Perm								0.20			c0.38	
v/c Ratio	0.53	0.26		0.70	0.42			0.45			0.87	
Uniform Delay, d1	32.1	29.1		27.7	24.0			14.5			18.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.5	0.1		5.3	0.1			0.3			9.9	
Delay (s)	33.6	29.2		33.0	24.2			14.7			28.6	
Level of Service	C	C		C	C			B			C	
Approach Delay (s)		30.5			27.8			14.7			28.6	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			27.0			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			73.8			Sum of lost time (s)			17.6			
Intersection Capacity Utilization			84.3%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	365	309	64	162	94	245	24	98
Future Volume (vph)	365	309	64	162	94	245	24	98
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	6.0	4.0	6.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.4	23.0	9.4	25.2	28.5	28.5	32.5	32.5
Total Split (s)	31.0	43.6	14.4	27.0	42.0	42.0	42.0	42.0
Total Split (%)	31.0%	43.6%	14.4%	27.0%	42.0%	42.0%	42.0%	42.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	5.5	5.5	5.5	5.5
All-Red Time (s)	0.5	1.0	0.5	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.9	6.2	4.9	6.2		6.5		6.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

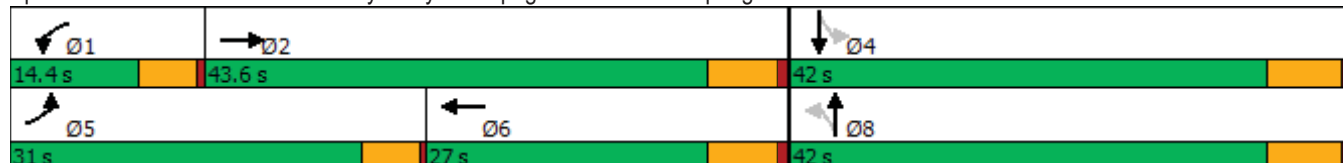
Cycle Length: 100

Actuated Cycle Length: 85.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 4: N Centre City Pkwy/Champagne Blvd & Deer Springs Rd/Mountain Meadow Rd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	365	309	126	64	162	29	94	245	137	24	98	105
Future Volume (vph)	365	309	126	64	162	29	94	245	137	24	98	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.96		1.00	0.98			0.96			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3385		1770	3458			1773			1738	
Flt Permitted	0.95	1.00		0.95	1.00			0.87			0.92	
Satd. Flow (perm)	1770	3385		1770	3458			1561			1615	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	397	336	137	70	176	32	102	266	149	26	107	114
RTOR Reduction (vph)	0	47	0	0	16	0	0	14	0	0	29	0
Lane Group Flow (vph)	397	426	0	70	192	0	0	503	0	0	218	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	22.9	28.0		6.3	11.4			34.6			34.6	
Effective Green, g (s)	22.9	28.0		6.3	11.4			34.6			34.6	
Actuated g/C Ratio	0.26	0.32		0.07	0.13			0.40			0.40	
Clearance Time (s)	4.9	6.2		4.9	6.2			6.5			6.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	468	1095		128	455			624			646	
v/s Ratio Prot	c0.22	c0.13		0.04	0.06							
v/s Ratio Perm								c0.32			0.14	
v/c Ratio	0.85	0.39		0.55	0.42			0.81			0.34	
Uniform Delay, d1	30.2	22.6		38.7	34.5			23.0			18.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	12.9	0.1		2.5	0.2			7.1			0.1	
Delay (s)	43.0	22.7		41.3	34.7			30.1			18.1	
Level of Service	D	C		D	C			C			B	
Approach Delay (s)		32.0			36.4			30.1			18.1	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			30.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			86.5			Sum of lost time (s)			17.6			
Intersection Capacity Utilization			84.7%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

I-15 & Deer Springs Rd Mini Mart
5: N Centre City Pkwy

Opening Year 2021 w/Proj
Timing Plan: AM Peak

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	7	7	131	574	60
Future Volume (Veh/h)	60	7	7	131	574	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	8	8	142	624	65
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)					255	
pX, platoon unblocked						
vC, conflicting volume	814	656	689			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	814	656	689			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	98	99			
cM capacity (veh/h)	344	465	905			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	65	8	150	689		
Volume Left	65	0	8	0		
Volume Right	0	8	0	65		
cSH	344	465	905	1700		
Volume to Capacity	0.19	0.02	0.01	0.41		
Queue Length 95th (ft)	17	1	1	0		
Control Delay (s)	17.9	12.9	0.6	0.0		
Lane LOS	C	B	A			
Approach Delay (s)	17.3		0.6	0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			43.8%	ICU Level of Service		A
Analysis Period (min)			15			

I-15 & Deer Springs Rd Mini Mart
5: N Centre City Pkwy

Opening Year 2021 w/Proj
Timing Plan: PM Peak

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	69	8	8	405	217	69
Future Volume (Veh/h)	69	8	8	405	217	69
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	75	9	9	440	236	75
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)					255	
pX, platoon unblocked						
vC, conflicting volume	732	274	311			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	732	274	311			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	99	99			
cM capacity (veh/h)	386	765	1249			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	75	9	449	311		
Volume Left	75	0	9	0		
Volume Right	0	9	0	75		
cSH	386	765	1249	1700		
Volume to Capacity	0.19	0.01	0.01	0.18		
Queue Length 95th (ft)	18	1	1	0		
Control Delay (s)	16.6	9.8	0.2	0.0		
Lane LOS	C	A	A			
Approach Delay (s)	15.8		0.2	0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			38.2%	ICU Level of Service		A
Analysis Period (min)			15			