Appendix H

Traffic and Transportation Supporting Documentation

Appendix H.1

Intersection Counts

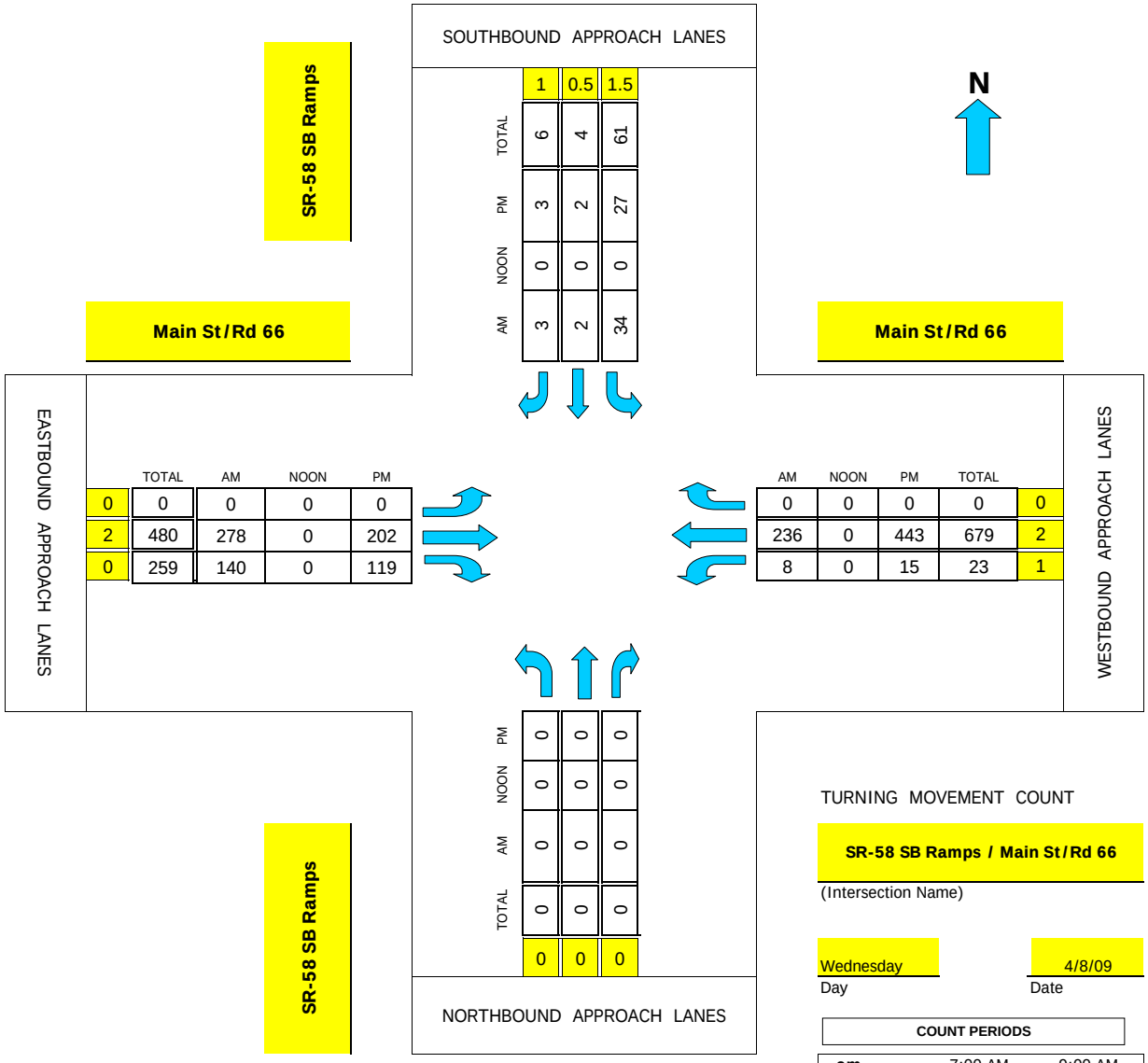
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of SR-58 SB Ramps/Main St/Rd 66

Project #: 09-8030-001



	1	0.5	1.5
TOTAL	6	4	61
PM	3	2	27
NOON	0	0	0
AM	3	2	34

	TOTAL	AM	NOON	PM
0	0	0	0	0
2	480	278	0	202
0	259	140	0	119

AM	NOON	PM	TOTAL	
0	0	0	0	0
236	0	443	679	2
8	0	15	23	1

	0	0	0
TOTAL	0	0	0
AM	0	0	0
NOON	0	0	0
PM	0	0	0

TURNING MOVEMENT COUNT

SR-58 SB Ramps / Main St/Rd 66

(Intersection Name)

Wednesday — Day

4/8/09 — Date

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: Signalized

AM PEAK HOUR	745 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	400 PM

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: SR-58 SB Ramps DATE: 04/08/2009 LOCATION: City of Barstow

E-W STREET: Main St/Rd 66 DAY: WEDNESDAY PROJECT# 09-8030-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	1.5	0.5	1	0	2	0	1	2	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM				5	0	2		46	64	4	38		159
7:15 AM				3	1	1		40	41	2	44		132
7:30 AM				4	0	0		53	41	0	51		149
7:45 AM				12	1	1		75	41	3	72		205
8:00 AM				8	1	0		75	39	2	58		183
8:15 AM				5	0	1		60	39	1	49		155
8:30 AM				9	0	1		68	21	2	57		158
8:45 AM				9	0	0		44	24	6	47		130
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	NL 0	NT 0	NR 0	SL 55	ST 3	SR 6	EL 0	ET 461	ER 310	WL 20	WT 416	WR 0	TOTAL 1271

AM Peak Hr Begins at: 745 AM

PEAK VOLUMES =	0	0	0	34	2	3	0	278	140	8	236	0	701
PEAK HR. FACTOR:		0.000			0.696			0.901			0.813		0.855

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: SR-58 SB Ramps DATE: 04/08/2009 LOCATION: City of Barstow

E-W STREET: Main St/Rd 66 DAY: WEDNESDAY PROJECT# 09-8030-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	1.5	0.5	1	0	2	0	1	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM				9	0	1		49	31	6	109		205
4:15 PM				7	1	0		61	33	4	91		197
4:30 PM				9	1	2		52	31	3	129		227
4:45 PM				2	0	0		40	24	2	114		182
5:00 PM				5	0	0		55	25	5	102		192
5:15 PM				6	0	0		44	29	3	116		198
5:30 PM				7	0	1		51	36	3	102		200
5:45 PM				8	0	0		52	38	6	98		202
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	NL 0	NT 0	NR 0	SL 53	ST 2	SR 4	EL 0	ET 404	ER 247	WL 32	WT 861	WR 0	TOTAL 1603

PM Peak Hr Begins at: 400 PM

PEAK VOLUMES =	0	0	0	27	2	3	0	202	119	15	443	0	811
PEAK HR. FACTOR:		0.000			0.667			0.854			0.867		0.893

CONTROL: Signalized

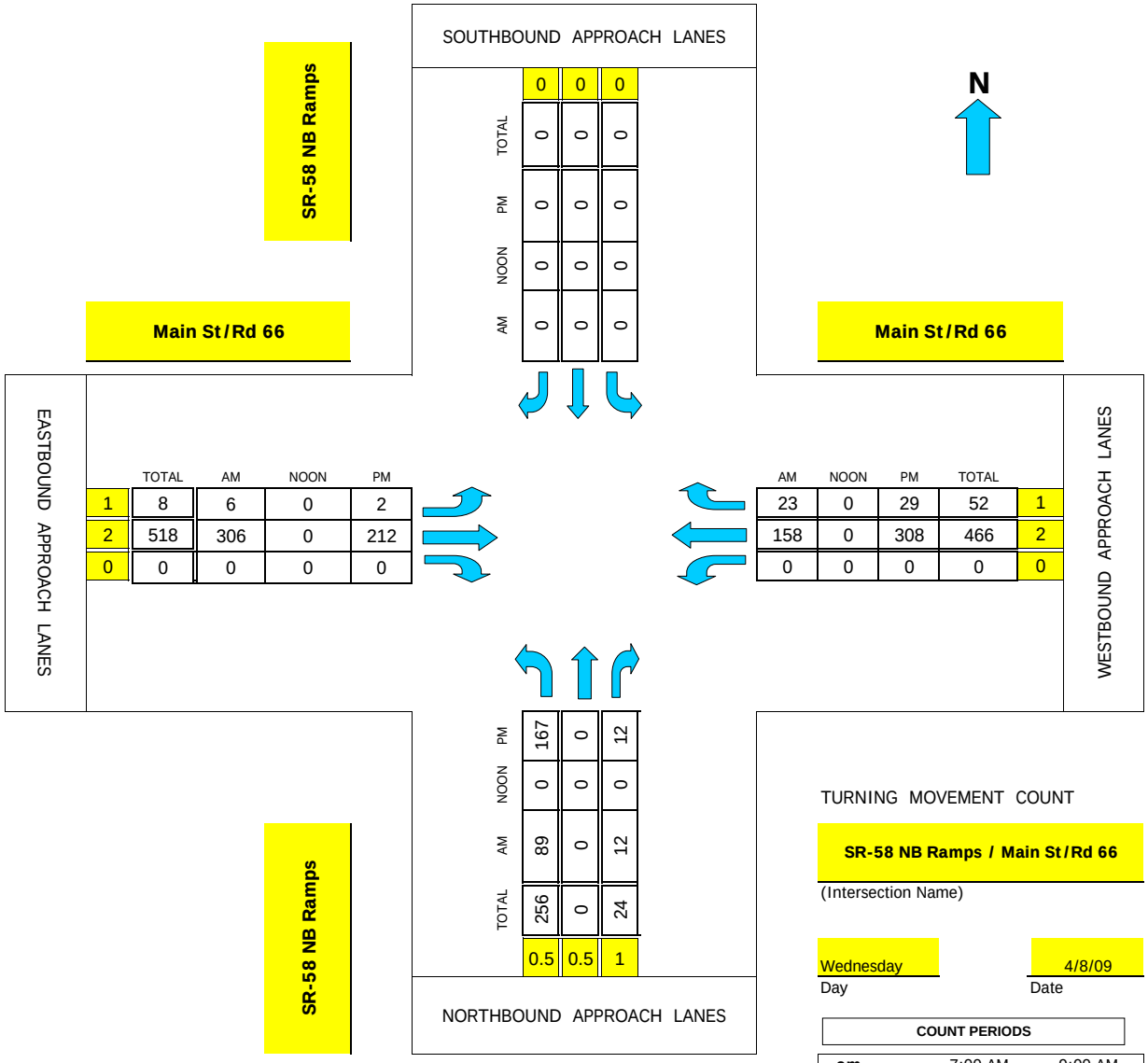
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of SR-58 NB Ramps/Main St/Rd 66

Project #: 09-8030-002



	TOTAL	AM	NOON	PM
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

	TOTAL	AM	NOON	PM
1	8	6	0	2
2	518	306	0	212
0	0	0	0	0

	AM	NOON	PM	TOTAL
1	23	0	29	52
2	158	0	308	466
0	0	0	0	0

	TOTAL	AM	NOON	PM
0.5	256	89	0	167
0.5	0	0	0	0
1	24	12	0	12

TURNING MOVEMENT COUNT

SR-58 NB Ramps / Main St/Rd 66

(Intersection Name)

Wednesday — Day

4/8/09 — Date

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: Signalized

AM PEAK HOUR	745 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: SR-58 NB Ramps DATE: 04/08/2009 LOCATION: City of Barstow

E-W STREET: Main St/Rd 66 DAY: WEDNESDAY PROJECT# 09-8030-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0.5	0.5	1	0	0	0	1	2	0	0	2	1	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	12		1				0	50			29	2	94
7:15 AM	18		2				0	44			29	3	96
7:30 AM	18		2				0	55			30	8	113
7:45 AM	38		3				2	87			40	5	175
8:00 AM	22		5				1	81			35	6	150
8:15 AM	19		2				2	64			34	7	128
8:30 AM	10		2				1	74			49	5	141
8:45 AM	11		3				0	56			42	13	125
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	148	0	20	0	0	0	6	511	0	0	288	49	1022

AM Peak Hr Begins at: 745 AM

PEAK VOLUMES =	89	0	12	0	0	0	6	306	0	0	158	23	594
PEAK HR. FACTOR:		0.616			0.000			0.876			0.838		0.849

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: SR-58 NB Ramps DATE: 04/08/2009 LOCATION: City of Barstow

E-W STREET: Main St/Rd 66 DAY: WEDNESDAY PROJECT# 09-8030-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0.5	0.5	1	0	0	0	1	2	0	0	2	1	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	45		1				2	57			69	9	183
4:15 PM	43		6				1	66			54	6	176
4:30 PM	55		3				1	63			75	6	203
4:45 PM	41		2				0	39			77	6	165
5:00 PM	32		6				0	62			75	7	182
5:15 PM	39		1				1	48			81	10	180
5:30 PM	30		6				0	61			73	4	174
5:45 PM	48		3				4	53			58	4	170
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	NL 333	NT 0	NR 28	SL 0	ST 0	SR 0	EL 9	ET 449	ER 0	WL 0	WT 562	WR 52	TOTAL 1433

PM Peak Hr Begins at: 430 PM

PEAK VOLUMES =	167	0	12	0	0	0	2	212	0	0	308	29	730
PEAK HR. FACTOR:		0.772			0.000			0.836			0.926		0.899

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

NDS

National Data & Surveying Services

TMC Summary of Hinkley Rd/Santa Fe Ave

Project #: 09-8030-003

Hinkley Rd

SOUTHBOUND APPROACH LANES

	0	1	0
TOTAL	4	56	59
PM	1	11	10
NOON	0	0	0
AM	3	45	49

N

Santa Fe Ave

Santa Fe Ave

EASTBOUND APPROACH LANES

	TOTAL	AM	NOON	PM
0	4	4	0	0
1	6	2	0	4
0	2	0	0	2

AM	NOON	PM	TOTAL	
51	0	17	68	0
0	0	3	3	1
6	0	14	20	0

WESTBOUND APPROACH LANES

PM	1	13	10
NOON	0	0	0
AM	0	47	8
TOTAL	1	60	18
	0	1	0

Hinkley Rd

NORTHBOUND APPROACH LANES

TURNING MOVEMENT COUNT

Hinkley Rd / Santa Fe Ave

(Intersection Name)

Wednesday — Day

4/8/09 — Date

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: 2-Way Stop (N/S)

AM PEAK HOUR	745 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	415 PM

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Hinkley Rd DATE: 04/08/2009 LOCATION: City of Barstow

E-W STREET: Santa Fe Ave DAY: WEDNESDAY PROJECT# 09-8030-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	0	0	3	1	0	0	0	0	1	0	3	8
7:15 AM	0	3	1	0	1	0	0	0	1	2	0	1	9
7:30 AM	0	6	3	4	1	0	0	0	0	3	1	6	24
7:45 AM	0	12	1	5	10	0	0	0	0	0	0	6	34
8:00 AM	0	15	0	16	19	2	3	0	0	1	0	23	79
8:15 AM	0	13	3	18	11	1	1	1	0	3	0	21	72
8:30 AM	0	7	4	10	5	0	0	1	0	2	0	1	30
8:45 AM	1	2	4	1	4	0	0	1	0	1	0	1	15
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	1	58	16	57	52	3	4	3	1	13	1	62	271

AM Peak Hr Begins at: 745 AM

PEAK VOLUMES =	0	47	8	49	45	3	4	2	0	6	0	51	215
PEAK HR. FACTOR:		0.859			0.655			0.500			0.594		0.680

CONTROL: 2-Way Stop (N/S)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Hinkley Rd DATE: 04/08/2009 LOCATION: City of Barstow

E-W STREET: Santa Fe Ave DAY: WEDNESDAY PROJECT# 09-8030-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0	4	3	2	1	0	0	0	1	2	1	4	18
4:15 PM	0	5	3	4	4	1	0	2	0	4	1	4	28
4:30 PM	0	1	5	3	3	0	0	1	0	2	2	4	21
4:45 PM	0	2	0	3	2	0	0	0	0	3	0	4	14
5:00 PM	1	5	2	0	2	0	0	1	2	5	0	5	23
5:15 PM	0	1	5	1	0	0	1	1	0	6	1	5	21
5:30 PM	0	2	2	0	2	0	0	0	0	7	1	5	19
5:45 PM	0	2	1	1	4	0	0	0	0	3	0	0	11
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	NL 1	NT 22	NR 21	SL 14	ST 18	SR 1	EL 1	ET 5	ER 3	WL 32	WT 6	WR 31	TOTAL 155

PM Peak Hr Begins at: 415 PM

PEAK VOLUMES =	1	13	10	10	11	1	0	4	2	14	3	17	86
PEAK HR. FACTOR:		0.750			0.611			0.500			0.850		0.768

CONTROL: 2-Way Stop (N/S)

Intersection Turning Movement

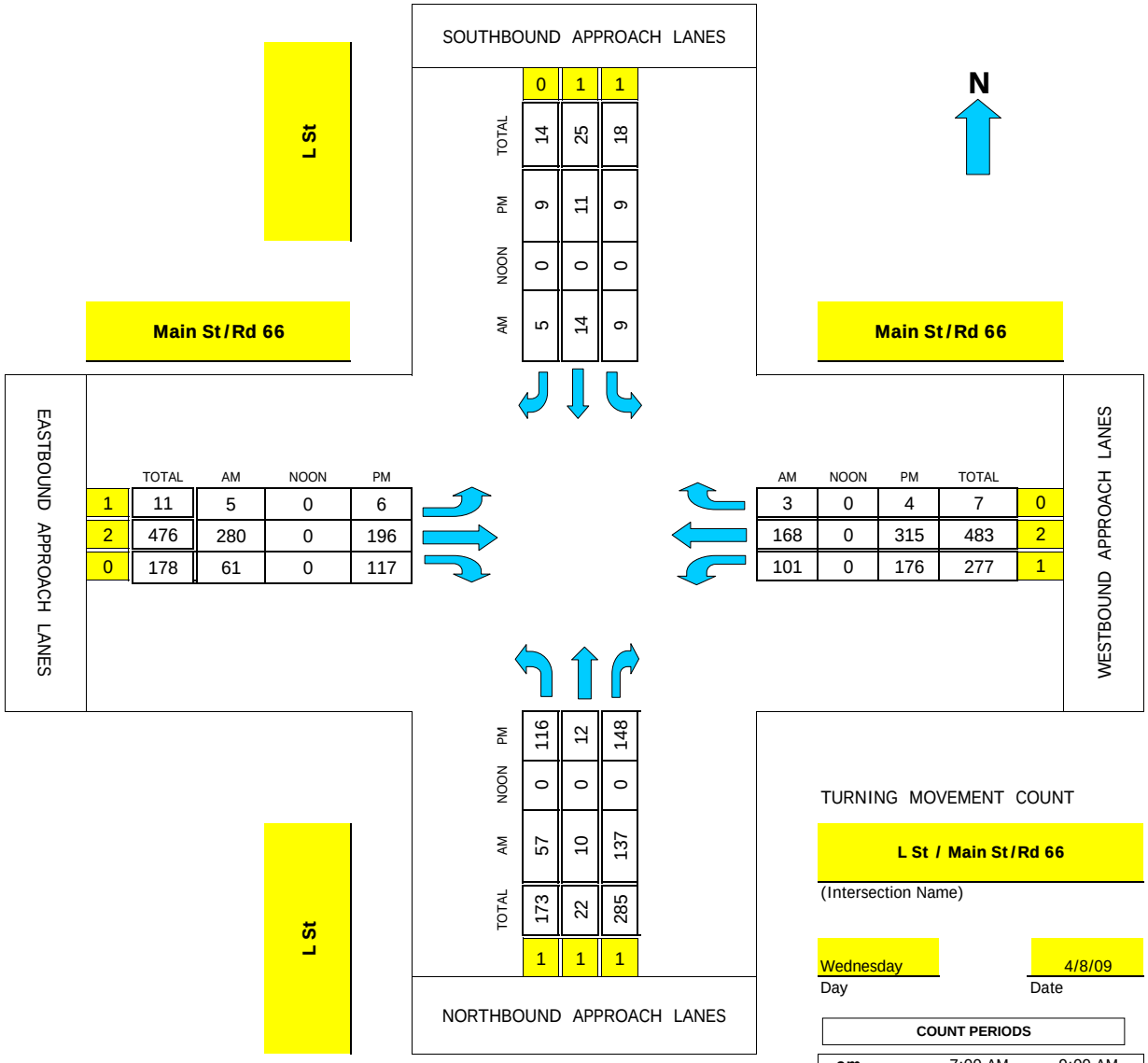
Prepared by:

NDS

National Data & Surveying Services

TMC Summary of L St / Main St / Rd 66

Project #: 09-8030-004



	0	1	1
TOTAL	14	25	18
PM	9	11	9
NOON	0	0	0
AM	5	14	9

	TOTAL	AM	NOON	PM
1	11	5	0	6
2	476	280	0	196
0	178	61	0	117

AM	NOON	PM	TOTAL	
3	0	4	7	0
168	0	315	483	2
101	0	176	277	1

	1	1	1
PM	116	12	148
NOON	0	0	0
AM	57	10	137
TOTAL	173	22	285

TURNING MOVEMENT COUNT

L St / Main St / Rd 66

(Intersection Name)

Wednesday — Day

4/8/09 — Date

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: Signalized

AM PEAK HOUR	745 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: L St DATE: 04/08/2009 LOCATION: City of Barstow

E-W STREET: Main St/Rd 66 DAY: WEDNESDAY PROJECT# 09-8030-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	1	0	1	2	0	1	2	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	12	8	30	1	3	2	0	44	11	23	28	0	162
7:15 AM	8	2	40	1	3	1	0	47	7	21	29	0	159
7:30 AM	18	1	35	3	1	2	2	57	16	23	34	1	193
7:45 AM	18	2	34	3	5	2	1	64	11	22	38	0	200
8:00 AM	10	2	35	3	3	1	2	67	20	14	32	1	190
8:15 AM	15	4	35	2	4	0	1	80	13	38	42	0	234
8:30 AM	14	2	33	1	2	2	1	69	17	27	56	2	226
8:45 AM	7	1	28	1	3	3	1	65	9	31	37	1	187
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	NL 102	NT 22	NR 270	SL 15	ST 24	SR 13	EL 8	ET 493	ER 104	WL 199	WT 296	WR 5	TOTAL 1551

AM Peak Hr Begins at: 745 AM

PEAK VOLUMES =	57	10	137	9	14	5	5	280	61	101	168	3	850
PEAK HR. FACTOR:		0.944			0.700			0.920			0.800		0.908

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: L St DATE: 04/08/2009 LOCATION: City of Barstow

E-W STREET: Main St/Rd 66 DAY: WEDNESDAY PROJECT# 09-8030-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	1	0	1	2	0	1	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	25	3	26	1	3	0	1	76	18	38	79	1	271
4:15 PM	31	0	41	1	8	2	0	51	12	40	33	0	219
4:30 PM	27	2	36	2	3	0	1	47	26	58	70	0	272
4:45 PM	33	3	38	1	3	1	3	46	25	41	88	1	283
5:00 PM	31	2	41	3	4	3	1	51	41	43	75	0	295
5:15 PM	25	5	33	3	1	5	1	52	25	34	82	3	269
5:30 PM	24	6	32	4	4	0	0	56	19	40	60	1	246
5:45 PM	16	7	33	1	7	1	1	52	20	27	54	0	219
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	NL 212	NT 28	NR 280	SL 16	ST 33	SR 12	EL 8	ET 431	ER 186	WL 321	WT 541	WR 6	TOTAL 2074

PM Peak Hr Begins at: 430 PM

PEAK VOLUMES =	116	12	148	9	11	9	6	196	117	176	315	4	1119
PEAK HR. FACTOR:		0.932			0.725			0.858			0.952		0.948

CONTROL: Signalized

Intersection Turning Movement

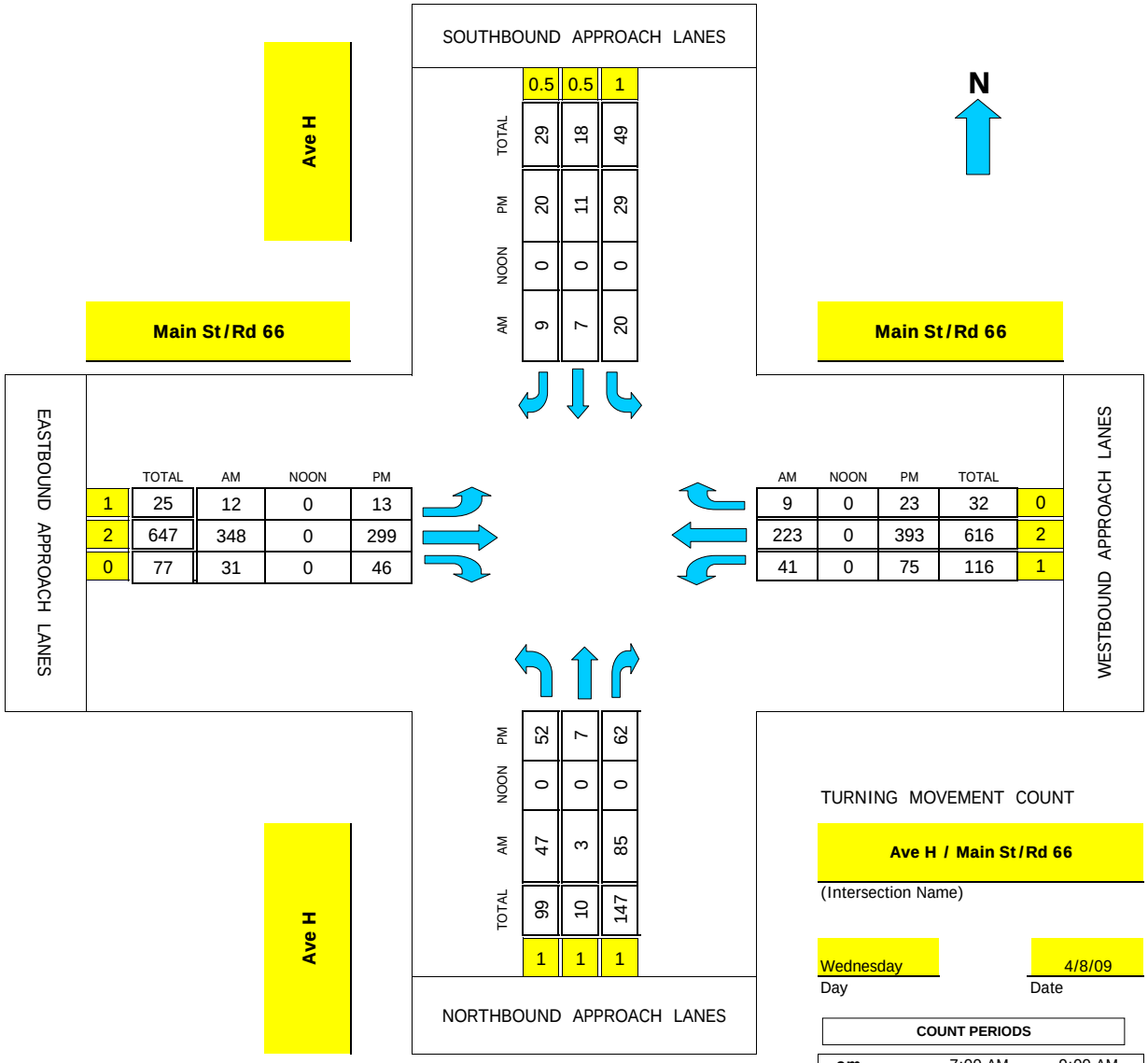
Prepared by:

NDS

National Data & Surveying Services

TMC Summary of Ave H/Main St/Rd 66

Project #: 09-8030-005



	TOTAL	AM	NOON	PM
0.5	29	9	0	20
0.5	18	7	0	11
1	49	20	0	29

	TOTAL	AM	NOON	PM
1	25	12	0	13
2	647	348	0	299
0	77	31	0	46

	AM	NOON	PM	TOTAL
9	0	23	32	0
223	0	393	616	2
41	0	75	116	1

	TOTAL	AM	NOON	PM
52	7	62		
0	0	0		
47	3	85		
99	10	147		
1	1	1		

TURNING MOVEMENT COUNT

Ave H / Main St/Rd 66

(Intersection Name)

Wednesday — Day

4/8/09 — Date

COUNT PERIODS			
am	7:00 AM	-	9:00 AM
noon		-	
pm	4:00 PM	-	6:00 PM

CONTROL: Signalized

AM PEAK HOUR	800 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Ave H DATE: 04/08/2009 LOCATION: City of Barstow

E-W STREET: Main St/Rd 66 DAY: WEDNESDAY PROJECT# 09-8030-005

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	0.5	0.5	1	2	0	1	2	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	4	2	25	19	15	11	6	78	2	2	32	3	199
7:15 AM	2	1	28	12	5	7	7	69	6	13	41	4	195
7:30 AM	3	2	15	4	1	5	11	71	4	11	47	2	176
7:45 AM	11	2	11	5	0	1	4	74	13	5	51	4	181
8:00 AM	8	0	19	5	2	2	5	79	5	8	41	5	179
8:15 AM	12	1	22	4	3	3	1	98	6	4	73	3	230
8:30 AM	18	2	24	5	1	2	3	84	12	15	59	0	225
8:45 AM	9	0	20	6	1	2	3	87	8	14	50	1	201
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	67	10	164	60	28	33	40	640	56	72	394	22	1586

AM Peak Hr Begins at: 800 AM

PEAK VOLUMES =	47	3	85	20	7	9	12	348	31	41	223	9	835
PEAK HR. FACTOR:		0.767			0.900			0.931			0.853		0.908

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Ave H DATE: 04/08/2009 LOCATION: City of Barstow

E-W STREET: Main St/Rd 66 DAY: WEDNESDAY PROJECT# 09-8030-005

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	0.5	0.5	1	2	0	1	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	13	4	16	7	1	6	3	85	7	9	81	3	235
4:15 PM	8	1	10	8	0	5	5	89	9	15	68	3	221
4:30 PM	19	2	14	7	4	5	5	82	9	23	102	9	281
4:45 PM	13	2	16	7	2	4	0	65	10	16	89	7	231
5:00 PM	10	1	13	6	3	7	3	82	14	23	98	3	263
5:15 PM	10	2	19	9	2	4	5	70	13	13	104	4	255
5:30 PM	9	0	15	0	0	7	3	77	8	17	68	0	204
5:45 PM	15	0	16	1	6	4	3	61	16	12	63	2	199
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	NL 97	NT 12	NR 119	SL 45	ST 18	SR 42	EL 27	ET 611	ER 86	WL 128	WT 673	WR 31	TOTAL 1889

PM Peak Hr Begins at: 430 PM

PEAK VOLUMES =	52	7	62	29	11	20	13	299	46	75	393	23	1030
PEAK HR. FACTOR:		0.864			0.938			0.904			0.916		0.916

CONTROL: Signalized

Appendix H.1

Roadway Counts

Prepared by NDS/ATD

Volumes for: Thursday, April 09, 2009	City: Barstow	Daily Totals NB	SB	EB	WB	Total
Location: Santa Fe Ave W/o Hinkley Rd	Project: 09-8029-001	0	0	67	76	143

AM Period	NB	SB	EB	WB			PM Period	NB	SB	EB	WB		
00:00			0	0			12:00			3	2		
00:15			0	2			12:15			1	2		
00:30			0	0			12:30			1	0		
00:45			0	0	2	2	12:45			3	8	4	8	16
01:00			0	0			13:00			2	3		
01:15			0	0			13:15			0	2		
01:30			0	0			13:30			1	5		
01:45			0	0			13:45			0	3	0	10	13
02:00			0	0			14:00			1	2		
02:15			0	0			14:15			1	2		
02:30			0	0			14:30			3	0		
02:45			0	0			14:45			3	8	4	8	16
03:00			0	0			15:00			3	0		
03:15			0	0			15:15			0	0		
03:30			1	1			15:30			1	2		
03:45			0	1	0	1	2	15:45			1	5	1	3	8
04:00			0	0			16:00			1	1		
04:15			0	0			16:15			3	1		
04:30			0	0			16:30			2	2		
04:45			0	1	1	1	16:45			0	6	2	6	12
05:00			0	0			17:00			1	0		
05:15			0	1			17:15			0	0		
05:30			2	0			17:30			1	1		
05:45			0	2	1	2	4	17:45			2	4	3	4	8
06:00			1	0			18:00			4	1		
06:15			3	2			18:15			0	0		
06:30			0	0			18:30			0	2		
06:45			0	4	0	2	6	18:45			0	4	0	3	7
07:00			0	1			19:00			0	0		
07:15			0	0			19:15			1	1		
07:30			1	1			19:30			1	1		
07:45			1	2	0	2	4	19:45			0	2	1	3	5
08:00			0	0			20:00			1	1		
08:15			0	0			20:15			1	2		
08:30			1	1			20:30			0	2		
08:45			1	2	0	1	3	20:45			0	2	0	5	7
09:00			0	0			21:00			0	0		
09:15			1	0			21:15			0	0		
09:30			1	0			21:30			0	0		
09:45			0	2	1	1	3	21:45			0	0		
10:00			1	3			22:00			0	0		
10:15			1	2			22:15			0	1		
10:30			1	0			22:30			1	0		
10:45			1	4	1	6	10	22:45			0	1	0	1	2
11:00			0	0			23:00			0	0		
11:15			1	2			23:15			0	0		
11:30			1	0			23:30			3	4		
11:45			1	3	1	3	6	23:45			1	4	0	4	8
Total Vol.				20		21	**41**				47		55	**102**

	NB	SB	EB	WB	Total
Daily Totals :	0	0	67	76	143

	AM				PM		
Split %	48.8%	51.2%	**28.7%**		46.1%	53.9%	**71.3%**
AM				**PM**			
Peak Hr.	05:30	09:30	**11:15**	**Peak Hr.**	14:15	12:45	**12:45**
Volume	6	6	**11**	**Volume**	10	14	**20**
P.H.F.	0.500	0.500	**0.550**	**P.H.F.**	0.833	0.700	**0.714**
7 - 9 Vol.	4	3	**7**	**4 - 6 Vol.**	10	10	**20**
Peak Hr.	07:00	07:00	**07:00**	**Peak Hr.**	16:00	16:00	**16:00**
Volume	2	2	**4**	**Volume**	6	6	**12**
P.H.F.	0.500	0.500	**0.500**	**P.H.F.**	0.500	0.750	**0.750**

Prepared by NDS/ATD

Volumes for: Thursday, April 09, 2009	City:	Barstow	Daily Totals NB	SB	EB	WB	Total
Location: Harper Lake Rd N/o SR-58 and S/o Rail Road Track	Project:	09-8029-002	115	131	0	0	246

AM Period	NB		SB		EB		WB		PM Period	NB		SB		EB		WB	
00:00	0		0						12:00	1		4					
00:15	0		0						12:15	2		2					
00:30	0		0						12:30	1		3					
00:45	0		1	1				1	12:45	0	4	1	10				14
01:00	0		0						13:00	0		1					
01:15	0		0						13:15	3		4					
01:30	0		0						13:30	1		2					
01:45	0		0						13:45	0	4	4	11				15
02:00	0		0						14:00	1		1					
02:15	1		0						14:15	0		0					
02:30	1		0						14:30	1		4					
02:45	0	2	0					2	14:45	0	2	5	10				12
03:00	0		0						15:00	0		2					
03:15	0		1						15:15	0		1					
03:30	0		0						15:30	1		1					
03:45	0		0	1				1	15:45	1	2	6	10				12
04:00	0		0						16:00	0		6					
04:15	0		0						16:15	1		8					
04:30	1		0						16:30	0		3					
04:45	4	5	0					5	16:45	0	1	1	18				19
05:00	1		0						17:00	1		0					
05:15	3		1						17:15	1		3					
05:30	6		3						17:30	5		4					
05:45	2	12	1	5				17	17:45	1	8	10	17				25
06:00	2		1						18:00	0		2					
06:15	6		0						18:15	1		2					
06:30	6		2						18:30	1		3					
06:45	8	22	0	3				25	18:45	1	3	2	9				12
07:00	5		1						19:00	1		1					
07:15	3		1						19:15	1		2					
07:30	6		0						19:30	0		2					
07:45	0	14	0	2				16	19:45	0	2	0	5				7
08:00	4		3						20:00	2		0					
08:15	3		1						20:15	0		0					
08:30	2		2						20:30	4		2					
08:45	3	12	2	8				20	20:45	0	6	0	2				8
09:00	0		1						21:00	1		0					
09:15	1		3						21:15	0		0					
09:30	1		2						21:30	0		3					
09:45	0	2	0	6				8	21:45	0	1	0	3				4
10:00	3		1						22:00	0		1					
10:15	2		0						22:15	0		0					
10:30	1		3						22:30	0		0					
10:45	0	6	0	4				10	22:45	0		0	1				1
11:00	0		2						23:00	0		0					
11:15	3		1						23:15	0		0					
11:30	1		0						23:30	1		0					
11:45	2	6	2	5				11	23:45	0	1	0					1
Total Vol.		81		35				**116**			34		96				**130**

	NB	SB	EB	WB	Total
Daily Totals :	115	131	0	0	246

	AM			PM		
Split %	69.8%	30.2%	**47.2%**	26.2%	73.8%	**52.8%**
AM				**PM**		
Peak Hr.	06:15	11:45	**06:15**	**Peak Hr.**	17:00	15:45	**17:15**
Volume	25	11	**28**	**Volume**	8	23	**26**
P.H.F.	0.781	0.688	**0.875**	**P.H.F.**	0.400	0.719	**0.591**
7 - 9 Vol.	26	10	**36**	**4 - 6 Vol.**	9	35	**44**
Peak Hr.	07:00	08:00	**08:00**	**Peak Hr.**	17:00	16:00	**17:00**
Volume	14	8	**20**	**Volume**	8	18	**25**
P.H.F.	0.583	0.667	**0.714**	**P.H.F.**	0.400	0.563	**0.568**

Prepared by NDS/ATD

Volumes for: Thursday, April 09, 2009	City:	Barstow	Daily Totals NB	SB	EB	WB	Total
Location: Harper Lake Rd N/o Roy St/Rail Road Track	Project:	09-8029-003	115	115	0	0	230

AM Period	NB		SB		EB		WB		PM Period	NB		SB		EB		WB		
00:00	0		0						12:00	2		1						
00:15	0		0						12:15	2		4						
00:30	0		0						12:30	2		0						
00:45	0		0						12:45	0	6	0	5					11
01:00	0		0						13:00	0		0						
01:15	0		0						13:15	4		1						
01:30	0		0						13:30	0		2						
01:45	0		0						13:45	2	6	1	4					10
02:00	0		0						14:00	0		1						
02:15	0		0						14:15	1		0						
02:30	0		0						14:30	2		4						
02:45	0		0						14:45	0	3	5	10					13
03:00	0		0						15:00	1		1						
03:15	0		0						15:15	1		2						
03:30	0		0						15:30	2		3						
03:45	0		0						15:45	1	5	9	15					20
04:00	0		0						16:00	3		3						
04:15	0		0						16:15	2		7						
04:30	1		1						16:30	0		2						
04:45	1	2	0	1				3	16:45	0	5	1	13					18
05:00	5		0						17:00	0		0						
05:15	2		1						17:15	1		4						
05:30	5		3						17:30	6		4						
05:45	5	17	3	7				24	17:45	0	7	13	21					28
06:00	3		1						18:00	0		3						
06:15	5		0						18:15	0		2						
06:30	7		2						18:30	0		2						
06:45	7	22	1	4				26	18:45	1	1	2	9					10
07:00	5		1						19:00	0		0						
07:15	3		1						19:15	1		1						
07:30	6		0						19:30	0		2						
07:45	1	15	0	2				17	19:45	0	1	0	3					4
08:00	3		3						20:00	1		1						
08:15	4		0						20:15	0		0						
08:30	0		3						20:30	2		0						
08:45	1	8	0	6				14	20:45	2	5	2	3					8
09:00	0		0						21:00	0		0						
09:15	0		0						21:15	0		2						
09:30	2		0						21:30	0		1						
09:45	2	4	0					4	21:45	0		0	3					3
10:00	1		1						22:00	0		1						
10:15	1		0						22:15	0		0						
10:30	3		0						22:30	0		0						
10:45	0	5	2	3				8	22:45	0		0	1					1
11:00	0		2						23:00	0		0						
11:15	2		1						23:15	0		0						
11:30	0		2						23:30	0		0						
11:45	1	3	0	5				8	23:45	0		0						
Total Vol.		76		28				**104**			39		87					**126**

					NB	SB	EB	WB	Total
				Daily Totals :	115	115	0	0	230
	AM				PM				
Split %	73.1%	26.9%	**45.2%**		31.0%	69.0%			**54.8%**
AM				**PM**					
Peak Hr.	06:15	05:15	**06:15**	**Peak Hr.**	15:30	17:15			**17:15**
Volume	24	8	**28**	**Volume**	8	24			**31**
P.H.F.	0.857	0.667	**0.778**	**P.H.F.**	0.667	0.462			**0.596**
7 - 9 Vol.	23	8	**31**	**4 - 6 Vol.**	12	34			**46**
Peak Hr.	07:00	07:45	**07:00**	**Peak Hr.**	16:45	17:00			**17:00**
Volume	15	6	**17**	**Volume**	7	21			**28**
P.H.F.	0.625	0.500	**0.708**	**P.H.F.**	0.292	0.404			**0.538**

Prepared by NDS/ATD

Volumes for: Thursday, April 09, 2009	City: Barstow	Daily Totals NB	SB	EB	WB	Total
Location: Hinkley Rd N/o SR-58	Project: 09-8029-004	270	316	0	0	586

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
00:00	0		1							12:00	5		5						
00:15	1		0							12:15	5		6						
00:30	1		1							12:30	6		5						
00:45	0	2	0	2					4	12:45	7	23	5	21					44
01:00	1		0							13:00	7		8						
01:15	0		0							13:15	7		5						
01:30	0		1							13:30	2		5						
01:45	1	2	0	1					3	13:45	3	19	2	20					39
02:00	1		0							14:00	6		6						
02:15	0		0							14:15	6		7						
02:30	1		0							14:30	12		11						
02:45	0	2	0						2	14:45	9	33	6	30					63
03:00	0		0							15:00	7		19						
03:15	0		0							15:15	4		9						
03:30	0		0							15:30	4		10						
03:45	0		0							15:45	5	20	6	44					64
04:00	0		0							16:00	3		10						
04:15	0		1							16:15	4		2						
04:30	0		1							16:30	6		4						
04:45	2	2	1	3					5	16:45	2	15	5	21					36
05:00	0		2							17:00	3		11						
05:15	0		0							17:15	5		4						
05:30	0		1							17:30	4		5						
05:45	1	1	2	5					6	17:45	7	19	3	23					42
06:00	0		0							18:00	9		5						
06:15	0		2							18:15	6		6						
06:30	0		1							18:30	2		5						
06:45	0		0	3					3	18:45	6	23	2	18					41
07:00	3		0							19:00	2		2						
07:15	1		0							19:15	3		1						
07:30	4		2							19:30	3		2						
07:45	1	9	2	4					13	19:45	4	12	0	5					17
08:00	0		1							20:00	3		0						
08:15	4		5							20:15	1		3						
08:30	6		4							20:30	3		3						
08:45	2	12	4	14					26	20:45	2	9	4	10					19
09:00	3		4							21:00	0		4						
09:15	1		4							21:15	2		1						
09:30	3		6							21:30	0		3						
09:45	3	10	4	18					28	21:45	0	2	2	10					12
10:00	3		8							22:00	4		1						
10:15	9		10							22:15	7		1						
10:30	3		9							22:30	0		1						
10:45	4	19	8	35					54	22:45	1	12	1	4					16
11:00	7		8							23:00	2		0						
11:15	4		4							23:15	1		0						
11:30	4		5							23:30	0		2						
11:45	6	21	4	21					42	23:45	0	3	2	4					7
Total Vol.		80		106					**186**			190		210					**400**

	NB	SB	EB	WB	Total
Daily Totals :	270	316	0	0	586

	AM			PM		
Split %	43.0%	57.0%	**31.7%**	47.5%	52.5%	**68.3%**
AM				**PM**		
Peak Hr.	10:15	10:00	**10:15**	**Peak Hr.**	14:15	14:30	**14:15**
Volume	23	35	**58**	**Volume**	34	45	**77**
P.H.F.	0.639	0.875	**0.763**	**P.H.F.**	0.708	0.592	**0.740**
7 - 9 Vol.	21	18	**39**	**4 - 6 Vol.**	34	44	**78**
Peak Hr.	08:00	08:00	**08:00**	**Peak Hr.**	17:00	16:45	**17:00**
Volume	12	14	**26**	**Volume**	19	25	**42**
P.H.F.	0.500	0.700	**0.650**	**P.H.F.**	0.679	0.568	**0.750**

Prepared by NDS/ATD

Volumes for: Thursday, April 09, 2009	City:	Barstow	Daily Totals NB	SB	EB	WB	Total
Location: Main St Outer Hwy S W/o Planmore Ave/Woodhill Ave	Project:	09-8029-005	0	0	324	323	647

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			1		1			12:00			9		6		
00:15			1		1			12:15			4		5		
00:30			0		0			12:30			5		3		
00:45			1	3	0	2	5	12:45			8	26	4	18	44
01:00			0		0			13:00			10		8		
01:15			1		1			13:15			4		6		
01:30			1		1			13:30			5		4		
01:45			2	4	1	3	7	13:45			6	25	1	19	44
02:00			0		1			14:00			5		3		
02:15			0		1			14:15			4		6		
02:30			0		0			14:30			3		7		
02:45			0		1	3	3	14:45			3	15	2	18	33
03:00			0		1			15:00			8		4		
03:15			0		1			15:15			7		5		
03:30			0		0			15:30			2		5		
03:45			0		0	2	2	15:45			10	27	6	20	47
04:00			0		0			16:00			7		4		
04:15			0		0			16:15			4		7		
04:30			0		0			16:30			7		7		
04:45			0		4	4	4	16:45			11	29	9	27	56
05:00			1		2			17:00			13		4		
05:15			0		2			17:15			9		4		
05:30			0		7			17:30			7		7		
05:45			1	2	4	15	17	17:45			7	36	2	17	53
06:00			0		5			18:00			9		6		
06:15			1		6			18:15			4		9		
06:30			0		2			18:30			6		6		
06:45			0	1	5	18	19	18:45			5	24	4	25	49
07:00			4		2			19:00			8		1		
07:15			0		0			19:15			6		2		
07:30			0		7			19:30			3		7		
07:45			2	6	0	9	15	19:45			8	25	3	13	38
08:00			5		7			20:00			4		1		
08:15			1		7			20:15			0		2		
08:30			2		1			20:30			7		4		
08:45			6	14	8	23	37	20:45			2	13	2	9	22
09:00			3		4			21:00			2		1		
09:15			5		5			21:15			6		2		
09:30			4		8			21:30			3		4		
09:45			4	16	4	21	37	21:45			4	15	2	9	24
10:00			2		8			22:00			3		3		
10:15			7		5			22:15			2		1		
10:30			2		6			22:30			0		0		
10:45			4	15	5	24	39	22:45			1	6	1	5	11
11:00			8		4			23:00			3		2		
11:15			1		2			23:15			0		0		
11:30			3		2			23:30			2		0		
11:45			4	16	9	17	33	23:45			1	6	0	2	8
Total Vol.				77		141	**218**					247		182	**429**

	NB	SB	EB	WB	Total
Daily Totals :	0	0	324	323	647

	AM			PM		
Split %	35.3%	64.7%	**33.7%**	57.6%	42.4%	**66.3%**
AM				**PM**		
Peak Hr.	11:45	08:45	**11:45**	**Peak Hr.**	16:30	16:00	**16:30**
Volume	22	25	**45**	**Volume**	40	27	**64**
P.H.F.	0.611	0.781	**0.750**	**P.H.F.**	0.769	0.750	**0.800**
7 - 9 Vol.	20	32	**52**	**4 - 6 Vol.**	65	44	**109**
Peak Hr.	08:00	08:00	**08:00**	**Peak Hr.**	16:30	16:00	**16:30**
Volume	14	23	**37**	**Volume**	40	27	**64**
P.H.F.	0.583	0.719	**0.661**	**P.H.F.**	0.769	0.750	**0.800**

Prepared by NDS/ATD

Volumes for: Thursday, April 09, 2009	City:	Barstow	Daily Totals NB	SB	EB	WB	Total
Location: Main St Outer Hwy S E/o Planmore Ave/Woodhill Ave	Project:	09-8029-006	0	0	85	91	176

AM Period	NB	SB	EB	WB			PM Period	NB	SB	EB	WB		
00:00			0	0			12:00			2	0		
00:15			0	0			12:15			1	1		
00:30			0	0			12:30			0	0		
00:45			0	1	1	1	12:45			2	2	5	3	8
01:00			0	0			13:00			1	0		
01:15			0	0			13:15			0	1		
01:30			0	0			13:30			2	5		
01:45			0	0			13:45			5	3	8	9	17
02:00			0	0			14:00			0	1		
02:15			0	0			14:15			3	1		
02:30			0	0			14:30			0	3		
02:45			1	1	1	1	2	14:45			4	7	1	6	13
03:00			0	0			15:00			1	3		
03:15			0	0			15:15			1	0		
03:30			0	0			15:30			4	2		
03:45			0	0			15:45			1	7	4	9	16
04:00			0	0			16:00			1	2		
04:15			0	0			16:15			1	1		
04:30			0	0			16:30			2	7		
04:45			0	0			16:45			2	2	6	12	18
05:00			1	0			17:00			1	6		
05:15			0	0			17:15			2	1		
05:30			0	0			17:30			0	0		
05:45			3	0	4		4	17:45			1	4	0	7	11
06:00			0	1			18:00			1	2		
06:15			1	0			18:15			2	1		
06:30			0	1			18:30			0	0		
06:45			3	1	3	7	18:45			1	2	4	2	5	9
07:00			2	0			19:00			1	2		
07:15			2	0			19:15			0	1		
07:30			1	1			19:30			2	0		
07:45			0	2	3	8	19:45			0	2	3	2	5	8
08:00			3	2			20:00			0	1		
08:15			2	0			20:15			1	0		
08:30			2	1			20:30			1	0		
08:45			0	0	3	10	20:45			1	1	3	2	5
09:00			0	1			21:00			0	1		
09:15			2	3			21:15			1	0		
09:30			1	0			21:30			0	1		
09:45			1	1	5	9	21:45			1	1	2	3	5
10:00			0	0			22:00			0	1		
10:15			1	2			22:15			0	0		
10:30			1	0			22:30			0	1		
10:45			3	1	3	8	22:45			0	1	3	3
11:00			3	2			23:00			0	0		
11:15			0	0			23:15			0	0		
11:30			1	1			23:30			0	0		
11:45			2	5	8	14	23:45			0	0		
Total Vol.			36	27		**63**				49	64		**113**

	NB	SB	EB	WB	Total
Daily Totals :	0	0	85	91	176

	AM			PM		
Split %	57.1%	42.9%	**35.8%**	43.4%	56.6%	**64.2%**
AM				**PM**		
Peak Hr.	06:45	11:00	**11:00**	**Peak Hr.**	13:30	16:15	**16:30**
Volume	8	8	**14**	**Volume**	10	16	**23**
P.H.F.	0.667	0.400	**0.500**	**P.H.F.**	0.500	0.571	**0.639**
7 - 9 Vol.	12	6	**18**	**4 - 6 Vol.**	10	19	**29**
Peak Hr.	07:45	07:15	**07:45**	**Peak Hr.**	16:30	16:15	**16:30**
Volume	7	5	**12**	**Volume**	7	16	**23**
P.H.F.	0.583	0.625	**0.600**	**P.H.F.**	0.875	0.571	**0.639**

Prepared by NDS/ATD

Volumes for: Thursday, April 09, 2009	City:	Barstow	Daily Totals NB	SB	EB	WB	Total
Location: Dvwy of Santiago Desert View Estates	Project:	09-8029-007	511	464	0	0	975

AM Period	NB		SB		EB		WB		PM Period	NB		SB		EB		WB	
00:00	0		1						12:00	6		15					
00:15	1		1						12:15	4		9					
00:30	2		2						12:30	12		7					
00:45	0	3	2	6				9	12:45	9	31	6	37				68
01:00	0		3						13:00	5		5					
01:15	1		0						13:15	4		6					
01:30	2		4						13:30	10		8					
01:45	0	3	0	7				10	13:45	10	29	5	24				53
02:00	0		1						14:00	14		8					
02:15	0		0						14:15	4		11					
02:30	0		0						14:30	6		6					
02:45	0		0	1				1	14:45	14	38	12	37				75
03:00	2		0						15:00	2		10					
03:15	0		2						15:15	10		7					
03:30	0		0						15:30	3		6					
03:45	1	3	1	3				6	15:45	12	27	7	30				57
04:00	0		0						16:00	6		17					
04:15	1		0						16:15	10		16					
04:30	1		2						16:30	6		13					
04:45	1	3	1	3				6	16:45	5	27	9	55				82
05:00	2		0						17:00	7		9					
05:15	5		2						17:15	9		19					
05:30	5		1						17:30	10		11					
05:45	12	24	2	5				29	17:45	8	34	7	46				80
06:00	10		2						18:00	17		15					
06:15	1		3						18:15	4		5					
06:30	1		1						18:30	5		9					
06:45	6	18	1	7				25	18:45	8	34	7	36				70
07:00	4		6						19:00	8		12					
07:15	6		3						19:15	5		8					
07:30	5		1						19:30	3		6					
07:45	7	22	3	13				35	19:45	4	20	7	33				53
08:00	9		6						20:00	3		7					
08:15	7		2						20:15	1		4					
08:30	11		0						20:30	8		3					
08:45	9	36	0	8				44	20:45	5	17	10	24				41
09:00	26		1						21:00	6		1					
09:15	14		4						21:15	0		2					
09:30	8		8						21:30	1		5					
09:45	5	53	4	17				70	21:45	6	13	1	9				22
10:00	12		8						22:00	4		4					
10:15	4		7						22:15	3		0					
10:30	11		7						22:30	3		2					
10:45	10	37	3	25				62	22:45	0	10	2	8				18
11:00	6		7						23:00	1		2					
11:15	3		2						23:15	1		3					
11:30	11		7						23:30	0		0					
11:45	7	27	9	25				52	23:45	0	2	0	5				7
Total Vol.		229		120				**349**			282		344				**626**

	NB	SB	EB	WB	Total
Daily Totals :	511	464	0	0	975

	AM			PM		
Split %	65.6%	34.4%	**35.8%**	45.0%	55.0%	**64.2%**
AM				**PM**		
Peak Hr.	08:30	11:30	**08:45**	17:15	16:00	**17:15**
Volume	60	40	**70**	44	55	**96**
P.H.F.	0.577	0.667	**0.648**	0.647	0.809	**0.750**
7 - 9 Vol.	58	21	**79**	**4 - 6 Vol.**	61	101	**162**
Peak Hr.	08:00	07:00	**07:45**	**Peak Hr.**	17:00	16:00	**16:00**
Volume	36	13	**45**	**Volume**	34	55	**82**
P.H.F.	0.818	0.542	**0.750**	**P.H.F.**	0.850	0.809	**0.788**

Appendix H.2

Existing AM

HCM Unsignalized Intersection Capacity Analysis
5: WB SR-58 & Harper Lake Road

7/2/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	406	8	0	6	0	0	5	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	441	9	0	7	0	0	5	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	450			0			227	450	0	445	441	221
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	450			0			227	450	0	445	441	221
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	99	100	100	99	100
cM capacity (veh/h)	1107			1622			701	503	1084	492	509	783

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	0	221	221	9	7	9
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	9	0	3
cSH	1700	1700	1700	1700	503	586
Volume to Capacity	0.00	0.13	0.13	0.01	0.01	0.01
Queue Length 95th (ft)	0	0	0	0	1	1
Control Delay (s)	0.0	0.0	0.0	0.0	12.3	11.2
Lane LOS					B	B
Approach Delay (s)	0.0				12.3	11.2
Approach LOS					B	B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	21.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	464	1	0	0	0	0	0	8	4	7	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	504	1	0	0	0	0	0	9	4	8	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			505			521	517	252	274	518	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			505			521	517	252	274	518	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	99	98	100
cM capacity (veh/h)	1622			1055			431	459	747	647	458	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	NB 1	SB 1
Volume Total	7	252	252	1	9	12
Volume Left	7	0	0	0	0	4
Volume Right	0	0	0	1	9	0
cSH	1622	1700	1700	1700	747	513
Volume to Capacity	0.00	0.15	0.15	0.00	0.01	0.02
Queue Length 95th (ft)	0	0	0	0	1	2
Control Delay (s)	7.2	0.0	0.0	0.0	9.9	12.2
Lane LOS	A				A	B
Approach Delay (s)	0.1				9.9	12.2
Approach LOS					A	B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	23.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	494	2	0	399	4	2	2	2	7	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	16	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95			1.00	1.00		1.00			1.00	
Frt	1.00	1.00			1.00	0.85		0.95			0.94	
Flt Protected	0.95	1.00			1.00	1.00		0.98			0.98	
Satd. Flow (prot)	2006	3537			1863	1583		1750			1710	
Flt Permitted	0.53	1.00			1.00	1.00		1.00			1.00	
Satd. Flow (perm)	1111	3537			1863	1583		1779			1753	
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)	3	537	2	0	434	4	2	2	2	8	1	7
RTOR Reduction (vph)	0	1	0	0	0	2	0	2	0	0	7	0
Lane Group Flow (vph)	3	538	0	0	434	2	0	4	0	0	9	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	7.6	7.6			7.6	7.6		0.6			0.6	
Effective Green, g (s)	7.6	7.6			7.6	7.6		0.6			0.6	
Actuated g/C Ratio	0.47	0.47			0.47	0.47		0.04			0.04	
Clearance Time (s)	4.0	4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	521	1659			874	743		66			65	
v/s Ratio Prot		0.15			c0.23							
v/s Ratio Perm	0.00					0.00		0.00			c0.01	
v/c Ratio	0.01	0.32			0.50	0.00		0.06			0.14	
Uniform Delay, d1	2.3	2.7			3.0	2.3		7.5			7.6	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1			0.4	0.0		0.4			1.0	
Delay (s)	2.3	2.8			3.4	2.3		7.9			8.6	
Level of Service	A	A			A	A		A			A	
Approach Delay (s)		2.8			3.4			7.9			8.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	3.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	16.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Appendix H.2

Existing PM

HCM Unsignalized Intersection Capacity Analysis
5: WB SR-58 & Harper Lake Road

7/1/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	711	5	0	2	0	0	15	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	773	5	0	2	0	0	16	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	778			0			401	778	0	774	773	386
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	778			0			401	778	0	774	773	386
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	99	100	100	95	99
cM capacity (veh/h)	834			1622			508	326	1084	287	328	612

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	0	386	386	5	2	23
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	5	0	7
cSH	1700	1700	1700	1700	326	378
Volume to Capacity	0.00	0.23	0.23	0.00	0.01	0.06
Queue Length 95th (ft)	0	0	0	0	1	5
Control Delay (s)	0.0	0.0	0.0	0.0	16.1	15.1
Lane LOS					C	C
Approach Delay (s)	0.0				16.1	15.1
Approach LOS					C	C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	29.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	828	2	0	0	0	0	0	2	15	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	900	2	0	0	0	0	0	2	16	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			902			904	904	450	457	907	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			902			904	904	450	457	907	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	97	100	100
cM capacity (veh/h)	1622			749			232	275	556	485	274	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	NB 1	SB 1
Volume Total	2	450	450	2	2	16
Volume Left	2	0	0	0	0	16
Volume Right	0	0	0	2	2	0
cSH	1622	1700	1700	1700	556	485
Volume to Capacity	0.00	0.26	0.26	0.00	0.00	0.03
Queue Length 95th (ft)	0	0	0	0	0	3
Control Delay (s)	7.2	0.0	0.0	0.0	11.5	12.7
Lane LOS	A				B	B
Approach Delay (s)	0.0				11.5	12.7
Approach LOS					B	B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	827	2	0	704	7	2	2	2	6	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	16	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95			1.00	1.00		1.00			1.00	
Frt	1.00	1.00			1.00	0.85		0.95			0.95	
Flt Protected	0.95	1.00			1.00	1.00		0.98			0.97	
Satd. Flow (prot)	2006	3538			1863	1583		1750			1720	
Flt Permitted	0.32	1.00			1.00	1.00		1.00			1.00	
Satd. Flow (perm)	666	3538			1863	1583		1779			1766	
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)	7	899	2	0	765	8	2	2	2	7	1	5
RTOR Reduction (vph)	0	0	0	0	0	3	0	2	0	0	5	0
Lane Group Flow (vph)	7	901	0	0	765	5	0	4	0	0	8	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	14.8	14.8			14.8	14.8		0.6			0.6	
Effective Green, g (s)	14.8	14.8			14.8	14.8		0.6			0.6	
Actuated g/C Ratio	0.63	0.63			0.63	0.63		0.03			0.03	
Clearance Time (s)	4.0	4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	421	2238			1178	1001		46			45	
v/s Ratio Prot		0.25			c0.41							
v/s Ratio Perm	0.01					0.00		0.00			c0.00	
v/c Ratio	0.02	0.40			0.65	0.01		0.09			0.18	
Uniform Delay, d1	1.6	2.1			2.7	1.6		11.1			11.2	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1			1.2	0.0		0.8			1.9	
Delay (s)	1.6	2.2			3.9	1.6		12.0			13.1	
Level of Service	A	A			A	A		B			B	
Approach Delay (s)		2.2			3.9			12.0			13.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	3.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	23.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Appendix H.3

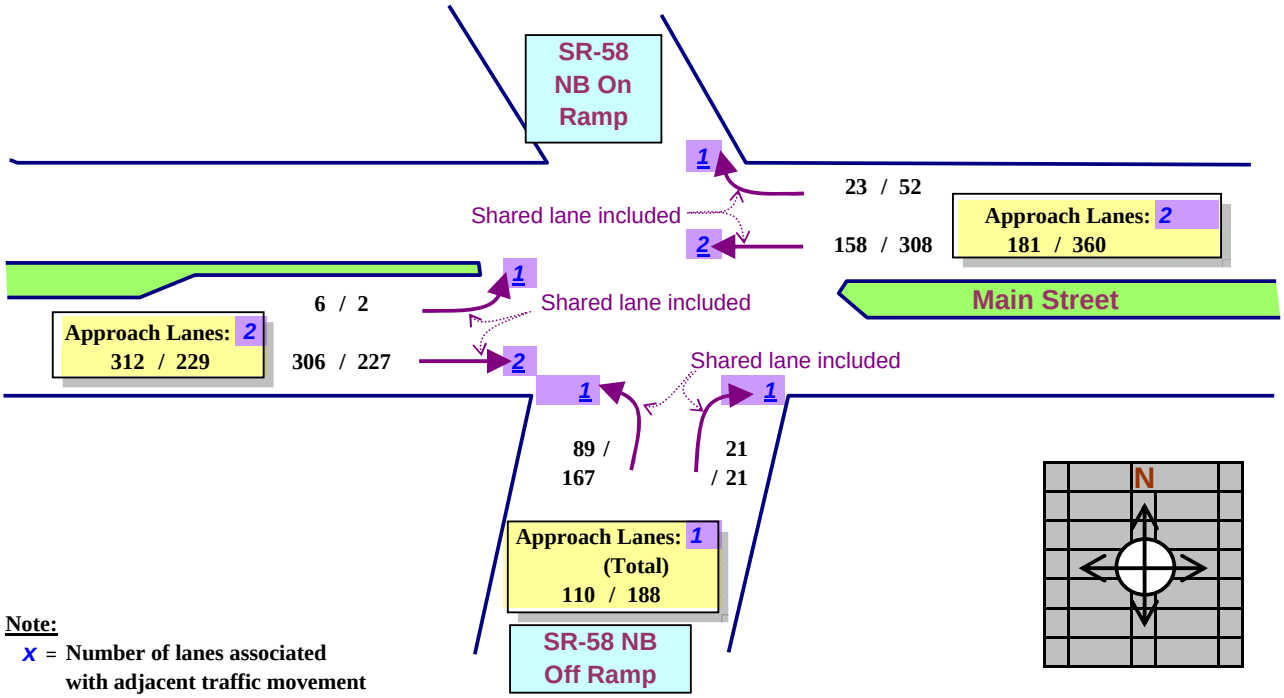
Intersection Lane Vehicle Calculation: Existing Eastern

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
SPREAD DIAMOND INTERCHANGE

(BASED ON CALTRANS HIGHWAY DESIGN MANUAL FIGURE 406A)

PROJECT: MOJAVE SOLAR PLANT PROJECT

LOCATION: SR-58 / MAIN STREET (HISTORIC ROUTE 66) **Scenario:** Existing (AM/PM Peak)



Note:
x = **Number of lanes associated with adjacent traffic movement**

(Indicate "**N**" on North Arrow)

ILV per Lane:

Shared with Thru => **23 / 52**

158 / 308 ← 181 / 360

306 / 227 → **158 / 227** (Remainder in Phase III)

110 / 188 ← 89 / 21; 167 / 21 → **110 / 188**

6 / 2

6 / 2; 158 / 308 → **148 / 0**

PHASE 1:	158 / 308	158 / 227	->	158	/	308
PHASE 2:	110 / 188	110 / 188	->	110	/	188
PHASE 3:	6 / 2	148 / 0	->	148	/	2

OPERATING LEVEL:

ILV/HR. = **416** in AM ==> ILV: <1,200M

and **498** in PM ==> ILV <1,200

TOTAL = 416 / 498 ILV/HR. in the AM / PM peak hours

THEREFORE, INTERSECTION OPERATES : UNDER CAPACITY (in AM)
& UNDER CAPACITY (in PM)

Appendix H.3

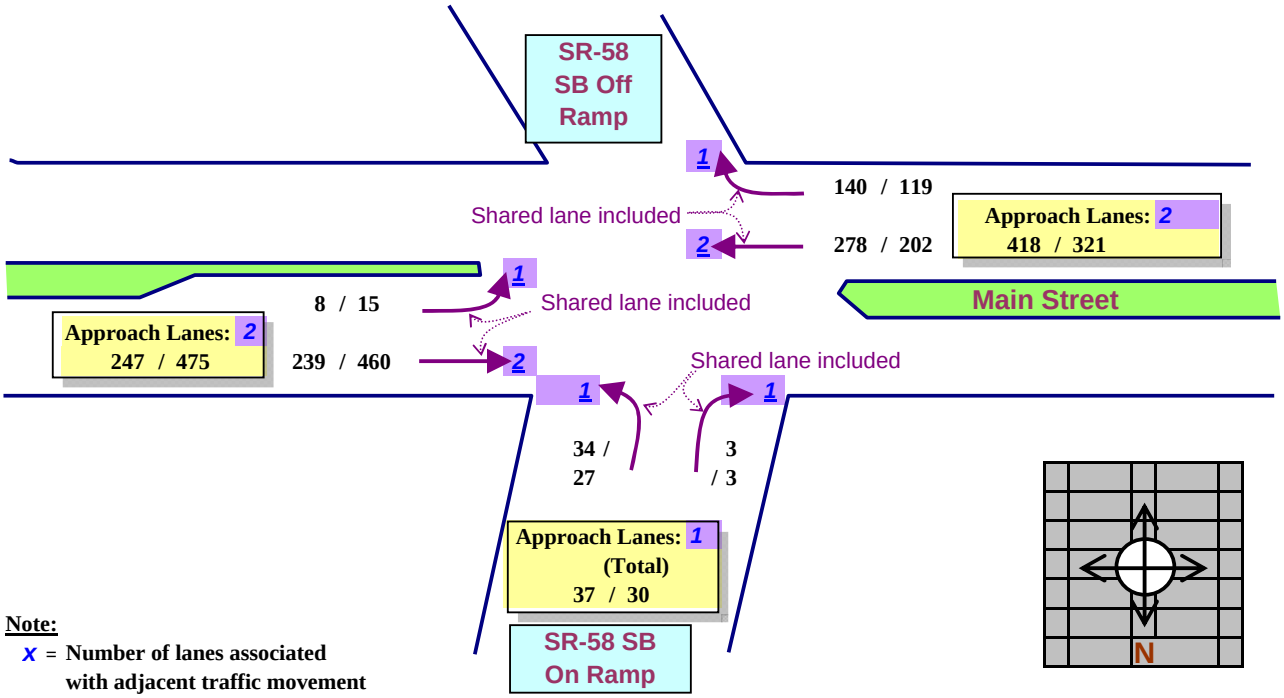
Intersection Lane Vehicle Calculation: Existing Western

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
SPREAD DIAMOND INTERCHANGE

(BASED ON CALTRANS HIGHWAY DESIGN MANUAL FIGURE 406A)

PROJECT: MOJAVE SOLAR PLANT PROJECT

LOCATION: SR-58 / MAIN STREET (HISTORIC ROUTE 66) **Scenario:** Existing (AM/PM Peak)



Note:
x = **Number of lanes associated with adjacent traffic movement**

(Indicate "**N**" on North Arrow)

ILV per Lane:

Shared with Thru => **140 / 119**

278 / 202 ← 418 / 321

239 / 460 → **239 / 202** (Remainder in Phase III)

37 / 30 ← 34 / 3, 27 / 3 → **37 / 30**

8 / 15 ← 8 / 15, 278 / 202 → **0 / 258**

PHASE 1:	278 / 239	202 / 202	->	278	/	202
PHASE 2:	37 / 37	30 / 30	->	37	/	30
PHASE 3:	8 / 0	15 / 258	->	8	/	258

OPERATING LEVEL:

ILV/HR. = **323** in AM ==> ILV: <1,200M

and **490** in PM ==> ILV <1,200

TOTAL = 323 / 490 ILV/HR. in the AM / PM peak hours

THEREFORE, INTERSECTION OPERATES : UNDER CAPACITY (in AM)
& UNDER CAPACITY (in PM)

Appendix H.4

California Vehicle Codes: Weight and Limitation

Maximum Weight on Single Axle or Wheels

35550. (a) The gross weight imposed upon the highway by the wheels on any one axle of a vehicle shall not exceed 20,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle, and resting upon the roadway, shall not exceed 10,500 pounds.

(b) The gross weight limit provided for weight bearing upon any one wheel, or wheels, supporting one end of an axle shall not apply to vehicles the loads of which consist of livestock.

(c) The maximum wheel load is the lesser of the following:

(1) The load limit established by the tire manufacturer, as molded on at least one sidewall of the tire.

(2) A load of 620 pounds per lateral inch of tire width, as determined by the manufacturer's rated tire width as molded on at least one sidewall of the tire for all axles except the steering axle, in which case paragraph (1) applies.

Amended Sec. 82, Ch. 1154, Stats. 1996. Effective September 30, 1996.

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Alternate Method of Computing Allowable Gross Weight

35551.5. (a) The provisions of this section shall apply only to combinations of vehicles which contain a trailer or semitrailer. Each vehicle in such combination of vehicles, and every such combination of vehicles, shall comply with either Section 35551 or with subdivisions (b), (c), and (d) of this section.

(b) The gross weight imposed upon the highway by the wheels on any one axle of a vehicle shall not exceed 18,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle and resting upon the roadway, shall not exceed 9,500 pounds, except that the gross weight imposed upon the highway by the wheels on any front steering axle of a motor vehicle shall not exceed 12,500 pounds. The gross weight limit provided for weight bearing upon any wheel, or wheels, supporting one end of an axle shall not apply to vehicles the loads of which consist of livestock. The following vehicles are exempt from the front axle weight limits specified in this subdivision:

(1) Trucks transporting vehicles.

(2) Trucks transporting livestock.

(3) Dump trucks.

(4) Cranes

(5) Buses

(6) Transit mix concrete or cement trucks, and trucks that mix concrete or cement at, or adjacent to, a jobsite.

(7) Motor vehicles that are not commercial vehicles.

(8) Vehicle operated by any public utility furnishing electricity, gas, water, or telephone service.

(9) Trucks or truck tractors with a front axle at least four feet to the rear of the foremost part of the truck or truck tractor, not including the front bumper.

(10) Trucks transporting garbage, rubbish, or refuse.

(11) Trucks equipped with a fifth wheel when towing a semitrailer.

(12) Tank trucks which have a cargo capacity of at least 1,500 gallons.

(13) Trucks transporting bulk grains or bulk livestock feed.

(c) The total gross weight with load imposed on the the highway by any group of two or more consecutive axles of a vehicle in such combination of vehicles or of such combination of vehicles where the distance between the first and last axles of the two or more consecutive axles is 18 feet or less shall not exceed that given for the respective distance in the following table:

[Table showing maximum allowed load in pounds for groups of axles with varying distance between first and last axles of group where the distance is 18 feet or less.] *

Distance in feet between first and last axles of group	Allowed load in pounds of group of axles
4	32,000
5	32,000
6	32,200
7	32,900
8	33,600
9	34,300
10	35,000
11	35,700
12	36,400
13	37,100
14	43,200
15	44,000
16	44,800
17	45,600
18	46,400

(d) The total gross weight with load imposed on the highway by any vehicle in such combination of vehicles or of such combination of vehicles where the distance between the first and last axles is more than 18 feet shall not exceed that given for the respective distances in the following table:

[Table showing maximum allowed load in pounds for groups of axles with varying distance between first and last axles of group where the distance is 19 feet or more.] *

Distance in feet	Allowed load in pounds
19	47,200
20	48,000
21	48,800
22	49,600
23	50,400
24	51,200
25	55,250
26	56,100
27	56,950
28	57,800
29	58,650
30	59,500
31	60,350
32	61,200
33	62,050
34	62,900
35	63,750
36	64,600
37	65,450
38	66,300
39	68,000
40	70,000
41	72,000
42	73,280
43	73,280
44	73,280
45	73,280
46	73,280
47	73,280
48	73,280
49	73,280
50	73,280
51	73,280
52	73,600
53	74,400
54	75,200
55	76,000
56 or over	76,800

(e) The distance between axles shall be measured to the nearest whole foot. When a fraction is exactly six inches, the next larger whole foot shall be used.

(f) The gross weight limits expressed by this section shall include all enforcement tolerances.

(g) Nothing in this section shall affect the right to prohibit the use of any highway or any bridge or other structure thereon in the manner and to the extent specified in Article 4 (commencing with Section 35700) and Article 5 (commencing with Section 35750) of Chapter 5 of Division 15.

(h) The Legislature, in enacting this section, does not intend to increase, and this section shall not be construed to allow, statutory weights any greater than existed prior to January 1, 1976.

*The bracketed information has been added editorially to meet accessibility requirements and is not part of statute.

Added Ch. 784, Stats. 1980. Effective January 1, 1981.

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Computation of Allowable Gross Weight

35551. (a) Except as otherwise provided in this section or Section 35551.5, the total gross weight in pounds imposed on the highway by any group of two or more consecutive axles shall not exceed that given for the respective distance in the following:

Distance in feet between the extremes of any group of 2 or more consecutive axles

[This table shows the maximum total gross weight in pounds imposed on the highway by any group of two or more consecutive axles for the distance in feet between the extremes of any group of 2 or more consecutive axles.]*

[Distance in feet] *	2 axles	3 axles	4 axles	5 axles	6 axles
4	34,000	34,000	34,000	34,000	34,000
5	34,000	34,000	34,000	34,000	34,000
6	34,000	34,000	34,000	34,000	34,000
7	34,000	34,000	34,000	34,000	34,000
8	34,000	34,000	34,000	34,000	34,000
9	39,000	42,500	42,500	42,500	42,500
10	40,000	43,500	43,500	43,500	43,500
11	40,000	44,000	44,000	44,000	44,000
12	40,000	45,000	50,000	50,000	50,000
13	40,000	45,500	50,500	50,500	50,500
14	40,000	46,500	51,500	51,500	51,500
15	40,000	47,000	52,000	52,000	52,000
16	40,000	48,000	52,500	52,500	52,500
17	40,000	48,500	53,500	53,500	53,500
18	40,000	49,500	54,000	54,000	54,000
19	40,000	50,000	54,500	54,500	54,500
20	40,000	51,000	55,500	55,500	55,500
21	40,000	51,500	56,000	56,000	56,000
22	40,000	52,500	56,500	56,500	56,500
23	40,000	53,000	57,500	57,500	57,500
24	40,000	54,000	58,000	58,000	58,000
25	40,000	54,500	58,500	58,500	58,500
26	40,000	55,500	59,500	59,500	59,500
27	40,000	56,000	60,000	60,000	60,000
28	40,000	57,000	60,500	60,500	60,500
29	40,000	57,500	61,500	61,500	61,500
30	40,000	58,500	62,000	62,000	62,000
31	40,000	59,000	62,500	62,500	62,500
32	40,000	60,000	63,500	63,500	63,500
33	40,000	60,000	64,000	64,000	64,000
34	40,000	60,000	64,500	64,500	64,500
35	40,000	60,000	65,500	65,500	65,500
36	40,000	60,000	66,000	66,000	66,000
37	40,000	60,000	66,500	66,500	66,500
38	40,000	60,000	67,500	67,500	67,500
39	40,000	60,000	68,000	68,000	68,000
40	40,000	60,000	68,500	70,000	70,000
41	40,000	60,000	69,500	72,000	72,000
42	40,000	60,000	70,000	73,280	73,280
43	40,000	60,000	70,500	73,280	73,280
44	40,000	60,000	71,500	73,280	73,280
45	40,000	60,000	72,000	76,000	80,000
46	40,000	60,000	72,500	76,500	80,000
47	40,000	60,000	73,500	77,500	80,000
48	40,000	60,000	74,000	78,000	80,000
49	40,000	60,000	74,500	78,500	80,000
50	40,000	60,000	75,500	79,000	80,000
51	40,000	60,000	76,000	80,000	80,000
52	40,000	60,000	76,500	80,000	80,000
53	40,000	60,000	77,500	80,000	80,000
54	40,000	60,000	78,000	80,000	80,000
55	40,000	60,000	78,500	80,000	80,000
56	40,000	60,000	79,500	80,000	80,000
57	40,000	60,000	80,000	80,000	80,000
58	40,000	60,000	80,000	80,000	80,000
59	40,000	60,000	80,000	80,000	80,000
60	40,000	60,000	80,000	80,000	80,000

(b) In addition to the weights specified in subdivision (a), two consecutive sets of tandem axles may carry a gross weight of 34,000 pounds each if the overall distance between the first and last axles of the consecutive sets of tandem axles is 36 feet or more. The gross weight of each set of tandem axles shall not exceed 34,000 pounds and the gross weight of the two consecutive sets of tandem axles shall not exceed 68,000 pounds.

(c) The distance between axles shall be measured to the nearest whole foot. When a fraction is exactly six inches, the next larger whole foot shall be used.

(d) Nothing contained in this section shall affect the right to prohibit the use of any highway or any bridge or other structure thereon in the manner and to the extent specified in Article 4 (commencing with Section 35700) and Article 5 (commencing with Section 35750) of this chapter.

(e) The gross weight limits expressed by this section and Section 35550 shall include all enforcement tolerances.

*The bracketed information has been added editorially to meet accessibility requirements and is not part of statute.

Amended Ch. 827, Stats. 1982. Effective January 1, 1983.

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Vehicles Transporting Logs

35552. (a) This section applies only to trucks and vehicle combinations while transporting loads composed solely of logs.

(b) One set of tandem axles of such a truck or vehicle combination shall be deemed to be in compliance with Section 35551 if the total gross weight of 34,000 pounds on such a set that is permitted by Section 35551 is not exceeded by more than 1,500 pounds. In addition, such a truck and vehicle combination that has two consecutive sets of tandem axles shall be deemed to be in compliance with Section 35551 if such consecutive sets of tandem axles do not carry a combined total gross weight of more than 69,000 pounds, if the total gross weight on any one such set does not exceed 35,500 pounds, and if the overall distance between the first and last axle of such consecutive sets of tandem axles is 34 feet or more. All such truck and vehicle combinations shall be subject to all other provisions of Section 35551 or any other provision made applicable to the total gross weight of such a truck or vehicle combination in lieu of Section 35551.

(c) The gross weight limits expressed in this section shall include all enforcement tolerances.

(d) If any total gross weight permitted by this section is exceeded, the allowed weight in pounds set forth in subdivision (a) of Section 35551 shall be the maximum permitted weight for purposes of determining the amount of fine for such violation as specified in the table in Section 42030; except that, whenever the violation is for exceeding the total gross weight for two consecutive sets of tandem axles, and if the overall distance between the first and last axle of such sets is 34 feet or more, the allowed weight on the two consecutive sets shall be 68,000 pounds.

(e) This section shall have no application to highways which are a part of the National System of Interstate and Defense Highways (as referred to in subdivision (a) of Section 108 of the Federal-aid Highway Act of 1956).

This section may be cited as the Christensen-Belotti Act.

Amended Ch. 249, Stats. 1976. Effective June 19, 1976 by terms of an urgency clause.

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Exemptions

35553. The provisions of this article shall not apply to any vehicle in the immediate vicinity of an unloading or loading area while actually preparing for or in the process of unloading or loading, provided any overload is incidental to and necessitated by such action and provided that such action does not occur on a bridge or highway structure.

This section shall have no application to highways which are a part of the national system of interstate and defense highways (as referred to in subdivision (a) of Section 108 of the Federal-aid Highway Act of 1956).

Amended Ch. 733, Stats. 1972. Effective March 7, 1973.

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Gross Weight Limit for Bus Axle

35554. Notwithstanding Section 35550, the gross weight on any one axle of a bus shall not exceed 20,500 pounds.

Amended Ch. 827, Stats. 1982. Effective September 10, 1982.

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Gross Weight Limit for Cotton Module Mover

35555. (a) During the period commencing September 15 of each year and ending March 15 of the following year, the weight limitations of Section 35551 do not apply to any cotton module mover or any truck tractor pulling a semitrailer that is a cotton module mover, when operated as follows:

(1) Laterally across a state highway at grade of the state highway.

(2) Upon any county highway within the Counties of Butte, Colusa, Fresno, Glenn, Imperial, Kern, Kings, Madera, Merced, Riverside, Sacramento, San Benito, San Bernardino, San Joaquin, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba except as prohibited or limited on county highways or portions thereof by resolution of the county board of supervisors having jurisdiction.

(b) A cotton module mover may be operated upon a state highway within the counties and during the period set forth in subdivision (a) if all of the following are met:

(1) The operator is in possession of a driver's license of the class required for operation of the mover.

(2) The mover is operated in compliance with Sections 24002 and 24012; Article 1 (commencing with Section 24250) of, Article 3 (commencing with Section 24600) of, Article 4 (commencing with Section 24800) of, Article 5 (commencing with Section 24950) of, Article 6 (commencing with 25100) of, Article 9 (commencing with 25350) of, Article 11 (commencing with 25450) of, Chapter 2 of Division 12; and Article 2 (commencing with 26450) and Article 3 (commencing with 26502) of Chapter 3 of Division 12.

(3) The mover does not exceed the maximum allowable gross axle weight for tandem axles set forth in Section 35551 by more than 6,000 pounds.

(4) The operator of a mover that exceeds the maximum allowable gross axle weight for tandem axle vehicles as set forth in Section 35551 shall possess a commercial driver's license as defined in subdivision (a) of Section 15210.

(c) This section does not apply to those highways designated by the United States Department of Transportation as national network routes.

Amended Sec. 1, Ch. 323, Stats. 1996. Effective July 29, 1996.
Amended Sec. 1, Ch. 497, Stats. 2001. Effective October 4, 2001.

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Appendix H.5

Mojave Solar Commute Employment Behavior Estimates for Construction Employees

Mojave Solar Employment Commute Behavior Estimates for Construction Employees

Row Labels	Sum of Total labor force	Proportion	Construction Labor Force
Mojave	552,109		
120 minutes			
east of 395	61,968	12%	96
west of 395	435,626	88%	678
120 minutes Total	497,594	Specialized Labor	**774**
30 minutes			
east of 395	6,876	83%	322
west of 395	1,410	17%	66
30 minutes Total	8,286	Non-Specialized Labor	**388**
Totals	**505,880**		1,162
Area	**Labor Force**	**Proportion**	**Weigted Commute Behavior**
east of 395	**68,844**	14%	**418**
west of 395	**437,036**	86%	**744**

Non Specialized Labor is defined as assembly worker and carpenters, masons, and finishers.

Block groups are those with their centriod within the specified drive time intersects 120 are block groups that interest the 120 minute drive time buffer, but their centriod IS NOT included.

Sources: U.S. Census Block Group, SF3, 2000; GIS Analysis to determine block groups west and east of Highway 395, 2008; Mojave Solar construction employment estiamtes, 2008, EDAW AECOM, 2009.

Appendix H.6

Near Term Base (AM)

HCM Unsignalized Intersection Capacity Analysis
5: WB SR-58 & Harper Lake Road

7/2/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	6	458	8	0	6	0	0	5	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	7	498	9	0	7	0	0	5	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	507			0			268	520	0	514	511	249
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	507			0			268	520	0	514	511	249
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	99	100	100	99	100
cM capacity (veh/h)	1054			1622			652	457	1084	437	463	751

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	7	249	249	9	7	9
Volume Left	7	0	0	0	0	0
Volume Right	0	0	0	9	0	3
cSH	1622	1700	1700	1700	457	540
Volume to Capacity	0.00	0.15	0.15	0.01	0.01	0.02
Queue Length 95th (ft)	0	0	0	0	1	1
Control Delay (s)	7.2	0.0	0.0	0.0	13.0	11.8
Lane LOS	A				B	B
Approach Delay (s)	0.1				13.0	11.8
Approach LOS					B	B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	500	1	0	0	0	0	0	17	4	7	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	543	1	0	0	0	0	0	18	4	8	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			545			560	557	272	303	558	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			545			560	557	272	303	558	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	99	98	100
cM capacity (veh/h)	1622			1021			404	436	726	608	435	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	NB 1	SB 1
Volume Total	7	272	272	1	18	12
Volume Left	7	0	0	0	0	4
Volume Right	0	0	0	1	18	0
cSH	1622	1700	1700	1700	726	485
Volume to Capacity	0.00	0.16	0.16	0.00	0.03	0.02
Queue Length 95th (ft)	0	0	0	0	2	2
Control Delay (s)	7.2	0.0	0.0	0.0	10.1	12.6
Lane LOS	A				B	B
Approach Delay (s)	0.1				10.1	12.6
Approach LOS					B	B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	501	29	39	405	4	54	2	32	7	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	16	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.95			0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97			0.98	
Satd. Flow (prot)	2006	3510		2006	1863	1583		1718			1710	
Flt Permitted	0.51	1.00		0.44	1.00	1.00		1.00			1.00	
Satd. Flow (perm)	1071	3510		928	1863	1583		1771			1753	
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)	3	545	32	42	440	4	59	2	35	8	1	7
RTOR Reduction (vph)	0	9	0	0	0	2	0	31	0	0	6	0
Lane Group Flow (vph)	3	568	0	42	440	2	0	65	0	0	10	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	9.1	9.1		9.1	9.1	9.1		2.1			2.1	
Effective Green, g (s)	9.1	9.1		9.1	9.1	9.1		2.1			2.1	
Actuated g/C Ratio	0.47	0.47		0.47	0.47	0.47		0.11			0.11	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	508	1664		440	883	750		194			192	
v/s Ratio Prot		0.16			c0.24							
v/s Ratio Perm	0.00			0.05		0.00		c0.04			0.01	
v/c Ratio	0.01	0.34		0.10	0.50	0.00		0.33			0.05	
Uniform Delay, d1	2.7	3.2		2.8	3.5	2.7		7.9			7.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1		0.1	0.4	0.0		1.0			0.1	
Delay (s)	2.7	3.3		2.9	3.9	2.7		8.9			7.8	
Level of Service	A	A		A	A	A		A			A	
Approach Delay (s)		3.3			3.8			8.9			7.8	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	19.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Appendix H.6

Near Term Base (PM)

HCM Unsignalized Intersection Capacity Analysis
5: WB SR-58 & Harper Lake Road

7/2/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	6	753	5	0	2	0	0	6	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	7	818	5	0	2	0	0	7	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	824			0			432	837	0	833	832	409
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	824			0			432	837	0	833	832	409
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	99	100	100	98	99
cM capacity (veh/h)	802			1622			492	300	1084	259	302	591

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	7	409	409	5	2	13
Volume Left	7	0	0	0	0	0
Volume Right	0	0	0	5	0	7
cSH	1622	1700	1700	1700	300	400
Volume to Capacity	0.00	0.24	0.24	0.00	0.01	0.03
Queue Length 95th (ft)	0	0	0	0	1	3
Control Delay (s)	7.2	0.0	0.0	0.0	17.1	14.3
Lane LOS	A				C	B
Approach Delay (s)	0.1				17.1	14.3
Approach LOS					C	B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	887	2	0	0	0	0	0	11	6	6	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	964	2	0	0	0	0	0	12	7	7	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			966			972	968	482	498	971	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			966			972	968	482	498	971	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	98	99	97	100
cM capacity (veh/h)	1622			708			203	252	530	444	251	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	NB 1	SB 1
Volume Total	2	482	482	2	12	13
Volume Left	2	0	0	0	0	7
Volume Right	0	0	0	2	12	0
cSH	1622	1700	1700	1700	530	321
Volume to Capacity	0.00	0.28	0.28	0.00	0.02	0.04
Queue Length 95th (ft)	0	0	0	0	2	3
Control Delay (s)	7.2	0.0	0.0	0.0	11.9	16.7
Lane LOS	A				B	C
Approach Delay (s)	0.0				11.9	16.7
Approach LOS					B	C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	836	61	36	710	7	44	2	29	6	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	16	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.95			0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97			0.97	
Satd. Flow (prot)	2006	3503		2006	1863	1583		1714			1720	
Flt Permitted	0.29	1.00		0.28	1.00	1.00		0.83			0.81	
Satd. Flow (perm)	608	3503		600	1863	1583		1472			1430	
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)	7	909	66	39	772	8	48	2	32	7	1	5
RTOR Reduction (vph)	0	7	0	0	0	3	0	28	0	0	4	0
Lane Group Flow (vph)	7	968	0	39	772	5	0	54	0	0	9	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	21.3	21.3		21.3	21.3	21.3		3.8			3.8	
Effective Green, g (s)	21.3	21.3		21.3	21.3	21.3		3.8			3.8	
Actuated g/C Ratio	0.64	0.64		0.64	0.64	0.64		0.11			0.11	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	391	2254		386	1199	1019		169			164	
v/s Ratio Prot		0.28			c0.41							
v/s Ratio Perm	0.01			0.07		0.00		c0.04			0.01	
v/c Ratio	0.02	0.43		0.10	0.64	0.01		0.32			0.05	
Uniform Delay, d1	2.1	2.9		2.2	3.6	2.1		13.5			13.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1		0.1	1.2	0.0		1.1			0.1	
Delay (s)	2.1	3.0		2.4	4.8	2.1		14.5			13.2	
Level of Service	A	A		A	A	A		B			B	
Approach Delay (s)		3.0			4.6			14.5			13.2	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	4.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	33.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Appendix H.7

Intersection Lane Vehicle Calculation

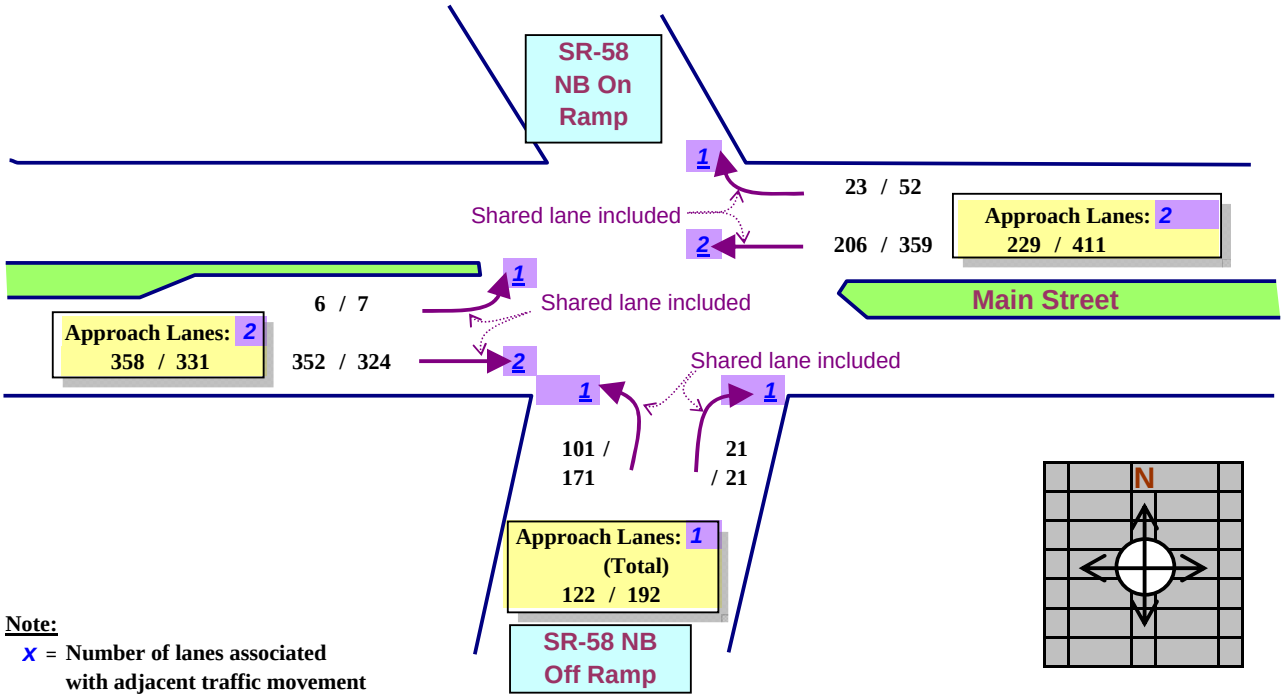
Near Term Base: Eastern

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
SPREAD DIAMOND INTERCHANGE

(BASED ON CALTRANS HIGHWAY DESIGN MANUAL FIGURE 406A)

PROJECT: MOJAVE SOLAR PLANT PROJECT

LOCATION: SR-58 / MAIN STREET (HISTORIC ROUTE 66) **Scenario:** Existing (AM/PM Peak)



Note:
x = **Number of lanes associated with adjacent traffic movement**

(Indicate "**N**" on North Arrow)

ILV per Lane:

Shared with Thru => **23 / 52**

122 / 192 **122 / 192**

6 / 7

206 / 359 229 / 411 101 / 21 6 / 7

171 / 21 206 / 359 **146 / 0**

352 / 324 **206 / 324** (Remainder in Phase III)

PHASE 1:	206 / 206	359 / 324	->	206	/	359
PHASE 2:	122 / 122	192 / 192	->	122	/	192
PHASE 3:	6 / 146	7 / 0	->	146	/	7

OPERATING LEVEL:

ILV/HR. = **474** in AM ==> ILV: <1,200M

and **558** in PM ==> ILV <1,200

TOTAL = 474 / 558 ILV/HR. in the AM / PM peak hours

THEREFORE, INTERSECTION OPERATES : UNDER CAPACITY (in AM)

& UNDER CAPACITY (in PM)

Appendix H.7

Intersection Lane Vehicle Calculation

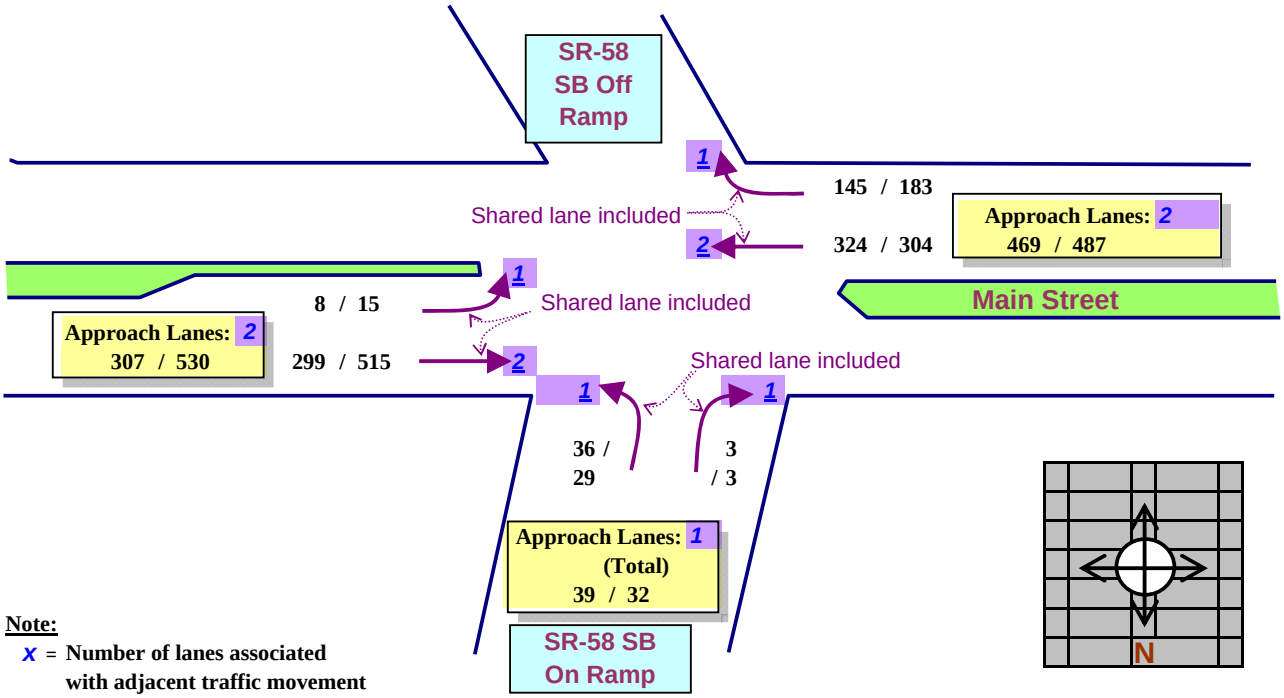
Near Term Base: Western

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
SPREAD DIAMOND INTERCHANGE

(BASED ON CALTRANS HIGHWAY DESIGN MANUAL FIGURE 406A)

PROJECT: MOJAVE SOLAR PLANT PROJECT

LOCATION: SR-58 / MAIN STREET (HISTORIC ROUTE 66) **Scenario:** Existing (AM/PM Peak)



Note:
x = **Number of lanes associated with adjacent traffic movement**

(Indicate "**N**" on North Arrow)

ILV per Lane:

Shared with Thru => **145 / 183**

39 / 32

39 / 32

8 / 15

324 / 304 ← 469 / 487

36 / 3
29 / 3

8 / 15
324 / 304 → **0 / 211**

299 / 515 → **299 / 304** (Remainder in Phase III)

PHASE 1:	324 / 299	304 / 304	->	324	/	304
PHASE 2:	39 / 39	32 / 32	->	39	/	32
PHASE 3:	8 / 0	15 / 211	->	8	/	211

OPERATING LEVEL:

ILV/HR. = **371** in AM ==> ILV: <1,200M

and **547** in PM ==> ILV <1,200

TOTAL = 371 / 547 ILV/HR. in the AM / PM peak hours

THEREFORE, INTERSECTION OPERATES : UNDER CAPACITY (in AM)
& UNDER CAPACITY (in PM)

Appendix H.8

Near Term Base: Construction (AM)

HCM Unsignalized Intersection Capacity Analysis
5: WB SR-58 & Harper Lake Road

7/2/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	6	458	35	0	288	0	0	13	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	7	498	38	0	313	0	0	14	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	536			0			272	549	0	667	511	249
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	536			0			272	549	0	667	511	249
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	29	100	100	97	100
cM capacity (veh/h)	1028			1622			638	440	1084	145	463	751

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	7	249	249	38	313	17
Volume Left	7	0	0	0	0	0
Volume Right	0	0	0	38	0	3
cSH	1622	1700	1700	1700	440	499
Volume to Capacity	0.00	0.15	0.15	0.02	0.71	0.03
Queue Length 95th (ft)	0	0	0	0	137	3
Control Delay (s)	7.2	0.0	0.0	0.0	30.9	12.5
Lane LOS	A				D	B
Approach Delay (s)	0.1				30.9	12.5
Approach LOS					D	B

Intersection Summary			
Average Delay	11.4		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	288	641	1	0	0	0	0	0	17	12	7	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	313	697	1	0	0	0	0	0	18	13	8	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			698			1327	1323	348	993	1324	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			698			1327	1323	348	993	1324	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	81			100			100	100	97	92	94	100
cM capacity (veh/h)	1622			894			92	125	648	165	125	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	NB 1	SB 1
Volume Total	313	348	348	1	18	21
Volume Left	313	0	0	0	0	13
Volume Right	0	0	0	1	18	0
cSH	1622	1700	1700	1700	648	148
Volume to Capacity	0.19	0.20	0.20	0.00	0.03	0.14
Queue Length 95th (ft)	18	0	0	0	2	12
Control Delay (s)	7.8	0.0	0.0	0.0	10.7	33.3
Lane LOS	A				B	D
Approach Delay (s)	2.4				10.7	33.3
Approach LOS					B	D

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	653	29	39	432	4	54	2	32	7	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	16	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.95			0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97			0.98	
Satd. Flow (prot)	2006	3516		2006	1863	1583		1718			1710	
Flt Permitted	0.49	1.00		0.43	1.00	1.00		1.00			1.00	
Satd. Flow (perm)	1042	3516		898	1863	1583		1771			1753	
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)	3	710	32	42	470	4	59	2	35	8	1	7
RTOR Reduction (vph)	0	7	0	0	0	2	0	31	0	0	6	0
Lane Group Flow (vph)	3	735	0	42	470	2	0	65	0	0	10	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	9.4	9.4		9.4	9.4	9.4		2.1			2.1	
Effective Green, g (s)	9.4	9.4		9.4	9.4	9.4		2.1			2.1	
Actuated g/C Ratio	0.48	0.48		0.48	0.48	0.48		0.11			0.11	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	502	1695		433	898	763		191			189	
v/s Ratio Prot		0.21			c0.25							
v/s Ratio Perm	0.00			0.05		0.00		c0.04			0.01	
v/c Ratio	0.01	0.43		0.10	0.52	0.00		0.34			0.05	
Uniform Delay, d1	2.6	3.3		2.7	3.5	2.6		8.1			7.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.2		0.1	0.6	0.0		1.1			0.1	
Delay (s)	2.6	3.5		2.8	4.1	2.6		9.1			7.9	
Level of Service	A	A		A	A	A		A			A	
Approach Delay (s)		3.5			3.9			9.1			7.9	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	19.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Appendix H.8

Near Term Base: Construction (PM)

HCM Unsignalized Intersection Capacity Analysis
5: WB SR-58 & Harper Lake Road

7/2/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	6	894	14	0	2	0	0	33	288
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	7	972	15	0	2	0	0	36	313
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	987			0			830	1000	0	986	985	486
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	987			0			830	1000	0	986	985	486
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	99	100	100	85	41
cM capacity (veh/h)	696			1622			94	241	1084	200	246	527

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	7	486	486	15	2	349
Volume Left	7	0	0	0	0	0
Volume Right	0	0	0	15	0	313
cSH	1622	1700	1700	1700	241	472
Volume to Capacity	0.00	0.29	0.29	0.01	0.01	0.74
Queue Length 95th (ft)	0	0	0	0	1	152
Control Delay (s)	7.2	0.0	0.0	0.0	20.1	31.3
Lane LOS	A				C	D
Approach Delay (s)	0.0				20.1	31.3
Approach LOS					C	D

Intersection Summary			
Average Delay	8.2		
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	887	2	0	0	0	0	0	11	6	6	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	964	2	0	0	0	0	0	12	7	7	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			966			972	968	482	498	971	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			966			972	968	482	498	971	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	98	99	97	100
cM capacity (veh/h)	1622			708			203	252	530	444	251	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	NB 1	SB 1
Volume Total	2	482	482	2	12	13
Volume Left	2	0	0	0	0	7
Volume Right	0	0	0	2	12	0
cSH	1622	1700	1700	1700	530	321
Volume to Capacity	0.00	0.28	0.28	0.00	0.02	0.04
Queue Length 95th (ft)	0	0	0	0	2	3
Control Delay (s)	7.2	0.0	0.0	0.0	11.9	16.7
Lane LOS	A				B	C
Approach Delay (s)	0.0				11.9	16.7
Approach LOS					B	C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	863	61	36	860	7	44	2	29	6	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	16	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.95			0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97			0.97	
Satd. Flow (prot)	2006	3504		2006	1863	1583		1714			1720	
Flt Permitted	0.22	1.00		0.28	1.00	1.00		0.81			0.83	
Satd. Flow (perm)	461	3504		581	1863	1583		1434			1468	
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)	7	938	66	39	935	8	48	2	32	7	1	5
RTOR Reduction (vph)	0	6	0	0	0	2	0	29	0	0	4	0
Lane Group Flow (vph)	7	998	0	39	935	6	0	53	0	0	9	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	28.5	28.5		28.5	28.5	28.5		4.1			4.1	
Effective Green, g (s)	28.5	28.5		28.5	28.5	28.5		4.1			4.1	
Actuated g/C Ratio	0.70	0.70		0.70	0.70	0.70		0.10			0.10	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	324	2460		408	1308	1111		145			148	
v/s Ratio Prot		0.28			c0.50							
v/s Ratio Perm	0.02			0.07		0.00		c0.04			0.01	
v/c Ratio	0.02	0.41		0.10	0.71	0.01		0.37			0.06	
Uniform Delay, d1	1.8	2.5		1.9	3.6	1.8		17.0			16.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1		0.1	1.9	0.0		1.6			0.2	
Delay (s)	1.9	2.6		2.0	5.5	1.8		18.6			16.7	
Level of Service	A	A		A	A	A		B			B	
Approach Delay (s)		2.6			5.3			18.6			16.7	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	4.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	40.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Appendix H.9

Intersection Lane Vehicle Calculation

Near Term Base: Construction - Eastern

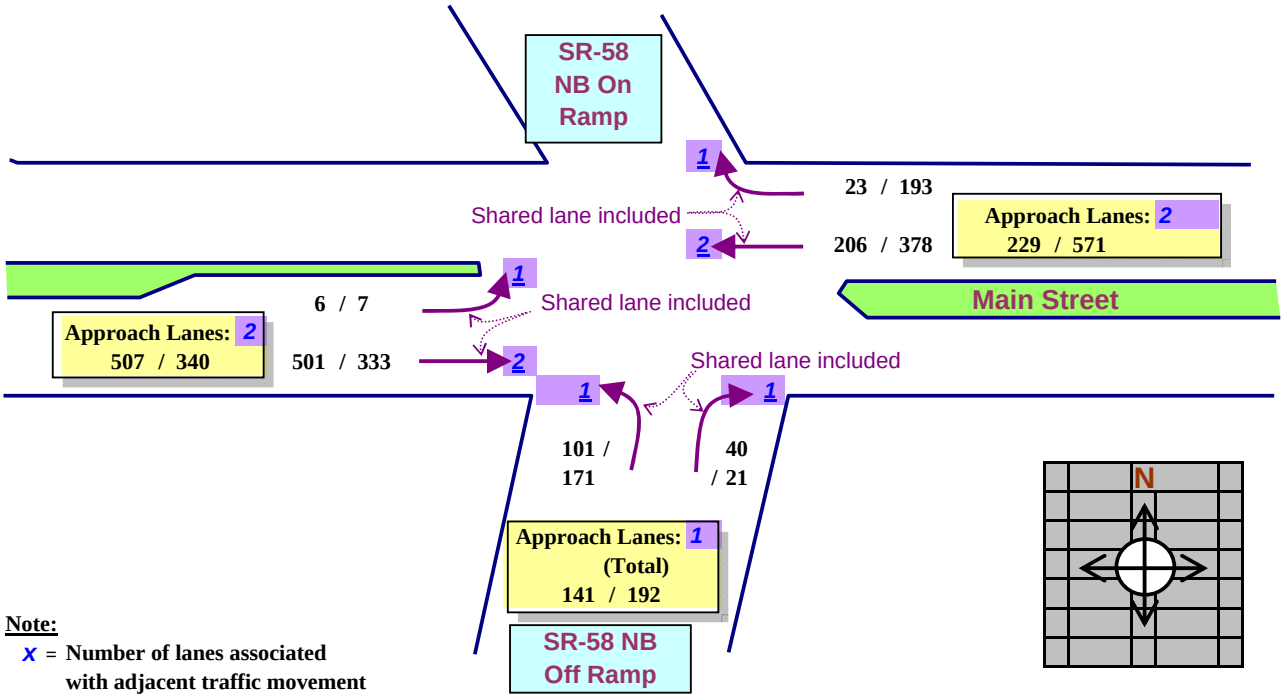
INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
SPREAD DIAMOND INTERCHANGE

(BASED ON CALTRANS HIGHWAY DESIGN MANUAL FIGURE 406A)

PROJECT: MOJAVE SOLAR PLANT PROJECT

LOCATION: SR-58 / MAIN STREET (HISTORIC ROUTE 66)

Scenario: Near-Term Base Plus Construction (AM/PM Peak)



Note:
x = **Number of lanes associated with adjacent traffic movement**

(Indicate "**N**" on North Arrow)

ILV per Lane:

Shared with Thru => **23 / 193**

206 / 378 ← 229 / 571

501 / 333 → **206 / 333** (Remainder in Phase III)

141 / 192 ← 101 / 40
171 / 21

141 / 192 ← 101 / 40
171 / 21

6 / 7 → **6 / 7**

206 / 378 → **295 / 0**

PHASE 1:	206 / 378 206 / 333	->	206 / 378			
PHASE 2:	141 / 192 141 / 192	->	141 / 192			
PHASE 3:	6 / 7 295 / 0	->	295 / 7			

OPERATING LEVEL:

ILV/HR. = **642** in AM ==> ILV: <1,200M
and **577** in PM ==> ILV <1,200

TOTAL = 642 / 577 ILV/HR. in the AM / PM peak hours

THEREFORE, INTERSECTION OPERATES : UNDER CAPACITY (in AM)
& UNDER CAPACITY (in PM)

Appendix H.9

Intersection Lane Vehicle Calculation

Near Term Base: Construction - Western

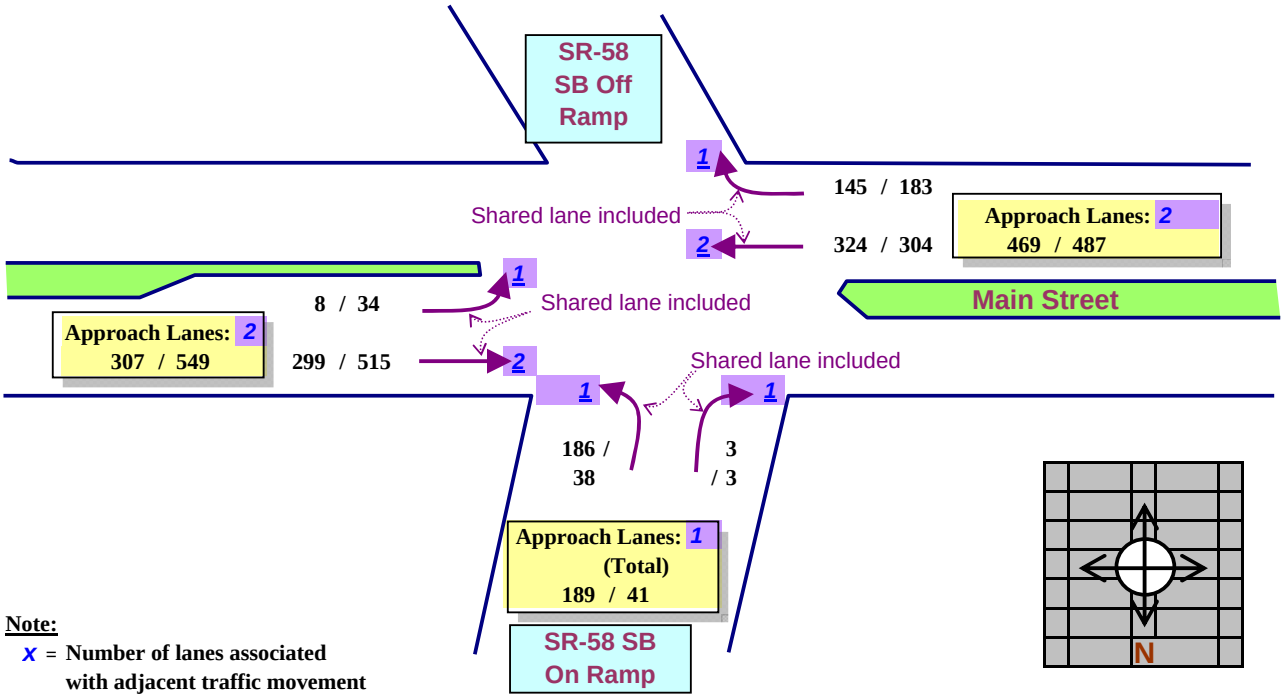
INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
SPREAD DIAMOND INTERCHANGE

(BASED ON CALTRANS HIGHWAY DESIGN MANUAL FIGURE 406A)

PROJECT: MOJAVE SOLAR PLANT PROJECT

LOCATION: SR-58 / MAIN STREET (HISTORIC ROUTE 66)

Scenario: Existing (AM/PM Peak)



Note:
x = **Number of lanes associated with adjacent traffic movement**

(Indicate "**N**" on North Arrow)

ILV per Lane:

Shared with Thru => **145 / 183**

189 / 41

189 / 41

8 / 34

324 / 304 ← 469 / 487

186 / 3
38 / 3

8 / 34
324 / 304 → **0 / 211**

299 / 515 → **299 / 304** (Remainder in Phase III)

PHASE 1:	324 / 304			324	/	304
	299 / 304					
PHASE 2:	189 / 41	->		189	/	41
	189 / 41					
PHASE 3:	8 / 34	->		8	/	211
	0 / 211					

OPERATING LEVEL:

ILV/HR. = **521** in AM ==> ILV: <1,200M

and **556** in PM ==> ILV <1,200

TOTAL = 521 / 556 **ILV/HR. in the AM / PM peak hours**

THEREFORE, INTERSECTION OPERATES : UNDER CAPACITY (in AM)
& UNDER CAPACITY (in PM)

Appendix H.10

Horizon Base (AM)

HCM Unsignalized Intersection Capacity Analysis
5: WB SR-58 & Harper Lake Road

7/2/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	6	622	10	0	6	0	0	13	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	7	676	11	0	7	0	0	14	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	687			0			361	700	0	692	689	338
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	687			0			361	700	0	692	689	338
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	98	100	100	96	100
cM capacity (veh/h)	903			1622			548	360	1084	325	366	658

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	7	338	338	11	7	17
Volume Left	7	0	0	0	0	0
Volume Right	0	0	0	11	0	3
cSH	1622	1700	1700	1700	360	399
Volume to Capacity	0.00	0.20	0.20	0.01	0.02	0.04
Queue Length 95th (ft)	0	0	0	0	1	3
Control Delay (s)	7.2	0.0	0.0	0.0	15.2	14.4
Lane LOS	A				C	B
Approach Delay (s)	0.1				15.2	14.4
Approach LOS					C	B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	714	1	0	0	0	0	0	17	13	6	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	776	1	0	0	0	0	0	18	14	7	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			777			792	789	388	420	790	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			777			792	789	388	420	790	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	97	98	100
cM capacity (veh/h)	1622			835			274	320	610	501	320	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	NB 1	SB 1
Volume Total	7	388	388	1	18	21
Volume Left	7	0	0	0	0	14
Volume Right	0	0	0	1	18	0
cSH	1622	1700	1700	1700	610	425
Volume to Capacity	0.00	0.23	0.23	0.00	0.03	0.05
Queue Length 95th (ft)	0	0	0	0	2	4
Control Delay (s)	7.2	0.0	0.0	0.0	11.1	13.9
Lane LOS	A				B	B
Approach Delay (s)	0.1				11.1	13.9
Approach LOS					B	B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix H.10

Horizon Base (PM)

HCM Unsignalized Intersection Capacity Analysis
5: WB SR-58 & Harper Lake Road

7/2/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	6	1089	5	0	2	0	0	6	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	7	1184	5	0	2	0	0	7	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1189			0			615	1202	0	1198	1197	592
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1189			0			615	1202	0	1198	1197	592
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	99	100	100	96	99
cM capacity (veh/h)	583			1622			359	182	1084	140	184	450

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	7	592	592	5	2	13
Volume Left	7	0	0	0	0	0
Volume Right	0	0	0	5	0	7
cSH	1622	1700	1700	1700	182	261
Volume to Capacity	0.00	0.35	0.35	0.00	0.01	0.05
Queue Length 95th (ft)	0	0	0	0	1	4
Control Delay (s)	7.2	0.0	0.0	0.0	25.0	19.5
Lane LOS	A				C	C
Approach Delay (s)	0.0				25.0	19.5
Approach LOS					C	C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	1260	2	0	0	0	0	0	11	6	6	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1370	2	0	0	0	0	0	12	7	7	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			1372			1377	1374	685	701	1376	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			1372			1377	1374	685	701	1376	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	98	95	100
cM capacity (veh/h)	1622			496			100	144	391	315	144	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	NB 1	SB 1
Volume Total	2	685	685	2	12	13
Volume Left	2	0	0	0	0	7
Volume Right	0	0	0	2	12	0
cSH	1622	1700	1700	1700	391	197
Volume to Capacity	0.00	0.40	0.40	0.00	0.03	0.07
Queue Length 95th (ft)	0	0	0	0	2	5
Control Delay (s)	7.2	0.0	0.0	0.0	14.5	24.5
Lane LOS	A				B	C
Approach Delay (s)	0.0				14.5	24.5
Approach LOS					B	C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix H.11

Horizon Base Plus Project (AM)

HCM Unsignalized Intersection Capacity Analysis
5: WB SR-58 & Harper Lake Road

7/2/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	6	622	55	0	6	0	0	21	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	7	676	60	0	7	0	0	23	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	736			0			366	749	0	692	689	338
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	736			0			366	749	0	692	689	338
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	98	100	100	94	100
cM capacity (veh/h)	865			1622			534	338	1084	324	366	658

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	7	338	338	60	7	26
Volume Left	7	0	0	0	0	0
Volume Right	0	0	0	60	0	3
cSH	1622	1700	1700	1700	338	387
Volume to Capacity	0.00	0.20	0.20	0.04	0.02	0.07
Queue Length 95th (ft)	0	0	0	0	1	5
Control Delay (s)	7.2	0.0	0.0	0.0	15.9	15.0
Lane LOS	A				C	B
Approach Delay (s)	0.1				15.9	15.0
Approach LOS					C	B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	714	1	0	0	0	0	0	17	20	7	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	776	1	0	0	0	0	0	18	22	8	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			777			793	789	388	420	790	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			777			793	789	388	420	790	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	96	98	100
cM capacity (veh/h)	1622			835			273	320	610	501	320	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	NB 1	SB 1
Volume Total	7	388	388	1	18	29
Volume Left	7	0	0	0	0	22
Volume Right	0	0	0	1	18	0
cSH	1622	1700	1700	1700	610	436
Volume to Capacity	0.00	0.23	0.23	0.00	0.03	0.07
Queue Length 95th (ft)	0	0	0	0	2	5
Control Delay (s)	7.2	0.0	0.0	0.0	11.1	13.8
Lane LOS	A				B	B
Approach Delay (s)	0.1				11.1	13.8
Approach LOS					B	B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix H.11

Horizon Base Plus Project (PM)

HCM Unsignalized Intersection Capacity Analysis
5: WB SR-58 & Harper Lake Road

7/2/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	6	1089	13	0	2	0	0	51	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	7	1184	14	0	2	0	0	55	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1198			0			639	1211	0	1198	1197	592
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1198			0			639	1211	0	1198	1197	592
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	99	100	100	70	99
cM capacity (veh/h)	578			1622			272	180	1084	140	184	450

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	7	592	592	14	2	62
Volume Left	7	0	0	0	0	0
Volume Right	0	0	0	14	0	7
cSH	1622	1700	1700	1700	180	196
Volume to Capacity	0.00	0.35	0.35	0.01	0.01	0.32
Queue Length 95th (ft)	0	0	0	0	1	32
Control Delay (s)	7.2	0.0	0.0	0.0	25.2	31.6
Lane LOS	A				D	D
Approach Delay (s)	0.0				25.2	31.6
Approach LOS					D	D

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	1260	2	0	0	0	0	0	11	51	6	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1370	2	0	0	0	0	0	12	55	7	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			1372			1377	1374	685	701	1376	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			1372			1377	1374	685	701	1376	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	82	95	100
cM capacity (veh/h)	1622			496			100	144	391	315	144	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	NB 1	SB 1
Volume Total	2	685	685	2	12	62
Volume Left	2	0	0	0	0	55
Volume Right	0	0	0	2	12	0
cSH	1622	1700	1700	1700	391	280
Volume to Capacity	0.00	0.40	0.40	0.00	0.03	0.22
Queue Length 95th (ft)	0	0	0	0	2	21
Control Delay (s)	7.2	0.0	0.0	0.0	14.5	21.5
Lane LOS	A				B	C
Approach Delay (s)	0.0				14.5	21.5
Approach LOS					B	C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		