APPENDIX 3.16-1

Raw Traffic Count Data

Prepared by NDS/ATD

VOLUME

Orange Ave N/O Dinuba Ave

Day: Tuesday
Date: 2/12/2019

City: Reedley
Project #: CA19_7056_001

DAILY TOTALS	NB	SB	EB	WB	Total
	327	261	0	0	588

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	1		0						1		12:00	8		6						14	
00:15	0		1						1		12:15	2		2						4	
00:30	0		0						0		12:30	3		3						6	
00:45	0	1	0	1					0	2	12:45	5	18	3	14					8	32
01:00	0		0						0		13:00	4		6						10	
01:15	1		0						1		13:15	5		3						8	
01:30	0		0						0		13:30	2		3						5	
01:45	0	1	1	1					1	2	13:45	5	16	0	12					5	28
02:00	0		0						0		14:00	7		3						10	
02:15	0		0						0		14:15	1		3						4	
02:30	0		0						0		14:30	3		3						6	
02:45	0		0						0		14:45	3	14	4	13					7	27
03:00	0		1						1		15:00	7		5						12	
03:15	0		0						0		15:15	6		7						13	
03:30	0		1						1		15:30	8		5						13	
03:45	0		0	2					0	2	15:45	3	24	4	21					7	45
04:00	0		1						1		16:00	8		2						10	
04:15	0		0						0		16:15	10		5						15	
04:30	0		0						0		16:30	16		4						20	
04:45	0		0	1					0	1	16:45	8	42	4	15					12	57
05:00	2		2						4		17:00	11		3						14	
05:15	1		0						1		17:15	5		10						15	
05:30	1		1						2		17:30	11		5						16	
05:45	1	5	3	6					4	11	17:45	10	37	7	25					17	62
06:00	0		2						2		18:00	9		3						12	
06:15	1		7						8		18:15	7		5						12	
06:30	1		3						4		18:30	7		4						11	
06:45	3	5	8	20					11	25	18:45	4	27	4	16					8	43
07:00	3		4						7		19:00	4		2						6	
07:15	5		6						11		19:15	6		4						10	
07:30	4		10						14		19:30	3		2						5	
07:45	3	15	13	33					16	48	19:45	5	18	2	10					7	28
08:00	7		2						9		20:00	4		2						6	
08:15	1		2						3		20:15	5		2						7	
08:30	0		3						3		20:30	5		3						8	
08:45	4	12	8	15					12	27	20:45	6	20	2	9					8	29
09:00	2		2						4		21:00	6		3						9	
09:15	2		1						3		21:15	6		2						8	
09:30	1		2						3		21:30	7		4						11	
09:45	1	6	2	7					3	13	21:45	4	23	0	9					4	32
10:00	5		3						8		22:00	3		1						4	
10:15	5		3						8		22:15	4		1						5	
10:30	1		2						3		22:30	1		1						2	
10:45	4	15	1	9					5	24	22:45	1	9	0	3					1	12
11:00	3		2						5		23:00	2		2						4	
11:15	4		3						7		23:15	1		3						4	
11:30	3		4						7		23:30	2		2						4	
11:45	1	11	2	11					3	22	23:45	3	8	1	8					4	16
TOTALS		71		106						177	TOTALS		256		155						411
SPLIT %		40.1%		59.9%						30.1%	SPLIT %		62.3%		37.7%						69.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	327	261	0	0	588

AM Peak Hour	07:15	07:00				07:15	PM Peak Hour	16:15	17:00				17:00
AM Pk Volume	19	33				50	PM Pk Volume	45	25				62
Pk Hr Factor	0.679	0.635				0.781	Pk Hr Factor	0.703	0.625				0.912
7 - 9 Volume	27	48	0	0		75	4 - 6 Volume	79	40	0	0		119
7 - 9 Peak Hour	07:15	07:00				07:15	4 - 6 Peak Hour	16:15	17:00				17:00
7 - 9 Pk Volume	19	33	0	0		50	4 - 6 Pk Volume	45	25	0	0		62
Pk Hr Factor	0.679	0.635	0.000	0.000		0.781	Pk Hr Factor	0.703	0.625	0.000	0.000		0.912

Prepared by NDS/ATD

VOLUME

Dinuba Ave Bet. East Ave & Buttonwillow Ave

Day: Tuesday
Date: 2/12/2019

City: Reedley
Project #: CA19_7056_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,688	5,804	11,492

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			7		4		11		12:00			106		84		190	
00:15			9		4		13		12:15			88		99		187	
00:30			10		6		16		12:30			79		103		182	
00:45			2	28	3	17	5	45	12:45			106	379	105	391	211	770
01:00			3		2		5		13:00			94		89		183	
01:15			8		4		12		13:15			87		102		189	
01:30			4		2		6		13:30			96		78		174	
01:45			4	19	2	10	6	29	13:45			115	392	91	360	206	752
02:00			2		4		6		14:00			98		116		214	
02:15			1		1		2		14:15			79		85		164	
02:30			2		2		4		14:30			88		137		225	
02:45			5	10	4	11	9	21	14:45			147	412	112	450	259	862
03:00			4		3		7		15:00			115		109		224	
03:15			1		1		2		15:15			118		140		258	
03:30			2		7		9		15:30			136		126		262	
03:45			5	12	4	15	9	27	15:45			128	497	102	477	230	974
04:00			5		8		13		16:00			129		114		243	
04:15			3		6		9		16:15			124		111		235	
04:30			9		9		18		16:30			148		149		297	
04:45			13	30	14	37	27	67	16:45			125	526	123	497	248	1023
05:00			11		19		30		17:00			146		103		249	
05:15			11		18		29		17:15			132		92		224	
05:30			31		23		54		17:30			123		100		223	
05:45			36	89	30	90	66	179	17:45			96	497	102	397	198	894
06:00			32		47		79		18:00			94		79		173	
06:15			63		56		119		18:15			78		72		150	
06:30			46		65		111		18:30			74		50		124	
06:45			60	201	83	251	143	452	18:45			66	312	65	266	131	578
07:00			58		63		121		19:00			58		51		109	
07:15			82		74		156		19:15			60		62		122	
07:30			124		142		266		19:30			46		44		90	
07:45			111	375	229	508	340	883	19:45			54	218	43	200	97	418
08:00			96		149		245		20:00			60		55		115	
08:15			67		111		178		20:15			39		48		87	
08:30			67		74		141		20:30			54		39		93	
08:45			75	305	119	453	194	758	20:45			35	188	41	183	76	371
09:00			68		84		152		21:00			39		18		57	
09:15			62		86		148		21:15			44		43		87	
09:30			70		77		147		21:30			25		28		53	
09:45			69	269	95	342	164	611	21:45			21	129	16	105	37	234
10:00			82		69		151		22:00			22		10		32	
10:15			74		61		135		22:15			15		19		34	
10:30			74		82		156		22:30			23		22		45	
10:45			88	318	97	309	185	627	22:45			17	77	13	64	30	141
11:00			85		78		163		23:00			17		13		30	
11:15			94		94		188		23:15			15		6		21	
11:30			88		91		179		23:30			8		5		13	
11:45			89	356	78	341	167	697	23:45			9	49	6	30	15	79
TOTALS				2012		2384		4396	TOTALS				3676		3420		7096
SPLIT %				45.8%		54.2%		38.3%	SPLIT %				51.8%		48.2%		61.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,688	5,804	11,492

AM Peak Hour			07:15	07:30	07:30		PM Peak Hour			16:30	14:30	16:15
AM Pk Volume			413	631	1029		PM Pk Volume			551	498	1029
Pk Hr Factor			0.833	0.689	0.757		Pk Hr Factor			0.931	0.889	0.866
7 - 9 Volume	0	0	680	961	1641		4 - 6 Volume	0	0	1023	894	1917
7 - 9 Peak Hour			07:15	07:30	07:30		4 - 6 Peak Hour			16:30	16:00	16:15
7 - 9 Pk Volume	0	0	413	631	1029		4 - 6 Pk Volume	0	0	551	497	1029
Pk Hr Factor	0.000	0.000	0.833	0.689	0.757		Pk Hr Factor	0.000	0.000	0.931	0.834	0.866

Prepared by NDS/ATD

VOLUME

Dinuba Ave Bet. Buttonwillow Ave & Zumwalt Ave

Day: Tuesday
Date: 2/12/2019

City: Reedley
Project #: CA19_7056_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,110	4,486	8,596

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			4		3		7		12:00			67		72		139	
00:15			7		2		9		12:15			58		63		121	
00:30			8		0		8		12:30			50		72		122	
00:45			1	20	1	6	2	26	12:45			68	243	76	283	144	526
01:00			1		3		4		13:00			60		67		127	
01:15			4		5		9		13:15			70		59		129	
01:30			4		2		6		13:30			64		57		121	
01:45			2	11	2	12	4	23	13:45			87	281	57	240	144	521
02:00			2		3		5		14:00			75		85		160	
02:15			2		1		3		14:15			76		58		134	
02:30			2		1		3		14:30			74		95		169	
02:45			4	10	3	8	7	18	14:45			89	314	74	312	163	626
03:00			3		4		7		15:00			84		86		170	
03:15			1		1		2		15:15			70		89		159	
03:30			3		3		6		15:30			94		69		163	
03:45			3	10	5	13	8	23	15:45			62	310	74	318	136	628
04:00			2		6		8		16:00			104		81		185	
04:15			1		5		6		16:15			101		84		185	
04:30			7		9		16		16:30			98		112		210	
04:45			8	18	7	27	15	45	16:45			72	375	98	375	170	750
05:00			10		15		25		17:00			116		75		191	
05:15			11		22		33		17:15			97		86		183	
05:30			17		22		39		17:30			90		73		163	
05:45			22	60	33	92	55	152	17:45			81	384	85	319	166	703
06:00			25		40		65		18:00			81		74		155	
06:15			38		48		86		18:15			78		68		146	
06:30			31		63		94		18:30			81		33		114	
06:45			38	132	79	230	117	362	18:45			65	305	54	229	119	534
07:00			45		57		102		19:00			64		30		94	
07:15			54		65		119		19:15			45		38		83	
07:30			117		123		240		19:30			50		47		97	
07:45			110	326	201	446	311	772	19:45			51	210	39	154	90	364
08:00			73		97		170		20:00			40		45		85	
08:15			41		79		120		20:15			28		58		86	
08:30			43		57		100		20:30			39		28		67	
08:45			47	204	101	334	148	538	20:45			29	136	22	153	51	289
09:00			48		60		108		21:00			24		22		46	
09:15			42		67		109		21:15			21		47		68	
09:30			50		55		105		21:30			26		41		67	
09:45			51	191	64	246	115	437	21:45			15	86	20	130	35	216
10:00			52		62		114		22:00			16		11		27	
10:15			45		48		93		22:15			9		17		26	
10:30			31		55		86		22:30			16		15		31	
10:45			55	183	58	223	113	406	22:45			12	53	10	53	22	106
11:00			59		51		110		23:00			14		7		21	
11:15			62		68		130		23:15			7		5		12	
11:30			56		77		133		23:30			5		7		12	
11:45			44	221	65	261	109	482	23:45			1	27	3	22	4	49
TOTALS				1386		1898		**3284**	**TOTALS**				2724		2588		**5312**
SPLIT %				42.2%		57.8%		**38.2%**	**SPLIT %**				51.3%		48.7%		**61.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,110	4,486	8,596

AM Peak Hour				07:15	07:30	**07:30**	**PM Peak Hour**				16:15	16:00	**16:15**
AM Pk Volume				354	500	**841**	**PM Pk Volume**				387	375	**756**
Pk Hr Factor				0.756	0.622	**0.676**	**Pk Hr Factor**				0.834	0.837	**0.900**
7 - 9 Volume	0	0		530	780	**1310**	**4 - 6 Volume**	0	0		759	694	**1453**
7 - 9 Peak Hour				07:15	07:30	**07:30**	**4 - 6 Peak Hour**				16:15	16:00	**16:15**
7 - 9 Pk Volume	0	0		354	500	**841**	**4 - 6 Pk Volume**	0	0		387	375	**756**
Pk Hr Factor	0.000	0.000		0.756	0.622	**0.676**	**Pk Hr Factor**	0.000	0.000		0.834	0.837	**0.900**

Prepared by NDS/ATD

VOLUME

Buttonwillow Ave Bet. Manning Ave & Dinuba Ave

Day: Tuesday
Date: 2/12/2019

City: Reedley
Project #: CA19_7056_004

DAILY TOTALS	NB	SB	EB	WB	Total
	4,918	5,007	0	0	9,925

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	16		2				18		12:00	110		70				180	
00:15	3		4				7		12:15	65		91				156	
00:30	3		5				8		12:30	61		69				130	
00:45	8	30	1	12			9	42	12:45	76	312	97	327			173	639
01:00	6		4				10		13:00	103		67				170	
01:15	10		2				12		13:15	74		91				165	
01:30	1		1				2		13:30	87		79				166	
01:45	5	22	4	11			9	33	13:45	97	361	80	317			177	678
02:00	2		4				6		14:00	96		101				197	
02:15	1		3				4		14:15	67		117				184	
02:30	0		1				1		14:30	98		83				181	
02:45	3	6	2	10			5	16	14:45	101	362	87	388			188	750
03:00	2		3				5		15:00	103		88				191	
03:15	0		1				1		15:15	96		89				185	
03:30	3		3				6		15:30	127		109				236	
03:45	2	7	1	8			3	15	15:45	115	441	88	374			203	815
04:00	3		10				13		16:00	119		113				232	
04:15	0		9				9		16:15	117		115				232	
04:30	6		14				20		16:30	111		105				216	
04:45	9	18	21	54			30	72	16:45	137	484	80	413			217	897
05:00	3		27				30		17:00	122		114				236	
05:15	9		24				33		17:15	109		80				189	
05:30	26		35				61		17:30	124		100				224	
05:45	25	63	43	129			68	192	17:45	87	442	95	389			182	831
06:00	21		56				77		18:00	93		99				192	
06:15	30		68				98		18:15	89		97				186	
06:30	56		73				129		18:30	66		69				135	
06:45	61	168	84	281			145	449	18:45	71	319	56	321			127	640
07:00	37		48				85		19:00	48		65				113	
07:15	52		74				126		19:15	57		50				107	
07:30	66		110				176		19:30	53		54				107	
07:45	87	242	115	347			202	589	19:45	60	218	48	217			108	435
08:00	62		102				164		20:00	58		54				112	
08:15	48		75				123		20:15	54		39				93	
08:30	67		57				124		20:30	34		38				72	
08:45	67	244	64	298			131	542	20:45	35	181	37	168			72	349
09:00	48		60				108		21:00	45		27				72	
09:15	54		57				111		21:15	58		23				81	
09:30	48		46				94		21:30	37		25				62	
09:45	46	196	49	212			95	408	21:45	26	166	16	91			42	257
10:00	62		56				118		22:00	15		26				41	
10:15	55		54				109		22:15	13		12				25	
10:30	65		62				127		22:30	19		17				36	
10:45	42	224	70	242			112	466	22:45	18	65	13	68			31	133
11:00	72		73				145		23:00	15		11				26	
11:15	71		87				158		23:15	15		9				24	
11:30	72		64				136		23:30	11		6				17	
11:45	84	299	75	299			159	598	23:45	7	48	5	31			12	79
TOTALS		1519		1903				**3422**	**TOTALS**		3399		3104				**6503**
SPLIT %		44.4%		55.6%				**34.5%**	**SPLIT %**		52.3%		47.7%				**65.5%**

DAILY TOTALS	NB	SB	EB	WB	Total
	4,918	5,007	0	0	9,925

AM Peak Hour	11:15	07:30						**07:15**	**PM Peak Hour**	16:45	15:30							**15:30**
AM Pk Volume	337	402						**668**	**PM Pk Volume**	492	425							**903**
Pk Hr Factor	0.766	0.874						**0.827**	**Pk Hr Factor**	0.898	0.924							**0.957**
7 - 9 Volume	486	645	0	0				**1131**	**4 - 6 Volume**	926	802	0	0					**1728**
7 - 9 Peak Hour	07:15	07:30						**07:15**	**4 - 6 Peak Hour**	16:45	16:15							**16:15**
7 - 9 Pk Volume	267	402	0	0				**668**	**4 - 6 Pk Volume**	492	414	0	0					**901**
Pk Hr Factor	0.767	0.874	0.000	0.000				**0.827**	**Pk Hr Factor**	0.898	0.900	0.000	0.000					**0.954**

Prepared by NDS/ATD

VOLUME

Buttonwillow Ave Bet. Dinuba Ave & Floral Ave

Day: Tuesday
Date: 2/12/2019

City: Reedley
Project #: CA19_7056_005

DAILY TOTALS	NB	SB	EB	WB	Total
	3,411	4,052	0	0	7,463

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	13		3				16		12:00	68		72				140	
00:15	3		4				7		12:15	42		69				111	
00:30	6		3				9		12:30	51		62				113	
00:45	7	29	2	12			9	41	12:45	43	204	67	270			110	474
01:00	5		6				11		13:00	57		58				115	
01:15	6		3				9		13:15	56		64				120	
01:30	2		1				3		13:30	62		69				131	
01:45	4	17	4	14			8	31	13:45	80	255	64	255			144	510
02:00	0		2				2		14:00	56		82				138	
02:15	1		1				2		14:15	58		73				131	
02:30	0		0				0		14:30	89		50				139	
02:45	3	4	2	5			5	9	14:45	68	271	82	287			150	558
03:00	1		3				4		15:00	70		69				139	
03:15	0		1				1		15:15	77		78				155	
03:30	7		1				8		15:30	90		85				175	
03:45	2	10	4	9			6	19	15:45	86	323	85	317			171	640
04:00	4		12				16		16:00	83		86				169	
04:15	2		11				13		16:15	93		93				186	
04:30	3		13				16		16:30	77		92				169	
04:45	8	17	15	51			23	68	16:45	67	320	61	332			128	652
05:00	4		21				25		17:00	82		86				168	
05:15	7		25				32		17:15	62		68				130	
05:30	15		35				50		17:30	86		76				162	
05:45	19	45	44	125			63	170	17:45	53	283	67	297			120	580
06:00	19		53				72		18:00	49		67				116	
06:15	21		68				89		18:15	55		51				106	
06:30	43		73				116		18:30	54		54				108	
06:45	58	141	92	286			150	427	18:45	62	220	43	215			105	435
07:00	35		50				85		19:00	37		27				64	
07:15	25		56				81		19:15	38		31				69	
07:30	40		72				112		19:30	38		34				72	
07:45	77	177	64	242			141	419	19:45	37	150	31	123			68	273
08:00	40		67				107		20:00	32		40				72	
08:15	42		58				100		20:15	22		37				59	
08:30	39		48				87		20:30	29		34				63	
08:45	45	166	61	234			106	400	20:45	35	118	18	129			53	247
09:00	37		47				84		21:00	24		25				49	
09:15	42		43				85		21:15	31		24				55	
09:30	41		40				81		21:30	25		24				49	
09:45	47	167	45	175			92	342	21:45	13	93	23	96			36	189
10:00	34		59				93		22:00	11		29				40	
10:15	37		54				91		22:15	11		8				19	
10:30	37		62				99		22:30	9		13				22	
10:45	37	145	64	239			101	384	22:45	16	47	13	63			29	110
11:00	60		60				120		23:00	15		7				22	
11:15	41		64				105		23:15	7		12				19	
11:30	39		57				96		23:30	4		9				13	
11:45	37	177	63	244			100	421	23:45	6	32	4	32			10	64
TOTALS		1095		1636				**2731**	**TOTALS**		2316		2416				**4732**
SPLIT %		40.1%		59.9%				**36.6%**	**SPLIT %**		48.9%		51.1%				**63.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	3,411	4,052	0	0	7,463

AM Peak Hour	07:30	06:00				**11:45**	**PM Peak Hour**	15:30	15:45				**15:30**
AM Pk Volume	199	286				**464**	**PM Pk Volume**	352	356				**701**
Pk Hr Factor	0.646	0.777				**0.829**	**Pk Hr Factor**	0.946	0.957				**0.942**
7 - 9 Volume	343	476	0	0		**819**	**4 - 6 Volume**	603	629	0	0		**1232**
7 - 9 Peak Hour	07:30	07:30				**07:30**	**4 - 6 Peak Hour**	16:00	16:00				**16:00**
7 - 9 Pk Volume	199	261	0	0		**460**	**4 - 6 Pk Volume**	320	332	0	0		**652**
Pk Hr Factor	0.646	0.906	0.000	0.000		**0.816**	**Pk Hr Factor**	0.860	0.892	0.000	0.000		**0.876**

Prepared by National Data & Surveying Services

I St & Dinuba Ave

Peak Hour Turning Movement Count

ID: 19-7055-001
City: Reedley

Day: Tuesday
Date: 02/12/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

I St — SOUTHBOUND

AM	6	9	83	0	234	AM
NOON	0	0	0	0	0	NOON
PM	8	13	131	0	222	PM

EASTBOUND — Dinuba Ave

AM	NOON	PM	
246	0	256	
0	0	0	0
53	0	18	0
361	0	337	2
13	0	13	0
AM	NOON	PM	

WESTBOUND — Dinuba Ave

PM	NOON	AM	
186	0	159	0
248	0	240	2
78	0	40	0
0	0	0	0
542	0	538	
PM	NOON	AM	

CONTROL: 2-Way Stop (NB/SB)

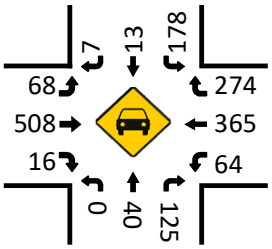
	AM	NOON	PM
TEV	1080	0	1124
PHF	0.76		0.92

NORTHBOUND — I St

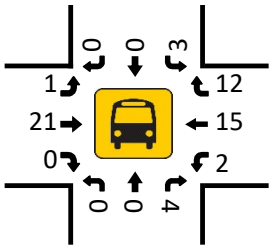
PM	104	0	0	18	74	PM
NOON	0	0	0	0	0	NOON
AM	62	0	0	22	94	AM

1 1 0 0 — 0 0 0.5 0.5

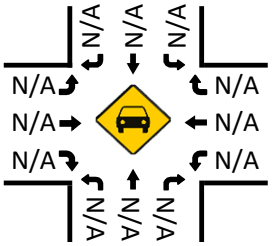
PV (AM)



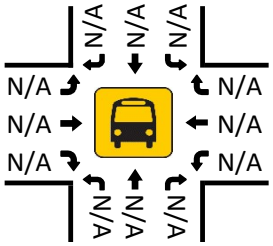
LT (AM)



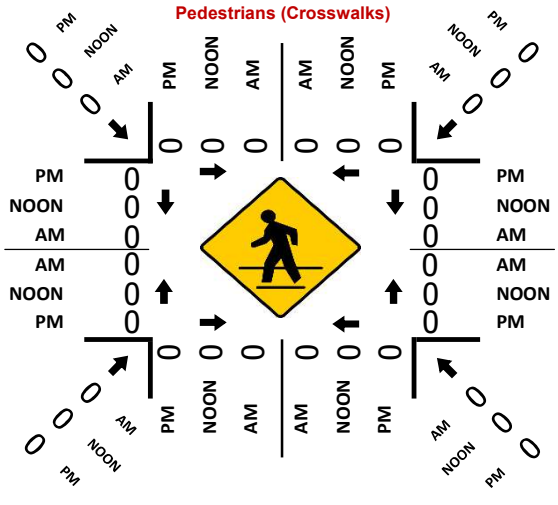
PV (NOON)



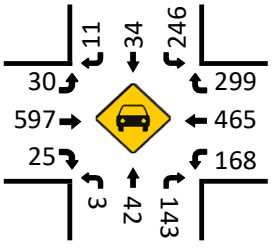
LT (NOON)



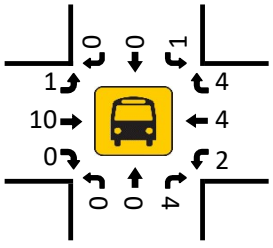
Pedestrians (Crosswalks)



PV (PM)



LT (PM)



Prepared by National Data & Surveying Services

East Ave & Dinuba Ave

Peak Hour Turning Movement Count

ID: 19-7055-002
City: Reedley

Day: Tuesday
Date: 02/12/2019

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND (East Ave)

AM	105	0	105	0	154
NOON	0	0	0	0	0
PM	151	0	173	0	204

EASTBOUND (Dinuba Ave)

AM	NOON	PM	
478	0	504	
0	0	0	0
153	0	200	0
350	0	345	2
1	0	2	0

WESTBOUND (Dinuba Ave)

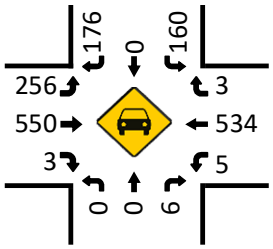
PM	NOON	AM	
4	0	1	0
352	0	373	2
0	0	2	0
0	0	0	0
521	0	460	

NORTHBOUND (East Ave)

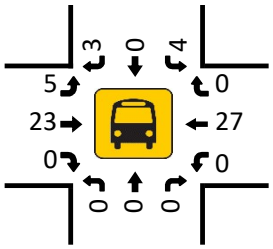
PM	2	0	1	0	3
NOON	0	0	0	0	0
AM	3	0	0	0	5

CONTROL			
3-Way Stop (SB/EB/WB)			
TEV	1095	0	1231
	AM	NOON	PM
PHF	0.77		0.93

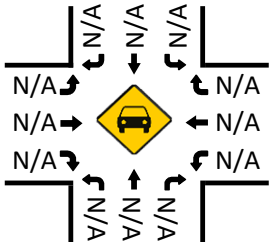
PV (AM)



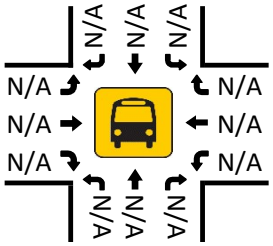
LT (AM)



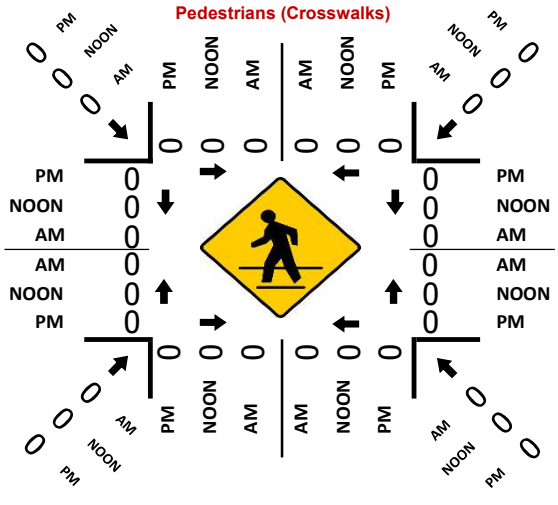
PV (NOON)



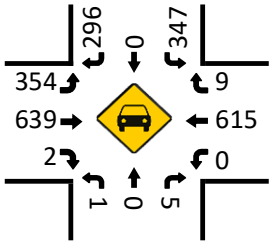
LT (NOON)



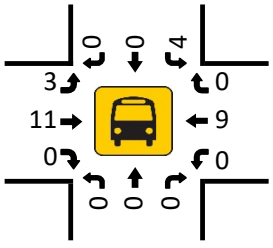
Pedestrians (Crosswalks)



PV (PM)



LT (PM)



Prepared by National Data & Surveying Services

Buttonwillow Ave & Dinuba Ave

Peak Hour Turning Movement Count

ID: 19-7055-003
City: Reedley

Day: Tuesday
Date: 02/12/2019

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Buttonwillow Ave — SOUTHBOUND

AM	142	167	68	11	269	AM
NOON	0	0	0	0	0	NOON
PM	131	183	94	11	453	PM

EASTBOUND — Dinuba Ave

AM	NOON	PM		
612	0	491		
3	0	4	0	
77	0	140	0	
244	0	248	0	
69	0	119	1	
AM	NOON	PM		

WESTBOUND — Dinuba Ave

PM	NOON	AM		
88	0	91	1	
265	0	373	0	
33	0	37	0	
5	0	3	0	
381	0	339		
PM	NOON	AM		

CONTROL

4-Way Yield

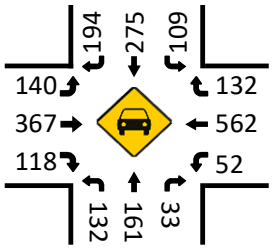
TEV	1493 AM	0 NOON	1660 PM
PHF	0.75		0.93

NORTHBOUND — Buttonwillow Ave

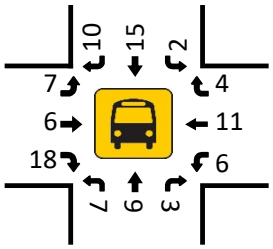
PM	335	0	91	214	34	PM
NOON	0	0	0	0	0	NOON
AM	273	0	94	90	24	AM

0 0 0 1

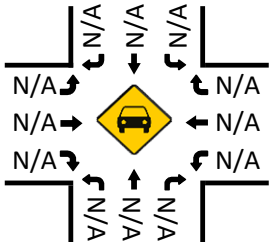
PV (AM)



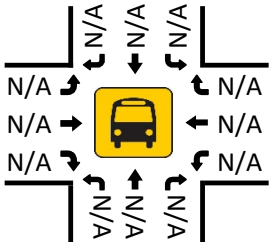
LT (AM)



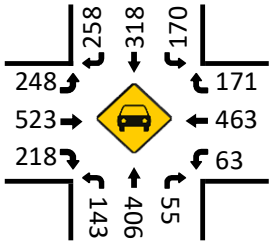
PV (NOON)



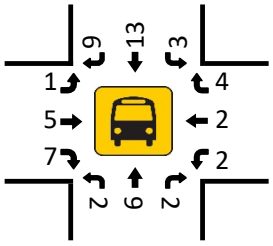
LT (NOON)



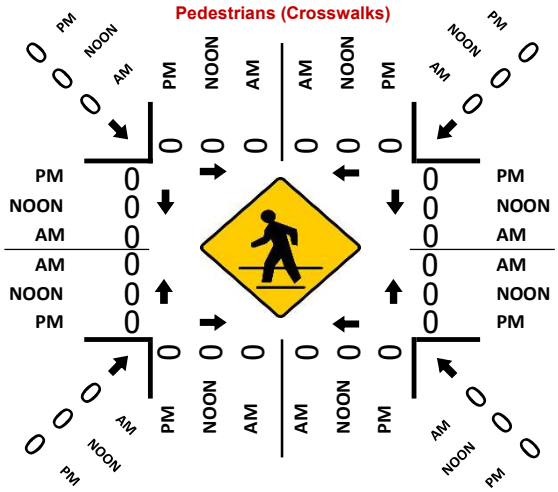
PV (PM)



LT (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

Orange Ave & Dinuba Ave

Peak Hour Turning Movement Count

ID: 19-7055-004
City: Reedley

Day: Tuesday
Date: 02/12/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Orange Ave — SOUTHBOUND

AM	26	0	6	0	17
NOON	0	0	0	0	0
PM	16	0	7	0	42

Dinuba Ave — EASTBOUND

AM	NOON	PM	
474	0	371	
0	0	0	0
11	0	27	1
338	0	351	1
0	0	0	0

Dinuba Ave — WESTBOUND

PM	NOON	AM	
15	0	6	0
355	0	448	2
0	0	0	0
0	0	0	0
358	0	344	

Orange Ave — NORTHBOUND

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

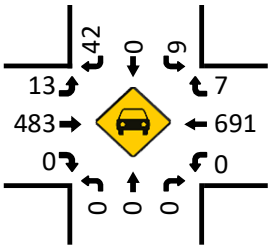
	0.5	0.5	0	0
	0	0	0	0

CONTROL

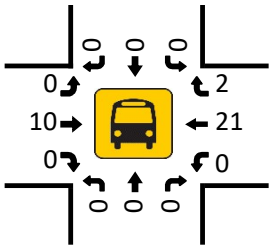
1-Way Stop (SB)

TEV	835 AM	0 NOON	771 PM
PHF	0.67		0.92

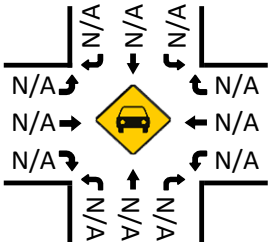
PV (AM)



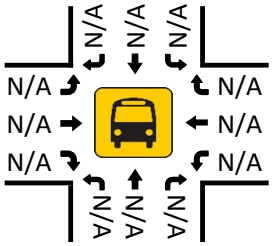
LT (AM)



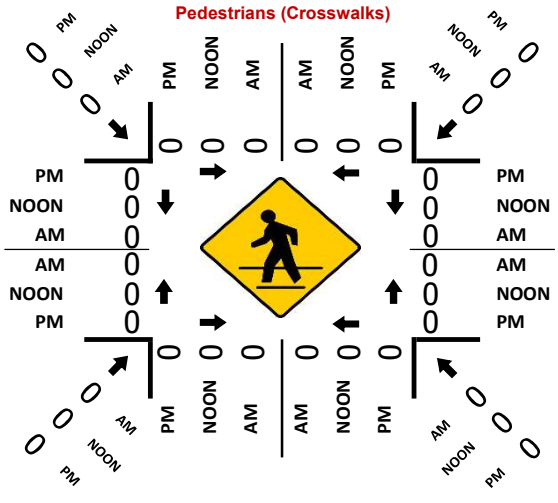
PV (NOON)



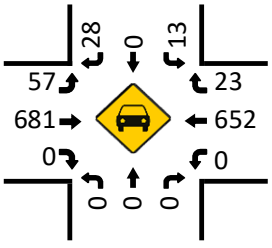
LT (NOON)



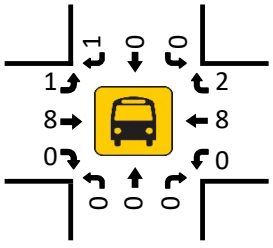
Pedestrians (Crosswalks)



PV (PM)



LT (PM)



Prepared by National Data & Surveying Services

Zumwalt Ave & Dinuba Ave

Peak Hour Turning Movement Count

ID: 19-7055-005
City: Reedley

Day: Tuesday
Date: 02/12/2019

	PEAK HOURS	COUNT PERIODS
AM	07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

Zumwalt Ave — SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing
AM	101	0	23	0	102
NOON	0	0	0	0	0
PM	29	1	7	0	49
Lanes	0	1	0	0	

Dinuba Ave — EASTBOUND

	AM	NOON	PM
Departing	419	0	352
U-Turn (lanes 0)	0	0	0
Left (lanes 0)	78	0	28
Thru (lanes 1)	269	0	313
Right (lanes 0)	2	0	4

Dinuba Ave — WESTBOUND

	PM	NOON	AM
Right (lanes 0)	21	0	24
Thru (lanes 1)	319	0	317
Left (lanes 0)	4	0	0
U-Turn (lanes 0)	0	0	0
Departing	325	0	293

Zumwalt Ave — NORTHBOUND

	Departing	U-Turn	Left	Thru	Right
Lanes		0	1	0.5	0.5
PM	9	0	4	0	5
NOON	0	0	0	0	0
AM	2	0	1	0	1

CONTROL

2-Way Stop (NB/SB)

	AM	NOON	PM
TEV	816	0	735
PHF	0.69		0.92

PV (AM)

	Left	Thru	Right
SB	29	0	105
EB	84	417	4
WB	1	531	27
NB	2	0	1

PV (NOON)

	Left	Thru	Right
SB	N/A	N/A	N/A
EB	N/A	N/A	N/A
WB	N/A	N/A	N/A
NB	N/A	N/A	N/A

PV (PM)

	Left	Thru	Right
SB	13	1	47
EB	39	600	14
WB	15	590	27
NB	6	0	6

LT (AM)

	Left	Thru	Right
SB	1	0	7
EB	3	7	1
WB	0	15	0
NB	0	0	0

LT (NOON)

	Left	Thru	Right
SB	N/A	N/A	N/A
EB	N/A	N/A	N/A
WB	N/A	N/A	N/A
NB	N/A	N/A	N/A

LT (PM)

	Left	Thru	Right
SB	0	0	5
EB	3	7	0
WB	0	6	0
NB	0	0	0

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North leg (eastbound)	0	0	0
North leg (westbound)	0	0	0
South leg (eastbound)	0	0	0
South leg (westbound)	0	0	0
West leg (southbound)	0	0	0
West leg (northbound)	0	0	0
East leg (southbound)	0	0	0
East leg (northbound)	0	0	0
NW corner	0	0	0
NE corner	0	0	0
SW corner	0	0	0
SE corner	0	0	0

Prepared by National Data & Surveying Services

Buttonwillow Ave & Manning Ave

Peak Hour Turning Movement Count

ID: 19-7055-006
City: Reedley

Day: Tuesday
Date: 02/12/2019

	PEAK HOURS	COUNT PERIODS
AM	07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:45 PM - 05:45 PM	04:00 PM - 06:00 PM

Buttonwillow Ave — SOUTHBOUND

	Right	Through	Left	U-Turn	Exit (northbound departure)
AM	87	241	92	0	315
NOON	0	0	0	0	0
PM	86	269	81	0	347
Lanes	1	1	1	0	

Manning Ave — EASTBOUND

	AM	NOON	PM	Lanes
Exit (westbound departure)	540	0	530	
U-Turn	0	0	0	0
Left	39	0	50	1
Through	241	0	303	2
Right	101	0	135	1

Manning Ave — WESTBOUND

	Lanes	PM	NOON	AM
Right	0.5	75	0	95
Through	1.5	274	0	361
Left	1	47	0	68
U-Turn	0	0	0	0
Exit (eastbound departure)		423	0	428

CONTROL

Signalized

	AM	NOON	PM
TEV	1693	0	1751
PHF	0.80		0.93

Buttonwillow Ave — NORTHBOUND

	Exit (southbound departure)	U-Turn	Left	Through	Right
Lanes		0	1	1	1
PM	451	0	170	222	39
NOON	0	0	0	0	0
AM	410	0	92	181	95

PV (AM)

Approach	Left	Through	Right
Southbound	128	346	133
Eastbound	56	375	171
Westbound	86	541	134
Northbound	176	293	121

PV (NOON)

Approach	Left	Through	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

PV (PM)

Approach	Left	Through	Right
Southbound	145	497	183
Eastbound	87	549	293
Westbound	104	464	133
Northbound	292	417	84

LT (AM)

Approach	Left	Through	Right
Southbound	3	10	4
Eastbound	1	12	4
Westbound	5	15	1
Northbound	8	9	9

LT (NOON)

Approach	Left	Through	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

LT (PM)

Approach	Left	Through	Right
Southbound	2	12	3
Eastbound	3	8	4
Westbound	2	11	1
Northbound	3	7	4

Pedestrians (Crosswalks)

Crosswalk / direction	AM	NOON	PM
North leg, eastbound	0	0	0
North leg, westbound	0	0	0
South leg, eastbound	0	0	0
South leg, westbound	0	0	0
West leg, southbound	0	0	0
West leg, northbound	0	0	0
East leg, southbound	0	0	0
East leg, northbound	0	0	0
NW diagonal	0	0	0
NE diagonal	0	0	0
SW diagonal	0	0	0
SE diagonal	0	0	0

APPENDIX 3.16-2

Intersection Level of Service Worksheets

Intersection	
Int Delay, s/veh	11.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	361	13	40	240	159	0	22	94	83	9	6
Future Vol, veh/h	53	361	13	40	240	159	0	22	94	83	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	4	0	5	5	7	0	0	2	2	0	0
Mvmt Flow	70	475	17	53	316	209	0	29	124	109	12	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	525	0	0	492	0	0	894	1255	246	919	1159	263
Stage 1	-	-	-	-	-	-	624	624	-	527	527	-
Stage 2	-	-	-	-	-	-	270	631	-	392	632	-
Critical Hdwy	4.1	-	-	4.2	-	-	7.5	6.5	6.94	7.54	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.54	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.54	5.5	-
Follow-up Hdwy	2.2	-	-	2.25	-	-	3.5	4	3.32	3.52	4	3.3
Pot Cap-1 Maneuver	1052	-	-	1047	-	-	239	173	754	226	197	742
Stage 1	-	-	-	-	-	-	445	481	-	502	532	-
Stage 2	-	-	-	-	-	-	718	477	-	604	477	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1052	-	-	1047	-	-	196	145	754	141	166	742
Mov Cap-2 Maneuver	-	-	-	-	-	-	196	145	-	141	166	-
Stage 1	-	-	-	-	-	-	404	437	-	456	493	-
Stage 2	-	-	-	-	-	-	642	442	-	428	433	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.9	15.5	94
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	145	754	1052	-	-	1047	-	-	143	742
HCM Lane V/C Ratio	0.2	0.164	0.066	-	-	0.05	-	-	0.847	0.011
HCM Control Delay (s)	35.9	10.7	8.7	0.3	-	8.6	0.2	-	99.5	9.9
HCM Lane LOS	E	B	A	A	-	A	A	-	F	A
HCM 95th %tile Q(veh)	0.7	0.6	0.2	-	-	0.2	-	-	5.5	0

Intersection	
Intersection Delay, s/veh	16.1
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	153	350	373	1	105	105
Future Vol, veh/h	153	350	373	1	105	105
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	1	4	5	0	3	2
Mvmt Flow	199	455	484	1	136	136
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	17.8	15.8	12.6
HCM LOS	C	C	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	57%	0%	0%	0%	100%	0%
Vol Thru, %	43%	100%	100%	99%	0%	0%
Vol Right, %	0%	0%	0%	1%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	270	233	249	125	105	105
LT Vol	153	0	0	0	105	0
Through Vol	117	233	249	124	0	0
RT Vol	0	0	0	1	0	105
Lane Flow Rate	350	303	323	163	136	136
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.628	0.524	0.58	0.288	0.295	0.248
Departure Headway (Hd)	6.46	6.223	6.467	6.375	7.798	6.557
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	557	579	555	562	460	545
Service Time	4.214	3.978	4.228	4.136	5.564	4.322
HCM Lane V/C Ratio	0.628	0.523	0.582	0.29	0.296	0.25
HCM Control Delay	19.6	15.7	17.8	11.7	13.8	11.5
HCM Lane LOS	C	C	C	B	B	B
HCM 95th-tile Q	4.3	3	3.7	1.2	1.2	1

MOVEMENT SUMMARY

Site: 3 [Buttonwillow Avenue/Dinuba Avenue - Existing AM]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Existing
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	102	5.0	0.279	12.4	LOS B	1.2	32.2	0.57	0.74	0.57	34.9
8	T1	98	9.0	0.279	6.4	LOS A	1.2	32.2	0.57	0.74	0.57	34.8
18	R2	26	8.0	0.279	6.5	LOS A	1.2	32.2	0.57	0.74	0.57	33.8
Approach		226	7.1	0.279	9.1	LOS A	1.2	32.2	0.57	0.74	0.57	34.7
East: WB Dinuba Avenue												
1u	U	3	0.0	0.565	15.2	LOS B	4.1	104.7	0.67	0.73	0.74	36.7
1	L2	40	19.0	0.565	13.0	LOS B	4.1	104.7	0.67	0.73	0.74	35.1
6	T1	405	2.0	0.565	6.8	LOS A	4.1	104.7	0.67	0.73	0.74	35.6
16	R2	99	0.0	0.565	6.8	LOS A	4.1	104.7	0.67	0.73	0.74	34.6
Approach		548	2.9	0.565	7.3	LOS A	4.1	104.7	0.67	0.73	0.74	35.4
North: SB Buttonwillow Avenue												
7u	U	12	0.0	0.587	18.2	LOS B	3.8	100.2	0.76	0.97	1.00	35.0
7	L2	74	6.0	0.587	15.8	LOS B	3.8	100.2	0.76	0.97	1.00	34.0
4	T1	182	10.0	0.587	9.9	LOS A	3.8	100.2	0.76	0.97	1.00	33.9
14	R2	154	4.0	0.587	9.9	LOS A	3.8	100.2	0.76	0.97	1.00	33.0
Approach		422	6.8	0.587	11.1	LOS B	3.8	100.2	0.76	0.97	1.00	33.6
West: EB Dinuba Avenue												
5u	U	3	0.0	0.462	14.5	LOS B	2.6	67.2	0.61	0.68	0.62	36.6
5	L2	84	6.0	0.462	12.1	LOS B	2.6	67.2	0.61	0.68	0.62	35.5
2	T1	265	2.0	0.462	6.2	LOS A	2.6	67.2	0.61	0.68	0.62	35.5
12	R2	75	17.0	0.462	6.3	LOS A	2.6	67.2	0.61	0.68	0.62	34.1
Approach		427	5.4	0.462	7.4	LOS A	2.6	67.2	0.61	0.68	0.62	35.3
All Vehicles		1623	5.2	0.587	8.6	LOS A	4.1	104.7	0.67	0.78	0.75	34.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	338	448	6	6	26
Future Vol, veh/h	11	338	448	6	6	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	67	67	67	67	67	67
Heavy Vehicles, %	3	0	4	17	0	0
Mvmt Flow	16	504	669	9	9	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	678	0	-	0	1205	669
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	536	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	909	-	-	-	205	461
Stage 1	-	-	-	-	513	-
Stage 2	-	-	-	-	591	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	909	-	-	-	201	461
Mov Cap-2 Maneuver	-	-	-	-	201	-
Stage 1	-	-	-	-	504	-
Stage 2	-	-	-	-	591	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	909	-	-	-	201	461
HCM Lane V/C Ratio	0.018	-	-	-	0.045	0.084
HCM Control Delay (s)	9	-	-	-	23.7	13.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.3

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱			↕	
Traffic Vol, veh/h	78	269	2	0	317	24	1	0	1	23	0	101
Future Vol, veh/h	78	269	2	0	317	24	1	0	1	23	0	101
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	1	3	0	0	0	0	0	0	0	0	0	5
Mvmt Flow	113	390	3	0	459	35	1	0	1	33	0	146

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	494	0	0	393	0	0	1168	1112	392	1095	1096	477
Stage 1	-	-	-	-	-	-	618	618	-	477	477	-
Stage 2	-	-	-	-	-	-	550	494	-	618	619	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.345
Pot Cap-1 Maneuver	1075	-	-	1177	-	-	172	211	661	193	215	582
Stage 1	-	-	-	-	-	-	480	484	-	573	559	-
Stage 2	-	-	-	-	-	-	523	550	-	480	483	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1075	-	-	1177	-	-	115	183	661	173	186	582
Mov Cap-2 Maneuver	-	-	-	-	-	-	115	183	-	173	186	-
Stage 1	-	-	-	-	-	-	415	419	-	496	559	-
Stage 2	-	-	-	-	-	-	391	550	-	414	418	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0	23.6	20.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	115	661	1075	-	-	1177	-	-	405
HCM Lane V/C Ratio	0.013	0.002	0.105	-	-	-	-	-	0.444
HCM Control Delay (s)	36.7	10.5	8.7	0	-	0	-	-	20.8
HCM Lane LOS	E	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0	0.4	-	-	0	-	-	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	241	101	68	361	95	92	181	95	92	241	87
Future Volume (veh/h)	39	241	101	68	361	95	92	181	95	92	241	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1841	1856	1767	1841	1841	1856	1841	1796	1870	1826	1826
Adj Flow Rate, veh/h	49	301	126	85	451	119	115	226	119	115	301	109
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	5	4	3	9	4	4	3	4	7	2	5	5
Cap, veh/h	82	726	326	109	617	162	147	605	500	147	599	508
Arrive On Green	0.05	0.21	0.21	0.06	0.23	0.23	0.08	0.33	0.33	0.08	0.33	0.33
Sat Flow, veh/h	1739	3497	1572	1682	2742	718	1767	1841	1522	1781	1826	1547
Grp Volume(v), veh/h	49	301	126	85	286	284	115	226	119	115	301	109
Grp Sat Flow(s),veh/h/ln	1739	1749	1572	1682	1749	1711	1767	1841	1522	1781	1826	1547
Q Serve(g_s), s	1.6	4.2	3.9	2.8	8.6	8.8	3.6	5.3	3.2	3.6	7.5	2.9
Cycle Q Clear(g_c), s	1.6	4.2	3.9	2.8	8.6	8.8	3.6	5.3	3.2	3.6	7.5	2.9
Prop In Lane	1.00		1.00	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	726	326	109	394	385	147	605	500	147	599	508
V/C Ratio(X)	0.59	0.41	0.39	0.78	0.73	0.74	0.78	0.37	0.24	0.78	0.50	0.21
Avail Cap(c_a), veh/h	153	1107	498	148	553	541	171	605	500	166	599	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	19.5	19.4	26.2	20.4	20.5	25.6	14.6	13.9	25.6	15.4	13.8
Incr Delay (d2), s/veh	6.7	0.4	0.7	16.5	2.9	3.2	18.4	1.8	1.1	19.1	3.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.6	1.4	1.6	3.5	3.5	2.2	2.3	1.2	2.2	3.3	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	19.9	20.2	42.7	23.3	23.7	44.0	16.4	15.0	44.7	18.4	14.8
LnGrp LOS	C	B	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		476			655			460			525	
Approach Delay, s/veh		21.4			26.0			22.9			23.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	23.2	8.2	16.3	9.2	23.2	7.2	17.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.3	18.7	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	5.6	7.3	4.8	6.2	5.6	9.5	3.6	10.8
Green Ext Time (p_c), s	0.0	1.3	0.0	1.8	0.0	1.4	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	337	13	78	248	186	0	18	74	131	13	8
Future Vol, veh/h	18	337	13	78	248	186	0	18	74	131	13	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	2	0	1	2	3	0	0	4	4	0	0
Mvmt Flow	20	366	14	85	270	202	0	20	80	142	14	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	472	0	0	380	0	0	725	1055	190	774	961	236
Stage 1	-	-	-	-	-	-	413	413	-	541	541	-
Stage 2	-	-	-	-	-	-	312	642	-	233	420	-
Critical Hdwy	4.22	-	-	4.12	-	-	7.5	6.5	6.98	7.58	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.58	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.58	5.5	-
Follow-up Hdwy	2.26	-	-	2.21	-	-	3.5	4	3.34	3.54	4	3.3
Pot Cap-1 Maneuver	1058	-	-	1182	-	-	317	227	813	285	258	772
Stage 1	-	-	-	-	-	-	592	597	-	488	524	-
Stage 2	-	-	-	-	-	-	679	472	-	743	593	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1058	-	-	1182	-	-	271	199	813	215	226	772
Mov Cap-2 Maneuver	-	-	-	-	-	-	271	199	-	215	226	-
Stage 1	-	-	-	-	-	-	578	583	-	476	471	-
Stage 2	-	-	-	-	-	-	585	424	-	631	579	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.4	12.9	53.6
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	199	813	1058	-	-	1182	-	-	216	772
HCM Lane V/C Ratio	0.098	0.099	0.018	-	-	0.072	-	-	0.725	0.011
HCM Control Delay (s)	25.1	9.9	8.5	0.1	-	8.3	0.3	-	56	9.7
HCM Lane LOS	D	A	A	A	-	A	A	-	F	A
HCM 95th %tile Q(veh)	0.3	0.3	0.1	-	-	0.2	-	-	4.8	0

Intersection	
Intersection Delay, s/veh	15.1
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	200	345	352	4	173	151
Future Vol, veh/h	200	345	352	4	173	151
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	4	3	0	1	0
Mvmt Flow	215	371	378	4	186	162
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	17.1	13.7	13.4
HCM LOS	C	B	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	63%	0%	0%	0%	100%	0%
Vol Thru, %	37%	100%	100%	97%	0%	0%
Vol Right, %	0%	0%	0%	3%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	315	230	235	121	173	151
LT Vol	200	0	0	0	173	0
Through Vol	115	230	235	117	0	0
RT Vol	0	0	0	4	0	151
Lane Flow Rate	339	247	252	130	186	162
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.619	0.433	0.461	0.236	0.387	0.282
Departure Headway (Hd)	6.578	6.307	6.576	6.501	7.497	6.259
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	549	569	545	551	480	572
Service Time	4.336	4.065	4.341	4.265	5.259	4.021
HCM Lane V/C Ratio	0.617	0.434	0.462	0.236	0.388	0.283
HCM Control Delay	19.5	13.8	14.9	11.3	15	11.5
HCM Lane LOS	C	B	B	B	B	B
HCM 95th-tile Q	4.2	2.2	2.4	0.9	1.8	1.2

MOVEMENT SUMMARY

Site: 3 [Buttonwillow Avenue/Dinuba Avenue - Existing PM]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Existing
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	99	4.0	0.499	14.5	LOS B	2.8	74.7	0.71	0.90	0.85	34.6
8	T1	233	7.0	0.499	8.6	LOS A	2.8	74.7	0.71	0.90	0.85	34.5
18	R2	37	6.0	0.499	8.6	LOS A	2.8	74.7	0.71	0.90	0.85	33.5
Approach		368	6.1	0.499	10.2	LOS B	2.8	74.7	0.71	0.90	0.85	34.4
East: WB Dinuba Avenue												
1u	U	5	0.0	0.528	17.0	LOS B	3.5	86.9	0.74	0.91	0.89	36.1
1	L2	36	6.0	0.528	14.6	LOS B	3.5	86.9	0.74	0.91	0.89	35.0
6	T1	288	0.0	0.528	8.6	LOS A	3.5	86.9	0.74	0.91	0.89	35.1
16	R2	96	0.0	0.528	8.7	LOS A	3.5	86.9	0.74	0.91	0.89	34.1
Approach		425	0.5	0.528	9.3	LOS A	3.5	86.9	0.74	0.91	0.89	34.8
North: SB Buttonwillow Avenue												
7u	U	12	0.0	0.543	16.3	LOS B	3.5	92.0	0.71	0.87	0.83	35.8
7	L2	102	2.0	0.543	13.8	LOS B	3.5	92.0	0.71	0.87	0.83	34.9
4	T1	199	7.0	0.543	7.9	LOS A	3.5	92.0	0.71	0.87	0.83	34.7
14	R2	142	5.0	0.543	8.0	LOS A	3.5	92.0	0.71	0.87	0.83	33.7
Approach		455	5.1	0.543	9.5	LOS A	3.5	92.0	0.71	0.87	0.83	34.5
West: EB Dinuba Avenue												
5u	U	4	25.0	0.605	16.6	LOS B	4.7	121.0	0.73	0.87	0.87	34.8
5	L2	152	2.0	0.605	13.9	LOS B	4.7	121.0	0.73	0.87	0.87	34.8
2	T1	270	1.0	0.605	7.9	LOS A	4.7	121.0	0.73	0.87	0.87	34.7
12	R2	129	7.0	0.605	8.0	LOS A	4.7	121.0	0.73	0.87	0.87	33.6
Approach		555	2.9	0.605	9.6	LOS A	4.7	121.0	0.73	0.87	0.87	34.5
All Vehicles		1804	3.5	0.605	9.6	LOS A	4.7	121.0	0.72	0.89	0.86	34.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	351	355	15	7	16
Future Vol, veh/h	27	351	355	15	7	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	3	1	13	0	0
Mvmt Flow	29	382	386	16	8	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	402	0	-	0	826	386
Stage 1	-	-	-	-	386	-
Stage 2	-	-	-	-	440	-
Critical Hdwy	4.14	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.236	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1146	-	-	-	345	666
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	653	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1146	-	-	-	336	666
Mov Cap-2 Maneuver	-	-	-	-	336	-
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	653	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1146	-	-	-	336	666
HCM Lane V/C Ratio	0.026	-	-	-	0.023	0.026
HCM Control Delay (s)	8.2	-	-	-	16	10.6
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱			↕	
Traffic Vol, veh/h	28	313	4	4	319	21	4	0	5	7	1	29
Future Vol, veh/h	28	313	4	4	319	21	4	0	5	7	1	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	7	2	0	0	2	0	0	0	0	0	0	7
Mvmt Flow	30	340	4	4	347	23	4	0	5	8	1	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	370	0	0	344	0	0	785	780	342	772	771	359
Stage 1	-	-	-	-	-	-	402	402	-	367	367	-
Stage 2	-	-	-	-	-	-	383	378	-	405	404	-
Critical Hdwy	4.17	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.263	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	1161	-	-	1226	-	-	313	329	705	319	333	674
Stage 1	-	-	-	-	-	-	629	604	-	657	626	-
Stage 2	-	-	-	-	-	-	644	619	-	626	603	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1161	-	-	1226	-	-	290	317	705	308	321	674
Mov Cap-2 Maneuver	-	-	-	-	-	-	290	317	-	308	321	-
Stage 1	-	-	-	-	-	-	609	585	-	636	623	-
Stage 2	-	-	-	-	-	-	610	617	-	601	584	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.1	13.4	12.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	290	705	1161	-	-	1226	-	-	537
HCM Lane V/C Ratio	0.015	0.008	0.026	-	-	0.004	-	-	0.075
HCM Control Delay (s)	17.6	10.1	8.2	0	-	7.9	0	-	12.2
HCM Lane LOS	C	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	0.1	-	-	0	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	303	135	47	274	75	170	222	39	81	269	86
Future Volume (veh/h)	50	303	135	47	274	75	170	222	39	81	269	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1856	1885	1870	1841	1841	1900	1841	1752	1885	1856	1900
Adj Flow Rate, veh/h	54	326	145	51	295	81	183	239	42	87	289	92
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	3	1	2	4	4	0	4	10	1	3	0
Cap, veh/h	90	605	274	88	462	125	185	695	561	121	637	552
Arrive On Green	0.05	0.17	0.17	0.05	0.17	0.17	0.10	0.38	0.38	0.07	0.34	0.34
Sat Flow, veh/h	1753	3526	1598	1781	2723	735	1810	1841	1485	1795	1856	1610
Grp Volume(v), veh/h	54	326	145	51	188	188	183	239	42	87	289	92
Grp Sat Flow(s),veh/h/ln	1753	1763	1598	1781	1749	1708	1810	1841	1485	1795	1856	1610
Q Serve(g_s), s	1.6	4.6	4.5	1.5	5.4	5.5	5.4	5.0	1.0	2.6	6.5	2.1
Cycle Q Clear(g_c), s	1.6	4.6	4.5	1.5	5.4	5.5	5.4	5.0	1.0	2.6	6.5	2.1
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	605	274	88	297	290	185	695	561	121	637	552
V/C Ratio(X)	0.60	0.54	0.53	0.58	0.63	0.65	0.99	0.34	0.07	0.72	0.45	0.17
Avail Cap(c_a), veh/h	163	1177	533	165	584	570	185	695	561	166	637	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	20.4	20.4	25.1	20.8	20.9	24.2	12.0	10.7	24.6	13.8	12.3
Incr Delay (d2), s/veh	6.2	0.7	1.6	5.9	2.2	2.5	63.6	1.4	0.3	8.9	2.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.8	1.6	0.7	2.2	2.2	5.4	2.0	0.3	1.3	2.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.3	21.1	21.9	30.9	23.1	23.3	87.8	13.4	11.0	33.5	16.1	13.0
LnGrp LOS	C	C	C	C	C	C	F	B	B	C	B	B
Approach Vol, veh/h		525			427			464			468	
Approach Delay, s/veh		22.4			24.1			42.5			18.7	
Approach LOS		C			C			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	24.9	7.2	13.7	10.0	23.0	7.3	13.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	19.0	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	4.6	7.0	3.5	6.6	7.4	8.5	3.6	7.5
Green Ext Time (p_c), s	0.0	1.1	0.0	2.0	0.0	1.4	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	186.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑			↑	↱		↑	↱
Traffic Vol, veh/h	53	424	13	40	308	295	0	22	94	208	9	6
Future Vol, veh/h	53	424	13	40	308	295	0	22	94	208	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	2	0	5	2	5	0	0	2	1	0	0
Mvmt Flow	70	558	17	53	405	388	0	29	124	274	12	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	793	0	0	575	0	0	1022	1606	288	1139	1420	397
Stage 1	-	-	-	-	-	-	707	707	-	705	705	-
Stage 2	-	-	-	-	-	-	315	899	-	434	715	-
Critical Hdwy	4.1	-	-	4.2	-	-	7.5	6.5	6.94	7.52	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.52	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.52	5.5	-
Follow-up Hdwy	2.2	-	-	2.25	-	-	3.5	4	3.32	3.51	4	3.3
Pot Cap-1 Maneuver	837	-	-	974	-	-	193	106	709	~ 157	138	608
Stage 1	-	-	-	-	-	-	397	441	-	396	442	-
Stage 2	-	-	-	-	-	-	676	360	-	573	438	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	837	-	-	974	-	-	146	83	709	~ 80	108	608
Mov Cap-2 Maneuver	-	-	-	-	-	-	146	83	-	~ 80	108	-
Stage 1	-	-	-	-	-	-	348	387	-	347	396	-
Stage 2	-	-	-	-	-	-	579	322	-	384	384	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.7	22.3	$ 1211.5
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	83	709	837	-	-	974	-	-	81	608
HCM Lane V/C Ratio	0.349	0.174	0.083	-	-	0.054	-	-	3.525	0.013
HCM Control Delay (s)	70	11.1	9.7	0.5	-	8.9	0.4	-	$ 1244.7	11
HCM Lane LOS	F	B	A	A	-	A	A	-	F	B
HCM 95th %tile Q(veh)	1.3	0.6	0.3	-	-	0.2	-	-	29.2	0

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	41.6
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	153	538	577	1	126	105
Future Vol, veh/h	153	538	577	1	126	105
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	1	3	3	0	2	1
Mvmt Flow	199	699	749	1	164	136
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	43.1	50.2	15.4
HCM LOS	E	F	C

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	46%	0%	0%	0%	100%	0%
Vol Thru, %	54%	100%	100%	99%	0%	0%
Vol Right, %	0%	0%	0%	1%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	332	359	385	193	126	105
LT Vol	153	0	0	0	126	0
Through Vol	179	359	385	192	0	0
RT Vol	0	0	0	1	0	105
Lane Flow Rate	432	466	500	251	164	136
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.864	0.907	1	0.499	0.398	0.289
Departure Headway (Hd)	7.208	7.007	7.206	7.15	8.76	7.62
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	514	526	505	505	414	479
Service Time	4.829	4.632	4.938	4.882	6.46	5.244
HCM Lane V/C Ratio	0.84	0.886	0.99	0.497	0.396	0.284
HCM Control Delay	40.1	45.9	67	16.8	17.1	13.3
HCM Lane LOS	E	E	F	C	C	B
HCM 95th-tile Q	9.2	10.6	13.7	2.7	1.9	1.2

MOVEMENT SUMMARY

Site: 3 [Buttonwillow Avenue/Dinuba Avenue - Near Term AM]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Near Term
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	116	5.0	0.392	14.8	LOS B	1.8	47.8	0.70	0.90	0.79	33.8
8	T1	105	8.0	0.392	8.9	LOS A	1.8	47.8	0.70	0.90	0.79	33.7
18	R2	26	8.0	0.392	9.0	LOS A	1.8	47.8	0.70	0.90	0.79	32.7
Approach		248	6.6	0.392	11.7	LOS B	1.8	47.8	0.70	0.90	0.79	33.6
East: WB Dinuba Avenue												
1u	U	3	0.0	0.880	24.5	LOS C	14.8	374.5	1.00	1.28	1.73	32.3
1	L2	40	19.0	0.880	22.3	LOS C	14.8	374.5	1.00	1.28	1.73	31.1
6	T1	585	1.0	0.880	16.2	LOS B	14.8	374.5	1.00	1.28	1.73	31.5
16	R2	163	0.0	0.880	16.2	LOS B	14.8	374.5	1.00	1.28	1.73	30.7
Approach		791	1.7	0.880	16.5	LOS B	14.8	374.5	1.00	1.28	1.73	31.3
North: SB Buttonwillow Avenue												
7u	U	12	0.0	0.874	30.6	LOS C	9.7	253.5	0.95	1.36	2.12	29.3
7	L2	115	4.0	0.874	28.2	LOS C	9.7	253.5	0.95	1.36	2.12	28.6
4	T1	189	9.0	0.874	22.2	LOS C	9.7	253.5	0.95	1.36	2.12	28.5
14	R2	208	3.0	0.874	22.2	LOS C	9.7	253.5	0.95	1.36	2.12	27.9
Approach		524	5.3	0.874	23.7	LOS C	9.7	253.5	0.95	1.36	2.12	28.3
West: EB Dinuba Avenue												
5u	U	3	0.0	0.729	18.4	LOS B	7.5	191.5	0.85	1.00	1.14	34.8
5	L2	147	4.0	0.729	16.1	LOS B	7.5	191.5	0.85	1.00	1.14	33.9
2	T1	408	1.0	0.729	10.1	LOS B	7.5	191.5	0.85	1.00	1.14	33.9
12	R2	97	13.0	0.729	10.2	LOS B	7.5	191.5	0.85	1.00	1.14	32.7
Approach		654	3.4	0.729	11.5	LOS B	7.5	191.5	0.85	1.00	1.14	33.7
All Vehicles		2217	3.6	0.880	16.2	LOS B	14.8	374.5	0.91	1.17	1.54	31.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	507	672	6	6	26
Future Vol, veh/h	11	507	672	6	6	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	67	67	67	67	67	67
Heavy Vehicles, %	2	0	2	17	0	0
Mvmt Flow	16	757	1003	9	9	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1012	0	-	0	1792	1003
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	789	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	685	-	-	-	90	297
Stage 1	-	-	-	-	358	-
Stage 2	-	-	-	-	451	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	685	-	-	-	88	297
Mov Cap-2 Maneuver	-	-	-	-	88	-
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	451	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	24.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	685	-	-	-	88	297
HCM Lane V/C Ratio	0.024	-	-	-	0.102	0.131
HCM Control Delay (s)	10.4	-	-	-	50.5	18.9
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.4

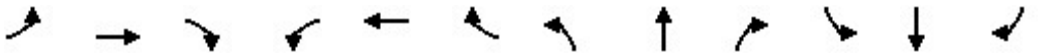
Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	78	438	2	0	541	24	1	0	1	23	0	101
Future Vol, veh/h	78	438	2	0	541	24	1	0	1	23	0	101
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	1	2	0	0	0	0	0	0	0	0	0	5
Mvmt Flow	113	635	3	0	784	35	1	0	1	33	0	146

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	819	0	0	638	0	0	1738	1682	637	1665	1666	802
Stage 1	-	-	-	-	-	-	863	863	-	802	802	-
Stage 2	-	-	-	-	-	-	875	819	-	863	864	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.345
Pot Cap-1 Maneuver	814	-	-	956	-	-	69	95	481	78	98	379
Stage 1	-	-	-	-	-	-	352	374	-	381	399	-
Stage 2	-	-	-	-	-	-	347	392	-	352	374	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	814	-	-	956	-	-	35	75	481	65	77	379
Mov Cap-2 Maneuver	-	-	-	-	-	-	35	75	-	65	77	-
Stage 1	-	-	-	-	-	-	276	294	-	299	399	-
Stage 2	-	-	-	-	-	-	213	392	-	275	294	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0	62.4	88.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	35	481	814	-	-	956	-	-	200
HCM Lane V/C Ratio	0.041	0.003	0.139	-	-	-	-	-	0.899
HCM Control Delay (s)	112.3	12.5	10.1	0	-	0	-	-	88.5
HCM Lane LOS	F	B	B	A	-	A	-	-	F
HCM 95th %tile Q(veh)	0.1	0	0.5	-	-	0	-	-	7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	285	158	93	398	105	150	234	108	103	294	118
Future Volume (veh/h)	82	285	158	93	398	105	150	234	108	103	294	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1856	1870	1767	1841	1885	1870	1870	1796	1870	1856	1826
Adj Flow Rate, veh/h	102	356	198	116	498	131	188	292	135	129	368	148
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	5	3	2	9	4	1	2	2	7	2	3	5
Cap, veh/h	129	649	292	145	686	313	231	1226	525	165	571	476
Arrive On Green	0.07	0.18	0.18	0.09	0.20	0.20	0.13	0.35	0.35	0.09	0.31	0.31
Sat Flow, veh/h	1739	3526	1585	1682	3497	1598	1781	3554	1522	1781	1856	1547
Grp Volume(v), veh/h	102	356	198	116	498	131	188	292	135	129	368	148
Grp Sat Flow(s),veh/h/ln	1739	1763	1585	1682	1749	1598	1781	1777	1522	1781	1856	1547
Q Serve(g_s), s	3.6	5.7	7.2	4.2	8.2	4.4	6.3	3.6	3.9	4.4	10.6	4.5
Cycle Q Clear(g_c), s	3.6	5.7	7.2	4.2	8.2	4.4	6.3	3.6	3.9	4.4	10.6	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	129	649	292	145	686	313	231	1226	525	165	571	476
V/C Ratio(X)	0.79	0.55	0.68	0.80	0.73	0.42	0.81	0.24	0.26	0.78	0.64	0.31
Avail Cap(c_a), veh/h	155	1028	462	177	1077	492	245	1226	525	237	571	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	22.8	23.5	27.7	23.2	21.7	26.1	14.4	14.5	27.4	18.4	16.3
Incr Delay (d2), s/veh	19.9	0.7	2.8	18.5	1.5	0.9	17.7	0.5	1.2	10.1	5.5	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.3	2.7	2.3	3.3	1.6	3.7	1.4	1.4	2.2	5.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	23.6	26.2	46.2	24.7	22.6	43.8	14.9	15.7	37.5	24.0	18.0
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	C	B
Approach Vol, veh/h		656			745			615			645	
Approach Delay, s/veh		28.2			27.7			23.9			25.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	25.8	9.8	15.9	12.5	23.5	9.1	16.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.2	19.3	6.5	18.0	8.5	19.0	5.5	19.0
Max Q Clear Time (g_c+I1), s	6.4	5.9	6.2	9.2	8.3	12.6	5.6	10.2
Green Ext Time (p_c), s	0.1	1.9	0.0	2.0	0.0	1.5	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	62.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑↱			↰↑↱			↰	↱		↰	↱
Traffic Vol, veh/h	18	337	13	78	311	186	0	18	74	254	13	8
Future Vol, veh/h	18	337	13	78	311	186	0	18	74	254	13	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	2	0	1	2	3	0	0	4	2	0	0
Mvmt Flow	20	366	14	85	338	202	0	20	80	276	14	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	540	0	0	380	0	0	759	1123	190	842	1029	270
Stage 1	-	-	-	-	-	-	413	413	-	609	609	-
Stage 2	-	-	-	-	-	-	346	710	-	233	420	-
Critical Hdwy	4.22	-	-	4.12	-	-	7.5	6.5	6.98	7.54	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.54	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.54	5.5	-
Follow-up Hdwy	2.26	-	-	2.21	-	-	3.5	4	3.34	3.52	4	3.3
Pot Cap-1 Maneuver	997	-	-	1182	-	-	299	207	813	~ 257	236	734
Stage 1	-	-	-	-	-	-	592	597	-	449	488	-
Stage 2	-	-	-	-	-	-	649	440	-	749	593	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	997	-	-	1182	-	-	253	181	813	~ 192	206	734
Mov Cap-2 Maneuver	-	-	-	-	-	-	253	181	-	~ 192	206	-
Stage 1	-	-	-	-	-	-	577	582	-	438	436	-
Stage 2	-	-	-	-	-	-	555	393	-	636	578	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.3	13.3	288.3
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	181	813	997	-	-	1182	-	-	193	734
HCM Lane V/C Ratio	0.108	0.099	0.02	-	-	0.072	-	-	1.504	0.012
HCM Control Delay (s)	27.3	9.9	8.7	0.1	-	8.3	0.3	-	296.6	10
HCM Lane LOS	D	A	A	A	-	A	A	-	F	B
HCM 95th %tile Q(veh)	0.4	0.3	0.1	-	-	0.2	-	-	18.1	0

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	26.6
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	200	530	560	4	194	151
Future Vol, veh/h	200	530	560	4	194	151
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	2	2	0	1	0
Mvmt Flow	215	570	602	4	209	162
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	30.8	27.3	16.5
HCM LOS	D	D	C

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	53%	0%	0%	0%	100%	0%
Vol Thru, %	47%	100%	100%	98%	0%	0%
Vol Right, %	0%	0%	0%	2%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	377	353	373	191	194	151
LT Vol	200	0	0	0	194	0
Through Vol	177	353	373	187	0	0
RT Vol	0	0	0	4	0	151
Lane Flow Rate	405	380	401	205	209	162
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.814	0.736	0.806	0.409	0.489	0.324
Departure Headway (Hd)	7.232	6.977	7.227	7.177	8.443	7.194
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	502	521	502	502	428	500
Service Time	4.965	4.71	4.961	4.911	6.179	4.929
HCM Lane V/C Ratio	0.807	0.729	0.799	0.408	0.488	0.324
HCM Control Delay	34.5	26.8	33.7	14.8	19	13.4
HCM Lane LOS	D	D	D	B	C	B
HCM 95th-tile Q	7.8	6.1	7.6	2	2.6	1.4

MOVEMENT SUMMARY

Site: 3 [Buttonwillow Avenue/Dinuba Avenue - Near Term PM]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Near Term
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	133	3.0	0.716	21.4	LOS C	5.2	134.0	0.86	1.11	1.43	31.2
8	T1	237	6.0	0.716	15.4	LOS B	5.2	134.0	0.86	1.11	1.43	31.1
18	R2	37	6.0	0.716	15.5	LOS B	5.2	134.0	0.86	1.11	1.43	30.3
Approach		407	5.0	0.716	17.4	LOS B	5.2	134.0	0.86	1.11	1.43	31.1
East: WB Dinuba Avenue												
1u	U	5	0.0	0.791	23.3	LOS C	8.4	209.6	0.94	1.19	1.58	32.8
1	L2	41	5.0	0.791	21.0	LOS C	8.4	209.6	0.94	1.19	1.58	31.9
6	T1	413	0.0	0.791	15.0	LOS B	8.4	209.6	0.94	1.19	1.58	32.0
16	R2	123	0.0	0.791	15.0	LOS B	8.4	209.6	0.94	1.19	1.58	31.1
Approach		583	0.4	0.791	15.5	LOS B	8.4	209.6	0.94	1.19	1.58	31.8
North: SB Buttonwillow Avenue												
7u	U	12	0.0	0.825	24.6	LOS C	9.1	235.4	0.95	1.24	1.70	31.6
7	L2	162	1.0	0.825	22.2	LOS C	9.1	235.4	0.95	1.24	1.70	30.9
4	T1	205	6.0	0.825	16.3	LOS B	9.1	235.4	0.95	1.24	1.70	30.8
14	R2	213	4.0	0.825	16.3	LOS B	9.1	235.4	0.95	1.24	1.70	30.0
Approach		592	3.8	0.825	18.0	LOS B	9.1	235.4	0.95	1.24	1.70	30.6
West: EB Dinuba Avenue												
5u	U	4	25.0	0.911	28.1	LOS C	16.5	421.2	1.00	1.38	1.98	29.8
5	L2	203	2.0	0.911	25.4	LOS C	16.5	421.2	1.00	1.38	1.98	29.7
2	T1	425	1.0	0.911	19.4	LOS B	16.5	421.2	1.00	1.38	1.98	29.7
12	R2	150	6.0	0.911	19.5	LOS B	16.5	421.2	1.00	1.38	1.98	28.9
Approach		783	2.4	0.911	21.0	LOS C	16.5	421.2	1.00	1.38	1.98	29.5
All Vehicles		2364	2.7	0.911	18.3	LOS B	16.5	421.2	0.95	1.25	1.72	30.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	538	495	15	7	16
Future Vol, veh/h	27	538	495	15	7	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	2	1	13	0	0
Mvmt Flow	29	585	538	16	8	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	554	0	-	0	1181	538
Stage 1	-	-	-	-	538	-
Stage 2	-	-	-	-	643	-
Critical Hdwy	4.14	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.236	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1006	-	-	-	212	547
Stage 1	-	-	-	-	589	-
Stage 2	-	-	-	-	527	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1006	-	-	-	206	547
Mov Cap-2 Maneuver	-	-	-	-	206	-
Stage 1	-	-	-	-	572	-
Stage 2	-	-	-	-	527	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1006	-	-	-	206	547
HCM Lane V/C Ratio	0.029	-	-	-	0.037	0.032
HCM Control Delay (s)	8.7	-	-	-	23.1	11.8
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.1

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	500	4	4	459	21	4	0	5	7	1	29
Future Vol, veh/h	28	500	4	4	459	21	4	0	5	7	1	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	7	1	0	0	1	0	0	0	0	0	0	7
Mvmt Flow	30	543	4	4	499	23	4	0	5	8	1	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	522	0	0	547	0	0	1140	1135	545	1127	1126	511
Stage 1	-	-	-	-	-	-	605	605	-	519	519	-
Stage 2	-	-	-	-	-	-	535	530	-	608	607	-
Critical Hdwy	4.17	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.263	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	1019	-	-	1033	-	-	180	204	542	183	207	553
Stage 1	-	-	-	-	-	-	488	491	-	544	536	-
Stage 2	-	-	-	-	-	-	533	530	-	486	489	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1019	-	-	1033	-	-	163	194	542	175	197	553
Mov Cap-2 Maneuver	-	-	-	-	-	-	163	194	-	175	197	-
Stage 1	-	-	-	-	-	-	468	470	-	521	533	-
Stage 2	-	-	-	-	-	-	499	527	-	461	468	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	18.8	15.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	163	542	1019	-	-	1033	-	-	379
HCM Lane V/C Ratio	0.027	0.01	0.03	-	-	0.004	-	-	0.106
HCM Control Delay (s)	27.7	11.7	8.6	0	-	8.5	0	-	15.6
HCM Lane LOS	D	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	0.1	-	-	0	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	348	170	53	340	80	215	278	63	89	319	150
Future Volume (veh/h)	92	348	170	53	340	80	215	278	63	89	319	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1885	1870	1856	1885	1900	1856	1811	1885	1856	1900
Adj Flow Rate, veh/h	99	374	183	57	366	86	231	299	68	96	343	161
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	1	2	3	1	0	3	6	1	3	0
Cap, veh/h	127	629	283	92	554	251	281	1404	611	125	580	503
Arrive On Green	0.07	0.18	0.18	0.05	0.16	0.16	0.16	0.40	0.40	0.07	0.31	0.31
Sat Flow, veh/h	1781	3554	1598	1781	3526	1598	1810	3526	1535	1795	1856	1610
Grp Volume(v), veh/h	99	374	183	57	366	86	231	299	68	96	343	161
Grp Sat Flow(s),veh/h/ln	1781	1777	1598	1781	1763	1598	1810	1763	1535	1795	1856	1610
Q Serve(g_s), s	3.2	5.7	6.3	1.9	5.8	2.8	7.3	3.3	1.7	3.1	9.2	4.5
Cycle Q Clear(g_c), s	3.2	5.7	6.3	1.9	5.8	2.8	7.3	3.3	1.7	3.1	9.2	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	629	283	92	554	251	281	1404	611	125	580	503
V/C Ratio(X)	0.78	0.59	0.65	0.62	0.66	0.34	0.82	0.21	0.11	0.77	0.59	0.32
Avail Cap(c_a), veh/h	150	1080	486	150	1072	486	321	1404	611	282	580	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	22.4	22.6	27.5	23.5	22.2	24.2	11.7	11.2	27.1	17.2	15.6
Incr Delay (d2), s/veh	19.7	0.9	2.5	6.8	1.4	0.8	14.1	0.3	0.4	9.6	4.4	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.3	2.4	0.9	2.3	1.0	4.0	1.2	0.6	1.6	4.3	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	23.3	25.1	34.3	24.8	23.0	38.4	12.1	11.6	36.6	21.6	17.2
LnGrp LOS	D	C	C	C	C	C	D	B	B	D	C	B
Approach Vol, veh/h		656			509			598			600	
Approach Delay, s/veh		27.4			25.6			22.2			22.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	28.1	7.5	15.0	13.7	23.0	8.7	13.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.3	19.7	5.0	18.0	10.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	5.1	5.3	3.9	8.3	9.3	11.2	5.2	7.8
Green Ext Time (p_c), s	0.1	1.8	0.0	2.2	0.1	1.6	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	11.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑↑↱			↰↑↑↱			↰	↱		↰	↱
Traffic Vol, veh/h	103	702	25	78	467	309	0	43	183	161	18	12
Future Vol, veh/h	103	702	25	78	467	309	0	43	183	161	18	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	5	0	0	5	5	0	0	0	5	0	0
Mvmt Flow	112	763	27	85	508	336	0	47	199	175	20	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	844	0	0	790	0	0	1435	2015	395	1475	1860	422
Stage 1	-	-	-	-	-	-	1001	1001	-	846	846	-
Stage 2	-	-	-	-	-	-	434	1014	-	629	1014	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.6	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.6	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.55	4	3.3
Pot Cap-1 Maneuver	801	-	-	839	-	-	96	59	610	~ 85	74	586
Stage 1	-	-	-	-	-	-	264	323	-	317	381	-
Stage 2	-	-	-	-	-	-	576	319	-	430	319	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	801	-	-	839	-	-	43	~ 35	610	-	44	586
Mov Cap-2 Maneuver	-	-	-	-	-	-	43	~ 35	-	-	44	-
Stage 1	-	-	-	-	-	-	198	242	-	237	303	-
Stage 2	-	-	-	-	-	-	419	254	-	175	239	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	1.3	95.4	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	35	610	801	-	-	839	-	-	-	586
HCM Lane V/C Ratio	1.335	0.326	0.14	-	-	0.101	-	-	-	0.022
HCM Control Delay (s)	$ 443.1	13.7	10.2	1	-	9.8	0.8	-	-	11.3
HCM Lane LOS	F	B	B	A	-	A	A	-	-	B
HCM 95th %tile Q(veh)	5	1.4	0.5	-	-	0.3	-	-	-	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	83.5
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	298	681	725	2	204	204
Future Vol, veh/h	298	681	725	2	204	204
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	5	5	0	0	0
Mvmt Flow	324	740	788	2	222	222
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	111	81.7	20.7
HCM LOS	F	F	C

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	57%	0%	0%	0%	100%	0%
Vol Thru, %	43%	100%	100%	99%	0%	0%
Vol Right, %	0%	0%	0%	1%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	525	454	483	244	204	204
LT Vol	298	0	0	0	204	0
Through Vol	227	454	483	242	0	0
RT Vol	0	0	0	2	0	204
Lane Flow Rate	571	493	525	265	222	222
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	1.216	1.024	1.135	0.566	0.55	0.476
Departure Headway (Hd)	7.969	7.764	8.123	8.03	9.458	8.219
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	462	469	452	453	384	441
Service Time	5.669	5.464	5.823	5.73	7.158	5.919
HCM Lane V/C Ratio	1.236	1.051	1.162	0.585	0.578	0.503
HCM Control Delay	141.3	75.9	112.4	20.7	23.1	18.2
HCM Lane LOS	F	F	F	C	C	C
HCM 95th-tile Q	21.7	14.1	18	3.4	3.2	2.5

MOVEMENT SUMMARY

Site: 3 [Buttonwillow Avenue/Dinuba Avenue - Cumulative Year 2040 AM]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Cumulative Year 2040
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	199	5.0	0.785	24.1	LOS C	6.5	169.1	0.89	1.20	1.68	29.8
8	T1	190	5.0	0.785	18.2	LOS B	6.5	169.1	0.89	1.20	1.68	29.8
18	R2	51	5.0	0.785	18.2	LOS B	6.5	169.1	0.89	1.20	1.68	29.0
Approach		440	5.0	0.785	20.9	LOS C	6.5	169.1	0.89	1.20	1.68	29.7
East: WB Dinuba Avenue												
1u	U	7	1.0	1.495	244.5	LOS F	125.7	3267.5	1.00	5.05	12.44	7.8
1	L2	78	5.0	1.495	242.1	LOS F	125.7	3267.5	1.00	5.05	12.44	7.7
6	T1	788	5.0	1.495	236.1	LOS F	125.7	3267.5	1.00	5.05	12.44	7.7
16	R2	192	5.0	1.495	236.1	LOS F	125.7	3267.5	1.00	5.05	12.44	7.7
Approach		1065	5.0	1.495	236.6	LOS F	125.7	3267.5	1.00	5.05	12.44	7.7
North: SB Buttonwillow Avenue												
7u	U	23	1.0	1.465	233.5	LOS F	93.2	2420.9	1.00	4.59	12.33	8.0
7	L2	143	5.0	1.465	231.1	LOS F	93.2	2420.9	1.00	4.59	12.33	8.0
4	T1	353	5.0	1.465	225.2	LOS F	93.2	2420.9	1.00	4.59	12.33	8.0
14	R2	300	5.0	1.465	225.2	LOS F	93.2	2420.9	1.00	4.59	12.33	7.9
Approach		820	4.9	1.465	226.4	LOS F	93.2	2420.9	1.00	4.59	12.33	7.9
West: EB Dinuba Avenue												
5u	U	7	1.0	0.975	36.5	LOS D	23.7	615.2	1.00	1.62	2.55	27.3
5	L2	163	5.0	0.975	34.1	LOS C	23.7	615.2	1.00	1.62	2.55	26.7
2	T1	516	5.0	0.975	28.1	LOS C	23.7	615.2	1.00	1.62	2.55	26.7
12	R2	146	5.0	0.975	28.2	LOS C	23.7	615.2	1.00	1.62	2.55	26.1
Approach		832	5.0	0.975	29.4	LOS C	23.7	615.2	1.00	1.62	2.55	26.6
All Vehicles		3157	5.0	1.495	149.3	LOS F	125.7	3267.5	0.99	3.49	8.31	11.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	657	871	12	12	51
Future Vol, veh/h	21	657	871	12	12	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	5	5	0	0	0
Mvmt Flow	23	714	947	13	13	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	960	0	-	0	1707	947
Stage 1	-	-	-	-	947	-
Stage 2	-	-	-	-	760	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	725	-	-	-	101	319
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	465	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	725	-	-	-	98	319
Mov Cap-2 Maneuver	-	-	-	-	98	-
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	465	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	24.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	725	-	-	-	98	319
HCM Lane V/C Ratio	0.031	-	-	-	0.133	0.174
HCM Control Delay (s)	10.1	-	-	-	47.3	18.6
HCM Lane LOS	B	-	-	-	E	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	0.6

Intersection	
Int Delay, s/veh	27.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱			↕	
Traffic Vol, veh/h	152	523	4	0	617	47	2	0	2	45	0	196
Future Vol, veh/h	152	523	4	0	617	47	2	0	2	45	0	196
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	5	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	165	568	4	0	671	51	2	0	2	49	0	213

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	722	0	0	572	0	0	1703	1622	570	1598	1599	697
Stage 1	-	-	-	-	-	-	900	900	-	697	697	-
Stage 2	-	-	-	-	-	-	803	722	-	901	902	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	889	-	-	1011	-	-	73	104	525	87	107	444
Stage 1	-	-	-	-	-	-	336	360	-	435	446	-
Stage 2	-	-	-	-	-	-	380	434	-	335	359	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	889	-	-	1011	-	-	30	76	525	68	78	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	30	76	-	68	78	-
Stage 1	-	-	-	-	-	-	245	262	-	317	446	-
Stage 2	-	-	-	-	-	-	198	434	-	243	261	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0	73.1	171.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	30	525	889	-	-	1011	-	-	218
HCM Lane V/C Ratio	0.072	0.004	0.186	-	-	-	-	-	1.202
HCM Control Delay (s)	134.2	11.9	10	0	-	0	-	-	171.7
HCM Lane LOS	F	B	A	A	-	A	-	-	F
HCM 95th %tile Q(veh)	0.2	0	0.7	-	-	0	-	-	13

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	469	196	132	702	185	179	352	185	179	469	169
Future Volume (veh/h)	76	469	196	132	702	185	179	352	185	179	469	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	83	510	213	143	763	201	195	383	201	195	510	184
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
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	106	737	329	170	866	386	231	1133	505	234	599	507
Arrive On Green	0.06	0.21	0.21	0.10	0.25	0.25	0.13	0.33	0.33	0.13	0.33	0.33
Sat Flow, veh/h	1739	3469	1547	1739	3469	1547	1739	3469	1547	1739	1826	1547
Grp Volume(v), veh/h	83	510	213	143	763	201	195	383	201	195	510	184
Grp Sat Flow(s),veh/h/ln	1739	1735	1547	1739	1735	1547	1739	1735	1547	1739	1826	1547
Q Serve(g_s), s	3.7	10.7	9.9	6.4	16.6	8.8	8.6	6.6	7.9	8.6	20.5	7.1
Cycle Q Clear(g_c), s	3.7	10.7	9.9	6.4	16.6	8.8	8.6	6.6	7.9	8.6	20.5	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	737	329	170	866	386	231	1133	505	234	599	507
V/C Ratio(X)	0.79	0.69	0.65	0.84	0.88	0.52	0.84	0.34	0.40	0.83	0.85	0.36
Avail Cap(c_a), veh/h	111	794	354	170	913	407	232	1133	505	285	599	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.4	28.6	28.3	34.9	28.4	25.5	33.3	20.0	20.5	33.2	24.6	20.2
Incr Delay (d2), s/veh	29.3	2.4	3.7	29.5	9.7	1.1	23.5	0.8	2.3	16.1	14.2	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.5	3.9	4.0	7.8	3.2	5.0	2.7	3.1	4.6	10.7	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	31.0	32.0	64.4	38.1	26.5	56.8	20.9	22.8	49.3	38.9	22.2
LnGrp LOS	E	C	C	E	D	C	E	C	C	D	D	C
Approach Vol, veh/h		806			1107			779			889	
Approach Delay, s/veh		34.8			39.4			30.4			37.7	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	30.2	12.2	21.2	15.0	30.3	9.3	24.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.9	23.4	7.7	18.0	10.5	25.8	5.0	20.7
Max Q Clear Time (g_c+I1), s	10.6	9.9	8.4	12.7	10.6	22.5	5.7	18.6
Green Ext Time (p_c), s	0.1	2.7	0.0	2.0	0.0	1.3	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	36.0
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	9.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	655	25	152	482	362	0	35	144	255	25	16
Future Vol, veh/h	35	655	25	152	482	362	0	35	144	255	25	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	5	0	0	5	5	0	0	0	5	0	0
Mvmt Flow	38	712	27	165	524	393	0	38	157	277	27	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	917	0	0	739	0	0	1408	2049	370	1502	1866	459
Stage 1	-	-	-	-	-	-	802	802	-	1051	1051	-
Stage 2	-	-	-	-	-	-	606	1247	-	451	815	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.6	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.6	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.55	4	3.3
Pot Cap-1 Maneuver	752	-	-	876	-	-	100	56	633	~ 82	73	554
Stage 1	-	-	-	-	-	-	348	399	-	~ 237	306	-
Stage 2	-	-	-	-	-	-	456	247	-	550	394	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	752	-	-	876	-	-	28	~ 30	633	-	39	554
Mov Cap-2 Maneuver	-	-	-	-	-	-	28	~ 30	-	-	39	-
Stage 1	-	-	-	-	-	-	318	365	-	~ 217	177	-
Stage 2	-	-	-	-	-	-	216	143	-	339	360	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	2.2	98.8	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	30	633	752	-	-	876	-	-	-	554
HCM Lane V/C Ratio	1.268	0.247	0.051	-	-	0.189	-	-	-	0.031
HCM Control Delay (s)	$ 453.9	12.5	10	0.4	-	10.1	1.3	-	-	11.7
HCM Lane LOS	F	B	B	A	-	B	A	-	-	B
HCM 95th %tile Q(veh)	4.3	1	0.2	-	-	0.7	-	-	-	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	127.1
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	389	671	685	8	336	294
Future Vol, veh/h	389	671	685	8	336	294
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	5	5	0	0	0
Mvmt Flow	418	722	737	9	361	316
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	200.2	91.3	43.5
HCM LOS	F	F	E

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	63%	0%	0%	0%	100%	0%
Vol Thru, %	37%	100%	100%	97%	0%	0%
Vol Right, %	0%	0%	0%	3%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	613	447	457	236	336	294
LT Vol	389	0	0	0	336	0
Through Vol	224	447	457	228	0	0
RT Vol	0	0	0	8	0	294
Lane Flow Rate	659	481	491	254	361	316
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	1.533	1.088	1.159	0.592	0.9	0.682
Departure Headway (Hd)	8.77	8.529	9.258	9.146	9.845	8.608
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	422	428	398	396	372	424
Service Time	6.47	6.229	6.958	6.846	7.545	6.308
HCM Lane V/C Ratio	1.562	1.124	1.234	0.641	0.97	0.745
HCM Control Delay	274.3	98.6	125.9	24.3	57.1	27.9
HCM Lane LOS	F	F	F	C	F	D
HCM 95th-tile Q	34.2	15.6	17.4	3.7	9.1	5

MOVEMENT SUMMARY

Site: 3 [Buttonwillow Avenue/Dinuba Avenue - Cumulative Year 2040 PM]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Cumulative Year 2040
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	192	5.0	1.226	128.3	LOS F	53.9	1402.6	1.00	3.31	8.16	12.6
8	T1	452	5.0	1.226	122.4	LOS F	53.9	1402.6	1.00	3.31	8.16	12.6
18	R2	72	5.0	1.226	122.4	LOS F	53.9	1402.6	1.00	3.31	8.16	12.5
Approach		716	5.0	1.226	124.0	LOS F	53.9	1402.6	1.00	3.31	8.16	12.6
East: WB Dinuba Avenue												
1u	U	11	1.0	1.394	202.3	LOS F	85.5	2222.1	1.00	4.30	11.23	9.1
1	L2	70	5.0	1.394	199.9	LOS F	85.5	2222.1	1.00	4.30	11.23	9.0
6	T1	560	5.0	1.394	193.9	LOS F	85.5	2222.1	1.00	4.30	11.23	9.0
16	R2	186	5.0	1.394	194.0	LOS F	85.5	2222.1	1.00	4.30	11.23	8.9
Approach		826	4.9	1.394	194.5	LOS F	85.5	2222.1	1.00	4.30	11.23	9.0
North: SB Buttonwillow Avenue												
7u	U	23	1.0	1.314	165.9	LOS F	80.4	2088.8	1.00	3.98	9.68	10.6
7	L2	199	5.0	1.314	163.6	LOS F	80.4	2088.8	1.00	3.98	9.68	10.5
4	T1	387	5.0	1.314	157.6	LOS F	80.4	2088.8	1.00	3.98	9.68	10.5
14	R2	277	5.0	1.314	157.6	LOS F	80.4	2088.8	1.00	3.98	9.68	10.4
Approach		886	4.9	1.314	159.2	LOS F	80.4	2088.8	1.00	3.98	9.68	10.5
West: EB Dinuba Avenue												
5u	U	9	1.0	1.435	217.5	LOS F	118.6	3083.9	1.00	4.77	11.28	8.5
5	L2	296	5.0	1.435	215.1	LOS F	118.6	3083.9	1.00	4.77	11.28	8.5
2	T1	524	5.0	1.435	209.1	LOS F	118.6	3083.9	1.00	4.77	11.28	8.5
12	R2	251	5.0	1.435	209.2	LOS F	118.6	3083.9	1.00	4.77	11.28	8.4
Approach		1079	5.0	1.435	210.8	LOS F	118.6	3083.9	1.00	4.77	11.28	8.5
All Vehicles		3508	5.0	1.435	176.2	LOS F	118.6	3083.9	1.00	4.16	10.23	9.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	53	683	690	29	14	31
Future Vol, veh/h	53	683	690	29	14	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	5	5	0	0	0
Mvmt Flow	58	742	750	32	15	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	782	0	-	0	1608	750
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	858	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	845	-	-	-	117	415
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	419	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	845	-	-	-	109	415
Mov Cap-2 Maneuver	-	-	-	-	109	-
Stage 1	-	-	-	-	438	-
Stage 2	-	-	-	-	419	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	23.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	845	-	-	-	109	415
HCM Lane V/C Ratio	0.068	-	-	-	0.14	0.081
HCM Control Delay (s)	9.6	-	-	-	43.3	14.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5	0.3

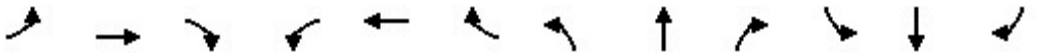
Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱			↕	
Traffic Vol, veh/h	54	609	8	8	620	41	8	0	10	14	2	56
Future Vol, veh/h	54	609	8	8	620	41	8	0	10	14	2	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	5	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	59	662	9	9	674	45	9	0	11	15	2	61

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	719	0	0	671	0	0	1531	1522	667	1505	1504	697
Stage 1	-	-	-	-	-	-	785	785	-	715	715	-
Stage 2	-	-	-	-	-	-	746	737	-	790	789	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	892	-	-	929	-	-	97	120	462	101	123	444
Stage 1	-	-	-	-	-	-	389	407	-	425	438	-
Stage 2	-	-	-	-	-	-	409	428	-	386	405	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	892	-	-	929	-	-	75	106	462	89	108	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	75	106	-	89	108	-
Stage 1	-	-	-	-	-	-	348	364	-	380	431	-
Stage 2	-	-	-	-	-	-	346	421	-	337	362	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	33.5	27.4
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	75	462	892	-	-	929	-	-	238
HCM Lane V/C Ratio	0.116	0.024	0.066	-	-	0.009	-	-	0.329
HCM Control Delay (s)	59.2	13	9.3	0	-	8.9	0	-	27.4
HCM Lane LOS	F	B	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.4	0.1	0.2	-	-	0	-	-	1.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	589	263	91	533	146	331	432	76	158	523	167
Future Volume (veh/h)	97	589	263	91	533	146	331	432	76	158	523	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	104	633	283	98	573	157	356	465	82	170	562	180
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	120	698	311	118	694	309	361	1432	639	206	590	500
Arrive On Green	0.07	0.20	0.20	0.07	0.20	0.20	0.21	0.41	0.41	0.12	0.32	0.32
Sat Flow, veh/h	1739	3469	1547	1739	3469	1547	1739	3469	1547	1739	1826	1547
Grp Volume(v), veh/h	104	633	283	98	573	157	356	465	82	170	562	180
Grp Sat Flow(s),veh/h/ln	1739	1735	1547	1739	1735	1547	1739	1735	1547	1739	1826	1547
Q Serve(g_s), s	5.3	16.0	16.1	5.0	14.2	8.1	18.4	8.2	3.0	8.6	27.1	8.0
Cycle Q Clear(g_c), s	5.3	16.0	16.1	5.0	14.2	8.1	18.4	8.2	3.0	8.6	27.1	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	698	311	118	694	309	361	1432	639	206	590	500
V/C Ratio(X)	0.87	0.91	0.91	0.83	0.83	0.51	0.99	0.32	0.13	0.83	0.95	0.36
Avail Cap(c_a), veh/h	120	698	311	118	694	309	361	1432	639	321	590	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	35.1	35.1	41.4	34.5	32.1	35.5	17.9	16.4	38.8	29.8	23.3
Incr Delay (d2), s/veh	44.7	15.7	29.1	37.2	8.1	1.4	43.3	0.6	0.4	9.7	26.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	8.1	8.4	3.3	6.6	3.1	11.9	3.3	1.1	4.2	15.8	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.2	50.8	64.2	78.6	42.6	33.4	78.8	18.5	16.8	48.4	56.7	25.3
LnGrp LOS	F	D	E	E	D	C	E	B	B	D	E	C
Approach Vol, veh/h		1020			828			903			912	
Approach Delay, s/veh		58.2			45.1			42.1			48.9	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.2	41.6	10.6	22.6	23.2	33.6	10.7	22.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.6	31.2	6.1	18.1	18.7	29.1	6.2	18.0
Max Q Clear Time (g_c+I1), s	10.6	10.2	7.0	18.1	20.4	29.1	7.3	16.2
Green Ext Time (p_c), s	0.2	3.4	0.0	0.0	0.0	0.0	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	49.0
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	13.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑↑↱			↰↑↑↱			↰	↱		↰	↱
Traffic Vol, veh/h	53	368	13	41	247	166	0	22	95	90	9	6
Future Vol, veh/h	53	368	13	41	247	166	0	22	95	90	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	4	0	5	5	7	0	0	2	2	0	0
Mvmt Flow	70	484	17	54	325	218	0	29	125	118	12	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	543	0	0	501	0	0	910	1284	251	939	1183	272
Stage 1	-	-	-	-	-	-	633	633	-	542	542	-
Stage 2	-	-	-	-	-	-	277	651	-	397	641	-
Critical Hdwy	4.1	-	-	4.2	-	-	7.5	6.5	6.94	7.54	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.54	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.54	5.5	-
Follow-up Hdwy	2.2	-	-	2.25	-	-	3.5	4	3.32	3.52	4	3.3
Pot Cap-1 Maneuver	1036	-	-	1039	-	-	233	166	749	219	191	732
Stage 1	-	-	-	-	-	-	439	476	-	492	523	-
Stage 2	-	-	-	-	-	-	712	468	-	600	473	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1036	-	-	1039	-	-	190	139	749	135	160	732
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	139	-	135	160	-
Stage 1	-	-	-	-	-	-	398	431	-	446	483	-
Stage 2	-	-	-	-	-	-	634	432	-	422	429	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.9	15.8	120.1
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	139	749	1036	-	-	1039	-	-	137	732
HCM Lane V/C Ratio	0.208	0.167	0.067	-	-	0.052	-	-	0.951	0.011
HCM Control Delay (s)	37.6	10.8	8.7	0.3	-	8.7	0.3	-	126.8	10
HCM Lane LOS	E	B	A	A	-	A	A	-	F	B
HCM 95th %tile Q(veh)	0.7	0.6	0.2	-	-	0.2	-	-	6.6	0

Intersection	
Intersection Delay, s/veh	16.8
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	153	365	388	1	106	105
Future Vol, veh/h	153	365	388	1	106	105
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	1	4	5	0	3	2
Mvmt Flow	199	474	504	1	138	136
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	18.6	16.7	12.8
HCM LOS	C	C	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	56%	0%	0%	0%	100%	0%
Vol Thru, %	44%	100%	100%	99%	0%	0%
Vol Right, %	0%	0%	0%	1%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	275	243	259	130	106	105
LT Vol	153	0	0	0	106	0
Through Vol	122	243	259	129	0	0
RT Vol	0	0	0	1	0	105
Lane Flow Rate	357	316	336	169	138	136
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.644	0.55	0.608	0.302	0.301	0.251
Departure Headway (Hd)	6.5	6.269	6.512	6.42	7.874	6.632
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	553	572	551	557	456	539
Service Time	4.261	4.029	4.279	4.187	5.643	4.401
HCM Lane V/C Ratio	0.646	0.552	0.61	0.303	0.303	0.252
HCM Control Delay	20.4	16.5	19	12	14	11.6
HCM Lane LOS	C	C	C	B	B	B
HCM 95th-tile Q	4.6	3.3	4	1.3	1.3	1

MOVEMENT SUMMARY

Site: 3 [Buttonwillow Avenue/Dinuba Avenue - Existing plus Project AM]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Existing plus Project
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	102	5.0	0.298	12.5	LOS B	1.3	34.7	0.59	0.75	0.59	34.9
8	T1	98	9.0	0.298	6.6	LOS A	1.3	34.7	0.59	0.75	0.59	34.8
18	R2	37	6.0	0.298	6.6	LOS A	1.3	34.7	0.59	0.75	0.59	33.8
Approach		237	6.8	0.298	9.2	LOS A	1.3	34.7	0.59	0.75	0.59	34.7
East: WB Dinuba Avenue												
1u	U	3	0.0	0.597	15.5	LOS B	4.7	119.1	0.70	0.77	0.79	36.5
1	L2	51	15.0	0.597	13.3	LOS B	4.7	119.1	0.70	0.77	0.79	35.1
6	T1	423	2.0	0.597	7.2	LOS A	4.7	119.1	0.70	0.77	0.79	35.5
16	R2	102	0.0	0.597	7.2	LOS A	4.7	119.1	0.70	0.77	0.79	34.5
Approach		579	2.8	0.597	7.7	LOS A	4.7	119.1	0.70	0.77	0.79	35.3
North: SB Buttonwillow Avenue												
7u	U	12	0.0	0.609	18.8	LOS B	4.0	106.4	0.78	0.99	1.06	34.7
7	L2	77	6.0	0.609	16.4	LOS B	4.0	106.4	0.78	0.99	1.06	33.6
4	T1	182	10.0	0.609	10.5	LOS B	4.0	106.4	0.78	0.99	1.06	33.6
14	R2	154	4.0	0.609	10.5	LOS B	4.0	106.4	0.78	0.99	1.06	32.7
Approach		425	6.8	0.609	11.8	LOS B	4.0	106.4	0.78	0.99	1.06	33.3
West: EB Dinuba Avenue												
5u	U	3	0.0	0.487	14.9	LOS B	2.9	75.0	0.63	0.71	0.67	36.5
5	L2	84	6.0	0.487	12.5	LOS B	2.9	75.0	0.63	0.71	0.67	35.4
2	T1	283	2.0	0.487	6.5	LOS A	2.9	75.0	0.63	0.71	0.67	35.4
12	R2	75	17.0	0.487	6.7	LOS A	2.9	75.0	0.63	0.71	0.67	34.0
Approach		445	5.3	0.487	7.7	LOS A	2.9	75.0	0.63	0.71	0.67	35.2
All Vehicles		1686	5.0	0.609	9.0	LOS A	4.7	119.1	0.69	0.81	0.80	34.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	338	451	6	9	26
Future Vol, veh/h	40	338	451	6	9	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	67	67	67	67	67	67
Heavy Vehicles, %	3	0	4	17	0	0
Mvmt Flow	60	504	673	9	13	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	682	0	-	0	1297	673
Stage 1	-	-	-	-	673	-
Stage 2	-	-	-	-	624	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	906	-	-	-	180	459
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	538	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	906	-	-	-	168	459
Mov Cap-2 Maneuver	-	-	-	-	168	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	538	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	17.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	906	-	-	-	168	459
HCM Lane V/C Ratio	0.066	-	-	-	0.08	0.085
HCM Control Delay (s)	9.3	-	-	-	28.3	13.6
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3	0.3

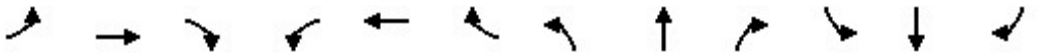
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱			↕	
Traffic Vol, veh/h	80	270	2	0	318	24	1	0	1	23	0	103
Future Vol, veh/h	80	270	2	0	318	24	1	0	1	23	0	103
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	1	3	0	0	0	0	0	0	0	0	0	5
Mvmt Flow	116	391	3	0	461	35	1	0	1	33	0	149

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	496	0	0	394	0	0	1178	1121	393	1104	1105	479
Stage 1	-	-	-	-	-	-	625	625	-	479	479	-
Stage 2	-	-	-	-	-	-	553	496	-	625	626	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.345
Pot Cap-1 Maneuver	1073	-	-	1176	-	-	169	208	660	190	213	581
Stage 1	-	-	-	-	-	-	476	480	-	571	558	-
Stage 2	-	-	-	-	-	-	521	549	-	476	480	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1073	-	-	1176	-	-	112	179	660	169	184	581
Mov Cap-2 Maneuver	-	-	-	-	-	-	112	179	-	169	184	-
Stage 1	-	-	-	-	-	-	410	414	-	492	558	-
Stage 2	-	-	-	-	-	-	387	549	-	409	414	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0	24.1	21.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	112	660	1073	-	-	1176	-	-	402
HCM Lane V/C Ratio	0.013	0.002	0.108	-	-	-	-	-	0.454
HCM Control Delay (s)	37.6	10.5	8.8	0	-	0	-	-	21.2
HCM Lane LOS	E	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0	0.4	-	-	0	-	-	2.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	241	102	68	361	95	93	182	95	92	242	87
Future Volume (veh/h)	39	241	102	68	361	95	93	182	95	92	242	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1841	1856	1767	1841	1841	1856	1841	1796	1870	1826	1826
Adj Flow Rate, veh/h	49	301	128	85	451	119	116	228	119	115	302	109
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	5	4	3	9	4	4	3	4	7	2	5	5
Cap, veh/h	82	726	326	109	617	162	148	605	500	147	598	507
Arrive On Green	0.05	0.21	0.21	0.06	0.23	0.23	0.08	0.33	0.33	0.08	0.33	0.33
Sat Flow, veh/h	1739	3497	1572	1682	2742	718	1767	1841	1522	1781	1826	1547
Grp Volume(v), veh/h	49	301	128	85	286	284	116	228	119	115	302	109
Grp Sat Flow(s),veh/h/ln	1739	1749	1572	1682	1749	1711	1767	1841	1522	1781	1826	1547
Q Serve(g_s), s	1.6	4.2	4.0	2.8	8.6	8.8	3.7	5.4	3.2	3.6	7.6	2.9
Cycle Q Clear(g_c), s	1.6	4.2	4.0	2.8	8.6	8.8	3.7	5.4	3.2	3.6	7.6	2.9
Prop In Lane	1.00		1.00	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	726	326	109	394	385	148	605	500	147	598	507
V/C Ratio(X)	0.59	0.41	0.39	0.78	0.73	0.74	0.79	0.38	0.24	0.78	0.50	0.22
Avail Cap(c_a), veh/h	153	1107	498	148	553	541	171	605	500	166	598	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	19.5	19.4	26.2	20.4	20.5	25.6	14.6	13.9	25.6	15.4	13.8
Incr Delay (d2), s/veh	6.7	0.4	0.8	16.5	2.9	3.2	18.5	1.8	1.1	19.1	3.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.6	1.4	1.6	3.5	3.5	2.2	2.3	1.2	2.2	3.3	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	19.9	20.2	42.7	23.3	23.7	44.1	16.4	15.0	44.7	18.4	14.8
LnGrp LOS	C	B	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		478			655			463			526	
Approach Delay, s/veh		21.4			26.0			23.0			23.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	23.2	8.2	16.3	9.3	23.1	7.2	17.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.3	18.7	5.0	18.0	5.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	5.6	7.4	4.8	6.2	5.7	9.6	3.6	10.8
Green Ext Time (p_c), s	0.0	1.3	0.0	1.8	0.0	1.4	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	212.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑↱			↰↑↱			↰	↱		↰	↱
Traffic Vol, veh/h	53	431	13	41	315	302	0	22	95	215	9	6
Future Vol, veh/h	53	431	13	41	315	302	0	22	95	215	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	3	0	5	4	4	0	0	2	1	0	0
Mvmt Flow	70	567	17	54	414	397	0	29	125	283	12	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	811	0	0	584	0	0	1037	1635	292	1159	1445	406
Stage 1	-	-	-	-	-	-	716	716	-	721	721	-
Stage 2	-	-	-	-	-	-	321	919	-	438	724	-
Critical Hdwy	4.1	-	-	4.2	-	-	7.5	6.5	6.94	7.52	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.52	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.52	5.5	-
Follow-up Hdwy	2.2	-	-	2.25	-	-	3.5	4	3.32	3.51	4	3.3
Pot Cap-1 Maneuver	824	-	-	966	-	-	188	102	704	~ 152	133	600
Stage 1	-	-	-	-	-	-	392	437	-	387	435	-
Stage 2	-	-	-	-	-	-	671	353	-	570	433	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	824	-	-	966	-	-	141	79	704	~ 75	103	600
Mov Cap-2 Maneuver	-	-	-	-	-	-	141	79	-	~ 75	103	-
Stage 1	-	-	-	-	-	-	343	382	-	338	387	-
Stage 2	-	-	-	-	-	-	571	314	-	379	378	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.7	23.2	$ 1372
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	79	704	824	-	-	966	-	-	76	600
HCM Lane V/C Ratio	0.366	0.178	0.085	-	-	0.056	-	-	3.878	0.013
HCM Control Delay (s)	74.9	11.2	9.8	0.5	-	8.9	0.4	-	$ 1408.5	11.1
HCM Lane LOS	F	B	A	A	-	A	A	-	F	B
HCM 95th %tile Q(veh)	1.4	0.6	0.3	-	-	0.2	-	-	30.9	0

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	45.3
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	153	553	592	1	127	105
Future Vol, veh/h	153	553	592	1	127	105
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	1	3	3	0	2	2
Mvmt Flow	199	718	769	1	165	136
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	45.6	56.5	15.7
HCM LOS	E	F	C

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	45%	0%	0%	0%	100%	0%
Vol Thru, %	55%	100%	100%	99%	0%	0%
Vol Right, %	0%	0%	0%	1%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	337	369	395	198	127	105
LT Vol	153	0	0	0	127	0
Through Vol	184	369	395	197	0	0
RT Vol	0	0	0	1	0	105
Lane Flow Rate	438	479	513	258	165	136
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.869	0.923	1.034	0.516	0.404	0.287
Departure Headway (Hd)	7.283	7.086	7.261	7.205	8.984	7.747
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	499	517	502	502	402	466
Service Time	4.983	4.786	4.961	4.905	6.684	5.447
HCM Lane V/C Ratio	0.878	0.926	1.022	0.514	0.41	0.292
HCM Control Delay	41.5	49.4	76.2	17.3	17.6	13.5
HCM Lane LOS	E	E	F	C	C	B
HCM 95th-tile Q	9.3	11	15	2.9	1.9	1.2

MOVEMENT SUMMARY

Site: 3 [Buttonwillow Avenue/Dinuba Avenue - Near Term plus Project AM]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Near Term plus Project
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	116	5.0	0.417	15.3	LOS B	2.0	52.3	0.71	0.91	0.83	33.6
8	T1	105	8.0	0.417	9.4	LOS A	2.0	52.3	0.71	0.91	0.83	33.5
18	R2	37	6.0	0.417	9.4	LOS A	2.0	52.3	0.71	0.91	0.83	32.6
Approach		259	6.4	0.417	12.0	LOS B	2.0	52.3	0.71	0.91	0.83	33.4
East: WB Dinuba Avenue												
1u	U	3	0.0	0.915	27.5	LOS C	17.9	452.3	1.00	1.36	1.93	31.0
1	L2	51	15.0	0.915	25.2	LOS C	17.9	452.3	1.00	1.36	1.93	30.0
6	T1	602	1.0	0.915	19.1	LOS B	17.9	452.3	1.00	1.36	1.93	30.3
16	R2	166	0.0	0.915	19.1	LOS B	17.9	452.3	1.00	1.36	1.93	29.5
Approach		823	1.7	0.915	19.5	LOS B	17.9	452.3	1.00	1.36	1.93	30.1
North: SB Buttonwillow Avenue												
7u	U	12	0.0	0.906	34.1	LOS C	11.1	288.3	0.97	1.44	2.40	28.0
7	L2	118	4.0	0.906	31.7	LOS C	11.1	288.3	0.97	1.44	2.40	27.4
4	T1	189	9.0	0.906	25.8	LOS C	11.1	288.3	0.97	1.44	2.40	27.3
14	R2	208	3.0	0.906	25.8	LOS C	11.1	288.3	0.97	1.44	2.40	26.7
Approach		527	5.3	0.906	27.3	LOS C	11.1	288.3	0.97	1.44	2.40	27.1
West: EB Dinuba Avenue												
5u	U	3	0.0	0.759	19.4	LOS B	8.3	213.4	0.89	1.06	1.24	34.4
5	L2	147	4.0	0.759	17.0	LOS B	8.3	213.4	0.89	1.06	1.24	33.5
2	T1	425	1.0	0.759	11.0	LOS B	8.3	213.4	0.89	1.06	1.24	33.5
12	R2	97	13.0	0.759	11.1	LOS B	8.3	213.4	0.89	1.06	1.24	32.3
Approach		672	3.4	0.759	12.3	LOS B	8.3	213.4	0.89	1.06	1.24	33.3
All Vehicles		2280	3.5	0.915	18.4	LOS B	17.9	452.3	0.93	1.24	1.71	30.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	507	675	6	9	26
Future Vol, veh/h	40	507	675	6	9	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	67	67	67	67	67	67
Heavy Vehicles, %	2	0	2	17	0	0
Mvmt Flow	60	757	1007	9	13	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1016	0	-	0	1884	1007
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	877	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	683	-	-	-	79	295
Stage 1	-	-	-	-	356	-
Stage 2	-	-	-	-	410	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	683	-	-	-	72	295
Mov Cap-2 Maneuver	-	-	-	-	72	-
Stage 1	-	-	-	-	325	-
Stage 2	-	-	-	-	410	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	31.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	683	-	-	-	72	295
HCM Lane V/C Ratio	0.087	-	-	-	0.187	0.132
HCM Control Delay (s)	10.8	-	-	-	66.1	19
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.6	0.4

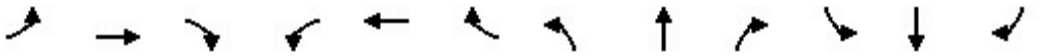
Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	439	2	0	542	24	1	0	1	23	0	103
Future Vol, veh/h	80	439	2	0	542	24	1	0	1	23	0	103
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	1	2	0	0	0	0	0	0	0	0	0	5
Mvmt Flow	116	636	3	0	786	35	1	0	1	33	0	149

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	821	0	0	639	0	0	1748	1691	638	1674	1675	804
Stage 1	-	-	-	-	-	-	870	870	-	804	804	-
Stage 2	-	-	-	-	-	-	878	821	-	870	871	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.345
Pot Cap-1 Maneuver	813	-	-	955	-	-	68	94	480	77	96	378
Stage 1	-	-	-	-	-	-	349	372	-	380	398	-
Stage 2	-	-	-	-	-	-	345	391	-	349	371	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	813	-	-	955	-	-	34	73	480	64	75	378
Mov Cap-2 Maneuver	-	-	-	-	-	-	34	73	-	64	75	-
Stage 1	-	-	-	-	-	-	272	290	-	296	398	-
Stage 2	-	-	-	-	-	-	209	391	-	271	289	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0	64	93
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	34	480	813	-	-	955	-	-	199
HCM Lane V/C Ratio	0.043	0.003	0.143	-	-	-	-	-	0.918
HCM Control Delay (s)	115.5	12.5	10.2	0	-	0	-	-	93
HCM Lane LOS	F	B	B	A	-	A	-	-	F
HCM 95th %tile Q(veh)	0.1	0	0.5	-	-	0	-	-	7.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	285	159	93	398	105	151	235	108	103	295	118
Future Volume (veh/h)	82	285	159	93	398	105	151	235	108	103	295	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1870	1811	1841	1885	1870	1856	1811	1870	1841	1856
Adj Flow Rate, veh/h	102	356	199	116	498	131	189	294	135	129	369	148
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	3	2	6	4	1	2	3	6	2	4	3
Cap, veh/h	131	643	289	146	679	310	232	1243	541	165	580	495
Arrive On Green	0.07	0.18	0.18	0.08	0.19	0.19	0.13	0.35	0.35	0.09	0.31	0.31
Sat Flow, veh/h	1781	3526	1585	1725	3497	1598	1781	3526	1535	1781	1841	1572
Grp Volume(v), veh/h	102	356	199	116	498	131	189	294	135	129	369	148
Grp Sat Flow(s),veh/h/ln	1781	1763	1585	1725	1749	1598	1781	1763	1535	1781	1841	1572
Q Serve(g_s), s	3.5	5.7	7.3	4.1	8.4	4.5	6.5	3.7	3.9	4.4	10.7	4.5
Cycle Q Clear(g_c), s	3.5	5.7	7.3	4.1	8.4	4.5	6.5	3.7	3.9	4.4	10.7	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	131	643	289	146	679	310	232	1243	541	165	580	495
V/C Ratio(X)	0.78	0.55	0.69	0.79	0.73	0.42	0.82	0.24	0.25	0.78	0.64	0.30
Avail Cap(c_a), veh/h	157	1014	456	160	1023	467	242	1243	541	233	580	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	23.3	23.9	28.1	23.7	22.1	26.5	14.3	14.4	27.8	18.4	16.2
Incr Delay (d2), s/veh	18.8	0.7	2.9	21.7	1.6	0.9	18.4	0.4	1.1	10.6	5.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.3	2.8	2.5	3.4	1.7	3.8	1.4	1.4	2.3	5.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	24.0	26.8	49.7	25.3	23.1	44.9	14.8	15.5	38.3	23.6	17.8
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	C	B
Approach Vol, veh/h		657			745			618			646	
Approach Delay, s/veh		28.5			28.7			24.1			25.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	26.6	9.8	15.9	12.6	24.2	9.1	16.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.2	20.0	5.8	18.0	8.5	19.7	5.5	18.3
Max Q Clear Time (g_c+I1), s	6.4	5.9	6.1	9.3	8.5	12.7	5.5	10.4
Green Ext Time (p_c), s	0.0	2.0	0.0	2.0	0.0	1.6	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	77.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	349	13	79	323	199	0	18	75	267	13	8
Future Vol, veh/h	18	349	13	79	323	199	0	18	75	267	13	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	2	0	1	2	3	0	0	4	2	0	0
Mvmt Flow	20	379	14	86	351	216	0	20	82	290	14	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	567	0	0	393	0	0	781	1165	197	871	1064	284
Stage 1	-	-	-	-	-	-	426	426	-	631	631	-
Stage 2	-	-	-	-	-	-	355	739	-	240	433	-
Critical Hdwy	4.22	-	-	4.12	-	-	7.5	6.5	6.98	7.54	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.54	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.54	5.5	-
Follow-up Hdwy	2.26	-	-	2.21	-	-	3.5	4	3.34	3.52	4	3.3
Pot Cap-1 Maneuver	974	-	-	1169	-	-	288	196	805	~ 245	225	719
Stage 1	-	-	-	-	-	-	582	589	-	436	477	-
Stage 2	-	-	-	-	-	-	641	427	-	742	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	974	-	-	1169	-	-	241	170	805	~ 181	195	719
Mov Cap-2 Maneuver	-	-	-	-	-	-	241	170	-	~ 181	195	-
Stage 1	-	-	-	-	-	-	567	574	-	425	424	-
Stage 2	-	-	-	-	-	-	544	380	-	627	570	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.3	13.7	$ 360.4
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	170	805	974	-	-	1169	-	-	182	719
HCM Lane V/C Ratio	0.115	0.101	0.02	-	-	0.073	-	-	1.672	0.012
HCM Control Delay (s)	28.9	10	8.8	0.1	-	8.3	0.3	-	$ 370.4	10.1
HCM Lane LOS	D	B	A	A	-	A	A	-	F	B
HCM 95th %tile Q(veh)	0.4	0.3	0.1	-	-	0.2	-	-	20.8	0

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	29.7
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	200	556	586	4	195	151
Future Vol, veh/h	200	556	586	4	195	151
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	2	2	0	1	0
Mvmt Flow	215	598	630	4	210	162
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	34.4	31.3	16.9
HCM LOS	D	D	C

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	52%	0%	0%	0%	100%	0%
Vol Thru, %	48%	100%	100%	98%	0%	0%
Vol Right, %	0%	0%	0%	2%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	385	371	391	199	195	151
LT Vol	200	0	0	0	195	0
Through Vol	185	371	391	195	0	0
RT Vol	0	0	0	4	0	151
Lane Flow Rate	414	399	420	214	210	162
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.841	0.781	0.852	0.432	0.498	0.329
Departure Headway (Hd)	7.303	7.054	7.3	7.25	8.555	7.305
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	497	514	496	497	421	492
Service Time	5.038	4.789	5.037	4.988	6.294	5.043
HCM Lane V/C Ratio	0.833	0.776	0.847	0.431	0.499	0.329
HCM Control Delay	38	30.7	39.4	15.4	19.5	13.6
HCM Lane LOS	E	D	E	C	C	B
HCM 95th-tile Q	8.5	7.1	8.8	2.1	2.7	1.4

MOVEMENT SUMMARY

Site: 3 [Buttonwillow Avenue/Dinuba Avenue - Near Term plus Project PM]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Near Term plus Project
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	133	3.0	0.772	23.7	LOS C	6.1	158.5	0.88	1.18	1.63	30.3
8	T1	237	6.0	0.772	17.8	LOS B	6.1	158.5	0.88	1.18	1.63	30.2
18	R2	55	4.0	0.772	17.8	LOS B	6.1	158.5	0.88	1.18	1.63	29.4
Approach		425	4.8	0.772	19.7	LOS B	6.1	158.5	0.88	1.18	1.63	30.1
East: WB Dinuba Avenue												
1u	U	5	0.0	0.865	27.1	LOS C	11.4	287.0	1.00	1.33	1.95	31.0
1	L2	60	4.0	0.865	24.8	LOS C	11.4	287.0	1.00	1.33	1.95	30.3
6	T1	442	0.0	0.865	18.8	LOS B	11.4	287.0	1.00	1.33	1.95	30.3
16	R2	129	0.0	0.865	18.8	LOS B	11.4	287.0	1.00	1.33	1.95	29.5
Approach		637	0.4	0.865	19.4	LOS B	11.4	287.0	1.00	1.33	1.95	30.2
North: SB Buttonwillow Avenue												
7u	U	12	0.0	0.876	28.5	LOS C	11.0	283.5	0.98	1.35	2.04	30.0
7	L2	168	1.0	0.876	26.1	LOS C	11.0	283.5	0.98	1.35	2.04	29.3
4	T1	205	6.0	0.876	20.2	LOS C	11.0	283.5	0.98	1.35	2.04	29.2
14	R2	213	4.0	0.876	20.2	LOS C	11.0	283.5	0.98	1.35	2.04	28.5
Approach		599	3.8	0.876	22.0	LOS C	11.0	283.5	0.98	1.35	2.04	29.0
West: EB Dinuba Avenue												
5u	U	4	25.0	0.964	35.8	LOS D	22.2	563.6	1.00	1.59	2.53	27.0
5	L2	203	2.0	0.964	33.1	LOS C	22.2	563.6	1.00	1.59	2.53	27.0
2	T1	454	0.0	0.964	27.1	LOS C	22.2	563.6	1.00	1.59	2.53	27.0
12	R2	150	6.0	0.964	27.2	LOS C	22.2	563.6	1.00	1.59	2.53	26.3
Approach		812	1.7	0.964	28.7	LOS C	22.2	563.6	1.00	1.59	2.53	26.9
All Vehicles		2473	2.4	0.964	23.1	LOS C	22.2	563.6	0.98	1.39	2.11	28.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	538	500	15	12	16
Future Vol, veh/h	77	538	500	15	12	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	2	1	13	0	0
Mvmt Flow	84	585	543	16	13	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	559	0	-	0	1296	543
Stage 1	-	-	-	-	543	-
Stage 2	-	-	-	-	753	-
Critical Hdwy	4.11	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1017	-	-	-	181	544
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	469	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1017	-	-	-	166	544
Mov Cap-2 Maneuver	-	-	-	-	166	-
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	469	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	19
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1017	-	-	-	166	544
HCM Lane V/C Ratio	0.082	-	-	-	0.079	0.032
HCM Control Delay (s)	8.9	-	-	-	28.5	11.8
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.3	0.1

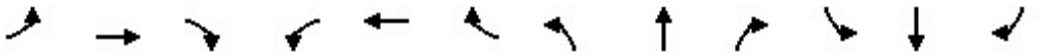
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	502	4	4	461	21	4	0	5	7	1	32
Future Vol, veh/h	31	502	4	4	461	21	4	0	5	7	1	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	1	0	0	1	0	0	0	0	0	0	6
Mvmt Flow	34	546	4	4	501	23	4	0	5	8	1	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	524	0	0	550	0	0	1155	1148	548	1140	1139	513
Stage 1	-	-	-	-	-	-	616	616	-	521	521	-
Stage 2	-	-	-	-	-	-	539	532	-	619	618	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.254	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.354
Pot Cap-1 Maneuver	1023	-	-	1030	-	-	175	200	540	180	203	553
Stage 1	-	-	-	-	-	-	481	485	-	542	535	-
Stage 2	-	-	-	-	-	-	530	529	-	480	484	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1023	-	-	1030	-	-	157	189	540	171	192	553
Mov Cap-2 Maneuver	-	-	-	-	-	-	157	189	-	171	192	-
Stage 1	-	-	-	-	-	-	458	462	-	516	532	-
Stage 2	-	-	-	-	-	-	493	526	-	452	461	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	19.2	15.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	157	540	1023	-	-	1030	-	-	385
HCM Lane V/C Ratio	0.028	0.01	0.033	-	-	0.004	-	-	0.113
HCM Control Delay (s)	28.6	11.7	8.6	0	-	8.5	0	-	15.5
HCM Lane LOS	D	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	0.1	-	-	0	-	-	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	348	171	53	340	80	216	280	63	89	321	150
Future Volume (veh/h)	92	348	171	53	340	80	216	280	63	89	321	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1885	1870	1856	1885	1900	1856	1811	1885	1856	1900
Adj Flow Rate, veh/h	99	374	184	57	366	86	232	301	68	96	345	161
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	1	2	3	1	0	3	6	1	3	0
Cap, veh/h	127	630	283	91	556	252	282	1404	611	125	579	502
Arrive On Green	0.07	0.18	0.18	0.05	0.16	0.16	0.16	0.40	0.40	0.07	0.31	0.31
Sat Flow, veh/h	1781	3554	1598	1781	3526	1598	1810	3526	1535	1795	1856	1610
Grp Volume(v), veh/h	99	374	184	57	366	86	232	301	68	96	345	161
Grp Sat Flow(s),veh/h/ln	1781	1777	1598	1781	1763	1598	1810	1763	1535	1795	1856	1610
Q Serve(g_s), s	3.2	5.7	6.3	1.9	5.8	2.8	7.4	3.3	1.7	3.1	9.3	4.5
Cycle Q Clear(g_c), s	3.2	5.7	6.3	1.9	5.8	2.8	7.4	3.3	1.7	3.1	9.3	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	630	283	91	556	252	282	1404	611	125	579	502
V/C Ratio(X)	0.78	0.59	0.65	0.62	0.66	0.34	0.82	0.21	0.11	0.77	0.60	0.32
Avail Cap(c_a), veh/h	150	1079	485	150	1070	485	320	1404	611	282	579	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	22.4	22.7	27.6	23.5	22.2	24.2	11.7	11.2	27.1	17.2	15.6
Incr Delay (d2), s/veh	19.7	0.9	2.5	6.8	1.3	0.8	14.3	0.3	0.4	9.6	4.5	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.3	2.4	0.9	2.3	1.1	4.1	1.2	0.6	1.6	4.3	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	23.3	25.2	34.3	24.8	23.0	38.5	12.1	11.6	36.7	21.7	17.3
LnGrp LOS	D	C	C	C	C	C	D	B	B	D	C	B
Approach Vol, veh/h		657			509			601			602	
Approach Delay, s/veh		27.4			25.6			22.2			22.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	28.1	7.5	15.0	13.7	23.0	8.7	13.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.3	19.7	5.0	18.0	10.5	18.5	5.0	18.0
Max Q Clear Time (g_c+I1), s	5.1	5.3	3.9	8.3	9.4	11.3	5.2	7.8
Green Ext Time (p_c), s	0.1	1.8	0.0	2.2	0.1	1.6	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	12.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑↱			↰↑↱			↰	↱		↰	↱
Traffic Vol, veh/h	103	709	25	79	474	316	0	43	184	168	18	12
Future Vol, veh/h	103	709	25	79	474	316	0	43	184	168	18	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	5	0	0	5	5	0	0	0	5	0	0
Mvmt Flow	112	771	27	86	515	343	0	47	200	183	20	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	858	0	0	798	0	0	1449	2039	399	1492	1881	429
Stage 1	-	-	-	-	-	-	1009	1009	-	859	859	-
Stage 2	-	-	-	-	-	-	440	1030	-	633	1022	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.6	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.6	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.55	4	3.3
Pot Cap-1 Maneuver	791	-	-	833	-	-	94	57	606	~ 83	72	580
Stage 1	-	-	-	-	-	-	261	320	-	311	376	-
Stage 2	-	-	-	-	-	-	571	313	-	427	316	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	791	-	-	833	-	-	41	~ 33	606	-	42	580
Mov Cap-2 Maneuver	-	-	-	-	-	-	41	~ 33	-	-	42	-
Stage 1	-	-	-	-	-	-	194	238	-	231	296	-
Stage 2	-	-	-	-	-	-	410	246	-	~ 171	235	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	1.3	103.6	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	33	606	791	-	-	833	-	-	-	580
HCM Lane V/C Ratio	1.416	0.33	0.142	-	-	0.103	-	-	-	0.022
HCM Control Delay (s)	$ 487.6	13.8	10.3	1	-	9.8	0.8	-	-	11.4
HCM Lane LOS	F	B	B	A	-	A	A	-	-	B
HCM 95th %tile Q(veh)	5.1	1.4	0.5	-	-	0.3	-	-	-	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	89
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	298	696	740	2	205	204
Future Vol, veh/h	298	696	740	2	205	204
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	5	5	0	0	0
Mvmt Flow	324	757	804	2	223	222
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	117.5	88.3	21
HCM LOS	F	F	C

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	56%	0%	0%	0%	100%	0%
Vol Thru, %	44%	100%	100%	99%	0%	0%
Vol Right, %	0%	0%	0%	1%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	530	464	493	249	205	204
LT Vol	298	0	0	0	205	0
Through Vol	232	464	493	247	0	0
RT Vol	0	0	0	2	0	204
Lane Flow Rate	576	504	536	270	223	222
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	1.231	1.05	1.162	0.579	0.555	0.478
Departure Headway (Hd)	8.007	7.804	8.16	8.067	9.541	8.303
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	461	469	450	451	381	437
Service Time	5.707	5.504	5.86	5.767	7.241	6.003
HCM Lane V/C Ratio	1.249	1.075	1.191	0.599	0.585	0.508
HCM Control Delay	147.2	83.5	122.1	21.3	23.5	18.4
HCM Lane LOS	F	F	F	C	C	C
HCM 95th-tile Q	22.3	15	19	3.6	3.2	2.5

MOVEMENT SUMMARY

Site: 3 [Buttonwillow Avenue/Dinuba Avenue - Cumulative Year 2040 plus Project AM]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Cumulative Year 2040 plus Project
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	199	5.0	0.823	26.4	LOS C	7.4	191.5	0.91	1.26	1.86	29.0
8	T1	190	5.0	0.823	20.4	LOS C	7.4	191.5	0.91	1.26	1.86	28.9
18	R2	62	5.0	0.823	20.5	LOS C	7.4	191.5	0.91	1.26	1.86	28.2
Approach		451	5.0	0.823	23.1	LOS C	7.4	191.5	0.91	1.26	1.86	28.8
East: WB Dinuba Avenue												
1u	U	7	1.0	1.540	264.2	LOS F	135.8	3529.9	1.00	5.27	13.06	7.3
1	L2	89	5.0	1.540	261.8	LOS F	135.8	3529.9	1.00	5.27	13.06	7.2
6	T1	805	5.0	1.540	255.9	LOS F	135.8	3529.9	1.00	5.27	13.06	7.2
16	R2	196	5.0	1.540	255.9	LOS F	135.8	3529.9	1.00	5.27	13.06	7.2
Approach		1097	5.0	1.540	256.4	LOS F	135.8	3529.9	1.00	5.27	13.06	7.2
North: SB Buttonwillow Avenue												
7u	U	23	1.0	1.467	234.5	LOS F	93.8	2437.6	1.00	4.60	12.36	8.0
7	L2	147	5.0	1.467	232.1	LOS F	93.8	2437.6	1.00	4.60	12.36	7.9
4	T1	353	5.0	1.467	226.2	LOS F	93.8	2437.6	1.00	4.60	12.36	7.9
14	R2	300	5.0	1.467	226.2	LOS F	93.8	2437.6	1.00	4.60	12.36	7.9
Approach		823	4.9	1.467	227.5	LOS F	93.8	2437.6	1.00	4.60	12.36	7.9
West: EB Dinuba Avenue												
5u	U	7	1.0	1.004	43.7	LOS F	28.9	750.8	1.00	1.79	2.98	25.2
5	L2	163	5.0	1.004	41.3	LOS F	28.9	750.8	1.00	1.79	2.98	24.7
2	T1	534	5.0	1.004	35.3	LOS F	28.9	750.8	1.00	1.79	2.98	24.7
12	R2	146	5.0	1.004	35.3	LOS F	28.9	750.8	1.00	1.79	2.98	24.1
Approach		849	5.0	1.004	36.5	LOS D	28.9	750.8	1.00	1.79	2.98	24.6
All Vehicles		3220	5.0	1.540	158.3	LOS F	135.8	3529.9	0.99	3.62	8.66	10.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	657	874	12	15	51
Future Vol, veh/h	50	657	874	12	15	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	5	5	0	0	0
Mvmt Flow	54	714	950	13	16	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	963	0	-	0	1772	950
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	822	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	723	-	-	-	92	318
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	435	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	723	-	-	-	85	318
Mov Cap-2 Maneuver	-	-	-	-	85	-
Stage 1	-	-	-	-	351	-
Stage 2	-	-	-	-	435	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	27.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	723	-	-	-	85	318
HCM Lane V/C Ratio	0.075	-	-	-	0.192	0.174
HCM Control Delay (s)	10.4	-	-	-	57.1	18.7
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7	0.6

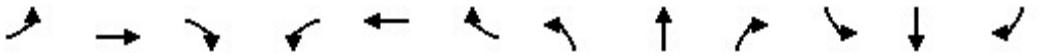
Intersection	
Int Delay, s/veh	28.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱			↕	
Traffic Vol, veh/h	154	524	4	0	618	47	2	0	2	45	0	198
Future Vol, veh/h	154	524	4	0	618	47	2	0	2	45	0	198
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	5	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	167	570	4	0	672	51	2	0	2	49	0	215

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	723	0	0	574	0	0	1711	1629	572	1605	1606	698
Stage 1	-	-	-	-	-	-	906	906	-	698	698	-
Stage 2	-	-	-	-	-	-	805	723	-	907	908	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	889	-	-	1009	-	-	72	103	523	86	106	444
Stage 1	-	-	-	-	-	-	333	358	-	434	445	-
Stage 2	-	-	-	-	-	-	379	434	-	333	357	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	889	-	-	1009	-	-	29	75	523	67	77	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	29	75	-	67	77	-
Stage 1	-	-	-	-	-	-	241	259	-	314	445	-
Stage 2	-	-	-	-	-	-	195	434	-	240	258	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0	75.5	177.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	29	523	889	-	-	1009	-	-	217
HCM Lane V/C Ratio	0.075	0.004	0.188	-	-	-	-	-	1.217
HCM Control Delay (s)	139	11.9	10	0	-	0	-	-	177.6
HCM Lane LOS	F	B	A	A	-	A	-	-	F
HCM 95th %tile Q(veh)	0.2	0	0.7	-	-	0	-	-	13.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	469	197	132	702	185	180	353	185	179	470	169
Future Volume (veh/h)	76	469	197	132	702	185	180	353	185	179	470	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	83	510	214	143	763	201	196	384	201	195	511	184
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
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	106	737	329	170	865	386	232	1134	506	234	598	507
Arrive On Green	0.06	0.21	0.21	0.10	0.25	0.25	0.13	0.33	0.33	0.13	0.33	0.33
Sat Flow, veh/h	1739	3469	1547	1739	3469	1547	1739	3469	1547	1739	1826	1547
Grp Volume(v), veh/h	83	510	214	143	763	201	196	384	201	195	511	184
Grp Sat Flow(s),veh/h/ln	1739	1735	1547	1739	1735	1547	1739	1735	1547	1739	1826	1547
Q Serve(g_s), s	3.7	10.7	10.0	6.4	16.7	8.8	8.7	6.6	7.9	8.6	20.6	7.1
Cycle Q Clear(g_c), s	3.7	10.7	10.0	6.4	16.7	8.8	8.7	6.6	7.9	8.6	20.6	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	737	329	170	865	386	232	1134	506	234	598	507
V/C Ratio(X)	0.79	0.69	0.65	0.84	0.88	0.52	0.84	0.34	0.40	0.83	0.85	0.36
Avail Cap(c_a), veh/h	110	793	354	170	912	407	232	1134	506	285	598	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	28.6	28.3	34.9	28.4	25.5	33.3	20.1	20.5	33.2	24.7	20.2
Incr Delay (d2), s/veh	29.4	2.4	3.8	29.6	9.7	1.1	23.8	0.8	2.3	16.1	14.4	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.5	3.9	4.0	7.8	3.2	5.1	2.7	3.1	4.6	10.8	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	31.0	32.1	64.5	38.2	26.6	57.2	20.9	22.8	49.4	39.1	22.2
LnGrp LOS	E	C	C	E	D	C	E	C	C	D	D	C
Approach Vol, veh/h		807			1107			781			890	
Approach Delay, s/veh		34.9			39.5			30.5			37.9	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	30.2	12.2	21.2	15.0	30.3	9.3	24.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.9	23.4	7.7	18.0	10.5	25.8	5.0	20.7
Max Q Clear Time (g_c+I1), s	10.6	9.9	8.4	12.7	10.7	22.6	5.7	18.7
Green Ext Time (p_c), s	0.1	2.7	0.0	2.0	0.0	1.3	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	10.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	667	25	153	494	375	0	35	145	268	25	16
Future Vol, veh/h	35	667	25	153	494	375	0	35	145	268	25	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	5	0	0	5	5	0	0	0	5	0	0
Mvmt Flow	38	725	27	166	537	408	0	38	158	291	27	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	945	0	0	752	0	0	1429	2092	376	1531	1901	473
Stage 1	-	-	-	-	-	-	815	815	-	1073	1073	-
Stage 2	-	-	-	-	-	-	614	1277	-	458	828	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.6	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.6	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.55	4	3.3
Pot Cap-1 Maneuver	734	-	-	867	-	-	97	53	627	~ 78	70	543
Stage 1	-	-	-	-	-	-	342	394	-	~ 230	299	-
Stage 2	-	-	-	-	-	-	451	239	-	544	389	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	734	-	-	867	-	-	22	~ 27	627	-	35	543
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	~ 27	-	-	35	-
Stage 1	-	-	-	-	-	-	312	359	-	~ 210	166	-
Stage 2	-	-	-	-	-	-	203	133	-	332	354	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	2.2	114.3	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	27	627	734	-	-	867	-	-	-	543
HCM Lane V/C Ratio	1.409	0.251	0.052	-	-	0.192	-	-	-	0.032
HCM Control Delay (s)	$ 535.3	12.7	10.2	0.4	-	10.1	1.4	-	-	11.8
HCM Lane LOS	F	B	B	A	-	B	A	-	-	B
HCM 95th %tile Q(veh)	4.5	1	0.2	-	-	0.7	-	-	-	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	137
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	389	697	711	8	337	294
Future Vol, veh/h	389	697	711	8	337	294
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	5	5	0	0	0
Mvmt Flow	418	749	765	9	362	316
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	213.1	103.2	44.7
HCM LOS	F	F	E

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	63%	0%	0%	0%	100%	0%
Vol Thru, %	37%	100%	100%	97%	0%	0%
Vol Right, %	0%	0%	0%	3%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	621	465	474	245	337	294
LT Vol	389	0	0	0	337	0
Through Vol	232	465	474	237	0	0
RT Vol	0	0	0	8	0	294
Lane Flow Rate	668	500	510	263	362	316
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	1.561	1.136	1.206	0.615	0.906	0.685
Departure Headway (Hd)	8.836	8.6	9.336	9.225	10.025	8.789
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	414	425	392	395	366	414
Service Time	6.536	6.3	7.036	6.925	7.725	6.489
HCM Lane V/C Ratio	1.614	1.176	1.301	0.666	0.989	0.763
HCM Control Delay	286.6	114.9	143.3	25.6	58.9	28.5
HCM Lane LOS	F	F	F	D	F	D
HCM 95th-tile Q	35.3	17.4	19.1	4	9.1	5

MOVEMENT SUMMARY

Site: 3 [Buttonwillow Avenue/Dinuba Avenue - Cumulative Year 2040 plus Project PM]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Cumulative Year 2040 plus Project
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	192	5.0	1.262	143.3	LOS F	60.1	1562.7	1.00	3.53	8.86	11.6
8	T1	452	5.0	1.262	137.4	LOS F	60.1	1562.7	1.00	3.53	8.86	11.6
18	R2	90	5.0	1.262	137.4	LOS F	60.1	1562.7	1.00	3.53	8.86	11.5
Approach		735	5.0	1.262	138.9	LOS F	60.1	1562.7	1.00	3.53	8.86	11.6
East: WB Dinuba Avenue												
1u	U	11	1.0	1.452	227.1	LOS F	98.5	2559.7	1.00	4.63	12.14	8.2
1	L2	88	5.0	1.452	224.7	LOS F	98.5	2559.7	1.00	4.63	12.14	8.2
6	T1	589	5.0	1.452	218.7	LOS F	98.5	2559.7	1.00	4.63	12.14	8.2
16	R2	192	5.0	1.452	218.8	LOS F	98.5	2559.7	1.00	4.63	12.14	8.1
Approach		880	5.0	1.452	219.4	LOS F	98.5	2559.7	1.00	4.63	12.14	8.2
North: SB Buttonwillow Avenue												
7u	U	23	1.0	1.339	176.9	LOS F	84.7	2199.2	1.00	4.13	10.15	10.1
7	L2	205	5.0	1.339	174.5	LOS F	84.7	2199.2	1.00	4.13	10.15	10.0
4	T1	387	5.0	1.339	168.5	LOS F	84.7	2199.2	1.00	4.13	10.15	10.0
14	R2	277	5.0	1.339	168.5	LOS F	84.7	2199.2	1.00	4.13	10.15	9.9
Approach		892	4.9	1.339	170.1	LOS F	84.7	2199.2	1.00	4.13	10.15	10.0
West: EB Dinuba Avenue												
5u	U	9	1.0	1.483	238.7	LOS F	129.3	3360.0	1.00	5.02	12.02	7.9
5	L2	296	5.0	1.483	236.3	LOS F	129.3	3360.0	1.00	5.02	12.02	7.9
2	T1	553	5.0	1.483	230.3	LOS F	129.3	3360.0	1.00	5.02	12.02	7.9
12	R2	251	5.0	1.483	230.4	LOS F	129.3	3360.0	1.00	5.02	12.02	7.8
Approach		1109	5.0	1.483	232.0	LOS F	129.3	3360.0	1.00	5.02	12.02	7.8
All Vehicles		3616	5.0	1.483	194.8	LOS F	129.3	3360.0	1.00	4.40	10.95	9.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	103	683	695	29	19	31
Future Vol, veh/h	103	683	695	29	19	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	5	5	0	0	0
Mvmt Flow	112	742	755	32	21	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	787	0	-	0	1721	755
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	966	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	841	-	-	-	99	412
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	372	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	841	-	-	-	86	412
Mov Cap-2 Maneuver	-	-	-	-	86	-
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	372	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	31.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	841	-	-	-	86	412
HCM Lane V/C Ratio	0.133	-	-	-	0.24	0.082
HCM Control Delay (s)	9.9	-	-	-	59.6	14.5
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.9	0.3

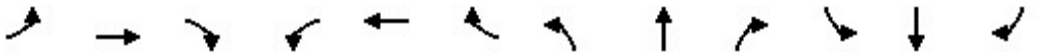
Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱			↕	
Traffic Vol, veh/h	57	611	8	8	622	41	8	0	10	14	2	59
Future Vol, veh/h	57	611	8	8	622	41	8	0	10	14	2	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	5	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	62	664	9	9	676	45	9	0	11	15	2	64

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	721	0	0	673	0	0	1543	1532	669	1515	1514	699
Stage 1	-	-	-	-	-	-	793	793	-	717	717	-
Stage 2	-	-	-	-	-	-	750	739	-	798	797	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	890	-	-	927	-	-	95	118	461	99	121	443
Stage 1	-	-	-	-	-	-	385	403	-	424	437	-
Stage 2	-	-	-	-	-	-	407	427	-	382	401	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	890	-	-	927	-	-	72	103	461	87	106	443
Mov Cap-2 Maneuver	-	-	-	-	-	-	72	103	-	87	106	-
Stage 1	-	-	-	-	-	-	342	358	-	377	430	-
Stage 2	-	-	-	-	-	-	341	420	-	332	356	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	34.7	27.5
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	72	461	890	-	-	927	-	-	240
HCM Lane V/C Ratio	0.121	0.024	0.07	-	-	0.009	-	-	0.34
HCM Control Delay (s)	61.8	13	9.3	0	-	8.9	0	-	27.5
HCM Lane LOS	F	B	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.4	0.1	0.2	-	-	0	-	-	1.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	589	264	91	533	146	332	434	76	158	525	167
Future Volume (veh/h)	97	589	264	91	533	146	332	434	76	158	525	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	104	633	284	98	573	157	357	467	82	170	565	180
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	120	698	311	118	694	309	363	1432	639	206	588	499
Arrive On Green	0.07	0.20	0.20	0.07	0.20	0.20	0.21	0.41	0.41	0.12	0.32	0.32
Sat Flow, veh/h	1739	3469	1547	1739	3469	1547	1739	3469	1547	1739	1826	1547
Grp Volume(v), veh/h	104	633	284	98	573	157	357	467	82	170	565	180
Grp Sat Flow(s),veh/h/ln	1739	1735	1547	1739	1735	1547	1739	1735	1547	1739	1826	1547
Q Serve(g_s), s	5.3	16.0	16.2	5.0	14.2	8.1	18.4	8.2	3.0	8.6	27.3	8.0
Cycle Q Clear(g_c), s	5.3	16.0	16.2	5.0	14.2	8.1	18.4	8.2	3.0	8.6	27.3	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	698	311	118	694	309	363	1432	639	206	588	499
V/C Ratio(X)	0.87	0.91	0.91	0.83	0.83	0.51	0.98	0.33	0.13	0.83	0.96	0.36
Avail Cap(c_a), veh/h	120	698	311	118	694	309	363	1432	639	321	588	499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	35.1	35.2	41.4	34.5	32.1	35.4	17.9	16.4	38.8	29.9	23.4
Incr Delay (d2), s/veh	44.7	15.7	29.7	37.2	8.1	1.4	42.5	0.6	0.4	9.7	28.5	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	8.1	8.5	3.3	6.6	3.1	11.9	3.3	1.1	4.2	16.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.2	50.8	64.9	78.6	42.6	33.4	77.9	18.5	16.8	48.4	58.4	25.4
LnGrp LOS	F	D	E	E	D	C	E	B	B	D	E	C
Approach Vol, veh/h		1021			828			906			915	
Approach Delay, s/veh		58.3			45.1			41.8			50.1	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.2	41.6	10.6	22.6	23.3	33.5	10.7	22.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.6	31.2	6.1	18.1	18.8	29.0	6.2	18.0
Max Q Clear Time (g_c+I1), s	10.6	10.2	7.0	18.2	20.4	29.3	7.3	16.2
Green Ext Time (p_c), s	0.2	3.4	0.0	0.0	0.0	0.0	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	49.2
HCM 6th LOS	D

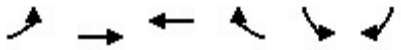
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	431	13	41	315	302	0	22	95	215	9	6
Future Volume (veh/h)	53	431	13	41	315	302	0	22	95	215	9	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1841	1841	1841	1900	1900	1870	1900	1900	1900
Adj Flow Rate, veh/h	70	567	17	54	414	0	0	29	125	283	12	8
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	3	3	3	4	4	4	0	0	2	0	0	0
Cap, veh/h	223	1161	34	172	600		0	625	522	621	16	530
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.00	0.00	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	215	3099	91	106	1602	1560	0	1900	1585	1180	50	1610
Grp Volume(v), veh/h	341	0	313	468	0	0	0	29	125	295	0	8
Grp Sat Flow(s),veh/h/ln	1732	0	1672	1708	0	1560	0	1900	1585	1230	0	1610
Q Serve(g_s), s	0.0	0.0	4.4	1.9	0.0	0.0	0.0	0.3	1.7	6.3	0.0	0.1
Cycle Q Clear(g_c), s	4.3	0.0	4.4	6.8	0.0	0.0	0.0	0.3	1.7	6.6	0.0	0.1
Prop In Lane	0.21		0.05	0.12		1.00	0.00		1.00	0.96		1.00
Lane Grp Cap(c), veh/h	792	0	626	772	0		0	625	522	637	0	530
V/C Ratio(X)	0.43	0.00	0.50	0.61	0.00		0.00	0.05	0.24	0.46	0.00	0.02
Avail Cap(c_a), veh/h	1312	0	1184	1309	0		0	1220	1018	1035	0	1034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.3	0.0	7.3	8.0	0.0	0.0	0.0	6.9	7.4	9.2	0.0	6.9
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.8	0.0	0.0	0.0	0.0	0.2	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	1.0	1.7	0.0	0.0	0.0	0.1	0.4	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.6	0.0	7.9	8.8	0.0	0.0	0.0	7.0	7.7	9.7	0.0	6.9
LnGrp LOS	A	A	A	A	A		A	A	A	A	A	A
Approach Vol, veh/h		654			468	A		154			303	
Approach Delay, s/veh		7.8			8.8			7.5			9.6	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.5		15.9		14.5		15.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		19.5		21.5		19.5		21.5				
Max Q Clear Time (g_c+I1), s		3.7		6.4		8.6		8.8				
Green Ext Time (p_c), s		0.4		3.7		1.4		2.6				

Intersection Summary												
HCM 6th Ctrl Delay			8.4									
HCM 6th LOS			A									

Notes

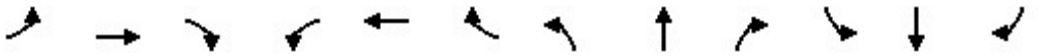
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	153	553	592	1	127	105
Future Volume (veh/h)	153	553	592	1	127	105
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1870	1870
Adj Flow Rate, veh/h	199	718	769	1	165	136
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	3	3	3	2	2
Cap, veh/h	386	1251	2053	3	297	264
Arrive On Green	0.57	0.57	0.57	0.57	0.17	0.17
Sat Flow, veh/h	400	2286	3706	5	1781	1585
Grp Volume(v), veh/h	400	517	375	395	165	136
Grp Sat Flow(s),veh/h/ln	998	1604	1763	1855	1781	1585
Q Serve(g_s), s	6.1	7.0	4.0	4.0	2.9	2.7
Cycle Q Clear(g_c), s	10.0	7.0	4.0	4.0	2.9	2.7
Prop In Lane	0.50			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	726	912	1002	1054	297	264
V/C Ratio(X)	0.55	0.57	0.37	0.37	0.56	0.51
Avail Cap(c_a), veh/h	1119	1536	1687	1775	971	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.1	4.7	4.0	4.0	13.0	12.9
Incr Delay (d2), s/veh	0.7	0.6	0.2	0.2	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.0	0.6	0.7	1.0	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	5.8	5.2	4.3	4.2	14.6	14.4
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		917	770		301	
Approach Delay, s/veh		5.5	4.2		14.5	
Approach LOS		A	A		B	

Timer - Assigned Phs		4		6	8
Phs Duration (G+Y+Rc), s		23.8		10.2	23.8
Change Period (Y+Rc), s		4.5		4.5	4.5
Max Green Setting (Gmax), s		32.5		18.5	32.5
Max Q Clear Time (g_c+I1), s		12.0		4.9	6.0
Green Ext Time (p_c), s		7.3		0.8	5.2

Intersection Summary	
HCM 6th Ctrl Delay	6.4
HCM 6th LOS	A



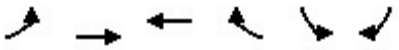
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	349	13	79	323	199	0	18	75	267	13	8
Future Volume (veh/h)	18	349	13	79	323	199	0	18	75	267	13	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1856	1900	1900	1841	1900	1900	1900
Adj Flow Rate, veh/h	20	379	14	86	351	0	0	20	82	290	14	9
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
Percent Heavy Veh, %	2	2	2	2	2	3	0	0	4	0	0	0
Cap, veh/h	161	1185	43	228	524		0	620	509	653	20	525
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.00	0.00	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	65	3314	120	214	1466	1572	0	1900	1560	1243	60	1610
Grp Volume(v), veh/h	217	0	196	437	0	0	0	20	82	304	0	9
Grp Sat Flow(s),veh/h/ln	1818	0	1680	1680	0	1572	0	1900	1560	1303	0	1610
Q Serve(g_s), s	0.0	0.0	2.4	2.9	0.0	0.0	0.0	0.2	1.1	5.7	0.0	0.1
Cycle Q Clear(g_c), s	2.4	0.0	2.4	6.1	0.0	0.0	0.0	0.2	1.1	5.9	0.0	0.1
Prop In Lane	0.09		0.07	0.20		1.00	0.00		1.00	0.95		1.00
Lane Grp Cap(c), veh/h	788	0	601	752	0		0	620	509	672	0	525
V/C Ratio(X)	0.28	0.00	0.33	0.58	0.00		0.00	0.03	0.16	0.45	0.00	0.02
Avail Cap(c_a), veh/h	1267	0	1063	1190	0		0	1202	987	1080	0	1019
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.6	0.0	6.6	7.7	0.0	0.0	0.0	6.5	6.8	8.5	0.0	6.5
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.7	0.0	0.0	0.0	0.0	0.1	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.5	1.4	0.0	0.0	0.0	0.1	0.2	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	0.0	7.0	8.5	0.0	0.0	0.0	6.5	7.0	9.0	0.0	6.5
LnGrp LOS	A	A	A	A	A		A	A	A	A	A	A
Approach Vol, veh/h		413			437	A		102			313	
Approach Delay, s/veh		6.9			8.5			6.9			9.0	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		13.8		14.7		13.8		14.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		3.1		4.4		7.9		8.1				
Green Ext Time (p_c), s		0.2		2.0		1.3		2.0				

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

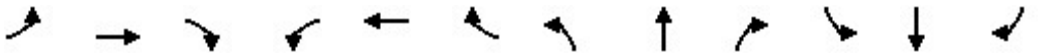
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	200	556	586	4	195	151
Future Volume (veh/h)	200	556	586	4	195	151
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1885	1900
Adj Flow Rate, veh/h	215	598	630	4	210	162
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	1	0
Cap, veh/h	437	1109	1900	12	355	318
Arrive On Green	0.52	0.52	0.52	0.52	0.20	0.20
Sat Flow, veh/h	496	2199	3714	23	1795	1610
Grp Volume(v), veh/h	364	449	309	325	210	162
Grp Sat Flow(s),veh/h/ln	993	1617	1777	1866	1795	1610
Q Serve(g_s), s	6.2	5.9	3.2	3.2	3.4	2.9
Cycle Q Clear(g_c), s	9.5	5.9	3.2	3.2	3.4	2.9
Prop In Lane	0.59			0.01	1.00	1.00
Lane Grp Cap(c), veh/h	697	849	933	979	355	318
V/C Ratio(X)	0.52	0.53	0.33	0.33	0.59	0.51
Avail Cap(c_a), veh/h	1033	1370	1506	1582	1024	918
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.9	5.1	4.4	4.4	11.8	11.6
Incr Delay (d2), s/veh	0.6	0.5	0.2	0.2	1.6	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.0	0.6	0.6	1.2	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.5	5.6	4.6	4.6	13.4	12.9
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		813	634		372	
Approach Delay, s/veh		6.0	4.6		13.2	
Approach LOS		A	A		B	

Timer - Assigned Phs		4		6	8
Phs Duration (G+Y+Rc), s		21.5		10.9	21.5
Change Period (Y+Rc), s		4.5		4.5	4.5
Max Green Setting (Gmax), s		27.5		18.5	27.5
Max Q Clear Time (g_c+I1), s		11.5		5.4	5.2
Green Ext Time (p_c), s		5.5		1.0	3.9

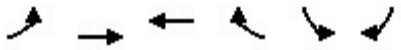
Intersection Summary	
HCM 6th Ctrl Delay	7.0
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	709	25	79	474	316	0	43	184	168	18	12
Future Volume (veh/h)	103	709	25	79	474	316	0	43	184	168	18	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	112	771	27	86	515	343	0	47	200	183	20	13
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
Percent Heavy Veh, %	5	5	5	5	5	5	0	0	0	0	0	0
Cap, veh/h	216	1292	46	190	841	560	0	468	397	434	38	397
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.00	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	179	2555	92	145	1663	1107	0	1900	1610	996	155	1610
Grp Volume(v), veh/h	426	0	484	491	0	453	0	47	200	203	0	13
Grp Sat Flow(s),veh/h/ln	1181	0	1645	1453	0	1462	0	1900	1610	1151	0	1610
Q Serve(g_s), s	2.4	0.0	7.5	1.1	0.0	8.1	0.0	0.7	3.9	5.3	0.0	0.2
Cycle Q Clear(g_c), s	10.5	0.0	7.5	8.6	0.0	8.1	0.0	0.7	3.9	6.0	0.0	0.2
Prop In Lane	0.26		0.06	0.18		0.76	0.00		1.00	0.90		1.00
Lane Grp Cap(c), veh/h	723	0	832	851	0	739	0	468	397	472	0	397
V/C Ratio(X)	0.59	0.00	0.58	0.58	0.00	0.61	0.00	0.10	0.50	0.43	0.00	0.03
Avail Cap(c_a), veh/h	1030	0	1247	1204	0	1108	0	969	821	788	0	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.2	0.0	6.3	6.1	0.0	6.4	0.0	10.6	11.8	12.7	0.0	10.4
Incr Delay (d2), s/veh	0.8	0.0	0.6	0.6	0.0	0.8	0.0	0.1	1.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	1.6	1.6	0.0	1.6	0.0	0.2	1.2	1.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.9	0.0	6.9	6.8	0.0	7.3	0.0	10.7	12.8	13.3	0.0	10.4
LnGrp LOS	A	A	A	A	A	A	A	B	B	B	A	B
Approach Vol, veh/h		910			944			247			216	
Approach Delay, s/veh		6.9			7.0			12.4			13.1	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		13.4		22.8		13.4		22.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		27.5		18.5		27.5				
Max Q Clear Time (g_c+I1), s		5.9		12.5		8.0		10.6				
Green Ext Time (p_c), s		0.7		5.9		0.9		6.5				

Intersection Summary												
HCM 6th Ctrl Delay			8.1									
HCM 6th LOS			A									



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	298	696	740	2	205	204
Future Volume (veh/h)	298	696	740	2	205	204
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1900	1900
Adj Flow Rate, veh/h	324	757	804	2	223	222
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	0	0
Cap, veh/h	457	1112	2325	6	334	297
Arrive On Green	0.65	0.65	0.65	0.65	0.18	0.18
Sat Flow, veh/h	518	1781	3641	9	1810	1610
Grp Volume(v), veh/h	393	688	393	413	223	222
Grp Sat Flow(s),veh/h/ln	638	1578	1735	1824	1810	1610
Q Serve(g_s), s	27.0	15.0	5.7	5.7	6.4	7.3
Cycle Q Clear(g_c), s	32.7	15.0	5.7	5.7	6.4	7.3
Prop In Lane	0.83			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	535	1034	1136	1195	334	297
V/C Ratio(X)	0.73	0.67	0.35	0.35	0.67	0.75
Avail Cap(c_a), veh/h	546	1057	1161	1221	598	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	5.9	4.3	4.3	21.2	21.6
Incr Delay (d2), s/veh	5.0	1.6	0.2	0.2	2.3	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	3.5	1.3	1.4	2.7	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.3	7.5	4.5	4.5	23.6	25.3
LnGrp LOS	B	A	A	A	C	C
Approach Vol, veh/h		1081	806		445	
Approach Delay, s/veh		10.7	4.5		24.4	
Approach LOS		B	A		C	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	41.2	14.8	41.2
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	37.5	18.5	37.5
Max Q Clear Time (g_c+I1), s	34.7	9.3	7.7
Green Ext Time (p_c), s	2.0	1.0	5.7

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

MOVEMENT SUMMARY

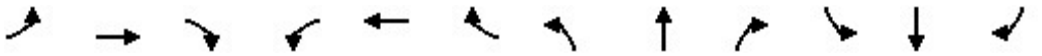
Site: 3.1 [Buttonwillow Avenue/Dinuba Avenue - Cumulative Year 2040 plus Project AM (Mitigated)]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Cumulative Year 2040 plus Project (Mitigated)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	199	5.0	0.386	16.0	LOS B	1.6	41.4	0.69	0.93	0.82	32.4
8	T1	190	5.0	0.386	9.3	LOS A	1.6	41.4	0.68	0.85	0.79	35.1
18	R2	62	5.0	0.386	9.2	LOS A	1.6	41.2	0.68	0.84	0.79	34.1
Approach		451	5.0	0.386	12.2	LOS B	1.6	41.4	0.68	0.88	0.81	33.7
East: WB Dinuba Avenue												
1u	U	7	1.0	0.712	19.8	LOS B	5.4	140.7	0.81	1.03	1.20	34.7
1	L2	89	5.0	0.712	17.3	LOS B	5.4	140.7	0.81	1.03	1.20	33.7
6	T1	805	5.0	0.712	11.1	LOS B	5.4	141.0	0.81	1.02	1.18	34.1
16	R2	196	5.0	0.712	10.5	LOS B	5.4	141.0	0.80	1.01	1.16	33.4
Approach		1097	5.0	0.712	11.5	LOS B	5.4	141.0	0.81	1.02	1.18	33.9
North: SB Buttonwillow Avenue												
7u	U	23	1.0	0.869	34.3	LOS C	6.9	180.0	0.92	1.32	2.19	28.0
7	L2	147	5.0	0.869	31.8	LOS C	6.9	180.0	0.92	1.32	2.19	27.4
4	T1	353	5.0	0.869	24.9	LOS C	7.1	185.2	0.91	1.31	2.17	27.9
14	R2	300	5.0	0.869	22.9	LOS C	7.1	185.2	0.91	1.30	2.14	28.2
Approach		823	4.9	0.869	25.6	LOS C	7.1	185.2	0.91	1.31	2.16	27.9
West: EB Dinuba Avenue												
5u	U	7	1.0	0.570	18.1	LOS B	3.3	85.7	0.73	0.95	0.96	35.0
5	L2	163	5.0	0.570	15.5	LOS B	3.3	85.7	0.73	0.95	0.96	33.9
2	T1	534	5.0	0.570	9.3	LOS A	3.3	85.7	0.72	0.92	0.93	34.7
12	R2	146	5.0	0.570	8.9	LOS A	3.3	85.5	0.71	0.90	0.92	34.2
Approach		849	5.0	0.570	10.5	LOS B	3.3	85.7	0.72	0.93	0.94	34.5
All Vehicles		3220	5.0	0.869	15.0	LOS B	7.1	185.2	0.79	1.05	1.31	32.3

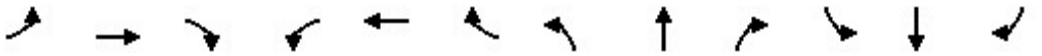
Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	524	4	0	618	47	2	0	2	45	0	198
Future Volume (veh/h)	154	524	4	0	618	47	2	0	2	45	0	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	167	570	4	0	672	51	2	0	2	49	0	215
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
Percent Heavy Veh, %	5	5	5	5	5	5	0	0	0	0	0	0
Cap, veh/h	205	642	4	0	1163	88	239	0	309	95	16	250
Arrive On Green	0.69	0.69	0.69	0.00	0.69	0.69	0.19	0.00	0.19	0.19	0.00	0.19
Sat Flow, veh/h	214	925	6	0	1676	127	1185	0	1610	212	84	1301
Grp Volume(v), veh/h	741	0	0	0	0	723	2	0	2	264	0	0
Grp Sat Flow(s),veh/h/ln	1146	0	0	0	0	1803	1185	0	1610	1598	0	0
Q Serve(g_s), s	31.6	0.0	0.0	0.0	0.0	16.2	0.0	0.0	0.1	8.4	0.0	0.0
Cycle Q Clear(g_c), s	47.7	0.0	0.0	0.0	0.0	16.2	0.2	0.0	0.1	12.6	0.0	0.0
Prop In Lane	0.23		0.01	0.00		0.07	1.00		1.00	0.19		0.81
Lane Grp Cap(c), veh/h	851	0	0	0	0	1252	239	0	309	360	0	0
V/C Ratio(X)	0.87	0.00	0.00	0.00	0.00	0.58	0.01	0.00	0.01	0.73	0.00	0.00
Avail Cap(c_a), veh/h	983	0	0	0	0	1428	290	0	377	428	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.1	0.0	0.0	0.0	0.0	6.2	25.9	0.0	25.8	30.8	0.0	0.0
Incr Delay (d2), s/veh	7.7	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	5.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	5.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	0.0	0.0	0.0	0.0	6.6	25.9	0.0	25.8	36.0	0.0	0.0
LnGrp LOS	C	A	A	A	A	A	C	A	C	D	A	A
Approach Vol, veh/h		741			723			4			264	
Approach Delay, s/veh		20.8			6.6			25.8			36.0	
Approach LOS		C			A			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.6		59.3		19.6		59.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		62.5		18.5		62.5				
Max Q Clear Time (g_c+I1), s		2.2		49.7		14.6		18.2				
Green Ext Time (p_c), s		0.0		5.1		0.6		6.3				

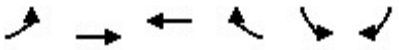
Intersection Summary		
HCM 6th Ctrl Delay		17.2
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	667	25	153	494	375	0	35	145	268	25	16
Future Volume (veh/h)	35	667	25	153	494	375	0	35	145	268	25	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	38	725	27	166	537	408	0	38	158	291	27	17
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
Percent Heavy Veh, %	5	5	5	5	5	5	0	0	0	0	0	0
Cap, veh/h	103	1607	61	233	669	552	0	577	489	452	31	489
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.00	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	62	2993	113	278	1246	1027	0	1900	1610	1085	101	1610
Grp Volume(v), veh/h	399	0	391	525	0	586	0	38	158	318	0	17
Grp Sat Flow(s),veh/h/ln	1527	0	1641	1075	0	1477	0	1900	1610	1186	0	1610
Q Serve(g_s), s	1.0	0.0	8.2	17.8	0.0	17.3	0.0	0.8	4.3	13.8	0.0	0.4
Cycle Q Clear(g_c), s	18.2	0.0	8.2	26.0	0.0	17.3	0.0	0.8	4.3	14.6	0.0	0.4
Prop In Lane	0.10		0.07	0.32		0.70	0.00		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	890	0	881	661	0	793	0	577	489	482	0	489
V/C Ratio(X)	0.45	0.00	0.44	0.79	0.00	0.74	0.00	0.07	0.32	0.66	0.00	0.03
Avail Cap(c_a), veh/h	920	0	914	685	0	822	0	655	555	533	0	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.8	0.0	8.0	12.8	0.0	10.1	0.0	14.0	15.2	19.2	0.0	13.8
Incr Delay (d2), s/veh	0.4	0.0	0.4	6.2	0.0	3.4	0.0	0.0	0.4	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	2.3	6.0	0.0	5.0	0.0	0.3	1.5	3.9	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.2	0.0	8.3	18.9	0.0	13.5	0.0	14.0	15.6	21.8	0.0	13.9
LnGrp LOS	A	A	A	B	A	B	A	B	B	C	A	B
Approach Vol, veh/h		790			1111			196			335	
Approach Delay, s/veh		8.3			16.1			15.3			21.4	
Approach LOS		A			B			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.7		34.9		21.7		34.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		19.5		31.5		19.5		31.5				
Max Q Clear Time (g_c+I1), s		6.3		20.2		16.6		28.0				
Green Ext Time (p_c), s		0.5		4.0		0.6		2.4				

Intersection Summary		
HCM 6th Ctrl Delay		14.2
HCM 6th LOS		B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	389	697	711	8	337	294
Future Volume (veh/h)	389	697	711	8	337	294
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1900	1900
Adj Flow Rate, veh/h	418	749	765	9	362	316
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	5	5	0	0
Cap, veh/h	475	1058	2353	28	411	365
Arrive On Green	0.67	0.67	0.67	0.67	0.23	0.23
Sat Flow, veh/h	587	1662	3603	41	1810	1610
Grp Volume(v), veh/h	418	749	378	396	362	316
Grp Sat Flow(s),veh/h/ln	587	1578	1735	1818	1810	1610
Q Serve(g_s), s	50.5	26.0	8.0	8.0	16.9	16.5
Cycle Q Clear(g_c), s	58.5	26.0	8.0	8.0	16.9	16.5
Prop In Lane	1.00			0.02	1.00	1.00
Lane Grp Cap(c), veh/h	475	1058	1162	1218	411	365
V/C Ratio(X)	0.88	0.71	0.33	0.33	0.88	0.86
Avail Cap(c_a), veh/h	475	1058	1162	1218	466	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	9.0	6.1	6.1	32.6	32.5
Incr Delay (d2), s/veh	17.0	2.2	0.2	0.2	16.2	15.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	8.0	2.5	2.6	9.0	7.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.9	11.2	6.2	6.2	48.9	48.2
LnGrp LOS	D	B	A	A	D	D
Approach Vol, veh/h		1167	774		678	
Approach Delay, s/veh		20.4	6.2		48.5	
Approach LOS		C	A		D	

Timer - Assigned Phs		4		6	8
Phs Duration (G+Y+Rc), s		63.0		24.3	63.0
Change Period (Y+Rc), s		4.5		4.5	4.5
Max Green Setting (Gmax), s		58.5		22.5	58.5
Max Q Clear Time (g_c+I1), s		60.5		18.9	10.0
Green Ext Time (p_c), s		0.0		0.9	5.8

Intersection Summary	
HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

MOVEMENT SUMMARY

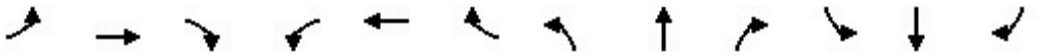
Site: 3 [Buttonwillow Avenue/Dinuba Avenue - Cumulative Year 2040 plus Project PM (Mitigated)]

Buttonwillow Avenue/Dinuba Avenue
Site Category: Cumulative Year 2040 plus Project (Mitigated)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NB Buttonwillow Avenue												
3	L2	192	5.0	0.769	25.6	LOS C	4.8	125.1	0.88	1.17	1.66	29.3
8	T1	452	5.0	0.769	18.3	LOS B	4.9	127.8	0.87	1.15	1.63	30.6
18	R2	90	5.0	0.769	17.5	LOS B	4.9	127.8	0.86	1.13	1.61	30.3
Approach		735	5.0	0.769	20.1	LOS C	4.9	127.8	0.87	1.15	1.63	30.2
East: WB Dinuba Avenue												
1u	U	11	1.0	0.821	28.5	LOS C	6.2	161.1	0.88	1.21	1.81	30.6
1	L2	88	5.0	0.821	26.0	LOS C	6.2	161.1	0.88	1.21	1.81	29.8
6	T1	589	5.0	0.821	19.2	LOS B	6.3	164.5	0.87	1.20	1.79	30.3
16	R2	192	5.0	0.821	17.9	LOS B	6.3	164.5	0.87	1.19	1.76	30.1
Approach		880	5.0	0.821	19.7	LOS B	6.3	164.5	0.87	1.20	1.78	30.2
North: SB Buttonwillow Avenue												
7u	U	23	1.0	0.771	25.1	LOS C	5.5	141.6	0.85	1.15	1.55	31.3
7	L2	205	5.0	0.771	22.6	LOS C	5.5	141.6	0.85	1.15	1.55	30.5
4	T1	387	5.0	0.771	15.9	LOS B	5.5	143.6	0.85	1.13	1.53	31.3
14	R2	277	5.0	0.771	15.0	LOS B	5.5	143.6	0.85	1.12	1.51	31.3
Approach		892	4.9	0.771	17.4	LOS B	5.5	143.6	0.85	1.13	1.53	31.1
West: EB Dinuba Avenue												
5u	U	9	1.0	0.814	24.4	LOS C	7.2	186.3	0.89	1.20	1.63	31.6
5	L2	296	5.0	0.814	21.9	LOS C	7.2	186.3	0.89	1.20	1.63	30.7
2	T1	553	5.0	0.814	15.2	LOS B	7.3	188.7	0.89	1.18	1.60	31.8
12	R2	251	5.0	0.814	14.5	LOS B	7.3	188.7	0.88	1.16	1.58	31.6
Approach		1109	5.0	0.814	16.9	LOS B	7.3	188.7	0.89	1.18	1.61	31.4
All Vehicles		3616	5.0	0.821	18.4	LOS B	7.3	188.7	0.87	1.17	1.64	30.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	611	8	8	622	41	8	0	10	14	2	59
Future Volume (veh/h)	57	611	8	8	622	41	8	0	10	14	2	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	62	664	9	9	676	45	9	0	11	15	2	64
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
Percent Heavy Veh, %	5	5	5	5	5	5	0	0	0	0	0	0
Cap, veh/h	168	900	12	120	929	61	466	0	257	165	25	203
Arrive On Green	0.55	0.55	0.55	0.55	0.55	0.55	0.16	0.00	0.16	0.16	0.16	0.16
Sat Flow, veh/h	78	1628	21	6	1680	111	1357	0	1610	179	159	1273
Grp Volume(v), veh/h	735	0	0	730	0	0	9	0	11	81	0	0
Grp Sat Flow(s),veh/h/ln	1726	0	0	1797	0	0	1357	0	1610	1611	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.5	0.0	0.0	9.5	0.0	0.0	0.1	0.0	0.2	1.3	0.0	0.0
Prop In Lane	0.08		0.01	0.01		0.06	1.00		1.00	0.19		0.79
Lane Grp Cap(c), veh/h	1079	0	0	1110	0	0	466	0	257	394	0	0
V/C Ratio(X)	0.68	0.00	0.00	0.66	0.00	0.00	0.02	0.00	0.04	0.21	0.00	0.00
Avail Cap(c_a), veh/h	1861	0	0	1971	0	0	1051	0	952	1074	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.2	0.0	0.0	5.3	0.0	0.0	11.1	0.0	11.1	11.6	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.1	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.0	0.0	0.0	5.9	0.0	0.0	11.1	0.0	11.2	11.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		735			730			20			81	
Approach Delay, s/veh		6.0			5.9			11.2			11.9	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		21.8		9.5		21.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		32.5		18.5		32.5				
Max Q Clear Time (g_c+I1), s		2.2		11.5		3.3		11.5				
Green Ext Time (p_c), s		0.0		5.8		0.3		5.5				

Intersection Summary												
HCM 6th Ctrl Delay			6.3									
HCM 6th LOS			A									

APPENDIX 3.16-3

Cumulative Projects Traffic Data

Near Term No Project Traffic Conditions

Description of Approved and Pipeline Projects

Approved and pipeline projects consist of developments that are either under construction, built but not fully occupied, are not built but have final site development review (SDR) approval, or for which the lead agency or responsible agencies have knowledge of. JLB conducted a site reconnaissance of the surrounding area to confirm the Near Term Projects. Subsequently, it was agreed that the Near Term Projects listed in Table III were approved, near approval, or in the pipeline within the proximity of the Project site.

Table III lists the trips that are anticipated to be added to the streets and highways from Near Term Projects at buildout. At buildout, the Near Term Projects are estimated to generate 18,415 daily trips, 1,788 AM peak hour trips and 1,838 PM peak hour trips. Figure 3 illustrates the location of the approved, near approval, or pipeline projects and their combined trip assignment to the study intersections under this scenario.

Table III: Near Term Projects' Trip Generation

Approved Project Location	*Approved or Pipeline Project Name*	*Daily Trips*	*AM Peak Hour*	*PM Peak Hour*
A	TT 5263[1]	151	12	16
B	TT 6206[1]	425	33	45
C	TT 6178[1]	2,649	142	273
D	TT 6196[2]	1,520	119	159
E	El Valle Apartments[1]	146	9	11
F	Kings River Village[3]	8,789	409	587
G	Reedley Family Apartments[1]	234	15	18
H	SRHS & SRES[2]	3,561	978	638
I	United Health Centers Medical Clinic[1]	661	53	66
J	Trailside Terrace[1]	279	18	25
Total Approved and Pipeline Project Trips		**18,415**	**1,788**	**1,838**

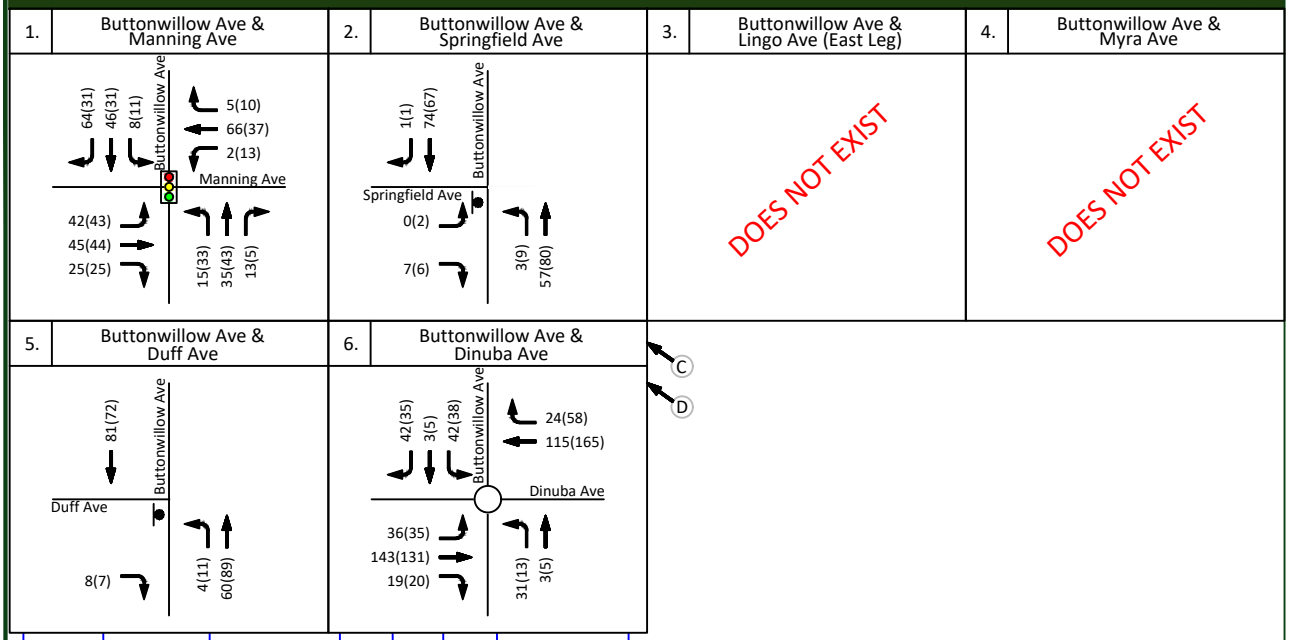
Note: 1 = Trip Generation prepared by JLB Traffic Engineering, Inc. based on readily available information
2 = Trip Generation based on JLB Traffic Engineering, Inc. Traffic Impact Analysis
3 = Trip Generation based on 4-Creeks Traffic Impact Study

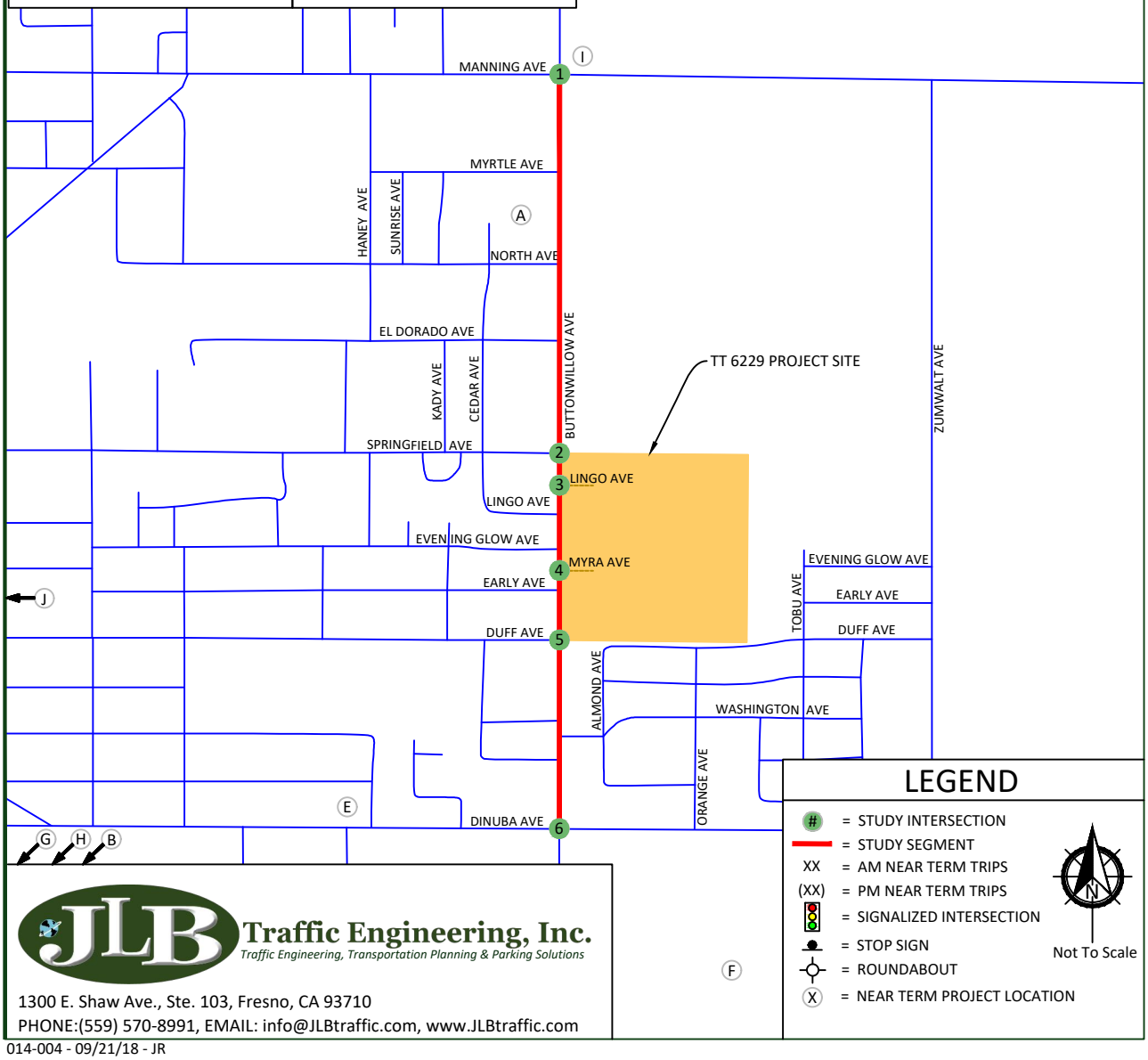
Traffic Signal Warrants

Peak hour traffic signal warrants, as appropriate, were prepared for the Near Term No Project Traffic Conditions scenario. These warrants are found in Appendix I. The effects of right-turning traffic from the minor approach onto the major approach were taken into account using engineering judgment pursuant to CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, none of the stop-controlled intersections satisfy the peak hour signal warrant.

Tentative Tract 6229 - City of Reedley
Near Term Projects' Trip Assignment

Figure 3





LEGEND

- # = STUDY INTERSECTION
- = STUDY SEGMENT
- XX = AM NEAR TERM TRIPS
- (XX) = PM NEAR TERM TRIPS
- = SIGNALIZED INTERSECTION
- = STOP SIGN
- = ROUNDABOUT
- X = NEAR TERM PROJECT LOCATION

Not To Scale

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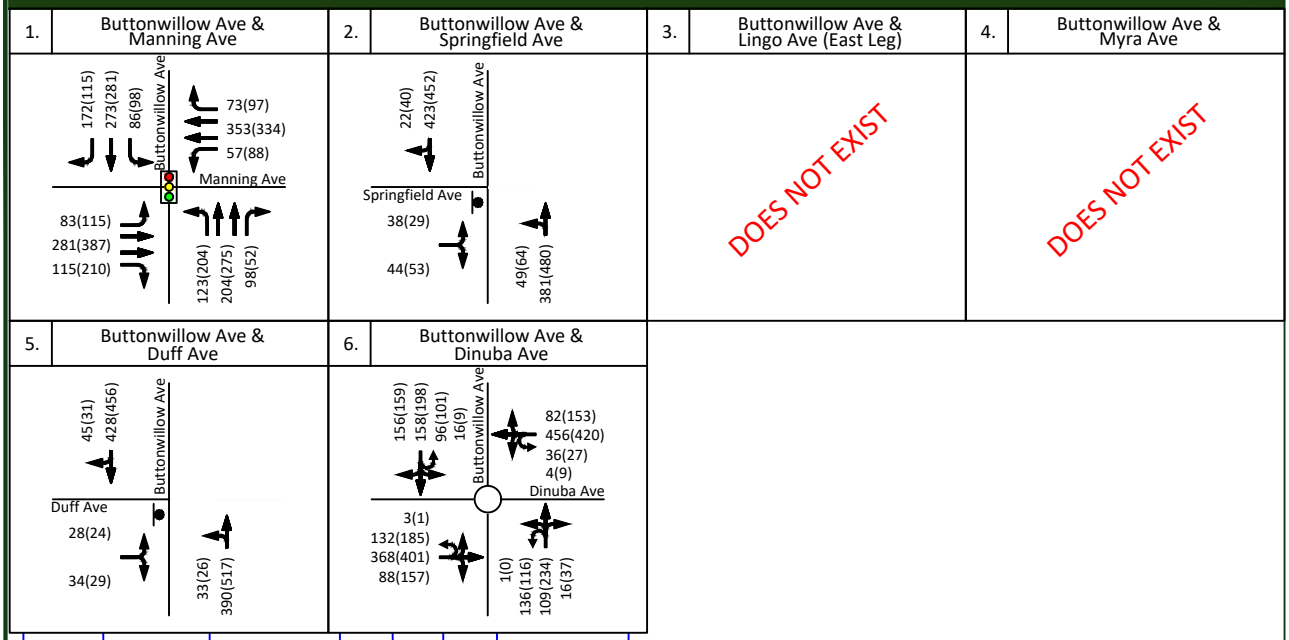
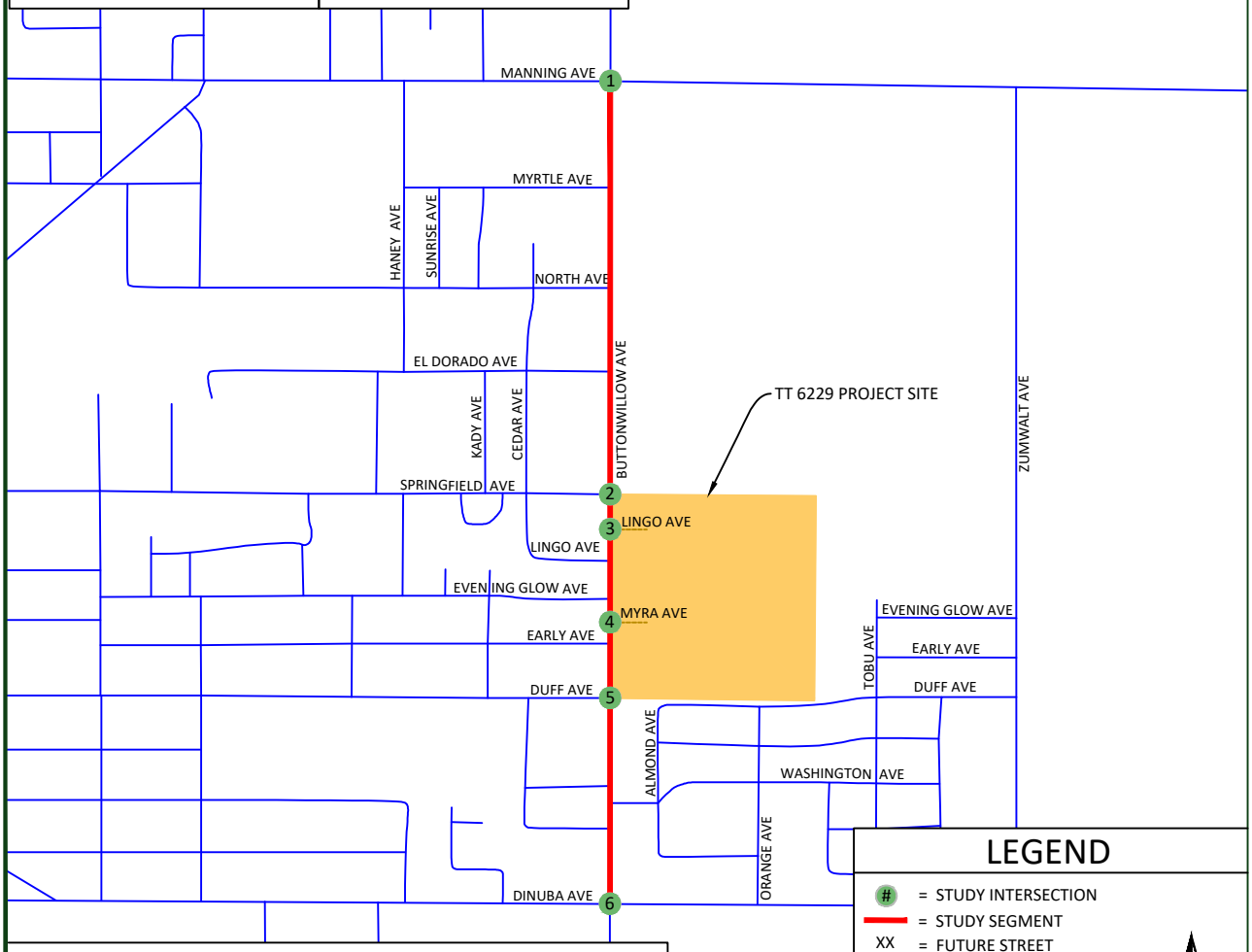
Tentative Tract 6229 - City of Reedley
Near Term No Project - Traffic Volumes, Geometrics and Controls

Figure 4





LEGEND

- # = STUDY INTERSECTION
- = STUDY SEGMENT
- XX = FUTURE STREET
- (XX) = PM PEAK HOUR TRIPS
- = SIGNALIZED INTERSECTION
- = STOP SIGN
- = ROUNDABOUT

N

Not To Scale

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014-004 - 09/21/18 - JR

Near Term plus Project Traffic Conditions

Project Description

The Project proposes to develop 186 single-family residential units on 38.89 acres located on the southeast corner of Buttonwillow Avenue and Springfield Avenue in the City of Reedley. The Project will be constructed in two phases – Phase I and Phase II. Phase I proposes to develop 96 units and Phase II proposes to develop the remaining 90 units. Although the Project will be constructed in two phases, it is assumed that the Project constructs the entire 186 units for purposes of this study. Based on information provided to JLB, the Project is consistent with the City of Reedley 2030 General Plan. Figure 5 illustrates the Project Site Plan.

Project Access

Based on the Project site plan, access to and from the Project site will be from a two (2) points under Phase I and a total of three (3) points after completion of Phase II. Phase I will construct a full access point along the east side of Buttonwillow Avenue located approximately 500 feet north of Duff Avenue and another full access point along the north side of Duff Avenue located approximately 1,160 feet east of Buttonwillow Avenue. Phase II will add a second full access point to the east side of Buttonwillow Avenue located approximately 300 feet south of Springfield Avenue.

JLB qualitatively analyzed the location of the proposed access points relative to the existing local roads and driveways in the Project's vicinity. Based on this review, it is recommended that a two-way left-turn lane be added along the Project's frontage to Buttonwillow Avenue, resulting in a cross-section consisting of two 12-foot through lanes, one 12-foot two-way left-turn lane, and two 6-foot Class II bike lanes. By incorporating this recommendation, on-site and off-site traffic operations and circulation would be improved to less than significant.

Trip Generation

Trip generation rates for the proposed Project were obtained from the 10th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Table VI presents the trip generation for the proposed Project with trip generation rates for Single-Family Detached Housing. At buildout, the proposed Project is estimated to generate a maximum of 1,756 daily trips, 138 AM peak hour trips and 184 PM peak hour trips.

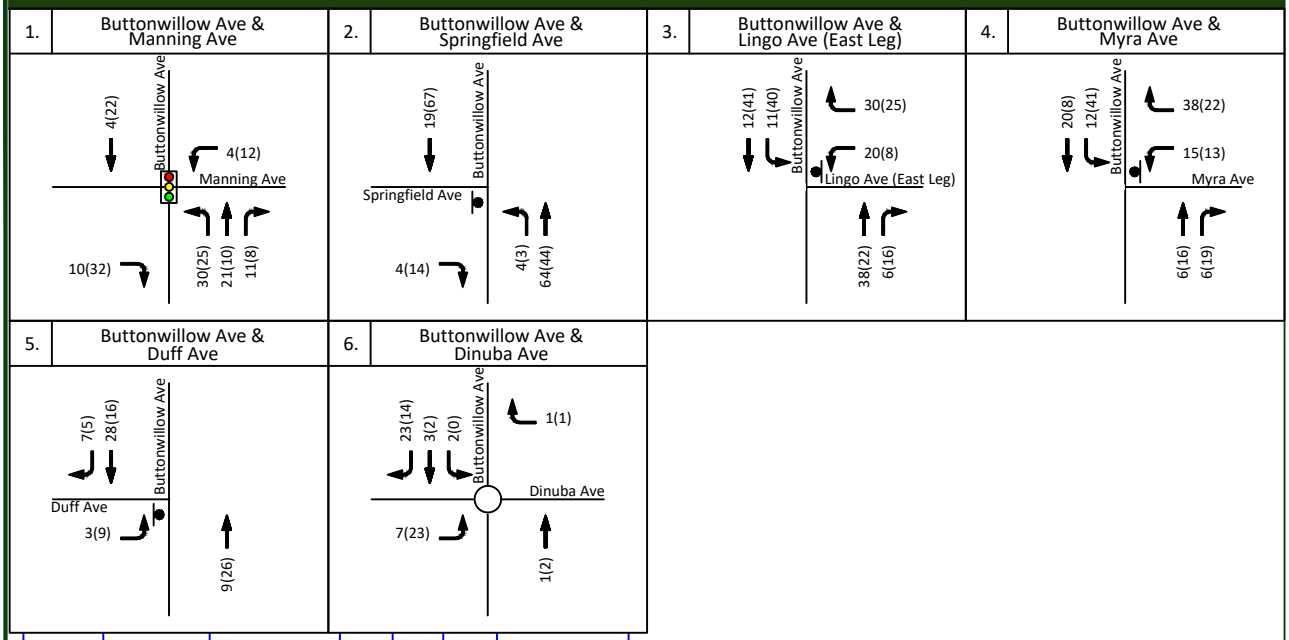
Table VI: Project Only Trip Generation

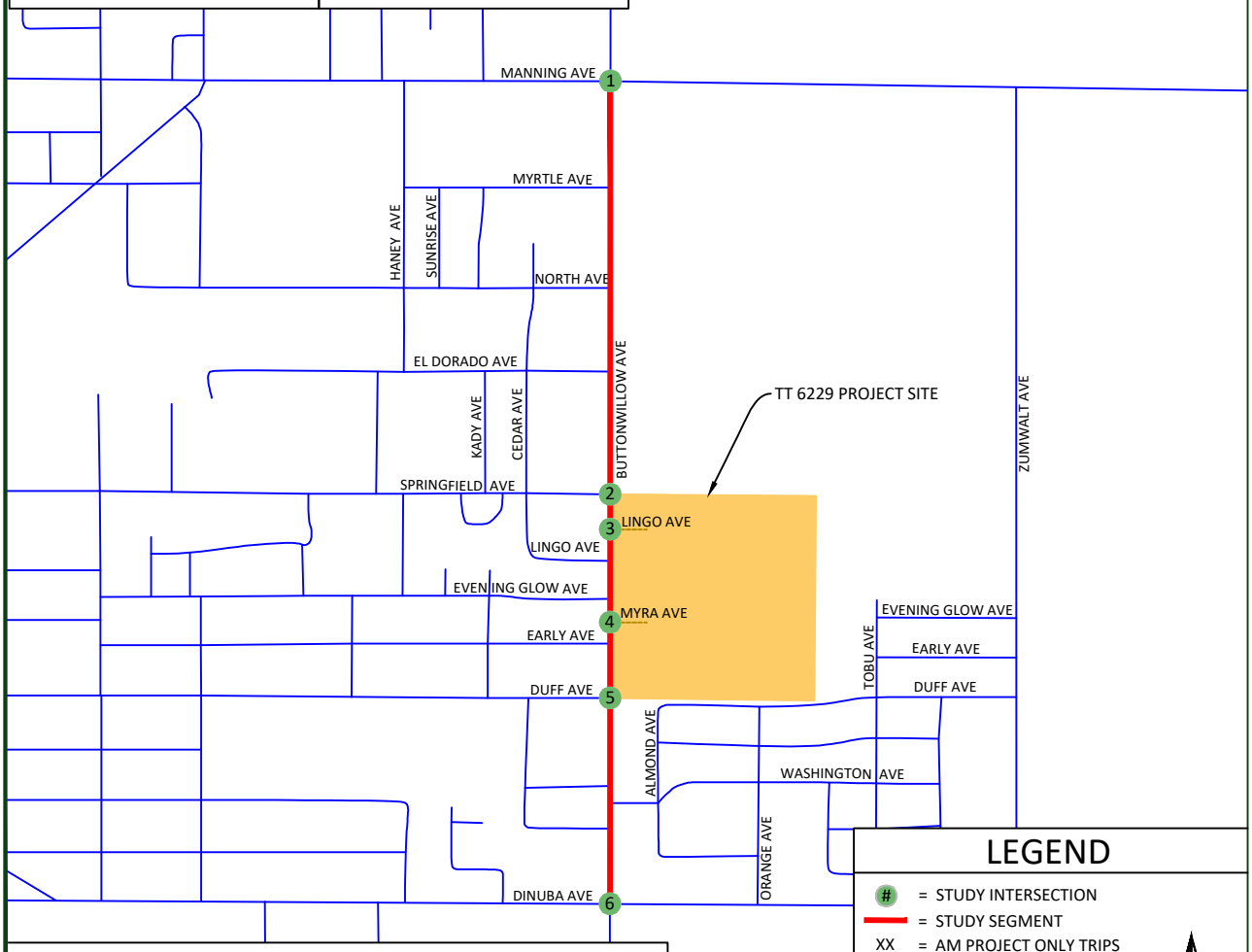
Land Use (ITE Code)	Size	Unit	Daily		AM Peak Hour						PM Peak Hour					
			Rate	Total	Trip Rate	In %	Out %	In	Out	Total	Trip Rate	In %	Out %	In	Out	Total
Single-Family Detached Housing (210)	186	d.u.	9.44	1,756	0.74	25	75	35	104	138	0.99	63	37	116	68	184
Total Project Trips				**1,756**				**35**	**104**	**138**				**116**	**68**	**184**

Note: d.u. = Dwelling Units

Tentative Tract 6229 - City of Reedley
Project Only Trips

Figure 6





LEGEND

- # = STUDY INTERSECTION
- = STUDY SEGMENT
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS
- = SIGNALIZED INTERSECTION
- = STOP SIGN
- = ROUNDABOUT

N

Not To Scale

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APPENDIX 3.16-4

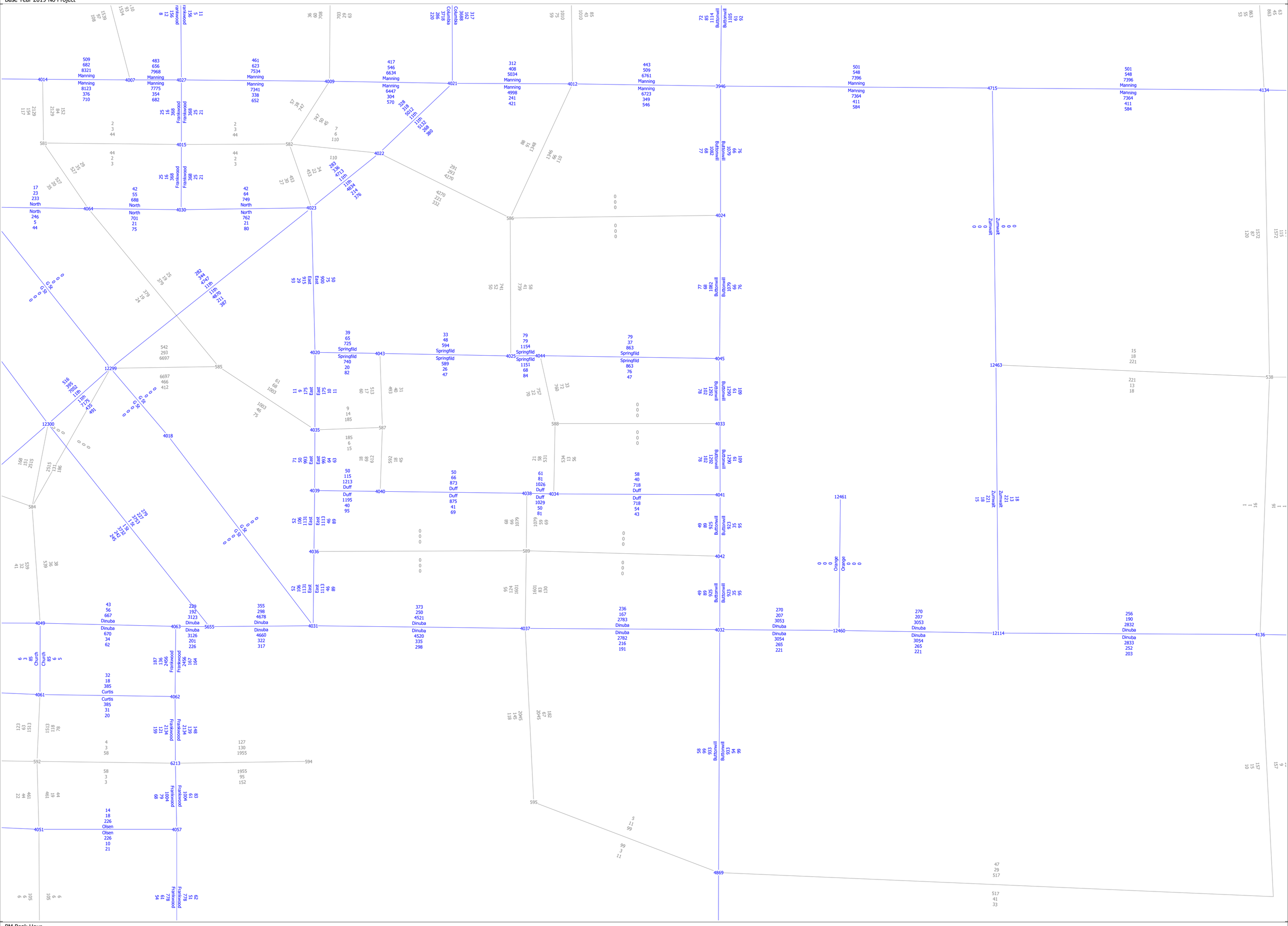
Fresno COG Travel Demand Model Data

Base Year 2019 No Project

PM Peak Hour
AM Peak Hour
Daily

cube

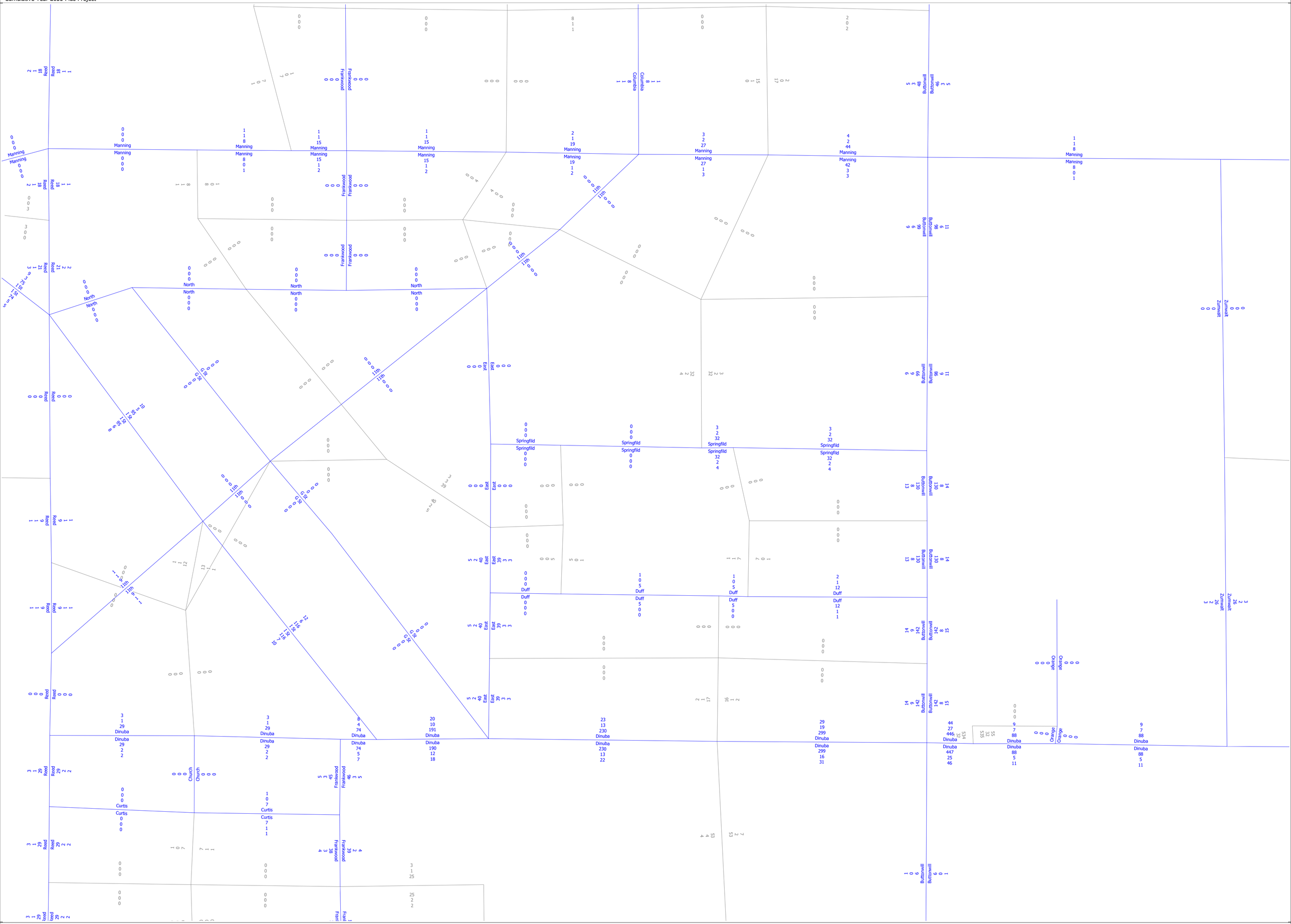
Base Year 2019 No Project



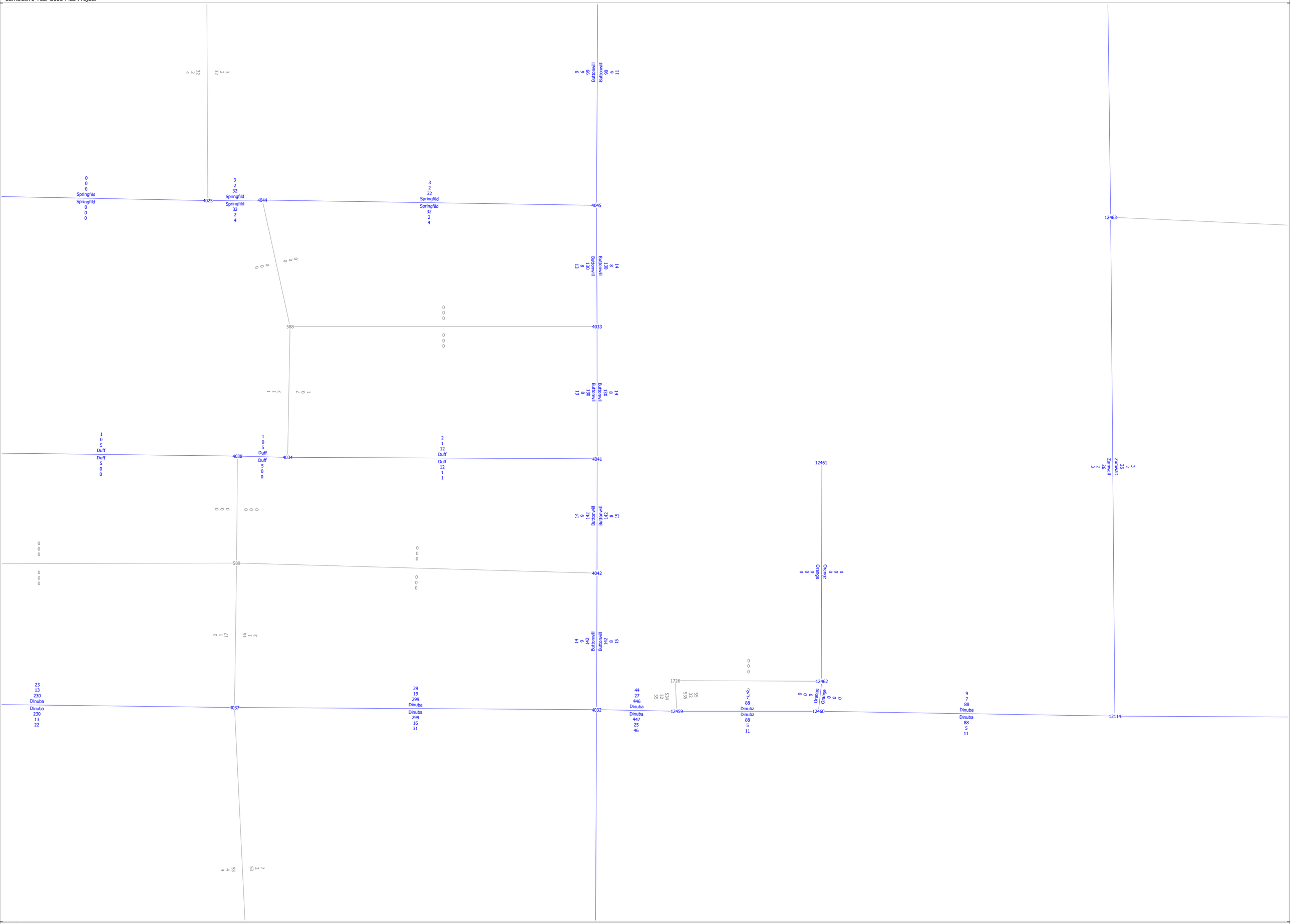
PM Peak Hour
AM Peak Hour
Daily

cube

Cumulative Year 2035 Plus Project

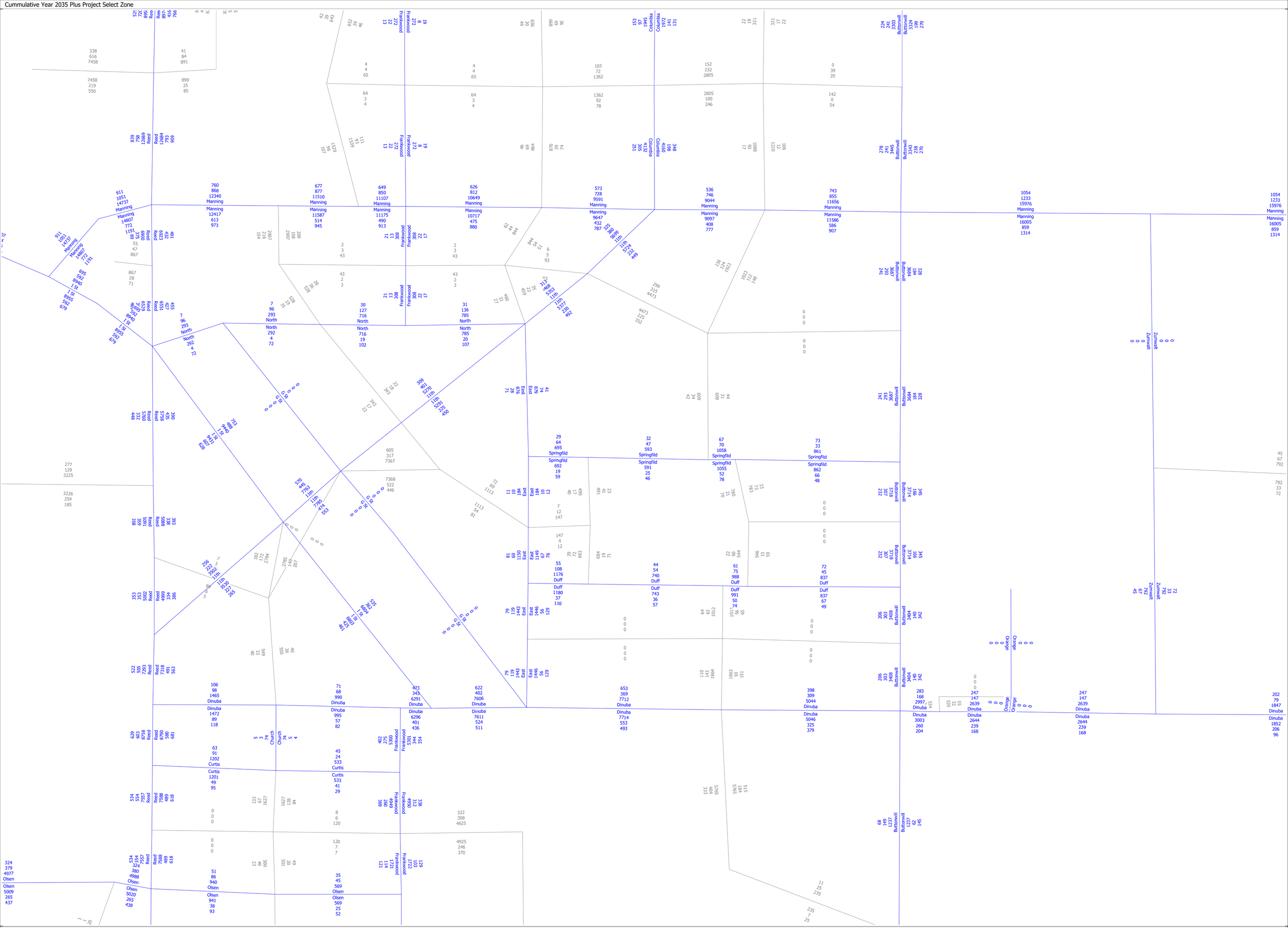


PM Peak Hour
AM Peak Hour
Daily



PM Peak Hour
AM Peak Hour
Daily

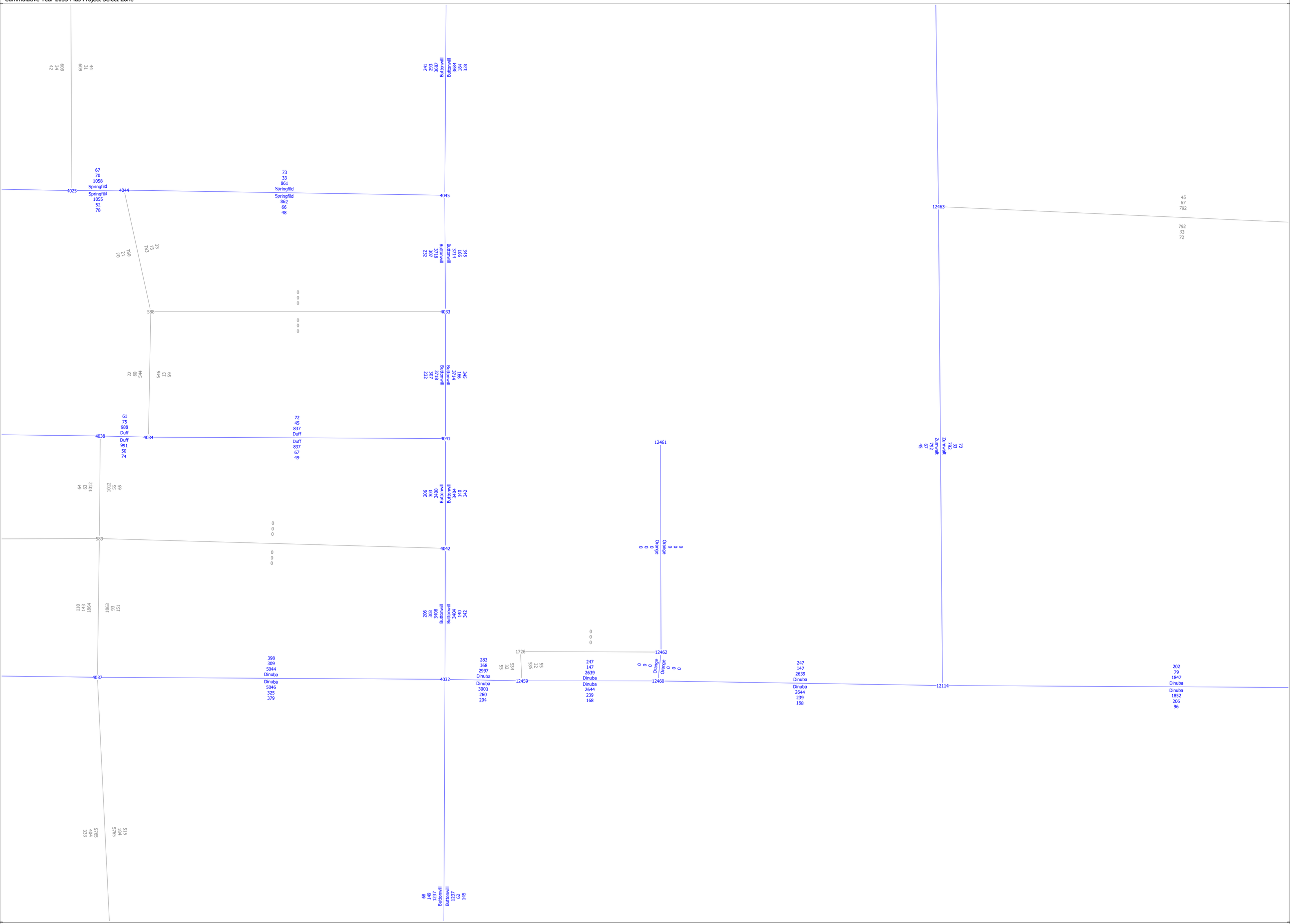
Cummulative Year 2035 Plus Project Select Zone



PM Peak Hour
AM Peak Hour
Daily

cube

Cummulative Year 2035 Plus Project Select Zone

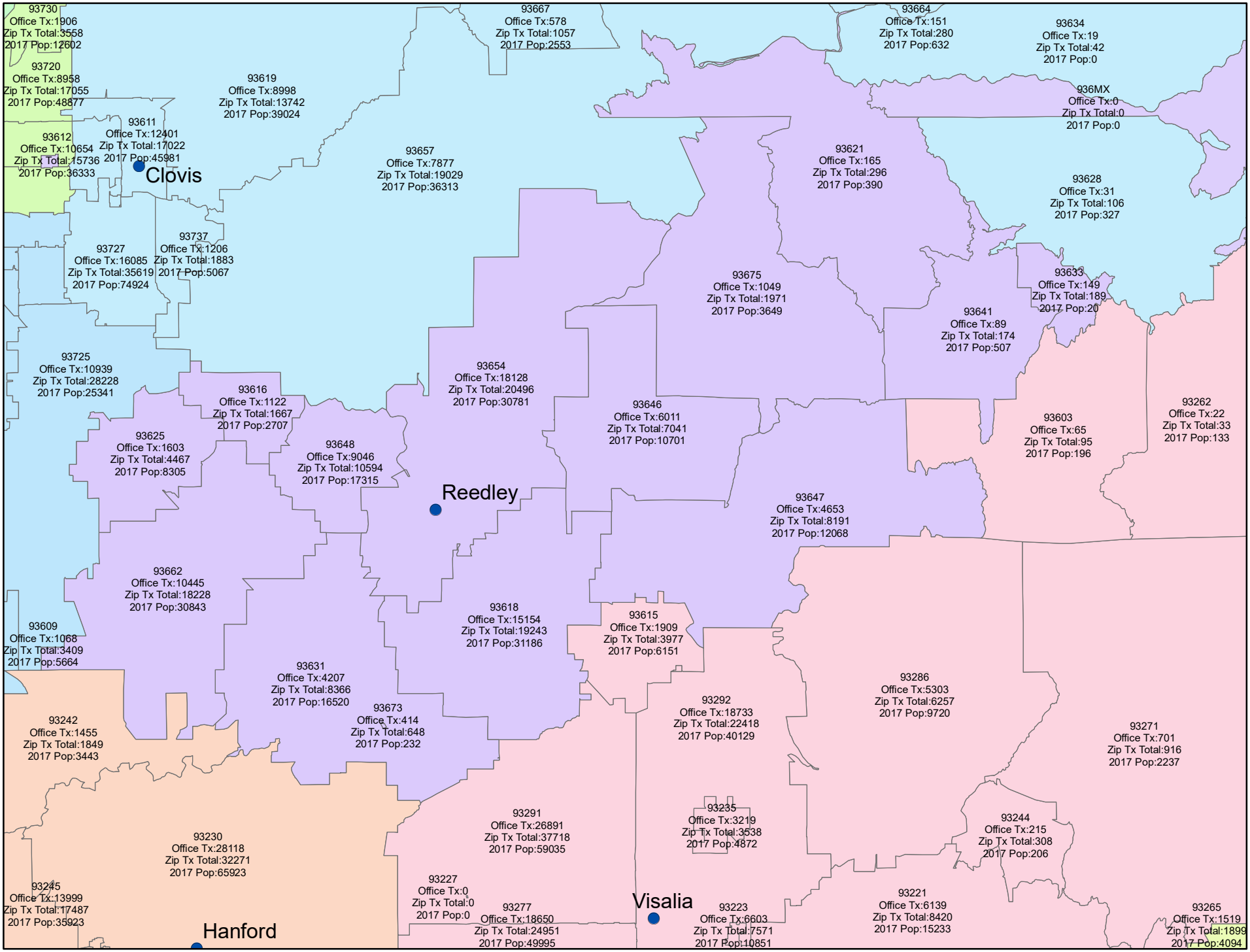


PM Peak Hour
AM Peak Hour
Daily

cube

APPENDIX 3.16-5

Existing Reedley DMV Customer Demographic Data



September 2017