

Warrants Summary

Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	E
Speed > 10mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets			Minor Streets		
	N	S	E	N	S	E
1	75	66	38	38	38	38
2	72	63	36	36	36	36
3	71	62	36	36	36	36
4	60	53	30	30	30	30
5	57	50	29	29	29	29
6	51	45	26	26	26	26
7	47	42	24	24	24	24
8	45	40	23	23	23	23
9	35	32	18	18	18	18
10	34	30	17	17	17	17
11	34	30	17	17	17	17
12	32	28	16	16	16	16
13	29	26	15	15	15	15
14	27	24	14	14	14	14
15	27	24	14	14	14	14
16	26	23	13	13	13	13
17	15	13	8	8	8	8
18	8	7	4	4	4	4
19	8	7	4	4	4	4
20	3	3	2	2	2	2
21	2	2	1	1	1	1
22	2	2	1	1	1	1
23	2	2	1	1	1	1
24	2	2	1	1	1	1

Warrant Analysis by Hour

Hour	Major Lanes		Warrant 1 Condition A					Warrant 1 Condition B			Warrant 2	Warrant 3
	Number	Volume	100%	80%	70%	50%	100%	80%	70%	50%	Condition B	
1	2	141	No	No	No	No	No	No	No	No	No	No
2	2	135	No	No	No	No	No	No	No	No	No	No
3	2	133	No	No	No	No	No	No	No	No	No	No
4	2	113	No	No	No	No	No	No	No	No	No	No
5	2	107	No	No	No	No	No	No	No	No	No	No
6	2	96	No	No	No	No	No	No	No	No	No	No
7	2	89	No	No	No	No	No	No	No	No	No	No
8	2	85	No	No	No	No	No	No	No	No	No	No
9	2	68	No	No	No	No	No	No	No	No	No	No
10	2	64	No	No	No	No	No	No	No	No	No	No
11	2	64	No	No	No	No	No	No	No	No	No	No
12	2	60	No	No	No	No	No	No	No	No	No	No
13	2	55	No	No	No	No	No	No	No	No	No	No
14	2	51	No	No	No	No	No	No	No	No	No	No
15	2	51	No	No	No	No	No	No	No	No	No	No
16	2	49	No	No	No	No	No	No	No	No	No	No
17	2	28	No	No	No	No	No	No	No	No	No	No
18	2	15	No	No	No	No	No	No	No	No	No	No
19	2	15	No	No	No	No	No	No	No	No	No	No
20	2	6	No	No	No	No	No	No	No	No	No	No
21	2	4	No	No	No	No	No	No	No	No	No	No
22	2	4	No	No	No	No	No	No	No	No	No	No
23	2	3	No	No	No	No	No	No	No	No	No	No
24	2	3	No	No	No	No	No	No	No	No	No	No
Hours Met			0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	Condition A
Total Stopped Delay Per Vehicle on Minor Approach (s)	E 9.5
Number of Lanes on Minor Street Approach	1
Vehicle/Hours of Stopped Delay on Minor Approach (h/vehmm)	0.06
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	38
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	179
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Precipitation < 10.000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets				Minor Streets	
	E	W	S	W	S	
1	215	240	77	77	77	
2	206	230	74	74	74	
3	202	226	72	72	72	
4	172	192	62	62	62	
5	163	182	59	59	59	
6	146	163	52	52	52	
7	135	151	49	49	49	
8	129	144	46	46	46	
9	103	115	37	37	37	
10	108	108	35	35	35	
11	97	108	35	35	35	
12	92	103	33	33	33	
13	84	94	30	30	30	
14	77	86	28	28	28	
15	66	77	25	25	25	
16	75	84	27	27	27	
17	43	48	15	15	15	
18	26	28	8	8	8	
19	24	24	8	8	8	
20	9	10	3	3	3	
21	6	7	2	2	2	
22	6	7	2	2	2	
23	4	5	2	2	2	
24	4	5	2	2	2	

Hour	Major Lanes		Warrant 1 Condition A						Warrant 1 Condition B			Warrant 2 Condition B		Warrant 3 Condition B
	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%	100%	80%	70%	
1	2	455	No	No	No	No	No	No	No	No	No	No	No	No
2	2	436	No	No	No	No	No	No	No	No	No	No	No	No
3	2	428	No	No	No	No	No	No	No	No	No	No	No	No
4	2	364	No	No	No	No	No	No	No	No	No	No	No	No
5	2	345	No	No	No	No	No	No	No	No	No	No	No	No
6	2	309	No	No	No	No	No	No	No	No	No	No	No	No
7	2	286	No	No	No	No	No	No	No	No	No	No	No	No
8	2	273	No	No	No	No	No	No	No	No	No	No	No	No
9	2	218	No	No	No	No	No	No	No	No	No	No	No	No
10	2	205	No	No	No	No	No	No	No	No	No	No	No	No
11	2	205	No	No	No	No	No	No	No	No	No	No	No	No
12	2	195	No	No	No	No	No	No	No	No	No	No	No	No
13	2	178	No	No	No	No	No	No	No	No	No	No	No	No
14	2	163	No	No	No	No	No	No	No	No	No	No	No	No
15	2	163	No	No	No	No	No	No	No	No	No	No	No	No
16	2	159	No	No	No	No	No	No	No	No	No	No	No	No
17	2	91	No	No	No	No	No	No	No	No	No	No	No	No
18	2	50	No	No	No	No	No	No	No	No	No	No	No	No
19	2	46	No	No	No	No	No	No	No	No	No	No	No	No
20	2	19	No	No	No	No	No	No	No	No	No	No	No	No
21	2	13	No	No	No	No	No	No	No	No	No	No	No	No
22	2	9	No	No	No	No	No	No	No	No	No	No	No	No
23	2	9	No	No	No	No	No	No	No	No	No	No	No	No
24	2	9	No	No	No	No	No	No	No	No	No	No	No	No
Hours Met			0	0	0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.4
Number of Lanes on Minor Street Approach	1
Vehicle-Hours of Stopped Delay on Minor Approach (h:hr:mm)	0:23
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	77
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	532
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2		Warrant 3	
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%	55%	55%	Condition B	Condition B
1	2	227	1	22	No	No	No	No	No	No	No	No	No	No	No	No
2	2	218	1	21	No	No	No	No	No	No	No	No	No	No	No	No
3	2	213	1	21	No	No	No	No	No	No	No	No	No	No	No	No
4	2	182	1	16	No	No	No	No	No	No	No	No	No	No	No	No
5	2	172	1	17	No	No	No	No	No	No	No	No	No	No	No	No
6	2	155	1	15	No	No	No	No	No	No	No	No	No	No	No	No
7	2	143	1	14	No	No	No	No	No	No	No	No	No	No	No	No
8	2	138	1	13	No	No	No	No	No	No	No	No	No	No	No	No
9	2	109	1	11	No	No	No	No	No	No	No	No	No	No	No	No
10	2	102	1	10	No	No	No	No	No	No	No	No	No	No	No	No
11	2	102	1	10	No	No	No	No	No	No	No	No	No	No	No	No
12	2	97	1	9	No	No	No	No	No	No	No	No	No	No	No	No
13	2	89	1	9	No	No	No	No	No	No	No	No	No	No	No	No
14	2	82	1	8	No	No	No	No	No	No	No	No	No	No	No	No
15	2	82	1	8	No	No	No	No	No	No	No	No	No	No	No	No
16	2	80	1	8	No	No	No	No	No	No	No	No	No	No	No	No
17	2	45	1	4	No	No	No	No	No	No	No	No	No	No	No	No
18	2	25	1	2	No	No	No	No	No	No	No	No	No	No	No	No
19	2	33	1	2	No	No	No	No	No	No	No	No	No	No	No	No
20	2	3	1	1	No	No	No	No	No	No	No	No	No	No	No	No
21	2	6	1	1	No	No	No	No	No	No	No	No	No	No	No	No
22	2	6	1	1	No	No	No	No	No	No	No	No	No	No	No	No
23	2	5	1	0	No	No	No	No	No	No	No	No	No	No	No	No
24	2	5	1	0	No	No	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	Volume
Total Stopped Delay Per Vehicle on Minor Approach (s)	9
Number of Lanes on Minor Street Approach	9/8
VehicleHours of Stopped Delay on Minor Approach (h:mm)	1
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	22
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	249
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No

Warrants Summary

Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets			Minor Streets		
	E	W	S	E	W	S
1	82	145	22	5		
2	70	139	21	22		
3	77	138	21	18		
4	66	116	18	17		
5	82	110	17	14		
6	59	99	15	13		
7	52	91	14	11		
8	49	87	13	10		
9	39	70	10	10		
10	37	65	10	9		
11	37	65	10	8		
12	35	62	9	8		
13	32	57	8	8		
14	30	52	8	8		
15	30	52	8	8		
16	29	51	8	8		
17	18	29	4	4		
18	9	18	2	2		
19	8	15	2	2		
20	3	6	1	1		
21	2	4	1	1		
22	2	4	1	1		
23	2	3	0	0		
24	2	3	0	0		

Signal Warrants Report For Intersection 13: N Valley Rd at Bruce Dr

Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters	E, W
Major Approaches	S
Minor Approaches	Yes
Speed > 40mph	No
Population < 10,000	70%
Warrant Factor	

Hour	Major Streets			Minor Streets		
	E	W	S	E	W	S
1	90	145	0	0	0	0
2	86	139	0	0	0	0
3	85	136	0	0	0	0
4	72	116	0	0	0	0
5	68	110	0	0	0	0
6	61	99	0	0	0	0
7	57	91	0	0	0	0
8	54	87	0	0	0	0
9	43	70	0	0	0	0
10	41	65	0	0	0	0
11	41	65	0	0	0	0
12	39	62	0	0	0	0
13	35	57	0	0	0	0
14	32	52	0	0	0	0
15	32	52	0	0	0	0
16	31	51	0	0	0	0
17	18	29	0	0	0	0
18	10	16	0	0	0	0
19	9	15	0	0	0	0
20	4	6	0	0	0	0
21	3	4	0	0	0	0
22	3	4	0	0	0	0
23	2	3	0	0	0	0
24	2	3	0	0	0	0

Signal Warrants Report For Intersection 13: N Valley Rd at Bruce Dr

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A					Warrant 1 Condition B					Warrant 2 Condition B	
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	60%	70%	56%	56%	56%	Condition B	
1	2	235	1	0	No	No	No	No	No	No	No	No	No	No	No	
2	2	225	1	0	No	No	No	No	No	No	No	No	No	No	No	
3	2	221	1	0	No	No	No	No	No	No	No	No	No	No	No	
4	2	188	1	0	No	No	No	No	No	No	No	No	No	No	No	
5	2	178	1	0	No	No	No	No	No	No	No	No	No	No	No	
6	2	160	1	0	No	No	No	No	No	No	No	No	No	No	No	
7	2	140	1	0	No	No	No	No	No	No	No	No	No	No	No	
8	2	141	1	0	No	No	No	No	No	No	No	No	No	No	No	
9	2	113	1	0	No	No	No	No	No	No	No	No	No	No	No	
10	2	108	1	0	No	No	No	No	No	No	No	No	No	No	No	
11	2	108	1	0	No	No	No	No	No	No	No	No	No	No	No	
12	2	101	1	0	No	No	No	No	No	No	No	No	No	No	No	
13	2	92	1	0	No	No	No	No	No	No	No	No	No	No	No	
14	2	84	1	0	No	No	No	No	No	No	No	No	No	No	No	
15	2	84	1	0	No	No	No	No	No	No	No	No	No	No	No	
16	2	82	1	0	No	No	No	No	No	No	No	No	No	No	No	
17	2	47	1	0	No	No	No	No	No	No	No	No	No	No	No	
18	2	26	1	0	No	No	No	No	No	No	No	No	No	No	No	
19	2	24	1	0	No	No	No	No	No	No	No	No	No	No	No	
20	2	10	1	0	No	No	No	No	No	No	No	No	No	No	No	
21	2	7	1	0	No	No	No	No	No	No	No	No	No	No	No	
22	2	7	1	0	No	No	No	No	No	No	No	No	No	No	No	
23	2	5	1	0	No	No	No	No	No	No	No	No	No	No	No	
24	2	5	1	0	No	No	No	No	No	No	No	No	No	No	No	
Met					0	0	0	0	0	0	0	0	0	0	0	

Warrant 3 Condition A	Orientation	
	S	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.7	9.7
Number of Lanes on Minor Street Approach	1	1
Vehicle-Hours of Stopped Delay on Minor Approach (h:mm)	0:00	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	No	No
High Minor Volumes Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	235	235
Number of Approaches on Intersection	3	3
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	No

Trip Generation summary

Zone ID: Name	Land Use variables	Code	Ind. Dwelling Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
8: Dutchman's Ridge	Homes	ITE Dwelling 210 (g Units)	0.750	46,000	25.00	75.00	8	26	34	26.15	
10: Gracie's Landing	Homes	ITE Dwelling 210 (g Units)	0.750	52,000	25.00	75.00	10	29	39	30.00	
15: Kings Landing N	Homes	ITE Dwelling 210 (g Units)	0.750	53,000	25.00	75.00	10	30	40	30.77	
16: Kings Landing S	Homes	ITE Dwelling 210 (g Units)	0.750	23,000	25.00	75.00	4	13	17	13.08	
							Added Trips Total	32	98	130	100.00

Trip Distribution summary

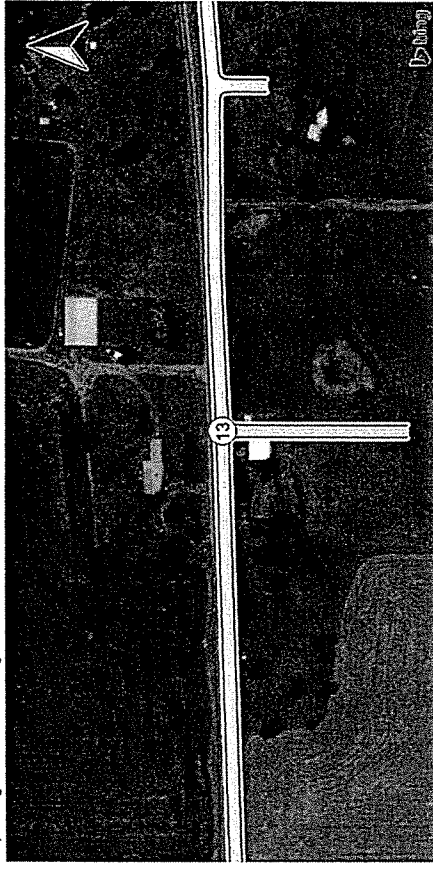
Zone / Gate	To Dutchman's Ridge:			From Dutchman's Ridge:		
	Share %	Trips	Trips	Share %	Trips	Trips
10: Gracie's Landing	0.00	0	0	0.00	0	0
15: Kings Landing N	0.00	0	0	0.00	0	0
16: Kings Landing S	0.00	0	0	0.00	0	0
1: Gate	5.00	0	0	0.00	0	0
2: Gate	5.00	0	0	5.00	1	1
3: Gate	5.00	0	0	5.00	1	1
4: Gate	30.00	0	0	30.00	6	6
5: Gate	0.00	0	0	0.00	0	0
6: Gate	0.00	0	0	0.00	0	0
7: Gate	50.00	4	4	50.00	13	13
9: Gate	10.00	0	0	10.00	3	3
11: Gate	0.00	0	0	0.00	0	0
12: Gate	0.00	0	0	0.00	0	0
Total	100.00	7	7	100.00	26	26

Zone / Gate	To Gracie's Landings:			From Gracie's Landings:		
	Share %	Trips	Trips	Share %	Trips	Trips
8: Dutchman's Ridge	0.00	0	0	0.00	0	0
15: Kings Landing N	0.00	0	0	0.00	0	0
16: Kings Landing S	0.00	0	0	0.00	0	0
1: Gate	0.00	0	0	0.00	0	0
2: Gate	5.00	0	0	5.00	1	1
3: Gate	5.00	0	0	5.00	1	1
4: Gate	20.00	0	0	20.00	2	2
5: Gate	0.00	0	0	0.00	0	0
6: Gate	0.00	0	0	0.00	0	0
7: Gate	60.00	6	6	60.00	18	18
9: Gate	10.00	1	1	10.00	3	3
11: Gate	0.00	0	0	0.00	0	0
12: Gate	0.00	0	0	0.00	0	0
Total	100.00	11	11	100.00	29	29

Zone / Gate	To Kings Landing N:			From Kings Landing N:		
	Share %	Trips	Trips	Share %	Trips	Trips
8: Dutchman's Ridge	0.00	0	0	0.00	0	0
10: Gracie's Landing	0.00	0	0	0.00	0	0
16: Kings Landing S	0.00	0	0	0.00	0	0
1: Gate	0.00	0	0	0.00	0	0
2: Gate	5.00	1	1	5.00	2	2
3: Gate	5.00	1	1	5.00	2	2
4: Gate	20.00	2	2	20.00	6	6
5: Gate	0.00	0	0	0.00	0	0
6: Gate	0.00	0	0	0.00	0	0
7: Gate	60.00	6	6	60.00	17	17
9: Gate	10.00	1	1	10.00	3	3
11: Gate	0.00	0	0	0.00	0	0
12: Gate	0.00	0	0	0.00	0	0
Total	100.00	11	11	100.00	30	30

Zone / Gate	To Kings Landing S:			From Kings Landing S:		
	Share %	Trips	Trips	Share %	Trips	Trips
8: Dutchman's Ridge	0.00	0	0	0.00	0	0
10: Gracie's Landing	0.00	0	0	0.00	0	0
15: Kings Landing N	0.00	0	0	0.00	0	0
1: Gate	0.00	0	0	0.00	0	0
2: Gate	5.00	0	0	5.00	1	1
3: Gate	5.00	0	0	5.00	1	1
4: Gate	20.00	1	1	20.00	3	3
5: Gate	0.00	0	0	0.00	0	0
6: Gate	0.00	0	0	0.00	0	0
7: Gate	60.00	2	2	60.00	7	7
9: Gate	10.00	0	0	10.00	1	1
11: Gate	0.00	0	0	0.00	0	0
12: Gate	0.00	0	0	0.00	0	0
Total	100.00	3	3	100.00	13	13

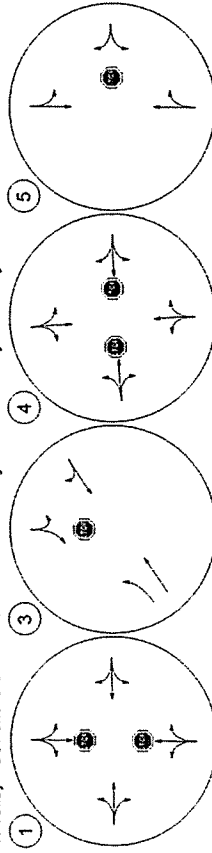
Report Figure 1: Lane Configuration and Traffic Control



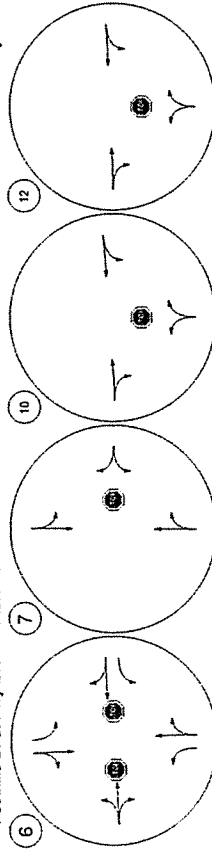
Report Figure 1: Lane Configuration and Traffic Control



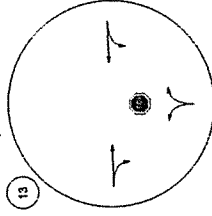
N Valley Rd at Chehalem Dr NE Terrace Dr at Hwy 219 N Valley Rd at Hwy 219 Chehalem Dr at Foothills Dr



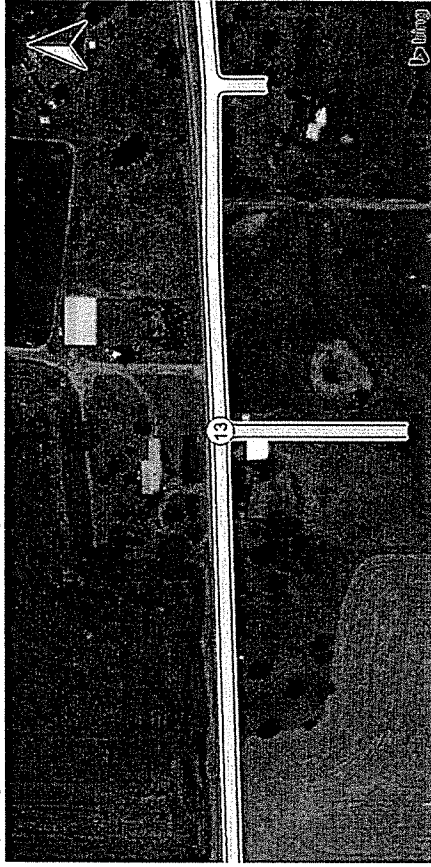
Foothills Dr at Hwy 219 West Access at Chehalem Dr Main at Foothills KV Access at N Valley Rd



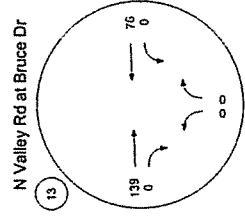
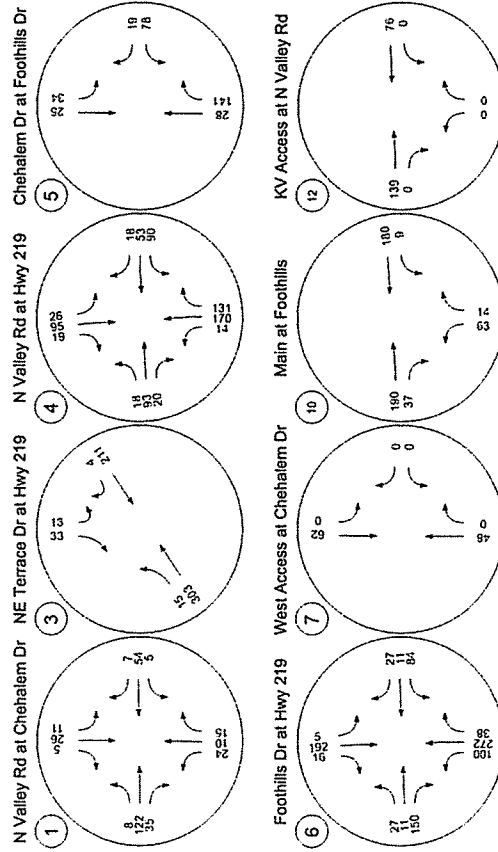
N Valley Rd at Bruce Dr

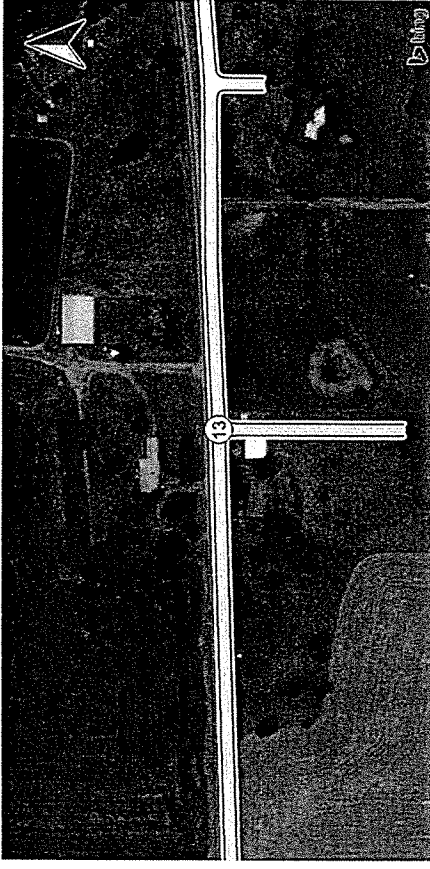


Report Figure 2c: Traffic Volume - Future Background Volume

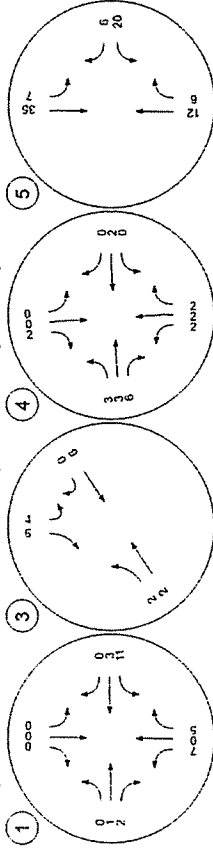


Report Figure 2c: Traffic Volume - Future Background Volume

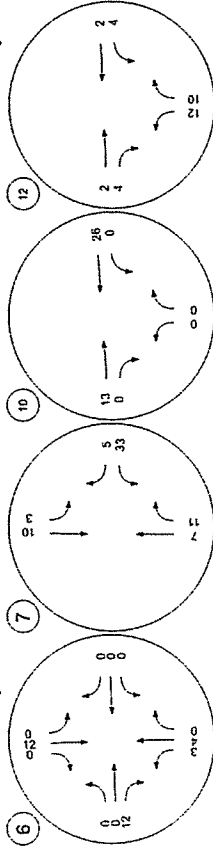




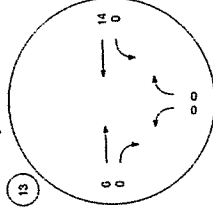
1 N Valley Rd at Chehalem Dr NE Terrace Dr at Hwy 219 N Valley Rd at Hwy 219 Chehalem Dr at Foothills Dr



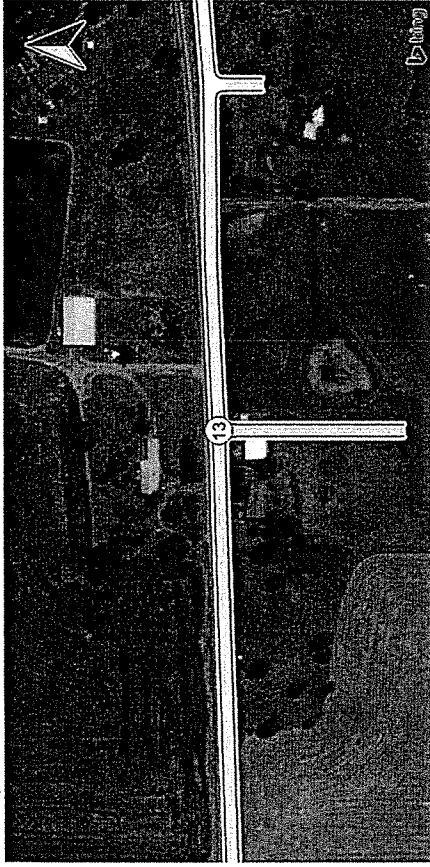
6 Foothills Dr at Hwy 219 West Access at Chehalem Dr Main at Foothills KV Access at N Valley Rd



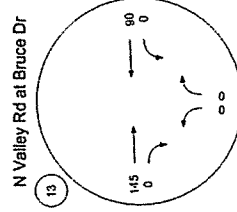
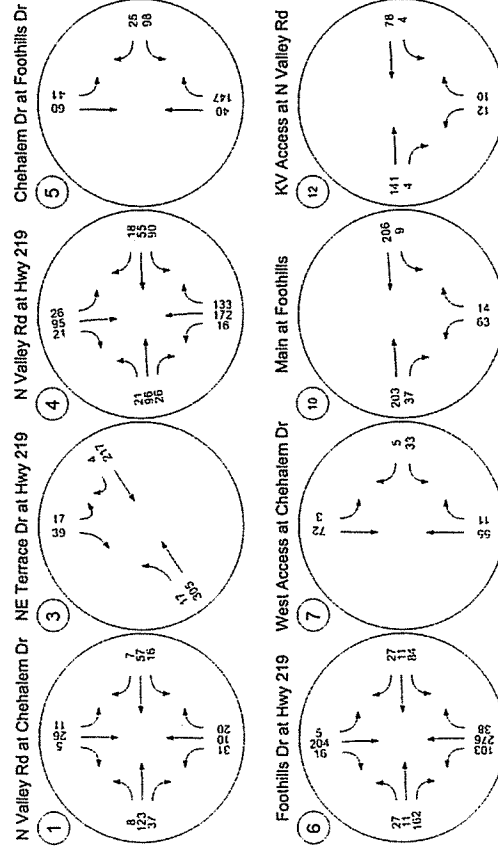
13 N Valley Rd at Bruce Dr



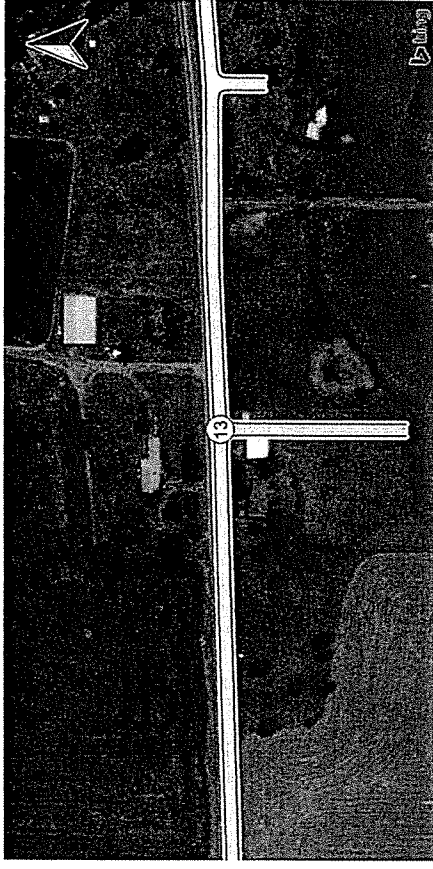
Report Figure 2f: Traffic Volume - Future Total Volume



Report Figure 2f: Traffic Volume - Future Total Volume



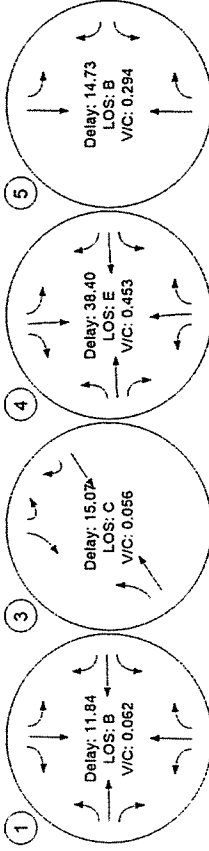
Report Figure 3: Traffic Conditions



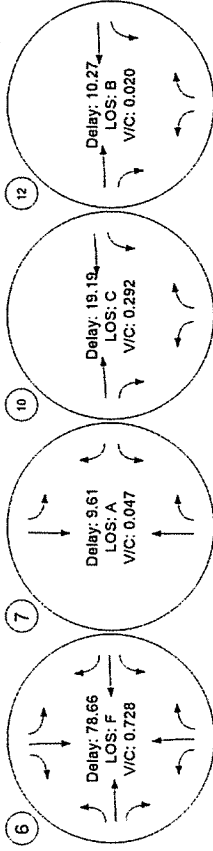
Report Figure 3: Traffic Conditions



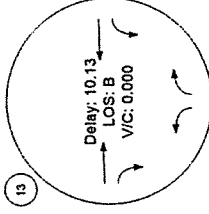
N Valley Rd at Chehalum Dr NE Terrace Dr at Hwy 219 N Valley Rd at Hwy 219 Chehalum Dr at Foothills Dr



Foothills Dr at Hwy 219 West Access at Chehalum Dr Main at Foothills KV Access at N Valley Rd



N Valley Rd at Bruce Dr



Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	N Valley Rd at Chehalem Dr	Two-way stop	HCM 6th Edition	NB Thru	0.044	12.3	B
3	NE Terrace Dr at Hwy 219	Two-way stop	HCM 6th Edition	SB Left	0.018	18.8	C
4	N Valley Rd at Hwy 219	Two-way stop	HCM 6th Edition	WB Left	0.349	55.5	F
5	Chehalem Dr at Foothills Dr	Two-way stop	HCM 6th Edition	WB Left	0.079	10.6	B
6	Foothills Dr at Hwy 219	Two-way stop	HCM 6th Edition	WB Left	0.622	74.7	F
7	West Access at Chehalem Dr	Two-way stop	HCM 6th Edition	WB Left	0.031	9.7	A
10	Main at Foothills	Two-way stop	HCM 6th Edition	NB Left	0.059	12.1	B
12	KV Access at N Valley Rd	Two-way stop	HCM 6th Edition	NB Left	0.008	8.8	A
13	N Valley Rd at Bruce Dr	Two-way stop	HCM 6th Edition	NB Left	0.000	10.6	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value, for all other control types, they are taken for the whole intersection.

Intersection Setup

Name	Chehalem Dr Northbound		Chehalem Dr Southbound		N Valley Rd Eastbound		N Valley Rd Westbound	
	Left	Thru	Right	Thru	Left	Thru	Right	Thru
Approach								
Lane Configuration								
Turning Movement								
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0
Pocket Length [ft]								
Speed [mph]	35.00				45.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Chehalem Dr				N Valley Rd				N Valley Rd			
	22	19	0	12	9	4	4	75	23	9	131	20
Base Volume Input [veh/h]	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948
Base Volume Adjustment Factor	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Rate	0	0	0	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	5	0	12	0	0	0	0	3	7	10	2	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	21	19	13	10	4	4	85	32	20	145	22
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	6	5	4	3	1	1	24	9	6	42	6
Total Analysis Volume [veh/h]	33	24	22	15	11	5	5	98	37	23	167	25
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Settings

Priority Scheme	Stop	Free	Free
Filtered Lane	No		
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

Movement	d, M, Delay for Movement [s/veh]	18.83	12.65	0.05	0.06	0.06
VIC Movement V/C Ratio						
d, M, Delay for Movement [s/veh]						
Movement LOS		C	B	A	A	A
95th-Percentile Queue Length [veh]		0.22	0.22	0.18	0.00	0.00
95th-Percentile Queue Length [ft]		5.57	5.57	4.40	0.00	0.00
d, A, Approach Delay [s/veh]		13.66			1.55	0.00
Approach LOS		B			A	A
d, I, Intersection Delay [s/veh]					0.98	
Intersection LOS					C	

Intersection Level Of Service Report
 Intersection 4: N Valley Rd at Hwy 219

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 55.5
 Level Of Service: F
 Volume to Capacity (v/c): 0.349

Intersection Setup

Name	Hwy 218			Hwy 219			N Valley Rd			N Valley Rd		
	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]												
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hwy 218			Hwy 219			N Valley Rd			N Valley Rd		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	20	130	34	11	350	43	8	02	26	59	97	20
Base Volume Adjustment Factor	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948
Base Volume [veh/h]	21.90	142.26	37.21	12.06	383.10	47.07	8.64	0.00	28.50	64.65	106.31	21.88
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Heavy Vehicle Volume [veh/h]	0.88	5.69	1.49	0.48	15.53	1.90	0.35	0.00	1.14	2.59	4.25	0.87
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	1	1	0	2	4	2	2	4	2	4	0
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	143	38	12	385	51	11	70	32	67	110	32
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	41	11	3	109	14	3	20	9	19	31	9
Total Analysis Volume [veh/h]	33	163	43	14	438	65	13	80	36	76	125	36
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0	0	0

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [feet]				
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median				

Movement, Approach, & Intersection Results

VIC Movement	VIC Ratio	0.03	0.01	0.07	0.25	0.06	0.35	0.40	0.04
d, M, Delay for Movement [s/vch]	8.51	7.69	31.29	23.12	17.73	55.54	50.59	43.22	E
Movement LOS	A	A	A	D	C	C	F	F	E
95th-Percentile Queue Length [veh]	0.87	1.78	1.78	1.77	1.77	1.77	6.34	6.34	6.34
95th-Percentile Queue Length [ft]	21.71	21.71	44.60	44.23	44.23	44.23	159.41	159.41	159.41
d, A, Approach Delay [s/vch]	1.18	0.21	22.44	22.44	22.44	22.44	51.05	51.05	F
Approach LOS	A	A	C	C	C	C	F	F	F
d, I, Intersection Delay [s/vch]	13.80	13.80	13.80	13.80	13.80	13.80	13.80	13.80	F
Intersection LOS	F	F	F	F	F	F	F	F	F

Control Type:	Two-way stop
Analysis Method:	HCM 6th Edition
Analysis Period:	15 minutes

Intersection Setup

Name	Chehalum Dr	Chehalum Dr	Chehalum Dr	Foothills Dr
Approach	Northbound	Southbound	Southbound	Westbound
Lane Configuration	T	T	T	T
Turning Movement	Thru	Right	Thru	Left
Lane Width [ft]	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0
Pocket Length [ft]	35.00	35.00	35.00	25.00
Speed [mph]	35.00	35.00	35.00	35.00
Grade [%]	0.00	0.00	0.00	0.00
Crosswalk	Yes	Yes	Yes	Yes

Volumes

Name	Chehalum Dr	Chehalum Dr	Chehalum Dr	Foothills Dr
Base Volume Input [veh/h]	38	11	15	32
Base Volume Adjustment Factor	1.0948	1.0948	1.0948	1.0948
Heavy Vehicles Percentage [%]	2.40	2.40	2.40	2.40
Growth Rate	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0
Site-Generated Trips [veh/h]	40	23	8	23
Directed Trips [veh/h]	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0
Other Volume [veh/h]	0	0	0	0
Total Hourly Volume [veh/h]	82	35	24	58
Peak Hour Factor	0.7700	0.7700	0.7700	0.7700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	11	8	18
Total Analysis Volume [veh/h]	108	45	31	76
Pedestrian Volume [ped/h]	0	0	0	0

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 74.7
 Level of Service: F
 Volume to Capacity (v/c): 0.622

Intersection Settings

Priority Scheme	First	First	Stop
Flared Lane			No
Storage Area [veh]			
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

Movement	Approach	Queue Length [ft]	Delay [sec]	LOS
d, M, Delay for Movement [s/veh]		0.02	0.08	0.02
Movement LOS	A	7.56	10.65	B
95th-Percentile Queue Length [veh]	0.00	0.24	0.35	A
95th-Percentile Queue Length [ft]	0.00	0.01	0.01	B
d, A, Approach Delay [s/veh]	A	2.22	10.30	B
Approach LOS	A			B
d, I, Intersection Delay [s/veh]		3.12		B
Intersection LOS				B

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 74.7
 Level of Service: F
 Volume to Capacity (v/c): 0.622

Intersection Level Of Service Report

Intersection	Hwy 219 Southbound	Foothills Dr Eastbound	Foothills Dr Westbound
Approach	Northbound	Southbound	Westbound
Left	12.00	12.00	12.00
Thru	4.70	4.70	4.70
Right	12.00	12.00	12.00
Heavy Vehicles Percentage [%]	4.70	4.70	4.70
Growth Rate	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0
Site-Generated Trips [veh/h]	13	0	0
Diverged Trips [veh/h]	0	0	0
Pass-by Trips [veh/h]	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0
Other Volume [veh/h]	0	0	0
Total Hourly Volume [veh/h]	106	230	112
Peak Hour Factor	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	65	32
Total Analysis Volume [veh/h]	120	261	127
Pedestrian Volume [ped/h]	0	0	0

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 74.7
 Level of Service: F
 Volume to Capacity (v/c): 0.622

Intersection Level Of Service Report

Intersection	Hwy 219 Southbound	Foothills Dr Eastbound	Foothills Dr Westbound
Approach	Northbound	Southbound	Westbound
Left	12.00	12.00	12.00
Thru	4.70	4.70	4.70
Right	12.00	12.00	12.00
Heavy Vehicles Percentage [%]	4.70	4.70	4.70
Growth Rate	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0
Site-Generated Trips [veh/h]	13	0	0
Diverged Trips [veh/h]	0	0	0
Pass-by Trips [veh/h]	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0
Other Volume [veh/h]	0	0	0
Total Hourly Volume [veh/h]	106	230	112
Peak Hour Factor	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	65	32
Total Analysis Volume [veh/h]	120	261	127
Pedestrian Volume [ped/h]	0	0	0

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 74.7
 Level of Service: F
 Volume to Capacity (v/c): 0.622

Intersection Level Of Service Report

Intersection	Hwy 219 Southbound	Foothills Dr Eastbound	Foothills Dr Westbound
Approach	Northbound	Southbound	Westbound
Left	12.00	12.00	12.00
Thru	4.70	4.70	4.70
Right	12.00	12.00	12.00
Heavy Vehicles Percentage [%]	4.70	4.70	4.70
Growth Rate	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0
Site-Generated Trips [veh/h]	13	0	0
Diverged Trips [veh/h]	0	0	0
Pass-by Trips [veh/h]	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0
Other Volume [veh/h]	0	0	0
Total Hourly Volume [veh/h]	106	230	112
Peak Hour Factor	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	65	32
Total Analysis Volume [veh/h]	120	261	127
Pedestrian Volume [ped/h]	0	0	0

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 74.7
 Level of Service: F
 Volume to Capacity (v/c): 0.622

Intersection Level Of Service Report

Intersection	Hwy 219 Southbound	Foothills Dr Eastbound	Foothills Dr Westbound
Approach	Northbound	Southbound	Westbound
Left	12.00	12.00	12.00
Thru	4.70	4.70	4.70
Right	12.00	12.00	12.00
Heavy Vehicles Percentage [%]	4.70	4.70	4.70
Growth Rate	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0
Site-Generated Trips [veh/h]	13	0	0
Diverged Trips [veh/h]	0	0	0
Pass-by Trips [veh/h]	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0
Other Volume [veh/h]	0	0	0
Total Hourly Volume [veh/h]	106	230	112
Peak Hour Factor	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	65	32
Total Analysis Volume [veh/h]	120	261	127
Pedestrian Volume [ped/h]	0	0	0

Intersection Level Of Service Report
 Intersection 7: West Access at Chehalam Dr
 Two-way stop HCM 6th Edition
 Delay (sec / veb): 9.7
 Level Of Service: A
 Volume to Capacity (v/c): 0.031

Name	Chehalam Dr		Chehalam Dr		West Access	
	Northbound	Southbound	Northbound	Southbound	Left	Right
Approach	T	F	T	F		
Lane Configuration	Thru	Thru	Thru	Thru	Left	Right
Turning Movement						
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]						
Speed [mph]	30.00	30.00	30.00	30.00	30.00	30.00
Grade [%]	0.00	0.00	0.00	0.00	0.00	0.00
Crosswalk	Yes	Yes	Yes	Yes	Yes	Yes

Volumes

Name	Chehalam Dr		Chehalam Dr		West Access	
	Northbound	Southbound	Northbound	Southbound	Left	Right
Base Volume Input [veh/h]	47	0	0	44	0	0
Base Volume Adjustment Factor	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948
Heavy Vehicles Percentage [%]	2.30	2.30	2.30	2.30	2.30	2.30
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	37	7	10	21	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	37	7	58	21	4
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	11	2	17	6	1
Total Analysis Volume [veh/h]	77	45	8	70	25	5
Pedestrian Volume [ped/h]	0	0	0	0	0	0

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]			No	No
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median			No	No

Movement, Approach, & Intersection Results

d, M, Delay for Movement [s/veh]	A		D		C		F	
	0.12	0.03	0.09	0.04	0.13	0.82	0.06	0.02
Movement LOS	A	A	A	D	C	F	D	B
95th-Percentile Queue Length [veh]	0.40	0.00	1.03	1.03	1.03	3.17	0.23	0.23
95th-Percentile Queue Length [ft]	9.93	0.00	25.84	25.84	25.84	79.23	5.65	5.65
d, A, Approach Delay [s/veh]	2.12	0.52	19.03	19.03	19.03	32.69	32.69	32.69
Approach LOS	A	A	C	C	C	F	F	F
d, I, Intersection Delay [s/veh]	7.20		7.20		7.20		7.20	
Intersection LOS	F		F		F		F	

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes
 Delay (sec / veh): 12.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.059

Intersection Setup		Main St	Foothills Dr	Foothills Dr
Name	Approach	Northbound	Eastbound	Westbound
Lane Configuration		T	T	T
Turning Movement		Left	Right	Left
Lane Width [ft]		12.00	12.00	12.00
No. of Lanes in Pocket		0	0	0
Pocket Length [ft]		0	0	0
Speed [mph]		25.00	25.00	25.00
Grade [%]		0.00	0.00	0.00
Crosswalk		Yes	Yes	Yes

Volumes	Main St					Foothills Dr				
	24	7	116	14	159	1.0948	1.0948	1.0948	1.0948	1.0948
Base Volume Input [veh/h]	24	7	116	14	159	1.0948	1.0948	1.0948	1.0948	1.0948
Base Volume Adjustment Factor	1.0948	1.0948	1.0948	1.0948	1.0948	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0
Growth Rate	0	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	0	0	31	0	23	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	8	156	15	197	0.8200	0.8200	0.8200	0.8200	0.8200
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	8	2	48	5	60
Total 15-Minute Volume [veh/h]	8	2	48	5	60	32	10	193	18	240
Total Analysis Volume [veh/h]	32	10	193	18	240	0	0	0	0	0
Poststation Volume [veh/h]										

Intersection Settings		Free	Free	Stop
Priority Scheme				No
Filled Lane				No
Storage Area [veh]				No
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median				

Movement, Approach, & Intersection Results				
V/C	MOV	LOS	Delay	Stop
0.01	0.01	0.03	0.03	0.01
8.93	7.47	9.87	9.87	8.93
A	A	A	A	A
0.00	0.17	0.11	0.11	0.11
0.00	4.22	2.84	2.84	2.84
0.00	0.77	9.55	9.55	A
A	A	A	A	A
1.51	1.51	1.51	1.51	A
A	A	A	A	A

Intersection Settings

Priority Scheme	Stop	Free	Free
Filtered Lane	No		
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

VIC Movement VIC Ratio	0.06	0.01		0.01
d_M Delay for Movement [s/veh]	12.06	9.74		7.67
Movement LOS	B	A	A	A
95th-Percentile Queue Length [veh]	0.23	0.00	0.00	0.69
95th-Percentile Queue Length [ft]	5.68	5.68	0.00	17.14
d_A Approach Delay [s/veh]	11.51		0.00	0.45
Approach LOS	B	A	A	A
d_I Intersection Delay [s/veh]			1.18	
Intersection LOS			B	

Intersection Level Of Service Report

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes
Delay (sec / veh): 8.8
Level Of Service: A
Volume to Capacity (v/c): 0.008

Intersection Setup

Name	KV Access			N Valley Rd			N Valley Rd		
Approach	Northbound			Eastbound			Westbound		
Lane Configuration	T			T			T		
Turning Movement	Left	Right	Thru	Right	Thru	Left	Right	Thru	
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	
Pocket Length [ft]									
Speed [mph]	30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	KV Access			N Valley Rd			N Valley Rd		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	
Base Volume Adjustment Factor	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	
Site-Generated Trips [veh/h]	8	6	2	13	11	4			
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	
Other Volume [veh/h]	0	0	0	0	0	0	0	0	
Total Hourly Volume [veh/h]	8	6	2	13	11	4			
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute Volume [veh/h]	2	2	1	3	3	1			
Total Analysis Volume [veh/h]	8	6	2	13	11	4			
Pedestrian Volume [ped/h]	0	0	0	0	0	0			

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

VC, Movement	V/C Ratio	Stop	Free	Free
d, M, Delay for Movement [s/veh]	0.01	0.01		0.01
d, M, Delay for Movement [s/veh]	8.75	8.40		7.26
Movement LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.00	0.03
95th-Percentile Queue Length [ft]	1.05	1.05	0.00	0.71
d, A, Approach Delay [s/veh]	8.60		0.00	5.33
Approach LOS	A		A	A
d, I, Intersection Delay [s/veh]			4.55	
Intersection LOS			A	

Intersection Level Of Service Report

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes
 Delay (sec / veh): 10.6
 Level Of Service: B
 Volume to Capacity (v/c): 0.000

Intersection 13: N Valley Rd at Bruce Dr

Name	Bruce Dr	N Valley Rd	N Valley Rd
Approach	Northbound	Eastbound	Westbound
Lane Configuration	T	T	T
Turning Movement	Left 12.00	Thru 12.00	Right 12.00
Lane Width [ft]	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0
Pocket Length [ft]	30.00	45.00	45.00
Speed [mph]	0.00	0.00	0.00
Grade [%]	Yes	Yes	Yes
Crosswalk	Yes	Yes	Yes

Volumes

Name	Bruce Dr	N Valley Rd	N Valley Rd
Base Volume Input [veh/h]	0	95	160
Base Volume Adjustment Factor	1.0948	1.0948	1.0948
Base Volume [veh/h]	0	104	175
Heavy Vehicles Percentage [%]	4.00	4.00	4.00
Growth Rate	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0
Site-Generated Trips [veh/h]	0	15	12
Diverged Trips [veh/h]	0	0	0
Pass-by Trips [veh/h]	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0
Other Volume [veh/h]	0	0	0
Total Hourly Volume [veh/h]	0	119	187
Peak Hour Factor	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	34	54
Total Analysis Volume [veh/h]	0	137	215
Pedestrian Volume [ped/h]	0	0	0

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

VC, Movement	V/C Ratio	Stop	Free	Free
d, M, Delay for Movement [s/veh]	0.01	0.01		0.01
d, M, Delay for Movement [s/veh]	8.75	8.40		7.26
Movement LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.00	0.03
95th-Percentile Queue Length [ft]	1.05	1.05	0.00	0.71
d, A, Approach Delay [s/veh]	8.60		0.00	5.33
Approach LOS	A		A	A
d, I, Intersection Delay [s/veh]			4.55	
Intersection LOS			A	

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results		0.00		0.00	
V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00
d, M, Delay for Movement [s/veh]	10.61	8.97		7.51	
Movement LOS	B	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00
d, A, Approach Delay [s/veh]	9.79		0.00	0.00	0.00
Approach LOS	A		A	A	A
d, I, Intersection Delay [s/veh]			0.00		
Intersection LOS			B		

Vistro File: J:\A...Kings Landing TIA - Newberg, Vistro
Report File: J:\A...Kings Landing TIA - Newberg, Vistro
Scenario 4 PM Developed
4/5/2018

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	N Valley Rd at Chahalem Dr	29	21	19	13	10	4	4	85	32	20	145	22	404

ID	Intersection Name	Southbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	NE Terrace Dr at Hwy 219	4	22	45	215	477	15	778			

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	N Valley Rd at Hwy 219	29	143	38	12	385	51	11	70	32	67	110	32	960

ID	Intersection Name	Northbound			Southbound			Westbound			Total Volume
		Thru	Right	Left	Thru	Left	Right	Left	Right		
5	Chahalem Dr at Foothills Dr	82	35	24	58	43	18	260			

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Foothills Dr at Hwy 219	106	230	112	32	456	18	11	5	63	66	8	10	1111

ID	Intersection Name	Northbound			Southbound			Westbound			Total Volume
		Thru	Right	Left	Thru	Left	Right	Left	Right		
7	West Access at Chahalem Dr	64	37	7	58	21	4	181			

ID	Intersection Name	Northbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Ngin at Foothills	26	8	158	13	12	197	416			

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
12	KV Access at N Valley Rd	8	0	2	13	11	4	44

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
13	N Valley Rd at Bruce Dr	0	0	119	0	0	187	308

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume					
		Left	Right	Thru	Right	Left	Thru						
1	N Valley Rd at Chehalis Dr	24	7	13	10	4	82	25	10	143	22	385	
	Final Basis	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
	Growth Rate	0	0	0	0	0	0	0	0	0	0	0	
	In Process	0	0	0	0	0	0	0	0	0	0	0	
	Net New Trips	5	0	12	0	0	3	7	10	2	0	30	
	Other	0	0	0	0	0	0	0	0	0	0	0	
	Future Total	29	21	19	13	10	4	85	32	20	145	22	404

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type		Northbound		Southbound		Eastbound		Westbound		Total Volume		
		Final Basis	Growth Rate	Left	Right	Left	Right	Left	Right	Left	Right			
1	N Valley Rd at Chehalis Dr	1.00	1.00	24	7	13	10	4	82	25	10	143	22	385
	Final Basis	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Growth Rate	0	0	0	0	0	0	0	0	0	0	0	0	0
	In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
	Net New Trips	5	0	12	0	0	3	7	10	2	0	0	0	30
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0
	Future Total	29	21	19	13	10	4	85	32	20	145	22	404	

ID	Intersection Name	Volume Type		Southbound		Northwestbound		Southwestbound		Total Volume
		Final Basis	Growth Rate	Left	Right	Left	Right	Left	Right	
3	NE Terra Dr at Hwy 219	1.00	1.00	2	3	6	7	4	4	26
	Final Basis	1.00	1.00	2	3	6	7	4	4	26
	Growth Rate	0	0	0	0	0	0	0	0	0
	In Process	0	0	0	0	0	0	0	0	0
	Net New Trips	2	3	6	7	4	4	4	4	26
	Other	0	0	0	0	0	0	0	0	0
	Future Total	4	22	45	215	477	15	778		

ID	Intersection Name	Volume Type		Northbound		Southbound		Eastbound		Westbound		Total Volume				
		Final Basis	Growth Rate	Left	Right	Left	Right	Left	Right	Left	Right					
4	N Valley Rd at Hwy 219	1.00	1.00	22	142	37	12	383	47	9	68	29	65	106	32	951
	Final Basis	1.00	1.00	22	142	37	12	383	47	9	68	29	65	106	32	951
	Growth Rate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Net New Trips	7	1	1	0	2	4	2	2	4	2	4	2	4	0	23
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Future Total	29	143	38	12	385	51	11	70	32	87	110	32	950		

ID	Intersection Name	Volume Type		Northbound		Southbound		Westbound		Total Volume
		Final Basis	Growth Rate	Left	Right	Left	Right	Left	Right	
5	Chehalis Dr at Foothills Dr	1.00	1.00	42	12	16	35	30	8	143
	Final Basis	1.00	1.00	42	12	16	35	30	8	143
	Growth Rate	0	0	0	0	0	0	0	0	0
	In Process	0	0	0	0	0	0	0	0	0
	Net New Trips	40	23	8	23	13	10	10	117	
	Other	0	0	0	0	0	0	0	0	0
	Future Total	82	35	24	58	43	18	260		

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
12	KV Access at N Valley Rd	8	0	2	13	11	4	44

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
13	N Valley Rd at Bruce Dr	0	0	119	0	0	187	308

ID	Intersection Name	Volume Type	Northbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	N Valley Rd at Bruce Dr	Final Base	0	0	0	0	104	0	0	0	0	279
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	15	0	0	0	12	27
		Other	0	0	0	0	0	0	0	0	0	0
Future Total			0	0	0	119	0	0	0	187	305	

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Foothills Dr at Hwy 219	Final Base	93	217	112	32	443	18	11	5	56	66	8	10	1071
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	13	13	0	0	7	0	0	0	7	0	0	0	40
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Total			106	230	112	32	450	18	11	5	63	66	10	1111	

ID	Intersection Name	Volume Type	Northbound			Southbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7	West Access at Chelham Dr	Final Base	51	0	0	0	48	0	0	0	0	99
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0
		Net New Trips	13	37	7	10	21	4	0	0	0	92
		Other	0	0	0	0	0	0	0	0	0	0
Future Total			64	37	7	58	21	4	0	0	191	

ID	Intersection Name	Volume Type	Northbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Main at Foothills	Final Base	26	8	127	15	12	174	362			
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	31	0	0	0	23	54		
		Other	0	0	0	0	0	0	0	0	0	0
Future Total			26	8	158	15	12	197	416			

ID	Intersection Name	Volume Type	Northbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	KV Access at N Valley Rd	Final Base	0	0	0	0	0	0	0	0	0	0
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0
		Net New Trips	8	6	2	13	11	4	4	44		
		Other	0	0	0	0	0	0	0	0	0	0
Future Total			8	6	2	13	11	4	4	4	44	

Warrants Summary

Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Minor Approaches	E, W
Minor Approaches	N, S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets				Minor Streets			
	E	W	N	S	E	W	N	S
1	180	116	27	69	66	66	66	66
2	176	114	25	65	62	62	62	62
3	150	97	21	55	52	52	52	52
4	142	92	18	47	44	44	44	44
5	137	82	16	41	38	38	38	38
6	116	76	14	35	32	32	32	32
7	112	73	13	33	30	30	30	30
8	90	58	10	25	23	23	23	23
9	84	54	9	23	21	21	21	21
10	84	54	9	23	21	21	21	21
11	84	54	9	23	21	21	21	21
12	80	52	8	21	19	19	19	19
13	73	47	7	17	16	16	16	16
14	67	44	6	15	14	14	14	14
15	65	42	5	14	13	13	13	13
16	65	42	5	14	13	13	13	13
17	37	24	3	8	7	7	7	7
18	21	13	2	5	4	4	4	4
19	19	12	2	4	3	3	3	3
20	7	5	1	2	1	1	1	1
21	6	4	1	2	1	1	1	1
22	6	4	1	2	1	1	1	1
23	4	2	1	1	1	1	1	1
24	4	2	1	1	1	1	1	1

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A					Warrant 1 Condition B					Warrant 2		Warrant 3		
	Number	Volume	Number	Volume	100%	80%	70%	55%	100%	80%	70%	56%	100%	80%	70%	56%	Condition B	Condition	
1	2	308	2	95	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
2	2	290	2	82	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
3	2	250	2	90	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
4	2	247	2	77	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
5	2	234	2	73	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
6	2	209	2	65	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
7	2	194	2	60	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
8	2	185	2	57	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
9	2	148	2	48	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
10	2	138	2	43	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
11	2	138	2	43	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
12	2	132	2	42	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
13	2	120	2	38	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
14	2	111	2	35	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
15	2	111	2	35	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
16	2	107	2	33	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
17	2	61	2	19	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
18	2	34	2	11	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
19	2	31	2	10	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
20	2	12	2	4	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
21	2	10	2	3	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
22	2	10	2	3	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
23	2	6	2	2	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
24	2	6	2	2	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay For Vehicle on Minor Approach (s)	11.6	11.5
Number of Lanes on Minor Street Approach	1	1
Vehiclehours of Stopped Delay on Minor Approach (p/h/mm)	0.85	0.13
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	27	69
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	404	404
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	No

Warrants Summary		
Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters	
Major Approaches	NE, SW
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Hour	Major Streets		Minor Streets	
	NE	SW	N	W
1	492	280	26	26
2	472	250	25	25
3	462	244	24	24
4	394	208	21	21
5	374	188	20	20
6	335	177	18	18
7	310	164	16	16
8	295	156	16	16
9	236	125	12	12
10	221	117	12	12
11	221	117	12	12
12	212	112	11	11
13	192	101	10	10
14	177	94	9	9
15	177	94	9	9
16	172	91	9	9
17	98	52	5	5
18	54	29	3	3
19	49	26	3	3
20	20	10	1	1
21	15	8	1	1
22	8	5	1	1
23	10	5	1	1
24	10	5	1	1

Warrant Analysis by Hour

Hour	Major Lanes		Warrant 1 Condition A							Warrant 1 Condition B			Warrant 2 Condition B		Warrant 3 Condition B	
	Volume	Number	100%	80%	70%	58%	100%	80%	70%	56%	100%	80%	70%	56%		
1	752	1	26	No	No	No	No	No	No	No	No	No	No	No	No	No
2	722	1	25	No	No	No	No	No	No	No	No	No	No	No	No	No
3	706	1	24	No	No	No	No	No	No	No	No	No	No	No	No	No
4	602	1	21	No	No	No	No	No	No	No	No	No	No	No	No	No
5	572	1	20	No	No	No	No	No	No	No	No	No	No	No	No	No
6	512	1	18	No	No	No	No	No	No	No	No	No	No	No	No	No
7	474	1	16	No	No	No	No	No	No	No	No	No	No	No	No	No
8	451	1	16	No	No	No	No	No	No	No	No	No	No	No	No	No
9	381	1	12	No	No	No	No	No	No	No	No	No	No	No	No	No
10	338	1	12	No	No	No	No	No	No	No	No	No	No	No	No	No
11	338	1	12	No	No	No	No	No	No	No	No	No	No	No	No	No
12	324	1	11	No	No	No	No	No	No	No	No	No	No	No	No	No
13	293	1	10	No	No	No	No	No	No	No	No	No	No	No	No	No
14	271	1	9	No	No	No	No	No	No	No	No	No	No	No	No	No
15	271	1	9	No	No	No	No	No	No	No	No	No	No	No	No	No
16	263	1	9	No	No	No	No	No	No	No	No	No	No	No	No	No
17	150	1	5	No	No	No	No	No	No	No	No	No	No	No	No	No
18	83	1	3	No	No	No	No	No	No	No	No	No	No	No	No	No
19	75	1	3	No	No	No	No	No	No	No	No	No	No	No	No	No
20	30	1	1	No	No	No	No	No	No	No	No	No	No	No	No	No
21	23	1	1	No	No	No	No	No	No	No	No	No	No	No	No	No
22	23	1	1	No	No	No	No	No	No	No	No	No	No	No	No	No
23	15	1	1	No	No	No	No	No	No	No	No	No	No	No	No	No
24	15	1	1	No	No	No	No	No	No	No	No	No	No	No	No	No
Hours Met			0	0	0	0	0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	Value
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.7
Number of Lanes on Minor Street Approach	1
Vehicle-hours of Stopped Delay on Minor Approach (h:hh:mm)	0:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	26
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	778
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No

Warrants Summary		
Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters	
Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Hour	Major Streets			Minor Streets	
	S	N	E	W	Met?
1	210	448	209	113	
2	202	430	201	108	
3	197	421	196	105	
4	188	358	187	90	
5	160	340	159	86	
6	143	305	142	77	
7	132	282	132	71	
8	126	265	125	68	
9	101	215	100	54	
10	95	202	94	51	
11	95	202	94	51	
12	90	193	90	49	
13	82	175	82	44	
14	76	161	75	41	
15	76	161	75	41	
16	74	157	73	40	
17	42	90	42	23	
18	23	49	23	12	
19	21	45	21	11	
20	8	18	8	5	
21	6	13	6	3	
22	6	13	6	3	
23	4	9	4	2	
24	4	9	4	2	

Warrant Analysis by Hour

Hour	Major Lanes		Warrant 1 Condition A					Warrant 1 Condition B			Warrant 2/Warrant 3 Condition B			
	Number	Volume	Number	Volume	100%	80%	70%	50%	100%	80%	70%	50%	50%	50%
1	2	659	2	322	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
2	2	632	2	309	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
3	2	618	2	302	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
4	2	656	2	257	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	500	2	245	No	Yes	Yes	Yes	No	No	No	No	No	No
6	2	446	2	219	No	No	Yes	Yes	No	No	No	No	No	No
7	2	414	2	203	No	No	No	Yes	No	No	No	No	No	No
8	2	395	2	193	No	No	No	Yes	No	No	No	No	No	No
9	2	316	2	154	No	No	No	No	No	No	No	No	No	No
10	2	297	2	145	No	No	No	No	No	No	No	No	No	No
11	2	297	2	145	No	No	No	No	No	No	No	No	No	No
12	2	283	2	139	No	No	No	No	No	No	No	No	No	No
13	2	257	2	128	No	No	No	No	No	No	No	No	No	No
14	2	237	2	118	No	No	No	No	No	No	No	No	No	No
15	2	237	2	116	No	No	No	No	No	No	No	No	No	No
16	2	231	2	113	No	No	No	No	No	No	No	No	No	No
17	2	152	2	65	No	No	No	No	No	No	No	No	No	No
18	2	172	2	35	No	No	No	No	No	No	No	No	No	No
19	2	68	2	32	No	No	No	No	No	No	No	No	No	No
20	2	26	2	13	No	No	No	No	No	No	No	No	No	No
21	2	19	2	9	No	No	No	No	No	No	No	No	No	No
22	2	19	2	9	No	No	No	No	No	No	No	No	No	No
23	2	13	2	6	No	No	No	No	No	No	No	No	No	No
24	2	13	2	6	No	No	No	No	No	No	No	No	No	No
Hours Met			3	5	6	8	0	0	0	2	4	0	0	0

Warrant 3 Condition A

Orientation	Total Stopped Delay Per Vehicle on Minor Approach (s)		Number of Lanes on Minor Street Approach		Vehicle Hours of Stopped Delay on Minor Approach (ft-hr-mm)		Delay Condition Met		Volume on Minor Street Approach During Same Hour		High Minor Volume Condition Met		Total Entering Volume on All Approaches During Same Hour		Number of Approaches on Intersection		Total Volume Condition Met		Warrant Met for Approach		Warrant Met for Intersection	
	E	W	1	2	1	2:57	No	No	209	113	Yes	Yes	980	980	4	4	Yes	Yes	No	No	No	No
	51.1	22.4	1	1	0:42	1	No	No	209	113	Yes	Yes	980	980	4	4	Yes	Yes	No	No	No	No

Warrants Summary		
Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrant Parameters	
Major Approaches	N, S
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Hour	Major Streets			Minor Streets		
	N	S	E	N	S	E
1	82	117	61	59	57	57
2	79	112	59	57	57	57
3	77	110	57	57	57	57
4	66	94	49	49	49	49
5	62	89	46	46	46	46
6	60	80	41	41	41	41
7	52	74	38	38	38	38
8	49	70	37	37	37	37
9	39	56	29	29	29	29
10	37	53	27	27	27	27
11	37	53	27	27	27	27
12	35	50	26	26	26	26
13	32	46	24	24	24	24
14	30	42	22	22	22	22
15	30	42	22	22	22	22
16	29	41	21	21	21	21
17	16	23	12	12	12	12
18	9	13	7	7	7	7
19	8	12	6	6	6	6
20	3	5	2	2	2	2
21	2	4	2	2	2	2
22	2	4	2	2	2	2
23	2	2	1	1	1	1
24	2	2	1	1	1	1

Warrant Analysis by Hour

Hour	Major Lanes		Warrant 1 Condition A					Warrant 1 Condition B			Warrant 2	Warrant 3
	Number	Volume	100%	80%	70%	50%	100%	80%	70%	50%	Condition B	Condition B
1	2	199	No	No	No	No	No	No	No	No	No	No
2	2	191	No	No	No	No	No	No	No	No	No	No
3	2	187	No	No	No	No	No	No	No	No	No	No
4	2	160	No	No	No	No	No	No	No	No	No	No
5	2	151	No	No	No	No	No	No	No	No	No	No
6	2	136	No	No	No	No	No	No	No	No	No	No
7	2	126	No	No	No	No	No	No	No	No	No	No
8	2	119	No	No	No	No	No	No	No	No	No	No
9	2	85	No	No	No	No	No	No	No	No	No	No
10	2	90	No	No	No	No	No	No	No	No	No	No
11	2	90	No	No	No	No	No	No	No	No	No	No
12	2	85	No	No	No	No	No	No	No	No	No	No
13	2	78	No	No	No	No	No	No	No	No	No	No
14	2	72	No	No	No	No	No	No	No	No	No	No
15	2	72	No	No	No	No	No	No	No	No	No	No
16	2	70	No	No	No	No	No	No	No	No	No	No
17	2	59	No	No	No	No	No	No	No	No	No	No
18	2	22	No	No	No	No	No	No	No	No	No	No
19	2	20	No	No	No	No	No	No	No	No	No	No
20	2	8	No	No	No	No	No	No	No	No	No	No
21	2	6	No	No	No	No	No	No	No	No	No	No
22	2	6	No	No	No	No	No	No	No	No	No	No
23	2	4	No	No	No	No	No	No	No	No	No	No
24	2	4	No	No	No	No	No	No	No	No	No	No
Hours Met			0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation		E
Total Stopped Delay For Vehicles on Minor Approach (s)		10.3
Number of Lanes on Minor Street Approach		1
Vehicle-Hours of Stopped Delay on Minor Approach (h:mm)		0:10
Delay Condition Met		No
Volume on Minor Street Approach During Same Hour		61
High Minor Volume Condition Met		No
Total Entering Volume on All Approaches During Same Hour		260
Number of Approaches on Intersection		3
Total Volume Condition Met		No
Warrant Met for Approach		No
Warrant Met for Intersection		No

Warrant Summary			
Warrant	Name	Met?	
#1	Eight Hour Vehicular Volume	No	
#2	Four Hour Vehicular Volume	No	
#3	Peak Hour	No	

Intersection Warrants Parameters	
Major Approaches	N,S
Minor Approaches	E,W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Hour	Major Streets			Minor Streets		
	N	S	E	E	W	W
1	500	448	84	84	79	79
2	480	430	81	81	76	76
3	470	421	79	79	74	74
4	400	358	87	87	63	63
5	380	340	84	84	60	60
6	340	305	57	57	54	54
7	315	282	53	53	50	50
8	300	269	50	50	47	47
9	240	215	40	40	38	38
10	235	202	38	38	36	36
11	225	202	36	36	36	36
12	215	193	36	36	34	34
13	195	175	33	33	31	31
14	180	161	30	30	28	28
15	180	161	30	30	28	28
16	175	157	29	29	28	28
17	100	90	17	17	16	16
18	55	49	9	9	9	9
19	50	45	8	8	8	8
20	20	18	3	3	3	3
21	15	13	3	3	2	2
22	15	13	3	3	2	2
23	10	9	2	2	2	2
24	10	9	2	2	2	2

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A					Warrant 1 Condition B					Warrant 2/Warrant 3 Condition B		
	Number	Volume	Number	Volume	100%	80%	70%	50%	100%	80%	70%	50%	60%	70%	50%	60%	50%
1	4	948	3	163	No	No	No	No	No	No	No	No	Yes	Yes	Yes	No	No
2	4	910	3	157	No	No	No	No	No	No	No	No	Yes	Yes	Yes	No	No
3	4	891	3	153	No	No	No	No	No	No	No	No	Yes	Yes	Yes	No	No
4	4	758	3	130	No	No	No	No	No	No	No	No	No	No	No	No	No
5	4	720	3	124	No	No	No	No	No	No	No	No	No	No	No	No	No
6	4	645	3	111	No	No	No	No	No	No	No	No	No	No	No	No	No
7	4	597	3	103	No	No	No	No	No	No	No	No	No	No	No	No	No
8	4	569	3	97	No	No	No	No	No	No	No	No	No	No	No	No	No
9	4	455	3	78	No	No	No	No	No	No	No	No	No	No	No	No	No
10	4	427	3	74	No	No	No	No	No	No	No	No	No	No	No	No	No
11	4	427	3	74	No	No	No	No	No	No	No	No	No	No	No	No	No
12	4	408	3	70	No	No	No	No	No	No	No	No	No	No	No	No	No
13	4	370	3	64	No	No	No	No	No	No	No	No	No	No	No	No	No
14	4	341	3	58	No	No	No	No	No	No	No	No	No	No	No	No	No
15	4	341	3	58	No	No	No	No	No	No	No	No	No	No	No	No	No
16	4	332	3	57	No	No	No	No	No	No	No	No	No	No	No	No	No
17	4	190	3	33	No	No	No	No	No	No	No	No	No	No	No	No	No
18	4	104	3	18	No	No	No	No	No	No	No	No	No	No	No	No	No
19	4	95	3	16	No	No	No	No	No	No	No	No	No	No	No	No	No
20	4	38	3	6	No	No	No	No	No	No	No	No	No	No	No	No	No
21	4	28	3	5	No	No	No	No	No	No	No	No	No	No	No	No	No
22	4	28	3	5	No	No	No	No	No	No	No	No	No	No	No	No	No
23	4	19	3	4	No	No	No	No	No	No	No	No	No	No	No	No	No
24	4	19	3	4	No	No	No	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	2	3	6	0	0

Warrant 3 Condition A

Orientation	E		W	
	02.9	19	02.9	19
Total Stopped Delay Per Vehicle on Minor Approach (s)	2	2	2	2
Number of Lanes on Minor Street Approach	1	1	1	1
VehicleHours of Stopped Delay on Minor Approach (h:hh:mm)	1:28	1:28	1:28	1:28
Delay Condition Met	No	No	No	No
Volume on Minor Street Approach During Same Hour	84	84	84	84
High Minor Volume Condition Met	No	No	No	No
Total Entering Volume on All Approaches During Same Hour	1111	1111	1111	1111
Number of Approaches on Intersection	4	4	4	4
Total Volume Condition Met	Yes	Yes	Yes	Yes
Warrant Met for Approach	No	No	No	No
Warrant Met for Intersection	No	No	No	No

Signal Warrant Report For Intersection 7: West Access at Chehalam Dr

Warrants Summary

Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrant Parameters

Major Approaches	N, S
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets			Minor Streets		
	N	S	E	N	S	E
1	65	101	25			
2	62	97	24			
3	61	95	24			
4	52	81	20			
5	49	77	19			
6	44	69	17			
7	41	64	16			
8	39	61	15			
9	31	48	12			
10	29	45	11			
11	29	45	11			
12	28	43	11			
13	25	39	10			
14	23	36	9			
15	23	36	9			
16	23	35	9			
17	13	20	5			
18	7	11	3			
19	7	10	3			
20	3	4	1			
21	2	3	1			
22	2	3	1			
23	1	2	1			
24	1	2	1			

Warrant Analysis by Hour

Hour	Major Lanes		Warrant 1 Condition A					Warrant 1 Condition B					Warrant 2 Condition B
	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%			
1	2	160	No	No	No	No	No	No	No	No	No	No	No
2	2	159	No	No	No	No	No	No	No	No	No	No	No
3	2	156	No	No	No	No	No	No	No	No	No	No	No
4	2	133	No	No	No	No	No	No	No	No	No	No	No
5	2	126	No	No	No	No	No	No	No	No	No	No	No
6	2	113	No	No	No	No	No	No	No	No	No	No	No
7	2	105	No	No	No	No	No	No	No	No	No	No	No
8	2	100	No	No	No	No	No	No	No	No	No	No	No
9	2	79	No	No	No	No	No	No	No	No	No	No	No
10	2	74	No	No	No	No	No	No	No	No	No	No	No
11	2	74	No	No	No	No	No	No	No	No	No	No	No
12	2	71	No	No	No	No	No	No	No	No	No	No	No
13	2	64	No	No	No	No	No	No	No	No	No	No	No
14	2	59	No	No	No	No	No	No	No	No	No	No	No
15	2	59	No	No	No	No	No	No	No	No	No	No	No
16	2	58	No	No	No	No	No	No	No	No	No	No	No
17	2	33	No	No	No	No	No	No	No	No	No	No	No
18	2	18	No	No	No	No	No	No	No	No	No	No	No
19	2	17	No	No	No	No	No	No	No	No	No	No	No
20	2	7	No	No	No	No	No	No	No	No	No	No	No
21	2	5	No	No	No	No	No	No	No	No	No	No	No
22	2	5	No	No	No	No	No	No	No	No	No	No	No
23	2	3	No	No	No	No	No	No	No	No	No	No	No
24	2	3	No	No	No	No	No	No	No	No	No	No	No
Hours Met			0	0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	3.6
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:hr:mm)	0:03
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	25
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	191
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No

Warrants Summary			
Warrant #	Name	Met?	Met?
#1	Eight Hour Vehicular Volume	No	No
#2	Four Hour Vehicular Volume	No	No
#3	Peak Hour	No	No

Intersection Warrants Parameters	
Major Approaches	E,W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Hour	Major Streets				Minor Streets			
	E	W	S	W	E	W	S	W
1	209	173	34	34				
2	201	166	33	33				
3	196	163	32	32				
4	187	158	27	27				
5	159	131	26	26				
6	142	118	23	23				
7	132	109	21	21				
8	125	104	20	20				
9	100	83	16	16				
10	94	78	15	15				
11	90	74	15	15				
12	82	67	13	13				
13	75	62	12	12				
14	75	62	12	12				
15	73	61	12	12				
16	73	61	12	12				
17	42	35	7	7				
18	23	19	4	4				
19	21	17	3	3				
20	8	7	1	1				
21	6	5	1	1				
22	6	5	1	1				
23	4	3	1	1				
24	4	3	1	1				

Warrant Analysis by Hour

Hour	Major Lanes		Warrant 1 Condition A							Warrant 1 Condition B			Warrant 2/Warrant 3 Condition B	
	Number	Volume	100%	80%	70%	50%	100%	80%	70%	50%	50%	70%	50%	50%
1	2	352	No	No	No	No	No	No	No	No	No	No	No	No
2	2	357	No	No	No	No	No	No	No	No	No	No	No	No
3	2	359	No	No	No	No	No	No	No	No	No	No	No	No
4	2	355	No	No	No	No	No	No	No	No	No	No	No	No
5	2	290	No	No	No	No	No	No	No	No	No	No	No	No
6	2	260	No	No	No	No	No	No	No	No	No	No	No	No
7	2	241	No	No	No	No	No	No	No	No	No	No	No	No
8	2	229	No	No	No	No	No	No	No	No	No	No	No	No
9	2	183	No	No	No	No	No	No	No	No	No	No	No	No
10	2	172	No	No	No	No	No	No	No	No	No	No	No	No
11	2	172	No	No	No	No	No	No	No	No	No	No	No	No
12	2	164	No	No	No	No	No	No	No	No	No	No	No	No
13	2	149	No	No	No	No	No	No	No	No	No	No	No	No
14	2	137	No	No	No	No	No	No	No	No	No	No	No	No
15	2	137	No	No	No	No	No	No	No	No	No	No	No	No
16	2	134	No	No	No	No	No	No	No	No	No	No	No	No
17	2	77	No	No	No	No	No	No	No	No	No	No	No	No
18	2	42	No	No	No	No	No	No	No	No	No	No	No	No
19	2	38	No	No	No	No	No	No	No	No	No	No	No	No
20	2	15	No	No	No	No	No	No	No	No	No	No	No	No
21	2	11	No	No	No	No	No	No	No	No	No	No	No	No
22	2	11	No	No	No	No	No	No	No	No	No	No	No	No
23	2	7	No	No	No	No	No	No	No	No	No	No	No	No
24	2	7	No	No	No	No	No	No	No	No	No	No	No	No
Hours Met			0	0	0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

	Orientation	
	S	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	1	11.5
Number of Lanes on Minor Street Approach	1	1
Vehicle/Hours of Stopped Delay on Minor Approach (h/veh/m)	No	0.06
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	34	34
High Minor Volume Condition Met	No	No
Total Entering Vehicles on All Approaches During Same Hour	416	416
Number of Approaches on Intersection	3	3
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	No

Signal Warrants Report For Intersection 12: KV Access at N Valley Rd

Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Hour	Major Streets				Minor Streets			
	E	W	S	W	E	W	S	W
1	15	14	13	14	15	14	13	14
2	14	14	13	14	14	14	13	14
3	14	14	13	14	14	14	13	14
4	11	11	11	11	11	11	11	11
5	11	11	11	11	11	11	11	11
6	10	10	10	10	10	10	10	10
7	9	9	9	9	9	9	9	9
8	9	9	9	9	9	9	9	9
9	7	7	7	7	7	7	7	7
10	7	7	7	7	7	7	7	7
11	7	7	7	7	7	7	7	7
12	6	6	6	6	6	6	6	6
13	6	6	6	6	6	6	6	6
14	5	5	5	5	5	5	5	5
15	5	5	5	5	5	5	5	5
16	5	5	5	5	5	5	5	5
17	3	3	3	3	3	3	3	3
18	2	2	2	2	2	2	2	2
19	2	2	2	2	2	2	2	2
20	1	1	1	1	1	1	1	1
21	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A					Warrant 1 Condition B					Warrant 2	Warrant 3		
	Number	Volume	Number	Volume	100%	80%	70%	50%	100%	80%	70%	50%	100%	80%	70%	50%	Condition B	
1	2	30	1	14	No	No	No	No	No	No	No	No	No	No	No	No	No	No
2	2	28	1	13	No	No	No	No	No	No	No	No	No	No	No	No	No	No
3	2	28	1	13	No	No	No	No	No	No	No	No	No	No	No	No	No	No
4	2	24	1	11	No	No	No	No	No	No	No	No	No	No	No	No	No	No
5	2	22	1	11	No	No	No	No	No	No	No	No	No	No	No	No	No	No
6	2	20	1	10	No	No	No	No	No	No	No	No	No	No	No	No	No	No
7	2	18	1	9	No	No	No	No	No	No	No	No	No	No	No	No	No	No
8	2	18	1	8	No	No	No	No	No	No	No	No	No	No	No	No	No	No
9	2	14	1	7	No	No	No	No	No	No	No	No	No	No	No	No	No	No
10	2	14	1	6	No	No	No	No	No	No	No	No	No	No	No	No	No	No
11	2	14	1	6	No	No	No	No	No	No	No	No	No	No	No	No	No	No
12	2	12	1	6	No	No	No	No	No	No	No	No	No	No	No	No	No	No
13	2	12	1	5	No	No	No	No	No	No	No	No	No	No	No	No	No	No
14	2	10	1	5	No	No	No	No	No	No	No	No	No	No	No	No	No	No
15	2	10	1	5	No	No	No	No	No	No	No	No	No	No	No	No	No	No
16	2	10	1	5	No	No	No	No	No	No	No	No	No	No	No	No	No	No
17	2	6	1	3	No	No	No	No	No	No	No	No	No	No	No	No	No	No
18	2	4	1	2	No	No	No	No	No	No	No	No	No	No	No	No	No	No
19	2	4	1	1	No	No	No	No	No	No	No	No	No	No	No	No	No	No
20	2	2	1	1	No	No	No	No	No	No	No	No	No	No	No	No	No	No
21	2	0	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	No
22	2	0	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	No
23	2	0	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	No
24	2	0	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A	
Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.6
Number of Lanes on Minor Street Approach	1
Vehicle-hours of Stopped Delay on Minor Approach (h:hr:mm)	0:02
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	14
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	44
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No

Warrants Summary		
Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	
1	187	119	0	
2	180	114	0	
3	176	112	0	
4	150	95	0	
5	142	90	0	
6	127	81	0	
7	118	75	0	
8	112	71	0	
9	90	57	0	
10	84	54	0	
11	84	54	0	
12	80	51	0	
13	73	46	0	
14	67	43	0	
15	67	43	0	
16	65	42	0	
17	37	24	0	
18	21	13	0	
19	19	12	0	
20	7	5	0	
21	6	4	0	
22	6	4	0	
23	4	2	0	
24	4	2	0	

Warrant Analysis by Hour

Hour	Major Lanes		Warrant 1 Condition A							Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	100%	80%	70%	50%	100%	80%	70%	50%	100%	80%	70%	50%	Condition B
1	2	305	1	0	No	No	No	No	No	No	No	No	No	No	No
2	2	284	1	0	No	No	No	No	No	No	No	No	No	No	No
3	2	288	1	0	No	No	No	No	No	No	No	No	No	No	No
4	2	245	1	0	No	No	No	No	No	No	No	No	No	No	No
5	2	232	1	0	No	No	No	No	No	No	No	No	No	No	No
6	2	238	1	0	No	No	No	No	No	No	No	No	No	No	No
7	2	193	1	0	No	No	No	No	No	No	No	No	No	No	No
8	2	147	1	0	No	No	No	No	No	No	No	No	No	No	No
9	2	138	1	0	No	No	No	No	No	No	No	No	No	No	No
10	2	138	1	0	No	No	No	No	No	No	No	No	No	No	No
11	2	138	1	0	No	No	No	No	No	No	No	No	No	No	No
12	2	131	1	0	No	No	No	No	No	No	No	No	No	No	No
13	2	119	1	0	No	No	No	No	No	No	No	No	No	No	No
14	2	110	1	0	No	No	No	No	No	No	No	No	No	No	No
15	2	110	1	0	No	No	No	No	No	No	No	No	No	No	No
16	2	107	1	0	No	No	No	No	No	No	No	No	No	No	No
17	2	81	1	0	No	No	No	No	No	No	No	No	No	No	No
18	2	34	1	0	No	No	No	No	No	No	No	No	No	No	No
19	2	31	1	0	No	No	No	No	No	No	No	No	No	No	No
20	2	12	1	0	No	No	No	No	No	No	No	No	No	No	No
21	2	10	1	0	No	No	No	No	No	No	No	No	No	No	No
22	2	10	1	0	No	No	No	No	No	No	No	No	No	No	No
23	2	6	1	0	No	No	No	No	No	No	No	No	No	No	No
24	2	6	1	0	No	No	No	No	No	No	No	No	No	No	No
Met				0	0	0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	Value
Total Stopped Delay Per Vehicle on Minor Approach (s)	S
Number of Lanes on Minor Street Approach	9.8
Vehicle-hours of Stopped Delay on Minor Approach (h:mm)	1
Delay Condition Met	0:00
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Enticing Volume on All Approaches During Same Hour	308
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No

Trip Distribution summary

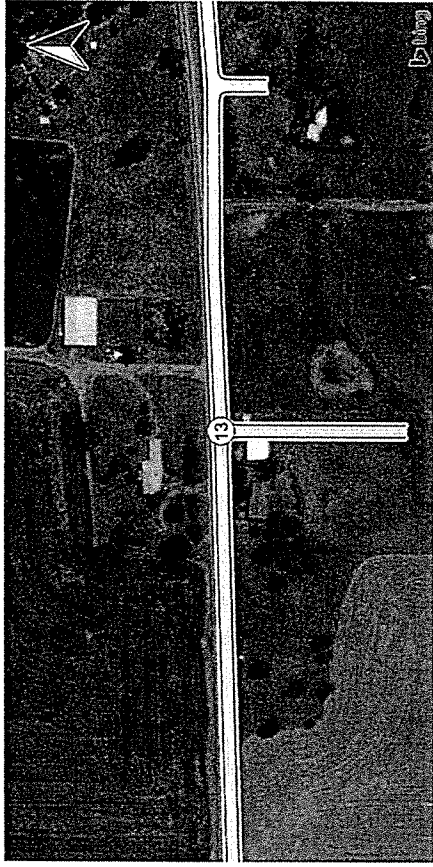
Zone / Gate	To Dutchman's Ridge:			From Dutchman's Ridge:			To Gracie's Landing:			From Gracie's Landing:		
	Share %	Trips	Share %	Share %	Trips	Share %	Share %	Trips	Share %	Trips	Share %	
8: Dutchman's Ridge	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
10: Gracie's Landing N	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
15: Kings Landing S	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
1: Gate	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
2: Gate	5.00	1	5.00	5.00	1	5.00	5.00	2	5.00	1	5.00	
3: Gate	5.00	1	5.00	5.00	1	5.00	5.00	2	5.00	1	5.00	
4: Gate	30.00	9	30.00	30.00	9	30.00	20.00	7	20.00	4	20.00	
5: Gate	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
6: Gate	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
7: Gate	50.00	15	50.00	50.00	15	50.00	60.00	20	60.00	11	60.00	
9: Gate	10.00	3	10.00	10.00	3	10.00	10.00	3	10.00	2	10.00	
11: Gate	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
12: Gate	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
Total	100.00	29	100.00	100.00	29	100.00	100.00	34	100.00	19	100.00	

Zone / Gate	To Kings Landing N:			From Kings Landing N:			To Kings Landing S:			From Kings Landing S:		
	Share %	Trips	Share %	Share %	Trips	Share %	Share %	Trips	Share %	Trips	Share %	
8: Dutchman's Ridge	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
10: Gracie's Landing	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
15: Kings Landing S	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
1: Gate	5.00	2	5.00	5.00	1	5.00	5.00	1	5.00	0	5.00	
2: Gate	5.00	2	5.00	5.00	1	5.00	5.00	1	5.00	0	5.00	
3: Gate	20.00	7	20.00	20.00	4	20.00	20.00	3	20.00	1	20.00	
4: Gate	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
5: Gate	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
6: Gate	60.00	20	60.00	60.00	12	60.00	60.00	8	60.00	5	60.00	
7: Gate	10.00	3	10.00	10.00	2	10.00	10.00	1	10.00	1	10.00	
9: Gate	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
11: Gate	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
12: Gate	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0	0.00	
Total	100.00	34	100.00	100.00	20	100.00	100.00	14	100.00	7	100.00	

Trip Generation summary

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
8: Dutchman's Ridge	Homes	ITE 210 g Units	Dwellin	1,000	46,000	63.00	37.00	29	17	46	26.00
10: Gracie's Landing	Homes	ITE 210 g Units	Dwellin	1,000	52,000	63.00	37.00	33	19	52	30.41
15: Kings Landing N	Homes	ITE 210 g Units	Dwellin	1,000	53,000	63.00	37.00	33	20	53	30.99
16: Kings Landing S	Homes	ITE 210 g Units	Dwellin	1,000	23,000	63.00	37.00	13	7	20	11.70
Added Trips Total										171	100.00

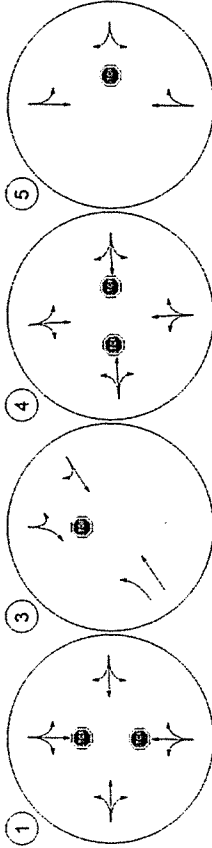
Report Figure 1: Lane Configuration and Traffic Control



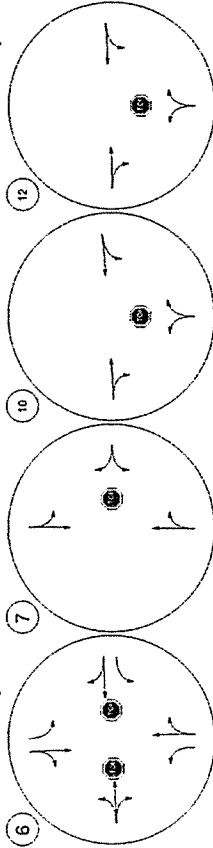
Report Figure 1: Lane Configuration and Traffic Control



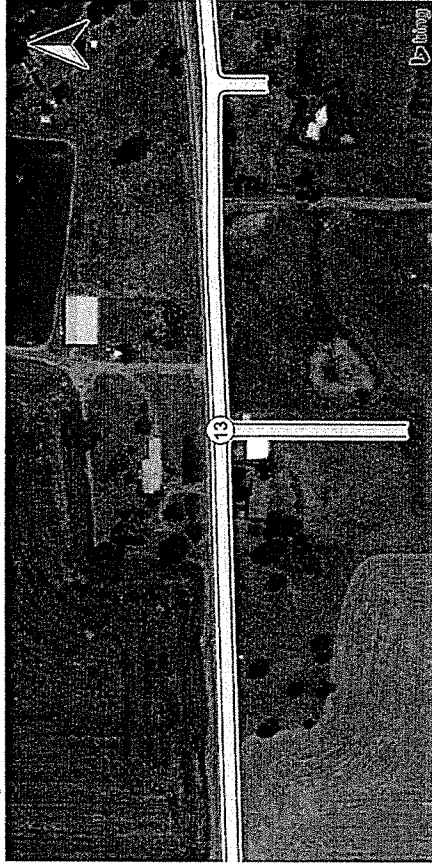
N Valley Rd at Chehalem Dr NE Terrace Dr at Hwy 219 N Valley Rd at Hwy 219 Chehalem Dr at Foothills Dr



Foothills Dr at Hwy 219 West Access at Chehalem Dr Main at Foothills KV Access at N Valley Rd



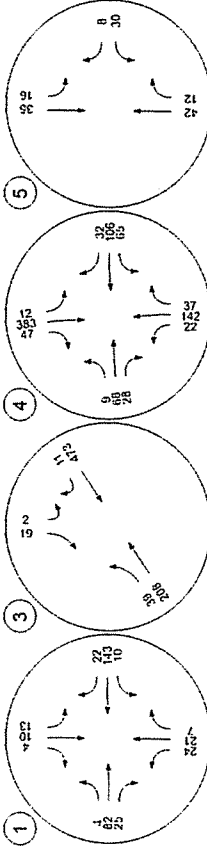
Report Figure 2c: Traffic Volume - Future Background Volume



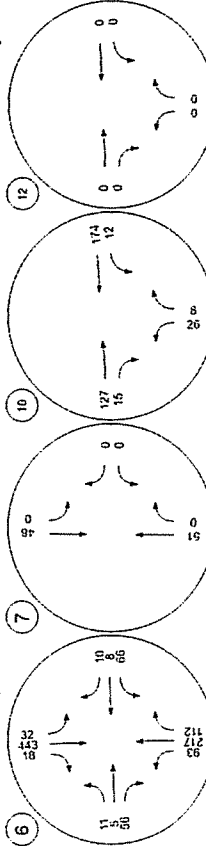
Report Figure 2c: Traffic Volume - Future Background Volume



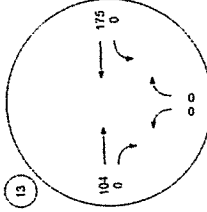
1 N Valley Rd at Chehalum Dr NE Terrace Dr at Hwy 219 N Valley Rd at Hwy 219 Chehalum Dr at Foothills Dr

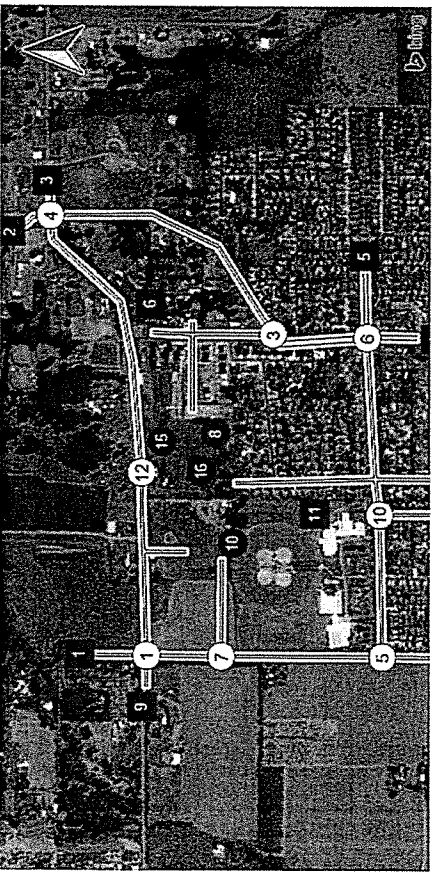
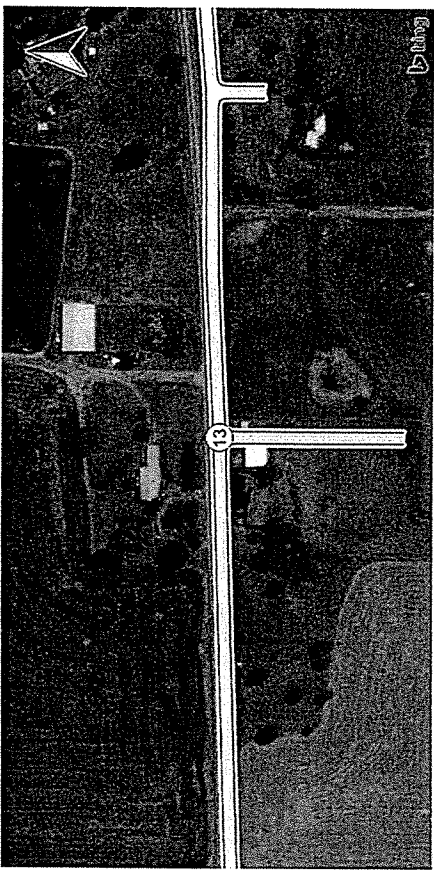


6 Foothills Dr at Hwy 219 West Access at Chehalum Dr Main at Foothills KV Access at N Valley Rd

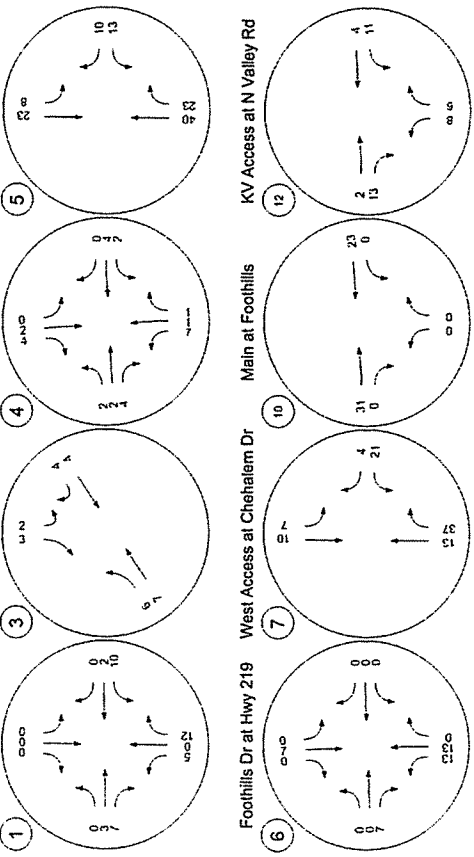


13 N Valley Rd at Bruce Dr

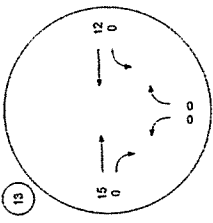




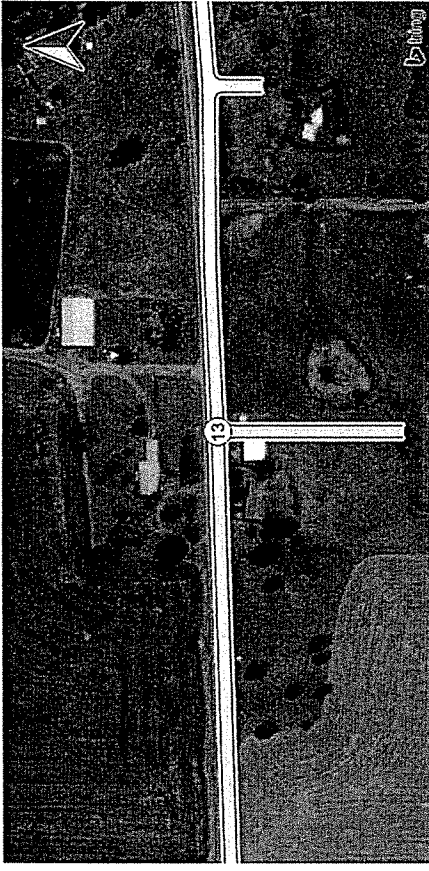
N Valley Rd at Chehalem Dr NE Terrace Dr at Hwy 219 N Valley Rd at Hwy 219 Chehalem Dr at Foothills Dr



N Valley Rd at Bruce Dr



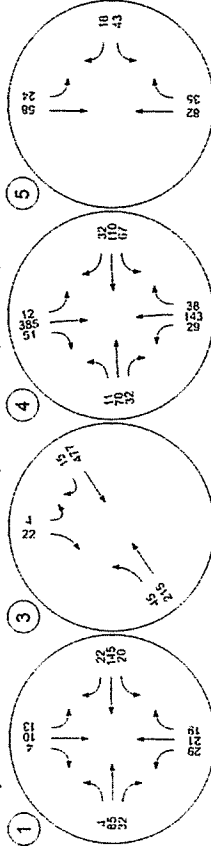
Report Figure 2f: Traffic Volume - Future Total Volume



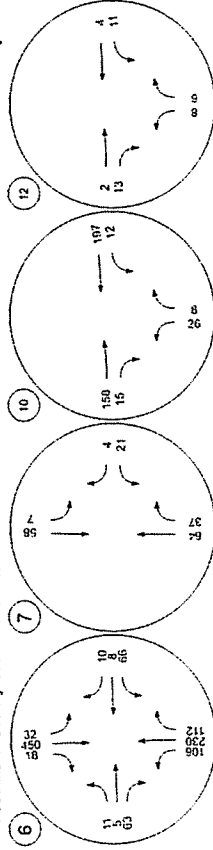
Report Figure 2f: Traffic Volume - Future Total Volume



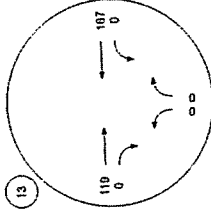
N Valley Rd at Chehalum Dr NE Terrace Dr at Hwy 219 N Valley Rd at Hwy 219 Chehalum Dr at Foothills Dr



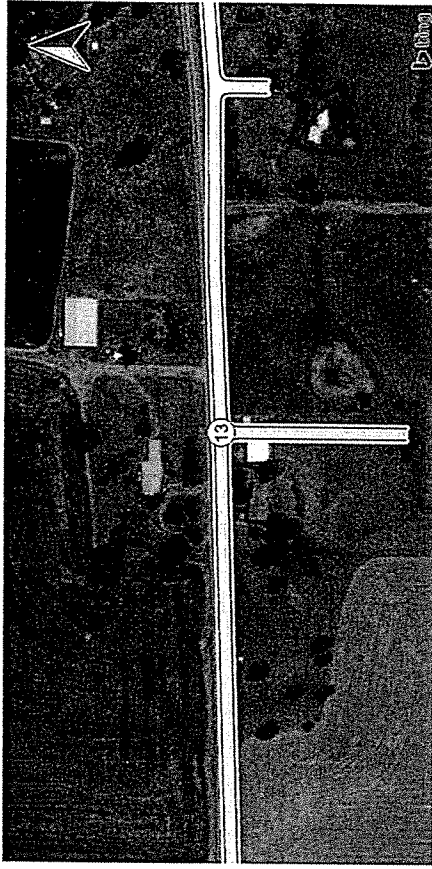
Foothills Dr at Hwy 219 West Access at Chehalum Dr Main at Foothills KV Access at N Valley Rd



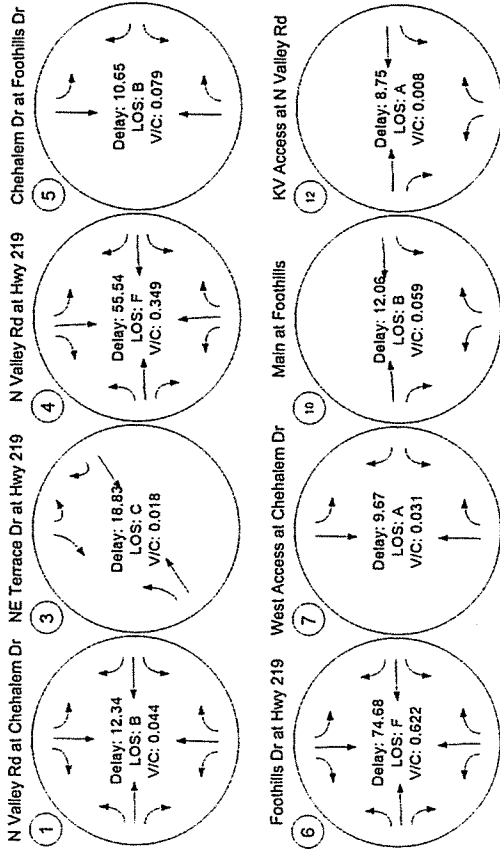
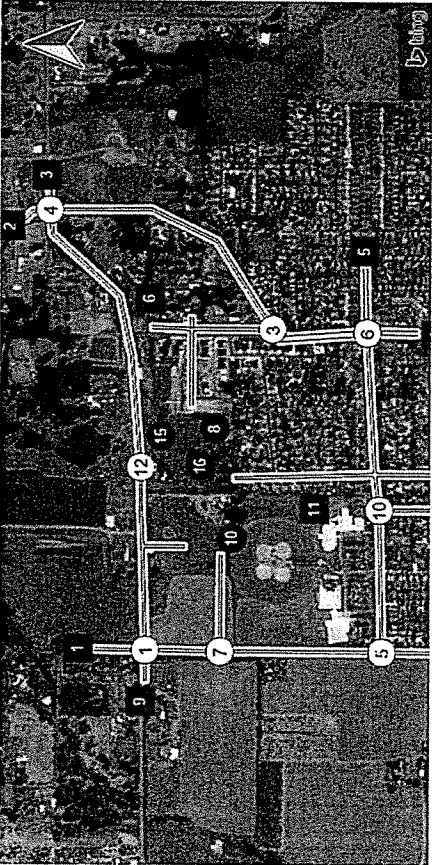
N Valley Rd at Bruce Dr



Report Figure 3: Traffic Conditions



Report Figure 3: Traffic Conditions



Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	N Valley Rd at Chehalem Dr	Two-way stop	HCM 6th Edition	NB Left	0.076	12.6	B
3	NE Terrace Dr at Hwy 219	Two-way stop	HCM 6th Edition	SB Left	0.071	16.8	C
4	N Valley Rd at Hwy 219	Two-way stop	HCM 6th Edition	WB Left	0.715	101.8	F
5	Chehalem Dr at Foothills Dr	Two-way stop	HCM 6th Edition	WB Left	0.352	16.5	C
6	Foothills Dr at Hwy 219	Two-way stop	HCM 6th Edition	WB Left	1.202	233.5	F
7	West Access at Chehalem Dr	Two-way stop	HCM 6th Edition	WB Left	0.049	9.7	A
10	Main at Foothills	Two-way stop	HCM 6th Edition	NB Left	0.394	24.3	C
12	KV Access at N Valley Rd	Two-way stop	HCM 6th Edition	NB Left	0.021	10.6	B
13	N Valley Rd at Bruce Dr	Two-way stop	HCM 6th Edition	NB Left	0.000	10.4	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value, for all other control types, they are taken for the whole intersection.

Intersection Setup

Name	Chehalem Dr Northbound	Chehalem Dr Southbound	N Valley Rd Eastbound	N Valley Rd Westbound
Approach	+	+	+	+
Lane Configuration				
Turning Movement	Left Thru Right	Left Thru Right	Left Thru Right	Left Thru Right
Lane Width [ft]	12.00 12.00 12.00	12.00 12.00 12.00	12.00 12.00 12.00	12.00 12.00 12.00
No. of Lanes in Pocket	0	0	0	0
Pocket Length [ft]				
Speed [mph]	35.00	35.00	45.00	45.00
Grade [%]	0.00	0.00	0.00	0.00
Crosswalk	Yes	Yes	Yes	Yes

Volumes

Name	Chehalem Dr	Chehalem Dr	N Valley Rd	N Valley Rd
Base Volume Input [veh/h]	22	9	14	10
Base Volume Adjustment Factor	1.0948	1.0948	1.0948	1.0948
Heavy Vehicles Percentage [%]	10.40	10.40	10.40	10.40
Growth Rate	1.16	1.16	1.16	1.16
In-Process Volume [veh/h]	0	0	0	0
Site-Generated Trips [veh/h]	7	0	5	0
Diverted Trips [veh/h]	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0
Other Volume [veh/h]	0	0	0	0
Total Hourly Volume [veh/h]	35	12	22	13
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	4	6	4
Total Analysis Volume [veh/h]	41	14	28	15
Pedestrian Volume [ped/h]	0	0	0	0

Intersection Settings	Priority Scheme	Stop	Slop	Free	Free
Filtered Lane	No	No	No		
Storage Area [veh]					
Two-Stage Gap Acceptance	No	No			
Number of Storage Spaces in Median					

Movement, Approach, & Intersection Results											
V/C Movement V/C Ratio	0.08	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.02	0.02	
d_M Delay for Movement [s/veh]	12.60	12.42	10.26	12.34	12.40	9.47	7.49			7.81	
Movement LOS	B	B	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.46	0.46	0.46	0.33	0.33	0.56	0.56	0.56	0.27	0.27	0.27
95th-Percentile Queue Length [ft]	11.43	11.43	11.43	8.30	8.30	14.00	14.00	14.00	6.70	6.70	6.70
d_A Approach Delay [s/veh]	11.62				12.02				0.36		1.46
Approach LOS	B				B				A		A
d_I Intersection Delay [s/veh]						3.96			B		
Intersection LOS											

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes
 Delay (sec / veh): 16.8
 Level of Service: C
 Volume to Capacity (v/c): 0.071

Intersection Setup	NE Terrace Dr		Hwy 219		Hwy 219	
	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound
Name						
Approach	1					
Lane Configuration	Left	Right	Left	Thru	Right	Thru
Turning Movement	12.00	12.00	12.00	12.00	12.00	12.00
Lane Width [ft]	0	0	1	0	0	0
No. of Lanes in Pocket			300.00			
Pocket Length [ft]			25.00			
Speed [mph]			0.00	40.00		40.00
Grade [%]			Yes	Yes		Yes
Crosswalk			Yes	Yes		Yes

Volumes	NE Terrace Dr			Hwy 219			Hwy 219		
	Southbound	Northbound	Thru	Southbound	Northbound	Thru	Southbound	Northbound	Thru
Name	12	30		14	277		183		4
Base Volume Input [veh/h]	1,0948	1,0948		1,0948	1,0948		1,0948		1,0948
Base Volume Adjustment Factor	4.80	4.80		4.80	4.80		4.80		4.80
Heavy Vehicles Percentage [%]	1.16	1.16		1.16	1.16		1.16		1.16
Growth Rate	0	0		0	0		0		0
In-Process Volume [veh/h]	4	0		1	2		6		0
Site-Generated Trips [veh/h]	0	0		0	0		0		0
Divered Trips [veh/h]	0	0		0	0		0		0
Pass-by Trips [veh/h]	0	0		0	0		0		0
Existing Site Adjustment Volume [veh/h]	0	0		0	0		0		0
Other Volume [veh/h]	19	36		18	353		251		5
Total Hourly Volume [veh/h]	0.7900	0.7900		0.7900	0.7900		0.7900		0.7900
Peak Hour Factor	1.0000	1.0000		1.0000	1.0000		1.0000		1.0000
Other Adjustment Factor	6	12		6	112		79		2
Total 15-Minute Volume [veh/h]	24	48		23	447		318		6
Total Analysis Volume [veh/h]									
Pedestrian Volume [ped/h]									

Priority Scheme	Stop	Free	Free
Filtered Lane	No		
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results			
VIC Movement VIC Ratio	0.07	0.07	0.02
d, M, Delay for Movement [s/veh]	16.79	11.16	8.01
Movement LOS	C	B	A
95th-Percentile Queue Length [veh]	0.48	0.48	0.00
85th-Percentile Queue Length [ft]	11.95	11.95	1.44
d, A, Approach Delay [s/veh]	13.03		0.39
Approach LOS	B	A	A
d, I, Intersection Delay [s/veh]		1.30	C
Intersection LOS			C

Control Type:	Two-way stop	Level of Service:	101.8
Analysis Method:	HCM 6th Edition	Volume to Capacity (v/c):	F
Analysis Period:	15 minutes		0.715

Name	Hwy 219 Northbound			Hwy 219 Southbound			N Valley Rd Eastbound			N Valley Rd Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Approach	+			+			+			+		
Lane Configuration												
Turning Movement												
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	40.00			40.00			45.00			45.00		
Speed [mph]	0.00			0.00			0.00			0.00		
Grade [%]	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Name	Hwy 219			Hwy 219			N Valley Rd			N Valley Rd		
	13	155	120	24	87	17	16	85	18	82	48	16
Base Volume Input [veh/h]	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948	1,0948
Base Volume Adjustment Factor	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Heavy Vehicles Percentage [%]	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
Growth Rate	0	0	0	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	2	2	2	0	0	2	3	3	6	0	2	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	199	154	30	110	24	24	111	20	104	63	21
Peak Hour Factor	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	65	51	10	35	8	8	37	10	34	21	7
Total Analysis Volume [veh/h]	24	262	203	39	145	32	32	146	38	137	83	28
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Stop	Free	Free
Filtered Lane	No		
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results			
VIC Movement VIC Ratio	0.07	0.07	0.02
d, M, Delay for Movement [s/veh]	16.79	11.16	8.01
Movement LOS	C	B	A
95th-Percentile Queue Length [veh]	0.48	0.48	0.00
85th-Percentile Queue Length [ft]	11.95	11.95	1.44
d, A, Approach Delay [s/veh]	13.03		0.39
Approach LOS	B	A	A
d, I, Intersection Delay [s/veh]		1.30	C
Intersection LOS			C

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]				
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median				

Movement, Approach, & Intersection Results											
V/C, Movement/V/C Ratio	0.02	0.04	0.04	0.12	0.46	0.04	0.71	0.23	0.04	0.04	0.04
d, M, Delay for Movement [s/veh]	7.64	8.44	8.44	35.00	32.59	25.28	101.84	93.24	86.37	86.37	86.37
Movement LOS	A	A	A	A	D	D	F	F	F	F	F
95th-Percentile Queue Length [veh]	1.61	1.61	0.74	4.05	4.05	4.05	9.50	9.50	9.50	9.50	9.50
95th-Percentile Queue Length [ft]	40.26	40.26	18.50	101.28	101.28	101.28	237.55	237.55	237.55	237.55	237.55
d, A, Approach Delay [s/veh]	0.38	1.52	1.52	31.66	31.66	31.66	97.44	97.44	97.44	97.44	97.44
Approach LOS	A	A	A	D	D	D	F	F	F	F	F
d, I, Intersection Delay [s/veh]	26.96										
Intersection LOS	F										

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes
Level of Service: C
Volume to Capacity (v/c): 0.352

Intersection Setup	Chehallem Dr Northbound			Chehallem Dr Southbound			Foothills Dr Westbound	
	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Configuration	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0
Pocket Length [ft]	35.00	35.00	35.00	35.00	35.00	35.00	25.00	25.00
Speed [mph]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade [%]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Crosswalk	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Volumes	Chehallem Dr Northbound			Chehallem Dr Southbound			Foothills Dr Westbound	
	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	28	129	31	23	71	17	17	17
Base Volume Adjustment Factor	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948
Heavy Vehicles Percentage [%]	7.40	7.40	7.40	7.40	7.40	7.40	7.40	7.40
Growth Rate	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	6	7	35	19	6	6	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	44	170	46	64	109	28	28	28
Peak Hour Factor	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100	0.6100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	70	19	26	45	11	11	11
Total Analysis Volume [veh/h]	72	279	75	105	179	46	46	46
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0

Intersection Settings

Priority Scheme	Free	Free	Stop
Filled Lane			No
Storage Area [veh]			
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C Movement V/C Ratio	0.06	0.35	0.06
d _M Delay for Movement [s/veh]	8.28	16.54	13.87
Movement LOS	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.54	1.98
95th-Percentile Queue Length [ft]	0.00	13.46	49.46
d _A Approach Delay [s/veh]	0.00	3.44	15.99
Approach LOS	A	A	C
d _I Intersection Delay [s/veh]		5.58	
Intersection LOS		C	

Intersection Level Of Service Report

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 233.5
 Level Of Service: F
 Volume to Capacity (v/c): 1.202

Intersection 6: Foothills Dr at Hwy 219

Name	Hwy 219 Northbound			Hwy 219 Southbound			Foothills Dr Eastbound			Foothills Dr Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Approach	T			T			+			T		
Lane Configuration	T			T			+			T		
Turning Movement	T			T			+			T		
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	1	0	1	1	0	0	0	0	1	1	0
Pocket Length [ft]	125.00			150.00						90.00		
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hwy 219 Northbound			Hwy 219 Southbound			Foothills Dr Eastbound			Foothills Dr Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	81	248	35	5	175	15	25	10	137	77	10	25
Base Volume Adjustment Factor	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948
Heavy Vehicles Percentage [%]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Growth Rate	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	3	0	0	6	0	0	0	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	319	44	6	228	19	31	13	190	97	13	31
Peak Hour Factor	0.8100	0.8100	0.8100	0.8100	0.8100	0.8100	0.8100	0.8100	0.8100	0.8100	0.8100	0.8100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	99	14	2	71	6	10	4	59	30	4	10
Total Analysis Volume [veh/h]	148	394	54	7	293	23	38	16	235	120	16	38
Pedestrian Volume [ped/h]	0			0			0			0		

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes
 Delay (sec / veh): 9.7
 Level Of Service: A
 Volume to Capacity (v/c): 0.049

Intersection 7: West Access at Chehalem Dr

Intersection Setup		Chehalem Dr Northbound		Chehalem Dr Southbound		West Access Westbound	
Name	Approach	F		I		T	
Lane Configuration	Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	No. of Lanes in Pocket	12.00	12.00	12.00	12.00	12.00	12.00
Pocket Length [ft]	Speed [mph]	0	0	0	0	0	0
Grade [%]	Crosswalk	30.00	0.00	30.00	0.00	30.00	0.00
		Yes	Yes	Yes	Yes	Yes	Yes

Volumes		Chehalem Dr Northbound		Chehalem Dr Southbound		West Access Westbound	
Base Volume Input [veh/h]	Base Volume Adjustment Factor	44	0	0	57	0	0
Heavy Vehicles Percentage [%]	Growth Rate	1.0948	1.16	1.0948	1.16	1.0948	1.16
In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	7	0	3	10	33	5
Other Volume [veh/h]	Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	Peak Hour Factor	63	11	3	82	33	5
Other Adjustment Factor	Total 15-Minute Volume [veh/h]	0.8500	1.0000	1.0000	1.0000	0.8500	1.0000
Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]	19	3	1	24	10	1
		74	13	4	56	39	6

Control Type: Free
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes
 Delay (sec / veh): 9.7
 Level Of Service: A
 Volume to Capacity (v/c): 0.049

Intersection 8: West Access at Chehalem Dr

Intersection Setup		Chehalem Dr Northbound		Chehalem Dr Southbound		West Access Westbound	
Name	Approach	F		I		T	
Lane Configuration	Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	No. of Lanes in Pocket	12.00	12.00	12.00	12.00	12.00	12.00
Pocket Length [ft]	Speed [mph]	0	0	0	0	0	0
Grade [%]	Crosswalk	30.00	0.00	30.00	0.00	30.00	0.00
		Yes	Yes	Yes	Yes	Yes	Yes

Volumes		Chehalem Dr Northbound		Chehalem Dr Southbound		West Access Westbound	
Base Volume Input [veh/h]	Base Volume Adjustment Factor	44	0	0	57	0	0
Heavy Vehicles Percentage [%]	Growth Rate	1.0948	1.16	1.0948	1.16	1.0948	1.16
In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	7	0	3	10	33	5
Other Volume [veh/h]	Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	Peak Hour Factor	63	11	3	82	33	5
Other Adjustment Factor	Total 15-Minute Volume [veh/h]	0.8500	1.0000	1.0000	1.0000	0.8500	1.0000
Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]	19	3	1	24	10	1
		74	13	4	56	39	6

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]			
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

VIC, Movement, V/C Ratio	0.00	0.00	0.05	0.01
d, M, Delay for Movement [s/veh]	A	7.46	9.74	8.93
Movement LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.22	0.17	0.17
95th-Percentile Queue Length [ft]	0.00	5.47	4.33	4.33
d, A, Approach Delay [s/veh]	0.00	0.30		9.63
Approach LOS	A	A		A
d, I, Intersection Delay [s/veh]		2.00		
Intersection LOS		A		

Intersection Level Of Service Report

Intersection 10: Main at Foothills

Control Type: Two-way stop
 HCM 8th Edition
 Analysis Method: HCM 8th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 24.3
 Level Of Service: C
 Volume to Capacity (v/c): 0.394

Intersection Setup

Name	Main St	Foothills Dr	Foothills Dr
Approach	Northbound	Eastbound	Westbound
Lane Configuration	T	T	T
Turning Movement	Left 12.00	Thru 12.00	Right 12.00
Lane Width [ft]	0	0	0
No. of Lanes in Pocket	0	0	0
Pocket Length [ft]	0	0	0
Speed [mph]	25.00	25.00	25.00
Grade [%]	0.00	0.00	0.00
Crosswalk	Yes	Yes	Yes

Volumes

Name	Main St	Foothills Dr	Foothills Dr
Base Volume Input [veh/h]	59	13	34
Base Volume Adjustment Factor	1.0948	1.0948	1.0948
Heavy Vehicle Percentage [%]	5.20	5.20	5.20
Growth Rate	1.16	1.16	1.16
In-Process Volume [veh/h]	0	0	0
Site-Generated Trips [veh/h]	0	0	0
Diversified Trips [veh/h]	0	0	0
Pass-by Trips [veh/h]	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0
Other Volume [veh/h]	0	0	0
Total Hourly Volume [veh/h]	73	16	43
Peak Hour Factor	0.5900	0.5900	0.5900
Other Adjustment Factor	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	7	18
Total Analysis Volume [veh/h]	124	27	73
Pedestrian Volume [ped/h]	0	0	0

Intersection Level Of Service Report
 Intersection 12: KV Access at N Valley Rd

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes
 Delay (sec / veh): 10.6
 Level Of Service: B
 Volume to Capacity (v/c): 0.021

Intersection Setup

Name	KV Access		N Valley Rd		N Valley Rd	
	Northbound	Southbound	Eastbound	Westbound	Eastbound	Westbound
Approach	T		T		T	
Lane Configuration	T		T		T	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]						
Speed [mph]	30.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	KV Access		N Valley Rd		N Valley Rd	
	Northbound	Southbound	Eastbound	Westbound	Eastbound	Westbound
Base Volume Input [veh/h]	0	0	127	0	0	69
Base Volume Adjustment Factor	1.0948	1.0948	1.0948	1.0948	1.0948	1.0948
Heavy Vehicles Percentage [%]	7.00	7.00	7.00	7.00	7.00	7.00
Growth Rate	1.16	1.16	1.16	1.16	1.16	1.16
In-Process Volume [veh/h]	0	0	0	0	0	0
Silo-Generated Trips [veh/h]	12	10	2	4	4	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	10	163	4	4	90
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	3	48	1	1	26
Total Analysis Volume [veh/h]	14	12	162	5	5	106
Pedestrian Volume [ped/h]	0	0	0	0	0	0

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

Movement	Approach	Queue Length [ft]	Delay [sec]	LOS	Volume [veh/h]	Capacity [veh/h]	v/c
d, M, Delay for Movement [s/veh]		24.33	18.72	C	0.02	8.40	A
Movement LOS		C	A	A	A	A	A
95th-Percentile Queue Length [veh]		2.15	0.00	0.00	1.83	1.83	A
95th-Percentile Queue Length [ft]		53.67	53.67	0.00	45.82	45.82	A
d, A, Approach Delay [s/veh]		23.33	0.00	A	0.34	A	A
Approach LOS		C	A	A	A	A	A
d, I, Intersection Delay [s/veh]			3.55	C			
Intersection LOS			C	C			

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C Movement/V/C Ratio	0.02	0.01	0.00	0.00
d, M, Delay for Movement [s/veh]	10.56	9.49	7.68	7.68
Movement LOS	B	A	A	A
95th-Percentile Queue Length [veh]	0.11	0.11	0.00	0.27
95th-Percentile Queue Length [ft]	2.74	2.74	0.00	6.73
d, A, Approach Delay [s/veh]	10.07	0.00	0.00	0.35
Approach LOS	B	A	A	A
d, I, Intersection Delay [s/veh]		0.50	0.50	0.50
Intersection LOS		B	B	B

Intersection Level Of Service Report

Control Type: Two-way stop
Analysis Method: HCM 8th Edition
Analysis Period: 15 minutes
Level Of Service: 10.4
Volume to Capacity (v/c): 0.000

Intersection 13: N Valley Rd at Bruce Dr

Name	Bruce Dr	N Valley Rd	N Valley Rd
Approach	Northbound	Eastbound	Westbound
Lane Configuration	T	F	F
Turning Movement	Left Right	Thru Right	Left Thru
Lane Width [ft]	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0
Pocket Length [ft]	30.00	45.00	45.00
Speed [mph]	0.00	0.00	0.00
Grade [%]	Yes	Yes	Yes
Crosswalk	Yes	Yes	Yes

Volumes

Name	Bruce Dr	N Valley Rd	N Valley Rd
Base Volume Input [veh/h]	0	127	0
Base Volume Adjustment Factor	1.0948	1.0948	1.0948
Heavy Vehicles Percentage [%]	7.00	7.00	7.00
Growth Rate	1.16	1.16	1.16
In-Process Volume [veh/h]	0	0	0
Site-Generated Trips [veh/h]	0	6	0
Diverged Trips [veh/h]	0	0	0
Pass-by Trips [veh/h]	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0
Other Volume [veh/h]	0	0	0
Total Hourly Volume [veh/h]	0	167	0
Peak Hour Factor	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	49	0
Total Analysis Volume [veh/h]	0	196	0
Pedestrian Volume [ped/h]	0	0	0

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00							
d, M, Delay for Movement [s/veh]	10.40	9.32						7.67	
Movement LOS	B	A						A	A
95th-Percentile Queue Length [veh]	0.00	0.00						0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00						0.00	0.00
d, A, Approach Delay [s/veh]	9.86	0.00						0.00	0.00
Approach LOS	A	A						A	A
d, I, Intersection Delay [s/veh]								0.00	B
Intersection LOS									

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Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	N Valley Rd at Chehallem Dr	35	12	22	13	30	6	9	143	43	17	66	8	404

ID	Intersection Name	Southbound		Northeastbound		Southwestbound		Total Volume
		Left	Right	Left	Thru	Right	Left	
3	NE Terrace Dr at Hwy 219	19	38	18	353	251	5	684

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	N Valley Rd at Hwy 219	18	199	154	30	110	24	24	111	29	104	63	21	887

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Right	Left	Thru	Left	Right	
5	Chehallem Dr at Foothills Dr	44	170	46	64	109	28	481

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Foothills Dr at Hwy 219	120	319	44	6	229	19	31	13	190	97	13	31	1112

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Right	Left	Thru	Left	Right	
7	West Access at Chehallem Dr	63	11	3	82	33	5	187

ID	Intersection Name	Northbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Main at Foothills	73	16	233	43	10	234	10	234	609	

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
12	KV Access at N Valley Rd	12	10	163	4	4	90	283

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
13	N Valley Rd at Bruce Dr	0	0	187	0	0	102	289

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Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Southbound		Eastbound		Westbound		Total Volume					
			Left	Right	Left	Right	Left	Right	Left	Right						
1	N Valley Rd at Chehalis Dr	Final Base	24	10	15	11	26	5	8	122	35	5	54	7	322	
		Growth Rate	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	7	0	5	0	0	0	0	1	2	11	3	0	0	29
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Total			35	12	22	13	30	6	9	143	43	17	66	8	404	

ID	Intersection Name	Volume Type	Southbound		Northwestbound		Southwestbound		Total Volume		
			Left	Right	Thru	Right	Left	Right	Left	Right	
3	NE Terrace Dr at Hwy 219	Final Base	13	33	15	303	211	4	578	-	
		Growth Rate	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	-
		In Process	0	0	0	0	0	0	0	0	0
		Net New Trips	4	0	1	2	6	0	0	13	0
		Other	0	0	0	0	0	0	0	0	0
Future Total			19	38	18	353	251	5	684	0	

ID	Intersection Name	Volume Type	Northbound		Southbound		Eastbound		Westbound		Total Volume					
			Left	Right	Left	Right	Left	Right	Left	Right						
4	N Valley Rd at Hwy 219	Final Base	14	170	131	26	95	19	18	93	20	90	53	18	747	
		Growth Rate	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	2	2	2	0	2	3	3	6	2	0	2	0	0	22
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Total			18	199	154	30	110	24	24	111	29	104	63	21	687	

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume		
			Thru	Right	Left	Thru	Left	Right	Left	Right	
5	Chehalis Dr at Pochalis Dr	Final Base	28	141	34	25	78	19	325	-	
		Growth Rate	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	-
		In Process	0	0	0	0	0	0	0	0	0
		Net New Trips	12	6	7	35	19	6	6	85	0
		Other	0	0	0	0	0	0	0	0	0
Future Total			44	170	48	64	109	28	461	0	

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume	
			Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left		
6	Foothills Dr at Hwy 219	Final Base	100	272	38	5	192	16	27	11	150	84	11	27	833	
		Growth Rate	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	-	
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Net New Trips	4	3	0	0	0	0	0	0	0	16	0	0	0	29
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Total			120	319	44	6	229	19	31	13	180	97	13	31	1112	

ID	Intersection Name	Volume Type	Northbound			Eastbound			Westbound			Total Volume		
			Left	Right	Thru	Thru	Right	Left	Thru	Right	Left			
13	N Valley Rd at Bruce Dr	Final Base	0	0	0	0	139	0	0	0	0	0	215	
		Growth Rate	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	-	
		In Process	0	0	0	0	0	0	0	0	0	0	0	
		Net New Trips	0	0	0	0	6	0	0	0	0	0	0	20
		Other	0	0	0	0	0	0	0	0	0	0	0	0
Future Total			0	0	0	0	147	0	0	0	0	102	269	

ID	Intersection Name	Volume Type	Northbound			Southbound			Westbound			Total Volume	
			Thru	Right	Left	Thru	Right	Left	Thru	Right	Left		
7	West Access at Chetnam Dr	Final Base	48	0	0	0	62	0	0	0	0	110	
		Growth Rate	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	-	
		In Process	0	0	0	0	0	0	0	0	0	0	
		Net New Trips	7	11	3	10	33	5	69	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
Future Total			63	11	3	62	33	5	69	0	0	197	

ID	Intersection Name	Volume Type	Northbound			Eastbound			Westbound			Total Volume	
			Left	Right	Thru	Thru	Right	Left	Thru	Right	Left		
10	Main at Foothills	Final Base	63	14	180	37	9	180	493	0	0	0	
		Growth Rate	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	-	
		In Process	0	0	0	0	0	0	0	0	0	0	
		Net New Trips	0	0	13	0	0	0	25	38	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
Future Total			73	16	233	43	10	234	609	0	0	0	

ID	Intersection Name	Volume Type	Northbound			Eastbound			Westbound			Total Volume	
			Left	Right	Thru	Thru	Right	Left	Thru	Right	Left		
12	KV Access at N Valley Rd	Final Base	0	0	139	0	0	0	78	215	0	0	
		Growth Rate	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	-	
		In Process	0	0	0	0	0	0	0	0	0	0	
		Net New Trips	12	10	2	4	4	2	34	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
Future Total			12	10	163	4	4	90	283	0	0	0	

Signal Warrants Report For Intersection 1: N Valley Rd at Chehaltem Dr

Warrants Summary

Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N, S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets			Minor Streets		
	E	W	N	E	W	S
1	91	195	49	69	69	69
2	87	187	47	66	66	66
3	86	183	46	65	65	65
4	73	156	39	55	55	55
5	69	148	37	52	52	52
6	62	133	33	47	47	47
7	57	123	31	43	43	43
8	55	117	29	41	41	41
9	44	94	24	33	33	33
10	41	88	22	31	31	31
11	41	88	22	31	31	31
12	39	84	21	30	30	30
13	35	76	19	27	27	27
14	33	70	18	25	25	25
15	33	70	18	25	25	25
16	32	68	17	24	24	24
17	18	39	10	14	14	14
18	10	21	5	8	8	8
19	9	20	5	7	7	7
20	4	8	2	3	3	3
21	3	6	1	2	2	2
22	3	6	1	2	2	2
23	2	4	1	1	1	1
24	2	4	1	1	1	1

Warrant Analysis by Hour

Hour	Major Lanes		Warrant 1 Condition A					Warrant 1 Condition B					Warrant 3 Condition B		
	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%	100%	80%	70%	56%	Condition B
1	2	266	No	No	No	No	No	No	No	No	No	No	No	No	No
2	2	274	No	No	No	No	No	No	No	No	No	No	No	No	No
3	2	269	No	No	No	No	No	No	No	No	No	No	No	No	No
4	2	228	No	No	No	No	No	No	No	No	No	No	No	No	No
5	2	217	No	No	No	No	No	No	No	No	No	No	No	No	No
6	2	195	No	No	No	No	No	No	No	No	No	No	No	No	No
7	2	180	No	No	No	No	No	No	No	No	No	No	No	No	No
8	2	172	No	No	No	No	No	No	No	No	No	No	No	No	No
9	2	138	No	No	No	No	No	No	No	No	No	No	No	No	No
10	2	129	No	No	No	No	No	No	No	No	No	No	No	No	No
11	2	129	No	No	No	No	No	No	No	No	No	No	No	No	No
12	2	123	No	No	No	No	No	No	No	No	No	No	No	No	No
13	2	111	No	No	No	No	No	No	No	No	No	No	No	No	No
14	2	103	No	No	No	No	No	No	No	No	No	No	No	No	No
15	2	103	No	No	No	No	No	No	No	No	No	No	No	No	No
16	2	109	No	No	No	No	No	No	No	No	No	No	No	No	No
17	2	57	No	No	No	No	No	No	No	No	No	No	No	No	No
18	2	31	No	No	No	No	No	No	No	No	No	No	No	No	No
19	2	29	No	No	No	No	No	No	No	No	No	No	No	No	No
20	2	12	No	No	No	No	No	No	No	No	No	No	No	No	No
21	2	9	No	No	No	No	No	No	No	No	No	No	No	No	No
22	2	9	No	No	No	No	No	No	No	No	No	No	No	No	No
23	2	6	No	No	No	No	No	No	No	No	No	No	No	No	No
24	2	6	No	No	No	No	No	No	No	No	No	No	No	No	No
Hours Met			0	0	0	0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N		S	
	12	11.8	1	1
Total Stopped Delay Per Vehicle on Minor Approach (s)				
Number of Lanes on Minor Street Approach	1			
Vehicle-Hours of Stopped Delay on Minor Approach (h:k:mm)	0:09			
Delay Condition Met	No		No	
Volume on Minor Street Approach During Same Hour	49		69	
High Minor Volume Condition Met	No		No	
Total Entering Volume on All Approaches During Same Hour	404		404	
Number of Approaches on Intersection	4		4	
Total Volume Condition Met	No		No	
Warrant Met for Approach	No		No	
Warrant Met for Intersection	No		No	

Signal Warrants Report For Intersection 3: NE Terrace Dr at Hwy 219

Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	NE, SW
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets				Minor Streets	
	NE	SW	N	SE	N	SE
1	256	371	57	55	57	57
2	248	358	55	54	55	55
3	241	349	54	54	54	54
4	205	297	46	46	46	46
5	195	282	43	43	43	43
6	174	252	39	39	39	39
7	181	261	30	30	30	30
8	154	223	34	34	34	34
9	123	178	27	27	27	27
10	115	167	26	26	26	26
11	115	167	26	26	26	26
12	110	160	25	25	25	25
13	160	245	42	42	42	42
14	92	134	21	21	21	21
15	92	134	21	21	21	21
16	90	130	20	20	20	20
17	51	74	11	11	11	11
18	28	41	6	6	6	6
19	26	37	6	6	6	6
20	10	15	2	2	2	2
21	8	11	2	2	2	2
22	5	7	1	1	1	1
23	5	7	1	1	1	1
24	5	7	1	1	1	1

Warrant Analysis by Hour

Hour	Major Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2/Warrant 3 Condition B	
	Number	Volume	100%	80%	70%	50%	100%	80%	70%	50%	56%	56%
1	3	627	No	No	No	No	No	No	No	No	No	No
2	3	602	No	No	No	No	No	No	No	No	No	No
3	3	580	No	No	No	No	No	No	No	No	No	No
4	3	502	No	No	No	No	No	No	No	No	No	No
5	3	477	No	No	No	No	No	No	No	No	No	No
6	3	426	No	No	No	No	No	No	No	No	No	No
7	3	395	No	No	No	No	No	No	No	No	No	No
8	3	377	No	No	No	No	No	No	No	No	No	No
9	3	301	No	No	No	No	No	No	No	No	No	No
10	3	282	No	No	No	No	No	No	No	No	No	No
11	3	282	No	No	No	No	No	No	No	No	No	No
12	3	270	No	No	No	No	No	No	No	No	No	No
13	3	245	No	No	No	No	No	No	No	No	No	No
14	3	228	No	No	No	No	No	No	No	No	No	No
15	3	228	No	No	No	No	No	No	No	No	No	No
16	3	220	No	No	No	No	No	No	No	No	No	No
17	3	125	No	No	No	No	No	No	No	No	No	No
18	3	69	No	No	No	No	No	No	No	No	No	No
19	3	63	No	No	No	No	No	No	No	No	No	No
20	3	25	No	No	No	No	No	No	No	No	No	No
21	3	19	No	No	No	No	No	No	No	No	No	No
22	3	19	No	No	No	No	No	No	No	No	No	No
23	3	12	No	No	No	No	No	No	No	No	No	No
24	3	12	No	No	No	No	No	No	No	No	No	No
Hours Met			0	0	0	0	0	0	0	0	3	0

Warrant 3 Condition A

Orientation	N	SE
Total Stopped Delay Per Vehicle on Minor Approach (s)	13	1
Number of Lanes on Minor Street Approach	1	1
Vehicle-Hours of Stopped Delay on Minor Approach (h:hr:mm)	0:12	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	57	57
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	684	684
Number of Approaches on Intersection	3	3
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	No

Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets			Minor Streets		
	S	N	E, W	S, N	E, W	W
1	371	164	188			164
2	356	157	180			157
3	349	154	177			154
4	297	131	150			131
5	282	125	143			125
6	252	112	128			112
7	234	103	118			103
8	223	98	113			98
9	178	79	90			79
10	167	74	85			74
11	167	74	85			74
12	160	71	81			71
13	145	64	73			64
14	134	59	68			59
15	130	59	66			59
16	130	57	66			57
17	74	33	38			33
18	41	18	21			18
19	37	16	19			16
20	15	7	8			7
21	11	5	6			5
22	11	5	6			5
23	7	3	4			3
24	7	3	4			3

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A					Warrant 1 Condition B					Warrant 2		Warrant 3	
	Number	Volume	Number	Volume	100%	80%	70%	50%	100%	80%	70%	50%	100%	80%	70%	50%	Condition B	
1	2	535	2	352	No	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No
2	2	513	2	337	No	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No
3	2	503	2	331	No	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No
4	2	428	2	281	No	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No
5	2	407	2	268	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No
6	2	384	2	240	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No
7	2	337	2	221	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No
8	2	321	2	211	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No
9	2	257	2	169	No	No	No	No	No	No	No	No	No	No	No	No	No	No
10	2	241	2	159	No	No	No	No	No	No	No	No	No	No	No	No	No	No
11	2	241	2	159	No	No	No	No	No	No	No	No	No	No	No	No	No	No
12	2	231	2	152	No	No	No	No	No	No	No	No	No	No	No	No	No	No
13	2	209	2	137	No	No	No	No	No	No	No	No	No	No	No	No	No	No
14	2	193	2	127	No	No	No	No	No	No	No	No	No	No	No	No	No	No
15	2	193	2	127	No	No	No	No	No	No	No	No	No	No	No	No	No	No
16	2	187	2	123	No	No	No	No	No	No	No	No	No	No	No	No	No	No
17	2	107	2	71	No	No	No	No	No	No	No	No	No	No	No	No	No	No
18	2	59	2	39	No	No	No	No	No	No	No	No	No	No	No	No	No	No
19	2	53	2	35	No	No	No	No	No	No	No	No	No	No	No	No	No	No
20	2	22	2	15	No	No	No	No	No	No	No	No	No	No	No	No	No	No
21	2	16	2	11	No	No	No	No	No	No	No	No	No	No	No	No	No	No
22	2	16	2	11	No	No	No	No	No	No	No	No	No	No	No	No	No	No
23	2	10	2	7	No	No	No	No	No	No	No	No	No	No	No	No	No	No
24	2	10	2	7	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Hours					0	3	4	7	0	0	0	0	0	0	0	2	0	0
Met																		

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	97.4	31.7
Number of Lanes on Minor Street Approach	1	1
Vehicle-Hours of Stopped Delay on Minor Approach (h:hh:mm)	5:05	1:28
Delay Condition Met	Yes	No
Volume on Minor Street Approach During Same Hour	188	164
High Minor Volume Condition Met	Yes	Yes
Total Enticing Volume on All Approaches During Same Hour	687	687
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	Yes	No

Signal Warrants Report For Intersection 5: Chehaltem Dr at Foothills Dr

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets				Minor Streets	
	N	S	E	W	E	W
1	110	214	137	132	137	132
2	108	205	132	125	125	125
3	103	201	125	110	110	104
4	88	163	104	93	93	84
5	84	153	93	86	86	75
6	75	148	86	77	77	66
7	69	135	77	66	66	53
8	66	128	66	53	53	40
9	53	103	66	50	50	39
10	50	96	62	47	47	35
11	50	96	62	43	43	33
12	47	92	59	40	40	30
13	43	83	53	39	39	28
14	40	77	48	35	35	24
15	40	77	48	33	33	22
16	39	75	48	30	30	21
17	22	43	27	22	22	18
18	12	24	15	11	11	9
19	11	21	14	9	9	7
20	4	9	5	4	4	3
21	3	6	4	3	3	2
22	3	6	4	2	2	2
23	2	4	3	2	2	2
24	2	4	3	2	2	2

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2/Warrant 3	
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%	56%	Condition B
1	2	324	1	137	No	No	No	No	No	No	No	No	No	No
2	2	311	1	132	No	No	No	No	No	No	No	No	No	No
3	2	304	1	129	No	No	No	No	No	No	No	No	No	No
4	2	259	1	110	No	No	No	No	No	No	No	No	No	No
5	2	247	1	104	No	No	No	No	No	No	No	No	No	No
6	2	221	1	93	No	No	No	No	No	No	No	No	No	No
7	2	204	1	86	No	No	No	No	No	No	No	No	No	No
8	2	194	1	82	No	No	No	No	No	No	No	No	No	No
9	2	156	1	66	No	No	No	No	No	No	No	No	No	No
10	2	146	1	62	No	No	No	No	No	No	No	No	No	No
11	2	146	1	62	No	No	No	No	No	No	No	No	No	No
12	2	139	1	59	No	No	No	No	No	No	No	No	No	No
13	2	126	1	53	No	No	No	No	No	No	No	No	No	No
14	2	117	1	49	No	No	No	No	No	No	No	No	No	No
15	2	117	1	49	No	No	No	No	No	No	No	No	No	No
16	2	114	1	48	No	No	No	No	No	No	No	No	No	No
17	2	65	1	27	No	No	No	No	No	No	No	No	No	No
18	2	36	1	15	No	No	No	No	No	No	No	No	No	No
19	2	32	1	14	No	No	No	No	No	No	No	No	No	No
20	2	13	1	5	No	No	No	No	No	No	No	No	No	No
21	2	9	1	4	No	No	No	No	No	No	No	No	No	No
22	2	9	1	4	No	No	No	No	No	No	No	No	No	No
23	2	6	1	3	No	No	No	No	No	No	No	No	No	No
24	2	6	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16	16
Number of Lanes on Minor Street Approach	1	1
Vehicle-hours of Stopped Delay on Minor Approach (ft/veh-hr)	0.36	0.36
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	137	137
High Major Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	461	461
Number of Approaches on Intersection	3	3
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	No

Warrants Summary

Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Minor Approaches	N, S
Speed > 40mph	E, W
Population < 10,000	No
Warrant Factor	No
	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets			Minor Streets		
	N	S	E	W		
1	254	483	141	234		
2	244	464	135	225		
3	235	454	133	220		
4	203	388	113	187		
5	193	367	107	178		
6	173	328	96	159		
7	160	304	89	147		
8	152	290	85	140		
9	122	232	68	112		
10	114	217	63	105		
11	114	217	63	105		
12	109	209	61	101		
13	99	189	55	91		
14	91	174	51	84		
15	81	174	51	84		
16	89	169	49	82		
17	51	97	28	47		
18	28	53	16	26		
19	25	48	14	23		
20	10	19	6	9		
21	8	14	4	7		
22	8	14	4	7		
23	5	10	3	5		
24	5	10	3	5		

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A					Warrant 1 Condition B					Warrant 2		Condition B
	Number	Volume	Number	Volume	100%	80%	70%	50%	100%	80%	70%	50%	56%	Yes	No		
1	4	737	3	375	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No		
2	4	708	3	360	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No		
3	4	693	3	353	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No		
4	4	589	3	300	No	Yes	Yes	Yes	No	No	No	No	No	No	No		
5	4	590	3	293	No	Yes	Yes	Yes	No	No	No	No	No	No	No		
6	4	501	3	255	No	Yes	Yes	Yes	No	No	No	No	No	No	No		
7	4	464	3	238	No	Yes	Yes	Yes	No	No	No	No	No	No	No		
8	4	442	3	225	No	Yes	Yes	Yes	No	No	No	No	No	No	No		
9	4	354	3	180	No	Yes	Yes	Yes	No	No	No	No	No	No	No		
10	4	331	3	168	No	No	No	No	No	No	No	No	No	No	No		
11	4	331	3	168	No	No	No	No	No	No	No	No	No	No	No		
12	4	317	3	162	No	No	No	No	No	No	No	No	No	No	No		
13	4	287	3	146	No	No	No	No	No	No	No	No	No	No	No		
14	4	265	3	135	No	No	No	No	No	No	No	No	No	No	No		
15	4	265	3	135	No	No	No	No	No	No	No	No	No	No	No		
16	4	258	3	131	No	No	No	No	No	No	No	No	No	No	No		
17	4	183	3	75	No	No	No	No	No	No	No	No	No	No	No		
18	4	81	3	42	No	No	No	No	No	No	No	No	No	No	No		
19	4	73	3	37	No	No	No	No	No	No	No	No	No	No	No		
20	4	29	3	15	No	No	No	No	No	No	No	No	No	No	No		
21	4	22	3	11	No	No	No	No	No	No	No	No	No	No	No		
22	4	22	3	11	No	No	No	No	No	No	No	No	No	No	No		
23	4	15	3	8	No	No	No	No	No	No	No	No	No	No	No		
24	4	15	3	8	No	No	No	No	No	No	No	No	No	No	No		
Met					3	6	6	9	0	1	3	5	1	1	0		

Warrant 3 Condition A

Orientation	E		W	
	166	25.8	140	1112
Total Stopped Delay Per Vehicle on Minor Approach (s)	166	25.8	140	1112
Number of Lanes on Minor Street Approach	2	1	1	1
Vehicle Hours of Stopped Delay on Minor Approach (h:mm)	6:30	1:40	1:40	11:12
Delay Condition Met	Yes	No	Yes	No
Volume on Minor Street Approach During Same Hour	144	334	144	334
High Minor Volume Condition Met	No	Yes	No	Yes
Total Entering Volume on All Approaches During Same Hour	1112	1112	1112	1112
Number of Approaches on Intersection	4	4	4	4
Total Volume Condition Met	Yes	Yes	Yes	Yes
Warrant Met for Approach	No	No	No	No
Warrant Met for Intersection	No	No	No	No

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2		Warrant 3	
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%	56%	Condition B	Condition B	
1	2	159	1	38	No	No	No	No	No	No	No	No	No	No	No	
2	2	153	1	36	No	No	No	No	No	No	No	No	No	No	No	
3	2	160	1	36	No	No	No	No	No	No	No	No	No	No	No	
4	2	127	1	30	No	No	No	No	No	No	No	No	No	No	No	
5	2	121	1	29	No	No	No	No	No	No	No	No	No	No	No	
6	2	108	1	26	No	No	No	No	No	No	No	No	No	No	No	
7	2	101	1	24	No	No	No	No	No	No	No	No	No	No	No	
8	2	95	1	23	No	No	No	No	No	No	No	No	No	No	No	
9	2	77	1	18	No	No	No	No	No	No	No	No	No	No	No	
10	2	71	1	17	No	No	No	No	No	No	No	No	No	No	No	
11	2	71	1	17	No	No	No	No	No	No	No	No	No	No	No	
12	2	69	1	16	No	No	No	No	No	No	No	No	No	No	No	
13	2	62	1	15	No	No	No	No	No	No	No	No	No	No	No	
14	2	59	1	14	No	No	No	No	No	No	No	No	No	No	No	
15	2	59	1	14	No	No	No	No	No	No	No	No	No	No	No	
16	2	56	1	13	No	No	No	No	No	No	No	No	No	No	No	
17	2	32	1	8	No	No	No	No	No	No	No	No	No	No	No	
18	2	17	1	4	No	No	No	No	No	No	No	No	No	No	No	
19	2	16	1	4	No	No	No	No	No	No	No	No	No	No	No	
20	2	6	1	2	No	No	No	No	No	No	No	No	No	No	No	
21	2	5	1	1	No	No	No	No	No	No	No	No	No	No	No	
22	2	5	1	1	No	No	No	No	No	No	No	No	No	No	No	
23	2	3	1	1	No	No	No	No	No	No	No	No	No	No	No	
24	2	3	1	1	No	No	No	No	No	No	No	No	No	No	No	
Hours Met					0	0	0	0	0	0	0	0	0	0	0	

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.6
Number of Lanes on Minor Street Approach	1
Vehicle-Hours of Stopped Delay on Minor Approach (ft-hr)	0.06
Policy Condition Met	No
Volume on Minor Street Approach During Same Hour	38
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	197
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Major Approaches	N, S
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets				Minor Streets			
	N	S	E	W	N	S	E	W
1	65	74	38	35				
2	71	71	38	30				
3	80	36	70	30				
4	69	59	30	30				
5	65	56	29	29				
6	59	26	26	26				
7	54	47	24	24				
8	51	44	23	23				
9	41	36	18	18				
10	38	33	17	17				
11	38	33	17	17				
12	37	32	16	16				
13	33	29	15	15				
14	31	27	14	14				
15	31	27	14	14				
16	30	26	13	13				
17	17	15	8	8				
18	9	8	4	4				
19	9	7	4	4				
20	3	3	2	2				
21	3	3	2	2				
22	3	2	1	1				
23	2	2	1	1				
24	2	1	1	1				

Signal Warrants Report For Intersection 10: Main at Foothills

Signal Warrants Report For Intersection 10: Main at Foothills

Warrant Summary

Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	S
1	244	270	89	89
2	234	265	85	85
3	229	264	84	84
4	195	221	71	71
5	185	210	68	68
6	166	180	61	61
7	154	174	56	56
8	146	166	53	53
9	117	132	43	43
10	110	124	40	40
11	110	124	40	40
12	103	119	38	38
13	95	108	35	35
14	88	99	32	32
15	88	99	32	32
16	85	97	31	31
17	49	55	18	18
18	27	30	10	10
19	24	28	9	9
20	10	11	4	4
21	7	8	3	3
22	7	8	3	3
23	5	6	2	2
24	5	6	2	2

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A					Warrant 1 Condition B					Warrant 2 Warrant 3 Condition B						
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%	100%	80%	70%	56%	100%	80%	70%	56%	
1	2	520	1	89	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No	No	No
2	2	469	1	85	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No	No	No
3	2	466	1	84	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No	No	No
4	2	416	1	71	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
5	2	395	1	68	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
6	2	354	1	61	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
7	2	328	1	56	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
8	2	312	1	53	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
9	2	249	1	43	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
10	2	234	1	40	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
11	2	234	1	40	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
12	2	224	1	38	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
13	2	203	1	35	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
14	2	187	1	32	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
15	2	187	1	32	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
16	2	182	1	31	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
17	2	104	1	18	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
18	2	97	1	10	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
19	2	92	1	9	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
20	2	21	1	4	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
21	2	15	1	3	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
22	2	15	1	3	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
23	2	11	1	2	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
24	2	11	1	2	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Hours					0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Mgt					0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	23.3
Number of Lanes on Minor Street Approach	1
Vehicle-Hours of Stopped Delay on Minor Approach (h:mm)	0:34
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	89
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	609
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A					Warrant 1 Condition B					Warrant 2/Warrant 3	
	Number	Volume	Number	Volume	100%	80%	70%	50%	100%	80%	70%	50%	56%	56%	Condition B	Condition B
1	2	281	1	22	No	No	No	No	No	No	No	No	No	No	No	No
2	2	250	1	21	No	No	No	No	No	No	No	No	No	No	No	No
3	2	245	1	21	No	No	No	No	No	No	No	No	No	No	No	No
4	2	209	1	18	No	No	No	No	No	No	No	No	No	No	No	No
5	2	198	1	17	No	No	No	No	No	No	No	No	No	No	No	No
6	2	178	1	15	No	No	No	No	No	No	No	No	No	No	No	No
7	2	164	1	14	No	No	No	No	No	No	No	No	No	No	No	No
8	2	156	1	13	No	No	No	No	No	No	No	No	No	No	No	No
9	2	125	1	11	No	No	No	No	No	No	No	No	No	No	No	No
10	2	117	1	10	No	No	No	No	No	No	No	No	No	No	No	No
11	2	117	1	10	No	No	No	No	No	No	No	No	No	No	No	No
12	2	112	1	9	No	No	No	No	No	No	No	No	No	No	No	No
13	2	102	1	8	No	No	No	No	No	No	No	No	No	No	No	No
14	2	94	1	8	No	No	No	No	No	No	No	No	No	No	No	No
15	2	91	1	8	No	No	No	No	No	No	No	No	No	No	No	No
16	2	91	1	8	No	No	No	No	No	No	No	No	No	No	No	No
17	2	52	1	4	No	No	No	No	No	No	No	No	No	No	No	No
18	2	28	1	2	No	No	No	No	No	No	No	No	No	No	No	No
19	2	26	1	2	No	No	No	No	No	No	No	No	No	No	No	No
20	2	11	1	1	No	No	No	No	No	No	No	No	No	No	No	No
21	2	8	1	1	No	No	No	No	No	No	No	No	No	No	No	No
22	2	8	1	1	No	No	No	No	No	No	No	No	No	No	No	No
23	2	5	1	0	No	No	No	No	No	No	No	No	No	No	No	No
24	2	5	1	0	No	No	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0	0	0

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A					Warrant 1 Condition B					Warrant 2/Warrant 3	
	Number	Volume	Number	Volume	100%	80%	70%	50%	100%	80%	70%	50%	56%	56%	Condition B	Condition B
1	2	281	1	22	No	No	No	No	No	No	No	No	No	No	No	No
2	2	250	1	21	No	No	No	No	No	No	No	No	No	No	No	No
3	2	245	1	21	No	No	No	No	No	No	No	No	No	No	No	No
4	2	209	1	18	No	No	No	No	No	No	No	No	No	No	No	No
5	2	198	1	17	No	No	No	No	No	No	No	No	No	No	No	No
6	2	178	1	15	No	No	No	No	No	No	No	No	No	No	No	No
7	2	164	1	14	No	No	No	No	No	No	No	No	No	No	No	No
8	2	156	1	13	No	No	No	No	No	No	No	No	No	No	No	No
9	2	125	1	11	No	No	No	No	No	No	No	No	No	No	No	No
10	2	117	1	10	No	No	No	No	No	No	No	No	No	No	No	No
11	2	117	1	10	No	No	No	No	No	No	No	No	No	No	No	No
12	2	112	1	9	No	No	No	No	No	No	No	No	No	No	No	No
13	2	102	1	8	No	No	No	No	No	No	No	No	No	No	No	No
14	2	94	1	8	No	No	No	No	No	No	No	No	No	No	No	No
15	2	91	1	8	No	No	No	No	No	No	No	No	No	No	No	No
16	2	91	1	8	No	No	No	No	No	No	No	No	No	No	No	No
17	2	52	1	4	No	No	No	No	No	No	No	No	No	No	No	No
18	2	28	1	2	No	No	No	No	No	No	No	No	No	No	No	No
19	2	26	1	2	No	No	No	No	No	No	No	No	No	No	No	No
20	2	11	1	1	No	No	No	No	No	No	No	No	No	No	No	No
21	2	8	1	1	No	No	No	No	No	No	No	No	No	No	No	No
22	2	8	1	1	No	No	No	No	No	No	No	No	No	No	No	No
23	2	5	1	0	No	No	No	No	No	No	No	No	No	No	No	No
24	2	5	1	0	No	No	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	Total Stopped Delay Per Vehicle on Minor Approach (s)	Number of Lanes on Minor Street Approach	Vehicle-Hours of Stopped Delay on Minor Approach (h:mm)	Delay Condition Met
S	10.1	1	0:03	No
S	1	1	0:03	No
S	22	22	22	No
S	283	283	283	No
S	3	3	3	No
S	No	No	No	No
S	No	No	No	No

Warrant 3 Condition A

Hour	E	W	S	Minor Streets
1	64	167	22	22
2	90	160	21	21
3	88	157	21	21
4	75	134	18	18
5	71	127	17	17
6	64	114	15	15
7	59	105	14	14
8	56	100	13	13
9	45	80	11	11
10	42	75	10	10
11	42	75	10	10
12	40	72	9	9
13	37	65	8	8
14	34	60	8	8
15	34	60	8	8
16	33	58	8	8
17	19	33	4	4
18	10	18	2	2
19	9	17	2	2
20	4	7	1	1
21	3	5	1	1
22	3	5	1	1
23	2	3	0	0
24	2	3	0	0

Warrant Analysis Traffic Volumes

Hour	Major Streets			Minor Streets
	E	W	S	
1	64	167	22	22
2	90	160	21	21
3	88	157	21	21
4	75	134	18	18
5	71	127	17	17
6	64	114	15	15
7	59	105	14	14
8	56	100	13	13
9	45	80	11	11
10	42	75	10	10
11	42	75	10	10
12	40	72	9	9
13	37	65	8	8
14	34	60	8	8
15	34	60	8	8
16	33	58	8	8
17	19	33	4	4
18	10	18	2	2
19	9	17	2	2
20	4	7	1	1
21	3	5	1	1
22	3	5	1	1
23	2	3	0	0
24	2	3	0	0

Intersection Warrants Parameters

Parameter	E, W	S
Major Approaches		
Minor Approaches		
Speed > 40mph	Yes	
Population < 10,000	No	
Warrant Factor	70%	

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Warrants Summary

Warrant #	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	
1	102	167	0	
2	83	160	0	
3	96	157	0	
4	82	134	0	
5	78	127	0	
6	69	114	0	
7	61	105	0	
8	49	80	0	
9	46	75	0	
10	48	75	0	
11	44	72	0	
12	40	65	0	
13	37	60	0	
14	37	60	0	
15	36	59	0	
16	20	33	0	
17	11	18	0	
18	10	17	0	
19	4	7	0	
20	3	5	0	
21	3	5	0	
22	2	3	0	
23	2	3	0	
24	2	3	0	

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A					Warrant 1 Condition B					Warrant 2		Warrant 3	
	Number	Volume	Number	Volume	100%	80%	70%	50%	56%	100%	80%	70%	56%	56%	Condition B	Condition B		
1	2	269	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
2	2	258	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
3	2	253	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
4	2	216	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
5	2	205	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
6	2	183	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
7	2	169	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
8	2	161	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
9	2	129	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
10	2	121	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
11	2	121	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
12	2	110	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
13	2	105	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
14	2	97	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
15	2	97	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
16	2	94	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
17	2	53	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
18	2	29	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
19	2	27	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
20	2	11	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
21	2	8	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
22	2	8	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
23	2	5	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
24	2	5	1	0	No	No	No	No	No	No	No	No	No	No	No	No	No	
Hours Met					0	0	0	0	0	0	0	0	0	0	0	0	0	

Warrant 3 Condition A

Orientation	Total Stopped Delay Per Vehicle on Minor Approach (s)
S	9.9
1	1
0:00	No
0	No
High Minor Volume Condition Met	0
Volume on Minor Street Approach During Same Hour	No
Delay Condition Met	269
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No