SIGNAL WARRANT ANALYSIS WORKSHEETS

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: Eastbound Off & Excelsior St.
Major Street Name: Excelsior St. **No. of Lanes:** 2 or more
Minor Street Name: Eastbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	16	12	5	0	28	5
1:00 AM	11	7	2	0	18	2
2:00 AM	11	6	3	0	17	3
3:00 AM	4	3	1	0	7	1
4:00 AM	5	7	0	0	12	0
5:00 AM	25	37	8	0	62	8
6:00 AM	88	58	36	0	146	36
7:00 AM	184	84	64	0	268	64
8:00 AM	208	80	70	0	288	70
9:00 AM	144	76	63	0	220	63
10:00 AM	143	101	60	0	244	60
11:00 AM	260	81	63	0	341	63
12:00 PM	252	110	36	0	362	36
1:00 PM	248	146	65	0	394	65
2:00 PM	238	125	68	0	363	68
3:00 PM	316	149	86	0	465	86
4:00 PM	349	159	82	0	508	82
5:00 PM	299	194	62	0	493	62
6:00 PM	200	106	33	0	306	33
7:00 PM	119	68	23	0	187	23
8:00 PM	112	57	20	0	169	20
9:00 PM	86	68	24	0	154	24
10:00 PM	86	44	21	0	130	21
11:00 PM	66	22	19	0	88	19

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM						
8:00 AM						
9:00 AM						
10:00 AM						
11:00 AM						
12:00 PM						
1:00 PM						
2:00 PM						
3:00 PM						
4:00 PM						
5:00 PM						
6:00 PM						
7:00 PM						
8:00 PM						
9:00 PM						
10:00 PM						
11:00 PM						
	0	0	0	0	0	0

Warrant 1, Condition A Met: No **70%:** N/A
Warrant 1, Condition B Met: No **70%:** N/A

Consider combination? Yes
Warrant 1, Combination Met: No **56%** No

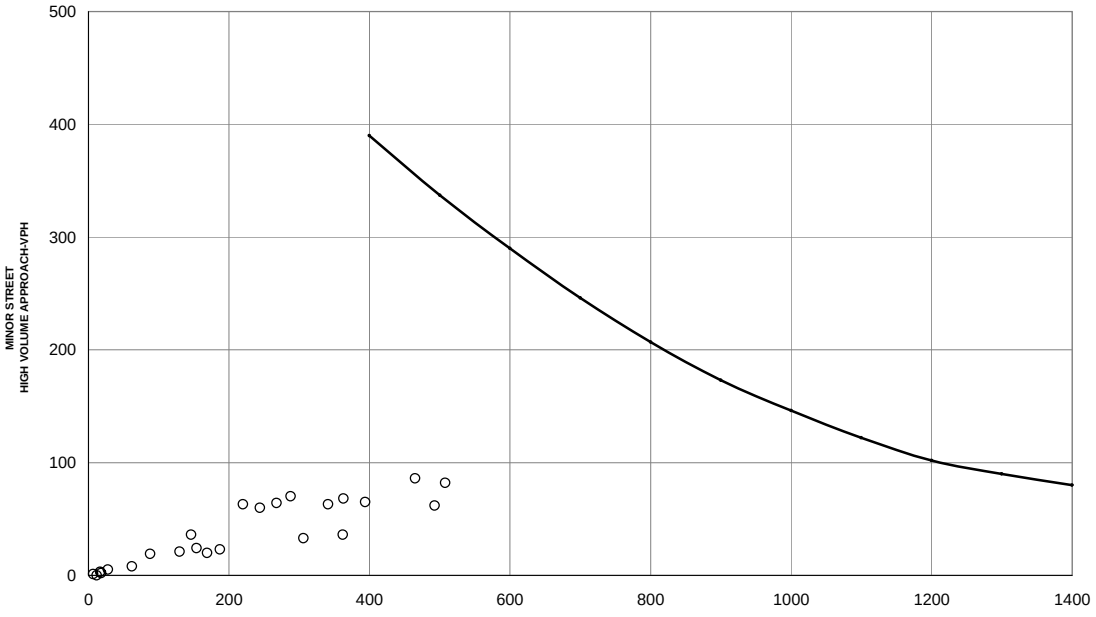
Warrant 1, Met: No

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: Eastbound Off & Excelsior St.
Major Street Name: Excelsior St. **No. of Lanes:** 2 or more
Minor Street Name: Eastbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	16	12	5	0	28	5		
1:00 AM	11	7	2	0	18	2		
2:00 AM	11	6	3	0	17	3		
3:00 AM	4	3	1	0	7	1		
4:00 AM	5	7	0	0	12	0		
5:00 AM	25	37	8	0	62	8		
6:00 AM	88	58	36	0	146	36		
7:00 AM	184	84	64	0	268	64		
8:00 AM	208	80	70	0	288	70		
9:00 AM	144	76	63	0	220	63		
10:00 AM	143	101	60	0	244	60		
11:00 AM	260	81	63	0	341	63		
12:00 PM	252	110	36	0	362	36		
1:00 PM	248	146	65	0	394	65		
2:00 PM	238	125	68	0	363	68		
3:00 PM	316	149	86	0	465	86		
4:00 PM	349	159	82	0	508	82		
5:00 PM	299	194	62	0	493	62		
6:00 PM	200	106	33	0	306	33		
7:00 PM	119	68	23	0	187	23		
8:00 PM	112	57	20	0	169	20		
9:00 PM	86	68	24	0	154	24		
10:00 PM	86	44	21	0	130	21		
11:00 PM	66	22	19	0	88	19		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% No **70%** N/A

Warrant 2, Met: No

Delay Study for Warrant 3

Intersection Name: Eastbound Off & Excelsior St.
Major Street Name: Excelsior St.
Minor Street Name: Eastbound Off
nber of Approaches: 4
Interval: _____ **Seconds**

Min/Sec	Number of Stopped Vehicles 0
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
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48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	

Min/Sec	Number of Stopped Vehicles 0
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
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56	
57	
58	
59	

Cars Served on Study Approach Interval	No.	Cars Served at Intersection Interval	No.
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	

Cars Served on Study Approach Hourly Sum	Cars Served at Intersection Hourly Sum
1	1
2	2
3	3
4	4
5	5

Vehicles Stopped on Study Approach Hourly Totals
1
2
3
4
5

Total Number of Stopped Vehicles _____
Vehicles Served on Approach Leg _____

Stopped Delay _____ sec/veh
Stopped Delay _____ veh-hrs

Warrant 3, Peak Hour

Intersection Name: Eastbound Off & Excelsior St.
Major Street Name: Excelsior St. **No. of Lanes:** 2 or more
Minor Street Name: Eastbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

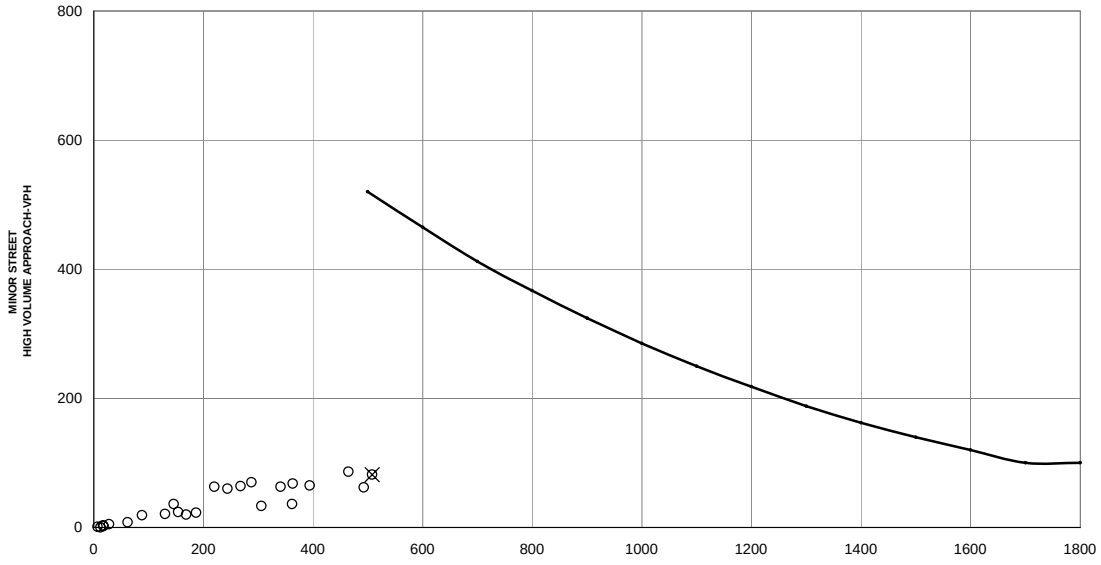
Condition A-3 Met: N/A

Condition B:

	Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
	4:00p-5:00p	590	508	82		

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	16	12	5	0	28	5		
1:00 AM	11	7	2	0	18	2		
2:00 AM	11	6	3	0	17	3		
3:00 AM	4	3	1	0	7	1		
4:00 AM	5	7	0	0	12	0		
5:00 AM	25	37	8	0	62	8		
6:00 AM	88	58	36	0	146	36		
7:00 AM	184	84	64	0	268	64		
8:00 AM	208	80	70	0	288	70		
9:00 AM	144	76	63	0	220	63		
10:00 AM	143	101	60	0	244	60		
11:00 AM	260	81	63	0	341	63		
12:00 PM	252	110	36	0	362	36		
1:00 PM	248	146	65	0	394	65		
2:00 PM	238	125	68	0	363	68		
3:00 PM	316	149	86	0	465	86		
4:00 PM	349	159	82	0	508	82		
5:00 PM	299	194	62	0	493	62		
6:00 PM	200	106	33	0	306	33		
7:00 PM	119	68	23	0	187	23		
8:00 PM	112	57	20	0	169	20		
9:00 PM	86	68	24	0	154	24		
10:00 PM	86	44	21	0	130	21		
11:00 PM	66	22	19	0	88	19		

Figure 4C-3. Warrant 3, Peak Hour



Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: No **70%** N/A

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Met: No
Is this an unusual case? No **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: Eastbound Off & Excelsior St.
Major Street Name: Excelsior St.
Minor Street Name: Eastbound Off
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: Eastbound Off & Excelsior St.
Major Street Name: Excelsior St.
Minor Street Name: Eastbound Off
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: Eastbound Off & Excelsior St.
Major Street Name: Excelsior St.
Minor Street Name: Eastbound Off

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: Eastbound Off & Excelsior St.
Major Street Name: Excelsior St.
Minor Street Name: Eastbound Off
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 4
Warrant 7, Condition B met: N

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: N
80% conditions Condition B in Table 4C-1 met: N
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM			
8:00 AM			
9:00 AM			
10:00 AM			
11:00 AM			
12:00 PM			
1:00 PM			
2:00 PM			
3:00 PM			
4:00 PM			
5:00 PM			
6:00 PM			
7:00 PM			
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			
	0	0	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: Eastbound Off & Excelsior St.
Major Street Name: Excelsior St.
Minor Street Name: Eastbound Off

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: South Bound Off & Continental Drive
Major Street Name: Continental **No. of Lanes:** 2 or more
Minor Street Name: Southbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	3	10	4	0	13	4
1:00 AM	6	5	4	0	11	4
2:00 AM	3	6	1	0	9	1
3:00 AM	11	3	0	0	14	0
4:00 AM	11	6	0	0	17	0
5:00 AM	24	15	10	0	39	10
6:00 AM	37	24	14	0	61	14
7:00 AM	70	66	24	0	136	24
8:00 AM	116	69	27	0	185	27
9:00 AM	54	59	26	0	113	26
10:00 AM	79	62	47	0	141	47
11:00 AM	92	98	63	0	190	63
12:00 PM	70	100	53	0	170	53
1:00 PM	88	68	51	0	156	51
2:00 PM	86	86	73	0	172	73
3:00 PM	95	96	88	0	191	88
4:00 PM	98	114	86	0	212	86
5:00 PM	104	115	67	0	219	67
6:00 PM	80	98	50	0	178	50
7:00 PM	73	69	40	0	142	40
8:00 PM	60	60	39	0	120	39
9:00 PM	32	54	27	0	86	27
10:00 PM	33	48	23	0	81	23
11:00 PM	9	20	10	0	29	10

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM						
8:00 AM						
9:00 AM						
10:00 AM						
11:00 AM						
12:00 PM						
1:00 PM						
2:00 PM						
3:00 PM						
4:00 PM						
5:00 PM						
6:00 PM						
7:00 PM						
8:00 PM						
9:00 PM						
10:00 PM						
11:00 PM						
	0	0	0	0	0	0

Warrant 1, Condition A Met: No **70%:** N/A
Warrant 1, Condition B Met: No **70%:** N/A

Consider combination? Yes
Warrant 1, Combination Met: No **56%** No

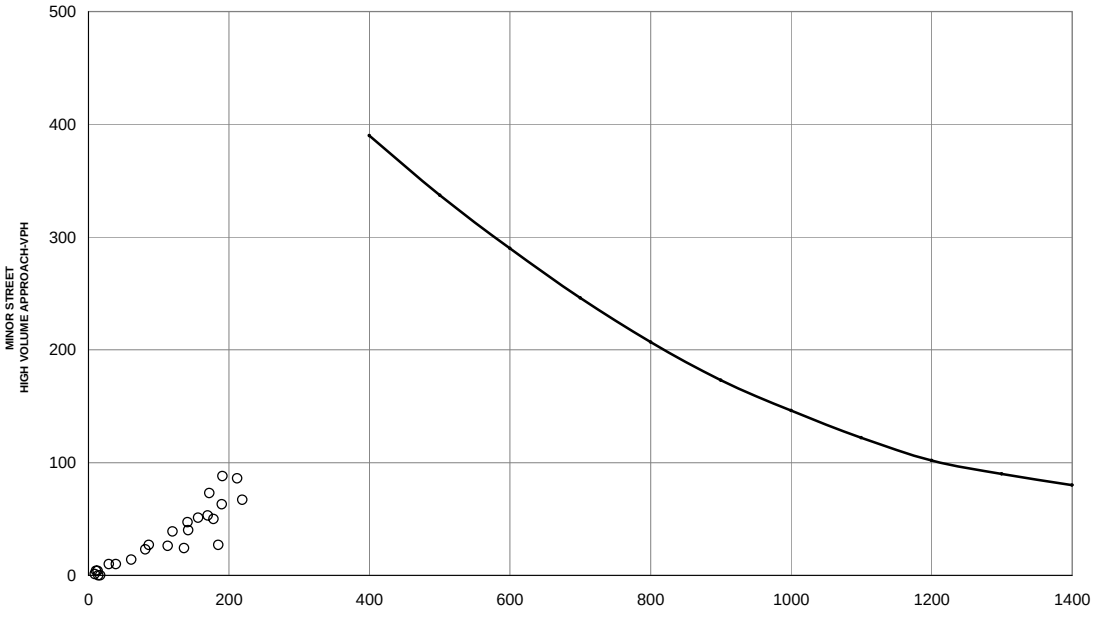
Warrant 1, Met: No

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: South Bound Off & Continental Drive
Major Street Name: Continental **No. of Lanes:** 2 or more
Minor Street Name: Southbound Of **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	3	10	4	0	13	4		
1:00 AM	6	5	4	0	11	4		
2:00 AM	3	6	1	0	9	1		
3:00 AM	11	3	0	0	14	0		
4:00 AM	11	6	0	0	17	0		
5:00 AM	24	15	10	0	39	10		
6:00 AM	37	24	14	0	61	14		
7:00 AM	70	66	24	0	136	24		
8:00 AM	116	69	27	0	185	27		
9:00 AM	54	59	26	0	113	26		
10:00 AM	79	62	47	0	141	47		
11:00 AM	92	98	63	0	190	63		
12:00 PM	70	100	53	0	170	53		
1:00 PM	88	68	51	0	156	51		
2:00 PM	86	86	73	0	172	73		
3:00 PM	95	96	88	0	191	88		
4:00 PM	98	114	86	0	212	86		
5:00 PM	104	115	67	0	219	67		
6:00 PM	80	98	50	0	178	50		
7:00 PM	73	69	40	0	142	40		
8:00 PM	60	60	39	0	120	39		
9:00 PM	32	54	27	0	86	27		
10:00 PM	33	48	23	0	81	23		
11:00 PM	9	20	10	0	29	10		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% No **70%** N/A

Warrant 2, Met: No

Delay Study for Warrant 3

Intersection Name: South Bound Off & Continental Drive
Major Street Name: Continental
Minor Street Name: Southbound Off
nber of Approaches: 4
Interval: _____ **Seconds**

Number of Stopped Vehicles		Number of Stopped Vehicles	
Min/Sec	0	Min/Sec	0
0		0	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	
11		11	
12		12	
13		13	
14		14	
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39		39	
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42		42	
43		43	
44		44	
45		45	
46		46	
47		47	
48		48	
49		49	
50		50	
51		51	
52		52	
53		53	
54		54	
55		55	
56		56	
57		57	
58		58	
59		59	

Cars Served on Study Approach		Cars Served at Intersection	
Interval	No.	Interval	No.
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	

Cars Served on Study Approach Hourly Sum	Cars Served at Intersection Hourly Sum
1	1
2	2
3	3
4	4
5	5

Vehicles Stopped on Study Approach Hourly Totals
1
2
3
4
5

Total Number of Stopped Vehicles _____
Vehicles Served on Approach Leg _____

Stopped Delay _____ sec/veh
Stopped Delay _____ veh-hrs

Warrant 3, Peak Hour

Intersection Name: South Bound Off & Continental Drive
Major Street Name: Continental **No. of Lanes:** 2 or more
Minor Street Name: Southbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

   Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

   Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

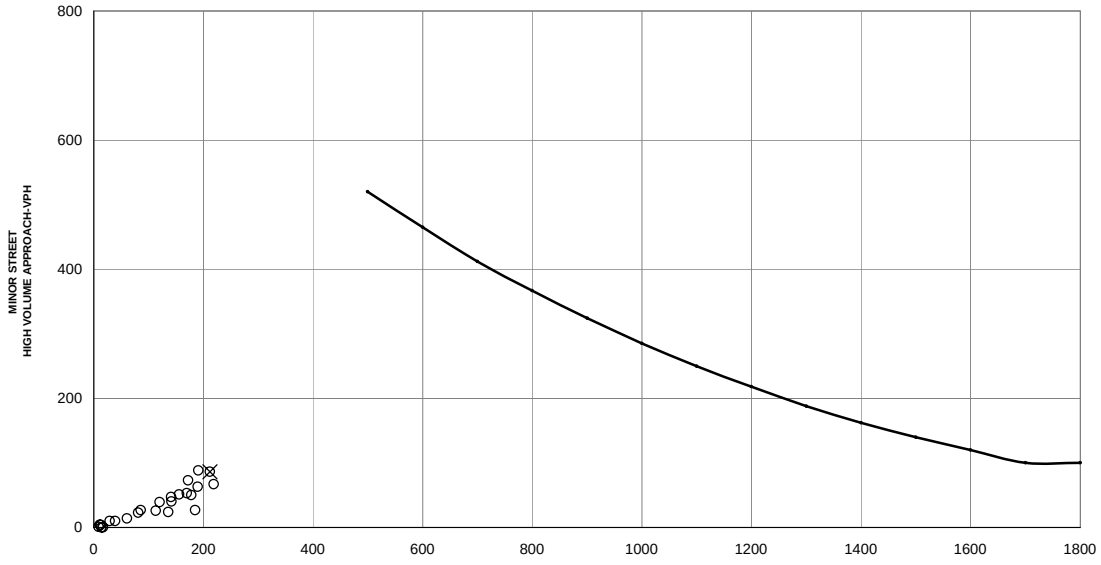
   Condition A-3 Met: N/A

Condition B:

	Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
	4:00p-5:00p	298	212	86		

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	3	10	4	0	13	4		
1:00 AM	6	5	4	0	11	4		
2:00 AM	3	6	1	0	9	1		
3:00 AM	11	3	0	0	14	0		
4:00 AM	11	6	0	0	17	0		
5:00 AM	24	15	10	0	39	10		
6:00 AM	37	24	14	0	61	14		
7:00 AM	70	66	24	0	136	24		
8:00 AM	116	69	27	0	185	27		
9:00 AM	54	59	26	0	113	26		
10:00 AM	79	62	47	0	141	47		
11:00 AM	92	98	63	0	190	63		
12:00 PM	70	100	53	0	170	53		
1:00 PM	88	68	51	0	156	51		
2:00 PM	86	86	73	0	172	73		
3:00 PM	95	96	88	0	191	88		
4:00 PM	98	114	86	0	212	86		
5:00 PM	104	115	67	0	219	67		
6:00 PM	80	98	50	0	178	50		
7:00 PM	73	69	40	0	142	40		
8:00 PM	60	60	39	0	120	39		
9:00 PM	32	54	27	0	86	27		
10:00 PM	33	48	23	0	81	23		
11:00 PM	9	20	10	0	29	10		

Figure 4C-3. Warrant 3, Peak Hour



Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: No **70%** N/A

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Met: No
Is this an unusual case? No **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: South Bound Off & Continental Drive
Major Street Name: Continental
Minor Street Name: Southbound Off
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: South Bound Off & Continental Drive
Major Street Name: Continental
Minor Street Name: Southbound Off
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: South Bound Off & Continental Drive
Major Street Name: Continental
Minor Street Name: Southbound Off

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: South Bound Off & Continental Drive
Major Street Name: Continental
Minor Street Name: Southbound Off
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 0
Warrant 7, Condition B met: N

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: N
80% conditions Condition B in Table 4C-1 met: N
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM			
8:00 AM			
9:00 AM			
10:00 AM			
11:00 AM			
12:00 PM			
1:00 PM			
2:00 PM			
3:00 PM			
4:00 PM			
5:00 PM			
6:00 PM			
7:00 PM			
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			
	0	0	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: South Bound Off & Continental Drive
Major Street Name: Continental
Minor Street Name: Southbound Off

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: Northbound Off & Continental Drive
Major Street Name: Continental **No. of Lanes:** 2 or more
Minor Street Name: Northbound Of **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	5	7	0	3	12	3
1:00 AM	6	6	0	2	12	2
2:00 AM	1	6	0	1	7	1
3:00 AM	4	5	0	1	9	1
4:00 AM	1	5	0	3	6	3
5:00 AM	28	11	0	16	39	16
6:00 AM	59	26	0	37	85	37
7:00 AM	62	46	0	72	108	72
8:00 AM	83	46	0	77	129	77
9:00 AM	49	36	0	36	85	36
10:00 AM	36	36	0	22	72	22
11:00 AM	54	68	0	26	122	26
12:00 PM	64	56	0	30	120	30
1:00 PM	60	39	0	25	99	25
2:00 PM	58	46	0	27	104	27
3:00 PM	72	44	0	34	116	34
4:00 PM	70	84	0	32	154	32
5:00 PM	70	83	0	26	153	26
6:00 PM	77	51	0	37	128	37
7:00 PM	58	48	0	24	106	24
8:00 PM	43	22	0	16	65	16
9:00 PM	31	29	0	11	60	11
10:00 PM	20	20	0	7	40	7
11:00 PM	13	14	0	7	27	7

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM						
8:00 AM						
9:00 AM						
10:00 AM						
11:00 AM						
12:00 PM						
1:00 PM						
2:00 PM						
3:00 PM						
4:00 PM						
5:00 PM						
6:00 PM						
7:00 PM						
8:00 PM						
9:00 PM						
10:00 PM						
11:00 PM						
	0	0	0	0	0	0

Warrant 1, Condition A Met: No **70%:** N/A
Warrant 1, Condition B Met: No **70%:** N/A

Consider combination? Yes
Warrant 1, Combination Met: No **56%** No

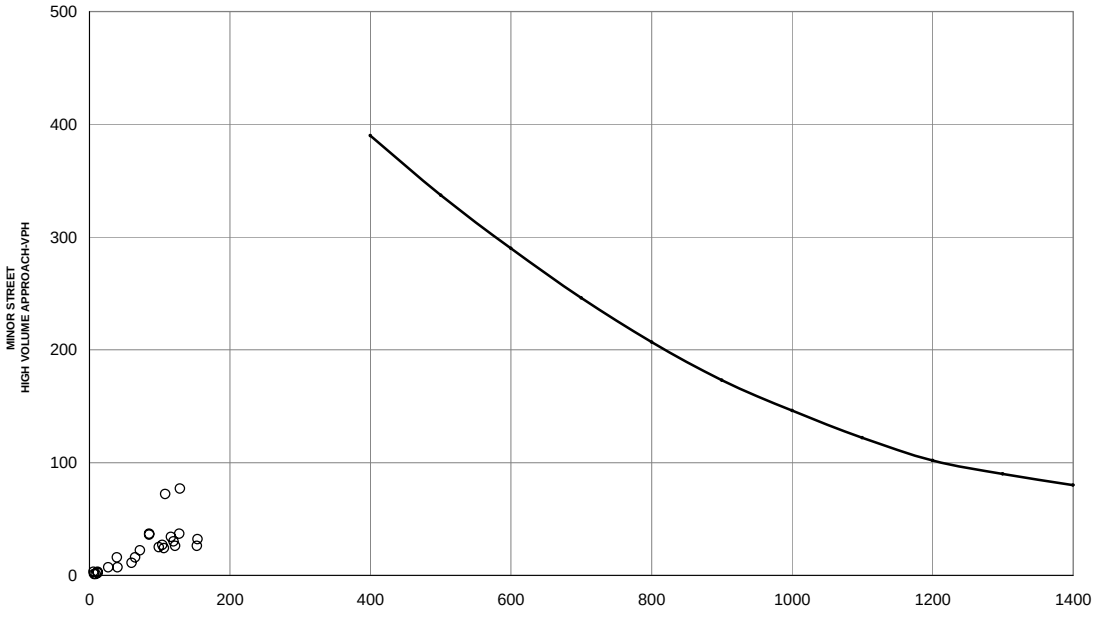
Warrant 1, Met: No

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: Northbound Off & Continental Drive
Major Street Name: Continental **No. of Lanes:** 2 or more
Minor Street Name: Northbound Of **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	5	7	0	3	12	3		
1:00 AM	6	6	0	2	12	2		
2:00 AM	1	6	0	1	7	1		
3:00 AM	4	5	0	1	9	1		
4:00 AM	1	5	0	3	6	3		
5:00 AM	28	11	0	16	39	16		
6:00 AM	59	26	0	37	85	37		
7:00 AM	62	46	0	72	108	72		
8:00 AM	83	46	0	77	129	77		
9:00 AM	49	36	0	36	85	36		
10:00 AM	36	36	0	22	72	22		
11:00 AM	54	68	0	26	122	26		
12:00 PM	64	56	0	30	120	30		
1:00 PM	60	39	0	25	99	25		
2:00 PM	58	46	0	27	104	27		
3:00 PM	72	44	0	34	116	34		
4:00 PM	70	84	0	32	154	32		
5:00 PM	70	83	0	26	153	26		
6:00 PM	77	51	0	37	128	37		
7:00 PM	58	48	0	24	106	24		
8:00 PM	43	22	0	16	65	16		
9:00 PM	31	29	0	11	60	11		
10:00 PM	20	20	0	7	40	7		
11:00 PM	13	14	0	7	27	7		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% No **70%** N/A

Warrant 2, Met: No

Delay Study for Warrant 3

Intersection Name: Northbound Off & Continental Drive
Major Street Name: Continental
Minor Street Name: Northbound Off
nber of Approaches: 4
Interval: _____ **Seconds**

Min/Sec	Number of Stopped Vehicles 0	Min/Sec	Number of Stopped Vehicles 0
0		0	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	
11		11	
12		12	
13		13	
14		14	
15		15	
16		16	
17		17	
18		18	
19		19	
20		20	
21		21	
22		22	
23		23	
24		24	
25		25	
26		26	
27		27	
28		28	
29		29	
30		30	
31		31	
32		32	
33		33	
34		34	
35		35	
36		36	
37		37	
38		38	
39		39	
40		40	
41		41	
42		42	
43		43	
44		44	
45		45	
46		46	
47		47	
48		48	
49		49	
50		50	
51		51	
52		52	
53		53	
54		54	
55		55	
56		56	
57		57	
58		58	
59		59	

Cars Served on Study Approach Interval	No.	Cars Served at Intersection Interval	No.
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	

Cars Served on Study Approach Hourly Sum	Cars Served at Intersection Hourly Sum
1	1
2	2
3	3
4	4
5	5

Vehicles Stopped on Study Approach Hourly Totals
1
2
3
4
5

Total Number of Stopped Vehicles _____
Vehicles Served on Approach Leg _____

Stopped Delay _____ sec/veh
Stopped Delay _____ veh-hrs

Warrant 3, Peak Hour

Intersection Name: Northbound Off & Continental Drive
Major Street Name: Continental **No. of Lanes:** 2 or more
Minor Street Name: Northbound Of **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

   Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

   Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

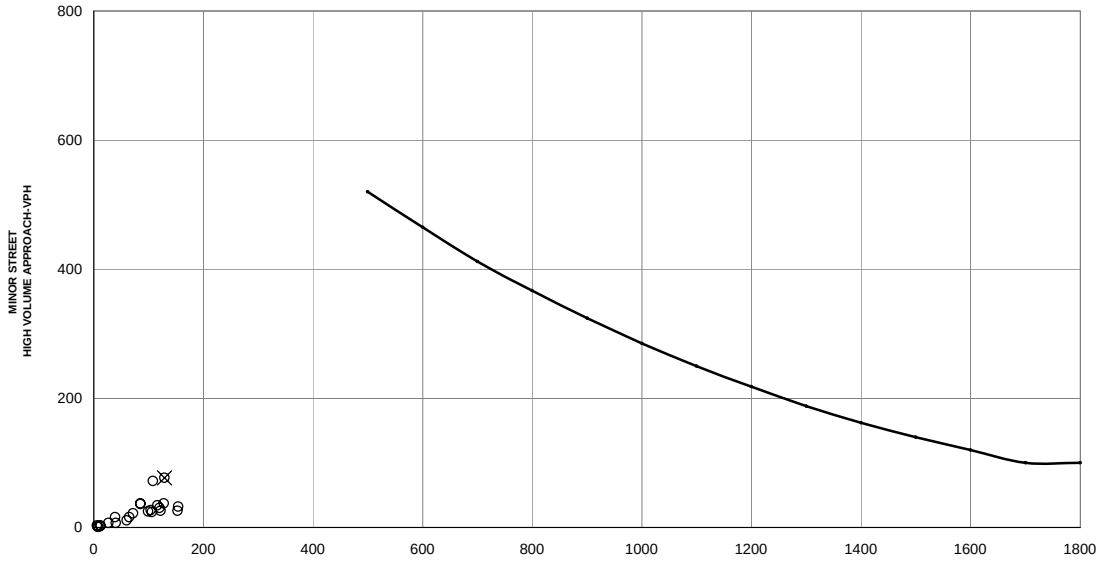
   Condition A-3 Met: N/A

Condition B:

Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
8:00a-9:00a	206	129	77		

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	5	7	0	3	12	3		
1:00 AM	6	6	0	2	12	2		
2:00 AM	1	6	0	1	7	1		
3:00 AM	4	5	0	1	9	1		
4:00 AM	1	5	0	3	6	3		
5:00 AM	28	11	0	16	39	16		
6:00 AM	59	26	0	37	85	37		
7:00 AM	62	46	0	72	108	72		
8:00 AM	83	46	0	77	129	77		
9:00 AM	49	36	0	36	85	36		
10:00 AM	36	36	0	22	72	22		
11:00 AM	54	68	0	26	122	26		
12:00 PM	64	56	0	30	120	30		
1:00 PM	60	39	0	25	99	25		
2:00 PM	58	46	0	27	104	27		
3:00 PM	72	44	0	34	116	34		
4:00 PM	70	84	0	32	154	32		
5:00 PM	70	83	0	26	153	26		
6:00 PM	77	51	0	37	128	37		
7:00 PM	58	48	0	24	106	24		
8:00 PM	43	22	0	16	65	16		
9:00 PM	31	29	0	11	60	11		
10:00 PM	20	20	0	7	40	7		
11:00 PM	13	14	0	7	27	7		

Figure 4C-3. Warrant 3, Peak Hour



Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: No **70%** N/A

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Met: No
Is this an unusual case? No **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: Northbound Off & Continental Drive
Major Street Name: Continental
Minor Street Name: Northbound Off
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: Northbound Off & Continental Drive
Major Street Name: Continental
Minor Street Name: Northbound Off
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: Northbound Off & Continental Drive
Major Street Name: Continental
Minor Street Name: Northbound Off

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: Northbound Off & Continental Drive
Major Street Name: Continental
Minor Street Name: Northbound Off
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 0
Warrant 7, Condition B met: N

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: N
80% conditions Condition B in Table 4C-1 met: N
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM			
8:00 AM			
9:00 AM			
10:00 AM			
11:00 AM			
12:00 PM			
1:00 PM			
2:00 PM			
3:00 PM			
4:00 PM			
5:00 PM			
6:00 PM			
7:00 PM			
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			
	0	0	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: Northbound Off & Continental Drive
Major Street Name: Continental
Minor Street Name: Northbound Off

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: Continental Dr. & Saddle Rock Dr.
Major Street Name: Continental Dr. **No. of Lanes:** 2 or more
Minor Street Name: Saddle Rock Dr **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	5	7	0	1	12	1
1:00 AM	6	6	0	0	12	0
2:00 AM	1	6	0	0	7	0
3:00 AM	4	5	1	0	9	1
4:00 AM	1	5	1	1	6	1
5:00 AM	28	11	2	3	39	3
6:00 AM	59	26	2	11	85	11
7:00 AM	62	46	6	13	108	13
8:00 AM	83	46	3	9	129	9
9:00 AM	49	36	5	13	85	13
10:00 AM	36	36	11	6	72	11
11:00 AM	54	68	5	8	122	8
12:00 PM	64	56	1	10	120	10
1:00 PM	60	39	4	6	99	6
2:00 PM	58	46	1	5	104	5
3:00 PM	72	44	3	3	116	3
4:00 PM	70	84	7	7	154	7
5:00 PM	70	83	1	6	153	6
6:00 PM	77	54	5	8	131	8
7:00 PM	58	48	2	9	106	9
8:00 PM	43	22	1	6	65	6
9:00 PM	31	29	1	9	60	9
10:00 PM	20	20	2	7	40	7
11:00 PM	13	14	0	3	27	3

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM						
8:00 AM						
9:00 AM						
10:00 AM						
11:00 AM						
12:00 PM						
1:00 PM						
2:00 PM						
3:00 PM						
4:00 PM						
5:00 PM						
6:00 PM						
7:00 PM						
8:00 PM						
9:00 PM						
10:00 PM						
11:00 PM						
	0	0	0	0	0	0

Warrant 1, Condition A Met: No **70%:** N/A
Warrant 1, Condition B Met: No **70%:** N/A

Consider combination? Yes
Warrant 1, Combination Met: No **56%** No

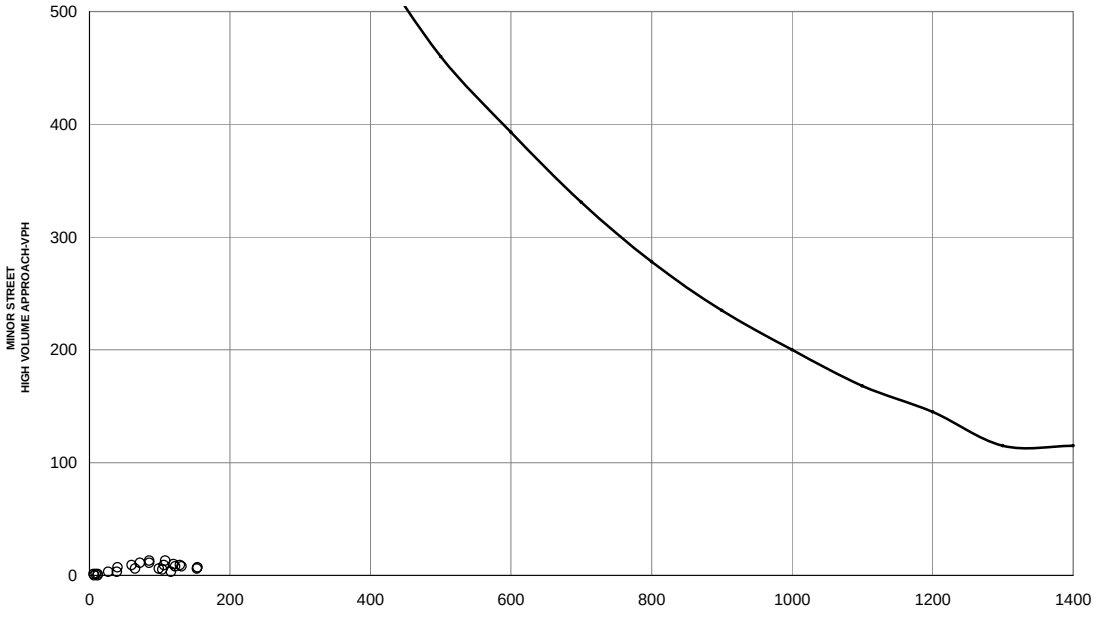
Warrant 1, Met: No

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: Continental Dr. & Saddle Rock Dr.
Major Street Name: Continental Dr. **No. of Lanes:** 2 or more
Minor Street Name: Saddle Rock D **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	5	7	0	1	12	1		
1:00 AM	6	6	0	0	12	0		
2:00 AM	1	6	0	0	7	0		
3:00 AM	4	5	1	0	9	1		
4:00 AM	1	5	1	1	6	1		
5:00 AM	28	11	2	3	39	3		
6:00 AM	59	26	2	11	85	11		
7:00 AM	62	46	6	13	108	13		
8:00 AM	83	46	3	9	129	9		
9:00 AM	49	36	5	13	85	13		
10:00 AM	36	36	11	6	72	11		
11:00 AM	54	68	5	8	122	8		
12:00 PM	64	56	1	10	120	10		
1:00 PM	60	39	4	6	99	6		
2:00 PM	58	46	1	5	104	5		
3:00 PM	72	44	3	3	116	3		
4:00 PM	70	84	7	7	154	7		
5:00 PM	70	83	1	6	153	6		
6:00 PM	77	54	5	8	131	8		
7:00 PM	58	48	2	9	106	9		
8:00 PM	43	22	1	6	65	6		
9:00 PM	31	29	1	9	60	9		
10:00 PM	20	20	2	7	40	7		
11:00 PM	13	14	0	3	27	3		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% No **70%** N/A

Warrant 2, Met: No

Delay Study for Warrant 3

Intersection Name: Continental Dr. & Saddle Rock Dr.
Major Street Name: Continental Dr.
Minor Street Name: Saddle Rock Dr
nber of Approaches: 4
Interval: _____ **Seconds**

Min/Sec	Number of Stopped Vehicles 0	Min/Sec	Number of Stopped Vehicles 0
0		0	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	
11		11	
12		12	
13		13	
14		14	
15		15	
16		16	
17		17	
18		18	
19		19	
20		20	
21		21	
22		22	
23		23	
24		24	
25		25	
26		26	
27		27	
28		28	
29		29	
30		30	
31		31	
32		32	
33		33	
34		34	
35		35	
36		36	
37		37	
38		38	
39		39	
40		40	
41		41	
42		42	
43		43	
44		44	
45		45	
46		46	
47		47	
48		48	
49		49	
50		50	
51		51	
52		52	
53		53	
54		54	
55		55	
56		56	
57		57	
58		58	
59		59	

Cars Served on Study Approach Interval	No.	Cars Served at Intersection Interval	No.
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	

Cars Served on Study Approach Hourly Sum	Cars Served at Intersection Hourly Sum
1	1
2	2
3	3
4	4
5	5

Vehicles Stopped on Study Approach Hourly Totals
1
2
3
4
5

Total Number of Stopped Vehicles _____
Vehicles Served on Approach Leg _____

Stopped Delay _____ sec/veh
Stopped Delay _____ veh-hrs

Warrant 3, Peak Hour

Intersection Name: Continental Dr. & Saddle Rock Dr.
Major Street Name: Continental Dr. **No. of Lanes:** 2 or more
Minor Street Name: Saddle Rock Dr **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

   Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

   Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

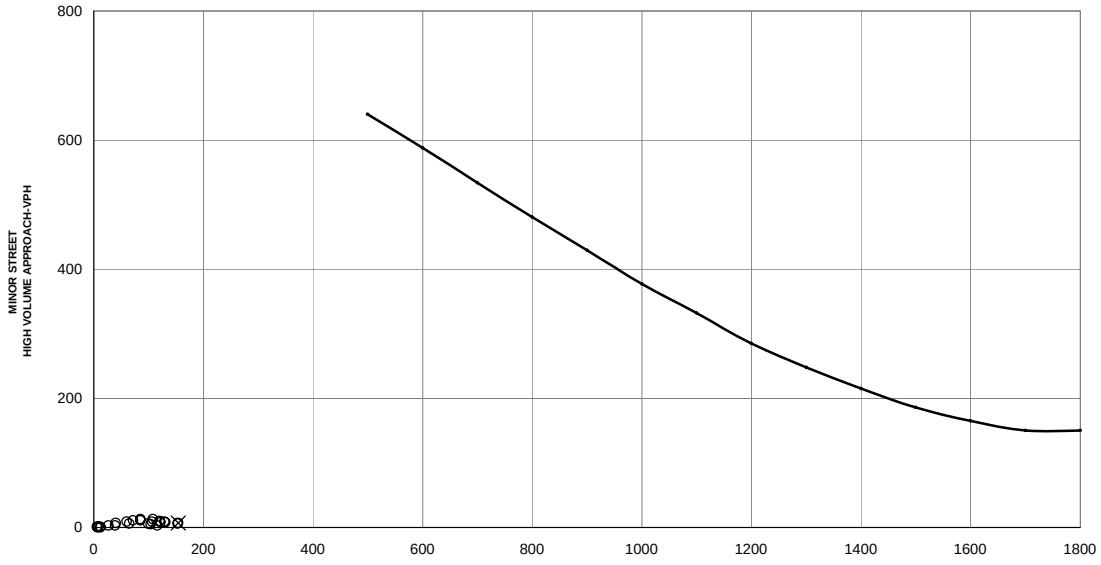
   Condition A-3 Met: N/A

Condition B:

	Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
	4:00p-5:00p	168	154	7		

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	5	7	0	1	12	1		
1:00 AM	6	6	0	0	12	0		
2:00 AM	1	6	0	0	7	0		
3:00 AM	4	5	1	0	9	1		
4:00 AM	1	5	1	1	6	1		
5:00 AM	28	11	2	3	39	3		
6:00 AM	59	26	2	11	85	11		
7:00 AM	62	46	6	13	108	13		
8:00 AM	83	46	3	9	129	9		
9:00 AM	49	36	5	13	85	13		
10:00 AM	36	36	11	6	72	11		
11:00 AM	54	68	5	8	122	8		
12:00 PM	64	56	1	10	120	10		
1:00 PM	60	39	4	6	99	6		
2:00 PM	58	46	1	5	104	5		
3:00 PM	72	44	3	3	116	3		
4:00 PM	70	84	7	7	154	7		
5:00 PM	70	83	1	6	153	6		
6:00 PM	77	54	5	8	131	8		
7:00 PM	58	48	2	9	106	9		
8:00 PM	43	22	1	6	65	6		
9:00 PM	31	29	1	9	60	9		
10:00 PM	20	20	2	7	40	7		
11:00 PM	13	14	0	3	27	3		

Figure 4C-3. Warrant 3, Peak Hour



Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: No **70%** N/A

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Met: No
Is this an unusual case? No **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: Continental Dr. & Saddle Rock Dr.
Major Street Name: Continental Dr.
Minor Street Name: Saddle Rock Dr
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: Continental Dr. & Saddle Rock Dr.
Major Street Name: Continental Dr.
Minor Street Name: Saddle Rock Dr
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: Continental Dr. & Saddle Rock Dr.
Major Street Name: Continental Dr.
Minor Street Name: Saddle Rock Dr

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: Continental Dr. & Saddle Rock Dr.
Major Street Name: Continental Dr.
Minor Street Name: Saddle Rock Dr
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 0
Warrant 7, Condition B met: N

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: N
80% conditions Condition B in Table 4C-1 met: N
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM			
8:00 AM			
9:00 AM			
10:00 AM			
11:00 AM			
12:00 PM			
1:00 PM			
2:00 PM			
3:00 PM			
4:00 PM			
5:00 PM			
6:00 PM			
7:00 PM			
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			
	0	0	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: Continental Dr. & Saddle Rock Dr.
Major Street Name: Continental Dr.
Minor Street Name: Saddle Rock Dr

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: Rocker and WB Off
Major Street Name: Rocker **No. of Lanes:** 2 or more
Minor Street Name: WB Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	35	31	0	48	66	48
1:00 AM	18	17	0	25	35	25
2:00 AM	18	18	0	20	36	20
3:00 AM	13	14	0	24	27	24
4:00 AM	16	24	0	24	40	24
5:00 AM	44	46	0	39	90	39
6:00 AM	62	62	0	72	124	72
7:00 AM	105	83	0	121	188	121
8:00 AM	147	106	0	180	253	180
9:00 AM	142	101	0	181	243	181
10:00 AM	155	128	0	188	283	188
11:00 AM	148	101	0	197	249	197
12:00 PM	159	115	0	212	274	212
1:00 PM	167	115	0	234	282	234
2:00 PM	159	107	0	252	266	252
3:00 PM	178	120	0	226	298	226
4:00 PM	186	112	0	236	298	236
5:00 PM	160	125	0	210	285	210
6:00 PM	119	109	0	174	228	174
7:00 PM	106	92	0	167	198	167
8:00 PM	91	89	0	116	180	116
9:00 PM	79	80	0	121	159	121
10:00 PM	66	59	0	80	125	80
11:00 PM	51	49	0	59	100	59

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM						
8:00 AM						
9:00 AM						
10:00 AM						
11:00 AM						
12:00 PM						
1:00 PM						
2:00 PM						
3:00 PM						
4:00 PM						
5:00 PM						
6:00 PM						
7:00 PM						
8:00 PM						
9:00 PM						
10:00 PM						
11:00 PM						
	0	0	0	0	0	0

Warrant 1, Condition A Met: No **70%:** N/A
Warrant 1, Condition B Met: No **70%:** N/A

Consider combination? Yes
Warrant 1, Combination Met: No **56%** No

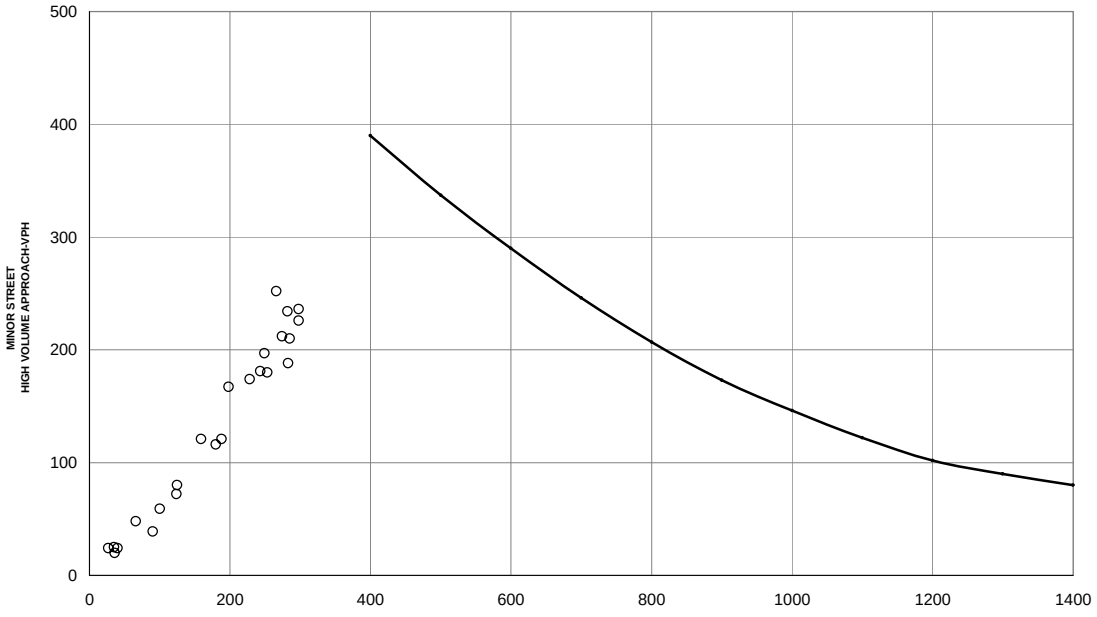
Warrant 1, Met: No

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: Rocker and WB Off
Major Street Name: Rocker **No. of Lanes:** 2 or more
Minor Street Name: WB Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	35	31	0	48	66	48		
1:00 AM	18	17	0	25	35	25		
2:00 AM	18	18	0	20	36	20		
3:00 AM	13	14	0	24	27	24		
4:00 AM	16	24	0	24	40	24		
5:00 AM	44	46	0	39	90	39		
6:00 AM	62	62	0	72	124	72		
7:00 AM	105	83	0	121	188	121		
8:00 AM	147	106	0	180	253	180		
9:00 AM	142	101	0	181	243	181		
10:00 AM	155	128	0	188	283	188		
11:00 AM	148	101	0	197	249	197		
12:00 PM	159	115	0	212	274	212		
1:00 PM	167	115	0	234	282	234		
2:00 PM	159	107	0	252	266	252		
3:00 PM	178	120	0	226	298	226		
4:00 PM	186	112	0	236	298	236		
5:00 PM	160	125	0	210	285	210		
6:00 PM	119	109	0	174	228	174		
7:00 PM	106	92	0	167	198	167		
8:00 PM	91	89	0	116	180	116		
9:00 PM	79	80	0	121	159	121		
10:00 PM	66	59	0	80	125	80		
11:00 PM	51	49	0	59	100	59		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% No **70%** N/A

Warrant 2, Met: No

Delay Study for Warrant 3

Intersection Name: Rocker and WB Off
Major Street Name: Rocker
Minor Street Name: WB Off
nber of Approaches: 4
Interval: _____ **Seconds**

Min/Sec	Number of Stopped Vehicles 0	Min/Sec	Number of Stopped Vehicles 0
0		0	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	
11		11	
12		12	
13		13	
14		14	
15		15	
16		16	
17		17	
18		18	
19		19	
20		20	
21		21	
22		22	
23		23	
24		24	
25		25	
26		26	
27		27	
28		28	
29		29	
30		30	
31		31	
32		32	
33		33	
34		34	
35		35	
36		36	
37		37	
38		38	
39		39	
40		40	
41		41	
42		42	
43		43	
44		44	
45		45	
46		46	
47		47	
48		48	
49		49	
50		50	
51		51	
52		52	
53		53	
54		54	
55		55	
56		56	
57		57	
58		58	
59		59	

Cars Served on Study Approach Interval No.	Cars Served at Intersection Interval No.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Cars Served on Study Approach Hourly Sum	Cars Served at Intersection Hourly Sum
1	1
2	2
3	3
4	4
5	5

Vehicles Stopped on Study Approach Hourly Totals

1
2
3
4
5

Total Number of Stopped Vehicles _____
Vehicles Served on Approach Leg _____

Stopped Delay _____ sec/veh
Stopped Delay _____ veh-hrs

Warrant 3, Peak Hour

Intersection Name: Rocker and WB Off
Major Street Name: Rocker **No. of Lanes:** 2 or more
Minor Street Name: WB Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

   Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

   Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

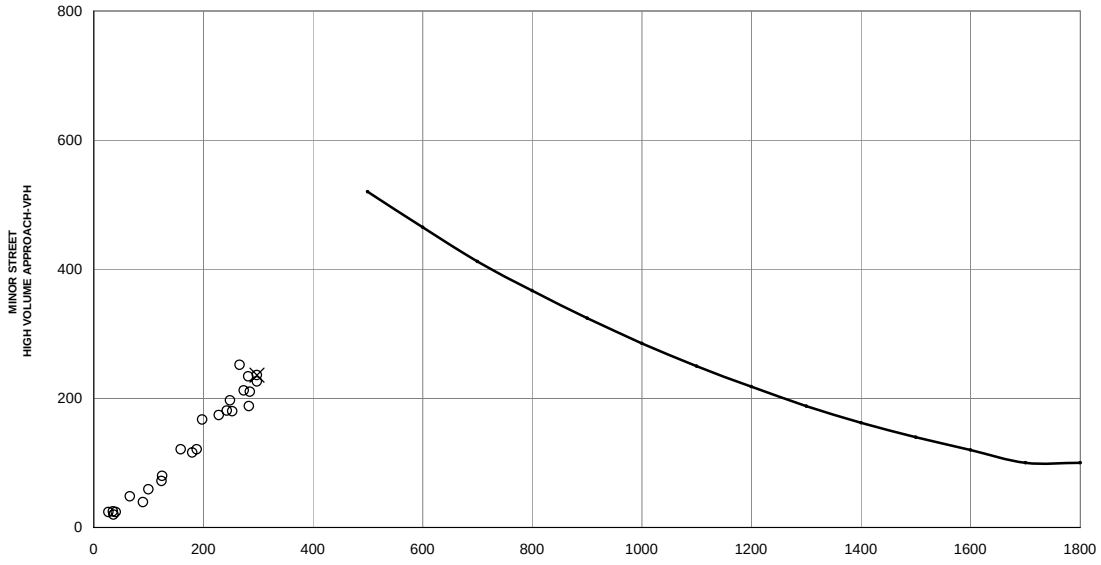
   Condition A-3 Met: N/A

Condition B:

	Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
	4:00p-5:00p	534	298	236		

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	35	31	0	48	66	48		
1:00 AM	18	17	0	25	35	25		
2:00 AM	18	18	0	20	36	20		
3:00 AM	13	14	0	24	27	24		
4:00 AM	16	24	0	24	40	24		
5:00 AM	44	46	0	39	90	39		
6:00 AM	62	62	0	72	124	72		
7:00 AM	105	83	0	121	188	121		
8:00 AM	147	106	0	180	253	180		
9:00 AM	142	101	0	181	243	181		
10:00 AM	155	128	0	188	283	188		
11:00 AM	148	101	0	197	249	197		
12:00 PM	159	115	0	212	274	212		
1:00 PM	167	115	0	234	282	234		
2:00 PM	159	107	0	252	266	252		
3:00 PM	178	120	0	226	298	226		
4:00 PM	186	112	0	236	298	236		
5:00 PM	160	125	0	210	285	210		
6:00 PM	119	109	0	174	228	174		
7:00 PM	106	92	0	167	198	167		
8:00 PM	91	89	0	116	180	116		
9:00 PM	79	80	0	121	159	121		
10:00 PM	66	59	0	80	125	80		
11:00 PM	51	49	0	59	100	59		

Figure 4C-3. Warrant 3, Peak Hour



Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: No **70%** N/A

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Met: No
Is this an unusual case? No **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: Rocker and WB Off
Major Street Name: Rocker
Minor Street Name: WB Off
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: Rocker and WB Off
Major Street Name: Rocker
Minor Street Name: WB Off
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: Rocker and WB Off
Major Street Name: Rocker
Minor Street Name: WB Off

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: Rocker and WB Off
Major Street Name: Rocker
Minor Street Name: WB Off
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 1
Warrant 7, Condition B met: N

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: N
80% conditions Condition B in Table 4C-1 met: N
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM			
8:00 AM			
9:00 AM			
10:00 AM			
11:00 AM			
12:00 PM			
1:00 PM			
2:00 PM			
3:00 PM			
4:00 PM			
5:00 PM			
6:00 PM			
7:00 PM			
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			
	0	0	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: Rocker and WB Off
Major Street Name: Rocker
Minor Street Name: WB Off

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: Montana Street & WB Off Ramp
Major Street Name: Montana St **No. of Lanes:** 2 or more
Minor Street Name: WB Off Ramp **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	56	53	0	23	109	23
1:00 AM	31	28	0	12	59	12
2:00 AM	26	19	0	9	45	9
3:00 AM	19	18	0	14	37	14
4:00 AM	48	29	0	15	77	15
5:00 AM	102	90	0	43	192	43
6:00 AM	197	232	0	101	429	101
7:00 AM	367	479	0	211	846	211
8:00 AM	435	570	0	245	1005	245
9:00 AM	430	450	0	174	880	174
10:00 AM	457	445	0	149	902	149
11:00 AM	592	463	0	137	1055	137
12:00 PM	575	512	0	169	1087	169
1:00 PM	587	585	0	183	1172	183
2:00 PM	629	582	0	184	1211	184
3:00 PM	674	556	0	170	1230	170
4:00 PM	714	595	0	205	1309	205
5:00 PM	761	583	0	223	1344	223
6:00 PM	506	482	0	192	988	192
7:00 PM	372	394	0	126	766	126
8:00 PM	308	322	0	115	630	115
9:00 PM	244	243	0	90	487	90
10:00 PM	190	183	0	77	373	77
11:00 PM	116	106	0	52	222	52

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM	✔					
8:00 AM	✔		✔			
9:00 AM						
10:00 AM			✔			
11:00 AM			✔			
12:00 PM			✔			
1:00 PM			✔			
2:00 PM			✔			
3:00 PM			✔			
4:00 PM	✔		✔			
5:00 PM	✔		✔			
6:00 PM			✔			
7:00 PM						
8:00 PM						
9:00 PM						
10:00 PM						
11:00 PM						
	4	0	10	0	0	0

Warrant 1, Condition A Met: No **70%:** N/A
Warrant 1, Condition B Met: Yes **70%:** N/A

Consider combination? See Note 1
Warrant 1, Combination Met: N/A **56%** N/A

Note 1: Not considered because either Condition A or B is already met.

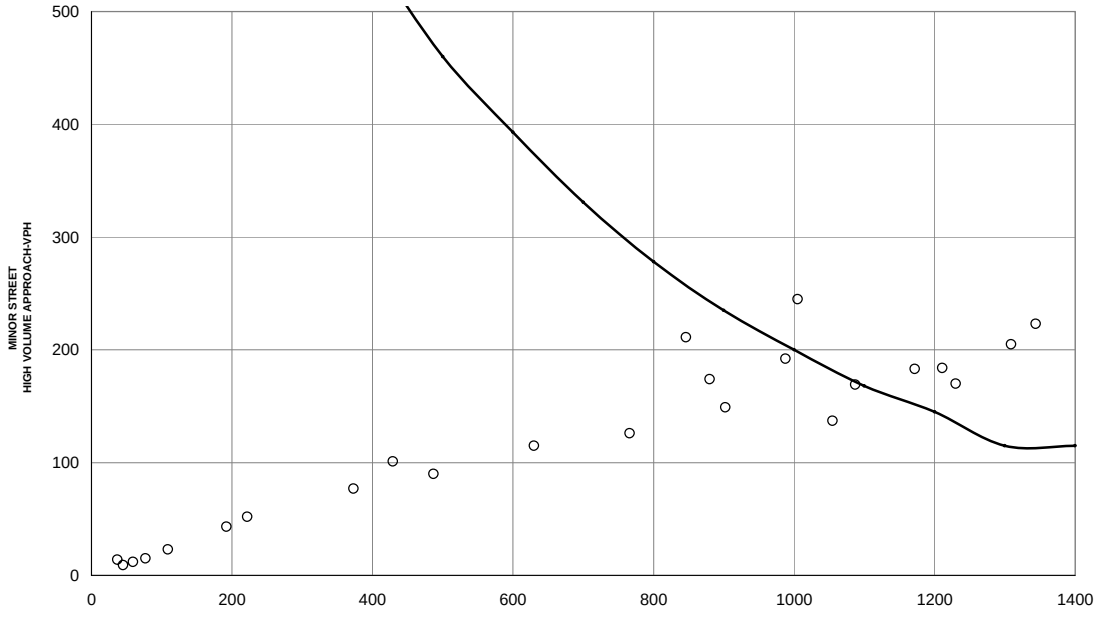
Warrant 1, Met: Yes

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: Montana Street & WB Off Ramp
Major Street Name: Montana St **No. of Lanes:** 2 or more
Minor Street Name: WB Off Ramp **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	56	53	0	23	109	23		
1:00 AM	31	28	0	12	59	12		
2:00 AM	26	19	0	9	45	9		
3:00 AM	19	18	0	14	37	14		
4:00 AM	48	29	0	15	77	15		
5:00 AM	102	90	0	43	192	43		
6:00 AM	197	232	0	101	429	101		
7:00 AM	367	479	0	211	846	211		
8:00 AM	435	570	0	245	1005	245	✔	
9:00 AM	430	450	0	174	880	174		
10:00 AM	457	445	0	149	902	149		
11:00 AM	592	463	0	137	1055	137		
12:00 PM	575	512	0	169	1087	169		
1:00 PM	587	585	0	183	1172	183	✔	
2:00 PM	629	582	0	184	1211	184	✔	
3:00 PM	674	556	0	170	1230	170	✔	
4:00 PM	714	595	0	205	1309	205	✔	
5:00 PM	761	583	0	223	1344	223	✔	
6:00 PM	506	482	0	192	988	192		
7:00 PM	372	394	0	126	766	126		
8:00 PM	308	322	0	115	630	115		
9:00 PM	244	243	0	90	487	90		
10:00 PM	190	183	0	77	373	77		
11:00 PM	116	106	0	52	222	52		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% Yes **70%** N/A

Warrant 2, Met: Yes

Delay Study for Warrant 3

Intersection Name: Montana Street & WB Off Ramp
Major Street Name: Montana St
Minor Street Name: WB Off Ramp
nber of Approaches: 4
Interval: _____ **Seconds**

Min/Sec	Number of Stopped Vehicles 0	Min/Sec	Number of Stopped Vehicles 0
0		0	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	
11		11	
12		12	
13		13	
14		14	
15		15	
16		16	
17		17	
18		18	
19		19	
20		20	
21		21	
22		22	
23		23	
24		24	
25		25	
26		26	
27		27	
28		28	
29		29	
30		30	
31		31	
32		32	
33		33	
34		34	
35		35	
36		36	
37		37	
38		38	
39		39	
40		40	
41		41	
42		42	
43		43	
44		44	
45		45	
46		46	
47		47	
48		48	
49		49	
50		50	
51		51	
52		52	
53		53	
54		54	
55		55	
56		56	
57		57	
58		58	
59		59	

Cars Served on Study Approach Interval No.	Cars Served at Intersection Interval No.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Cars Served on Study Approach Hourly Sum	Cars Served at Intersection Hourly Sum
1	1
2	2
3	3
4	4
5	5

Vehicles Stopped on Study Approach Hourly Totals

1
2
3
4
5

Total Number of Stopped Vehicles _____
Vehicles Served on Approach Leg _____

Stopped Delay _____ sec/veh
Stopped Delay _____ veh-hrs

Warrant 3, Peak Hour

Intersection Name: Montana Street & WB Off Ramp
Major Street Name: Montana St **No. of Lanes:** 2 or more
Minor Street Name: WB Off Ramp **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

   Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

   Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

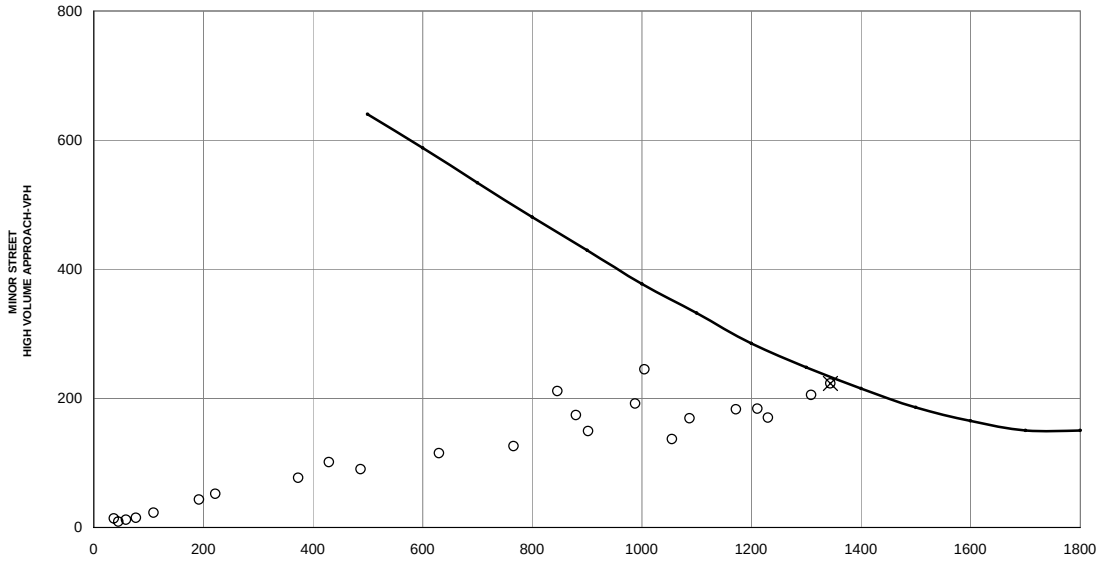
   Condition A-3 Met: N/A

Condition B:

	Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
	5:00p-6:00p	1567	1344	223		

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	56	53	0	23	109	23		
1:00 AM	31	28	0	12	59	12		
2:00 AM	26	19	0	9	45	9		
3:00 AM	19	18	0	14	37	14		
4:00 AM	48	29	0	15	77	15		
5:00 AM	102	90	0	43	192	43		
6:00 AM	197	232	0	101	429	101		
7:00 AM	367	479	0	211	846	211		
8:00 AM	435	570	0	245	1005	245		
9:00 AM	430	450	0	174	880	174		
10:00 AM	457	445	0	149	902	149		
11:00 AM	592	463	0	137	1055	137		
12:00 PM	575	512	0	169	1087	169		
1:00 PM	587	585	0	183	1172	183		
2:00 PM	629	582	0	184	1211	184		
3:00 PM	674	556	0	170	1230	170		
4:00 PM	714	595	0	205	1309	205		
5:00 PM	761	583	0	223	1344	223		
6:00 PM	506	482	0	192	988	192		
7:00 PM	372	394	0	126	766	126		
8:00 PM	308	322	0	115	630	115		
9:00 PM	244	243	0	90	487	90		
10:00 PM	190	183	0	77	373	77		
11:00 PM	116	106	0	52	222	52		

Figure 4C-3. Warrant 3, Peak Hour



Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: No **70%** N/A

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Met: No
Is this an unusual case? No **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: Montana Street & WB Off Ramp
Major Street Name: Montana St
Minor Street Name: WB Off Ramp
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: Montana Street & WB Off Ramp
Major Street Name: Montana St
Minor Street Name: WB Off Ramp
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: Montana Street & WB Off Ramp
Major Street Name: Montana St
Minor Street Name: WB Off Ramp

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: Montana Street & WB Off Ramp
Major Street Name: Montana St
Minor Street Name: WB Off Ramp
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 2
Warrant 7, Condition B met: N

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: Y
80% conditions Condition B in Table 4C-1 met: Y
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM	✔	✔	
8:00 AM	✔	✔	
9:00 AM	✔	✔	
10:00 AM		✔	
11:00 AM		✔	
12:00 PM	✔	✔	
1:00 PM	✔	✔	
2:00 PM	✔	✔	
3:00 PM	✔	✔	
4:00 PM	✔	✔	
5:00 PM	✔	✔	
6:00 PM	✔	✔	
7:00 PM		✔	
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			
	10	13	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: Montana Street & WB Off Ramp
Major Street Name: Montana St
Minor Street Name: WB Off Ramp

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: Montana Street & EB Off Ramp
Major Street Name: Montana St **No. of Lanes:** 2 or more
Minor Street Name: EB Off Ramp **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	56	50	15	0	106	15
1:00 AM	31	27	15	0	58	15
2:00 AM	26	17	14	0	43	14
3:00 AM	19	21	11	0	40	11
4:00 AM	48	35	19	0	83	19
5:00 AM	102	97	25	0	199	25
6:00 AM	197	198	52	0	395	52
7:00 AM	367	380	90	0	747	90
8:00 AM	435	429	98	0	864	98
9:00 AM	430	377	97	0	807	97
10:00 AM	457	384	103	0	841	103
11:00 AM	592	351	115	0	943	115
12:00 PM	575	508	101	0	1083	101
1:00 PM	587	501	101	0	1088	101
2:00 PM	629	497	129	0	1126	129
3:00 PM	674	502	129	0	1176	129
4:00 PM	714	506	147	0	1220	147
5:00 PM	761	512	134	0	1273	134
6:00 PM	506	400	93	0	906	93
7:00 PM	372	340	63	0	712	63
8:00 PM	308	278	59	0	586	59
9:00 PM	244	216	35	0	460	35
10:00 PM	190	140	34	0	330	34
11:00 PM	116	78	27	0	194	27

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM						
8:00 AM						
9:00 AM						
10:00 AM						
11:00 AM			✔			
12:00 PM			✔			
1:00 PM			✔			
2:00 PM			✔			
3:00 PM			✔			
4:00 PM			✔			
5:00 PM			✔			
6:00 PM						
7:00 PM						
8:00 PM						
9:00 PM						
10:00 PM						
11:00 PM						
	0	0	7	0	0	0

Warrant 1, Condition A Met: No **70%:** N/A
Warrant 1, Condition B Met: No **70%:** N/A

Consider combination? Yes
Warrant 1, Combination Met: No **56%** No

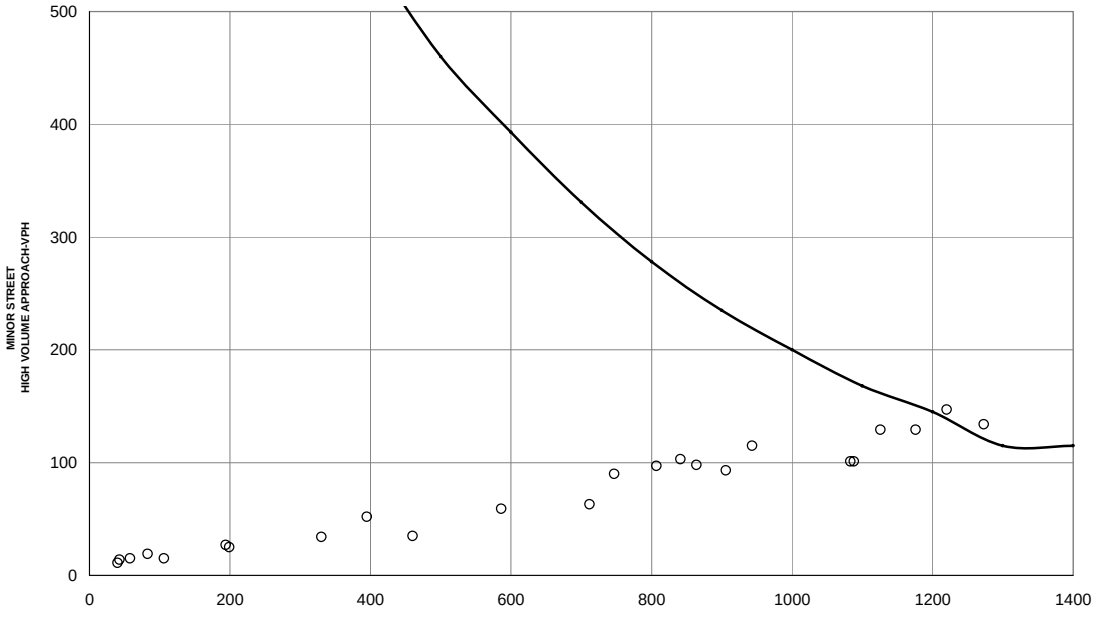
Warrant 1, Met: No

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: Montana Street & EB Off Ramp
Major Street Name: Montana St **No. of Lanes:** 2 or more
Minor Street Name: EB Off Ramp **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	56	50	15	0	106	15		
1:00 AM	31	27	15	0	58	15		
2:00 AM	26	17	14	0	43	14		
3:00 AM	19	21	11	0	40	11		
4:00 AM	48	35	19	0	83	19		
5:00 AM	102	97	25	0	199	25		
6:00 AM	197	198	52	0	395	52		
7:00 AM	367	380	90	0	747	90		
8:00 AM	435	429	98	0	864	98		
9:00 AM	430	377	97	0	807	97		
10:00 AM	457	384	103	0	841	103		
11:00 AM	592	351	115	0	943	115		
12:00 PM	575	508	101	0	1083	101		
1:00 PM	587	501	101	0	1088	101		
2:00 PM	629	497	129	0	1126	129		
3:00 PM	674	502	129	0	1176	129		
4:00 PM	714	506	147	0	1220	147	✔	
5:00 PM	761	512	134	0	1273	134	✔	
6:00 PM	506	400	93	0	906	93		
7:00 PM	372	340	63	0	712	63		
8:00 PM	308	278	59	0	586	59		
9:00 PM	244	216	35	0	460	35		
10:00 PM	190	140	34	0	330	34		
11:00 PM	116	78	27	0	194	27		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% No **70%** N/A

Warrant 2, Met: No

Delay Study for Warrant 3

Intersection Name: Montana Street & EB Off Ramp
Major Street Name: Montana St
Minor Street Name: EB Off Ramp
nber of Approaches: 4
Interval: _____ **Seconds**

Number of Stopped Vehicles		Number of Stopped Vehicles		Cars Served on Study Approach		Cars Served at Intersection	
Min/Sec	0	Min/Sec	0	Interval	No.	Interval	No.
0		0		1		1	
1		1		2		2	
2		2		3		3	
3		3		4		4	
4		4		5		5	
5		5		6		6	
6		6		7		7	
7		7		8		8	
8		8					
9		9		Cars Served		Cars Served	
10		10		on Study Approach		at Intersection	
11		11		Hourly Sum		Hourly Sum	
12		12		1		1	
13		13		2		2	
14		14		3		3	
15		15		4		4	
16		16		5		5	
17		17					
18		18		Vehicles Stopped			
19		19		on Study Approach			
20		20		Hourly Totals			
21		21		1			
22		22		2			
23		23		3			
24		24		4			
25		25		5			
26		26					
27		27					
28		28		Total Number of Stopped Vehicles			
29		29		Vehicles Served on Approach Leg			
30		30					
31		31					
32		32		Stopped Delay		sec/veh	
33		33		Stopped Delay		veh-hrs	
34		34					
35		35					
36		36					
37		37					
38		38					
39		39					
40		40					
41		41					
42		42					
43		43					
44		44					
45		45					
46		46					
47		47					
48		48					
49		49					
50		50					
51		51					
52		52					
53		53					
54		54					
55		55					
56		56					
57		57					
58		58					
59		59					

Warrant 3, Peak Hour

Intersection Name: Montana Street & EB Off Ramp
Major Street Name: Montana St **No. of Lanes:** 2 or more
Minor Street Name: EB Off Ramp **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

   Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

   Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

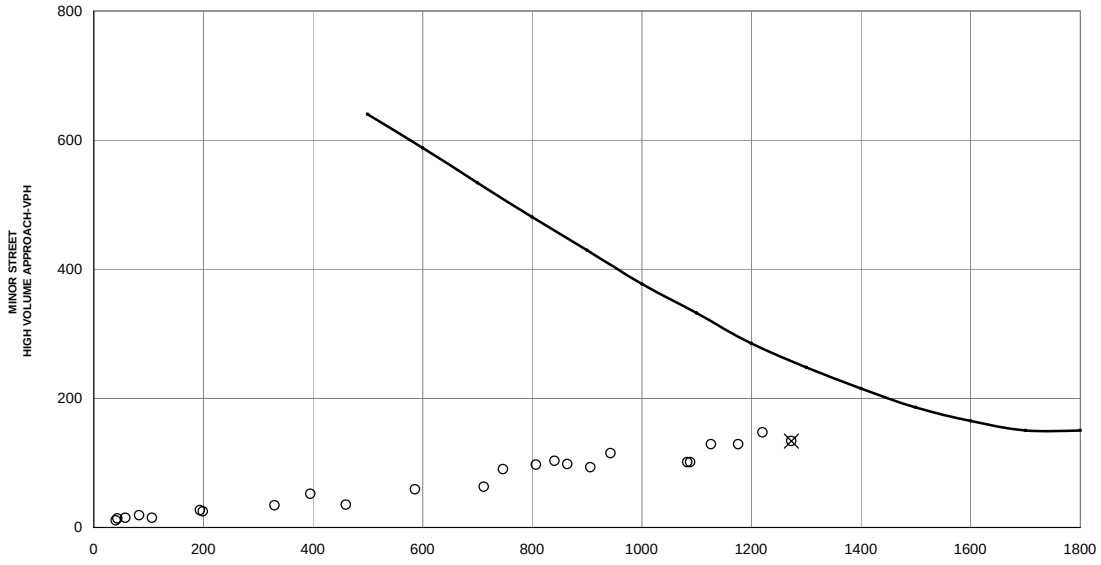
   Condition A-3 Met: N/A

Condition B:

	Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
	5:00p-6:00p	1407	1273	134		

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	56	50	15	0	106	15		
1:00 AM	31	27	15	0	58	15		
2:00 AM	26	17	14	0	43	14		
3:00 AM	19	21	11	0	40	11		
4:00 AM	48	35	19	0	83	19		
5:00 AM	102	97	25	0	199	25		
6:00 AM	197	198	52	0	395	52		
7:00 AM	367	380	90	0	747	90		
8:00 AM	435	429	98	0	864	98		
9:00 AM	430	377	97	0	807	97		
10:00 AM	457	384	103	0	841	103		
11:00 AM	592	351	115	0	943	115		
12:00 PM	575	508	101	0	1083	101		
1:00 PM	587	501	101	0	1088	101		
2:00 PM	629	497	129	0	1126	129		
3:00 PM	674	502	129	0	1176	129		
4:00 PM	714	506	147	0	1220	147		
5:00 PM	761	512	134	0	1273	134		
6:00 PM	506	400	93	0	906	93		
7:00 PM	372	340	63	0	712	63		
8:00 PM	308	278	59	0	586	59		
9:00 PM	244	216	35	0	460	35		
10:00 PM	190	140	34	0	330	34		
11:00 PM	116	78	27	0	194	27		

Figure 4C-3. Warrant 3, Peak Hour



Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: No **70%** N/A

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Met: No
Is this an unusual case? No **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: Montana Street & EB Off Ramp
Major Street Name: Montana St
Minor Street Name: EB Off Ramp
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: Montana Street & EB Off Ramp
Major Street Name: Montana St
Minor Street Name: EB Off Ramp
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: Montana Street & EB Off Ramp
Major Street Name: Montana St
Minor Street Name: EB Off Ramp

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: Montana Street & EB Off Ramp
Major Street Name: Montana St
Minor Street Name: EB Off Ramp
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 4
Warrant 7, Condition B met: N

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: N
80% conditions Condition B in Table 4C-1 met: Y
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM		✔	
8:00 AM		✔	
9:00 AM		✔	
10:00 AM		✔	
11:00 AM		✔	
12:00 PM		✔	
1:00 PM		✔	
2:00 PM		✔	
3:00 PM		✔	
4:00 PM		✔	
5:00 PM		✔	
6:00 PM		✔	
7:00 PM			
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			
	0	12	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: Montana Street & EB Off Ramp
Major Street Name: Montana St
Minor Street Name: EB Off Ramp

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: Rocker & Nissler/Grizzly
Major Street Name: Rocker **No. of Lanes:** 2 or more
Minor Street Name: Nissler/Grizzly **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	35	31	18	5	66	18
1:00 AM	18	17	16	6	35	16
2:00 AM	18	18	13	5	36	13
3:00 AM	13	14	16	2	27	16
4:00 AM	16	24	20	3	40	20
5:00 AM	44	46	28	6	90	28
6:00 AM	62	62	43	21	124	43
7:00 AM	105	83	64	35	188	64
8:00 AM	147	106	68	25	253	68
9:00 AM	142	101	61	26	243	61
10:00 AM	155	128	62	32	283	62
11:00 AM	148	101	60	20	249	60
12:00 PM	159	115	69	32	274	69
1:00 PM	167	115	67	35	282	67
2:00 PM	159	107	57	37	266	57
3:00 PM	178	120	60	38	298	60
4:00 PM	186	112	55	35	298	55
5:00 PM	160	125	59	38	285	59
6:00 PM	119	109	51	37	228	51
7:00 PM	106	92	36	27	198	36
8:00 PM	91	89	38	20	180	38
9:00 PM	79	80	40	20	159	40
10:00 PM	66	59	33	16	125	33
11:00 PM	51	49	26	8	100	26

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM						
8:00 AM						
9:00 AM						
10:00 AM						
11:00 AM						
12:00 PM						
1:00 PM						
2:00 PM						
3:00 PM						
4:00 PM						
5:00 PM						
6:00 PM						
7:00 PM						
8:00 PM						
9:00 PM						
10:00 PM						
11:00 PM						
	0	0	0	0	0	0

Warrant 1, Condition A Met: No **70%:** N/A
Warrant 1, Condition B Met: No **70%:** N/A

Consider combination? Yes
Warrant 1, Combination Met: No **56%** No

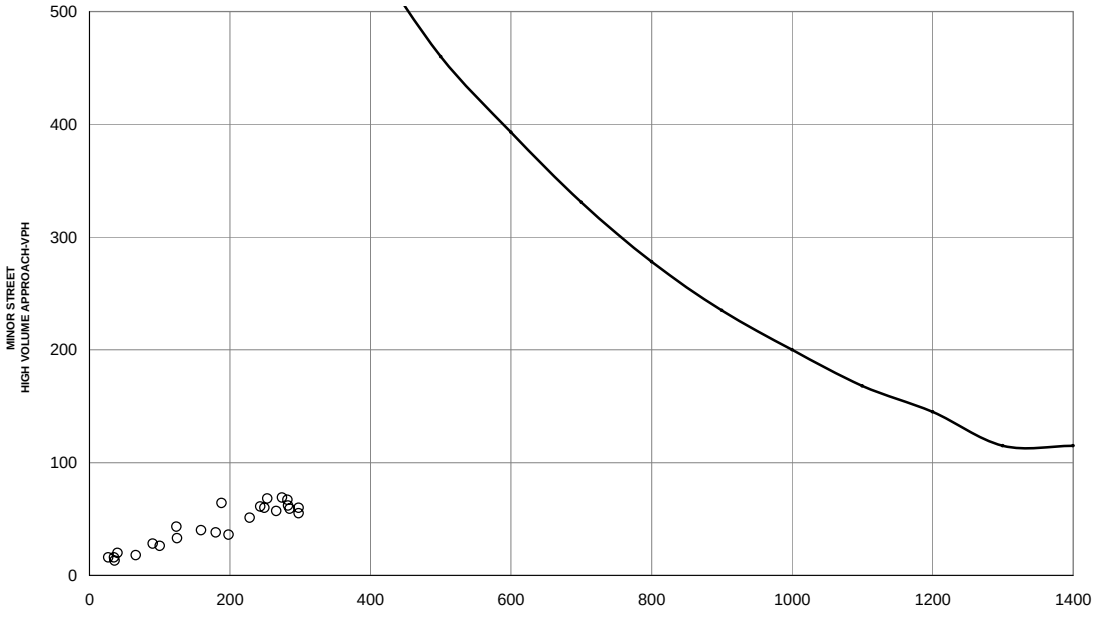
Warrant 1, Met: No

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: Rocker & Nissler/Grizzly
Major Street Name: Rocker **No. of Lanes:** 2 or more
Minor Street Name: Nissler/Grizzly **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	35	31	18	5	66	18		
1:00 AM	18	17	16	6	35	16		
2:00 AM	18	18	13	5	36	13		
3:00 AM	13	14	16	2	27	16		
4:00 AM	16	24	20	3	40	20		
5:00 AM	44	46	28	6	90	28		
6:00 AM	62	62	43	21	124	43		
7:00 AM	105	83	64	35	188	64		
8:00 AM	147	106	68	25	253	68		
9:00 AM	142	101	61	26	243	61		
10:00 AM	155	128	62	32	283	62		
11:00 AM	148	101	60	20	249	60		
12:00 PM	159	115	69	32	274	69		
1:00 PM	167	115	67	35	282	67		
2:00 PM	159	107	57	37	266	57		
3:00 PM	178	120	60	38	298	60		
4:00 PM	186	112	55	35	298	55		
5:00 PM	160	125	59	38	285	59		
6:00 PM	119	109	51	37	228	51		
7:00 PM	106	92	36	27	198	36		
8:00 PM	91	89	38	20	180	38		
9:00 PM	79	80	40	20	159	40		
10:00 PM	66	59	33	16	125	33		
11:00 PM	51	49	26	8	100	26		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% No **70%** N/A

Warrant 2, Met: No

Delay Study for Warrant 3

Intersection Name: Rocker & Nissler/Grizzly
Major Street Name: Rocker
Minor Street Name: Nissler/Grizzly
nber of Approaches: 4
Interval: _____ **Seconds**

Min/Sec	Number of Stopped Vehicles 0	Min/Sec	Number of Stopped Vehicles 0
0		0	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	
11		11	
12		12	
13		13	
14		14	
15		15	
16		16	
17		17	
18		18	
19		19	
20		20	
21		21	
22		22	
23		23	
24		24	
25		25	
26		26	
27		27	
28		28	
29		29	
30		30	
31		31	
32		32	
33		33	
34		34	
35		35	
36		36	
37		37	
38		38	
39		39	
40		40	
41		41	
42		42	
43		43	
44		44	
45		45	
46		46	
47		47	
48		48	
49		49	
50		50	
51		51	
52		52	
53		53	
54		54	
55		55	
56		56	
57		57	
58		58	
59		59	

Cars Served on Study Approach Interval No.	Cars Served at Intersection Interval No.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Cars Served on Study Approach Hourly Sum	Cars Served at Intersection Hourly Sum
1	1
2	2
3	3
4	4
5	5

Vehicles Stopped on Study Approach Hourly Totals

1
2
3
4
5

Total Number of Stopped Vehicles _____
Vehicles Served on Approach Leg _____

Stopped Delay _____ sec/veh
Stopped Delay _____ veh-hrs

Warrant 3, Peak Hour

Intersection Name: Rocker & Nissler/Grizzly
Major Street Name: Rocker **No. of Lanes:** 2 or more
Minor Street Name: Nissler/Grizzly **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

   Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

   Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

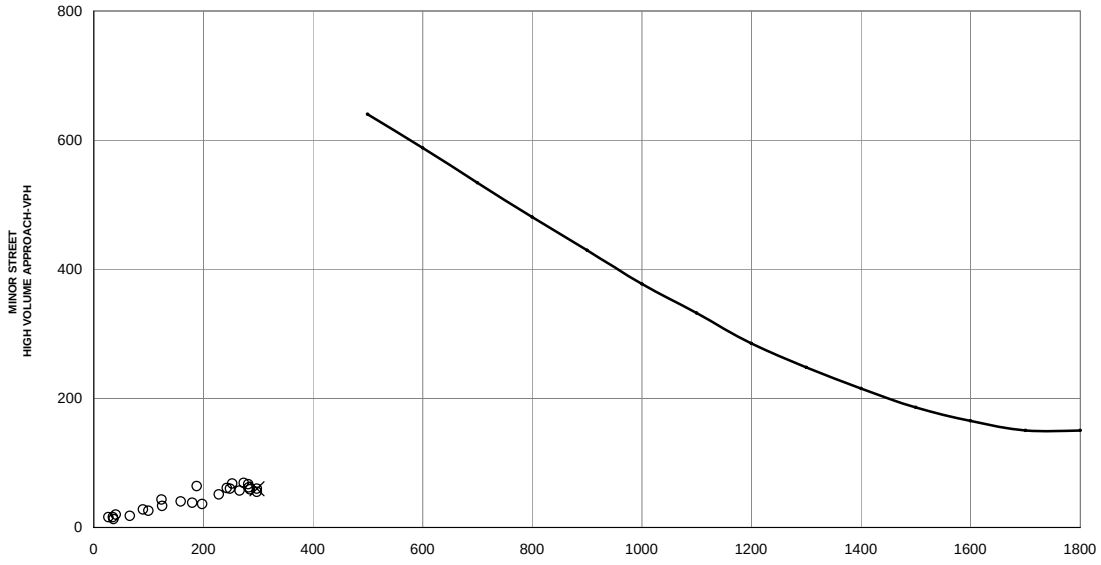
   Condition A-3 Met: N/A

Condition B:

	Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
	3:00p-4:00p	396	298	60		

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	35	31	18	5	66	18		
1:00 AM	18	17	16	6	35	16		
2:00 AM	18	18	13	5	36	13		
3:00 AM	13	14	16	2	27	16		
4:00 AM	16	24	20	3	40	20		
5:00 AM	44	46	28	6	90	28		
6:00 AM	62	62	43	21	124	43		
7:00 AM	105	83	64	35	188	64		
8:00 AM	147	106	68	25	253	68		
9:00 AM	142	101	61	26	243	61		
10:00 AM	155	128	62	32	283	62		
11:00 AM	148	101	60	20	249	60		
12:00 PM	159	115	69	32	274	69		
1:00 PM	167	115	67	35	282	67		
2:00 PM	159	107	57	37	266	57		
3:00 PM	178	120	60	38	298	60		
4:00 PM	186	112	55	35	298	55		
5:00 PM	160	125	59	38	285	59		
6:00 PM	119	109	51	37	228	51		
7:00 PM	106	92	36	27	198	36		
8:00 PM	91	89	38	20	180	38		
9:00 PM	79	80	40	20	159	40		
10:00 PM	66	59	33	16	125	33		
11:00 PM	51	49	26	8	100	26		

Figure 4C-3. Warrant 3, Peak Hour



Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: No **70%** N/A

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Met: No
Is this an unusual case? No **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: Rocker & Nissler/Grizzly
Major Street Name: Rocker
Minor Street Name: Nissler/Grizzly
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: Rocker & Nissler/Grizzly
Major Street Name: Rocker
Minor Street Name: Nissler/Grizzly
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: Rocker & Nissler/Grizzly
Major Street Name: Rocker
Minor Street Name: Nissler/Grizzly

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: Rocker & Nissler/Grizzly
Major Street Name: Rocker
Minor Street Name: Nissler/Grizzly
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 2
Warrant 7, Condition B met: N

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: N
80% conditions Condition B in Table 4C-1 met: N
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM			
8:00 AM			
9:00 AM			
10:00 AM			
11:00 AM			
12:00 PM			
1:00 PM			
2:00 PM			
3:00 PM			
4:00 PM			
5:00 PM			
6:00 PM			
7:00 PM			
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			
	0	0	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: Rocker & Nissler/Grizzly
Major Street Name: Rocker
Minor Street Name: Nissler/Grizzly

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: Mt. Highland & Continental Dr.
Major Street Name: Mt. Highland **No. of Lanes:** 2 or more
Minor Street Name: Continental Dr. **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	3	7	4	6	10	6
1:00 AM	6	6	3	3	12	3
2:00 AM	3	6	3	3	9	3
3:00 AM	11	5	1	1	16	1
4:00 AM	11	5	5	3	16	5
5:00 AM	24	11	23	22	35	23
6:00 AM	37	26	41	36	63	41
7:00 AM	70	46	104	57	116	104
8:00 AM	116	46	97	73	162	97
9:00 AM	54	36	77	44	90	77
10:00 AM	79	36	53	64	115	64
11:00 AM	92	68	43	79	160	79
12:00 PM	70	56	57	64	126	64
1:00 PM	88	39	43	64	127	64
2:00 PM	86	46	68	77	132	77
3:00 PM	95	44	52	137	139	137
4:00 PM	98	84	64	92	182	92
5:00 PM	104	83	58	140	187	140
6:00 PM	80	54	65	92	134	92
7:00 PM	73	48	82	68	121	82
8:00 PM	60	22	36	60	82	60
9:00 PM	32	29	35	58	61	58
10:00 PM	33	20	28	57	53	57
11:00 PM	9	14	10	11	23	11

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM						
8:00 AM						
9:00 AM						
10:00 AM						
11:00 AM						
12:00 PM						
1:00 PM						
2:00 PM						
3:00 PM						
4:00 PM						
5:00 PM						
6:00 PM						
7:00 PM						
8:00 PM						
9:00 PM						
10:00 PM						
11:00 PM						
	0	0	0	0	0	0

Warrant 1, Condition A Met: No **70%:** N/A
Warrant 1, Condition B Met: No **70%:** N/A

Consider combination? Yes
Warrant 1, Combination Met: No **56%** No

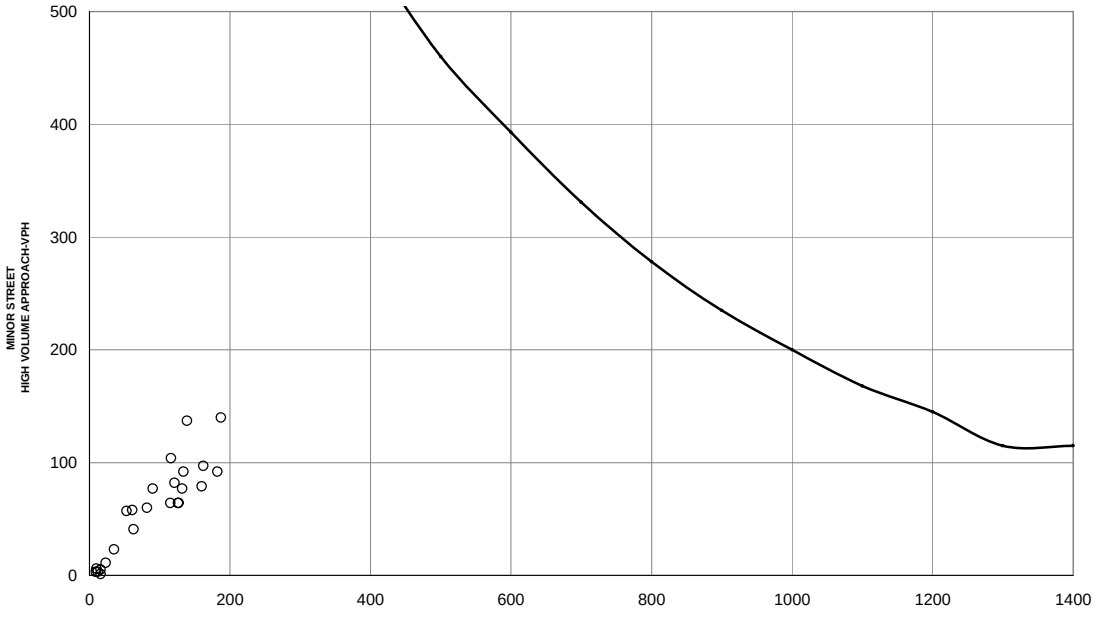
Warrant 1, Met: No

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: Mt. Highland & Continental Dr.
Major Street Name: Mt. Highland **No. of Lanes:** 2 or more
Minor Street Name: Continental Dr. **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	3	7	4	6	10	6		
1:00 AM	6	6	3	3	12	3		
2:00 AM	3	6	3	3	9	3		
3:00 AM	11	5	1	1	16	1		
4:00 AM	11	5	5	3	16	5		
5:00 AM	24	11	23	22	35	23		
6:00 AM	37	26	41	36	63	41		
7:00 AM	70	46	104	57	116	104		
8:00 AM	116	46	97	73	162	97		
9:00 AM	54	36	77	44	90	77		
10:00 AM	79	36	53	64	115	64		
11:00 AM	92	68	43	79	160	79		
12:00 PM	70	56	57	64	126	64		
1:00 PM	88	39	43	64	127	64		
2:00 PM	86	46	68	77	132	77		
3:00 PM	95	44	52	137	139	137		
4:00 PM	98	84	64	92	182	92		
5:00 PM	104	83	58	140	187	140		
6:00 PM	80	54	65	92	134	92		
7:00 PM	73	48	82	68	121	82		
8:00 PM	60	22	36	60	82	60		
9:00 PM	32	29	35	58	61	58		
10:00 PM	33	20	28	57	53	57		
11:00 PM	9	14	10	11	23	11		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% No **70%** N/A

Warrant 2, Met: No

Delay Study for Warrant 3

Intersection Name: Mt. Highland & Continental Dr.
Major Street Name: Mt. Highland
Minor Street Name: Continental Dr.
nber of Approaches: 4
Interval: _____ **Seconds**

Min/Sec	Number of Stopped Vehicles 0	Min/Sec	Number of Stopped Vehicles 0
0		0	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	
11		11	
12		12	
13		13	
14		14	
15		15	
16		16	
17		17	
18		18	
19		19	
20		20	
21		21	
22		22	
23		23	
24		24	
25		25	
26		26	
27		27	
28		28	
29		29	
30		30	
31		31	
32		32	
33		33	
34		34	
35		35	
36		36	
37		37	
38		38	
39		39	
40		40	
41		41	
42		42	
43		43	
44		44	
45		45	
46		46	
47		47	
48		48	
49		49	
50		50	
51		51	
52		52	
53		53	
54		54	
55		55	
56		56	
57		57	
58		58	
59		59	

Cars Served on Study Approach Interval No.	Cars Served at Intersection Interval No.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Cars Served on Study Approach Hourly Sum	Cars Served at Intersection Hourly Sum
1	1
2	2
3	3
4	4
5	5

Vehicles Stopped on Study Approach Hourly Totals
1
2
3
4
5

Total Number of Stopped Vehicles _____
Vehicles Served on Approach Leg _____

Stopped Delay _____ sec/veh
Stopped Delay _____ veh-hrs

Warrant 3, Peak Hour

Intersection Name: Mt. Highland & Continental Dr.
Major Street Name: Mt. Highland **No. of Lanes:** 2 or more
Minor Street Name: Continental Dr. **No. of Lanes:** 2 or more
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

   Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

   Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

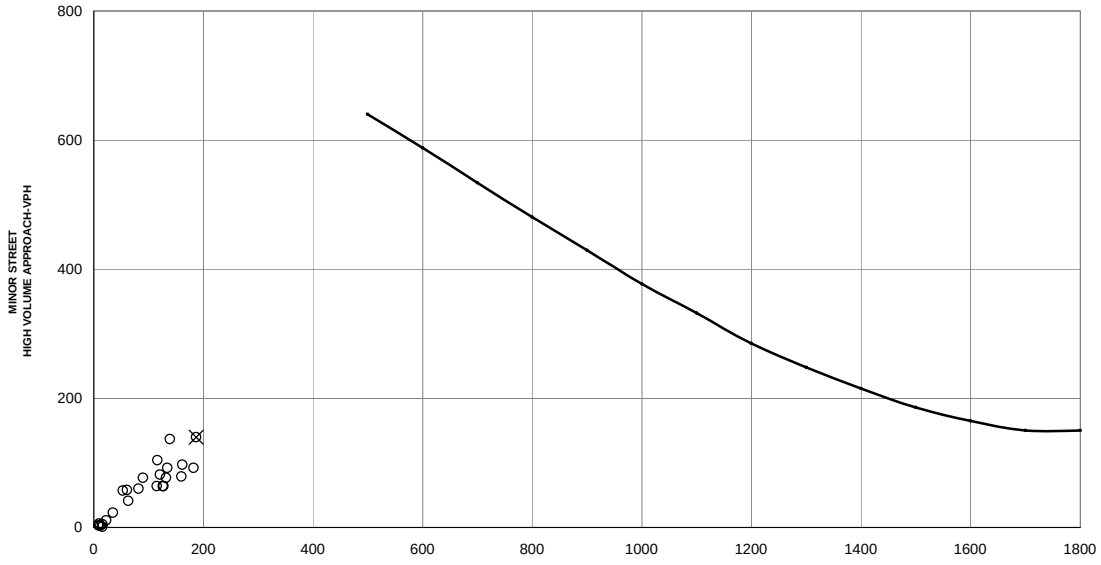
   Condition A-3 Met: N/A

Condition B:

	Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
	5:00p-6:00p	385	187	140		

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	3	7	4	6	10	6		
1:00 AM	6	6	3	3	12	3		
2:00 AM	3	6	3	3	9	3		
3:00 AM	11	5	1	1	16	1		
4:00 AM	11	5	5	3	16	5		
5:00 AM	24	11	23	22	35	23		
6:00 AM	37	26	41	36	63	41		
7:00 AM	70	46	104	57	116	104		
8:00 AM	116	46	97	73	162	97		
9:00 AM	54	36	77	44	90	77		
10:00 AM	79	36	53	64	115	64		
11:00 AM	92	68	43	79	160	79		
12:00 PM	70	56	57	64	126	64		
1:00 PM	88	39	43	64	127	64		
2:00 PM	86	46	68	77	132	77		
3:00 PM	95	44	52	137	139	137		
4:00 PM	98	84	64	92	182	92		
5:00 PM	104	83	58	140	187	140		
6:00 PM	80	54	65	92	134	92		
7:00 PM	73	48	82	68	121	82		
8:00 PM	60	22	36	60	82	60		
9:00 PM	32	29	35	58	61	58		
10:00 PM	33	20	28	57	53	57		
11:00 PM	9	14	10	11	23	11		

Figure 4C-3. Warrant 3, Peak Hour



Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: No **70%** N/A

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Met: No
Is this an unusual case? No **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: Mt. Highland & Continental Dr.
Major Street Name: Mt. Highland
Minor Street Name: Continental Dr.
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: Mt. Highland & Continental Dr.
Major Street Name: Mt. Highland
Minor Street Name: Continental Dr.
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: Mt. Highland & Continental Dr.
Major Street Name: Mt. Highland
Minor Street Name: Continental Dr.

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: Mt. Highland & Continental Dr.
Major Street Name: Mt. Highland
Minor Street Name: Continental Dr.
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 1
Warrant 7, Condition B met: N

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: N
80% conditions Condition B in Table 4C-1 met: N
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM			
8:00 AM			
9:00 AM			
10:00 AM			
11:00 AM			
12:00 PM			
1:00 PM			
2:00 PM			
3:00 PM			
4:00 PM			
5:00 PM			
6:00 PM			
7:00 PM			
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			
	0	0	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: Mt. Highland & Continental Dr.
Major Street Name: Mt. Highland
Minor Street Name: Continental Dr.

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave. **No. of Lanes:** 2 or more
Minor Street Name: Eastbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	115	127	0	16	242	16
1:00 AM	71	64	0	6	135	6
2:00 AM	59	44	0	5	103	5
3:00 AM	41	42	0	2	83	2
4:00 AM	72	42	0	3	114	3
5:00 AM	164	126	0	33	290	33
6:00 AM	288	212	0	43	500	43
7:00 AM	550	415	0	124	965	124
8:00 AM	729	559	0	160	1288	160
9:00 AM	773	654	0	114	1427	114
10:00 AM	845	754	0	117	1599	117
11:00 AM	1095	929	0	110	2024	110
12:00 PM	1281	1177	0	168	2458	168
1:00 PM	1202	1095	0	154	2297	154
2:00 PM	1174	1118	0	153	2292	153
3:00 PM	1154	1088	0	208	2242	208
4:00 PM	1165	1124	0	272	2289	272
5:00 PM	1156	1117	0	280	2273	280
6:00 PM	967	935	0	203	1902	203
7:00 PM	779	753	0	158	1532	158
8:00 PM	642	634	0	124	1276	124
9:00 PM	576	585	0	97	1161	97
10:00 PM	464	370	0	100	834	100
11:00 PM	227	241	0	63	468	63

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM			✔			
8:00 AM	✔		✔			
9:00 AM			✔			
10:00 AM			✔			
11:00 AM			✔			
12:00 PM	✔		✔			
1:00 PM	✔		✔			
2:00 PM	✔		✔			
3:00 PM	✔		✔			
4:00 PM	✔		✔			
5:00 PM	✔		✔			
6:00 PM	✔		✔			
7:00 PM	✔		✔			
8:00 PM			✔			
9:00 PM			✔			
10:00 PM						
11:00 PM						
	9	0	15	0	0	0

Warrant 1, Condition A Met: Yes **70%:** N/A
Warrant 1, Condition B Met: Yes **70%:** N/A

Consider combination? See Note 1
Warrant 1, Combination Met: N/A **56%** N/A

Note 1: Not considered because either Condition A or B is already met.

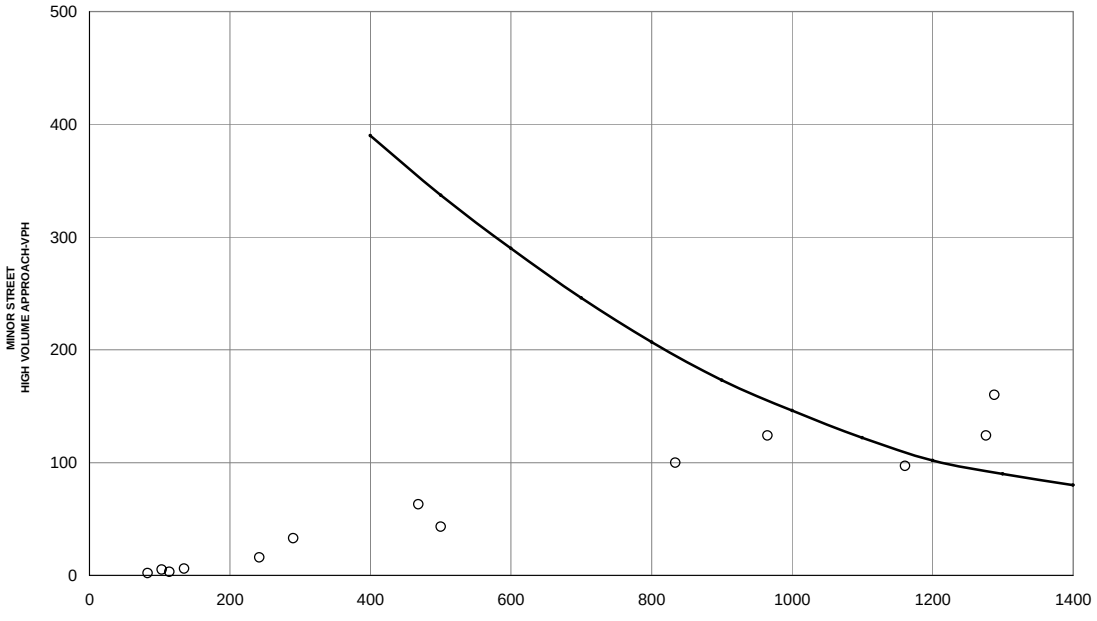
Warrant 1, Met: Yes

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave. **No. of Lanes:** 2 or more
Minor Street Name: Eastbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	115	127	0	16	242	16		
1:00 AM	71	64	0	6	135	6		
2:00 AM	59	44	0	5	103	5		
3:00 AM	41	42	0	2	83	2		
4:00 AM	72	42	0	3	114	3		
5:00 AM	164	126	0	33	290	33		
6:00 AM	288	212	0	43	500	43		
7:00 AM	550	415	0	124	965	124		
8:00 AM	729	559	0	160	1288	160	✔	
9:00 AM	773	654	0	114	1427	114	✔	
10:00 AM	845	754	0	117	1599	117	✔	
11:00 AM	1095	929	0	110	2024	110	✔	
12:00 PM	1281	1177	0	168	2458	168	✔	
1:00 PM	1202	1095	0	154	2297	154	✔	
2:00 PM	1174	1118	0	153	2292	153	✔	
3:00 PM	1154	1088	0	208	2242	208	✔	
4:00 PM	1165	1124	0	272	2289	272	✔	
5:00 PM	1156	1117	0	280	2273	280	✔	
6:00 PM	967	935	0	203	1902	203	✔	
7:00 PM	779	753	0	158	1532	158	✔	
8:00 PM	642	634	0	124	1276	124	✔	
9:00 PM	576	585	0	97	1161	97		
10:00 PM	464	370	0	100	834	100		
11:00 PM	227	241	0	63	468	63		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% Yes **70%** N/A

Warrant 2, Met: Yes

Delay Study for Warrant 3

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave.
Minor Street Name: Eastbound Off
nber of Approaches: 4
Interval: _____ **Seconds**

Min/Sec	Number of Stopped Vehicles 0	Min/Sec	Number of Stopped Vehicles 0
0		0	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	
11		11	
12		12	
13		13	
14		14	
15		15	
16		16	
17		17	
18		18	
19		19	
20		20	
21		21	
22		22	
23		23	
24		24	
25		25	
26		26	
27		27	
28		28	
29		29	
30		30	
31		31	
32		32	
33		33	
34		34	
35		35	
36		36	
37		37	
38		38	
39		39	
40		40	
41		41	
42		42	
43		43	
44		44	
45		45	
46		46	
47		47	
48		48	
49		49	
50		50	
51		51	
52		52	
53		53	
54		54	
55		55	
56		56	
57		57	
58		58	
59		59	

Cars Served on Study Approach Interval No.	Cars Served at Intersection Interval No.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Cars Served on Study Approach Hourly Sum	Cars Served at Intersection Hourly Sum
1	1
2	2
3	3
4	4
5	5

Vehicles Stopped on Study Approach Hourly Totals

1
2
3
4
5

Total Number of Stopped Vehicles _____
Vehicles Served on Approach Leg _____

Stopped Delay _____ sec/veh
Stopped Delay _____ veh-hrs

Warrant 3, Peak Hour

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave. **No. of Lanes:** 2 or more
Minor Street Name: Eastbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

   Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

   Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

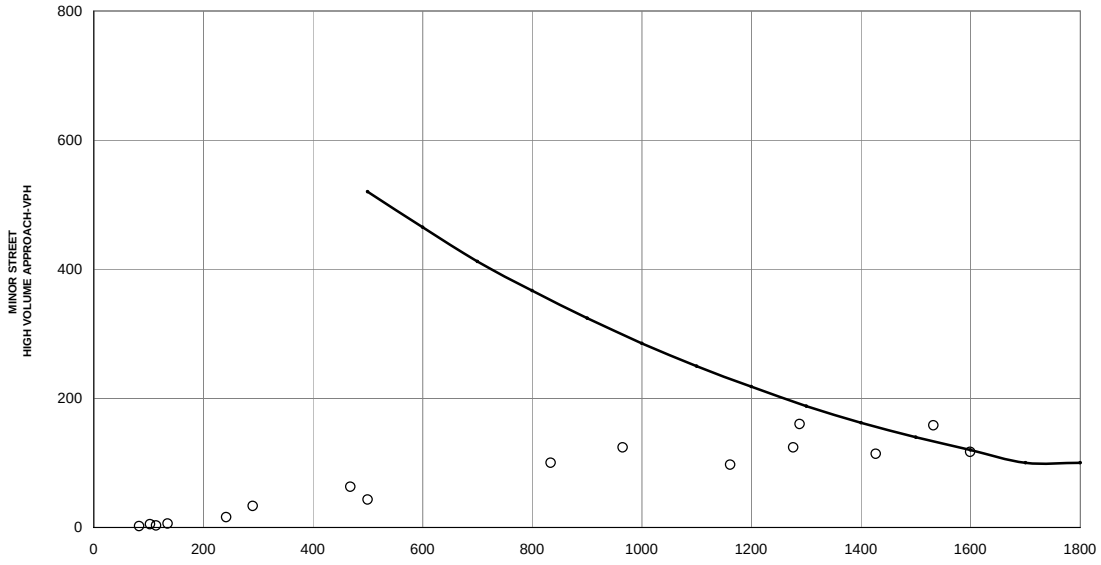
   Condition A-3 Met: N/A

Condition B:

Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
12:00p-1:00p	2626	2458	168	✔	

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	115	127	0	16	242	16		
1:00 AM	71	64	0	6	135	6		
2:00 AM	59	44	0	5	103	5		
3:00 AM	41	42	0	2	83	2		
4:00 AM	72	42	0	3	114	3		
5:00 AM	164	126	0	33	290	33		
6:00 AM	288	212	0	43	500	43		
7:00 AM	550	415	0	124	965	124		
8:00 AM	729	559	0	160	1288	160		
9:00 AM	773	654	0	114	1427	114		
10:00 AM	845	754	0	117	1599	117		
11:00 AM	1095	929	0	110	2024	110	✔	
12:00 PM	1281	1177	0	168	2458	168	✔	
1:00 PM	1202	1095	0	154	2297	154	✔	
2:00 PM	1174	1118	0	153	2292	153	✔	
3:00 PM	1154	1088	0	208	2242	208	✔	
4:00 PM	1165	1124	0	272	2289	272	✔	
5:00 PM	1156	1117	0	280	2273	280	✔	
6:00 PM	967	935	0	203	1902	203	✔	
7:00 PM	779	753	0	158	1532	158		
8:00 PM	642	634	0	124	1276	124		
9:00 PM	576	585	0	97	1161	97		
10:00 PM	464	370	0	100	834	100		
11:00 PM	227	241	0	63	468	63		

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: Yes **70%** N/A

Warrant 3, Met: Yes
Is this an unusual case? No **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave.
Minor Street Name: Eastbound Off
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave.
Minor Street Name: Eastbound Off
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave.
Minor Street Name: Eastbound Off

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave.
Minor Street Name: Eastbound Off
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 5
Warrant 7, Condition B met: Y

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: Y
80% conditions Condition B in Table 4C-1 met: Y
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM	✔	✔	
8:00 AM	✔	✔	
9:00 AM		✔	
10:00 AM		✔	
11:00 AM		✔	
12:00 PM	✔	✔	
1:00 PM	✔	✔	
2:00 PM	✔	✔	
3:00 PM	✔	✔	
4:00 PM	✔	✔	
5:00 PM	✔	✔	
6:00 PM	✔	✔	
7:00 PM	✔	✔	
8:00 PM	✔	✔	
9:00 PM		✔	
10:00 PM		✔	
11:00 PM			
	11	16	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave.
Minor Street Name: Eastbound Off

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave. **No. of Lanes:** 2 or more
Minor Street Name: Eastbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	96	136	27	0	232	27
1:00 AM	70	62	13	0	132	13
2:00 AM	48	48	12	0	96	12
3:00 AM	32	39	10	0	71	10
4:00 AM	57	38	12	0	95	12
5:00 AM	138	135	20	0	273	20
6:00 AM	284	208	49	0	492	49
7:00 AM	531	435	98	0	966	98
8:00 AM	687	601	114	0	1288	114
9:00 AM	705	672	111	0	1377	111
10:00 AM	746	761	96	0	1507	96
11:00 AM	1059	958	117	0	2017	117
12:00 PM	1253	1086	133	0	2339	133
1:00 PM	1170	1056	127	0	2226	127
2:00 PM	1123	1042	125	0	2165	125
3:00 PM	1157	1063	121	0	2220	121
4:00 PM	1119	1126	152	0	2245	152
5:00 PM	1098	1205	156	0	2303	156
6:00 PM	947	1003	138	0	1950	138
7:00 PM	762	808	112	0	1570	112
8:00 PM	624	677	81	0	1301	81
9:00 PM	560	614	72	0	1174	72
10:00 PM	456	415	52	0	871	52
11:00 PM	489	267	34	0	756	34

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM			✔			
8:00 AM			✔			
9:00 AM			✔			
10:00 AM			✔			
11:00 AM			✔			
12:00 PM			✔			
1:00 PM			✔			
2:00 PM			✔			
3:00 PM			✔			
4:00 PM	✔		✔			
5:00 PM	✔		✔			
6:00 PM			✔			
7:00 PM			✔			
8:00 PM			✔			
9:00 PM						
10:00 PM						
11:00 PM						
	2	0	14	0	0	0

Warrant 1, Condition A Met: No **70%:** N/A
Warrant 1, Condition B Met: Yes **70%:** N/A

Consider combination? See Note 1
Warrant 1, Combination Met: N/A **56%** N/A

Note 1: Not considered because either Condition A or B is already met.

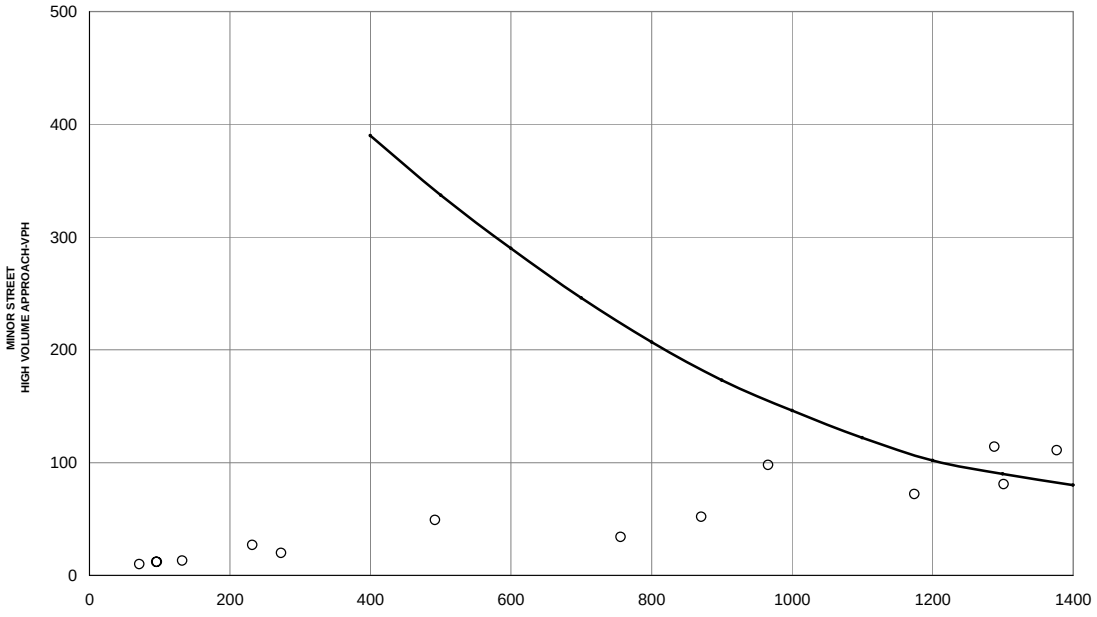
Warrant 1, Met: Yes

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave. **No. of Lanes:** 2 or more
Minor Street Name: Eastbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	96	136	27	0	232	27		
1:00 AM	70	62	13	0	132	13		
2:00 AM	48	48	12	0	96	12		
3:00 AM	32	39	10	0	71	10		
4:00 AM	57	38	12	0	95	12		
5:00 AM	138	135	20	0	273	20		
6:00 AM	284	208	49	0	492	49		
7:00 AM	531	435	98	0	966	98		
8:00 AM	687	601	114	0	1288	114	✔	
9:00 AM	705	672	111	0	1377	111	✔	
10:00 AM	746	761	96	0	1507	96	✔	
11:00 AM	1059	958	117	0	2017	117	✔	
12:00 PM	1253	1086	133	0	2339	133	✔	
1:00 PM	1170	1056	127	0	2226	127	✔	
2:00 PM	1123	1042	125	0	2165	125	✔	
3:00 PM	1157	1063	121	0	2220	121	✔	
4:00 PM	1119	1126	152	0	2245	152	✔	
5:00 PM	1098	1205	156	0	2303	156	✔	
6:00 PM	947	1003	138	0	1950	138	✔	
7:00 PM	762	808	112	0	1570	112	✔	
8:00 PM	624	677	81	0	1301	81		
9:00 PM	560	614	72	0	1174	72		
10:00 PM	456	415	52	0	871	52		
11:00 PM	489	267	34	0	756	34		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% Yes **70%** N/A

Warrant 2, Met: Yes

Delay Study for Warrant 3

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave.
Minor Street Name: Eastbound Off
nber of Approaches: 4
Interval: _____ **Seconds**

Min/Sec	Number of Stopped Vehicles 0	Min/Sec	Number of Stopped Vehicles 0
0		0	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	
11		11	
12		12	
13		13	
14		14	
15		15	
16		16	
17		17	
18		18	
19		19	
20		20	
21		21	
22		22	
23		23	
24		24	
25		25	
26		26	
27		27	
28		28	
29		29	
30		30	
31		31	
32		32	
33		33	
34		34	
35		35	
36		36	
37		37	
38		38	
39		39	
40		40	
41		41	
42		42	
43		43	
44		44	
45		45	
46		46	
47		47	
48		48	
49		49	
50		50	
51		51	
52		52	
53		53	
54		54	
55		55	
56		56	
57		57	
58		58	
59		59	

Cars Served on Study Approach Interval No.	Cars Served at Intersection Interval No.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Cars Served on Study Approach Hourly Sum	Cars Served at Intersection Hourly Sum
1	1
2	2
3	3
4	4
5	5

Vehicles Stopped on Study Approach Hourly Totals

1
2
3
4
5

Total Number of Stopped Vehicles _____
Vehicles Served on Approach Leg _____

Stopped Delay _____ sec/veh
Stopped Delay _____ veh-hrs

Warrant 3, Peak Hour

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave. **No. of Lanes:** 2 or more
Minor Street Name: Eastbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

   Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

   Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

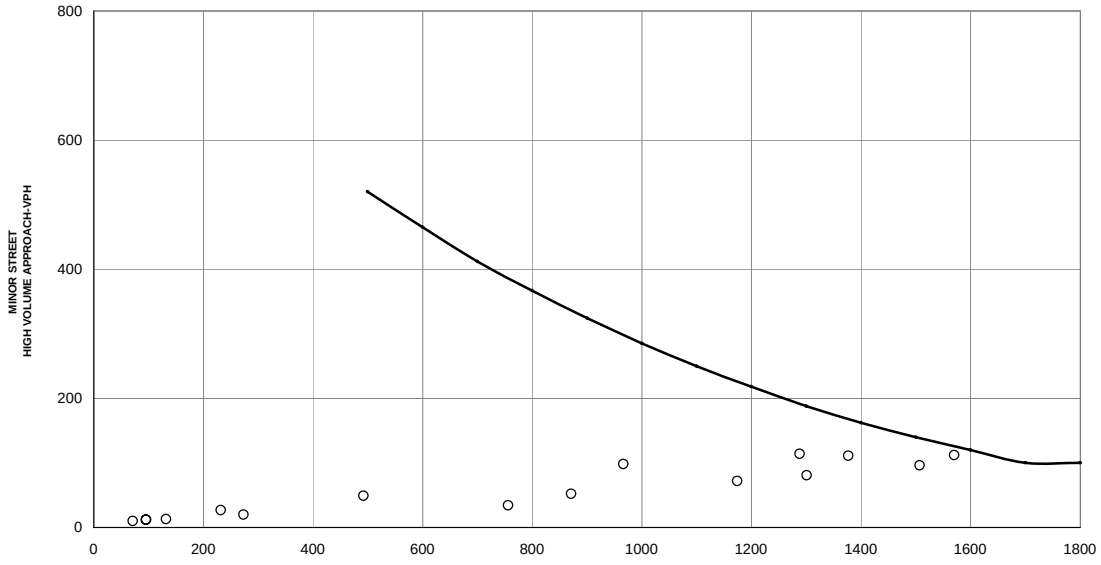
   Condition A-3 Met: N/A

Condition B:

Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
12:00p-1:00p	2472	2339	133	✔	

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	96	136	27	0	232	27		
1:00 AM	70	62	13	0	132	13		
2:00 AM	48	48	12	0	96	12		
3:00 AM	32	39	10	0	71	10		
4:00 AM	57	38	12	0	95	12		
5:00 AM	138	135	20	0	273	20		
6:00 AM	284	208	49	0	492	49		
7:00 AM	531	435	98	0	966	98		
8:00 AM	687	601	114	0	1288	114		
9:00 AM	705	672	111	0	1377	111		
10:00 AM	746	761	96	0	1507	96		
11:00 AM	1059	958	117	0	2017	117	✔	
12:00 PM	1253	1086	133	0	2339	133	✔	
1:00 PM	1170	1056	127	0	2226	127	✔	
2:00 PM	1123	1042	125	0	2165	125	✔	
3:00 PM	1157	1063	121	0	2220	121	✔	
4:00 PM	1119	1126	152	0	2245	152	✔	
5:00 PM	1098	1205	156	0	2303	156	✔	
6:00 PM	947	1003	138	0	1950	138	✔	
7:00 PM	762	808	112	0	1570	112		
8:00 PM	624	677	81	0	1301	81		
9:00 PM	560	614	72	0	1174	72		
10:00 PM	456	415	52	0	871	52		
11:00 PM	489	267	34	0	756	34		

Figure 4C-3. Warrant 3, Peak Hour



Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: Yes **70%** N/A

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Met: Yes
Is this an unusual case? No **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave.
Minor Street Name: Eastbound Off
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave.
Minor Street Name: Eastbound Off
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave.
Minor Street Name: Eastbound Off

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave.
Minor Street Name: Eastbound Off
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 7
Warrant 7, Condition B met: Y

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: N
80% conditions Condition B in Table 4C-1 met: Y
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM		✔	
8:00 AM		✔	
9:00 AM		✔	
10:00 AM		✔	
11:00 AM		✔	
12:00 PM	✔	✔	
1:00 PM	✔	✔	
2:00 PM	✔	✔	
3:00 PM	✔	✔	
4:00 PM	✔	✔	
5:00 PM	✔	✔	
6:00 PM	✔	✔	
7:00 PM		✔	
8:00 PM		✔	
9:00 PM		✔	
10:00 PM			
11:00 PM			
	7	15	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: Eastbound Off & Harrison Ave.
Major Street Name: Harrison Ave.
Minor Street Name: Eastbound Off

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: Rocker and EB Off
Major Street Name: Rocker **No. of Lanes:** 2 or more
Minor Street Name: EB Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	35	31	13	0	66	13
1:00 AM	18	17	7	0	35	7
2:00 AM	18	18	6	0	36	6
3:00 AM	13	14	7	0	27	7
4:00 AM	16	24	7	0	40	7
5:00 AM	44	46	12	0	90	12
6:00 AM	62	62	29	0	124	29
7:00 AM	105	83	56	0	188	56
8:00 AM	147	106	62	0	253	62
9:00 AM	142	101	54	0	243	54
10:00 AM	155	128	54	0	283	54
11:00 AM	148	101	54	0	249	54
12:00 PM	159	115	38	0	274	38
1:00 PM	167	115	39	0	282	39
2:00 PM	159	107	51	0	266	51
3:00 PM	178	120	58	0	298	58
4:00 PM	186	112	61	0	298	61
5:00 PM	160	125	61	0	285	61
6:00 PM	119	109	75	0	228	75
7:00 PM	106	92	46	0	198	46
8:00 PM	91	89	32	0	180	32
9:00 PM	79	80	33	0	159	33
10:00 PM	66	59	22	0	125	22
11:00 PM	51	49	16	0	100	16

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM						
8:00 AM						
9:00 AM						
10:00 AM						
11:00 AM						
12:00 PM						
1:00 PM						
2:00 PM						
3:00 PM						
4:00 PM						
5:00 PM						
6:00 PM						
7:00 PM						
8:00 PM						
9:00 PM						
10:00 PM						
11:00 PM						
	0	0	0	0	0	0

Warrant 1, Condition A Met: No **70%:** N/A
Warrant 1, Condition B Met: No **70%:** N/A

Consider combination? Yes
Warrant 1, Combination Met: No **56%** No

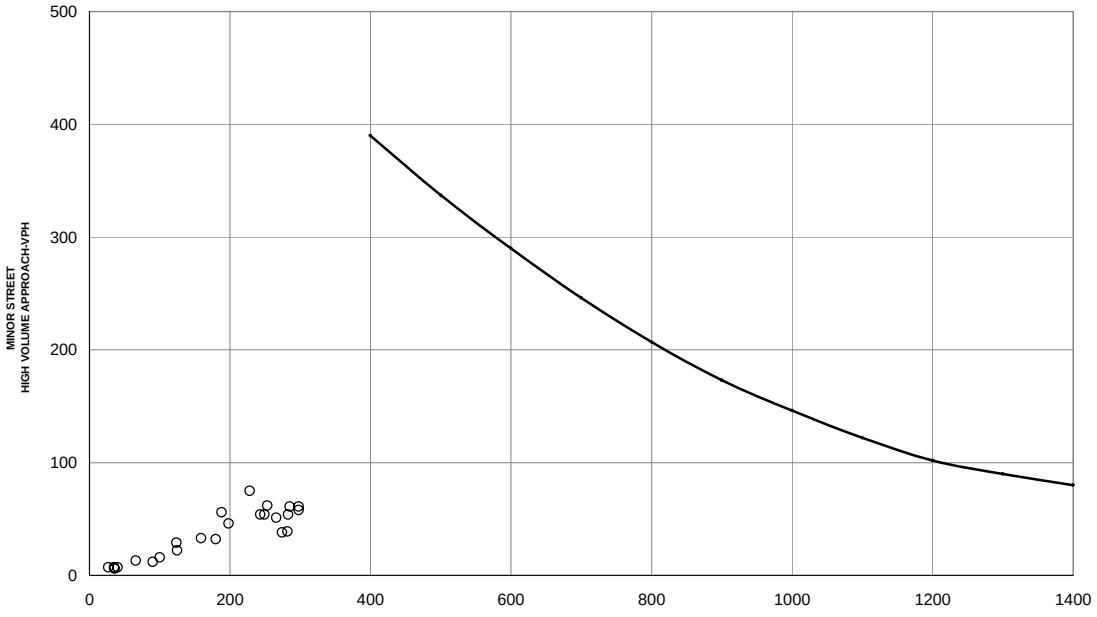
Warrant 1, Met: No

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: Rocker and EB Off
Major Street Name: Rocker **No. of Lanes:** 2 or more
Minor Street Name: EB Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	35	31	13	0	66	13		
1:00 AM	18	17	7	0	35	7		
2:00 AM	18	18	6	0	36	6		
3:00 AM	13	14	7	0	27	7		
4:00 AM	16	24	7	0	40	7		
5:00 AM	44	46	12	0	90	12		
6:00 AM	62	62	29	0	124	29		
7:00 AM	105	83	56	0	188	56		
8:00 AM	147	106	62	0	253	62		
9:00 AM	142	101	54	0	243	54		
10:00 AM	155	128	54	0	283	54		
11:00 AM	148	101	54	0	249	54		
12:00 PM	159	115	38	0	274	38		
1:00 PM	167	115	39	0	282	39		
2:00 PM	159	107	51	0	266	51		
3:00 PM	178	120	58	0	298	58		
4:00 PM	186	112	61	0	298	61		
5:00 PM	160	125	61	0	285	61		
6:00 PM	119	109	75	0	228	75		
7:00 PM	106	92	46	0	198	46		
8:00 PM	91	89	32	0	180	32		
9:00 PM	79	80	33	0	159	33		
10:00 PM	66	59	22	0	125	22		
11:00 PM	51	49	16	0	100	16		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% No **70%** N/A

Warrant 2, Met: No

Delay Study for Warrant 3

Intersection Name: Rocker and EB Off
Major Street Name: Rocker
Minor Street Name: EB Off
nber of Approaches: 4
Interval: _____ **Seconds**

Min/Sec	Number of Stopped Vehicles 0	Min/Sec	Number of Stopped Vehicles 0
0		0	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	
11		11	
12		12	
13		13	
14		14	
15		15	
16		16	
17		17	
18		18	
19		19	
20		20	
21		21	
22		22	
23		23	
24		24	
25		25	
26		26	
27		27	
28		28	
29		29	
30		30	
31		31	
32		32	
33		33	
34		34	
35		35	
36		36	
37		37	
38		38	
39		39	
40		40	
41		41	
42		42	
43		43	
44		44	
45		45	
46		46	
47		47	
48		48	
49		49	
50		50	
51		51	
52		52	
53		53	
54		54	
55		55	
56		56	
57		57	
58		58	
59		59	

Cars Served on Study Approach Interval No.	Cars Served at Intersection Interval No.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Cars Served on Study Approach Hourly Sum	Cars Served at Intersection Hourly Sum
1	1
2	2
3	3
4	4
5	5

Vehicles Stopped on Study Approach Hourly Totals

1
2
3
4
5

Total Number of Stopped Vehicles _____
Vehicles Served on Approach Leg _____

Stopped Delay _____ sec/veh
Stopped Delay _____ veh-hrs

Warrant 3, Peak Hour

Intersection Name: Rocker and EB Off
Major Street Name: Rocker **No. of Lanes:** 2 or more
Minor Street Name: EB Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

   Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

   Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

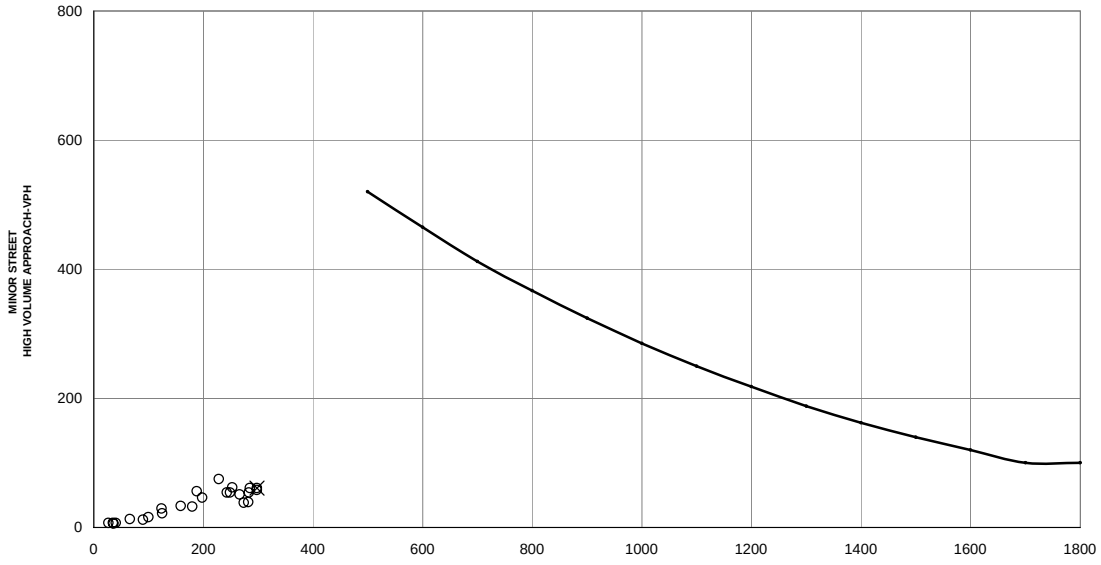
   Condition A-3 Met: N/A

Condition B:

	Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
	4:00p-5:00p	359	298	61		

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	35	31	13	0	66	13		
1:00 AM	18	17	7	0	35	7		
2:00 AM	18	18	6	0	36	6		
3:00 AM	13	14	7	0	27	7		
4:00 AM	16	24	7	0	40	7		
5:00 AM	44	46	12	0	90	12		
6:00 AM	62	62	29	0	124	29		
7:00 AM	105	83	56	0	188	56		
8:00 AM	147	106	62	0	253	62		
9:00 AM	142	101	54	0	243	54		
10:00 AM	155	128	54	0	283	54		
11:00 AM	148	101	54	0	249	54		
12:00 PM	159	115	38	0	274	38		
1:00 PM	167	115	39	0	282	39		
2:00 PM	159	107	51	0	266	51		
3:00 PM	178	120	58	0	298	58		
4:00 PM	186	112	61	0	298	61		
5:00 PM	160	125	61	0	285	61		
6:00 PM	119	109	75	0	228	75		
7:00 PM	106	92	46	0	198	46		
8:00 PM	91	89	32	0	180	32		
9:00 PM	79	80	33	0	159	33		
10:00 PM	66	59	22	0	125	22		
11:00 PM	51	49	16	0	100	16		

Figure 4C-3. Warrant 3, Peak Hour



Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: No **70%** N/A

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Met: No
Is this an unusual case? No **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: Rocker and EB Off
Major Street Name: Rocker
Minor Street Name: EB Off
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: Rocker and EB Off
Major Street Name: Rocker
Minor Street Name: EB Off
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: Rocker and EB Off
Major Street Name: Rocker
Minor Street Name: EB Off

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: Rocker and EB Off
Major Street Name: Rocker
Minor Street Name: EB Off
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 1
Warrant 7, Condition B met: N

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: N
80% conditions Condition B in Table 4C-1 met: N
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM			
8:00 AM			
9:00 AM			
10:00 AM			
11:00 AM			
12:00 PM			
1:00 PM			
2:00 PM			
3:00 PM			
4:00 PM			
5:00 PM			
6:00 PM			
7:00 PM			
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			
	0	0	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: Rocker and EB Off
Major Street Name: Rocker
Minor Street Name: EB Off

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A

Warrant 1, Eight-Hour Vehicluar Volume

Intersection Name: Eastbound Off
Major Street Name: S-276 **No. of Lanes:** 2 or more
Minor Street Name: Eastbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A - Minimum Vehicular Volume									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2	1	600	480	420	336	150	120	105	84
2	2	600	480	420	336	200	160	140	112
1	2	500	400	350	280	200	160	140	112

Condition B - Interupption of Continuous Traffic									
No. of Lanes		VPH total on major street				VPH on higher vol minor street			
Major	Minor	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2	1	900	720	630	504	75	60	53	42
2	2	900	720	630	504	100	80	70	56
1	2	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 40 mph or in an Isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70km/h or exceeds 40 mpn in an isolated community with a population less than 10,000

	Traffic Volume				Total Major	Higher Minor
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol
12:00 AM	31	35	0	13	66	13
1:00 AM	17	18	0	7	35	7
2:00 AM	18	18	0	6	36	6
3:00 AM	14	13	0	7	27	7
4:00 AM	24	16	0	7	40	7
5:00 AM	46	44	0	12	90	12
6:00 AM	62	62	0	29	124	29
7:00 AM	83	105	0	56	188	56
8:00 AM	106	147	0	62	253	62
9:00 AM	101	142	0	54	243	54
10:00 AM	128	155	0	54	283	54
11:00 AM	101	148	0	54	249	54
12:00 PM	115	159	0	38	274	38
1:00 PM	115	167	0	39	282	39
2:00 PM	107	159	0	51	266	51
3:00 PM	120	178	0	58	298	58
4:00 PM	112	186	0	61	298	61
5:00 PM	125	160	0	61	285	61
6:00 PM	109	119	0	75	228	75
7:00 PM	92	106	0	46	198	46
8:00 PM	89	91	0	32	180	32
9:00 PM	80	79	0	33	159	33
10:00 PM	59	66	0	22	125	22
11:00 PM	49	51	0	16	100	16

	Condition A		Condition B		Combination	Combination
	100%	70%	100%	70%	80%	56%
12:00 AM						
1:00 AM						
2:00 AM						
3:00 AM						
4:00 AM						
5:00 AM						
6:00 AM						
7:00 AM						
8:00 AM						
9:00 AM						
10:00 AM						
11:00 AM						
12:00 PM						
1:00 PM						
2:00 PM						
3:00 PM						
4:00 PM						
5:00 PM						
6:00 PM						
7:00 PM						
8:00 PM						
9:00 PM						
10:00 PM						
11:00 PM						
	0	0	0	0	0	0

Warrant 1, Condition A Met: No **70%:** N/A
Warrant 1, Condition B Met: No **70%:** N/A

Consider combination? Yes
Warrant 1, Combination Met: No **56%** No

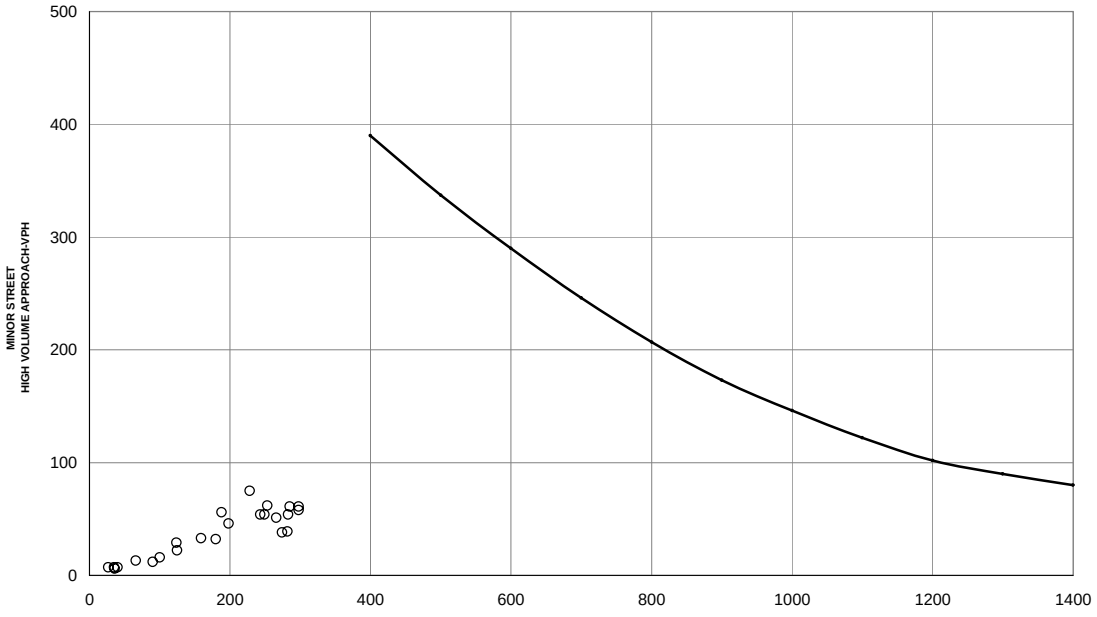
Warrant 1, Met: No

Warrant 2, Four-Hour Vehicluar Volume

Intersection Name: Eastbound Off
Major Street Name: S-276 **No. of Lanes:** 2 or more
Minor Street Name: Eastbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	31	35	0	13	66	13		
1:00 AM	17	18	0	7	35	7		
2:00 AM	18	18	0	6	36	6		
3:00 AM	14	13	0	7	27	7		
4:00 AM	24	16	0	7	40	7		
5:00 AM	46	44	0	12	90	12		
6:00 AM	62	62	0	29	124	29		
7:00 AM	83	105	0	56	188	56		
8:00 AM	106	147	0	62	253	62		
9:00 AM	101	142	0	54	243	54		
10:00 AM	128	155	0	54	283	54		
11:00 AM	101	148	0	54	249	54		
12:00 PM	115	159	0	38	274	38		
1:00 PM	115	167	0	39	282	39		
2:00 PM	107	159	0	51	266	51		
3:00 PM	120	178	0	58	298	58		
4:00 PM	112	186	0	61	298	61		
5:00 PM	125	160	0	61	285	61		
6:00 PM	109	119	0	75	228	75		
7:00 PM	92	106	0	46	198	46		
8:00 PM	89	91	0	32	180	32		
9:00 PM	80	79	0	33	159	33		
10:00 PM	59	66	0	22	125	22		
11:00 PM	49	51	0	16	100	16		

Figure 4C-1. Warrant 2, Four Hour Vehicle Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

100% No **70%** N/A

Warrant 2, Met: No

Delay Study for Warrant 3

Intersection Name: Eastbound Off
Major Street Name: S-276
Minor Street Name: Eastbound Off
nber of Approaches: 4
Interval: _____ **Seconds**

Min/Sec	Number of Stopped Vehicles 0	Min/Sec	Number of Stopped Vehicles 0
0		0	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	
11		11	
12		12	
13		13	
14		14	
15		15	
16		16	
17		17	
18		18	
19		19	
20		20	
21		21	
22		22	
23		23	
24		24	
25		25	
26		26	
27		27	
28		28	
29		29	
30		30	
31		31	
32		32	
33		33	
34		34	
35		35	
36		36	
37		37	
38		38	
39		39	
40		40	
41		41	
42		42	
43		43	
44		44	
45		45	
46		46	
47		47	
48		48	
49		49	
50		50	
51		51	
52		52	
53		53	
54		54	
55		55	
56		56	
57		57	
58		58	
59		59	

Cars Served on Study Approach Interval	No.	Cars Served at Intersection Interval	No.
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	

Cars Served on Study Approach Hourly Sum	Cars Served at Intersection Hourly Sum
1	1
2	2
3	3
4	4
5	5

Vehicles Stopped on Study Approach Hourly Totals
1
2
3
4
5

Total Number of Stopped Vehicles _____
Vehicles Served on Approach Leg _____

Stopped Delay _____ sec/veh
Stopped Delay _____ veh-hrs

Warrant 3, Peak Hour

Intersection Name: Eastbound Off
Major Street Name: S-276 **No. of Lanes:** 2 or more
Minor Street Name: Eastbound Off **No. of Lanes:** 1
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

*** This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that atrract or discharge large numbers of vehicles over a short time.**

Condition A:

1. **The total stopped time delay experienced by the traffic on the one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

   Condition A-1 Met: N/A

2. **The voulme on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for a one moving lane of traffic or 150 vehicles per hour for for two moving lanes, and**

   Condition A-2 Met: N/A

3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles for intersections with four or more approaches.**

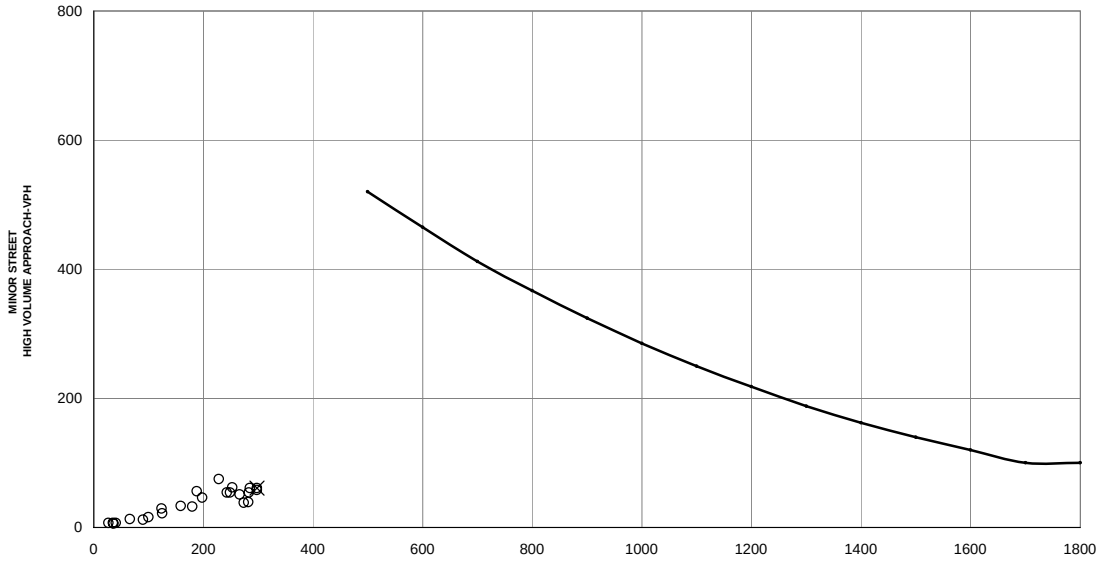
   Condition A-3 Met: N/A

Condition B:

	Peak Hour	Total Volume	Total Major	Higher Minor	100% Met	70% Met
	4:00p-5:00p	359	298	61		

	Traffic Volume				Total Major	Higher Minor	100%	70%
	Major Street 1	Major Street 2	Minor Street 1	Minor Street 2	Street Vol	Street Vol	Met	Met
12:00 AM	31	35	0	13	66	13		
1:00 AM	17	18	0	7	35	7		
2:00 AM	18	18	0	6	36	6		
3:00 AM	14	13	0	7	27	7		
4:00 AM	24	16	0	7	40	7		
5:00 AM	46	44	0	12	90	12		
6:00 AM	62	62	0	29	124	29		
7:00 AM	83	105	0	56	188	56		
8:00 AM	106	147	0	62	253	62		
9:00 AM	101	142	0	54	243	54		
10:00 AM	128	155	0	54	283	54		
11:00 AM	101	148	0	54	249	54		
12:00 PM	115	159	0	38	274	38		
1:00 PM	115	167	0	39	282	39		
2:00 PM	107	159	0	51	266	51		
3:00 PM	120	178	0	58	298	58		
4:00 PM	112	186	0	61	298	61		
5:00 PM	125	160	0	61	285	61		
6:00 PM	109	119	0	75	228	75		
7:00 PM	92	106	0	46	198	46		
8:00 PM	89	91	0	32	180	32		
9:00 PM	80	79	0	33	159	33		
10:00 PM	59	66	0	22	125	22		
11:00 PM	49	51	0	16	100	16		

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Condition A Met: N/A
Warrant 3, Condition B Met: No **70%** N/A

Warrant 3, Met: No
Is this an unusual case? No ▼ **Warrant is not applicable**

Warrant, 4 Pedestrian Volume

Intersection Name: Eastbound Off
Major Street Name: S-276
Minor Street Name: Eastbound Off
Location less than 300' from nearest signal? No

Is the roadway divided by a median with sufficient width for pedestrians to wait? No

	Pedestrian Volume Across Major Street	Vehicular Gaps Across Major Street
12:00 AM		
1:00 AM		
2:00 AM		
3:00 AM		
4:00 AM		
5:00 AM		
6:00 AM		
7:00 AM		
8:00 AM		
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM		
2:00 PM		
3:00 PM		
4:00 PM		
5:00 PM		
6:00 PM		
7:00 PM		
8:00 PM		
9:00 PM		
10:00 PM		
11:00 PM		

Warrant 4, Condition A Met: N/A
Warrant 4, Condition B Met: N/A

Warrant 4, Met: N/A

Warrant 5, School Crossing

Intersection Name: Eastbound Off
Major Street Name: S-276
Minor Street Name: Eastbound Off
Location less than 300' from nearest signal? No

	Start		Finish
Interval 1		-	
Interval 2		-	
Interval 3		-	
Interval 4		-	
Interval 5		-	
Interval 6		-	

	Student Volume Across Major Street	Vehicular Gaps Across Major Street
Interval 1		
Interval 2		
Interval 3		
Interval 4		
Interval 5		
Interval 6		

Warrant 5, Met: N/A

Warrant 6, Corrdinated Signal System

Intersection Name: Eastbound Off
Major Street Name: S-276
Minor Street Name: Eastbound Off

***The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1000'.**

Condition A:
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

Warrant 6, Condition A met:

Condition B:
On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6, Condition B met:

Warrant 6, Met: N/A

Warrant 7, Crash Experience

Intersection Name: Eastbound Off
Major Street Name: S-276
Minor Street Name: Eastbound Off
***Major street speed exceeds 40 mph or isolated community with a population less than 10,000?** No

Condition A:
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency

Warrant 7, Condition A met: No

Condition B:
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash

Number of Correctable Crashes: 4
Warrant 7, Condition B met: N

Condition C:
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant.

80% conditions Condition A in Table 4C-1 met: N
80% conditions Condition B in Table 4C-1 met: N
80% of Pedestrian Volume Warrant Volumes met: N/A

	80% Condition A in Table 4C-1	80% Condition B in Table 4C-1	80% Pedestrian Volumes
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM			
8:00 AM			
9:00 AM			
10:00 AM			
11:00 AM			
12:00 PM			
1:00 PM			
2:00 PM			
3:00 PM			
4:00 PM			
5:00 PM			
6:00 PM			
7:00 PM			
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			
	0	0	0

Warrant 7, Met: No

Warrant 8, Roadway Network

Intersection Name: Eastbound Off
Major Street Name: S-276
Minor Street Name: Eastbound Off

*** This warrant shall only be considered if the location is an intersection of two or more major routes.**

A major route as used in this signal warrant shall have one or more of the following characteristics:

1. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**

2. **It includes rural or suburban highways outside, entering, or traversing a city; or**

3. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Does the study intersection consist of two or more major routes? No

Condition A
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of warrants 1, 2, and 3 during an average weekday; or

At least 1,000 vehicles entering the intersection: N/A
Warrant 8, Condition A met: N/A

Condition B
The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

Warrant 8, Condition B met: N/A

Warrant 8, met: N/A