



# Signal Warrant Study

Lorain, Ohio

Prepared by:

**URS**

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July 2013

## Executive Summary

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**URS** has been retained by the City of Lorain to perform a signal warrant study. The results of this study will be used in establishing a program for upgrading and replacing the City's signals, including a determination of whether any signals should be removed.

The following twenty-five (25) intersections are included in the study area. These intersections are the first of several phases of traffic signals to be studied. All intersections are either signalized or have recently had signals placed on flash or removed.

- |   |   |
|---|---|
| 1. Broadway Avenue/Erie Avenue              | 14. Broadway Avenue/31 <sup>st</sup> Street                   |
| 2. Broadway Avenue/5 <sup>th</sup> Street   | 15. Broadway Avenue/33 <sup>rd</sup> Street                   |
| 3. Broadway Avenue/6 <sup>th</sup> Street   | 16. Broadway Avenue/35 <sup>th</sup> Street                   |
| 4. Broadway Avenue/8 <sup>th</sup> Street   | 17. Broadway Avenue/39 <sup>th</sup> Street                   |
| 5. Broadway Avenue/9 <sup>th</sup> Street   | 18. 28 <sup>th</sup> Street/Reid Avenue                       |
| 6. Broadway Avenue/14 <sup>th</sup> Street  | 19. 28 <sup>th</sup> Street/Elyria Avenue                     |
| 7. Broadway Avenue/Elyria Avenue            | 20. 28 <sup>th</sup> Street/Denver Avenue                     |
| 8. Broadway Avenue/17 <sup>th</sup> Street  | 21. 28 <sup>th</sup> Street/1380 East 28 <sup>th</sup> Street |
| 9. Broadway Avenue/20 <sup>th</sup> Street  | 22. 28 <sup>th</sup> Street/Fulton Road                       |
| 10. Broadway Avenue/21 <sup>st</sup> Street | 23. 28 <sup>th</sup> Street/Vine Avenue                       |
| 11. Broadway Avenue/23 <sup>rd</sup> Street | 24. 28 <sup>th</sup> Street/Pearl Avenue                      |
| 12. Broadway Avenue/28 <sup>th</sup> Street | 25. 28 <sup>th</sup> Street/Grove Avenue                      |
| 13. Broadway Avenue/30 <sup>th</sup> Street |   |

Signal warrant analysis has been performed using 9-hour turning movement counts performed during June 2013 while school was still in session. The results indicate that the following nine (9) study intersections meet at least one of the signal warrants:

- Broadway/Erie Avenue
- Broadway/Elyria Avenue
- Broadway/21<sup>st</sup> Street
- Broadway/28<sup>th</sup> Street
- Broadway/30<sup>th</sup> Street
- Broadway/33<sup>rd</sup> Street
- Broadway/39<sup>th</sup> Street
- 28<sup>th</sup> Street/Elyria Avenue
- 28<sup>th</sup> Street/Fulton Road

The following sixteen (16) signals currently do not meet any signal warrants.

- Broadway/5<sup>th</sup> Street
- Broadway/6<sup>th</sup> Street
- Broadway/8<sup>th</sup> Street
- Broadway/9<sup>th</sup> Street
- Broadway/14<sup>th</sup> Street
- Broadway/17<sup>th</sup> Street
- Broadway/20<sup>th</sup> Street
- Broadway/23<sup>rd</sup> Street
- Broadway/31<sup>st</sup> Street
- Broadway/35<sup>th</sup> Street
- 28<sup>th</sup> Street/Reid Avenue
- 28<sup>th</sup> Street/Denver Avenue
- 28<sup>th</sup> Street/1380 East 28<sup>th</sup> Street
- 28<sup>th</sup> Street/Vine Avenue
- 28<sup>th</sup> Street/Pearl Avenue
- 28<sup>th</sup> Street/Grove Avenue

The unwarranted signals should be removed by the City or as part of a citywide signal improvement project. In summary, of the twenty-five (25) intersections reviewed, nine (9) signals are warranted and should remain and sixteen (16) signals should be removed.

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Kevin P. Westbrooks, Reg. Engineer No. 65607

# 1.0 Introduction

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**URS** has been retained by the City of Lorain to perform a citywide signal warrant study. The results of this study will be used in establishing a program for upgrading and replacing the City's signals, including a determination of whether any signals should be removed.

## 1.1 Site Scope

A total of twenty-five (25) intersections are included in this study. These intersections are the first of several phases of traffic signals to be studied. All intersections are either signalized, or have recently had the signals removed or placed in flash mode. **Exhibit 1** presents a map of the area, with each intersection identified. A listing of the study intersections is provided below.

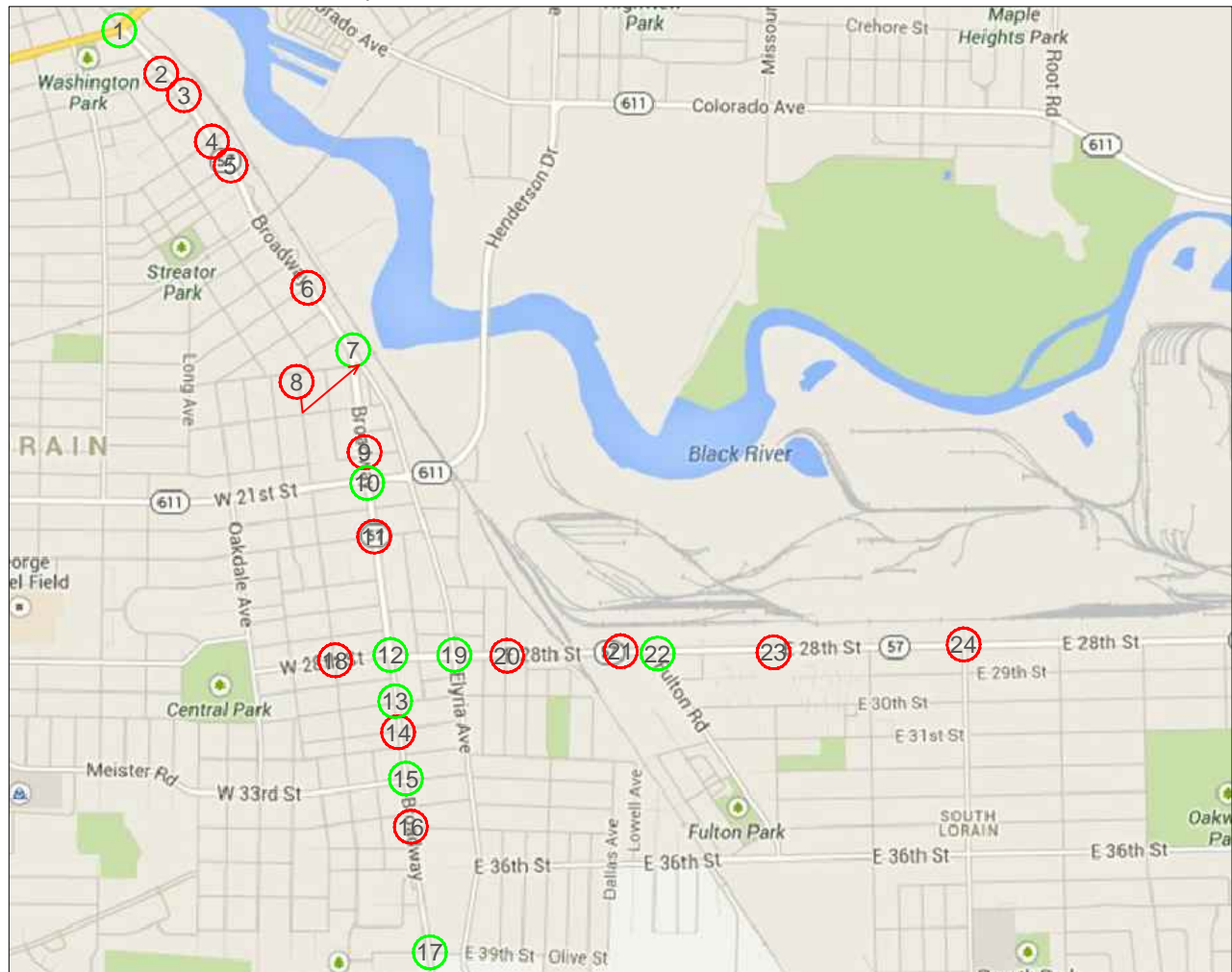
1. Broadway Avenue/Erie Avenue
2. Broadway Avenue/5<sup>th</sup> Street
3. Broadway Avenue/6<sup>th</sup> Street
4. Broadway Avenue/8<sup>th</sup> Street
5. Broadway Avenue/9<sup>th</sup> Street
6. Broadway Avenue/14<sup>th</sup> Street
7. Broadway Avenue/Elyria Avenue
8. Broadway Avenue/17<sup>th</sup> Street
9. Broadway Avenue/20<sup>th</sup> Street
10. Broadway Avenue/21<sup>st</sup> Street
11. Broadway Avenue/23<sup>rd</sup> Street
12. Broadway Avenue/28<sup>th</sup> Street
13. Broadway Avenue/30<sup>th</sup> Street
14. Broadway Avenue/31<sup>st</sup> Street
15. Broadway Avenue/33<sup>rd</sup> Street
16. Broadway Avenue/35<sup>th</sup> Street
17. Broadway Avenue/39<sup>th</sup> Street
18. 28<sup>th</sup> Street/Reid Avenue
19. 28<sup>th</sup> Street/Elyria Avenue
20. 28<sup>th</sup> Street/Denver Avenue
21. 28<sup>th</sup> Street/1380 East 28<sup>th</sup> Street
22. 28<sup>th</sup> Street/Fulton Road
23. 28<sup>th</sup> Street/Vine Avenue
24. 28<sup>th</sup> Street/Pearl Avenue
25. 28<sup>th</sup> Street/Grove Avenue

# City of Lorain

## Traffic Signal Warrant Study

### Traffic Signal Locations

- |                             |                                      |
|-----------------------------|--------------------------------------|
| 1. Broadway / Erie Avenue   | 14. Broadway / 31st Street           |
| 2. Broadway / 5th Street    | 15. Broadway / 33rd Street           |
| 3. Broadway / 6th Street    | 16. Broadway / 35th Street           |
| 4. Broadway / 8th Street    | 17. Broadway / 39th Street           |
| 5. Broadway / 9th Street    | 18. 28th Street / Reid Avenue        |
| 6. Broadway / 14th Street   | 19. 28th Street / Elyria Avenue      |
| 7. Broadway / Elyria Avenue | 20. 28th Street / Denver Avenue      |
| 8. Broadway / 17th Street   | 21. 28th Street / 1380 E 28th Street |
| 9. Broadway / 20th Street   | 22. 28th Street / Fulton Road        |
| 10. Broadway / 21st Street  | 23. 28th Street / Vine Avenue        |
| 11. Broadway / 23rd Street  | 24. 28th Street / Pearl Avenue       |
| 12. Broadway / 28th Street  | 25. 28th Street / Grove Avenue       |
| 13. Broadway / 30th Street  |                                      |



- Warranted Traffic Signal
- Not Warranted Traffic Signal

## 2.0 Existing Conditions

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The following sections provide information on the physical characteristics of the roadway system in the study area, existing traffic control, and traffic turning movement counts.

### 2.1 Existing Roadways

**Broadway Avenue (SR-57)** is classified as an urban arterial and traverses the entire city from north to south. Throughout the study area, Broadway Avenue changes lane configuration several times. From Erie Avenue to West 9<sup>th</sup> Street, Broadway consists of a 3-lane section with one southbound lane and two northbound lanes with an occasional auxiliary turn lane and on street parking areas. At the intersection of Broadway and Elyria Avenue, the road configuration shifts to 4-lane section with no on-street parking. From Elyria Avenue to 20<sup>th</sup> Street, Broadway changes to a 3-lane configuration with one northbound lane and two southbound lanes with turn lanes and on-street parking. From 20<sup>th</sup> Street to 22<sup>nd</sup> Street, there are 5-lanes consisting of two northbound and two southbound lanes with an occasional center left turn lane. From 20<sup>th</sup> Street to 39<sup>th</sup> Street, the road configuration changes back to a 4-lane section with turn lanes at 28<sup>th</sup> Street.

In 2008, Broadway carried an average daily traffic (ADT) volume of 6,860 vehicles within the study area, as reported by the Northeast Ohio Areawide Coordinating Agency. The posted speed limit changes between 25 and 35 mph.

**28<sup>th</sup> Street (SR-57)** is a minor arterial traversing the City of Lorain in an east-west route within the study area. It primarily serves residences on the south side and industrial land on the north side. It is a 4-lane road with a posted speed limit of 35 mph and an ADT of 12,770 vehicles within the study area, as reported by the Northeast Ohio Areawide Coordinating Agency.

### 2.2 Existing Traffic Control

The twenty-five (25) intersections included in this study are currently either signalized or have recently had the signals removed or placed on flash.

### 2.3 Existing Traffic Volumes

Detailed turning movement counts were performed by Miovision Technologies at each study intersection during June 2013. Pedestrians were counted at most intersections. Those intersections were counted before school dismissed for the summer so that school traffic was included. These traffic volumes have been used to perform the traffic signal warrants. The original traffic counts are included in **Appendix A**.



## 3.0 Signal Warrant Analysis

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The data collected in the previous section was used to perform a traffic signal warrant analysis. The Ohio Manual of Uniform Traffic Control Devices (OMUTCD)<sup>1</sup> defines the traffic signal warrants and presents the methodologies for their use. Following a brief explanation of the traffic signal warrants, the specific analysis results for the subject intersection are presented.

### 3.1 Traffic Signal Warrants

The OMUTCD, supported by the Ohio Revised Code, states that traffic control signals should not be installed unless one or more of the signal warrants in the Manual are met. This section presents the eight traffic signal warrants, as presented in the OMUTCD, along with a brief explanation of each.

Warrant #1, Eight-Hour Vehicular Volume – The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

The Interruption of Continuous Traffic, Condition B, is intended for application at locations where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

It is intended that Warrant 1 be treated as a single warrant. If Condition A is satisfied, then the criteria for Warrant 1 are satisfied and Condition B and the combination of Conditions A and B are not needed. Similarly, if Condition B is satisfied, then the criteria for Warrant 1 are satisfied and the combination of Conditions A and B is not needed.

Warrant #2, Four-Hour Vehicular Volume - The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Warrant #3, Peak Hour - The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.

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<sup>1</sup>"Ohio Manual Of Uniform Traffic Control Devices", Ohio Department of Transportation, 2005 Edition.



A signal installed under the Peak Hour warrant should be traffic actuated. Consideration should be given to operating the signal in the flashing mode during off-peak periods.

Warrant #4, Pedestrian Volume - The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that the number of pedestrians meets certain thresholds based on a 4-hour or a peak hour graph. The minimum hourly number of pedestrians is 100.

The pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 ft, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant #5, School Crossing - The School Crossing signal warrant is intended for application where the fact that school children cross the major street is the principal reason to consider installing a traffic control signal.

Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.

The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 ft, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant #6, Coordinated Signal System - Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles.

The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:

- 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.
- 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.

The coordinated Signal System should not be applied where the resultant spacing of traffic control signals would be less than 1000 ft.

Warrant #7, Crash Experience - The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal. The crashes must be of a type that is correctable by a traffic signal. Therefore, if a traffic signal is already in place, this warrant cannot be used to justify the installation.

Warrant #8, Roadway Network - Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network. The intersection must be projected to meet Warrant 1, 2 or 3 within the next five years.

Warrant #9, Intersection Near a Grade Crossing - This warrant is intended for use at a location where none of the conditions described in the other eight traffic signal warrants are met, but the proximity to the intersection of a grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic control signal.

### **3.2 Signal Warrant Analysis Results**

The traffic signal warrant analysis was conducted at all study intersections to determine if signalization is warranted. The following table summarizes the results of the signal warrant analyses. All supporting data, including the standard ODOT Signal Warrant sheets, can be found in **Appendix B**.

As indicated below, based on the traffic counts available, the following nine (9) intersections met at least one of the evaluated traffic signal warrants.

- Broadway/Erie Avenue
- Broadway/Elyria Avenue
- Broadway/21<sup>st</sup> Street
- Broadway/28<sup>th</sup> Street
- Broadway/30<sup>th</sup> Street
- Broadway/33<sup>rd</sup> Street
- Broadway/39<sup>th</sup> Street
- 28<sup>th</sup> Street/Elyria Avenue
- 28<sup>th</sup> Street/Fulton Road

Based on the exact count data, the intersection of Broadway and Elyria Avenue only meets 4 of the 8 hours for Warrant #1. However, the hours of 9:00 am, 11:00 am and 12:00 pm only need 11, 5 and 8 vehicles respectively to meet the warrant. If the count data were to be interpolated, the 2:00 hour would also meet the warrant. Based on engineering judgment, it is reasonable to conclude that this intersection satisfies Warrant #1.

Summary of Signal Warrant Analysis  
Lorain, Ohio

	INTERSECTION	Warrant #1		Warrant #2		Warrant #3		Warrant #4
		Hours Met	Warrant Met?	Hours Met	Warrant Met?	Hours Met	Warrant Met?	Warrant Met?
1	Broadway/Erie	8	Yes	8	Yes	5	Yes	No
2	Broadway/5th	0	No	0	No	0	No	No
3	Broadway/6th	0	No	0	No	0	No	No
4	Broadway/8th	0	No	0	No	0	No	No
5	Broadway/9th	0	No	0	No	0	No	No
6	Broadway/14th	0	No	0	No	0	No	No
7	Broadway/Elyria	8 *	Yes	0	No	0	No	No
8	Broadway/17th	0	No	0	No	0	No	No
9	Broadway/20th	0	No	0	No	0	No	No
10	Broadway/21st	9	Yes	9	Yes	7	Yes	No
11	Broadway/23rd	0	No	0	No	0	No	No
12	Broadway/28th	9	Yes	9	Yes	7	Yes	No
13	Broadway/30th	0	No	4	Yes	0	No	No
14	Broadway/31st	0	No	0	No	0	No	No
15	Broadway/33rd	8	Yes	5	Yes	2	Yes	No
16	Broadway/35th	0	No	1	No	0	No	No
17	Broadway/39th	8	Yes	4	Yes	1	Yes	No
18	28th/Reid	0	No	0	No	0	No	No
19	28th/Elyria	8	Yes	6	Yes	5	Yes	No
20	28th/Denver	0	No	1	No	0	No	No
21	28th/1380 E 28th	0	No	0	No	0	No	No
22	28th/Fulton	2	No	4	Yes	0	No	No
23	28th/Vine	0	No	0	No	0	No	No
24	28th/Pearl	0	No	1	No	0	No	No
25	28th/Grove	0	No	2	No	0	No	No

\* See Page 6 for details.

Warrant #1 - 8 Hour Warrant, Condition A or B

Warrant #2 - 4 Hour Warrant

Warrant #3 - Peak Hour Warrant

Warrant #4 - Pedestrian Volume



## 4.0 Conclusions and Recommendations

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A total of twenty-five (25) intersections in the City of Lorain have been investigated to determine if the traffic signals are warranted. Using the existing traffic counts, the results of the analysis indicate that the nine (9) study intersections listed below meet one or more traffic signal warrants:

- Broadway/Erie Avenue
- Broadway/Elyria Avenue
- Broadway/21<sup>st</sup> Street
- Broadway/28<sup>th</sup> Street
- Broadway/30<sup>th</sup> Street
- Broadway/33<sup>rd</sup> Street
- Broadway/39<sup>th</sup> Street
- 28<sup>th</sup> Street/Elyria Avenue
- 28<sup>th</sup> Street/Fulton Road

The following sixteen (16) signals currently do not meet any signal warrants.

- Broadway/5<sup>th</sup> Street
- Broadway/6<sup>th</sup> Street
- Broadway/8<sup>th</sup> Street
- Broadway/9<sup>th</sup> Street
- Broadway/14<sup>th</sup> Street
- Broadway/17<sup>th</sup> Street
- Broadway/20<sup>th</sup> Street
- Broadway/23<sup>rd</sup> Street
- Broadway/31<sup>st</sup> Street
- Broadway/35<sup>th</sup> Street
- 28<sup>th</sup> Street/Reid Avenue
- 28<sup>th</sup> Street/Denver Avenue
- 28<sup>th</sup> Street/1380 East 28<sup>th</sup> Street
- 28<sup>th</sup> Street/Vine Avenue
- 28<sup>th</sup> Street/Pearl Avenue
- 28<sup>th</sup> Street/Grove Avenue

The unwarranted signals should be removed by the City or as part of a citywide signal improvement project. In summary, of the twenty-five (25) intersections reviewed, nine (9) signals are warranted and should remain and sixteen (16) signals should be removed.

# **Appendix A**

**-Traffic Counts**

# 15-Minute Count Data

## Broadway Ave and W Erie Ave and E Erie Bridge

### Lorain, Ohio



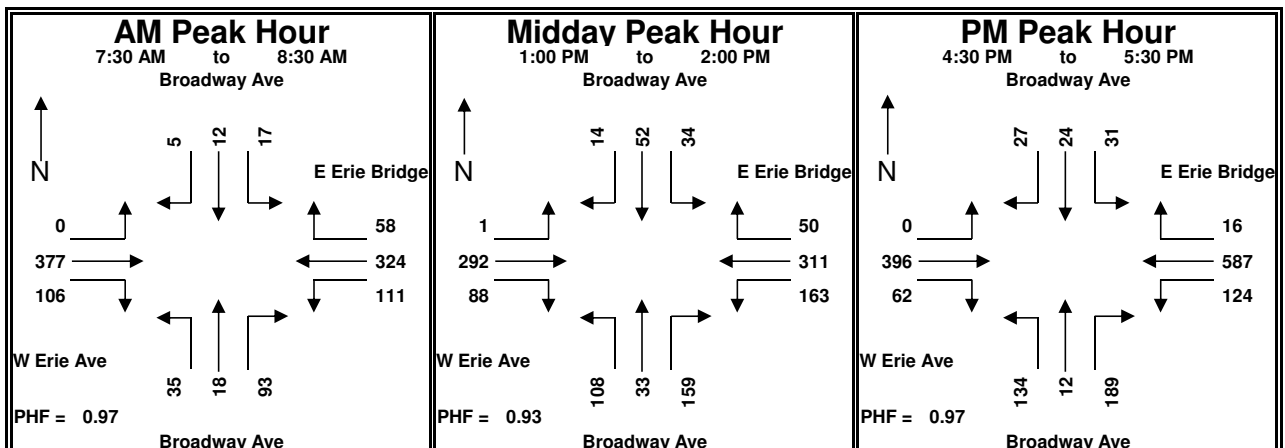
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

<b>Seasonal Factor</b>	<b>Day of Week</b>	<b>Date</b>	<b>Start Time</b>	<b>End Time</b>	<b>Weather</b>
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**Roadway Classification:**

**ADT Factor:** 1.70  
**Intersection ID:** 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W Erie Ave Eastbound				E Erie Bridge Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	766	233	1298	71	289	382	156	25	3124	5	2834	757	140	1171	3187	342	163	8296	11420
	Percent Trucks = 3%				Percent Trucks = 3%					Percent Trucks = 4%				Percent Trucks = 3%					
<b>ADT</b>	1200	365	2033	111	453	598	244	39	4893	8	4439	1186	219	1834	4992	536	255	12994	17887
7:00 AM	9	6	8	2	3	4	0	1	30	1	60	21	6	10	51	7	5	150	180
7:15 AM	4	6	12	2	5	2	0	1	29	1	65	13	2	23	57	10	11	169	198
7:30 AM	4	1	16	1	6	6	1	1	34	0	105	24	4	24	90	7	8	250	284
7:45 AM	5	4	24	3	1	2	1	0	37	0	99	24	6	32	65	18	8	238	275
8:00 AM	12	2	37	3	5	1	1	1	58	0	92	29	8	32	79	8	4	240	298
8:15 AM	14	11	16	2	5	3	2	0	51	0	81	29	3	23	90	25	8	248	299
8:30 AM	13	11	14	2	4	6	0	2	48	0	62	18	5	24	71	8	4	183	231
8:45 AM	21	12	33	3	6	4	0	3	76	0	68	27	7	40	69	13	13	217	293
9:00 AM	19	10	24	1	2	12	5	1	72	0	69	18	5	36	77	7	2	207	279
9:15 AM	23	7	21	1	4	16	2	1	73	0	46	23	1	29	63	16	3	177	250
9:30 AM	18	6	30	2	7	12	3	1	76	0	46	23	4	33	60	19	4	181	257
9:45 AM	13	11	26	2	13	14	6	1	83	0	62	18	6	39	52	12	2	183	266
11:00 AM	16	10	38	1	12	18	7	4	101	1	64	26	3	29	70	7	4	197	298
11:15 AM	18	0	33	2	10	20	4	1	85	0	57	19	3	17	72	3	6	168	253
11:30 AM	27	4	31	3	8	16	5	0	91	0	64	21	6	37	60	9	4	191	282
11:45 AM	25	9	42	3	11	12	18	0	117	0	60	15	3	28	60	13	4	176	293
12:00 PM	25	7	47	2	21	17	13	0	130	0	74	27	5	40	63	8	7	212	342
12:15 PM	20	5	30	4	13	11	2	2	81	0	82	14	4	40	73	10	3	219	300
12:30 PM	18	9	55	5	13	13	1	1	109	0	58	27	4	48	89	10	8	232	341
12:45 PM	25	14	34	1	11	9	0	0	93	0	66	38	4	24	67	12	6	207	300
1:00 PM	29	11	41	1	14	17	4	1	116	0	59	29	3	44	87	11	7	230	346
1:15 PM	25	12	27	0	4	14	3	0	85	0	71	20	7	39	60	21	3	211	296
1:30 PM	24	8	51	4	8	11	2	0	104	0	76	18	3	35	75	6	6	210	314
1:45 PM	30	2	40	2	8	10	5	0	95	1	86	21	2	45	89	12	4	254	349
3:00 PM	25	8	53	4	11	19	2	0	118	0	97	32	2	45	99	6	4	279	397
3:15 PM	23	8	51	0	11	17	6	0	116	0	96	26	7	43	116	7	6	288	404
3:30 PM	26	9	60	3	7	12	4	0	118	0	109	32	9	31	118	13	2	303	421
3:45 PM	21	5	43	1	8	17	3	0	97	0	94	13	5	42	114	4	3	267	364
4:00 PM	22	6	48	7	11	14	9	0	110	1	98	18	1	25	107	0	3	249	359
4:15 PM	26	2	45	1	5	13	4	1	95	0	92	11	0	31	102	12	3	248	343
4:30 PM	39	3	44	0	16	10	11	0	123	0	96	11	1	33	145	5	0	290	413
4:45 PM	25	4	33	0	6	7	5	0	80	0	111	13	1	38	155	3	1	320	400
5:00 PM	41	1	70	1	4	3	5	0	124	0	102	21	5	26	135	3	2	287	411
5:15 PM	29	4	42	1	5	4	6	0	90	0	87	17	1	27	152	5	4	288	378
5:30 PM	31	5	46	1	7	5	14	2	108	0	83	7	4	32	145	4	0	271	379
5:45 PM	21	0	33	0	4	11	2	0	71	0	97	14	0	27	110	8	1	256	327



Notes:

# 15-Minute Count Data

## Broadway Ave and 5th St

### Lorain, Ohio

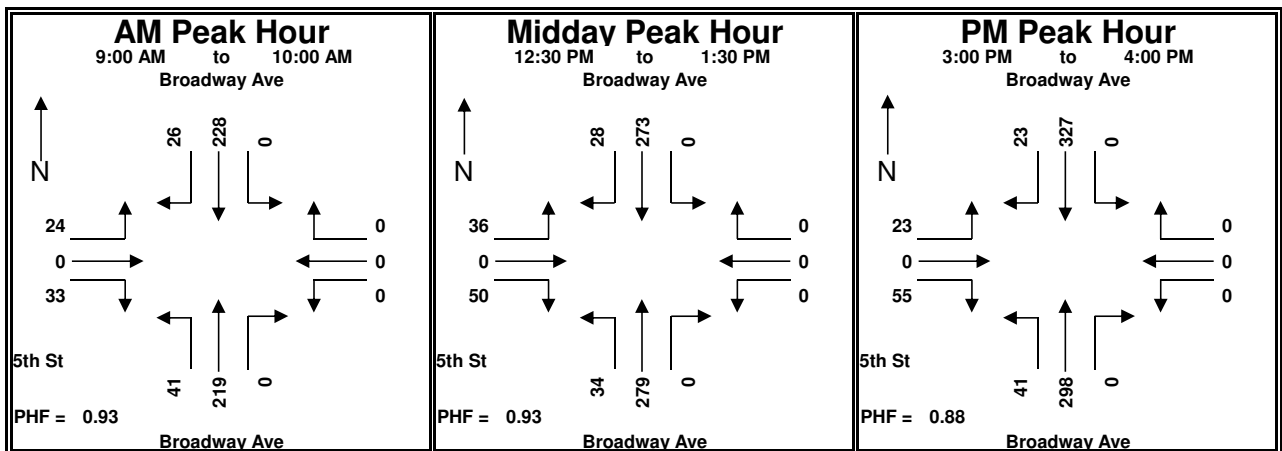


564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

<b>Seasonal Factor</b>	<b>Day of Week</b>	<b>Date</b>	<b>Start Time</b>	<b>End Time</b>	<b>Weather</b>
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70  
Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	5th St Eastbound				Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	292	2080	0	73	0	2093	183	66	4648	204	0	346	13	0	0	0	0	550	5198
	Percent Trucks = 3%				Percent Trucks = 3%					Percent Trucks = 2%				Percent Trucks = 0%					
<b>ADT</b>	457	3258	0	114	0	3278	287	103	7280	320	0	542	20	0	0	0	0	861	8142
7:00 AM	1	24	0	3	0	22	0	3	47	2	0	2	0	0	0	0	0	4	51
7:15 AM	3	29	0	1	0	33	4	2	69	2	0	2	1	0	0	0	0	4	73
7:30 AM	2	35	0	1	0	38	3	3	78	3	0	2	0	0	0	0	0	5	83
7:45 AM	6	41	0	5	0	40	4	2	91	5	0	6	1	0	0	0	0	11	102
8:00 AM	5	44	0	2	0	48	6	4	103	3	0	5	0	0	0	0	0	8	111
8:15 AM	7	43	0	1	0	36	6	1	92	1	0	7	0	0	0	0	0	8	100
8:30 AM	6	38	0	2	0	45	4	1	93	4	0	6	0	0	0	0	0	10	103
8:45 AM	6	58	0	2	0	53	11	4	128	5	0	6	1	0	0	0	0	11	139
9:00 AM	12	53	0	0	0	55	8	3	128	5	0	7	1	0	0	0	0	12	140
9:15 AM	8	54	0	2	0	56	4	1	122	6	0	3	0	0	0	0	0	9	131
9:30 AM	10	60	0	1	0	61	3	0	134	8	0	12	1	0	0	0	0	20	154
9:45 AM	11	52	0	3	0	56	11	1	130	5	0	11	1	0	0	0	0	16	146
11:00 AM	8	59	0	0	0	73	8	3	148	2	0	5	0	0	0	0	0	7	155
11:15 AM	8	40	0	3	0	55	3	1	106	6	0	15	0	0	0	0	0	21	127
11:30 AM	8	52	0	4	0	60	3	1	123	6	0	15	0	0	0	0	0	21	144
11:45 AM	13	71	0	3	0	60	4	2	148	5	0	19	0	0	0	0	0	24	172
12:00 PM	10	69	0	1	0	75	7	2	161	7	0	13	1	0	0	0	0	20	181
12:15 PM	14	50	0	3	0	62	7	4	133	7	0	12	0	0	0	0	0	19	152
12:30 PM	6	63	0	5	0	62	7	2	138	12	0	17	1	0	0	0	0	29	167
12:45 PM	13	80	0	0	0	61	7	3	161	10	0	12	2	0	0	0	0	22	183
1:00 PM	10	70	0	2	0	85	5	3	170	8	0	11	0	0	0	0	0	19	189
1:15 PM	5	66	0	0	0	65	9	0	145	6	0	10	0	0	0	0	0	16	161
1:30 PM	16	68	0	4	0	57	5	3	146	4	0	13	2	0	0	0	0	17	163
1:45 PM	10	64	0	3	0	59	10	0	143	6	0	13	0	0	0	0	0	19	162
3:00 PM	12	74	0	6	0	97	9	2	192	9	0	17	0	0	0	0	0	26	218
3:15 PM	11	82	0	2	0	76	7	2	176	4	0	18	0	0	0	0	0	22	198
3:30 PM	7	83	0	2	0	79	1	1	170	7	0	12	0	0	0	0	0	19	189
3:45 PM	11	59	0	2	0	75	6	1	151	3	0	8	1	0	0	0	0	11	162
4:00 PM	6	72	0	2	0	64	5	3	147	6	0	9	0	0	0	0	0	15	162
4:15 PM	6	61	0	2	0	66	2	4	135	6	0	8	0	0	0	0	0	14	149
4:30 PM	9	73	0	0	0	63	0	0	145	8	0	13	0	0	0	0	0	21	166
4:45 PM	8	49	0	0	0	54	1	0	112	6	0	11	0	0	0	0	0	17	129
5:00 PM	9	71	0	2	0	62	2	1	144	10	0	10	0	0	0	0	0	20	164
5:15 PM	5	67	0	2	0	51	3	1	126	5	0	6	0	0	0	0	0	11	137
5:30 PM	4	62	0	1	0	36	5	2	107	3	0	5	0	0	0	0	0	8	115
5:45 PM	6	44	0	1	0	53	3	0	106	9	0	5	0	0	0	0	0	14	120



Notes:



# 15-Minute Count Data

## Broadway Ave and W 6th St and E 6th St

### Lorain, Ohio



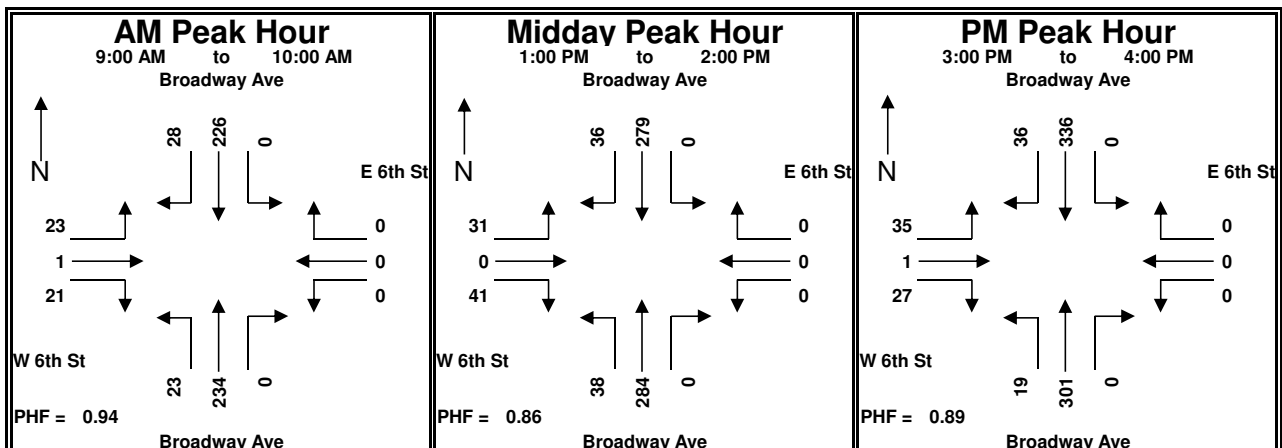
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 6th St Eastbound				E 6th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
Totals	240	2115	0	79	0	2175	235	71	4765	227	2	266	14	0	0	1	0	496	5261
	Percent Trucks = 3%				Percent Trucks = 3%					Percent Trucks = 3%				Percent Trucks = 0%					
ADT	376	3313	0	124	0	3407	368	111	7464	356	3	417	22	0	0	2	0	777	8240
7:00 AM	1	24	0	3	0	24	0	3	49	0	0	3	0	0	0	0	0	3	52
7:15 AM	1	30	0	1	0	33	2	2	66	2	0	1	0	0	0	0	0	3	69
7:30 AM	5	32	0	1	0	40	0	3	77	2	0	5	0	0	0	0	0	7	84
7:45 AM	2	44	0	5	0	38	2	2	86	3	0	2	0	0	0	0	0	5	91
8:00 AM	7	46	0	3	0	46	5	4	104	3	0	4	2	0	0	0	0	7	111
8:15 AM	5	49	0	1	0	38	2	0	94	0	0	8	0	0	0	0	0	8	102
8:30 AM	4	41	0	2	0	42	7	3	94	3	0	3	0	0	0	0	0	6	100
8:45 AM	9	63	0	3	0	49	8	2	129	3	0	7	0	0	0	0	0	10	139
9:00 AM	11	61	0	0	0	54	9	2	135	5	1	7	0	0	0	0	0	13	148
9:15 AM	2	53	0	2	0	50	6	1	111	6	0	3	0	0	0	0	0	9	120
9:30 AM	3	65	0	3	0	61	7	0	136	4	0	8	0	0	0	0	0	12	148
9:45 AM	7	55	0	3	0	61	6	3	129	8	0	3	1	0	0	0	0	11	140
11:00 AM	3	59	0	0	0	73	7	3	142	7	0	7	2	0	0	0	0	14	156
11:15 AM	11	48	0	4	0	68	7	1	134	4	0	8	0	0	0	0	0	12	146
11:30 AM	11	54	0	2	0	69	5	1	139	5	0	8	2	0	0	0	0	13	152
11:45 AM	5	72	0	3	0	75	11	2	163	7	0	11	0	0	0	0	0	18	181
12:00 PM	10	66	0	1	0	77	9	3	162	8	0	11	2	0	0	0	0	19	181
12:15 PM	7	55	0	4	0	65	9	3	136	6	0	10	0	0	0	1	0	17	153
12:30 PM	8	59	0	5	0	69	2	4	138	11	0	13	0	0	0	0	0	24	162
12:45 PM	12	74	0	1	0	60	6	3	152	10	0	6	0	0	0	0	0	16	168
1:00 PM	14	79	0	2	0	84	12	3	189	7	0	11	0	0	0	0	0	18	207
1:15 PM	6	61	0	0	0	64	9	0	140	8	0	9	1	0	0	0	0	17	157
1:30 PM	8	75	0	5	0	65	8	5	156	9	0	8	1	0	0	0	0	17	173
1:45 PM	10	69	0	2	0	66	7	1	152	7	0	13	1	0	0	0	0	20	172
3:00 PM	9	76	0	6	0	99	9	1	193	11	1	8	0	0	0	0	0	20	213
3:15 PM	5	79	0	2	0	81	8	2	173	7	0	9	0	0	0	0	0	16	189
3:30 PM	3	83	0	2	0	86	8	1	180	10	0	7	0	0	0	0	0	17	197
3:45 PM	2	63	0	2	0	70	11	3	146	7	0	3	1	0	0	0	0	10	156
4:00 PM	7	66	0	5	0	64	5	2	142	9	0	10	1	0	0	0	0	19	161
4:15 PM	10	60	0	2	0	69	8	5	147	8	0	8	0	0	0	0	0	16	163
4:30 PM	7	69	0	0	0	62	10	0	148	11	0	7	0	0	0	0	0	18	166
4:45 PM	7	49	0	0	0	54	11	0	121	7	0	7	0	0	0	0	0	14	135
5:00 PM	7	66	0	2	0	68	5	0	146	7	0	13	0	0	0	0	0	20	166
5:15 PM	10	64	0	1	0	46	7	1	127	8	0	12	0	0	0	0	0	20	147
5:30 PM	6	60	0	1	0	49	2	2	117	8	0	7	0	0	0	0	0	15	132
5:45 PM	5	46	0	0	0	56	5	0	112	6	0	6	0	0	0	0	0	12	124



Notes:

# 15-Minute Count Data

## Broadway Ave and W 8th St and E 8th St

### Lorain, Ohio



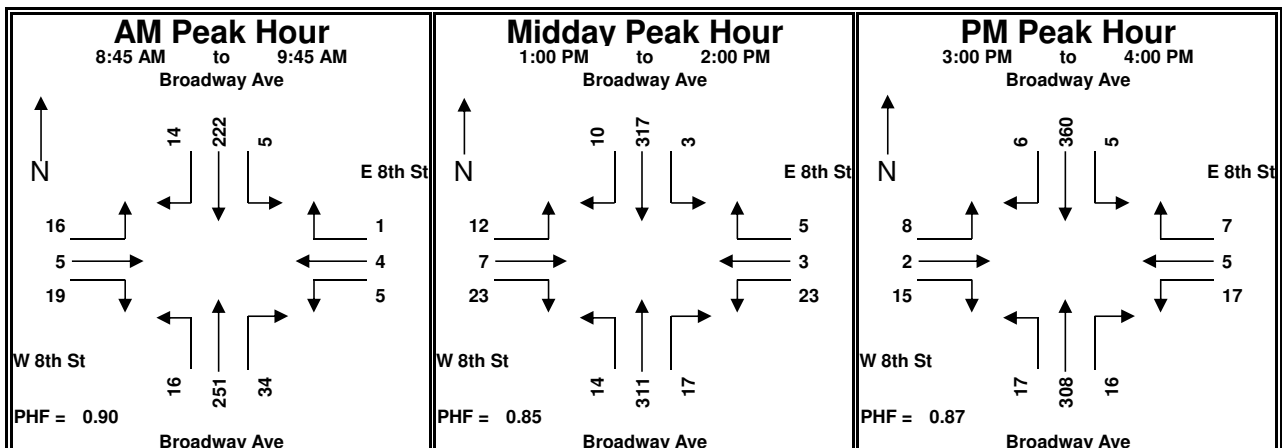
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 8th St Eastbound				E 8th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
Totals	141	2282	173	86	36	2374	83	64	5089	89	36	160	10	148	36	38	17	507	5596
	Percent Trucks = 3%				Percent Trucks = 3%					Percent Trucks = 4%				Percent Trucks = 8%					
ADT	221	3574	271	135	56	3718	130	100	7971	139	56	251	16	232	56	60	27	794	8765
7:00 AM	3	22	6	4	0	26	1	0	58	0	1	3	0	0	0	0	0	4	62
7:15 AM	0	33	3	1	0	33	2	1	71	0	1	7	0	3	0	0	2	11	82
7:30 AM	4	34	7	2	1	41	1	0	88	0	2	5	1	1	0	0	0	8	96
7:45 AM	2	49	9	4	0	41	1	1	102	0	1	2	0	1	1	0	0	5	107
8:00 AM	5	48	8	4	1	42	2	3	106	2	1	3	1	2	0	0	1	8	114
8:15 AM	3	57	6	1	0	48	0	0	114	1	3	4	0	1	0	0	1	9	123
8:30 AM	2	47	4	1	1	45	1	1	100	2	1	4	0	0	0	0	0	7	107
8:45 AM	4	79	13	3	2	49	4	2	151	2	0	7	0	1	0	0	1	10	161
9:00 AM	5	57	4	1	2	55	6	3	129	4	2	5	0	2	2	1	2	16	145
9:15 AM	2	50	6	2	0	53	1	1	112	4	1	3	0	1	1	0	0	10	122
9:30 AM	5	65	11	6	1	65	3	0	150	6	2	4	1	1	1	0	0	14	164
9:45 AM	3	66	7	2	0	60	5	3	141	1	1	2	1	5	0	2	2	11	152
11:00 AM	8	61	1	1	3	75	3	4	151	2	0	6	1	0	1	3	1	12	163
11:15 AM	2	52	5	4	3	75	5	1	142	5	1	1	1	1	0	2	0	10	152
11:30 AM	4	65	3	3	0	75	2	2	149	1	1	6	0	5	0	0	1	13	162
11:45 AM	2	73	4	2	2	84	0	3	165	3	1	5	0	4	3	4	0	20	185
12:00 PM	6	75	1	1	0	90	3	2	175	3	1	5	1	4	2	2	1	17	192
12:15 PM	5	65	5	4	0	79	3	3	157	3	1	8	1	8	1	0	1	21	178
12:30 PM	6	66	7	5	2	73	1	3	155	1	1	3	0	9	0	1	0	15	170
12:45 PM	4	78	5	1	1	65	3	4	156	5	0	6	0	5	1	1	0	18	174
1:00 PM	4	92	5	3	1	94	1	1	197	2	3	10	0	8	0	0	1	23	220
1:15 PM	3	63	2	0	0	75	3	1	146	3	1	7	0	5	1	1	1	18	164
1:30 PM	1	82	5	5	1	69	2	5	160	3	1	3	1	5	1	1	1	14	174
1:45 PM	6	74	5	4	1	79	4	0	169	4	2	3	0	5	1	3	1	18	187
3:00 PM	3	79	6	4	2	113	0	1	203	2	0	6	1	5	3	2	0	18	221
3:15 PM	1	85	5	2	2	85	2	3	180	3	1	5	0	4	0	3	0	16	196
3:30 PM	6	79	2	2	0	93	3	1	183	2	1	1	0	7	1	2	0	14	197
3:45 PM	7	65	3	2	1	69	1	3	146	1	0	3	0	1	1	0	0	6	152
4:00 PM	4	72	5	6	1	72	2	3	156	2	0	0	0	5	0	1	0	8	164
4:15 PM	6	72	3	2	0	78	2	5	161	2	3	4	0	5	0	0	0	14	175
4:30 PM	4	72	1	0	0	70	2	0	149	3	1	5	0	12	9	0	0	30	179
4:45 PM	5	61	5	0	2	56	3	0	132	2	0	5	0	5	0	0	0	12	144
5:00 PM	3	67	4	2	0	81	5	0	160	4	1	6	0	15	1	2	0	29	189
5:15 PM	6	64	2	1	0	56	2	1	130	5	0	5	0	5	3	1	0	19	149
5:30 PM	4	64	0	1	3	50	0	2	121	2	0	2	0	3	1	3	0	11	132
5:45 PM	3	49	5	0	3	60	4	1	124	4	0	6	0	4	1	3	0	18	142



Notes:

# 15-Minute Count Data

## Broadway Ave and W 9th St and E 9th St

### Lorain, Ohio



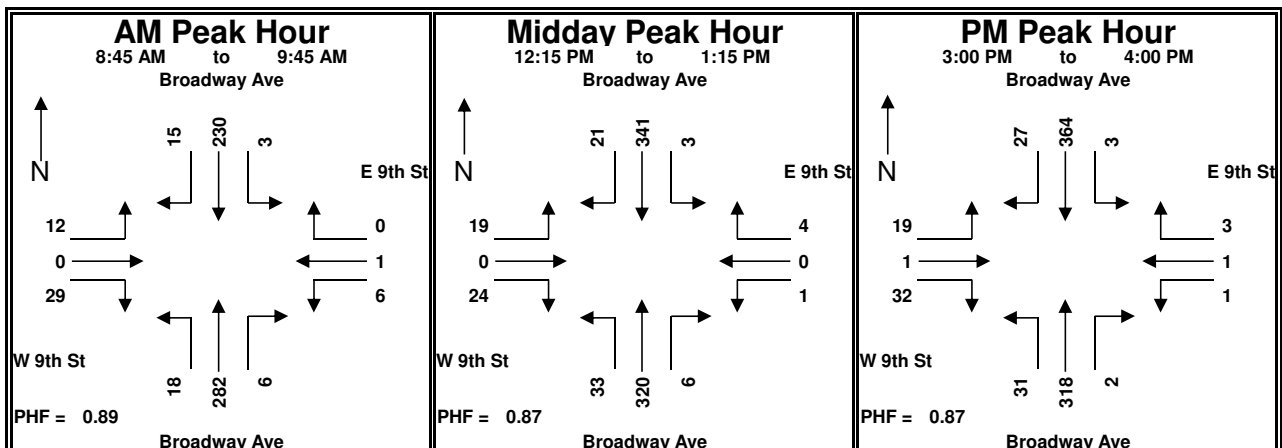
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 9th St Eastbound				E 9th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
Totals	252	2448	27	95	17	2502	163	92	5409	114	6	237	12	22	7	20	11	406	5815
	Percent Trucks = 3%				Percent Trucks = 3%					Percent Trucks = 3%				Percent Trucks = 22%					
ADT	395	3834	42	149	27	3919	255	144	8472	179	9	371	19	34	11	31	17	636	9108
7:00 AM	2	28	0	4	0	31	1	4	62	0	0	7	0	0	0	1	0	8	70
7:15 AM	2	37	2	3	1	38	2	4	82	0	0	4	0	1	0	0	1	5	87
7:30 AM	3	42	0	2	1	42	4	2	92	0	0	10	0	2	0	1	2	13	105
7:45 AM	7	61	0	6	0	35	9	1	112	0	1	7	0	0	0	0	0	8	120
8:00 AM	3	64	0	6	0	46	2	6	115	0	0	2	1	1	0	1	1	4	119
8:15 AM	5	59	0	1	0	50	3	2	117	1	0	5	0	0	0	0	0	6	123
8:30 AM	4	51	0	3	0	45	1	1	101	5	0	4	0	0	0	0	0	9	110
8:45 AM	7	88	1	3	1	52	4	3	153	5	0	8	0	1	0	0	1	14	167
9:00 AM	1	59	1	1	0	63	3	5	127	4	0	7	0	0	0	0	0	11	138
9:15 AM	6	58	2	3	1	49	1	1	117	1	0	5	0	4	0	0	1	10	127
9:30 AM	4	77	2	5	1	66	7	1	157	2	0	9	0	1	1	0	0	13	170
9:45 AM	11	69	2	2	0	61	1	6	144	4	0	3	0	0	0	1	0	8	152
11:00 AM	3	60	2	1	1	77	1	3	144	7	0	10	1	2	0	0	0	19	163
11:15 AM	3	62	1	5	0	76	3	2	145	1	0	9	0	0	1	0	0	11	156
11:30 AM	8	66	0	2	0	79	6	2	159	2	1	3	0	1	0	0	0	7	166
11:45 AM	11	78	0	2	0	88	3	3	180	5	0	6	0	0	0	0	0	11	191
12:00 PM	6	77	1	4	1	98	2	5	185	1	1	3	0	1	1	2	1	9	194
12:15 PM	10	71	2	4	2	87	3	3	175	6	0	10	0	1	0	1	1	18	193
12:30 PM	6	73	0	4	0	86	7	4	172	3	0	5	2	0	0	0	0	8	180
12:45 PM	8	84	1	3	1	73	2	5	169	4	0	5	0	0	0	0	0	9	178
1:00 PM	9	92	3	3	0	95	9	3	208	6	0	4	1	0	0	3	1	13	221
1:15 PM	13	66	0	0	1	86	3	2	169	3	0	6	0	1	0	0	0	10	179
1:30 PM	9	77	0	5	1	70	11	4	168	6	0	4	0	1	1	1	1	13	181
1:45 PM	8	79	0	3	0	73	9	1	169	6	0	10	0	1	0	0	1	17	186
3:00 PM	10	85	1	3	2	112	7	1	217	5	0	5	0	0	0	3	0	13	230
3:15 PM	5	87	0	1	1	88	11	2	192	3	0	7	0	0	1	0	0	11	203
3:30 PM	11	74	1	2	0	96	3	1	185	4	0	14	2	1	0	0	0	19	204
3:45 PM	5	72	0	3	0	68	6	3	151	7	1	6	2	0	0	0	0	14	165
4:00 PM	8	77	0	5	0	76	0	3	161	3	0	5	2	0	0	0	0	8	169
4:15 PM	12	79	1	1	0	81	5	5	178	2	0	12	0	0	0	0	0	14	192
4:30 PM	11	72	1	0	0	82	7	0	173	4	0	11	1	1	0	1	0	17	190
4:45 PM	5	68	1	0	0	61	4	0	139	4	1	7	0	1	1	0	0	14	153
5:00 PM	10	71	1	2	0	96	7	0	185	3	0	6	0	0	1	1	0	11	196
5:15 PM	10	66	0	1	1	64	6	2	147	4	1	8	0	0	0	2	0	15	162
5:30 PM	9	69	1	2	1	49	3	2	132	2	0	6	0	1	0	0	0	9	141
5:45 PM	7	50	0	0	0	63	7	0	127	1	0	4	0	0	0	2	0	7	134



Notes:

# 15-Minute Count Data

## Broadway Ave and W 14th St and E 14th St

### Lorain, Ohio



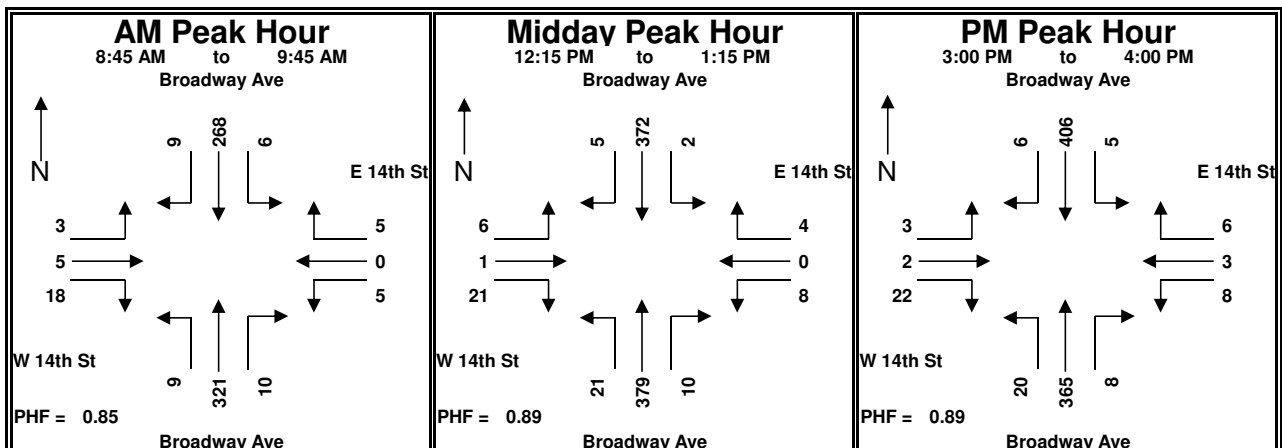
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 14th St Eastbound				E 14th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	141	2839	68	112	48	2820	52	117	5968	37	15	154	9	55	8	60	8	329	6297
	Percent Trucks = 4%				Percent Trucks = 4%					Percent Trucks = 4%				Percent Trucks = 7%					
<b>ADT</b>	221	4447	107	175	75	4417	81	183	9348	58	23	241	14	86	13	94	13	515	9863
7:00 AM	5	31	1	6	1	37	2	2	77	0	1	7	0	2	0	0	0	10	87
7:15 AM	2	43	2	4	0	36	3	4	86	7	0	3	2	0	0	0	0	10	96
7:30 AM	1	57	1	2	1	51	0	7	111	1	1	4	0	0	0	1	0	7	118
7:45 AM	4	90	4	8	2	37	2	2	139	3	0	5	0	0	0	1	0	9	148
8:00 AM	3	71	1	5	1	43	2	6	121	1	0	3	1	0	0	1	0	5	126
8:15 AM	1	70	0	2	1	57	1	4	130	3	0	1	0	0	0	1	0	5	135
8:30 AM	1	55	1	3	1	48	1	2	107	0	0	2	0	1	0	1	2	4	111
8:45 AM	4	103	2	4	2	69	2	5	182	3	0	7	1	1	0	0	0	11	193
9:00 AM	0	67	2	2	0	74	0	6	143	0	2	5	0	2	0	0	0	9	152
9:15 AM	0	70	2	3	1	57	4	5	134	0	1	2	0	0	0	1	0	4	138
9:30 AM	5	81	4	7	3	68	3	1	164	0	2	4	1	2	0	4	0	12	176
9:45 AM	1	77	2	2	1	71	2	5	154	0	0	0	0	3	0	5	2	8	162
11:00 AM	7	70	2	2	0	94	4	5	177	0	0	3	0	1	0	1	0	5	182
11:15 AM	3	67	1	4	1	88	0	1	160	0	0	9	0	0	0	3	0	12	172
11:30 AM	2	84	1	3	2	82	1	4	172	0	1	4	0	1	0	1	0	7	179
11:45 AM	4	85	2	3	2	89	1	0	183	2	0	1	0	2	0	1	0	6	189
12:00 PM	2	90	1	4	2	111	2	7	208	0	1	2	1	1	1	2	0	7	215
12:15 PM	2	92	2	3	0	95	2	4	193	0	1	4	1	3	0	0	0	8	201
12:30 PM	5	82	2	5	0	92	1	5	182	3	0	7	0	4	0	2	1	16	198
12:45 PM	4	100	3	3	0	80	1	7	188	3	0	7	0	0	0	0	0	10	198
1:00 PM	10	105	3	4	2	105	1	4	226	0	0	3	0	1	0	2	1	6	232
1:15 PM	6	78	0	0	2	90	3	6	179	0	0	4	0	1	0	0	0	5	184
1:30 PM	3	95	2	5	0	80	0	4	180	0	1	3	0	3	0	2	0	9	189
1:45 PM	3	91	1	6	4	83	2	2	184	2	0	4	0	1	1	4	1	12	196
3:00 PM	4	98	1	6	1	125	0	2	229	0	0	9	1	2	0	1	0	12	241
3:15 PM	6	94	3	2	1	90	3	0	197	2	1	5	0	1	2	2	0	13	210
3:30 PM	5	94	3	2	1	119	1	2	223	1	0	5	0	2	1	2	1	11	234
3:45 PM	5	79	1	5	2	72	2	2	161	0	1	3	1	3	0	1	0	8	169
4:00 PM	5	84	3	3	2	77	2	1	173	3	0	2	0	1	1	2	0	9	182
4:15 PM	8	88	3	1	2	92	1	7	194	0	0	5	0	2	0	4	0	11	205
4:30 PM	5	89	3	0	3	117	0	1	217	1	0	8	0	4	0	2	0	15	232
4:45 PM	9	67	2	0	2	79	0	0	159	1	0	3	0	1	1	4	0	10	169
5:00 PM	5	82	2	2	0	107	0	0	196	1	0	5	0	6	1	3	0	16	212
5:15 PM	4	68	2	1	2	68	0	1	144	0	0	7	0	1	0	2	0	10	154
5:30 PM	3	77	3	0	0	71	2	3	156	0	1	5	0	3	0	2	0	11	167
5:45 PM	4	65	0	0	3	66	1	0	139	0	1	3	0	0	0	2	0	6	145



Notes:

# 15-Minute Count Data

## Broadway Ave and Elyria Ave

### Lorain, Ohio



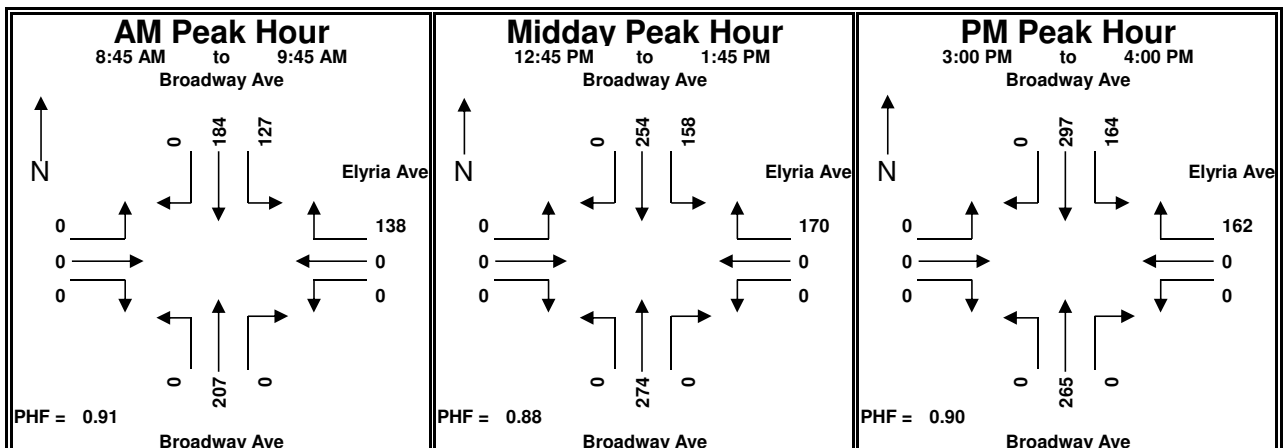
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	Eastbound				Elyria Ave Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
Totals	0	1954	0	98	1239	1992	0	133	5185	0	0	0	0	0	0	1308	25	1308	6493
	Percent Trucks = 5%				Percent Trucks = 4%					Percent Trucks = 0%				Percent Trucks = 2%					
ADT	0	3061	0	154	1941	3120	0	208	8121	0	0	0	0	0	0	2049	39	2049	10170
7:00 AM	0	23	0	5	28	19	0	2	70	0	0	0	0	0	0	15	0	15	85
7:15 AM	0	31	0	3	18	24	0	5	73	0	0	0	0	0	0	21	1	21	94
7:30 AM	0	41	0	3	25	32	0	7	98	0	0	0	0	0	0	31	0	31	129
7:45 AM	0	64	0	6	21	20	0	1	105	0	0	0	0	0	0	44	1	44	149
8:00 AM	0	57	0	6	23	29	0	9	109	0	0	0	0	0	0	22	0	22	131
8:15 AM	0	45	0	2	25	35	0	5	105	0	0	0	0	0	0	27	0	27	132
8:30 AM	0	34	0	3	17	34	0	3	85	0	0	0	0	0	0	34	0	34	119
8:45 AM	0	66	0	6	39	39	0	5	144	0	0	0	0	0	0	37	0	37	181
9:00 AM	0	43	0	1	30	64	0	7	137	0	0	0	0	0	0	30	1	30	167
9:15 AM	0	40	0	3	23	37	0	4	100	0	0	0	0	0	0	43	1	43	143
9:30 AM	0	58	0	5	35	44	0	2	137	0	0	0	0	0	0	28	2	28	165
9:45 AM	0	47	0	1	22	57	0	6	126	0	0	0	0	0	0	38	1	38	164
11:00 AM	0	55	0	3	35	66	0	5	156	0	0	0	0	0	0	30	1	30	186
11:15 AM	0	50	0	3	50	62	0	2	162	0	0	0	0	0	0	28	1	28	190
11:30 AM	0	57	0	4	31	59	0	5	147	0	0	0	0	0	0	38	0	38	185
11:45 AM	0	52	0	3	39	62	0	0	153	0	0	0	0	0	0	46	0	46	199
12:00 PM	0	58	0	4	47	69	0	8	174	0	0	0	0	0	0	35	1	35	209
12:15 PM	0	61	0	4	38	68	0	5	167	0	0	0	0	0	0	40	1	40	207
12:30 PM	0	64	0	3	32	70	0	6	166	0	0	0	0	0	0	29	1	29	195
12:45 PM	0	74	0	2	47	46	0	6	167	0	0	0	0	0	0	41	1	41	208
1:00 PM	0	79	0	2	41	76	0	2	196	0	0	0	0	0	0	46	2	46	242
1:15 PM	0	59	0	1	37	67	0	6	163	0	0	0	0	0	0	39	1	39	202
1:30 PM	0	62	0	4	33	65	0	3	160	0	0	0	0	0	0	44	1	44	204
1:45 PM	0	59	0	5	31	64	0	3	154	0	0	0	0	0	0	34	0	34	188
3:00 PM	0	64	0	3	45	91	0	2	200	0	0	0	0	0	0	46	2	46	246
3:15 PM	0	70	0	2	40	63	0	1	173	0	0	0	0	0	0	44	1	44	217
3:30 PM	0	65	0	2	46	91	0	3	202	0	0	0	0	0	0	38	3	38	240
3:45 PM	0	66	0	4	33	52	0	3	151	0	0	0	0	0	0	34	0	34	185
4:00 PM	0	57	0	2	32	50	0	2	139	0	0	0	0	0	0	45	2	45	184
4:15 PM	0	59	0	0	40	64	0	5	163	0	0	0	0	0	0	53	0	53	216
4:30 PM	0	63	0	0	53	90	0	5	206	0	0	0	0	0	0	40	0	40	246
4:45 PM	0	41	0	1	29	66	0	2	136	0	0	0	0	0	0	34	0	34	170
5:00 PM	0	46	0	1	49	70	0	0	165	0	0	0	0	0	0	46	0	46	211
5:15 PM	0	52	0	1	39	48	0	0	139	0	0	0	0	0	0	47	0	47	186
5:30 PM	0	58	0	0	42	46	0	3	146	0	0	0	0	0	0	30	0	30	176
5:45 PM	0	34	0	0	24	53	0	0	111	0	0	0	0	0	0	31	0	31	142



Notes:

# 15-Minute Count Data

## Broadway Ave and W 17th St

### Lorain, Ohio



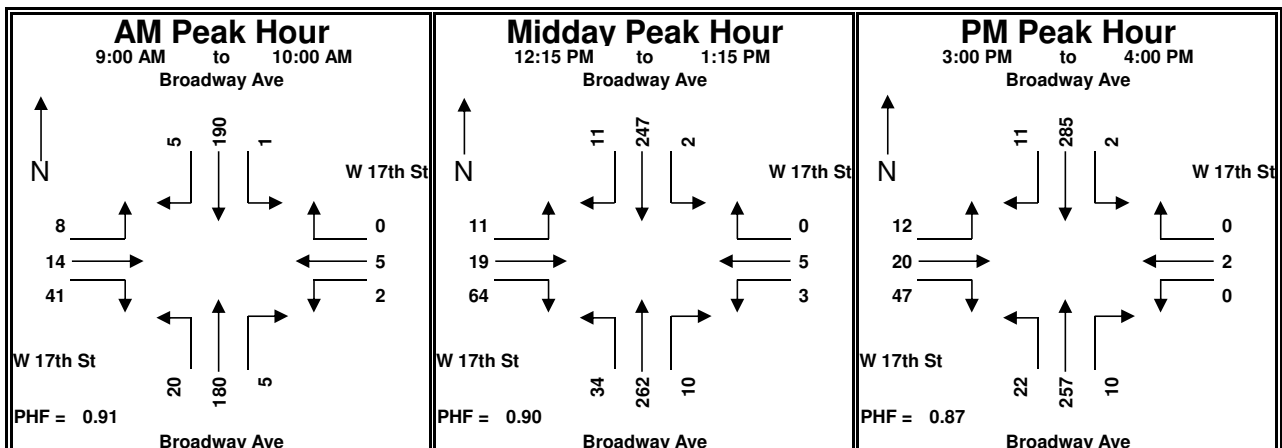
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 17th St Eastbound				W 17th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	204	1877	61	103	9	1914	61	101	4126	76	125	364	22	15	42	0	2	622	4748
	Percent Trucks = 5%				Percent Trucks = 5%					Percent Trucks = 4%				Percent Trucks = 4%					
<b>ADT</b>	320	2940	96	161	14	2998	96	158	6463	119	196	570	34	23	66	0	3	974	7437
7:00 AM	3	24	0	7	0	20	0	0	47	0	2	6	0	0	2	0	0	10	57
7:15 AM	6	30	1	3	0	23	1	3	61	1	2	7	2	0	1	0	0	11	72
7:30 AM	5	40	1	3	0	28	1	6	75	0	3	4	2	0	2	0	0	9	84
7:45 AM	4	62	0	8	0	21	2	1	89	0	2	8	0	0	0	0	0	10	99
8:00 AM	5	57	1	5	0	24	2	6	89	3	5	9	1	0	1	0	0	18	107
8:15 AM	5	43	1	2	0	33	1	6	83	1	1	7	1	1	0	0	0	10	93
8:30 AM	7	31	3	7	0	31	1	3	73	2	2	7	0	0	1	0	0	12	85
8:45 AM	5	68	2	4	0	42	0	3	117	0	1	5	0	0	1	0	0	7	124
9:00 AM	3	43	1	1	1	55	1	8	104	1	3	13	1	2	2	0	1	21	125
9:15 AM	4	39	0	3	0	38	1	4	82	1	4	7	1	0	1	0	0	13	95
9:30 AM	6	53	0	4	0	42	2	3	103	5	4	9	1	0	1	0	0	19	122
9:45 AM	7	45	4	2	0	55	1	6	112	1	3	12	0	0	1	0	0	17	129
11:00 AM	5	53	0	4	0	61	2	4	121	1	6	16	0	0	0	0	0	23	144
11:15 AM	5	46	0	2	0	62	1	1	114	4	4	12	0	0	3	0	0	23	137
11:30 AM	12	56	2	5	0	59	0	6	129	3	7	7	2	1	3	0	0	21	150
11:45 AM	12	45	2	3	1	59	1	0	120	6	6	10	0	1	1	0	0	24	144
12:00 PM	8	53	2	4	0	69	3	6	135	5	4	14	0	0	1	0	0	24	159
12:15 PM	13	57	6	3	1	58	5	2	140	3	4	8	0	2	4	0	0	21	161
12:30 PM	7	61	0	3	1	68	3	7	140	3	3	24	1	0	1	0	0	31	171
12:45 PM	8	69	2	2	0	45	1	3	125	2	8	15	2	1	0	0	0	26	151
1:00 PM	6	75	2	4	0	76	2	1	161	3	4	17	1	0	0	0	0	24	185
1:15 PM	8	60	1	0	0	63	2	3	134	1	7	11	0	0	1	0	0	20	154
1:30 PM	2	62	6	3	0	64	1	3	135	2	1	22	2	1	1	0	1	27	162
1:45 PM	9	56	2	5	1	58	3	2	129	3	2	8	1	1	1	0	0	15	144
3:00 PM	5	67	4	3	1	89	2	3	168	2	8	12	1	0	1	0	0	23	191
3:15 PM	7	71	2	2	0	57	3	0	140	1	5	14	1	0	1	0	0	21	161
3:30 PM	7	57	2	1	1	85	3	4	155	5	5	14	0	0	0	0	0	24	179
3:45 PM	3	62	2	4	0	54	3	1	124	4	2	7	0	0	0	0	0	13	137
4:00 PM	3	53	2	1	0	47	2	1	107	2	1	12	0	0	2	0	0	17	124
4:15 PM	5	56	1	2	0	67	0	2	129	2	4	9	1	0	0	0	0	15	144
4:30 PM	8	58	3	0	1	83	4	0	157	2	0	6	1	0	2	0	0	10	167
4:45 PM	1	41	0	0	0	67	1	1	110	3	2	5	0	2	1	0	0	13	123
5:00 PM	3	47	5	2	0	65	2	0	122	0	3	12	0	1	1	0	0	17	139
5:15 PM	2	45	1	1	1	49	2	0	100	1	1	6	0	1	1	0	0	10	110
5:30 PM	1	57	0	0	0	47	0	1	105	3	2	5	0	1	2	0	0	13	118
5:45 PM	4	35	0	0	0	50	2	1	91	0	4	4	0	0	2	0	0	10	101



Notes:

# 15-Minute Count Data

## Broadway Ave and W 20th St and E 20th St

### Lorain, Ohio



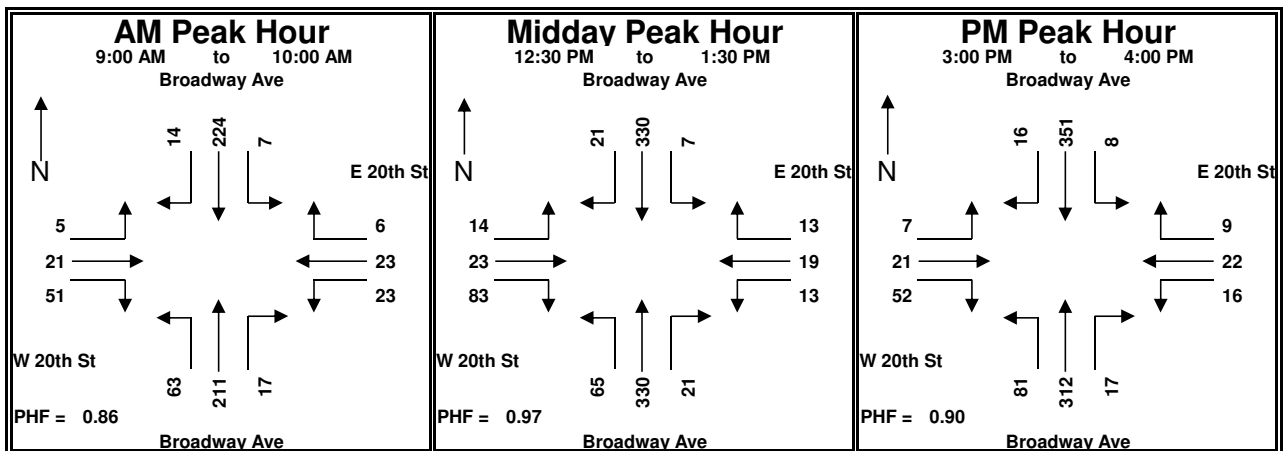
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

Roadway Classification:

ADT Factor: 1.70  
Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 20th St Eastbound				E 20th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	472	2296	140	126	81	2330	161	123	5480	68	138	592	31	114	165	83	9	1160	6640
	Percent Trucks = 4%				Percent Trucks = 5%					Percent Trucks = 4%				Percent Trucks = 2%					
<b>ADT</b>	739	3596	219	197	127	3650	252	193	8583	107	216	927	49	179	258	130	14	1817	10400
7:00 AM	6	29	2	9	0	26	0	0	63	2	1	1	1	0	2	0	0	6	69
7:15 AM	8	39	3	6	0	28	0	3	78	0	0	1	0	0	0	1	0	2	80
7:30 AM	8	58	0	4	1	30	2	6	99	1	1	8	3	0	0	0	0	10	109
7:45 AM	10	68	2	7	5	27	5	4	117	1	2	4	1	2	1	0	0	10	127
8:00 AM	10	64	2	8	4	25	4	6	109	1	1	11	4	5	6	3	1	27	136
8:15 AM	13	57	7	2	2	40	4	7	123	2	2	12	1	0	7	1	0	24	147
8:30 AM	9	49	0	6	3	37	1	3	99	1	2	15	1	2	1	2	0	23	122
8:45 AM	17	68	3	7	3	43	2	4	136	3	0	14	1	4	7	5	1	33	169
9:00 AM	12	52	3	2	2	67	4	9	140	2	2	17	1	7	4	0	0	32	172
9:15 AM	12	46	8	7	2	46	5	5	119	1	8	13	0	3	7	0	0	32	151
9:30 AM	17	53	3	4	0	51	2	3	126	2	3	6	2	6	3	3	1	23	149
9:45 AM	22	60	3	4	3	60	3	7	151	0	8	15	0	7	9	3	0	42	193
11:00 AM	18	63	5	7	3	68	9	4	166	1	2	23	1	4	8	2	1	40	206
11:15 AM	14	63	9	2	8	78	8	2	180	2	3	25	0	3	3	2	1	38	218
11:30 AM	11	72	1	3	1	63	11	7	159	4	5	26	1	3	9	6	0	53	212
11:45 AM	15	65	3	3	3	66	13	1	165	3	1	16	0	5	6	3	0	34	199
12:00 PM	11	54	5	5	3	73	10	5	156	3	6	32	0	0	3	4	0	48	204
12:15 PM	11	71	3	3	3	66	7	4	161	4	8	17	1	4	6	1	0	40	201
12:30 PM	17	72	5	6	2	96	6	7	198	5	7	28	0	2	1	2	0	45	243
12:45 PM	14	84	6	3	1	67	7	3	179	6	5	23	2	3	10	2	0	49	228
1:00 PM	17	87	4	3	2	84	6	2	200	2	5	14	1	1	4	5	1	31	231
1:15 PM	17	87	6	1	2	83	2	4	197	1	6	18	0	7	4	4	1	40	237
1:30 PM	14	76	1	5	7	92	5	4	195	4	4	17	2	3	3	5	0	36	231
1:45 PM	8	73	3	6	0	67	3	2	154	2	4	23	3	2	4	5	1	40	194
3:00 PM	15	87	3	2	4	106	3	5	218	2	4	16	2	5	6	2	0	35	253
3:15 PM	24	80	5	1	1	77	4	2	191	2	6	12	2	2	6	5	1	33	224
3:30 PM	25	76	4	0	1	103	4	5	213	2	7	10	1	5	2	0	0	26	239
3:45 PM	17	69	5	4	2	65	5	2	163	1	4	14	0	4	8	2	0	33	196
4:00 PM	16	59	8	2	3	75	4	0	165	1	2	24	0	3	10	4	0	44	209
4:15 PM	9	68	6	0	1	72	6	3	162	1	7	33	0	3	5	1	0	50	212
4:30 PM	9	73	6	0	3	91	2	0	184	0	6	19	0	5	2	3	0	35	219
4:45 PM	15	57	8	1	1	81	2	1	164	0	4	14	0	2	6	3	0	29	193
5:00 PM	8	60	1	1	1	92	6	0	168	1	2	25	0	3	5	1	0	37	205
5:15 PM	9	57	4	1	2	61	1	0	134	3	8	16	0	4	3	1	0	35	169
5:30 PM	10	56	2	1	0	64	3	1	135	1	2	17	0	3	2	0	0	25	160
5:45 PM	4	44	1	0	2	60	2	2	113	1	0	13	0	2	2	2	0	20	133



Notes:



# 15-Minute Count Data

## Broadway Ave and W 21st St and E 21st St

### Lorain, Ohio



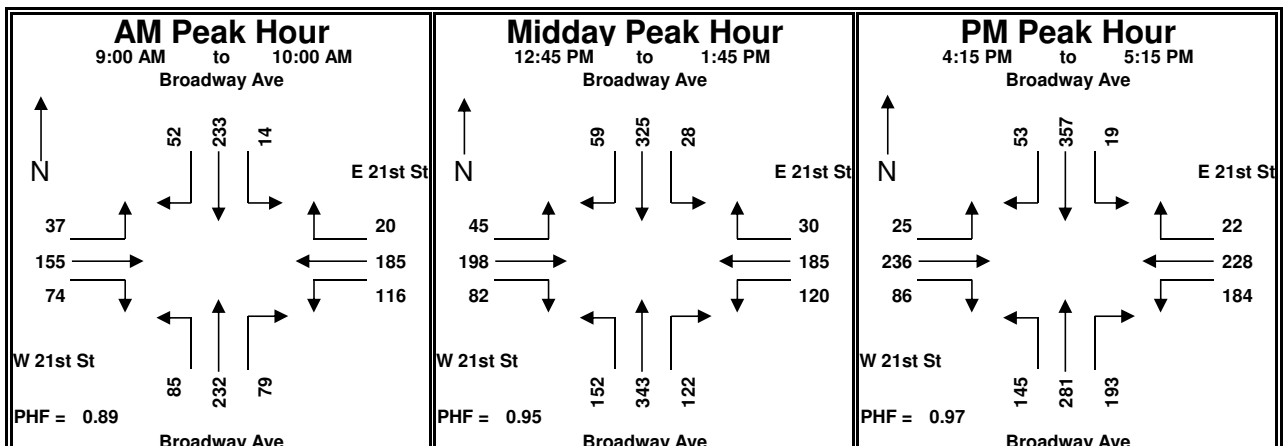
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

Roadway Classification:

ADT Factor: 1.70  
Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 21st St Eastbound				E 21st St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	1111	2464	1142	225	178	2443	416	137	7754	310	1713	698	126	1232	1692	159	176	5804	13558
	Percent Trucks = 5%				Percent Trucks = 5%					Percent Trucks = 5%				Percent Trucks = 6%					
<b>ADT</b>	1740	3859	1789	352	279	3827	652	215	12145	486	2683	1093	197	1930	2650	249	276	9091	21236
7:00 AM	21	32	24	12	3	23	0	0	103	1	42	23	1	21	15	0	5	102	205
7:15 AM	21	40	32	4	4	25	2	4	124	5	52	13	1	31	37	4	6	142	266
7:30 AM	31	59	30	6	1	29	5	8	155	8	31	22	3	40	44	1	3	146	301
7:45 AM	29	69	40	14	1	30	6	4	175	8	55	21	3	30	48	4	2	166	341
8:00 AM	23	62	27	9	2	34	4	10	152	10	53	17	7	41	59	3	3	183	335
8:15 AM	19	61	14	2	1	44	3	8	142	8	43	19	2	24	33	5	6	132	274
8:30 AM	22	48	25	12	2	47	5	4	149	6	43	22	2	33	33	5	7	142	291
8:45 AM	25	73	17	9	7	47	6	5	175	11	36	17	6	23	31	5	2	123	298
9:00 AM	20	51	20	4	7	67	17	10	182	10	40	8	4	33	37	6	5	134	316
9:15 AM	19	54	16	11	3	45	10	5	147	7	41	20	4	25	40	3	8	136	283
9:30 AM	26	60	19	7	2	55	11	5	173	7	30	23	6	26	58	4	8	148	321
9:45 AM	20	67	24	10	2	66	14	7	193	13	44	23	4	32	50	7	13	169	362
11:00 AM	21	77	26	13	2	78	12	5	216	6	44	25	2	25	35	4	6	139	355
11:15 AM	21	66	23	5	8	75	23	3	216	12	45	7	5	30	39	7	7	140	356
11:30 AM	26	71	31	9	1	77	11	7	217	12	46	28	7	31	45	2	5	164	381
11:45 AM	35	67	27	5	5	70	16	0	220	11	37	21	1	26	47	6	5	148	368
12:00 PM	25	62	22	4	7	82	13	5	211	11	62	15	3	29	36	2	3	155	366
12:15 PM	26	69	42	7	5	59	21	2	222	8	46	18	6	30	34	6	6	142	364
12:30 PM	30	73	37	7	8	110	13	10	271	17	43	19	8	33	41	1	8	154	425
12:45 PM	33	88	23	8	8	74	11	4	237	11	42	22	3	35	38	10	8	158	395
1:00 PM	32	86	28	8	4	79	16	1	245	15	46	18	3	31	58	5	12	173	418
1:15 PM	50	91	35	8	11	82	16	5	285	10	55	24	6	17	43	9	5	158	443
1:30 PM	37	78	36	8	5	90	16	3	262	9	55	18	4	37	46	6	8	171	433
1:45 PM	32	78	21	5	9	69	11	3	220	4	41	16	2	32	39	2	5	134	354
3:00 PM	44	86	35	4	7	97	22	6	291	9	60	29	6	38	43	6	3	185	476
3:15 PM	40	100	48	7	11	76	11	2	286	10	51	23	6	39	62	6	9	191	477
3:30 PM	32	87	38	4	5	98	16	4	276	7	54	24	5	48	52	5	6	190	466
3:45 PM	33	82	41	5	5	70	12	2	243	11	43	14	5	41	46	0	3	155	398
4:00 PM	52	79	35	3	7	94	9	1	276	10	56	14	2	38	52	3	2	173	449
4:15 PM	43	77	47	4	5	81	16	1	269	6	57	17	6	42	61	6	3	189	458
4:30 PM	31	86	45	3	4	102	13	0	281	10	51	27	0	44	52	4	2	188	469
4:45 PM	34	57	51	3	6	73	12	0	233	5	57	21	0	48	64	9	0	204	437
5:00 PM	37	61	50	2	4	101	12	1	265	4	71	21	2	50	51	3	1	200	465
5:15 PM	43	62	50	1	5	65	12	0	237	6	53	19	0	53	59	3	0	193	430
5:30 PM	47	58	25	0	8	65	8	1	211	8	45	16	1	43	97	5	1	214	425
5:45 PM	31	47	38	2	3	64	11	1	194	4	43	14	0	33	67	2	0	163	357



Notes:

# 15-Minute Count Data

## Broadway Ave and W 23rd St and E 23rd St

### Lorain, Ohio



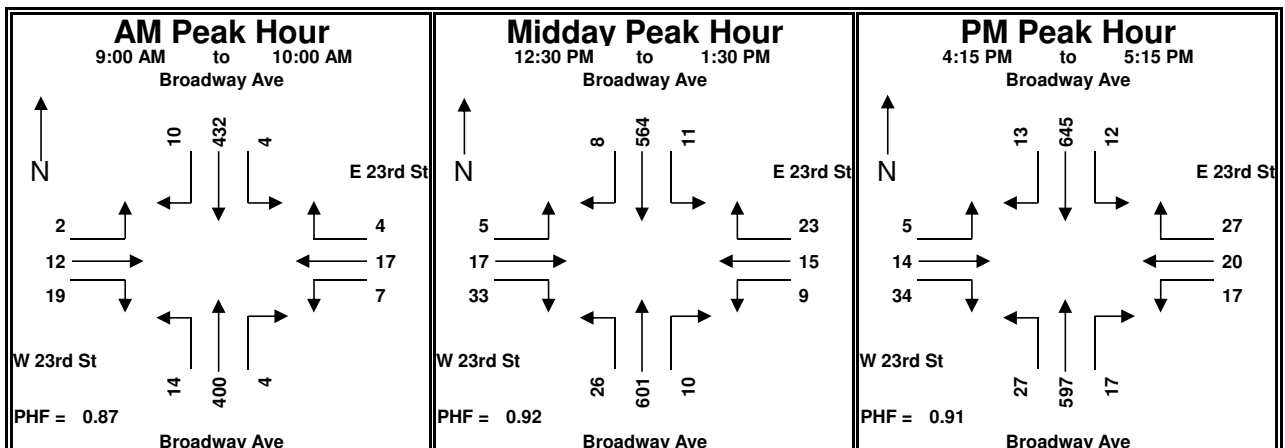
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 23rd St Eastbound				E 23rd St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
Totals	173	4591	86	228	64	4462	78	226	9454	57	131	204	23	79	134	166	7	771	10225
	Percent Trucks = 5%				Percent Trucks = 5%					Percent Trucks = 6%				Percent Trucks = 2%					
ADT	271	7191	135	357	100	6989	122	354	14808	89	205	320	36	124	210	260	11	1208	16016
7:00 AM	3	80	3	12	0	73	0	3	159	2	3	4	0	3	1	1	0	14	173
7:15 AM	1	92	3	4	0	66	1	7	163	2	1	4	0	2	2	2	0	13	176
7:30 AM	6	120	4	6	0	96	0	8	226	0	6	4	2	0	1	4	0	15	241
7:45 AM	5	134	2	14	2	78	1	3	222	0	5	4	1	1	1	1	0	12	234
8:00 AM	1	107	3	8	3	93	2	13	209	1	6	2	0	3	2	6	1	20	229
8:15 AM	3	90	0	2	0	101	0	12	194	1	2	4	1	1	3	3	0	14	208
8:30 AM	3	92	0	11	4	107	2	7	208	2	1	2	0	6	2	2	0	15	223
8:45 AM	3	111	3	9	1	88	0	5	206	0	4	6	0	3	6	3	0	22	228
9:00 AM	2	92	0	5	0	106	3	10	203	0	3	7	1	4	3	0	0	17	220
9:15 AM	6	90	1	11	2	97	2	10	198	0	2	4	2	1	2	2	0	11	209
9:30 AM	4	107	1	6	2	100	2	9	216	1	2	4	1	0	5	1	0	13	229
9:45 AM	2	111	2	9	0	129	3	13	247	1	5	4	1	2	7	1	1	20	267
11:00 AM	5	119	1	12	1	130	3	5	259	0	4	7	1	0	1	5	0	17	276
11:15 AM	2	110	0	6	3	122	1	6	238	1	2	5	0	1	4	6	0	19	257
11:30 AM	3	134	0	9	2	141	2	11	282	3	3	3	1	3	4	3	1	19	301
11:45 AM	1	123	4	5	2	103	1	3	234	3	2	2	0	2	3	4	0	16	250
12:00 PM	2	99	5	4	2	121	4	8	233	3	3	6	1	1	5	4	0	22	255
12:15 PM	7	122	4	8	2	113	0	7	248	2	6	6	1	0	3	4	0	21	269
12:30 PM	6	141	3	7	1	166	2	14	319	1	2	8	0	2	3	8	0	24	343
12:45 PM	8	140	3	8	4	135	1	5	291	2	2	5	0	1	4	5	1	19	310
1:00 PM	7	140	2	8	3	131	2	7	285	0	7	8	1	3	2	5	0	25	310
1:15 PM	5	180	2	9	3	132	3	7	325	2	6	12	0	3	6	5	0	34	359
1:30 PM	4	149	2	9	0	147	0	10	302	4	6	9	0	2	6	5	0	32	334
1:45 PM	5	137	4	4	2	128	2	5	278	1	3	5	1	4	4	2	0	19	297
3:00 PM	3	162	1	5	1	164	5	7	336	2	3	4	0	6	5	8	1	28	364
3:15 PM	7	171	0	6	1	135	6	5	320	5	4	5	2	1	2	11	0	28	348
3:30 PM	8	149	2	4	3	165	5	10	332	2	3	10	1	2	4	6	0	27	359
3:45 PM	8	141	3	5	2	128	2	4	284	3	6	9	0	2	4	5	0	29	313
4:00 PM	5	160	5	8	2	142	3	2	317	0	2	8	1	1	5	10	0	26	343
4:15 PM	6	164	3	3	2	151	1	4	327	1	8	10	0	4	5	10	1	38	365
4:30 PM	5	153	8	3	4	186	4	1	360	1	2	10	1	7	7	6	1	33	393
4:45 PM	6	139	2	3	4	136	5	2	292	1	2	5	0	4	5	7	0	24	316
5:00 PM	10	141	4	2	2	172	3	1	332	2	2	9	0	2	3	4	0	22	354
5:15 PM	3	147	1	1	2	145	2	0	300	3	3	2	1	2	7	9	0	26	326
5:30 PM	11	125	2	1	0	122	3	1	263	2	3	6	1	0	6	6	0	23	286
5:45 PM	7	119	3	1	2	113	2	1	246	3	7	1	1	0	1	2	0	14	260



Notes:

# 15-Minute Count Data

## Broadway Ave and W 28th St and E 28th St

### Lorain, Ohio



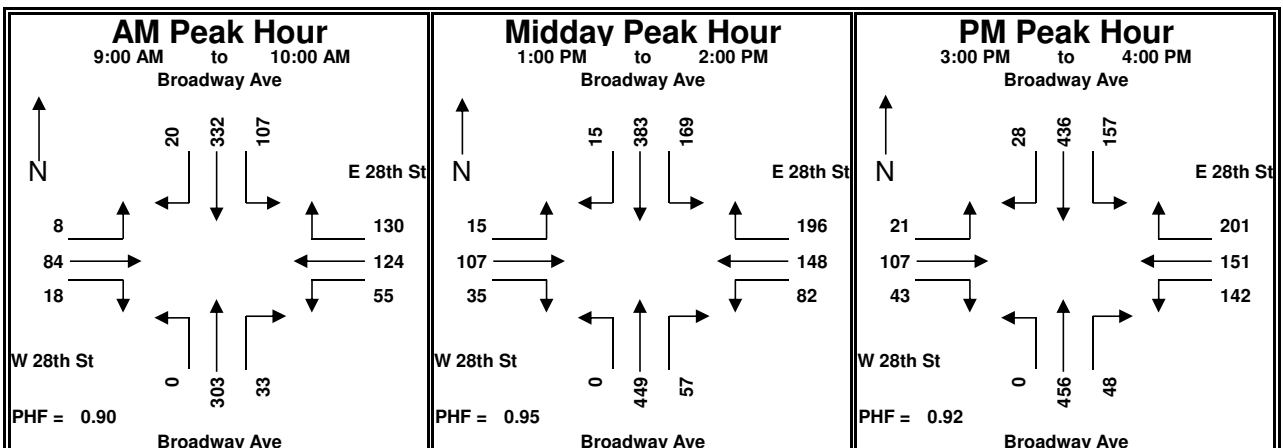
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

Roadway Classification:

ADT Factor: 1.70  
Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 28th St Eastbound				E 28th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
Totals	1	3517	430	163	1142	3344	167	227	8601	122	880	258	35	682	1119	1381	135	4442	13043
	Percent Trucks = 4%				Percent Trucks = 5%					Percent Trucks = 3%				Percent Trucks = 4%					
ADT	2	5509	674	255	1789	5238	262	356	13472	191	1378	404	55	1068	1753	2163	211	6958	20430
7:00 AM	0	61	10	8	30	57	1	3	159	4	14	5	1	12	16	23	6	74	233
7:15 AM	0	73	12	4	20	48	2	5	155	1	23	6	0	8	13	20	1	71	226
7:30 AM	0	103	7	4	19	79	5	12	213	3	16	4	2	10	28	33	3	94	307
7:45 AM	0	112	8	9	17	71	1	5	209	2	16	10	1	12	22	28	6	90	299
8:00 AM	0	82	13	5	12	78	5	8	190	0	25	4	1	13	17	20	3	82	272
8:15 AM	0	76	12	1	21	69	2	10	180	0	26	8	3	8	16	30	4	88	268
8:30 AM	0	64	13	7	31	76	2	8	186	2	28	4	0	7	14	26	7	81	267
8:45 AM	0	93	15	8	27	68	6	5	209	3	32	5	0	8	17	23	5	88	297
9:00 AM	0	62	16	5	25	84	7	12	194	5	25	8	5	17	25	34	3	114	308
9:15 AM	0	70	1	8	22	79	4	10	176	0	16	5	0	12	20	31	4	84	260
9:30 AM	0	83	11	8	25	77	3	9	199	3	17	2	0	17	36	34	0	109	308
9:45 AM	0	88	5	7	35	92	6	13	226	0	26	3	0	9	43	31	5	112	338
11:00 AM	0	99	13	10	36	86	1	6	235	2	14	8	1	11	19	29	3	83	318
11:15 AM	0	89	9	5	32	94	5	7	229	5	26	8	2	13	17	38	1	107	336
11:30 AM	0	98	12	8	32	93	5	10	240	1	10	5	1	10	22	42	3	90	330
11:45 AM	0	79	15	2	28	88	2	3	212	3	13	4	1	22	21	45	8	108	320
12:00 PM	0	82	12	2	29	85	9	9	217	6	38	4	0	45	24	21	2	138	355
12:15 PM	0	100	13	6	33	89	6	7	241	6	51	5	0	18	29	33	2	142	383
12:30 PM	0	97	16	3	41	113	6	10	273	7	24	5	1	11	25	56	4	128	401
12:45 PM	0	109	10	7	44	100	7	5	270	1	30	7	1	14	32	36	2	120	390
1:00 PM	0	98	13	4	37	89	6	8	243	3	27	12	1	21	34	53	6	150	393
1:15 PM	0	134	15	6	45	99	1	6	294	4	24	4	2	31	32	49	6	144	438
1:30 PM	0	109	17	7	46	102	3	10	277	6	25	10	2	15	51	49	12	156	433
1:45 PM	0	108	12	3	41	93	5	6	259	2	31	9	0	15	31	45	4	133	392
3:00 PM	0	112	12	1	41	125	6	9	296	5	33	9	4	44	38	64	6	193	489
3:15 PM	0	124	11	3	39	90	9	6	273	4	29	10	4	31	49	52	8	175	448
3:30 PM	0	105	12	0	40	122	8	10	287	9	25	13	0	30	35	48	3	160	447
3:45 PM	0	115	13	4	37	99	5	3	269	3	20	11	0	37	29	37	2	137	406
4:00 PM	0	118	10	3	27	100	2	2	257	4	21	10	0	27	31	53	4	146	403
4:15 PM	0	135	17	2	41	123	2	5	318	6	28	10	0	25	34	51	5	154	472
4:30 PM	0	123	20	6	33	143	7	2	326	2	19	6	0	19	34	39	2	119	445
4:45 PM	0	113	16	5	28	109	2	0	268	5	33	9	0	20	33	34	1	134	402
5:00 PM	0	108	12	0	37	128	10	1	295	5	24	12	1	17	32	38	2	128	423
5:15 PM	1	103	10	1	34	124	2	0	274	5	29	5	1	27	41	42	0	149	423
5:30 PM	0	92	10	1	30	95	5	1	232	1	27	11	0	19	65	47	1	170	402
5:45 PM	0	100	7	0	27	77	9	1	220	4	15	7	0	27	94	44	1	191	411



Notes:

# 15-Minute Count Data

## Broadway Ave and W 30th St and E 30th St

### Lorain, Ohio



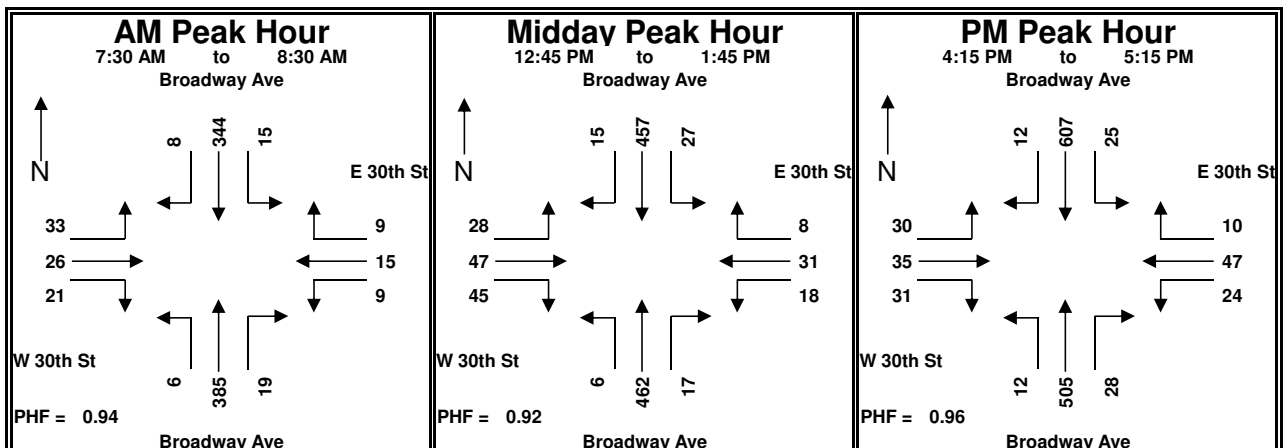
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 30th St Eastbound				E 30th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	68	3667	162	160	250	3959	103	178	8209	242	316	264	23	167	263	73	5	1325	9534
	Percent Trucks = 4%				Percent Trucks = 4%					Percent Trucks = 3%				Percent Trucks = 1%					
<b>ADT</b>	107	5744	254	251	392	6201	161	279	12858	379	495	414	36	262	412	114	8	2075	14933
7:00 AM	1	67	1	8	3	69	3	6	144	6	6	5	0	1	5	0	0	23	167
7:15 AM	0	82	3	4	4	58	0	4	147	10	5	3	0	0	4	1	1	23	170
7:30 AM	0	103	3	4	5	95	2	6	208	9	7	3	0	4	1	3	1	27	235
7:45 AM	2	107	4	8	3	82	2	5	200	11	8	6	1	4	8	0	0	37	237
8:00 AM	2	91	7	5	4	92	0	7	196	4	4	4	3	1	3	4	0	20	216
8:15 AM	2	84	5	1	3	75	4	10	173	9	7	8	1	0	3	2	0	29	202
8:30 AM	0	79	7	6	0	89	1	5	176	3	7	1	0	3	7	3	1	24	200
8:45 AM	2	96	5	10	5	82	1	2	191	7	14	12	1	2	5	2	0	42	233
9:00 AM	1	79	1	4	8	99	4	11	192	5	3	4	1	3	2	2	0	19	211
9:15 AM	0	62	0	8	6	83	0	5	151	8	7	6	0	3	7	3	1	34	185
9:30 AM	4	92	0	8	6	84	1	7	187	3	7	3	0	3	4	3	0	23	210
9:45 AM	2	89	0	6	5	100	2	12	198	5	7	3	1	2	4	2	0	23	221
11:00 AM	2	99	4	10	4	92	0	5	201	5	7	9	0	6	5	1	0	33	234
11:15 AM	1	91	3	5	8	107	5	6	215	4	9	7	0	5	5	1	0	31	246
11:30 AM	1	92	2	8	5	102	3	6	205	4	5	9	1	7	3	1	0	29	234
11:45 AM	1	90	4	2	8	102	5	5	210	4	5	7	1	4	5	1	0	26	236
12:00 PM	1	86	5	3	5	126	2	4	225	5	11	8	1	5	5	2	0	36	261
12:15 PM	0	102	2	6	8	104	1	3	217	10	16	10	0	10	7	3	1	56	273
12:30 PM	0	102	2	3	8	122	2	4	236	4	15	10	0	2	8	3	0	42	278
12:45 PM	2	115	4	9	9	112	2	5	244	12	10	10	0	2	5	2	0	41	285
1:00 PM	4	99	4	4	4	110	5	8	226	7	13	14	4	7	9	1	0	51	277
1:15 PM	0	140	3	7	4	122	4	4	273	6	15	8	0	5	6	4	0	44	317
1:30 PM	0	108	6	4	10	113	4	7	241	3	9	13	3	4	11	1	0	41	282
1:45 PM	4	111	3	2	7	108	0	5	233	4	7	9	1	6	8	2	0	36	269
3:00 PM	2	115	8	1	10	162	5	4	302	9	10	6	2	5	8	2	0	40	342
3:15 PM	2	128	8	3	12	114	6	9	270	10	7	3	0	4	9	3	0	36	306
3:30 PM	3	106	7	0	17	143	6	7	282	10	12	6	1	6	9	0	0	43	325
3:45 PM	3	103	6	6	11	134	8	3	265	5	12	15	0	12	9	3	0	56	321
4:00 PM	3	127	5	3	15	109	4	2	263	10	9	8	1	10	6	5	0	48	311
4:15 PM	2	136	7	3	8	147	3	4	303	9	10	8	0	12	11	1	0	51	354
4:30 PM	3	135	5	4	6	162	3	1	314	8	9	6	0	3	11	3	0	40	354
4:45 PM	5	125	10	2	6	127	2	2	275	6	9	11	0	4	13	3	0	46	321
5:00 PM	2	109	6	1	5	171	4	2	297	7	7	6	0	5	12	3	0	40	337
5:15 PM	4	111	9	1	8	145	4	1	281	7	7	10	0	5	19	3	0	51	332
5:30 PM	2	100	6	1	9	121	2	0	240	8	6	4	0	5	18	0	0	41	281
5:45 PM	5	106	7	0	11	96	3	1	228	5	14	9	0	7	8	0	0	43	271



Notes:

# 15-Minute Count Data

## Broadway Ave and W 31st St and E 31st St

### Lorain, Ohio



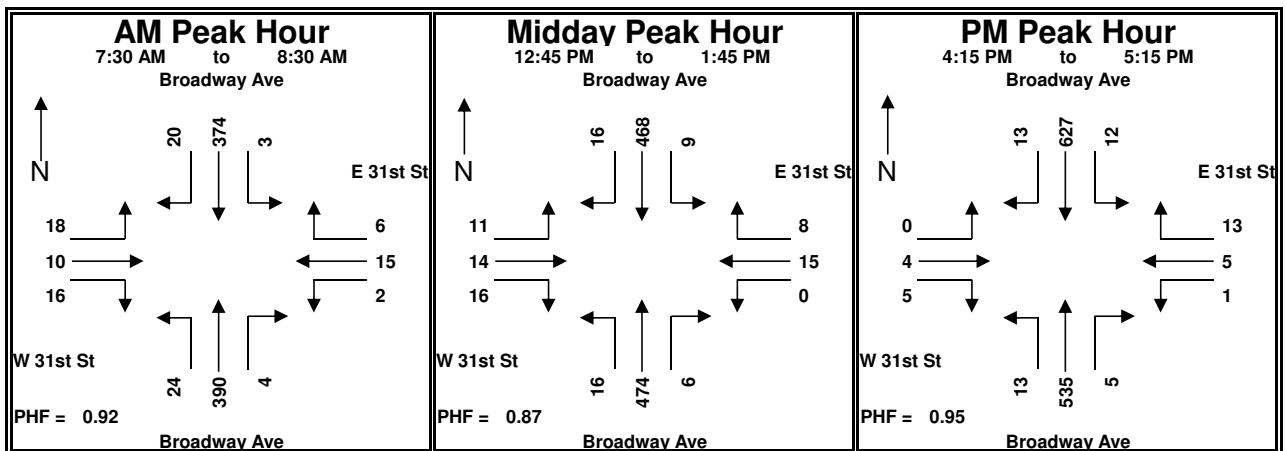
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 31st St Eastbound				E 31st St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	97	3811	33	164	68	4124	93	176	8226	56	45	80	4	18	58	83	2	340	8566
	Percent Trucks = 4%				Percent Trucks = 4%					Percent Trucks = 2%				Percent Trucks = 1%					
<b>ADT</b>	152	5969	52	257	107	6460	146	276	12885	88	70	125	6	28	91	130	3	533	13417
7:00 AM	0	66	0	7	0	71	3	5	140	0	0	1	0	0	0	2	0	3	143
7:15 AM	3	85	1	4	0	69	1	5	159	0	0	1	0	0	0	0	0	1	160
7:30 AM	8	105	0	4	0	107	2	6	222	0	0	5	1	0	5	4	0	14	236
7:45 AM	8	114	3	9	1	92	3	5	221	5	4	3	0	0	6	1	0	19	240
8:00 AM	7	84	0	7	2	88	14	7	195	11	6	7	0	2	4	1	1	31	226
8:15 AM	1	87	1	1	0	87	1	8	177	2	0	1	0	0	0	0	0	3	180
8:30 AM	0	81	1	6	1	91	4	4	178	0	1	1	0	0	1	2	2	7	185
8:45 AM	2	95	2	8	1	90	3	2	193	3	1	2	2	1	2	3	0	12	205
9:00 AM	1	76	0	6	2	95	2	12	176	2	0	1	0	1	0	3	0	7	183
9:15 AM	2	75	0	11	2	93	1	7	173	0	0	2	0	1	0	1	0	4	177
9:30 AM	1	99	1	7	1	89	1	7	192	0	0	0	0	0	0	1	0	1	193
9:45 AM	2	93	1	6	1	107	1	10	205	0	0	4	0	0	0	2	0	6	211
11:00 AM	0	110	1	9	0	96	1	4	208	0	0	6	0	0	1	1	0	8	216
11:15 AM	1	93	1	5	1	113	1	5	210	3	1	0	0	2	1	3	0	10	220
11:30 AM	1	90	0	8	2	107	2	6	202	2	0	3	0	0	1	0	0	6	208
11:45 AM	1	91	1	1	0	102	2	5	197	2	0	2	0	0	1	2	0	7	204
12:00 PM	2	83	1	3	1	127	1	4	215	2	2	0	0	0	1	3	0	8	223
12:15 PM	5	111	0	6	2	115	1	3	234	0	1	0	0	1	1	3	0	6	240
12:30 PM	3	91	0	3	3	124	3	4	224	1	1	1	0	1	1	5	0	10	234
12:45 PM	0	128	0	9	4	120	2	4	254	0	0	3	0	0	4	0	0	7	261
1:00 PM	8	106	1	5	4	108	8	8	235	0	0	0	0	0	8	0	0	8	243
1:15 PM	6	132	3	6	0	127	4	4	272	9	11	7	0	0	1	4	0	32	304
1:30 PM	2	108	2	4	1	113	2	7	228	2	3	6	0	0	2	4	0	17	245
1:45 PM	1	115	0	3	0	111	4	5	231	2	3	2	0	0	0	1	0	8	239
3:00 PM	4	120	0	1	5	165	0	6	294	1	1	3	0	1	3	3	1	12	306
3:15 PM	0	137	2	3	3	121	1	9	264	5	0	1	0	0	1	1	0	8	272
3:30 PM	2	116	2	0	1	148	3	7	272	3	0	2	0	2	1	2	0	10	282
3:45 PM	2	114	1	4	3	135	1	3	256	0	2	2	0	0	0	4	0	8	264
4:00 PM	0	133	0	4	6	116	1	2	256	0	1	2	1	1	4	0	0	8	264
4:15 PM	5	138	2	3	2	156	2	4	305	0	1	0	0	0	0	4	0	5	310
4:30 PM	1	140	0	5	1	171	2	1	315	0	1	2	0	0	3	2	0	8	323
4:45 PM	3	139	0	2	4	130	4	2	280	0	0	1	0	0	1	4	0	6	286
5:00 PM	4	118	3	1	5	170	5	3	305	0	2	2	0	1	1	3	0	9	314
5:15 PM	3	119	1	1	1	154	2	1	280	0	2	2	0	0	0	4	0	8	288
5:30 PM	4	109	2	2	5	121	3	0	244	0	1	3	0	1	2	5	0	12	256
5:45 PM	4	110	0	0	3	95	2	1	214	1	0	2	0	2	1	5	0	11	225



Notes:

# 15-Minute Count Data

## Broadway Ave and W 33rd St and E 33th St

### Lorain, Ohio



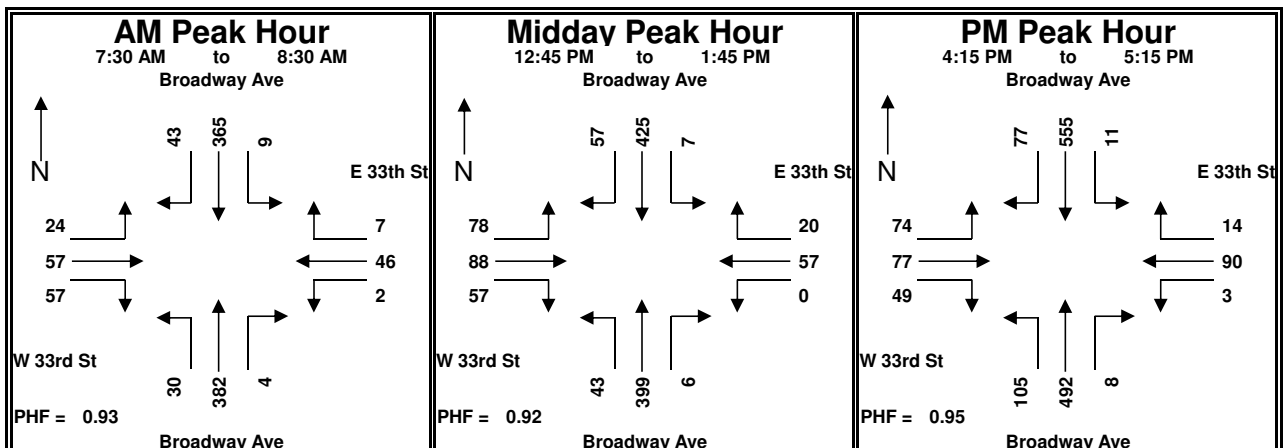
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 33rd St Eastbound				E 33th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
Totals	497	3396	51	161	69	3703	486	168	8202	489	590	501	25	19	542	94	15	2235	10437
	Percent Trucks = 4%				Percent Trucks = 4%					Percent Trucks = 2%				Percent Trucks = 2%					
ADT	778	5319	80	252	108	5800	761	263	12847	766	924	785	39	30	849	147	23	3501	16348
7:00 AM	4	60	2	8	0	74	5	5	145	5	8	16	2	0	6	0	1	35	180
7:15 AM	9	77	0	6	0	68	2	3	156	13	9	17	0	1	10	0	1	50	206
7:30 AM	6	104	1	5	0	100	18	7	229	4	14	15	0	0	12	3	1	48	277
7:45 AM	11	116	0	8	2	95	5	4	229	4	9	17	2	0	15	0	0	45	274
8:00 AM	8	72	2	3	4	85	10	7	181	10	13	14	1	0	10	3	0	50	231
8:15 AM	5	90	1	4	3	85	10	8	194	6	21	11	0	2	9	1	1	50	244
8:30 AM	8	65	0	5	1	94	3	3	171	6	17	14	1	0	11	3	1	51	222
8:45 AM	9	91	0	7	1	85	10	2	196	5	11	18	1	0	8	2	0	44	240
9:00 AM	9	71	3	8	0	94	11	11	188	9	4	10	1	1	12	3	0	39	227
9:15 AM	4	70	2	9	0	84	8	7	168	5	10	18	1	2	12	2	0	49	217
9:30 AM	10	93	3	7	0	81	15	6	202	9	13	12	0	0	13	4	1	51	253
9:45 AM	13	80	0	6	3	94	14	11	204	11	17	13	0	0	13	0	0	54	258
11:00 AM	10	94	3	10	2	81	12	3	202	12	7	9	0	1	12	0	0	41	243
11:15 AM	13	82	1	4	2	98	13	5	209	12	19	8	2	2	6	2	2	49	258
11:30 AM	8	80	1	8	5	93	12	5	199	8	12	15	1	0	7	1	1	43	242
11:45 AM	15	67	1	3	1	88	17	5	189	18	16	13	0	1	13	5	0	66	255
12:00 PM	13	64	2	3	5	115	8	5	207	19	16	15	0	2	7	0	0	59	266
12:15 PM	13	95	2	6	4	91	16	3	221	15	20	12	0	1	13	5	1	66	287
12:30 PM	16	74	1	3	1	108	18	4	218	14	24	9	1	0	14	2	0	63	281
12:45 PM	15	109	3	9	0	108	13	4	248	17	22	17	0	0	15	4	0	75	323
1:00 PM	11	85	2	5	1	104	12	8	215	20	23	18	1	0	13	6	0	80	295
1:15 PM	8	117	1	6	4	112	15	4	257	21	23	13	0	0	16	5	1	78	335
1:30 PM	9	88	0	3	2	101	17	6	217	20	20	9	2	0	13	5	1	67	284
1:45 PM	15	95	3	3	2	101	11	5	227	12	20	13	3	0	12	5	0	62	289
3:00 PM	14	105	2	0	3	143	17	5	284	19	14	14	0	1	13	2	0	63	347
3:15 PM	18	121	0	1	0	101	16	8	256	22	14	13	2	0	29	2	2	80	336
3:30 PM	12	95	0	0	0	135	15	7	257	27	27	19	0	1	15	3	0	92	349
3:45 PM	22	97	1	4	0	111	19	3	250	18	24	17	2	0	15	5	0	79	329
4:00 PM	16	129	1	4	2	93	19	2	260	19	22	18	0	0	28	0	0	87	347
4:15 PM	25	124	2	2	5	134	12	4	302	17	21	16	0	1	27	4	1	86	388
4:30 PM	30	116	3	5	5	157	16	1	327	22	17	12	2	1	18	5	0	75	402
4:45 PM	19	120	1	2	0	119	20	2	279	23	17	11	0	1	19	4	0	75	354
5:00 PM	31	132	2	1	1	145	29	3	340	12	22	10	0	0	26	1	0	71	411
5:15 PM	22	114	2	1	2	140	12	1	292	12	12	12	0	0	22	4	0	62	354
5:30 PM	28	99	2	1	3	104	14	0	250	15	13	15	0	1	26	1	0	71	321
5:45 PM	18	105	1	1	5	82	22	1	233	8	19	18	0	0	32	2	0	79	312



Notes:

# 15-Minute Count Data

## Broadway Ave and E 35th St

### Lorain, Ohio



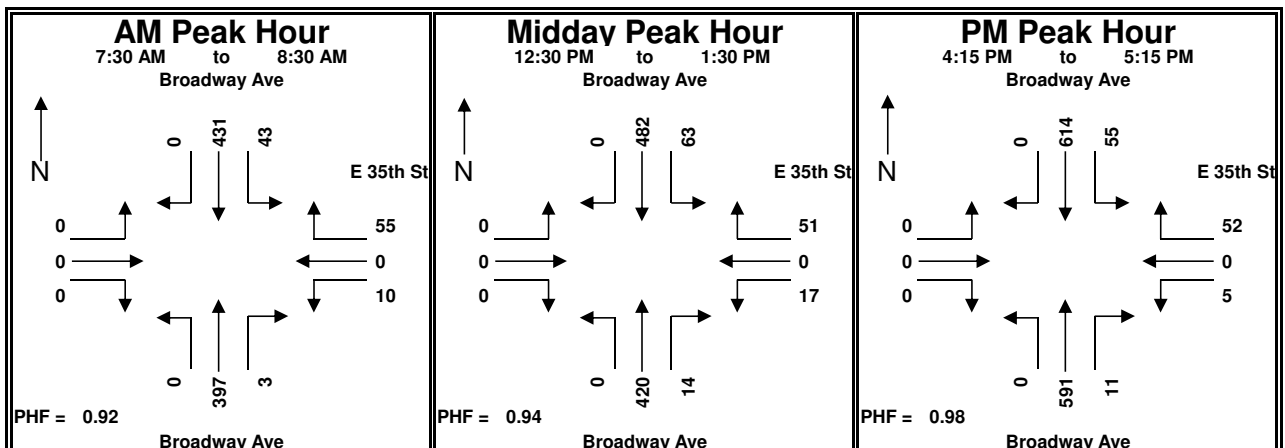
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	Eastbound				E 35th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
Totals	0	3797	99	155	461	4159	0	173	8516	0	0	0	0	91	0	463	21	554	9070
	Percent Trucks = 4%				Percent Trucks = 4%					Percent Trucks = 0%				Percent Trucks = 4%					
ADT	0	5947	155	243	722	6514	0	271	13339	0	0	0	0	143	0	725	33	868	14207
7:00 AM	0	64	2	6	11	87	0	7	164	0	0	0	0	2	0	7	2	9	173
7:15 AM	0	91	2	5	9	98	0	2	200	0	0	0	0	2	0	3	0	5	205
7:30 AM	0	115	1	6	6	120	0	5	242	0	0	0	0	1	0	11	0	12	254
7:45 AM	0	119	0	6	10	106	0	4	235	0	0	0	0	2	0	16	1	18	253
8:00 AM	0	73	1	3	11	103	0	7	188	0	0	0	0	4	0	16	2	20	208
8:15 AM	0	90	1	4	16	102	0	8	209	0	0	0	0	3	0	12	1	15	224
8:30 AM	0	69	9	6	5	108	0	4	191	0	0	0	0	0	0	15	1	15	206
8:45 AM	0	99	3	9	12	99	0	2	213	0	0	0	0	1	0	8	1	9	222
9:00 AM	0	75	1	5	6	102	0	11	184	0	0	0	0	1	0	16	2	17	201
9:15 AM	0	85	2	10	15	99	0	7	201	0	0	0	0	1	0	5	0	6	207
9:30 AM	0	98	0	8	12	85	0	7	195	0	0	0	0	0	0	11	0	11	206
9:45 AM	0	88	3	6	11	102	0	10	204	0	0	0	0	2	0	18	0	20	224
11:00 AM	0	99	0	10	13	84	0	4	196	0	0	0	0	5	0	10	1	15	211
11:15 AM	0	82	1	4	11	105	0	8	199	0	0	0	0	3	0	11	1	14	213
11:30 AM	0	96	3	6	14	103	0	5	216	0	0	0	0	3	0	10	0	13	229
11:45 AM	0	76	3	4	10	95	0	5	184	0	0	0	0	2	0	10	2	12	196
12:00 PM	0	70	5	4	21	135	0	5	231	0	0	0	0	1	0	11	0	12	243
12:15 PM	0	98	0	6	16	106	0	5	220	0	0	0	0	2	0	12	1	14	234
12:30 PM	0	87	7	2	11	123	0	5	228	0	0	0	0	4	0	13	0	17	245
12:45 PM	0	117	2	8	14	118	0	3	251	0	0	0	0	3	0	19	0	22	273
1:00 PM	0	101	4	6	19	118	0	8	242	0	0	0	0	5	0	5	0	10	252
1:15 PM	0	115	1	5	19	123	0	4	258	0	0	0	0	5	0	14	1	19	277
1:30 PM	0	95	6	3	15	101	0	6	217	0	0	0	0	0	0	8	0	8	225
1:45 PM	0	109	1	4	10	104	0	7	224	0	0	0	0	3	0	16	0	19	243
3:00 PM	0	121	8	0	17	160	0	8	306	0	0	0	0	11	0	24	0	35	341
3:15 PM	0	139	1	2	20	109	0	5	269	0	0	0	0	4	0	12	2	16	285
3:30 PM	0	102	3	0	14	159	0	8	278	0	0	0	0	4	0	18	1	22	300
3:45 PM	0	110	3	3	11	124	0	3	248	0	0	0	0	4	0	14	1	18	266
4:00 PM	0	155	5	4	15	114	0	1	289	0	0	0	0	0	0	13	1	13	302
4:15 PM	0	155	5	2	11	153	0	3	324	0	0	0	0	2	0	8	0	10	334
4:30 PM	0	135	0	3	17	171	0	1	323	0	0	0	0	2	0	8	0	10	333
4:45 PM	0	160	3	2	13	131	0	1	307	0	0	0	0	1	0	15	0	16	323
5:00 PM	0	141	3	1	14	159	0	2	317	0	0	0	0	0	0	21	0	21	338
5:15 PM	0	137	4	1	13	140	0	1	294	0	0	0	0	4	0	12	0	16	310
5:30 PM	0	114	4	0	12	124	0	0	254	0	0	0	0	3	0	29	0	32	286
5:45 PM	0	117	2	1	7	89	0	1	215	0	0	0	0	1	0	12	0	13	228



Notes:



# 15-Minute Count Data

## Broadway Ave and W 39th St and E 39th St

### Lorain, Ohio



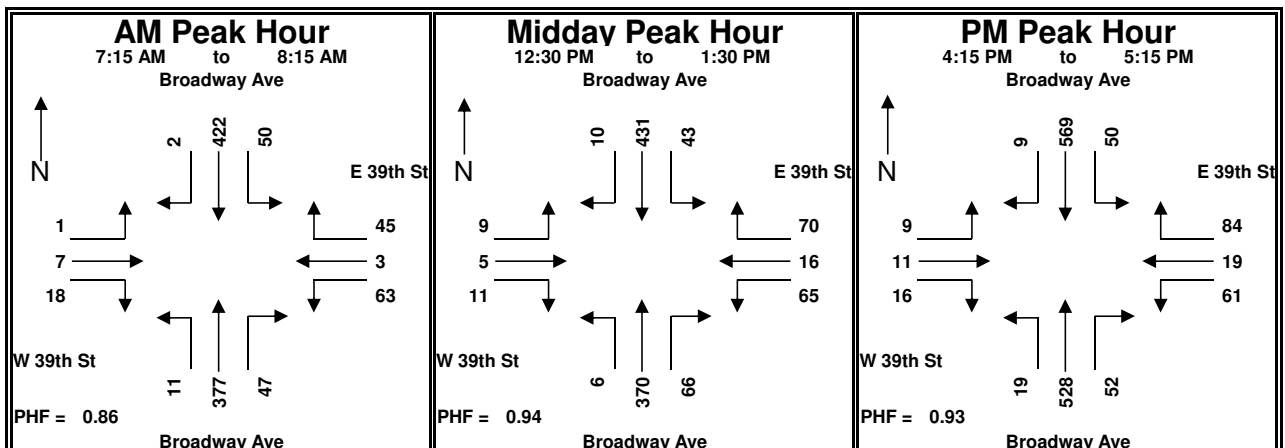
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.921	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.921	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.921	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

Roadway Classification:

ADT Factor: 1.70  
Intersection ID: 35

Start Time	Broadway Ave Northbound				Broadway Ave Southbound				Total North South	W 39th St Eastbound				E 39th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
Totals	102	3363	419	149	425	3840	52	162	8201	93	72	147	11	540	116	530	38	1498	9699
	Percent Trucks = 4%				Percent Trucks = 4%					Percent Trucks = 4%				Percent Trucks = 3%					
ADT	160	5268	656	233	666	6015	81	254	12845	146	113	230	17	846	182	830	60	2346	15192
7:00 AM	1	59	10	7	6	88	0	6	164	3	1	2	0	17	1	4	1	28	192
7:15 AM	3	84	14	5	7	104	0	3	212	0	1	5	0	15	0	12	1	33	245
7:30 AM	2	114	16	6	14	118	0	6	264	1	0	7	0	21	0	10	1	39	303
7:45 AM	5	112	10	7	12	113	0	4	252	0	4	5	2	17	2	13	2	41	293
8:00 AM	1	67	7	3	17	87	2	8	181	0	2	1	1	10	1	10	1	24	205
8:15 AM	2	82	6	5	18	98	0	9	206	0	2	3	0	9	2	9	0	25	231
8:30 AM	3	66	7	4	15	100	0	3	191	3	1	6	0	15	0	7	1	32	223
8:45 AM	5	82	8	6	15	83	0	2	193	5	2	4	1	12	0	14	4	37	230
9:00 AM	1	62	10	6	10	91	0	12	174	1	4	5	1	17	3	12	2	42	216
9:15 AM	5	64	13	7	8	98	1	6	189	4	2	6	0	18	3	11	1	44	233
9:30 AM	2	80	6	7	10	76	1	5	175	3	0	4	0	7	1	13	1	28	203
9:45 AM	3	71	5	4	15	95	1	8	190	5	2	5	0	8	6	16	2	42	232
11:00 AM	5	92	10	11	14	73	0	5	194	2	1	5	0	5	2	12	1	27	221
11:15 AM	2	71	12	4	8	93	3	4	189	3	0	7	0	20	2	8	0	40	229
11:30 AM	4	84	10	4	16	96	4	6	214	1	5	3	1	9	2	17	1	37	251
11:45 AM	1	73	6	1	9	83	1	5	173	4	2	3	3	13	2	13	0	37	210
12:00 PM	4	56	11	6	8	126	1	4	206	2	0	0	0	14	3	12	1	31	237
12:15 PM	2	83	11	5	10	89	2	3	197	6	0	0	0	9	4	18	3	37	234
12:30 PM	1	79	18	3	10	105	2	5	215	1	0	1	0	20	2	18	0	42	257
12:45 PM	2	102	19	9	15	115	3	2	256	3	0	0	0	11	3	15	1	32	288
1:00 PM	1	94	14	5	9	99	4	7	221	0	2	6	0	13	6	16	3	43	264
1:15 PM	2	95	15	7	9	112	1	5	234	5	3	4	0	21	5	21	1	59	293
1:30 PM	3	77	8	2	11	91	0	4	190	0	2	3	0	17	3	12	1	37	227
1:45 PM	0	92	6	4	9	87	0	4	194	4	4	8	0	16	2	17	0	51	245
3:00 PM	0	109	18	1	15	156	3	7	301	7	3	6	0	15	7	7	0	45	346
3:15 PM	1	108	11	2	13	110	1	5	244	5	3	3	0	18	7	20	0	56	300
3:30 PM	2	95	21	2	19	130	2	9	269	3	3	5	0	19	8	14	1	52	321
3:45 PM	4	105	11	3	3	136	1	7	260	2	2	5	1	27	3	18	5	57	317
4:00 PM	8	146	10	5	10	99	4	1	277	1	2	6	1	16	4	18	1	47	324
4:15 PM	7	141	19	1	12	149	3	3	331	2	5	4	0	14	5	24	1	54	385
4:30 PM	4	115	12	2	11	159	3	2	304	3	2	5	0	13	2	17	0	42	346
4:45 PM	1	148	13	2	10	119	1	1	292	2	3	7	0	18	4	19	0	53	345
5:00 PM	7	124	8	1	17	142	2	1	300	2	1	0	0	16	8	24	1	51	351
5:15 PM	4	128	18	1	13	126	2	0	291	7	5	7	0	15	7	22	0	63	354
5:30 PM	4	100	14	0	18	114	2	0	252	2	2	3	0	17	3	17	0	44	296
5:45 PM	0	103	12	1	9	80	2	0	206	1	1	3	0	18	3	20	0	46	252



Notes:

# 15-Minute Count Data

## Reid Ave and W 28th St

### Lorain, Ohio

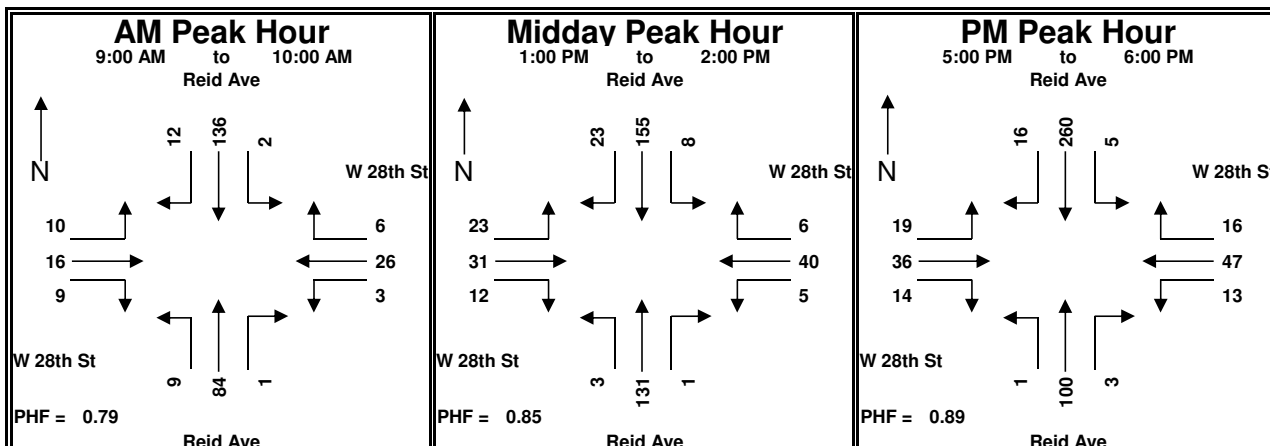


564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

<b>Seasonal Factor</b>	<b>Day of Week</b>	<b>Date</b>	<b>Start Time</b>	<b>End Time</b>	<b>Weather</b>
0.954	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.954	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.954	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70  
Intersection ID: 35

Start Time	Reid Ave Northbound				Reid Ave Southbound				Total North South	W 28th St Eastbound				W 28th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	31	965	36	29	41	1250	144	19	2467	161	310	86	10	37	324	84	7	1002	3469
	Percent Trucks = 3%				Percent Trucks = 1%					Percent Trucks = 2%				Percent Trucks = 2%					
<b>ADT</b>	50	1568	59	47	67	2032	234	31	4009	262	504	140	16	60	527	137	11	1628	5638
7:00 AM	0	22	0	1	1	19	0	1	42	4	3	0	0	0	5	1	0	13	55
7:15 AM	0	20	1	0	0	15	1	0	37	5	2	1	0	0	2	2	0	12	49
7:30 AM	0	16	1	2	0	32	1	1	50	3	12	1	1	1	6	2	1	25	75
7:45 AM	1	29	2	1	2	23	4	0	61	5	9	0	0	3	8	2	0	27	88
8:00 AM	0	21	1	1	0	22	2	0	46	4	10	0	0	1	9	1	0	25	71
8:15 AM	0	34	2	2	0	18	1	0	55	3	4	1	1	2	7	0	0	17	72
8:30 AM	2	25	1	0	0	12	1	0	41	6	5	0	1	2	10	0	0	23	64
8:45 AM	0	32	3	0	0	24	3	1	62	3	6	0	0	0	7	3	0	19	81
9:00 AM	2	27	1	4	0	30	5	1	65	3	4	3	1	0	3	1	0	14	79
9:15 AM	2	16	0	0	0	25	2	3	45	1	5	2	0	0	10	2	0	20	65
9:30 AM	1	18	0	0	1	34	1	0	55	3	3	3	0	1	4	2	0	16	71
9:45 AM	4	23	0	0	1	47	4	0	79	3	4	1	1	2	9	1	0	20	99
11:00 AM	3	11	1	0	0	16	6	0	37	2	3	0	0	0	8	1	1	14	51
11:15 AM	1	31	0	2	2	17	4	1	55	3	10	3	0	0	9	0	0	25	80
11:30 AM	0	13	1	1	1	24	7	0	46	2	8	6	0	0	3	1	0	20	66
11:45 AM	0	14	1	0	1	20	4	2	40	7	8	2	0	0	8	1	0	26	66
12:00 PM	1	39	0	0	5	30	4	0	79	7	10	2	0	1	10	6	1	36	115
12:15 PM	1	44	1	0	0	34	4	0	84	5	11	7	0	0	7	5	1	35	119
12:30 PM	1	28	1	0	1	30	8	0	69	2	13	1	0	0	11	0	0	27	96
12:45 PM	1	30	2	1	0	38	7	0	78	6	12	3	2	0	7	0	1	28	106
1:00 PM	0	36	1	1	3	38	4	0	82	7	7	2	0	2	1	0	0	19	101
1:15 PM	1	25	0	2	3	30	7	0	66	3	11	1	1	2	14	2	0	33	99
1:30 PM	1	33	0	2	1	52	7	4	94	5	5	5	0	0	18	2	0	35	129
1:45 PM	1	37	0	0	1	35	5	1	79	8	8	4	0	1	7	2	0	30	109
3:00 PM	1	37	2	6	2	41	7	1	90	8	9	3	1	1	8	2	1	31	121
3:15 PM	3	27	1	1	2	50	5	1	88	7	10	3	0	0	7	3	0	30	118
3:30 PM	1	40	4	0	0	48	3	0	96	3	12	3	0	2	12	2	0	34	130
3:45 PM	0	30	2	0	0	33	1	0	66	1	13	2	0	1	16	1	1	34	100
4:00 PM	1	25	0	0	2	41	1	0	70	2	20	4	0	1	12	0	0	39	109
4:15 PM	1	30	1	1	1	36	4	1	73	7	13	4	0	1	15	11	0	51	124
4:30 PM	0	19	1	0	3	35	11	1	69	7	14	2	0	0	15	6	0	44	113
4:45 PM	0	33	2	0	3	41	4	0	83	7	10	3	0	0	9	6	0	35	118
5:00 PM	1	31	1	0	1	43	5	0	82	5	11	2	1	3	14	5	0	40	122
5:15 PM	0	27	1	1	3	39	6	0	76	5	11	2	0	4	13	6	0	41	117
5:30 PM	0	25	1	0	1	79	3	0	109	8	5	6	0	1	11	2	0	33	142
5:45 PM	0	17	0	0	0	99	2	0	118	1	9	4	0	5	9	3	0	31	149



Notes:

# 15-Minute Count Data

## Elyria Ave and E 28th St

### Lorain, Ohio



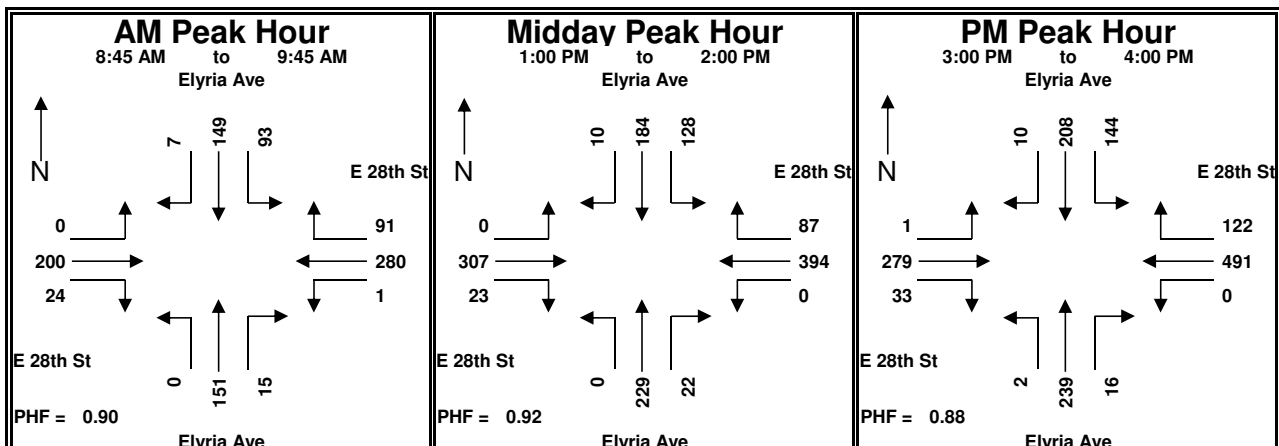
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

<b>Seasonal Factor</b>	<b>Day of Week</b>	<b>Date</b>	<b>Start Time</b>	<b>End Time</b>	<b>Weather</b>
0.954	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.954	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.954	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Elyria Ave Northbound				Elyria Ave Southbound				Total North South	E 28th St Eastbound				E 28th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	2	1743	148	55	994	1572	106	61	4565	3	2215	214	121	2	3061	859	161	6354	10919
	Percent Trucks = 3%				Percent Trucks = 2%					Percent Trucks = 5%				Percent Trucks = 4%					
<b>ADT</b>	3	2833	241	89	1615	2555	172	99	7419	5	3600	348	197	3	4975	1396	262	10327	17746
7:00 AM	0	14	0	0	19	39	2	2	74	0	52	0	1	0	41	15	7	108	182
7:15 AM	0	25	0	0	17	35	0	3	77	0	54	0	1	0	39	18	2	111	188
7:30 AM	0	43	1	1	20	45	0	2	109	0	36	1	7	0	79	23	4	139	248
7:45 AM	0	51	7	2	12	41	3	2	114	0	43	0	1	0	55	25	6	123	237
8:00 AM	0	31	4	3	16	27	2	1	80	0	38	4	3	0	42	25	2	109	189
8:15 AM	0	50	2	6	21	35	2	3	110	0	57	6	5	0	48	15	6	126	236
8:30 AM	0	36	5	5	14	40	1	0	96	0	62	5	6	0	43	21	10	131	227
8:45 AM	0	41	5	7	32	43	2	1	123	0	65	7	6	1	52	34	4	159	282
9:00 AM	0	40	5	0	27	39	1	2	112	0	52	4	8	0	76	15	5	147	259
9:15 AM	0	34	2	3	12	38	3	2	89	0	44	2	5	0	63	22	4	131	220
9:30 AM	0	36	3	1	22	29	1	0	91	0	39	11	4	0	89	20	4	159	250
9:45 AM	0	36	6	2	26	19	0	0	87	0	57	8	2	0	71	26	8	162	249
11:00 AM	0	37	4	1	19	39	3	2	102	0	60	5	3	0	56	21	5	142	244
11:15 AM	0	40	4	0	40	44	2	1	130	0	58	6	3	0	68	20	2	152	282
11:30 AM	0	48	5	2	31	47	1	2	132	0	50	2	5	0	67	28	3	147	279
11:45 AM	0	46	7	2	26	52	3	1	134	0	53	7	1	0	87	21	7	168	302
12:00 PM	0	43	2	1	28	35	33	1	141	0	72	8	4	0	61	23	1	164	305
12:15 PM	0	47	5	5	29	53	2	1	136	0	87	10	5	0	79	21	3	197	333
12:30 PM	0	51	1	2	37	41	3	1	133	0	77	4	9	1	93	31	4	206	339
12:45 PM	0	50	3	1	31	54	6	2	144	1	72	11	1	0	78	23	3	185	329
1:00 PM	0	58	4	2	38	45	2	7	147	0	70	4	0	0	83	15	5	172	319
1:15 PM	0	66	9	1	26	50	5	4	156	0	80	5	6	0	119	18	7	222	378
1:30 PM	0	53	6	0	32	49	1	1	141	0	81	5	7	0	100	24	11	210	351
1:45 PM	0	52	3	1	32	40	2	4	129	0	76	9	2	0	92	30	6	207	336
3:00 PM	1	74	3	2	38	58	1	2	175	0	73	13	8	0	154	24	5	264	439
3:15 PM	1	54	3	1	29	50	3	1	140	0	71	8	3	0	126	41	10	246	386
3:30 PM	0	51	4	0	41	51	4	3	151	0	79	6	3	0	109	28	3	222	373
3:45 PM	0	60	6	0	36	49	2	1	153	1	56	6	0	0	102	29	2	194	347
4:00 PM	0	71	3	3	29	39	2	1	144	0	62	9	2	0	103	25	3	199	343
4:15 PM	0	71	4	0	37	50	1	2	163	0	69	7	2	0	97	34	5	207	370
4:30 PM	0	61	5	1	35	61	2	1	164	0	64	7	3	0	91	19	3	181	345
4:45 PM	0	49	6	0	23	54	0	1	132	1	67	11	0	0	79	29	3	187	319
5:00 PM	0	50	9	0	37	63	3	1	162	0	66	7	1	0	107	24	5	204	366
5:15 PM	0	74	2	0	29	44	5	0	154	0	65	5	1	0	119	27	0	216	370
5:30 PM	0	56	7	0	25	36	1	2	125	0	59	7	2	0	132	23	2	221	346
5:45 PM	0	44	3	0	28	38	2	1	115	0	49	4	1	0	161	22	1	236	351



Notes:

# 15-Minute Count Data

## Denver Ave and E 28th St

### Lorain, Ohio



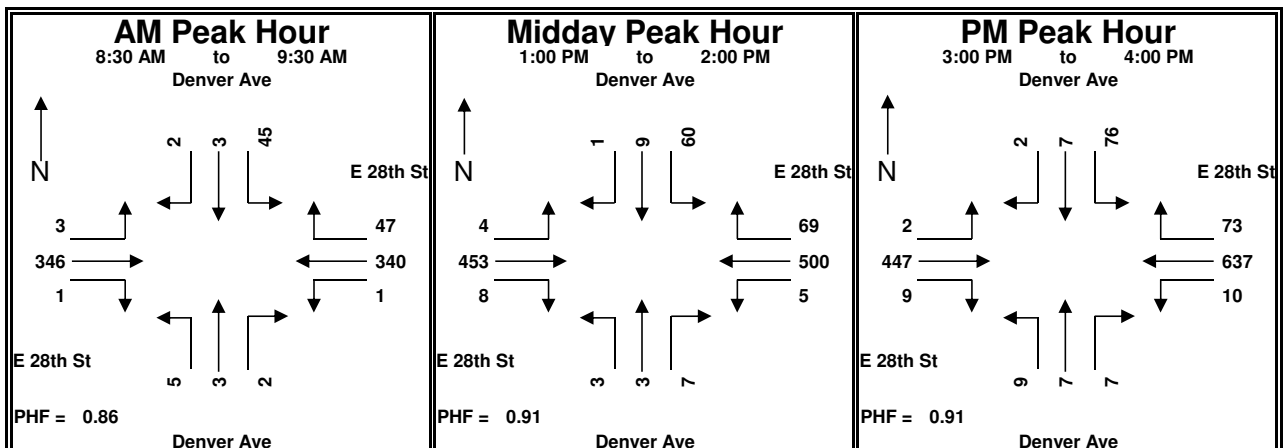
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

<b>Seasonal Factor</b>	<b>Day of Week</b>	<b>Date</b>	<b>Start Time</b>	<b>End Time</b>	<b>Weather</b>
0.954	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.954	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.954	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Denver Ave Northbound				Denver Ave Southbound				Total North	E 28th St Eastbound				E 28th St Westbound				Total East	Total All
	LT	THRU	RT	Truck	LT	THRU	RT	Truck	South	LT	THRU	RT	Truck	LT	THRU	RT	Truck	West	Dir.
<b>Totals</b>	47	45	55	4	438	58	19	12	662	19	3397	54	166	44	4060	507	178	8081	8743
	Percent Trucks = 3%				Percent Trucks = 2%					Percent Trucks = 5%				Percent Trucks = 4%					
<b>ADT</b>	76	73	89	7	712	94	31	20	1076	31	5521	88	270	72	6598	824	289	13133	14209
7:00 AM	1	0	4	1	9	0	2	0	16	0	77	0	1	1	58	7	8	143	159
7:15 AM	1	1	0	0	7	0	0	0	9	0	73	0	3	0	62	12	3	147	156
7:30 AM	0	1	0	0	12	1	0	0	14	0	62	0	8	2	97	11	5	172	186
7:45 AM	0	0	2	0	11	1	2	0	16	0	62	1	3	0	81	18	7	162	178
8:00 AM	0	0	0	0	14	0	1	2	15	0	65	0	4	0	70	5	2	140	155
8:15 AM	0	0	1	0	9	1	0	2	11	0	70	0	9	0	68	6	6	144	155
8:30 AM	0	1	0	0	8	0	1	0	10	1	96	0	7	0	67	18	11	182	192
8:45 AM	3	1	1	0	13	1	0	0	19	0	109	1	9	0	92	10	5	212	231
9:00 AM	0	1	0	0	9	1	1	0	12	2	88	0	10	0	94	9	6	193	205
9:15 AM	2	0	1	0	15	1	0	0	19	0	53	0	3	1	87	10	5	151	170
9:30 AM	2	2	0	0	9	0	1	0	14	0	61	1	5	2	104	9	3	177	191
9:45 AM	0	1	4	0	4	1	1	0	11	0	89	1	2	2	109	10	7	211	222
11:00 AM	2	0	2	0	12	1	0	0	17	0	77	4	4	1	80	8	4	170	187
11:15 AM	1	0	2	0	7	3	0	0	13	0	106	1	4	1	98	10	1	216	229
11:30 AM	2	2	1	0	10	0	0	0	15	1	87	3	5	1	98	17	4	207	222
11:45 AM	1	1	1	0	5	3	0	0	11	1	86	2	1	0	108	11	7	208	219
12:00 PM	0	2	0	0	10	3	0	0	15	1	102	1	6	1	89	9	1	203	218
12:15 PM	1	1	2	0	18	2	1	0	25	1	123	1	5	1	97	18	3	241	266
12:30 PM	7	2	1	0	9	1	0	1	20	1	120	2	10	1	125	11	4	260	280
12:45 PM	0	4	1	0	10	1	2	0	18	0	102	0	3	1	108	18	2	229	247
1:00 PM	1	0	1	1	11	3	0	0	16	2	105	3	4	2	113	17	5	242	258
1:15 PM	1	3	1	0	14	4	1	1	24	1	117	1	8	2	140	24	10	285	309
1:30 PM	0	0	4	0	20	2	0	1	26	0	109	2	7	0	124	13	12	248	274
1:45 PM	1	0	1	1	15	0	0	1	17	1	122	2	6	1	123	15	5	264	281
3:00 PM	2	1	1	0	22	3	0	1	29	1	115	2	8	0	191	16	8	325	354
3:15 PM	3	1	2	0	25	2	1	0	34	0	113	2	7	1	169	13	9	298	332
3:30 PM	1	3	1	0	10	1	1	0	17	0	116	3	3	3	142	26	6	290	307
3:45 PM	3	2	3	0	19	1	0	2	28	1	103	2	3	6	135	18	6	265	293
4:00 PM	4	3	3	1	6	6	1	1	23	1	84	2	4	3	129	18	3	237	260
4:15 PM	0	3	1	0	11	4	0	0	19	0	125	3	5	1	141	17	6	287	306
4:30 PM	1	0	2	0	20	2	0	0	25	0	100	1	4	1	113	18	4	233	258
4:45 PM	1	3	1	0	16	2	0	0	23	1	97	1	0	3	120	18	3	240	263
5:00 PM	2	1	5	0	13	3	0	0	24	0	106	5	1	2	131	19	5	263	287
5:15 PM	2	0	3	0	15	1	2	0	23	0	103	2	1	2	149	15	0	271	294
5:30 PM	1	4	0	0	8	2	0	0	15	2	95	1	2	0	163	22	1	283	298
5:45 PM	1	1	3	0	12	1	1	0	19	1	79	4	1	2	185	11	1	282	301



Notes:

# 15-Minute Count Data

## 1280 E 28th St and E 28th St

### Lorain, Ohio

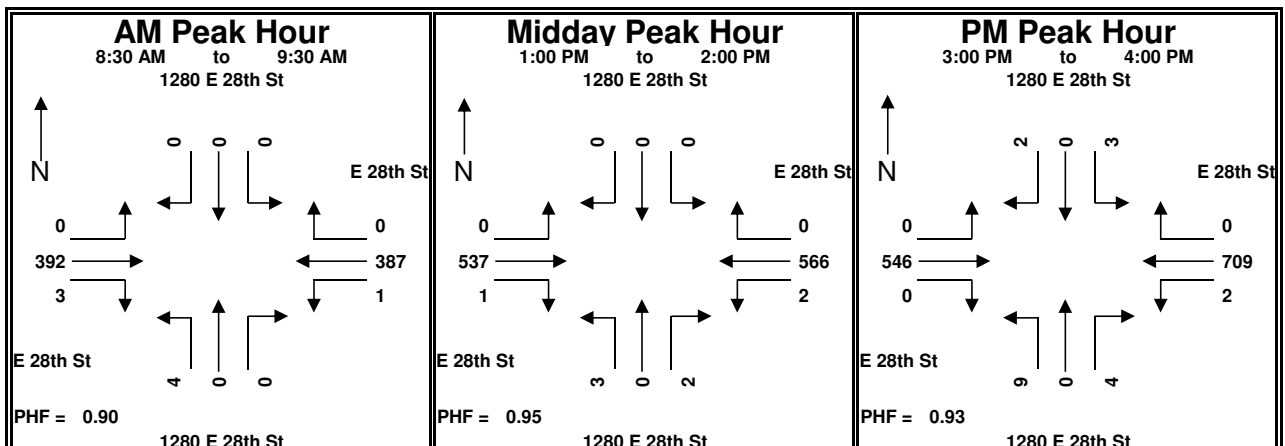


564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

Seasonal Factor	Day of Week	Date	Start Time	End Time	Weather
0.954	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.954	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.954	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70  
Intersection ID: 35

Start Time	1280 E 28th St Northbound				1280 E 28th St Southbound				Total North	E 28th St Eastbound				E 28th St Westbound				Total East	Total All
	LT	THRU	RT	Truck	LT	THRU	RT	Truck	South	LT	THRU	RT	Truck	LT	THRU	RT	Truck	West	Dir.
Totals	36	0	27	8	3	0	2	0	68	0	3885	15	180	22	4578	0	177	8500	8568
	Percent Trucks = 13%				Percent Trucks = 0%					Percent Trucks = 5%				Percent Trucks = 4%					
ADT	59	0	44	13	5	0	3	0	111	0	6314	24	293	36	7440	0	288	13814	13925
7:00 AM	2	0	2	0	0	0	0	0	4	0	81	1	3	4	67	0	8	153	157
7:15 AM	0	0	1	0	0	0	0	0	1	0	86	0	3	0	74	0	4	160	161
7:30 AM	0	0	0	0	0	0	0	0	0	0	64	0	5	0	111	0	5	175	175
7:45 AM	0	0	0	0	0	0	0	0	0	0	80	0	5	0	99	0	7	179	179
8:00 AM	0	0	0	0	0	0	0	0	0	0	73	1	5	0	78	0	2	152	152
8:15 AM	0	0	1	1	0	0	0	0	1	0	79	0	9	2	71	0	6	152	153
8:30 AM	0	0	0	0	0	0	0	0	0	0	107	0	6	0	84	0	11	191	191
8:45 AM	2	0	0	1	0	0	0	0	2	0	120	1	8	1	95	0	5	217	219
9:00 AM	2	0	0	0	0	0	0	0	2	0	91	2	10	0	106	0	6	199	201
9:15 AM	0	0	0	0	0	0	0	0	0	0	74	0	4	0	102	0	4	176	176
9:30 AM	1	0	0	0	0	0	0	0	1	0	72	1	4	0	113	0	3	186	187
9:45 AM	0	0	0	0	0	0	0	0	0	0	95	0	2	0	120	0	7	215	215
11:00 AM	1	0	3	0	0	0	0	0	4	0	84	1	5	1	91	0	4	177	181
11:15 AM	2	0	2	1	0	0	0	0	4	0	114	1	3	2	104	0	2	221	225
11:30 AM	1	0	1	1	0	0	0	0	2	0	92	1	6	0	116	0	3	209	211
11:45 AM	3	0	0	1	0	0	0	0	3	0	83	1	1	0	111	0	5	195	198
12:00 PM	2	0	1	0	0	0	0	0	3	0	118	1	7	0	97	0	2	216	219
12:15 PM	0	0	1	1	0	0	0	0	1	0	132	0	5	1	121	0	5	254	255
12:30 PM	1	0	1	0	0	0	0	0	2	0	134	2	10	0	133	0	4	269	271
12:45 PM	1	0	0	0	0	0	0	0	1	0	115	0	4	0	126	0	2	241	242
1:00 PM	3	0	0	0	0	0	0	0	3	0	123	0	5	0	123	0	6	246	249
1:15 PM	0	0	1	0	0	0	0	0	1	0	131	0	7	1	158	0	6	290	291
1:30 PM	0	0	0	0	0	0	0	0	0	0	140	1	10	1	139	0	14	281	281
1:45 PM	0	0	1	0	0	0	0	0	1	0	143	0	9	0	146	0	5	289	290
3:00 PM	1	0	2	0	2	0	2	0	7	0	139	0	12	2	195	0	8	336	343
3:15 PM	3	0	0	0	1	0	0	0	4	0	147	0	6	0	189	0	10	336	340
3:30 PM	3	0	2	0	0	0	0	0	5	0	128	0	3	0	166	0	6	294	299
3:45 PM	2	0	0	0	0	0	0	0	2	0	132	0	4	0	159	0	6	291	293
4:00 PM	0	0	2	1	0	0	0	0	2	0	96	0	4	2	153	0	4	251	253
4:15 PM	1	0	0	0	0	0	0	0	1	0	121	0	4	0	153	0	3	274	275
4:30 PM	0	0	2	0	0	0	0	0	2	0	126	0	3	1	130	0	3	257	259
4:45 PM	0	0	0	0	0	0	0	0	0	0	114	1	1	1	151	0	3	267	267
5:00 PM	2	0	2	0	0	0	0	0	4	0	134	0	1	0	150	0	5	284	288
5:15 PM	1	0	0	0	0	0	0	0	1	0	123	0	1	1	166	0	0	290	291
5:30 PM	1	0	1	1	0	0	0	0	2	0	101	0	3	0	180	0	2	281	283
5:45 PM	1	0	1	0	0	0	0	0	2	0	93	0	2	2	201	0	1	296	298



Notes:

# 15-Minute Count Data

## Fulton Rd and E 28th St

### Lorain, Ohio



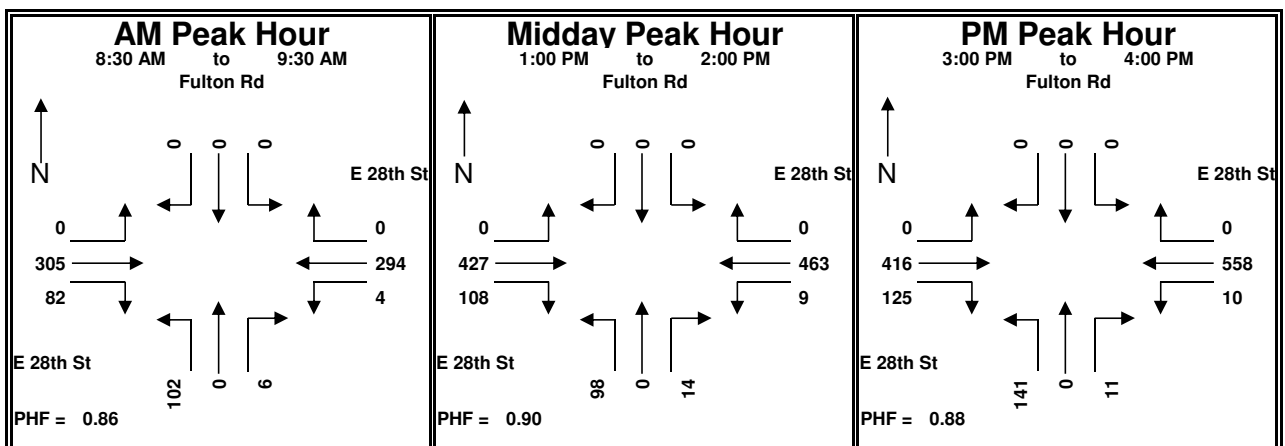
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

<b>Seasonal Factor</b>	<b>Day of Week</b>	<b>Date</b>	<b>Start Time</b>	<b>End Time</b>	<b>Weather</b>
0.954	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.954	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.954	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Northbound				Fulton Rd Southbound				Total North South	E 28th St Eastbound				E 28th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	948	0	90	36	0	0	0	0	1038	0	3055	831	181	59	3609	0	143	7554	8592
	Percent Trucks = 3%				Percent Trucks = 0%					Percent Trucks = 5%				Percent Trucks = 4%					
<b>ADT</b>	1541	0	146	59	0	0	0	0	1687	0	4965	1351	294	96	5865	0	232	12277	13964
7:00 AM	13	0	0	2	0	0	0	0	13	0	73	10	3	3	53	0	6	139	152
7:15 AM	13	0	0	0	0	0	0	0	13	0	77	11	4	0	63	0	4	151	164
7:30 AM	16	0	0	0	0	0	0	0	16	0	63	9	7	0	101	0	7	173	189
7:45 AM	16	0	3	3	0	0	0	0	19	0	57	18	2	1	76	0	5	152	171
8:00 AM	13	0	3	1	0	0	0	0	16	0	59	12	5	0	65	0	2	136	152
8:15 AM	10	0	1	0	0	0	0	0	11	0	63	16	10	1	62	0	6	142	153
8:30 AM	19	0	1	3	0	0	0	0	20	0	80	21	8	0	65	0	8	166	186
8:45 AM	28	0	4	3	0	0	0	0	32	0	91	27	10	1	79	0	2	198	230
9:00 AM	34	0	0	1	0	0	0	0	34	0	75	21	9	2	72	0	6	170	204
9:15 AM	21	0	1	0	0	0	0	0	22	0	59	13	4	1	78	0	2	151	173
9:30 AM	25	0	2	2	0	0	0	0	27	0	47	20	4	2	87	0	2	156	183
9:45 AM	32	0	1	2	0	0	0	0	33	0	78	14	2	0	82	0	4	174	207
11:00 AM	20	0	4	1	0	0	0	0	24	0	66	19	5	2	73	0	3	160	184
11:15 AM	21	0	5	1	0	0	0	0	26	0	98	22	6	3	76	0	1	199	225
11:30 AM	17	0	3	0	0	0	0	0	20	0	86	18	7	0	100	0	3	204	224
11:45 AM	25	0	3	1	0	0	0	0	28	0	66	18	1	1	90	0	5	175	203
12:00 PM	25	0	4	0	0	0	0	0	29	0	89	29	7	1	73	0	2	192	221
12:15 PM	26	0	4	1	0	0	0	0	30	0	101	30	5	2	99	0	4	232	262
12:30 PM	25	0	1	0	0	0	0	0	26	0	101	26	9	4	104	0	4	235	261
12:45 PM	30	0	5	0	0	0	0	0	35	0	87	25	4	3	84	0	1	199	234
1:00 PM	23	0	2	0	0	0	0	0	25	0	101	21	5	2	99	0	6	223	248
1:15 PM	25	0	7	1	0	0	0	0	32	0	111	23	7	2	144	0	7	280	312
1:30 PM	26	0	2	2	0	0	0	0	28	0	110	27	10	4	109	0	8	250	278
1:45 PM	24	0	3	2	0	0	0	0	27	0	105	37	9	1	111	0	3	254	281
3:00 PM	42	0	1	1	0	0	0	0	43	0	112	33	9	3	168	0	9	316	359
3:15 PM	37	0	5	2	0	0	0	0	42	0	114	28	7	4	142	0	7	288	330
3:30 PM	33	0	2	1	0	0	0	0	35	0	92	31	2	3	133	0	4	259	294
3:45 PM	29	0	3	1	0	0	0	0	32	0	98	33	4	0	115	0	4	246	278
4:00 PM	32	0	3	2	0	0	0	0	35	0	68	30	4	3	129	0	3	230	265
4:15 PM	29	0	2	0	0	0	0	0	31	0	98	31	4	1	124	0	4	254	285
4:30 PM	32	0	6	0	0	0	0	0	38	0	98	34	2	3	109	0	3	244	282
4:45 PM	38	0	3	0	0	0	0	0	41	0	86	26	0	2	105	0	3	219	260
5:00 PM	36	0	0	3	0	0	0	0	36	0	106	23	1	0	114	0	2	243	279
5:15 PM	34	0	5	0	0	0	0	0	39	0	89	30	1	3	128	0	0	250	289
5:30 PM	31	0	0	0	0	0	0	0	31	0	83	17	3	0	150	0	2	250	281
5:45 PM	48	0	1	0	0	0	0	0	49	0	68	28	1	1	147	0	1	244	293



Notes:

# 15-Minute Count Data

## Vine Ave and E 28th St

### Lorain, Ohio

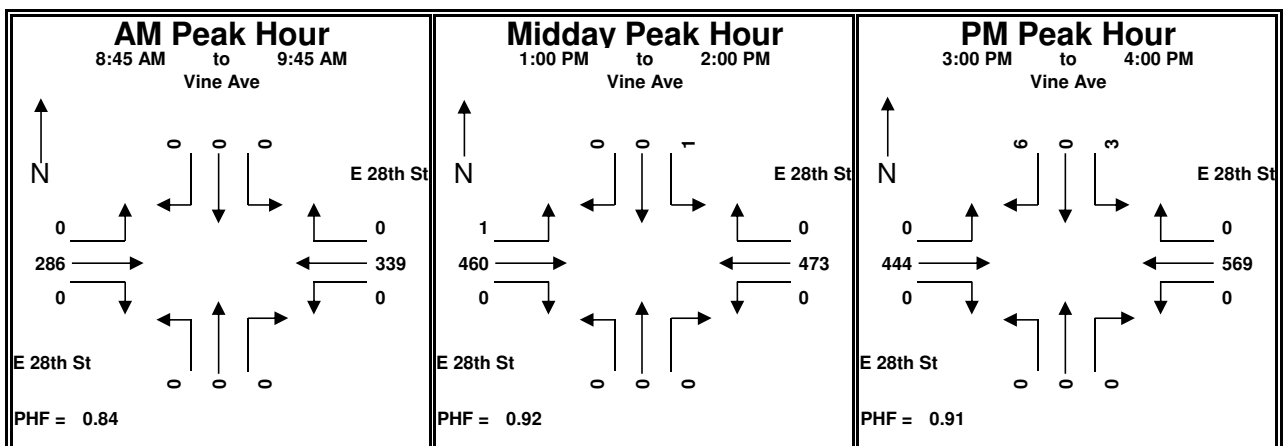


564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

<b>Seasonal Factor</b>	<b>Day of Week</b>	<b>Date</b>	<b>Start Time</b>	<b>End Time</b>	<b>Weather</b>
0.954	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.954	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.954	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70  
Intersection ID: 35

Start Time	Northbound				Vine Ave Southbound				Total North South	E 28th St Eastbound				E 28th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	0	0	0	0	8	0	9	0	17	3	3226	0	229	0	3736	5	226	6970	6987
	Percent Trucks = 0%				Percent Trucks = 0%					Percent Trucks = 7%				Percent Trucks = 6%					
<b>ADT</b>	0	0	0	0	13	0	15	0	28	5	5243	0	372	0	6072	8	367	11328	11355
7:00 AM	0	0	0	0	0	0	0	0	0	0	78	0	5	0	61	0	8	139	139
7:15 AM	0	0	0	0	0	0	0	0	0	0	76	0	3	0	63	1	4	140	140
7:30 AM	0	0	0	0	0	0	0	0	0	0	57	0	7	0	101	0	7	158	158
7:45 AM	0	0	0	0	0	0	0	0	0	0	64	0	4	0	84	0	10	148	148
8:00 AM	0	0	0	0	0	0	0	0	0	0	64	0	7	0	67	0	3	131	131
8:15 AM	0	0	0	0	0	0	0	0	0	0	64	0	7	0	67	0	9	131	131
8:30 AM	0	0	0	0	0	0	0	0	0	0	83	0	4	0	68	0	11	151	151
8:45 AM	0	0	0	0	0	0	0	0	0	0	93	0	8	0	94	0	11	187	187
9:00 AM	0	0	0	0	0	0	0	0	0	0	70	0	8	0	73	0	8	143	143
9:15 AM	0	0	0	0	0	0	0	0	0	0	63	0	9	0	77	0	11	140	140
9:30 AM	0	0	0	0	0	0	0	0	0	0	60	0	9	0	95	0	3	155	155
9:45 AM	0	0	0	0	0	0	0	0	0	0	86	0	4	0	96	0	13	182	182
11:00 AM	0	0	0	0	0	0	1	0	1	0	72	0	7	0	74	1	8	147	148
11:15 AM	0	0	0	0	0	0	0	0	0	0	114	0	11	0	80	0	2	194	194
11:30 AM	0	0	0	0	0	0	0	0	0	0	91	0	8	0	101	0	5	192	192
11:45 AM	0	0	0	0	0	0	0	0	0	0	64	0	1	0	89	0	8	153	153
12:00 PM	0	0	0	0	0	0	1	0	1	1	92	0	7	0	82	0	5	175	176
12:15 PM	0	0	0	0	0	0	0	0	0	0	109	0	9	0	98	0	5	207	207
12:30 PM	0	0	0	0	0	0	0	0	0	0	110	0	9	0	109	2	7	221	221
12:45 PM	0	0	0	0	0	0	0	0	0	0	97	0	7	0	95	0	6	192	192
1:00 PM	0	0	0	0	1	0	0	0	1	0	107	0	11	0	100	0	6	207	208
1:15 PM	0	0	0	0	0	0	0	0	0	1	115	0	9	0	138	0	10	254	254
1:30 PM	0	0	0	0	0	0	0	0	0	0	119	0	11	0	128	0	13	247	247
1:45 PM	0	0	0	0	0	0	0	0	0	0	119	0	12	0	107	0	5	226	226
3:00 PM	0	0	0	0	3	0	6	0	9	0	112	0	9	0	159	0	9	271	280
3:15 PM	0	0	0	0	0	0	0	0	0	0	126	0	9	0	153	0	6	279	279
3:30 PM	0	0	0	0	0	0	0	0	0	0	102	0	7	0	131	0	3	233	233
3:45 PM	0	0	0	0	0	0	0	0	0	0	104	0	4	0	126	0	8	230	230
4:00 PM	0	0	0	0	0	0	0	0	0	0	67	0	1	0	127	0	3	194	194
4:15 PM	0	0	0	0	0	0	0	0	0	0	98	0	9	0	134	0	6	232	232
4:30 PM	0	0	0	0	0	0	0	0	0	1	103	0	4	0	104	0	4	208	208
4:45 PM	0	0	0	0	0	0	0	0	0	0	89	0	1	0	110	0	3	199	199
5:00 PM	0	0	0	0	4	0	1	0	5	0	118	0	2	0	119	1	2	238	243
5:15 PM	0	0	0	0	0	0	0	0	0	0	92	0	1	0	137	0	3	229	229
5:30 PM	0	0	0	0	0	0	0	0	0	0	85	0	3	0	149	0	1	234	234
5:45 PM	0	0	0	0	0	0	0	0	0	0	63	0	2	0	140	0	0	203	203



Notes:



# 15-Minute Count Data

## Pearl Ave and E 28th St

### Lorain, Ohio



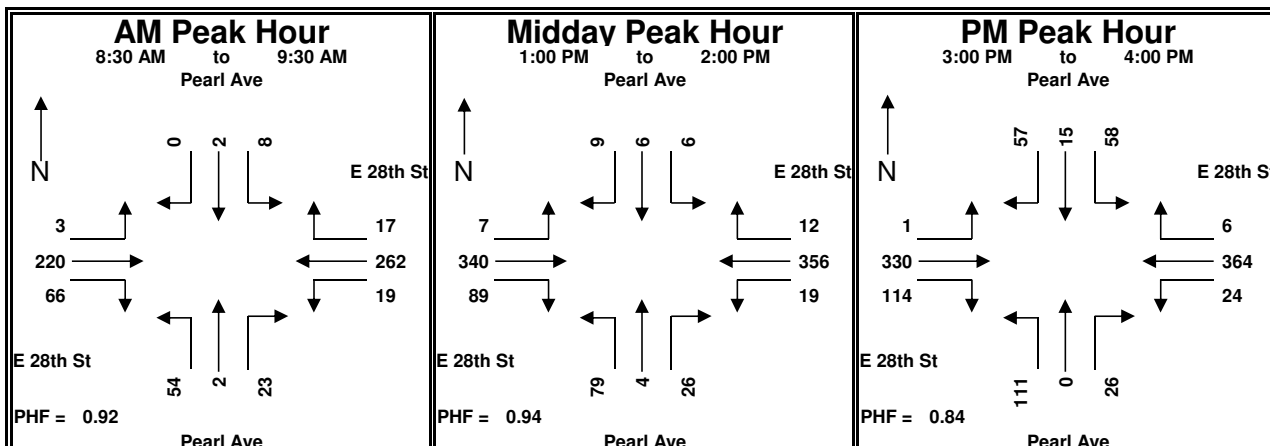
564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

<b>Seasonal Factor</b>	<b>Day of Week</b>	<b>Date</b>	<b>Start Time</b>	<b>End Time</b>	<b>Weather</b>
0.954	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.954	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.954	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70

Intersection ID: 35

Start Time	Pearl Ave Northbound				Pearl Ave Southbound				Total North	E 28th St Eastbound				E 28th St Westbound				Total East	Total All
	LT	THRU	RT	Truck	LT	THRU	RT	Truck	South	LT	THRU	RT	Truck	LT	THRU	RT	Truck	West	Dir.
<b>Totals</b>	746	19	217	20	167	58	94	14	1301	31	2449	733	232	175	2735	146	215	6269	7570
	Percent Trucks = 2%				Percent Trucks = 4%					Percent Trucks = 7%				Percent Trucks = 7%					
<b>ADT</b>	1212	31	353	33	271	94	153	23	2114	50	3980	1191	377	284	4445	237	349	10188	12303
7:00 AM	11	2	2	0	2	1	1	0	19	1	56	8	5	0	48	9	9	122	141
7:15 AM	7	0	0	0	1	0	1	1	9	2	60	11	3	0	56	8	4	137	146
7:30 AM	18	1	3	0	2	0	0	0	24	2	44	8	6	0	77	10	5	141	165
7:45 AM	14	2	2	2	1	0	1	1	20	1	47	9	5	1	72	16	8	146	166
8:00 AM	11	0	3	0	1	1	1	0	17	1	47	11	5	0	50	10	3	119	136
8:15 AM	16	0	5	0	0	0	0	0	21	0	41	11	6	8	51	5	9	116	137
8:30 AM	16	2	5	3	1	0	0	0	24	0	63	20	5	9	55	6	10	153	177
8:45 AM	15	0	5	0	1	1	0	0	22	1	49	24	4	2	80	5	15	161	183
9:00 AM	13	0	4	0	3	0	0	2	20	2	63	11	12	2	64	3	6	145	165
9:15 AM	10	0	9	0	3	1	0	0	23	0	45	11	10	6	63	3	9	128	151
9:30 AM	26	0	4	0	2	0	0	0	32	1	53	9	12	2	62	6	4	133	165
9:45 AM	20	0	5	1	2	0	1	1	28	1	62	14	4	1	69	4	12	151	179
11:00 AM	13	0	7	0	2	2	0	0	24	2	48	20	6	3	52	1	7	126	150
11:15 AM	20	1	12	1	3	3	0	1	39	0	90	20	10	5	47	6	4	168	207
11:30 AM	17	3	3	0	3	2	0	0	28	0	62	14	10	5	76	4	4	161	189
11:45 AM	19	0	9	0	5	3	1	1	37	1	59	20	2	8	61	3	9	152	189
12:00 PM	22	2	5	1	0	1	3	1	33	1	58	35	4	10	61	3	5	168	201
12:15 PM	23	0	12	1	0	3	3	1	41	1	78	25	9	10	72	5	8	191	232
12:30 PM	27	0	8	0	1	1	1	0	38	2	85	28	12	7	80	2	6	204	242
12:45 PM	26	1	8	0	0	0	2	0	37	2	70	26	7	6	66	6	7	176	213
1:00 PM	17	1	5	0	2	1	2	0	28	1	91	11	13	3	68	5	6	179	207
1:15 PM	21	2	7	1	0	2	4	3	36	3	81	18	8	2	111	2	14	217	253
1:30 PM	22	0	5	1	2	1	1	1	31	2	81	33	9	3	95	3	9	217	248
1:45 PM	19	1	9	0	2	2	2	0	35	1	87	27	14	11	82	2	5	210	245
3:00 PM	26	0	7	5	34	9	40	1	116	1	97	25	9	3	84	4	4	214	330
3:15 PM	40	0	6	0	9	3	13	0	71	0	86	29	8	9	93	0	6	217	288
3:30 PM	19	0	6	0	11	2	3	0	41	0	80	24	6	6	99	1	3	210	251
3:45 PM	26	0	7	1	4	1	1	0	39	0	67	36	4	6	88	1	4	198	237
4:00 PM	25	0	9	2	15	4	6	0	59	0	67	22	2	9	100	3	4	201	260
4:15 PM	30	0	5	1	9	2	1	0	47	0	65	25	8	3	89	0	3	182	229
4:30 PM	20	0	10	0	8	1	1	0	40	0	77	32	3	2	81	0	3	192	232
4:45 PM	18	0	5	0	12	2	1	0	38	0	61	22	2	9	83	1	3	176	214
5:00 PM	16	1	7	0	9	5	4	0	42	1	112	22	3	10	89	2	4	236	278
5:15 PM	32	0	5	0	8	1	0	0	46	0	96	23	1	4	98	1	2	222	268
5:30 PM	37	0	6	0	8	3	0	0	54	0	64	25	3	5	111	6	1	211	265
5:45 PM	34	0	7	0	1	0	0	0	42	1	57	24	2	5	102	0	0	189	231



Notes:

# 15-Minute Count Data

## Grove Ave and E 28th St

### Lorain, Ohio

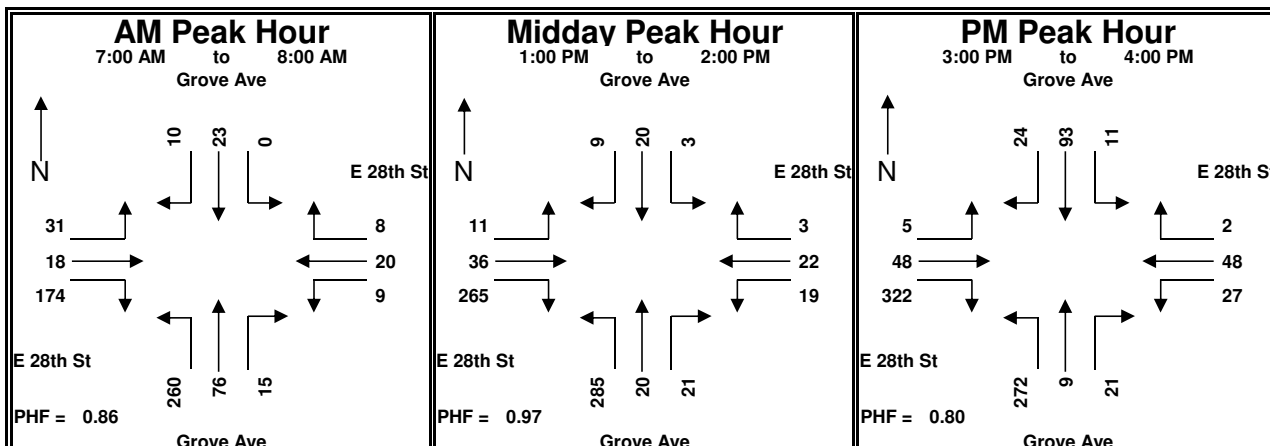


564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

<b>Seasonal Factor</b>	<b>Day of Week</b>	<b>Date</b>	<b>Start Time</b>	<b>End Time</b>	<b>Weather</b>
0.954	Tuesday	June 4, 2013	7:00 AM	10:00 AM	
0.954	Tuesday	June 4, 2013	11:00 AM	2:00 PM	
0.954	Tuesday	June 4, 2013	3:00 PM	6:00 PM	

ADT Factor: 1.70  
Intersection ID: 35

Start Time	Grove Ave Northbound				Grove Ave Southbound				Total North South	E 28th St Eastbound				E 28th St Westbound				Total East West	Total All Dir.
	LT	THRU	RT	Truck	LT	THRU	RT	Truck		LT	THRU	RT	Truck	LT	THRU	RT	Truck		
<b>Totals</b>	2271	219	184	245	37	353	109	10	3173	80	271	2109	206	152	301	25	76	2938	6111
	Percent Trucks = 9%				Percent Trucks = 2%					Percent Trucks = 8%				Percent Trucks = 16%					
<b>ADT</b>	3691	356	299	398	60	574	177	16	5157	130	440	3428	335	247	489	41	124	4775	9932
7:00 AM	47	37	1	9	0	16	4	0	105	19	6	46	7	2	7	3	3	83	188
7:15 AM	53	17	7	6	0	4	4	0	85	4	5	54	5	3	6	3	3	75	160
7:30 AM	89	14	3	5	0	3	1	1	110	3	2	45	5	1	4	0	1	55	165
7:45 AM	71	8	4	8	0	0	1	0	84	5	5	29	4	3	3	2	1	47	131
8:00 AM	55	5	7	9	0	2	2	0	71	0	5	40	6	3	6	0	3	54	125
8:15 AM	51	9	1	7	0	3	1	0	65	0	2	41	7	4	5	0	5	52	117
8:30 AM	60	5	2	9	1	1	2	1	71	1	5	51	5	1	7	0	3	65	136
8:45 AM	68	5	4	15	0	3	1	0	81	2	4	41	5	0	6	0	1	53	134
9:00 AM	60	2	3	7	0	1	2	0	68	2	4	48	7	2	9	1	4	66	134
9:15 AM	46	1	5	8	0	2	2	2	56	1	6	46	10	4	8	1	3	66	122
9:30 AM	56	3	10	9	1	1	1	0	72	1	5	45	7	2	5	0	2	58	130
9:45 AM	58	2	6	12	0	3	1	0	70	0	12	53	8	3	6	0	2	74	144
11:00 AM	47	4	5	9	2	4	0	0	62	0	6	39	5	4	5	0	3	54	116
11:15 AM	44	2	3	3	0	4	4	0	57	2	9	68	9	10	8	1	5	98	155
11:30 AM	61	2	5	5	1	6	2	1	77	2	7	53	10	1	14	1	1	78	155
11:45 AM	53	6	5	8	0	18	4	0	86	5	5	57	2	5	7	0	0	79	165
12:00 PM	51	12	3	5	1	7	0	0	74	3	4	50	2	4	6	0	1	67	141
12:15 PM	59	7	9	12	2	6	2	1	85	1	5	65	8	3	11	0	1	85	170
12:30 PM	60	12	7	5	0	7	3	0	89	1	6	75	12	7	7	2	4	98	187
12:45 PM	62	5	5	8	0	4	1	0	77	0	2	65	4	6	6	1	2	80	157
1:00 PM	56	3	8	9	0	2	4	0	73	1	10	73	13	7	4	0	4	95	168
1:15 PM	94	4	4	17	0	1	1	0	104	3	8	59	4	5	5	0	0	80	184
1:30 PM	68	8	7	7	0	2	1	0	86	4	11	72	8	2	7	0	1	96	182
1:45 PM	67	5	2	7	3	15	3	1	95	3	7	61	9	5	6	3	5	85	180
3:00 PM	54	4	10	5	3	39	8	0	118	1	16	112	6	9	19	1	3	158	276
3:15 PM	83	4	4	6	3	26	2	0	122	1	10	79	7	8	7	0	1	105	227
3:30 PM	67	1	5	1	0	13	8	0	94	2	9	73	6	6	8	0	1	98	192
3:45 PM	68	0	2	5	5	15	6	0	96	1	13	58	4	4	14	1	0	91	187
4:00 PM	70	0	6	6	2	30	15	0	123	2	14	62	0	7	16	0	1	101	224
4:15 PM	69	0	8	2	2	18	2	0	99	0	10	68	6	5	9	0	4	92	191
4:30 PM	66	4	6	4	1	12	5	0	94	0	12	63	3	1	11	0	0	87	181
4:45 PM	55	10	7	4	4	9	1	2	86	1	12	62	3	9	17	2	4	103	189
5:00 PM	64	8	4	5	2	25	5	0	108	7	14	91	4	7	16	1	2	136	244
5:15 PM	80	5	9	2	3	27	7	1	131	1	7	70	1	3	14	1	1	96	227
5:30 PM	84	4	7	6	0	6	1	0	102	0	6	54	4	2	8	0	0	70	172
5:45 PM	75	1	0	0	1	18	2	0	97	1	7	41	0	4	4	1	1	58	155



Notes:

# **Appendix B**

**-Signal Warrant Data**

# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W Erie Ave and E Erie Bridge  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING _____					SPEED DATA _____				OTHER (DESCRIBE): _____				
VEHICULAR VOLUME COUNT _____					DELAY ANALYSIS _____								
TRAFFIC PROJECTION _____					TIME/SPACE DIAGRAM _____								
ACCIDENT DATA _____					GROUND PHOTOGRAPHS _____								
PEDESTRIAN COUNT _____					AERIAL PHOTOGRAPHS _____								
GAP ANALYSIS _____					DOCUMENTATION/EXPLANATION _____								

		ADJUSTED HOURLY VOLUMES			WARRANT #1												WARRANT			
		MAJOR ST.	MINOR ST.	MINOR ST.	CONDITION A				CONDITION B								#2	#3		
COND- TION	NO. OF LANES	2-WAY	1-WAY	1-WAY	100%		80%		100%		80%						FOUR HOUR	PEAK HOUR		
					MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60								
NORM	2+				600	200	480	160	900	100	720	80								
*	1				350	105	280	84	525	53	420	42								
70%	2+				420	140	336	112	630	70	504	56								
MID-1AM		0	0	0																
1AM-2AM		0	0	0																
2AM-3AM		0	0	0																
3AM-4AM		0	0	0																
4AM-5AM		0	0	0																
5AM-6AM		0	0	0																
6AM-7AM		0	0	0																
7AM-8AM		807	99	31	X		X		X	X	X	X								
8AM-9AM		888	196	37	X	X	X	X	X	X	X	X					X			
9AM-10AM		748	208	96	X	X	X	X		X	X	X					X			
10AM-11AM		0	0	0																
11AM-NOON		732	253	141	X	X	X	X		X	X	X					X			
NOON-1PM		870	289	124	X	X	X	X	X	X	X	X					X	X		
1PM-2PM		905	300	100	X	X	X	X	X	X	X	X					X	X		
2PM-3PM		0	0	0																
3PM-4PM		1137	332	117	X	X	X	X	X	X	X	X					X	X		
4PM-5PM		1107	297	111	X	X	X	X	X	X	X	X					X	X		
5PM-6PM		1102	323	70	X	X	X	X	X	X	X	X					X	X		
6PM-7PM		0	0	0																
7PM-8PM		0	0	0																
8PM-9PM		0	0	0																
9PM-10PM		0	0	0																
10PM-11PM		0	0	0																
11PM-MID		0	0	0																
HOURS MET					8		8		7		9						8	5		
WARRANT SATISFIED?					YES		YES		NO		YES						YES	YES		

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **YES**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

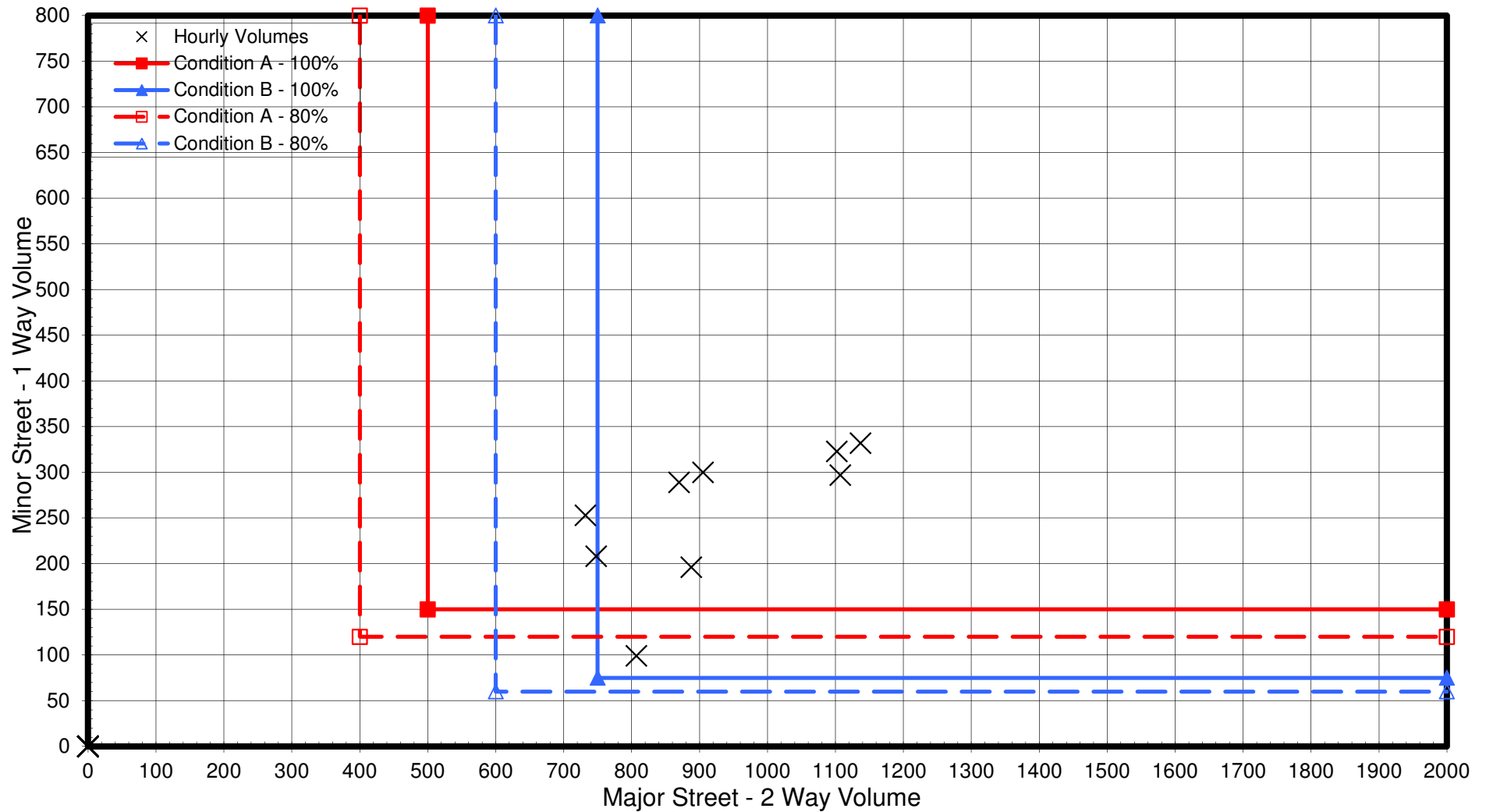
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =		Lanes	
Minor Road =			
Road Location =			
W Erie Ave and E Erie Bridge		1	
Broadway Ave		1	
Urban			

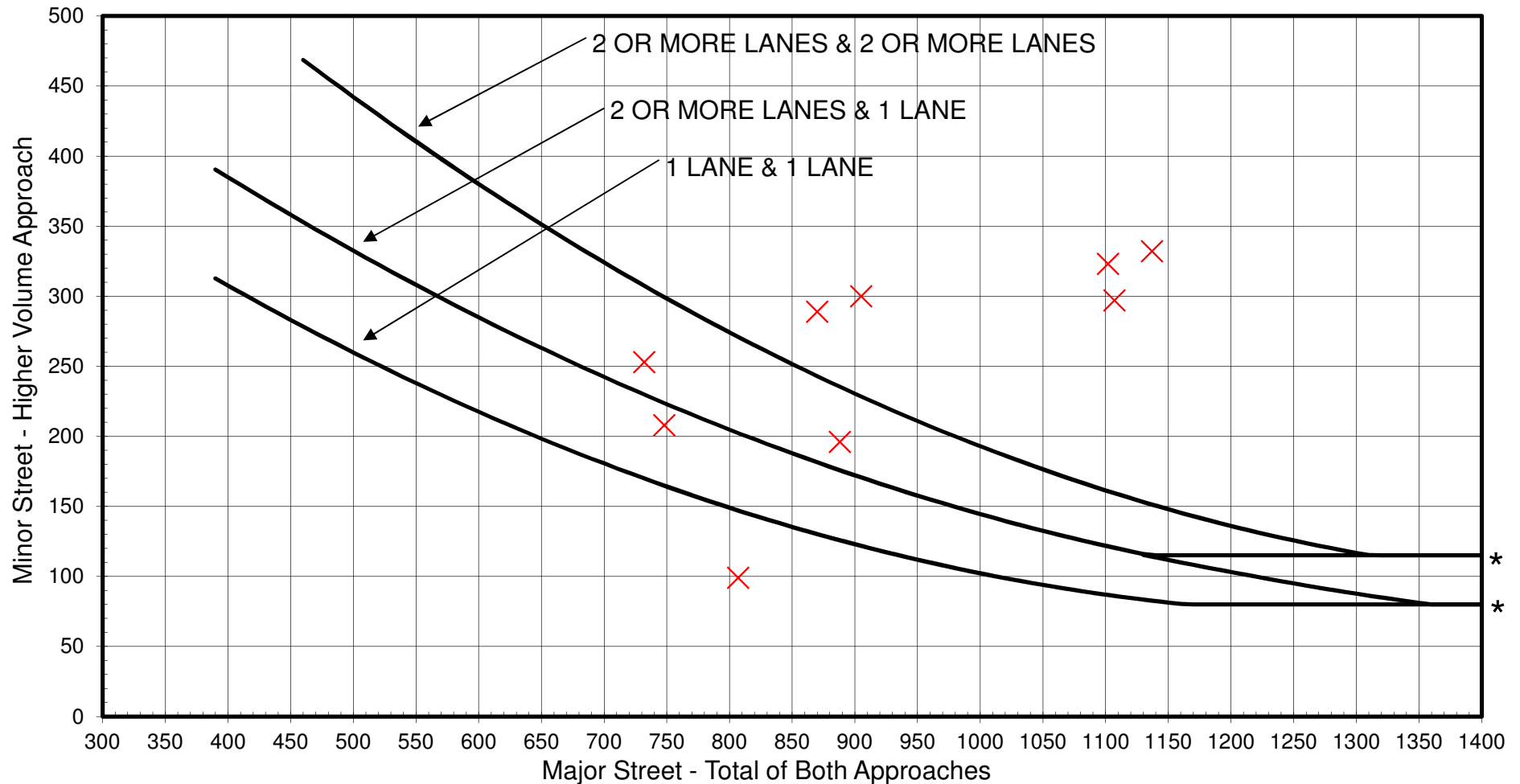
Warrant Met?		
Condition A (100%) =	8 Hours Meet	Yes
Condition B (100%) =	7 Hours Meet	No
Condition A (80%) =	8 Hours Meet	Yes
Condition B (80%) =	9 Hours Meet	Yes

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes
Major Road = W Erie Ave and E Erie Bridge	1
Minor Road = Broadway Ave	1
Road Location = Urban	

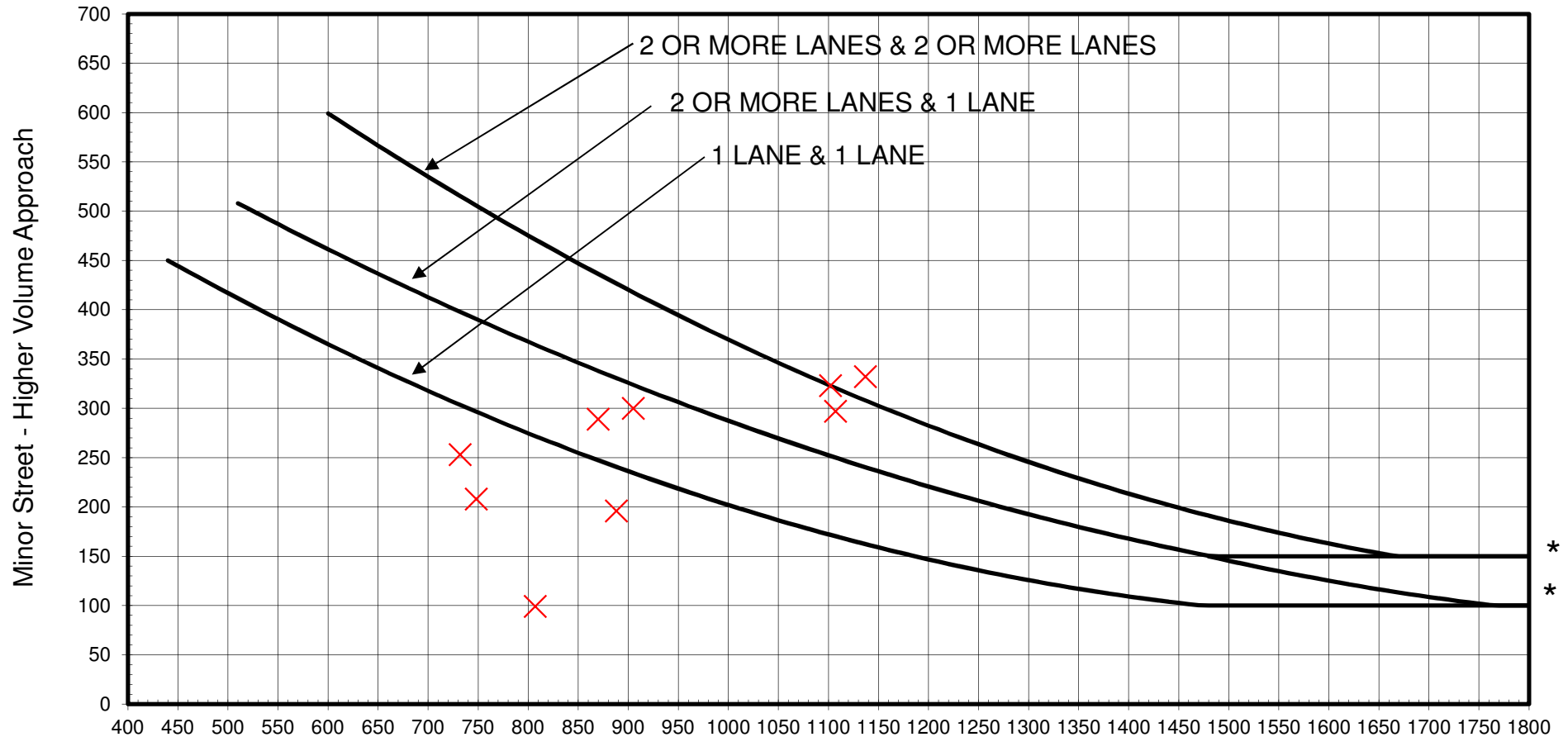
	Warrant Met?
Warrant 2 (Urban) = 8 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
 Akron, OH 44320-1100  
 Tel: 330.836.9111  
 Fax: 330.836.9115

## PEAK HOUR VOLUME WARRANT (WARRANT 3)



★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes
Major Road = W Erie Ave and E Erie Bridge	1
Minor Road = Broadway Ave	1
Road Location = Urban	

	Warrant Met?
Warrant 3 (Urban) = 5 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115



# SIGNAL WARRANT

INTERSECTION: Broadway Ave and 5th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 0 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
CON- TION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X		500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
1AM-2AM	0	0	0	0														
2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	285	24	0	0														
8AM-9AM	416	37	0	0			X											
9AM-10AM	514	57	0	0	X		X											
10AM-11AM	0	0	0	0														
11AM-NOON	525	73	0	0	X		X				X							
NOON-1PM	593	90	0	0	X		X		X		X							
1PM-2PM	604	71	0	0	X		X			X	X							
2PM-3PM	0	0	0	0														
3PM-4PM	689	78	0	0	X		X		X	X	X							
4PM-5PM	539	67	0	0	X		X				X							
5PM-6PM	483	53	0	0			X											
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					0	0	0	2					0	0				
WARRANT SATISFIED?					NO	NO	NO	NO					NO	NO				

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

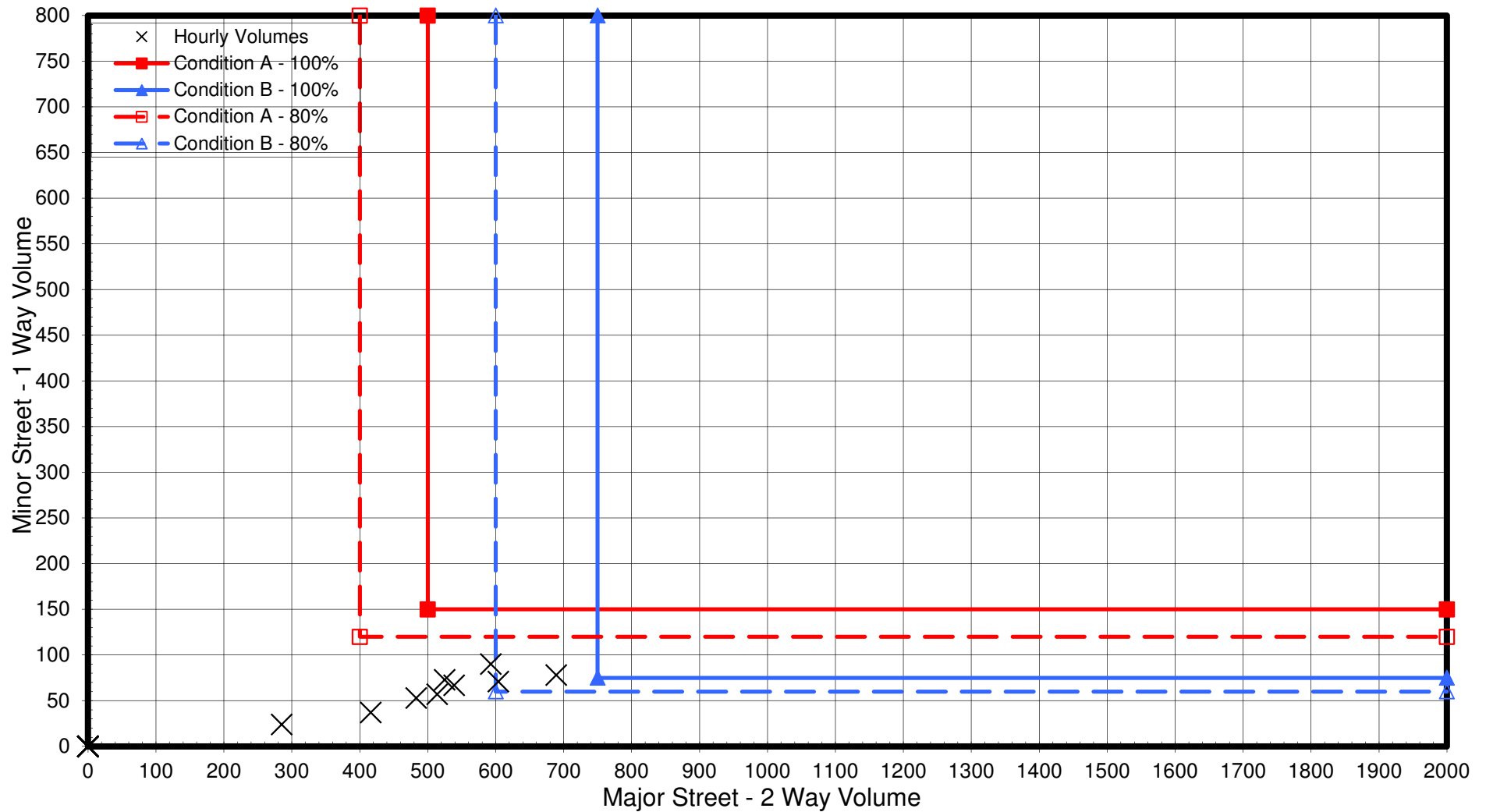
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can  
 be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be  
 prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	5th St		1
Road Location =	Urban		

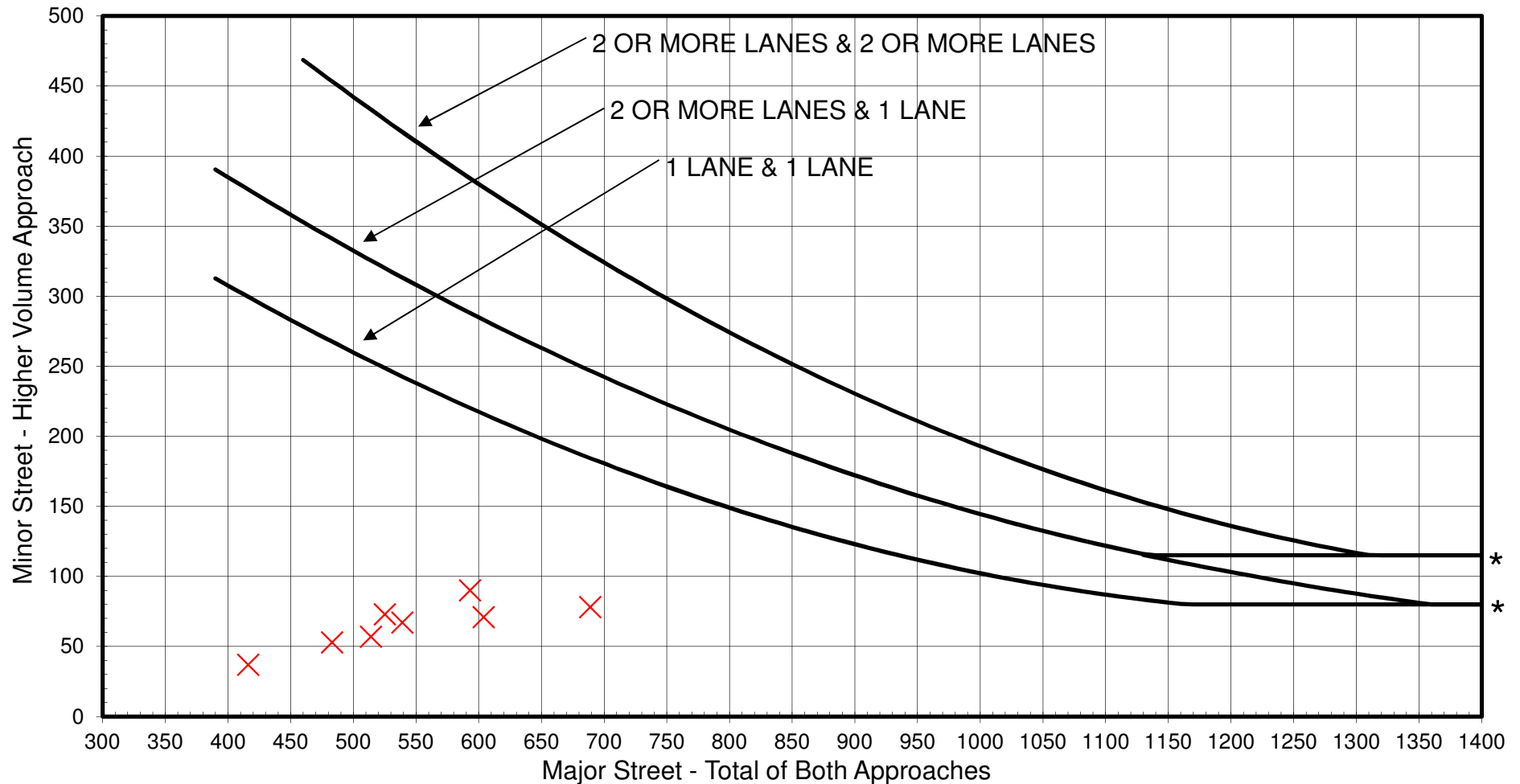
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	0 Hours Meet	No
Condition A (80%) =	0 Hours Meet	No
Condition B (80%) =	2 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Broadway Ave	1
Minor Road =	5th St	1
Road Location =	Urban	

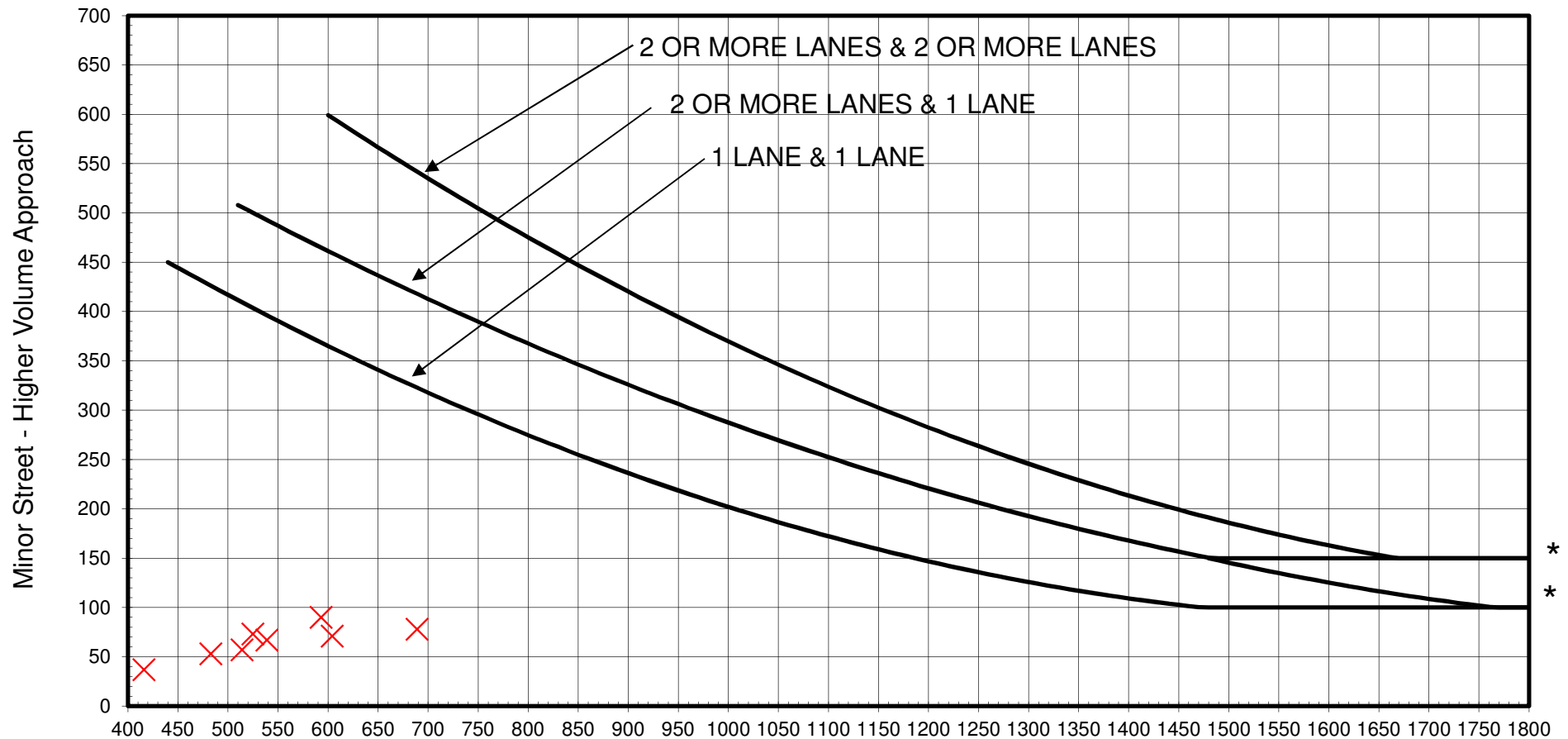
	Warrant Met?	
Warrant 2 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		Lanes
Major Road =	Broadway Ave	1
Minor Road =	5th St	1
Road Location =	Urban	

		Warrant Met?
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

URS

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# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 6th St and E 6th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
CON- TION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
1AM-2AM	0	0	0	0														
2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	278	18	0	0														
8AM-9AM	421	31	0	0			X											
9AM-10AM	511	45	0	0	X		X											
10AM-11AM	0	0	0	0														
11AM-NOON	578	57	0	0	X		X											
NOON-1PM	588	75	1	0	X		X		X		X							
1PM-2PM	637	72	0	0	X		X			X	X							
2PM-3PM	0	0	0	0														
3PM-4PM	692	63	0	0	X		X			X	X							
4PM-5PM	558	67	0	0	X		X				X							
5PM-6PM	502	67	0	0	X		X				X							
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					0	0	0	0	2					0	0			
WARRANT SATISFIED?					NO	NO	NO	NO	NO					NO	NO			

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
*Warrant Satisfied?*.....

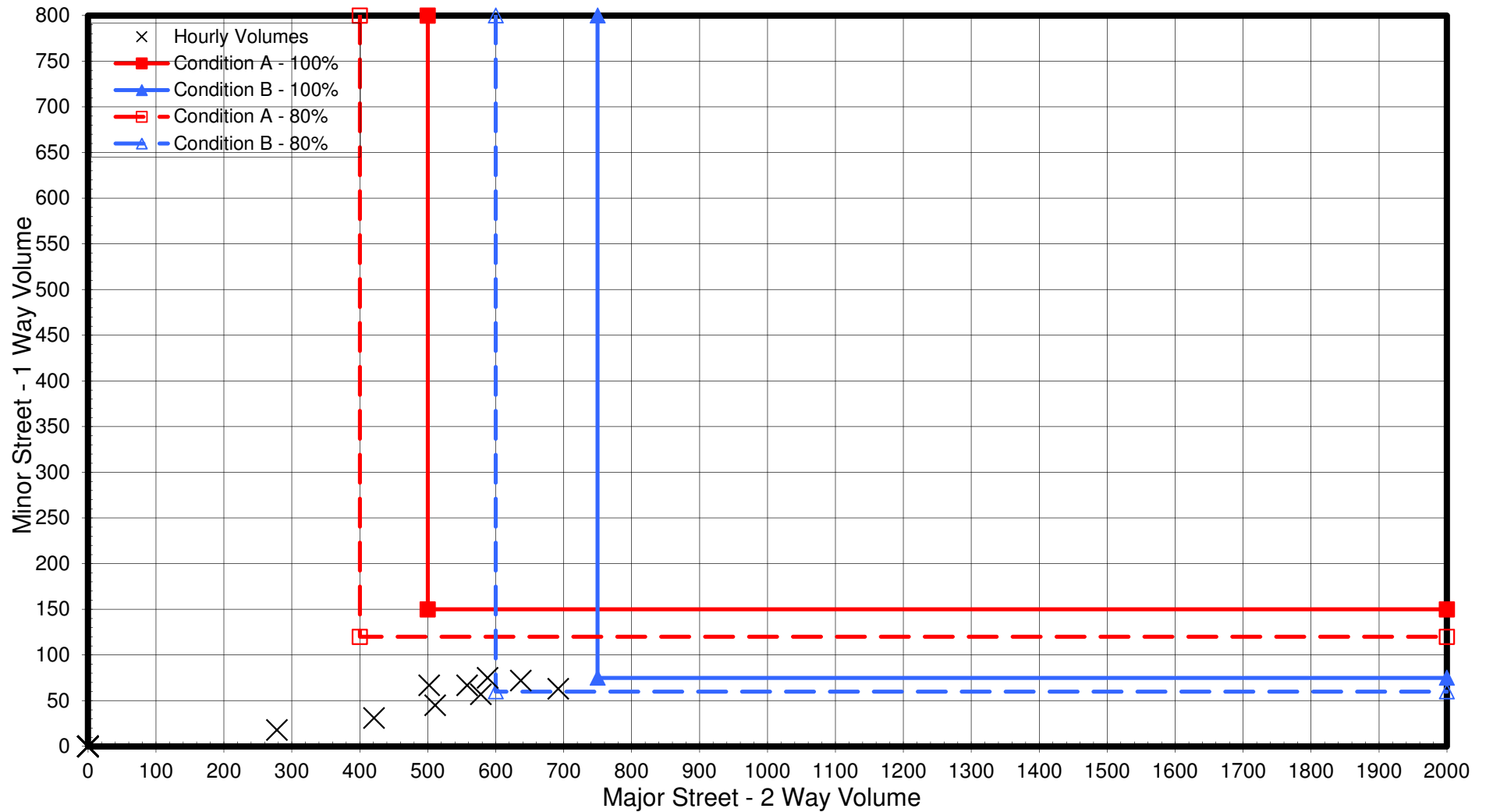
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
*Warrant Satisfied?*.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can  
 be implemented into a system:.....  
*Warrant Satisfied?*.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be  
 prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
*Warrant Satisfied?*.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
*Warrant Satisfied?*.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 6th St and E 6th St		1
Road Location =	Urban		

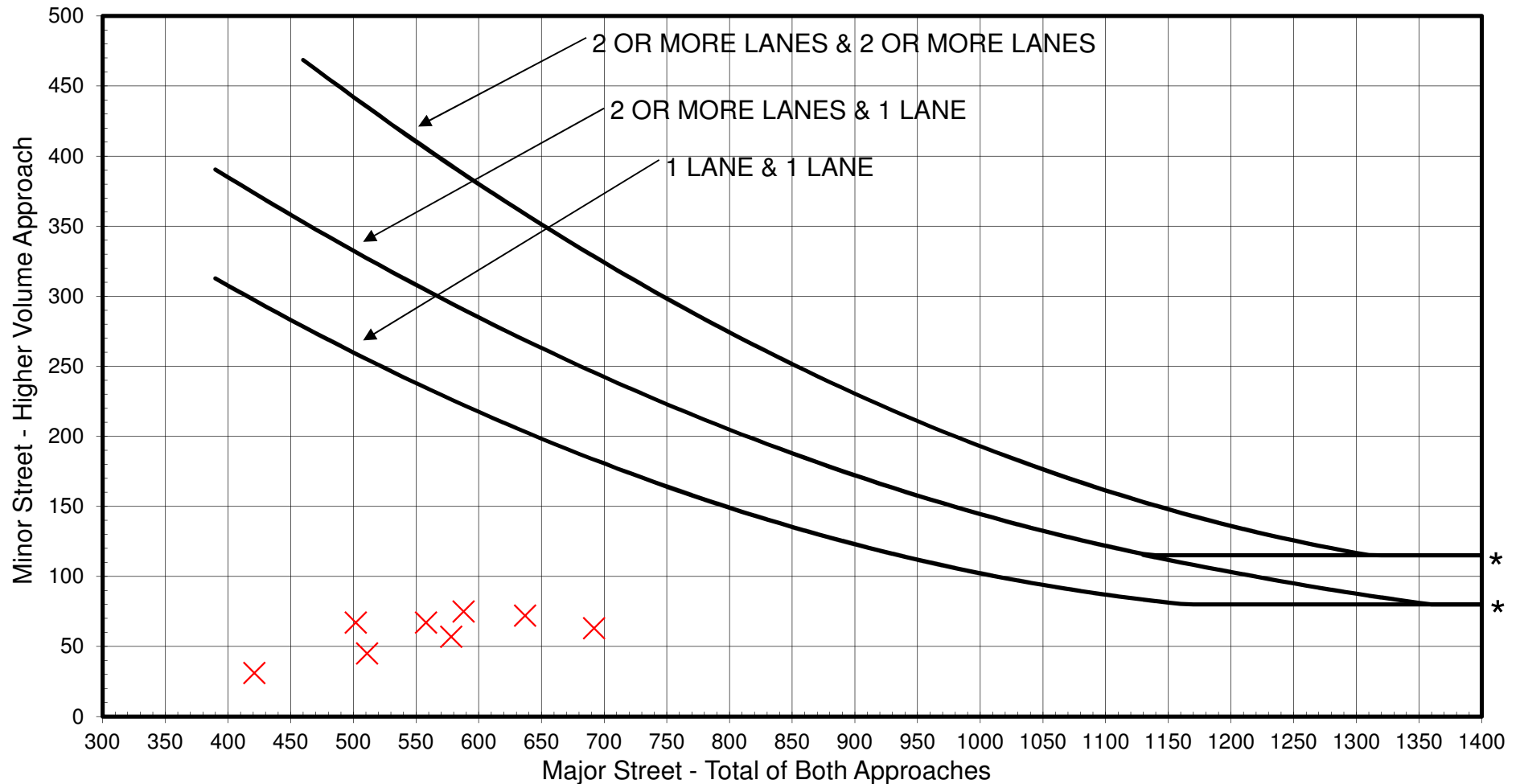
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	0 Hours Meet	No
Condition A (80%) =	0 Hours Meet	No
Condition B (80%) =	2 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



564 White Pond Drive  
Akron, OH 44320-1100  
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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Broadway Ave	1
Minor Road =	W 6th St and E 6th St	1
Road Location =	Urban	

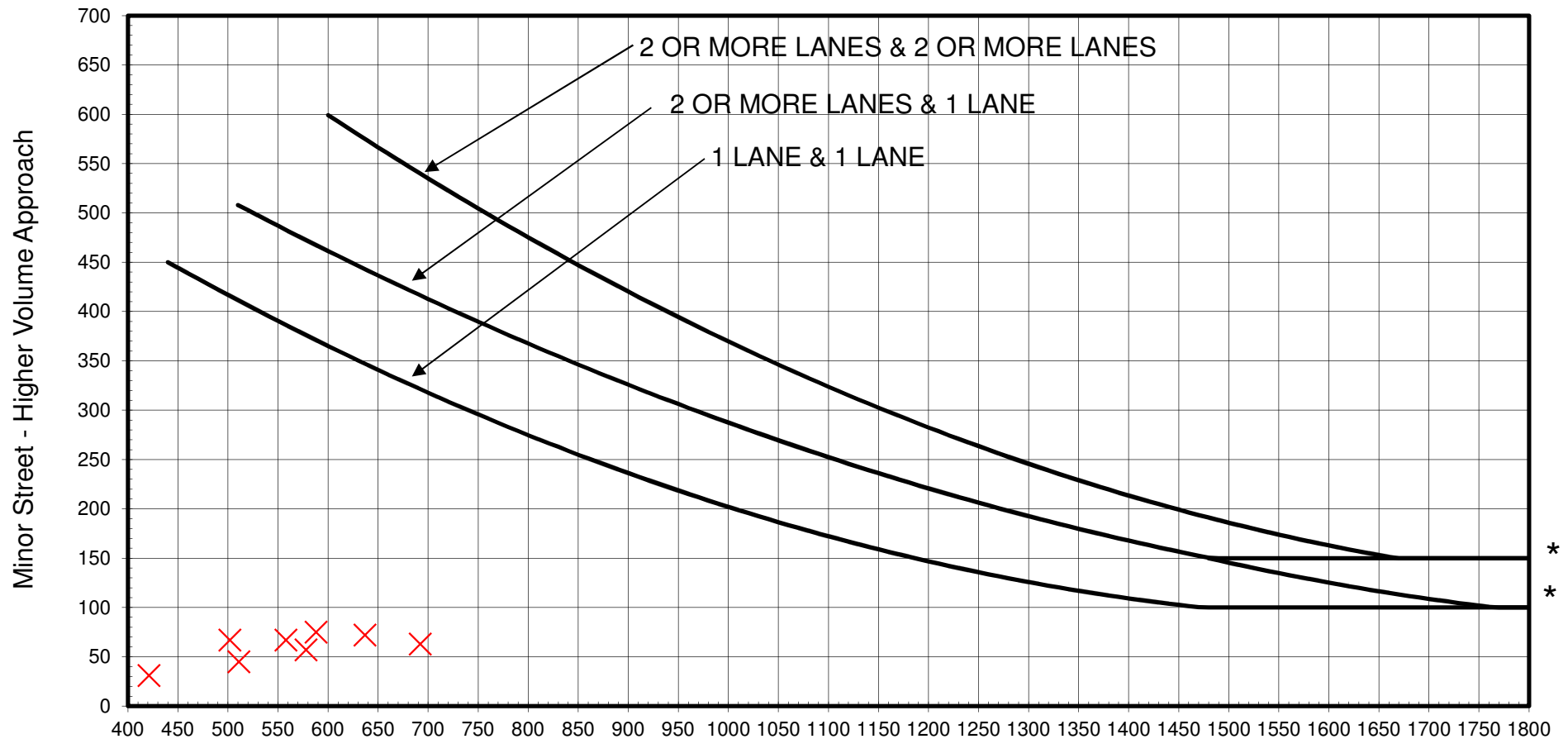
	Warrant Met?	
Warrant 2 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Broadway Ave	1
Minor Road =	W 6th St and E 6th St	1
Road Location =	Urban	

	Warrant Met?	
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
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# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 8th St and E 8th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
CON- TION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
1AM-2AM	0	0	0	0														
2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	319	22	6															
8AM-9AM	471	30	4				X											
9AM-10AM	532	35	16	X			X											
10AM-11AM	0	0	0	0														
11AM-NOON	607	32	23	X			X				X							
NOON-1PM	643	37	34	X			X				X							
1PM-2PM	672	42	31	X			X				X							
2PM-3PM	0	0	0	0														
3PM-4PM	712	25	29	X			X				X							
4PM-5PM	598	27	37	X			X											
5PM-6PM	535	35	42	X			X											
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					0	0	0	0	0	0	0	0					0	0
WARRANT SATISFIED?					NO	NO	NO	NO	NO	NO	NO	NO					NO	NO

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

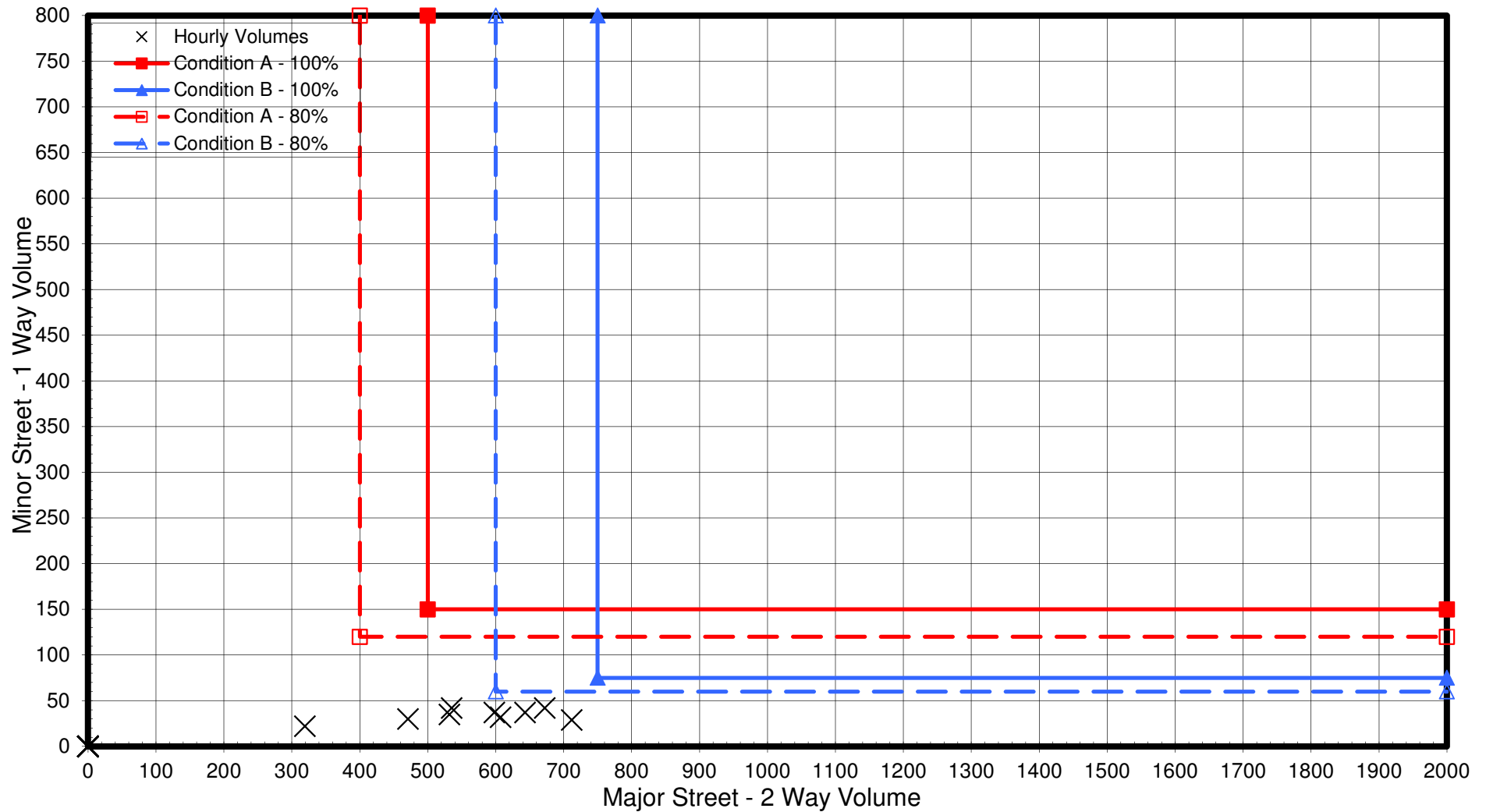
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can  
 be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be  
 prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 8th St and E 8th St		1
Road Location =	Urban		

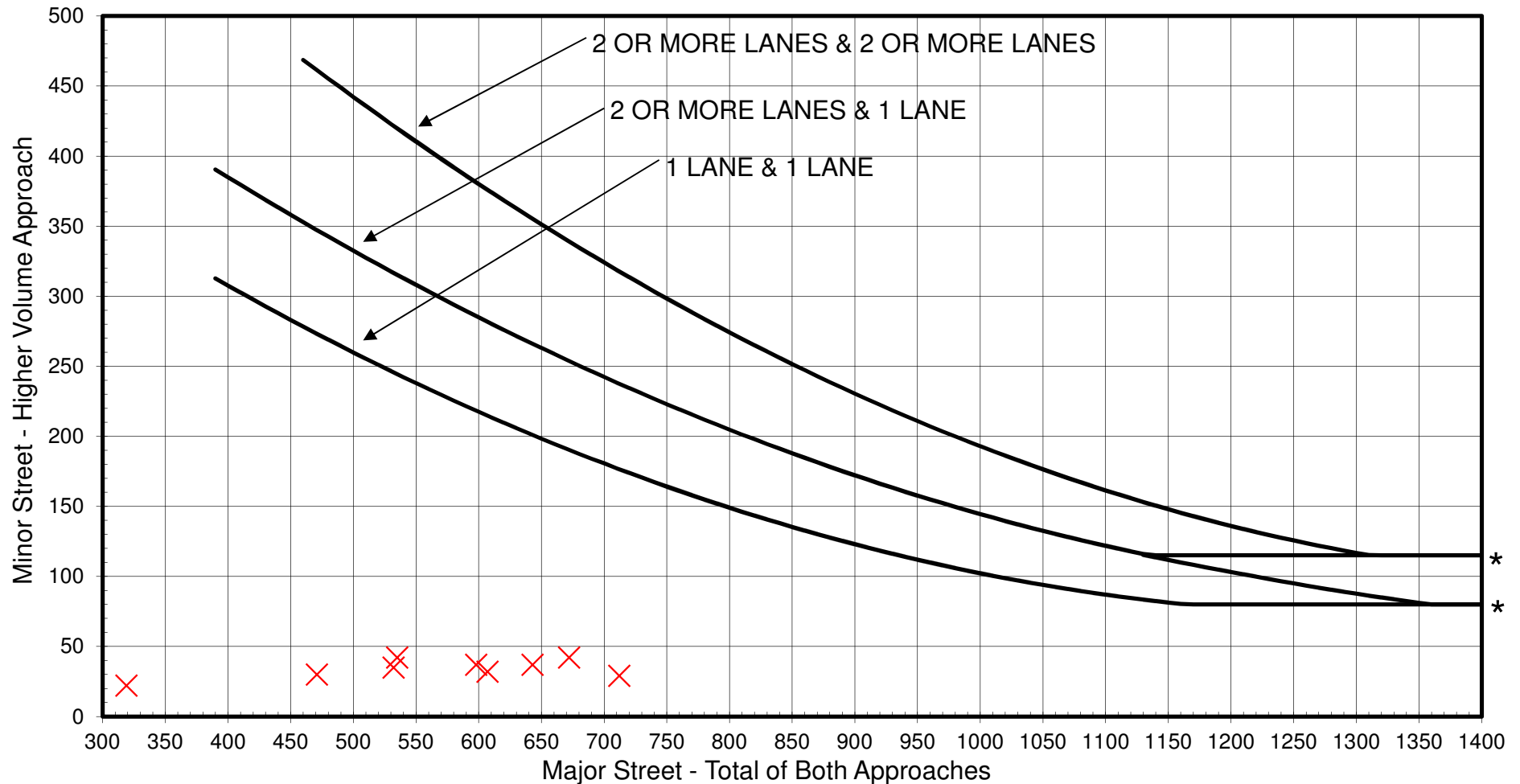
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	0 Hours Meet	No
Condition A (80%) =	0 Hours Meet	No
Condition B (80%) =	0 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	<b>Lanes</b>	
Major Road =	Broadway Ave	1
Minor Road =	W 8th St and E 8th St	1
Road Location =	Urban	

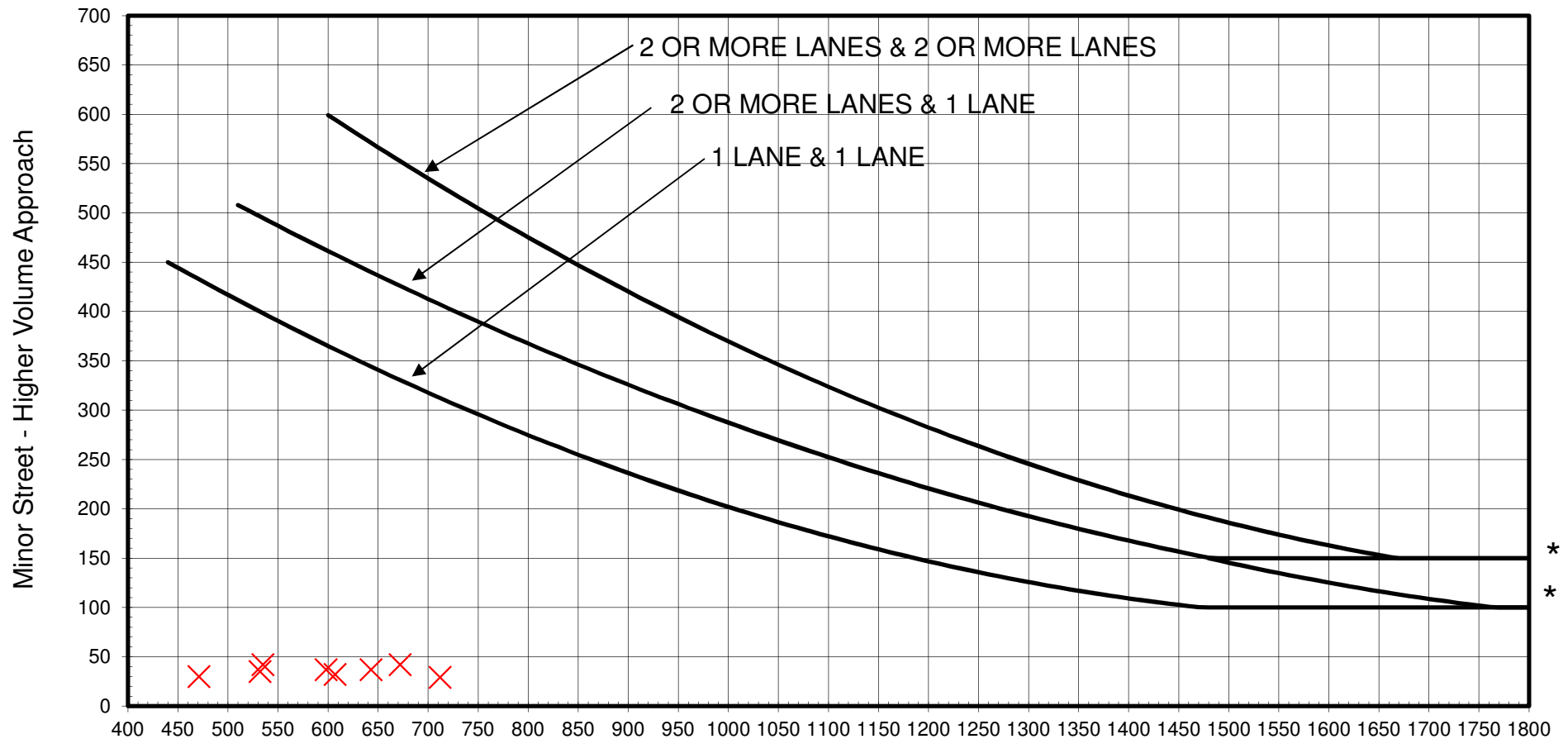
	<b>Warrant Met?</b>	
Warrant 2 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
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**URS**

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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Broadway Ave	1
Minor Road =	W 8th St and E 8th St	1
Road Location =	Urban	

	Warrant Met?	
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 9th St and E 9th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
CON-DITION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
1AM-2AM	0	0	0	0														
2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	348	29	5															
8AM-9AM	486	30	3				X											
9AM-10AM	545	35	7	X			X											
10AM-11AM	0	0	0	0														
11AM-NOON	628	44	4	X			X				X							
NOON-1PM	701	38	6	X			X				X							
1PM-2PM	714	45	8	X			X				X							
2PM-3PM	0	0	0	0														
3PM-4PM	745	52	5	X			X				X							
4PM-5PM	651	49	4	X			X				X							
5PM-6PM	591	35	7	X			X											
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					0	0	0	0	0	0	0	0					0	0
WARRANT SATISFIED?					NO	NO	NO	NO	NO	NO	NO	NO					NO	NO

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

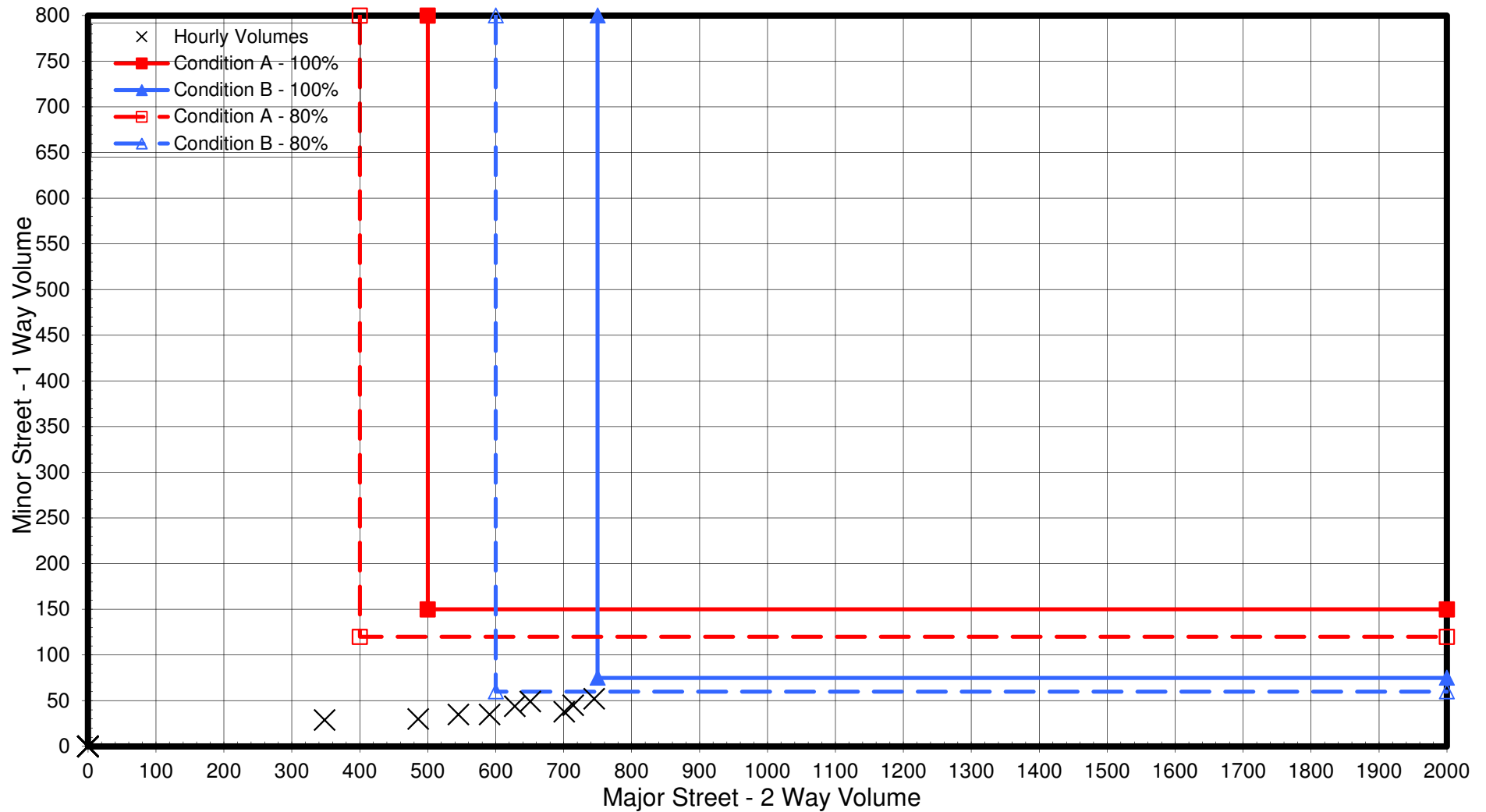
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 9th St and E 9th St		1
Road Location =	Urban		

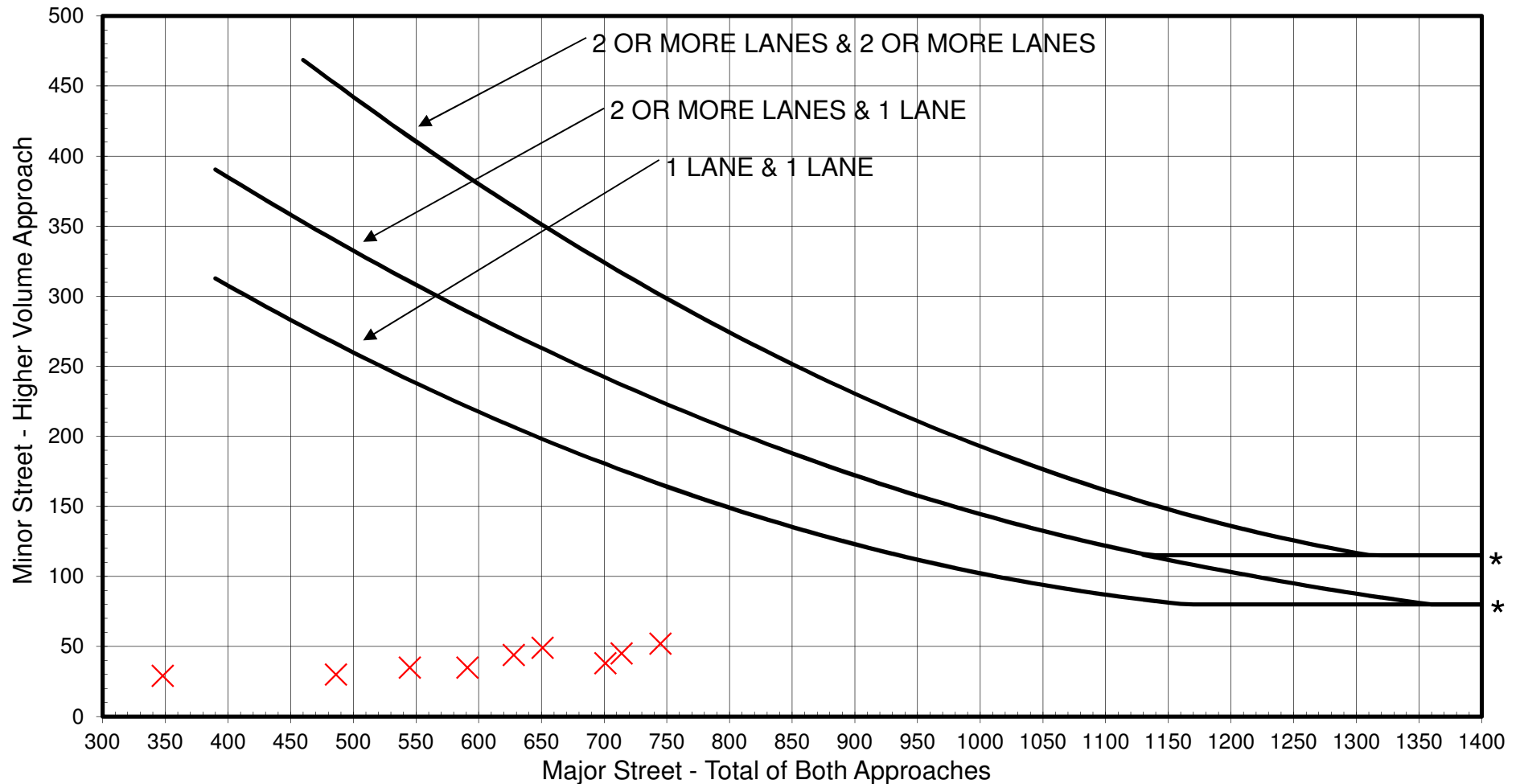
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	0 Hours Meet	No
Condition A (80%) =	0 Hours Meet	No
Condition B (80%) =	0 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



	Lanes
Major Road = Broadway Ave	1
Minor Road = W 9th St and E 9th St	1
Road Location = Urban	

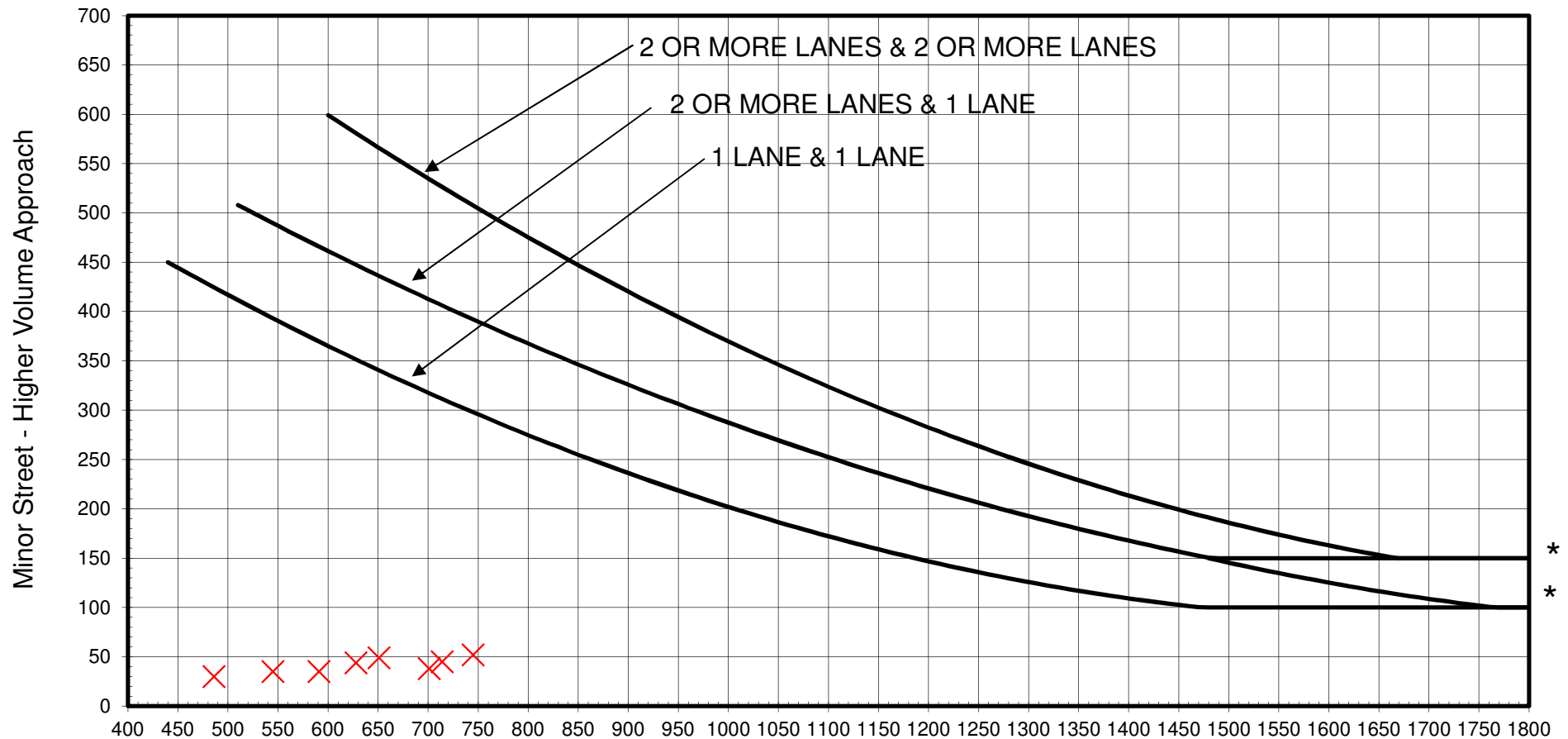
	Warrant Met?
Warrant 2 (Urban) = 0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

URS

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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Broadway Ave	1
Minor Road =	W 9th St and E 9th St	1
Road Location =	Urban	

	Warrant Met?	
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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Akron, OH 44320-1100  
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Fax: 330.836.9115



# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 14th St and E 14th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
COND- TION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
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2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	413	32	4				X											
8AM-9AM	540	20	5	X			X											
9AM-10AM	595	16	17	X			X											
10AM-11AM	0	0	0	0														
11AM-NOON	692	20	10	X			X				X							
NOON-1PM	771	28	13	X			X		X		X							
1PM-2PM	769	17	15	X			X		X		X							
2PM-3PM	0	0	0	0														
3PM-4PM	810	27	17	X			X		X		X							
4PM-5PM	743	23	22	X			X				X							
5PM-6PM	635	23	20	X			X				X							
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					0	0	0	0	0	0	0	0					0	0
WARRANT SATISFIED?					NO	NO	NO	NO	NO	NO	NO	NO					NO	NO

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

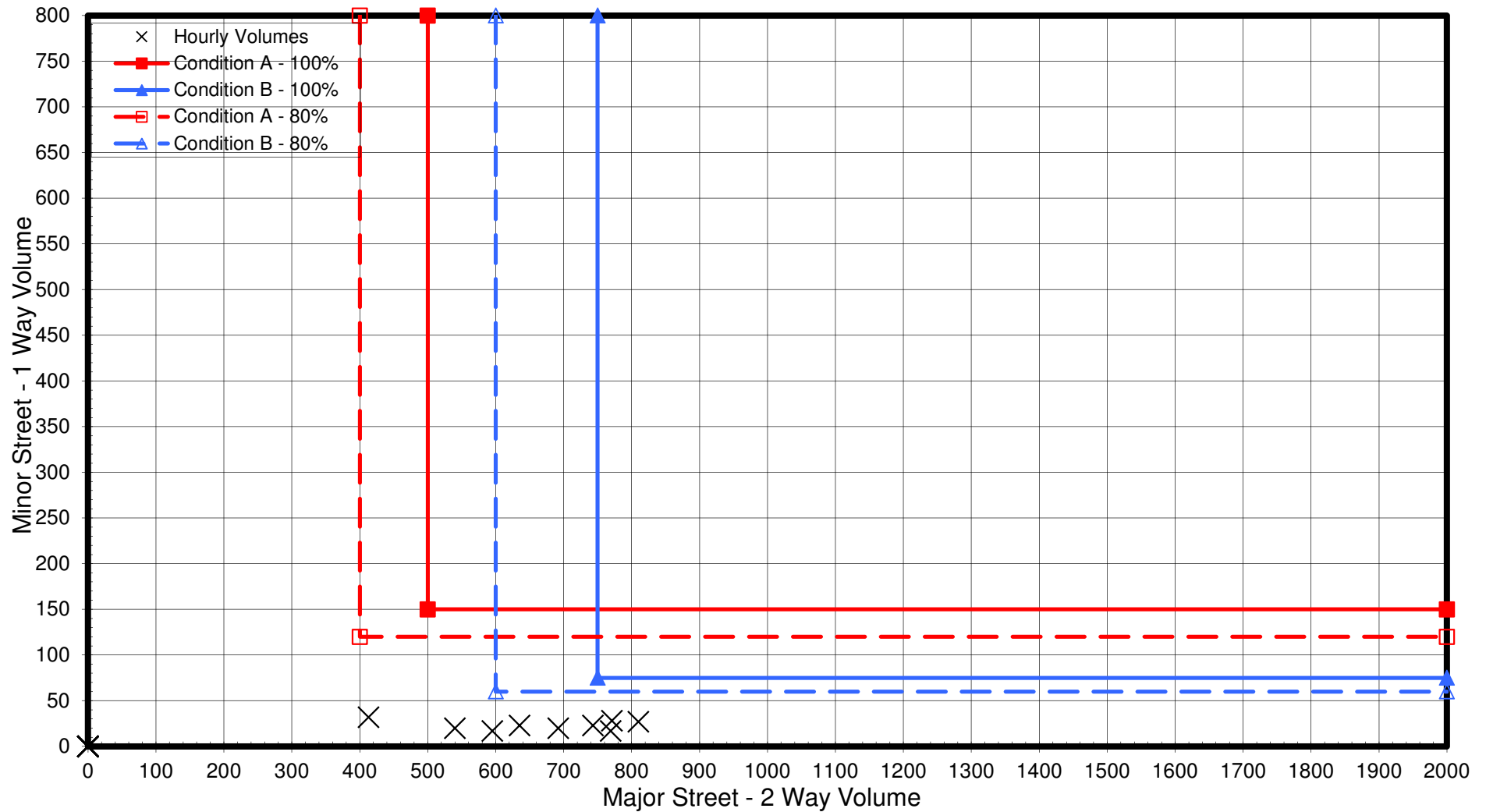
**WARRANT #5 (SCHOOL CROSSING)**  
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 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can  
 be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be  
 prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 14th St and E 14th St	Lanes	1
Road Location =	Urban		

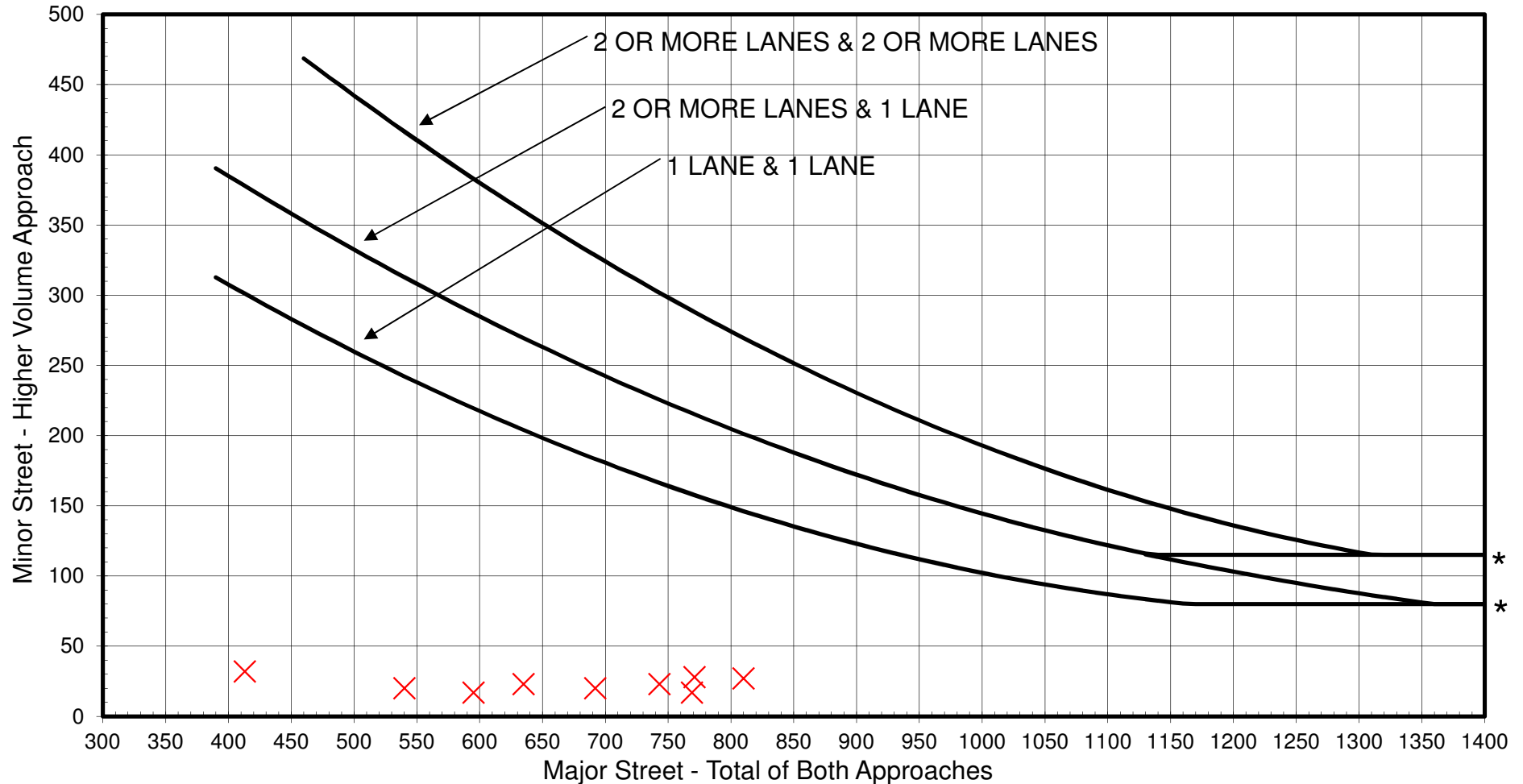
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	0 Hours Meet	No
Condition A (80%) =	0 Hours Meet	No
Condition B (80%) =	0 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



564 White Pond Drive  
Akron, OH 44320-1100  
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Fax: 330.836.9115

## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	<b>Lanes</b>	
Major Road =	Broadway Ave	1
Minor Road =	W 14th St and E 14th St	1
Road Location =	Urban	

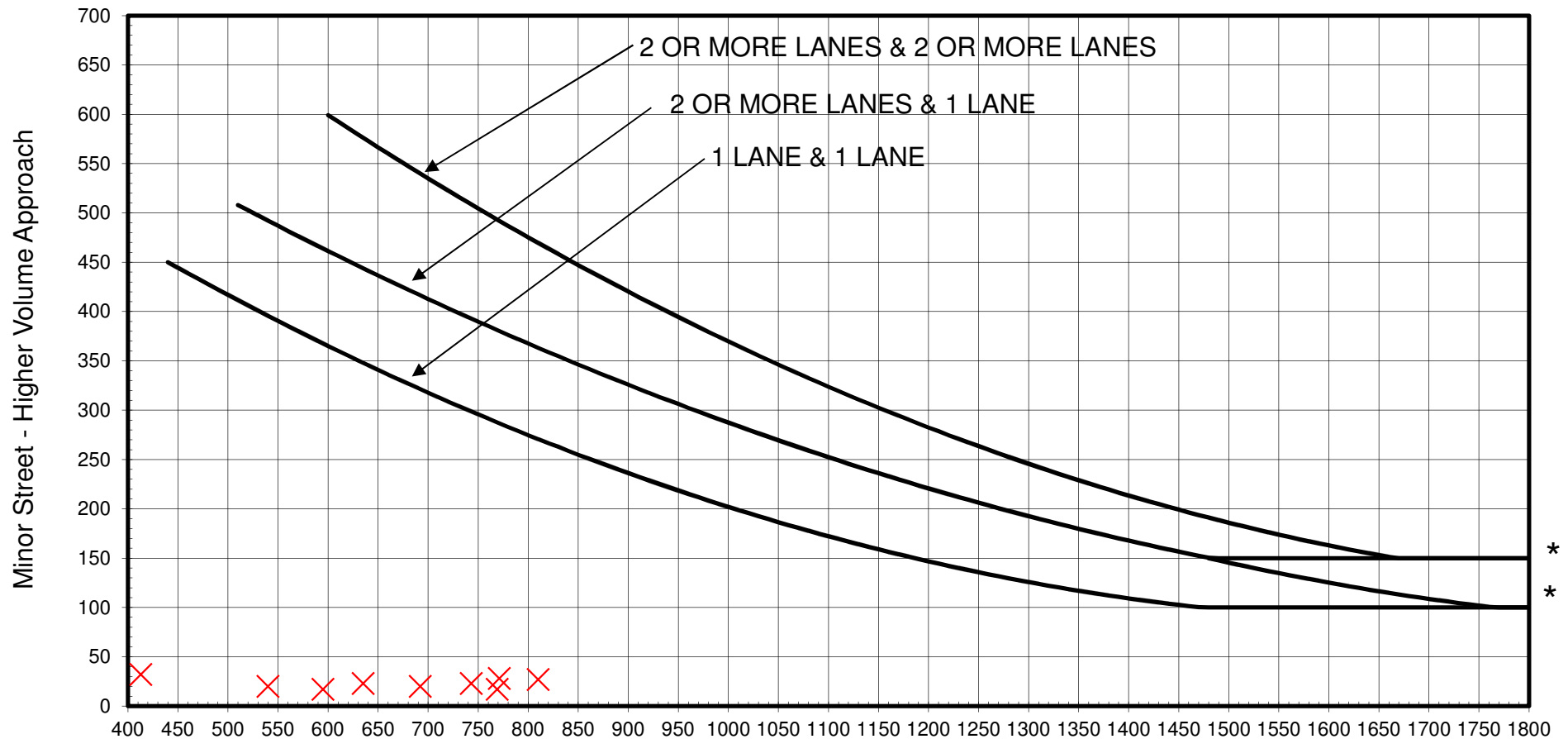
	<b>Warrant Met?</b>	
Warrant 2 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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 Akron, OH 44320-1100  
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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Broadway Ave	1
Minor Road =	W 14th St and E 14th St	1
Road Location =	Urban	

	Warrant Met?	
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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# SIGNAL WARRANT

INTERSECTION: Broadway Ave and Elyria Ave  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 0  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING				SPEED DATA				OTHER (DESCRIBE):					
VEHICULAR VOLUME COUNT				DELAY ANALYSIS									
TRAFFIC PROJECTION				TIME/SPACE DIAGRAM									
ACCIDENT DATA				GROUND PHOTOGRAPHS									
PEDESTRIAN COUNT				AERIAL PHOTOGRAPHS									
GAP ANALYSIS				DOCUMENTATION/EXPLANATION									

ADJUSTED HOURLY VOLUMES					WARRANT #1												WARRANT	
COND- TION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X		X	500	150	400	120	750	75	600	60					FOUR HOUR	PEAK HOUR
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
1AM-2AM	0	0	0	0														
2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	346	0	111						X		X							
8AM-9AM	443	0	120				X	X	X		X							
9AM-10AM	500	0	139	X			X	X	X		X							
10AM-11AM	0	0	0	0														
11AM-NOON	618	0	142	X			X	X		X	X	X						
NOON-1PM	674	0	145	X			X	X		X	X	X						
1PM-2PM	673	0	163	X	X		X	X		X	X	X						
2PM-3PM	0	0	0	0														
3PM-4PM	726	0	162	X	X		X	X		X	X	X						
4PM-5PM	644	0	172	X	X		X	X		X	X	X						
5PM-6PM	561	0	154	X	X		X	X		X		X						
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					4	8	0	5					0	0				
WARRANT SATISFIED?					NO	YES	NO	NO					NO	NO				

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
*Warrant Satisfied?*.....

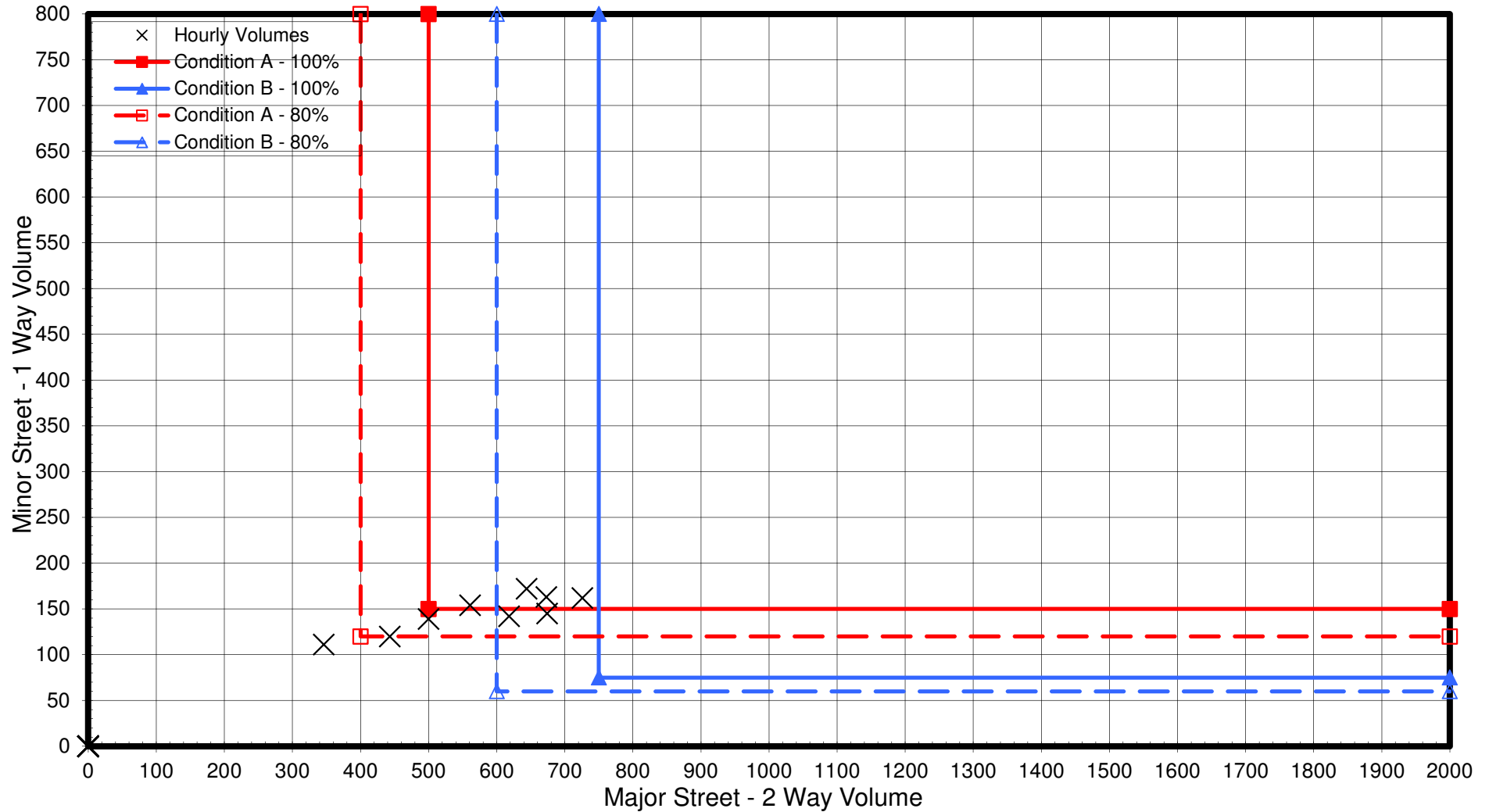
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
*Warrant Satisfied?*.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can  
 be implemented into a system:.....  
*Warrant Satisfied?*.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be  
 prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
*Warrant Satisfied?*.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
*Warrant Satisfied?*.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	Elyria Ave		1
Road Location =	Urban		

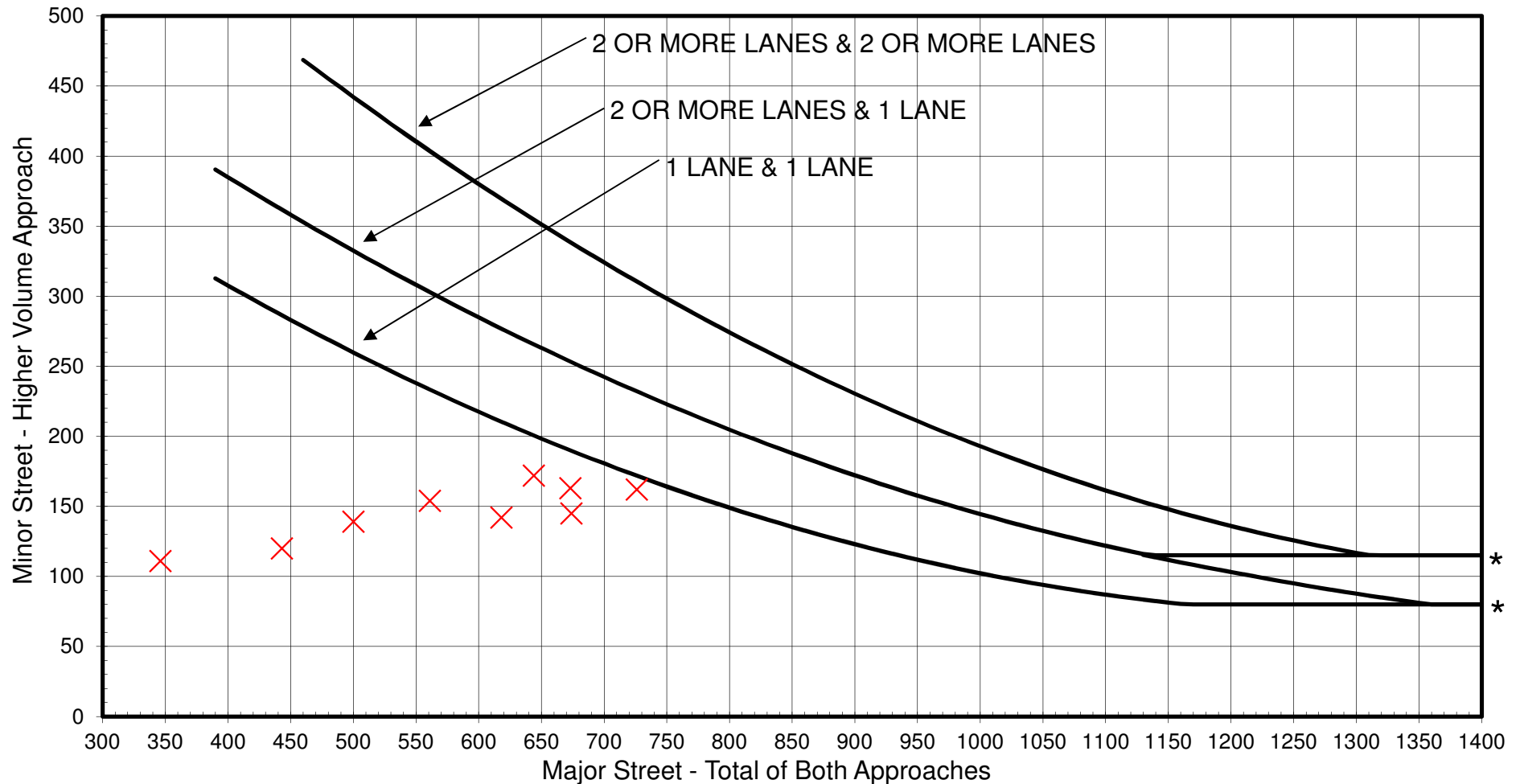
Warrant Met?		
Condition A (100%) =	4 Hours Meet	No
Condition B (100%) =	0 Hours Meet	No
Condition A (80%) =	8 Hours Meet	Yes
Condition B (80%) =	5 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	<b>Lanes</b>	
Major Road =	Broadway Ave	1
Minor Road =	Elyria Ave	1
Road Location =	Urban	

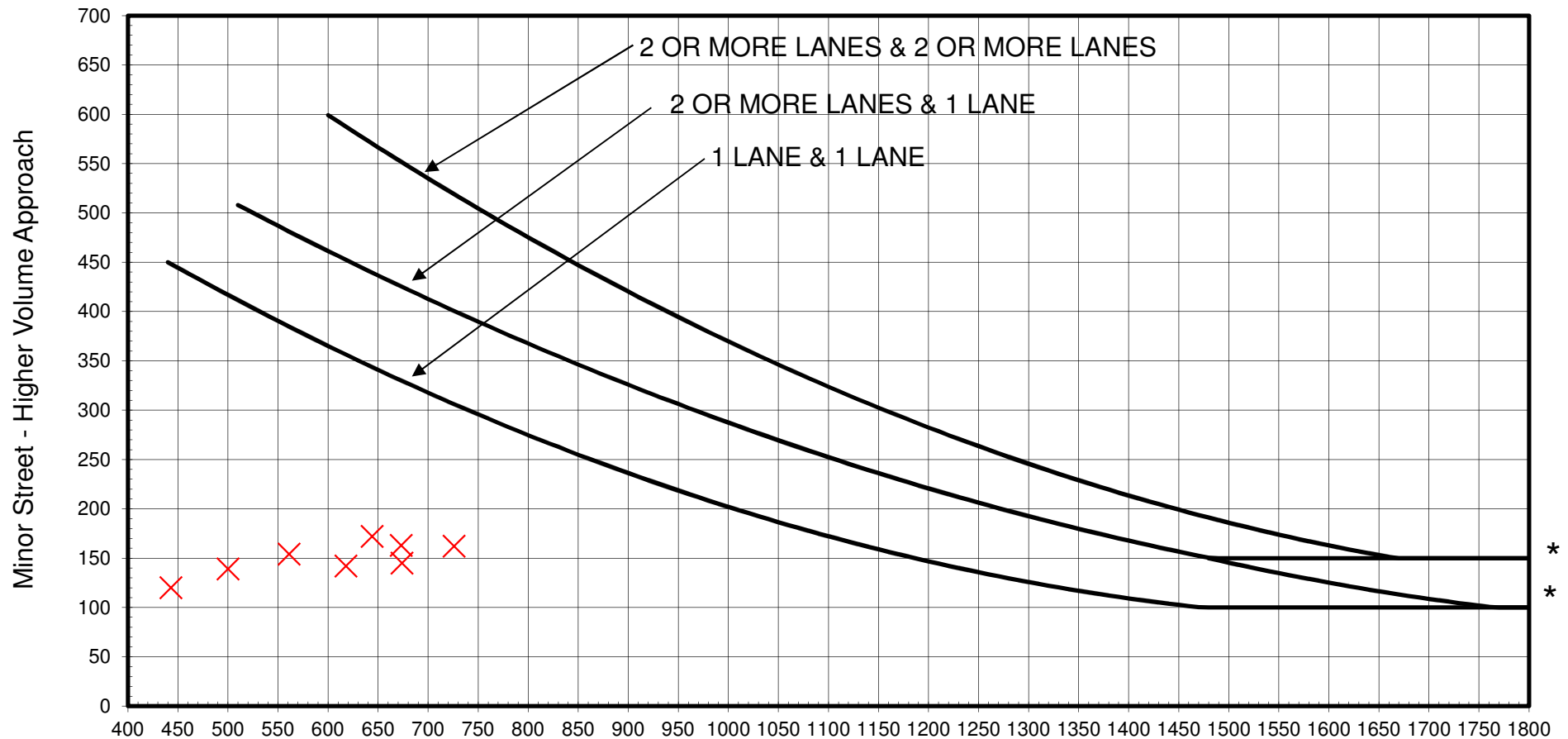
	<b>Warrant Met?</b>	
Warrant 2 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Broadway Ave	1
Minor Road =	Elyria Ave	1
Road Location =	Urban	

	Warrant Met?	
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 17th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING _____					SPEED DATA _____				OTHER (DESCRIBE): _____				
VEHICULAR VOLUME COUNT _____					DELAY ANALYSIS _____								
TRAFFIC PROJECTION _____					TIME/SPACE DIAGRAM _____								
ACCIDENT DATA _____					GROUND PHOTOGRAPHS _____								
PEDESTRIAN COUNT _____					AERIAL PHOTOGRAPHS _____								
GAP ANALYSIS _____					DOCUMENTATION/EXPLANATION _____								

		ADJUSTED HOURLY VOLUMES			WARRANT #1								WARRANT	
		MAJOR ST.	MINOR ST.	MINOR ST.	CONDITION A				CONDITION B				#2	#3
COND- TION	NO. OF LANES	2-WAY	1-WAY	1-WAY	100%		80%		100%		80%			
					MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR		
*	1	X	X	X	500	150	400	120	750	75	600	60		
NORM	2+				600	200	480	160	900	100	720	80		
*	1				350	105	280	84	525	53	420	42		
70%	2+				420	140	336	112	630	70	504	56		
MID-1AM		0	0	0										
1AM-2AM		0	0	0										
2AM-3AM		0	0	0										
3AM-4AM		0	0	0										
4AM-5AM		0	0	0										
5AM-6AM		0	0	0										
6AM-7AM		0	0	0										
7AM-8AM		272	35	5										
8AM-9AM		362	43	4										
9AM-10AM		401	63	7			X				X			
10AM-11AM		0	0	0										
11AM-NOON		484	82	9			X			X	X			
NOON-1PM		540	93	9	X		X			X	X			
1PM-2PM		559	81	5	X		X			X	X			
2PM-3PM		0	0	0										
3PM-4PM		587	79	2	X		X			X	X			
4PM-5PM		503	48	7	X		X							
5PM-6PM		418	41	9			X							
6PM-7PM		0	0	0										
7PM-8PM		0	0	0										
8PM-9PM		0	0	0										
9PM-10PM		0	0	0										
10PM-11PM		0	0	0										
11PM-MID		0	0	0										
HOURS MET					0	0	0	0	0	0	0	0	0	0
WARRANT SATISFIED?					NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

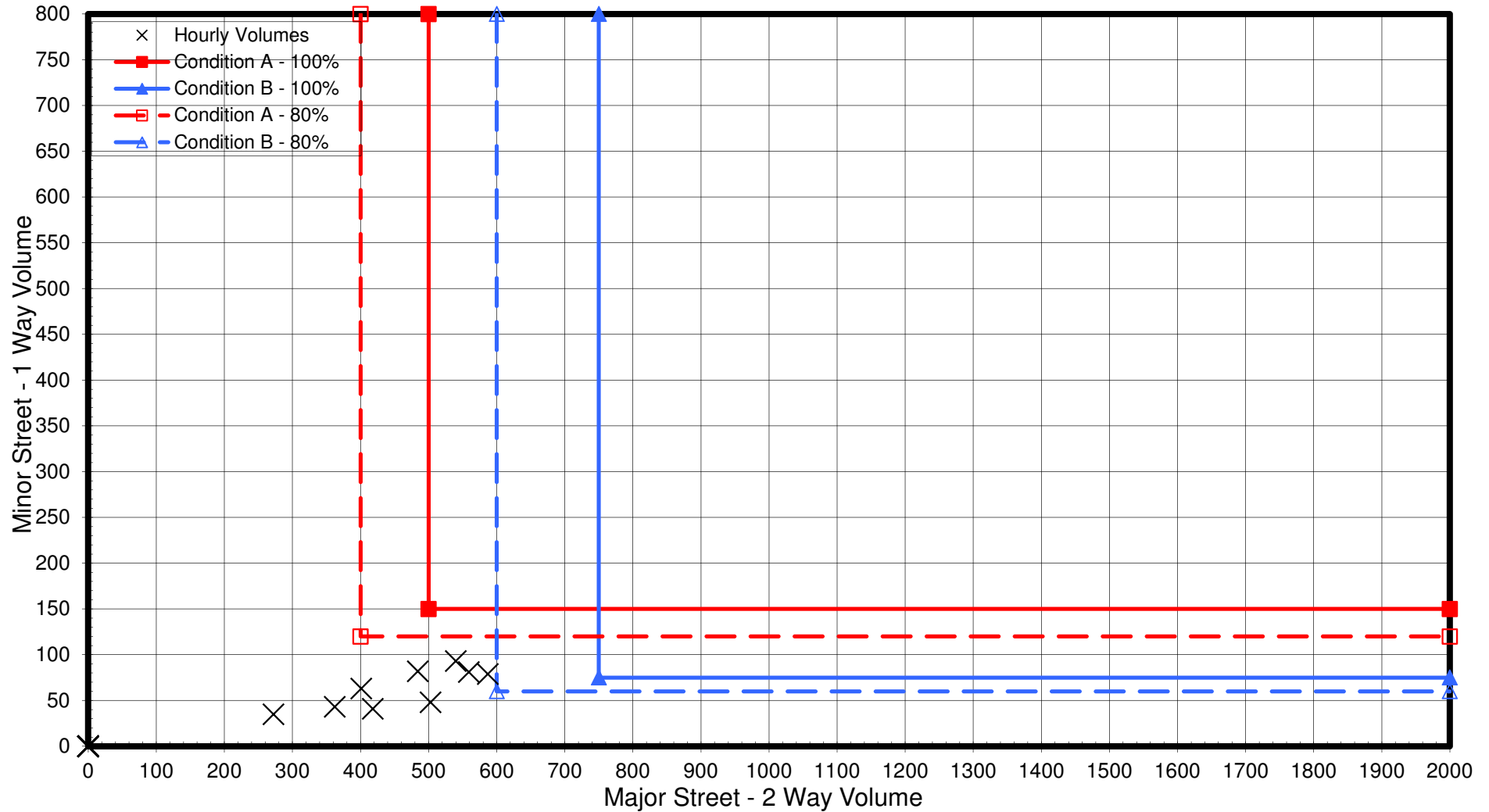
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 17th St	Lanes	1
Road Location =	Urban		

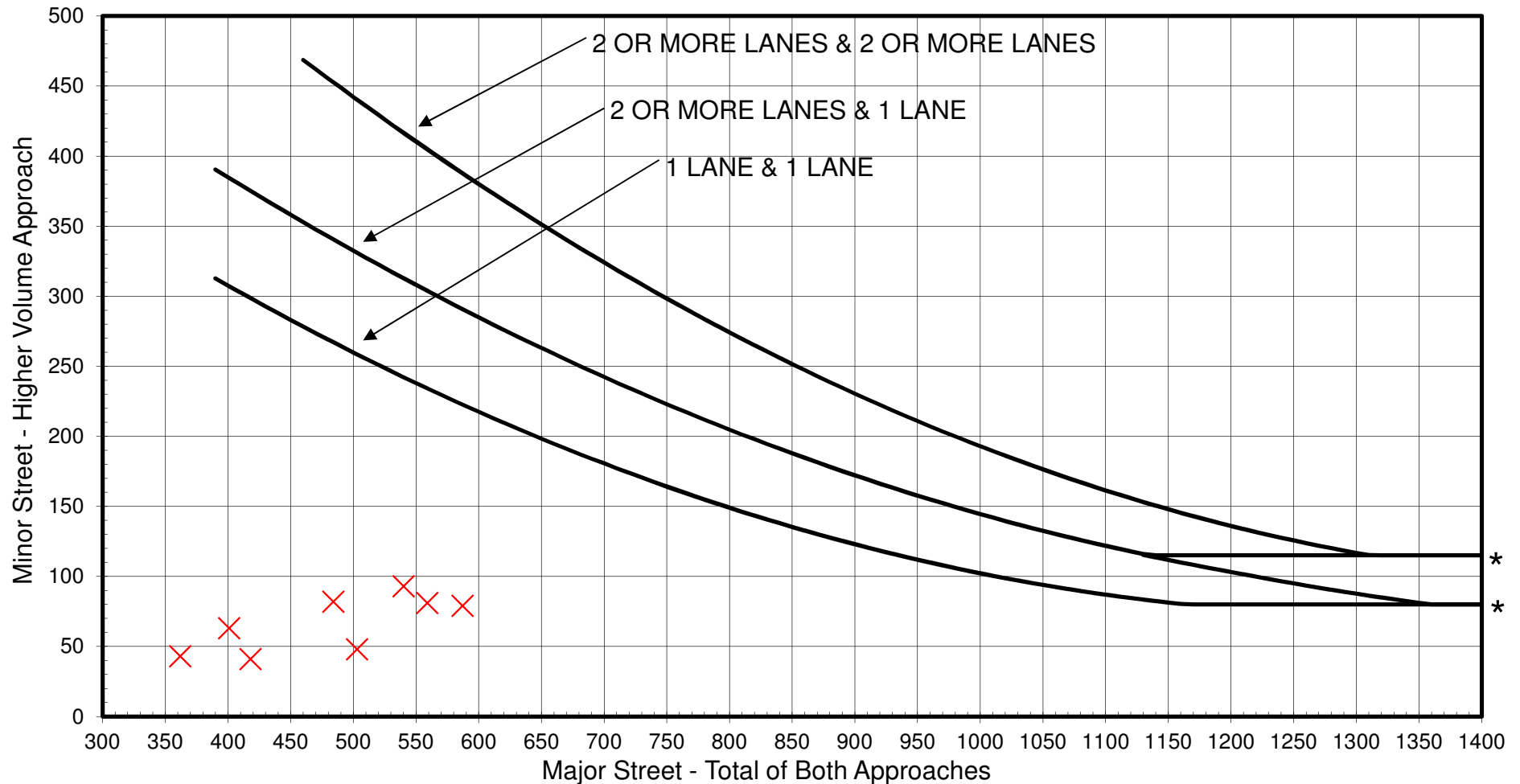
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	0 Hours Meet	No
Condition A (80%) =	0 Hours Meet	No
Condition B (80%) =	0 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	<b>Lanes</b>	
Major Road =	Broadway Ave	1
Minor Road =	W 17th St	1
Road Location =	Urban	

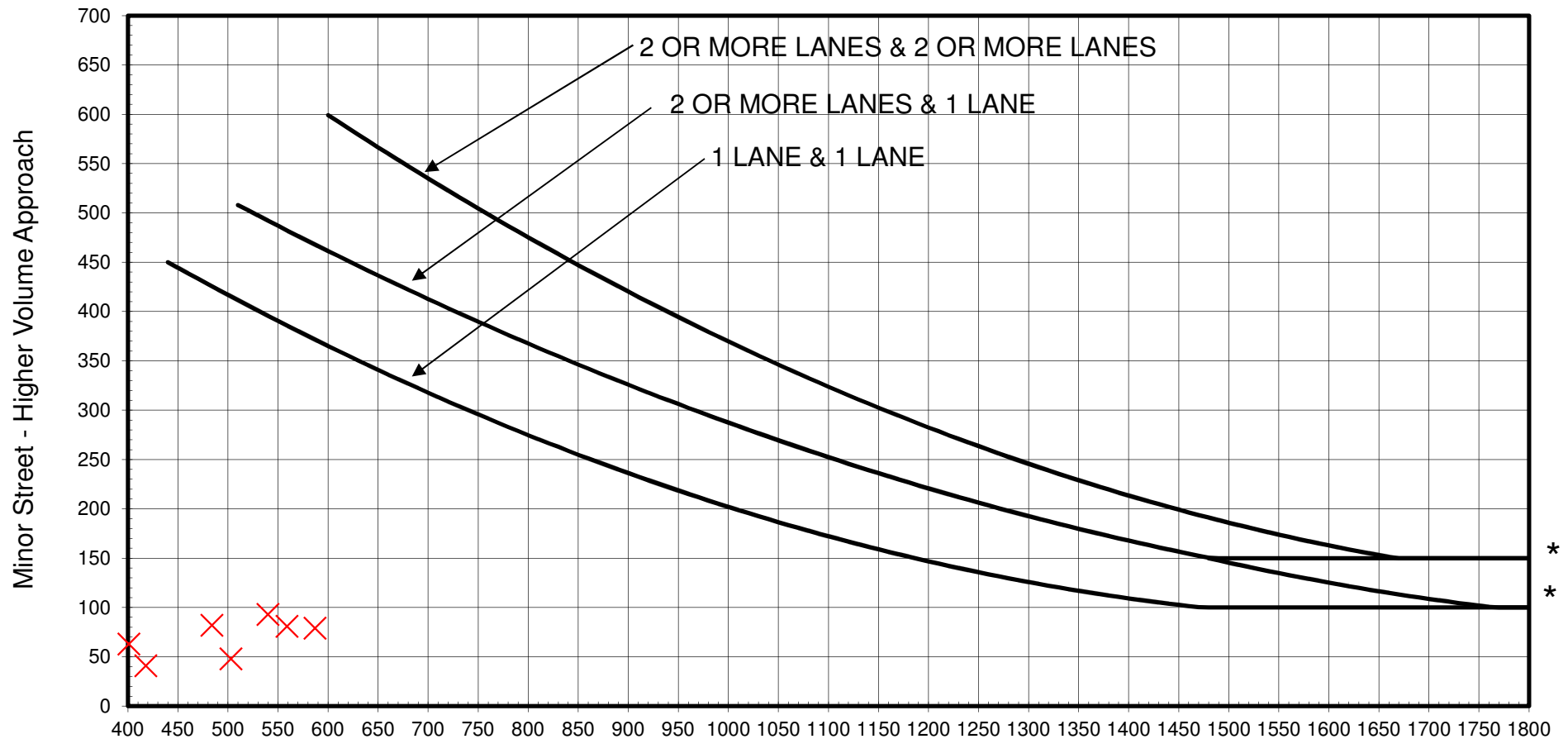
	<b>Warrant Met?</b>	
Warrant 2 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Broadway Ave	1
Minor Road =	W 17th St	1
Road Location =	Urban	

	Warrant Met?	
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
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**URS**

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# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 20th St and E 20th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING _____					SPEED DATA _____				OTHER (DESCRIBE): _____				
VEHICULAR VOLUME COUNT _____					DELAY ANALYSIS _____								
TRAFFIC PROJECTION _____					TIME/SPACE DIAGRAM _____								
ACCIDENT DATA _____					GROUND PHOTOGRAPHS _____								
PEDESTRIAN COUNT _____					AERIAL PHOTOGRAPHS _____								
GAP ANALYSIS _____					DOCUMENTATION/EXPLANATION _____								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
CON- TION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
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70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
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2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	357	22	6															
8AM-9AM	467	64	43				X				X							
9AM-10AM	536	77	52	X			X			X	X							
10AM-11AM	0	0	0	0														
11AM-NOON	670	111	54	X			X			X	X	X						
NOON-1PM	694	144	38	X			X	X		X	X	X						
1PM-2PM	746	100	47	X			X			X	X	X						
2PM-3PM	0	0	0	0														
3PM-4PM	785	80	47	X			X		X	X	X	X						
4PM-5PM	675	111	47	X			X			X	X	X						
5PM-6PM	550	89	28	X			X			X		X						
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					0	1	1	5					0	0				
WARRANT SATISFIED?					NO	NO	NO	NO					NO	NO				

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
*Warrant Satisfied?*.....

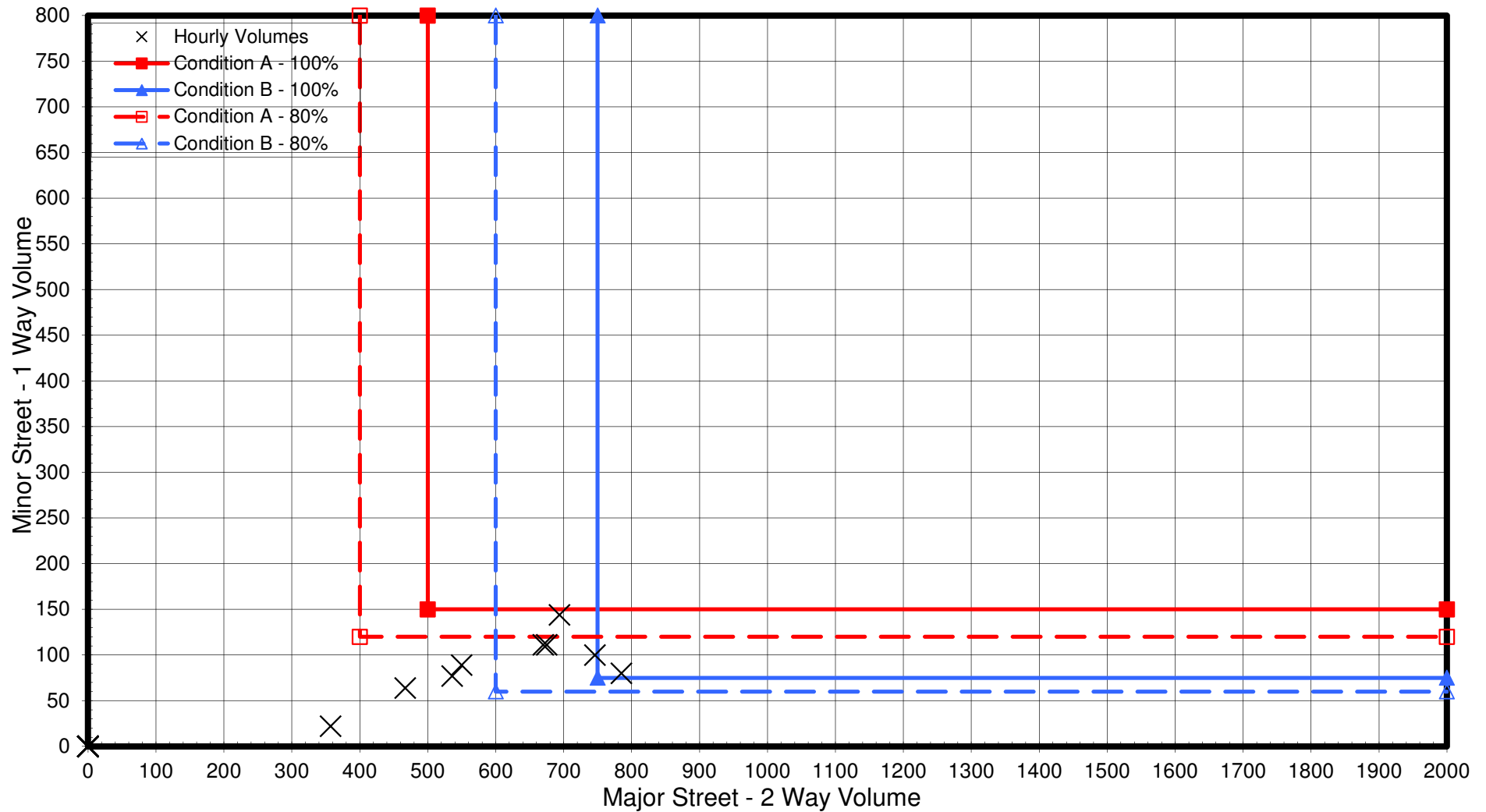
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 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
*Warrant Satisfied?*.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can  
 be implemented into a system:.....  
*Warrant Satisfied?*.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be  
 prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
*Warrant Satisfied?*.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
*Warrant Satisfied?*.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 20th St and E 20th St		1
Road Location =	Urban		

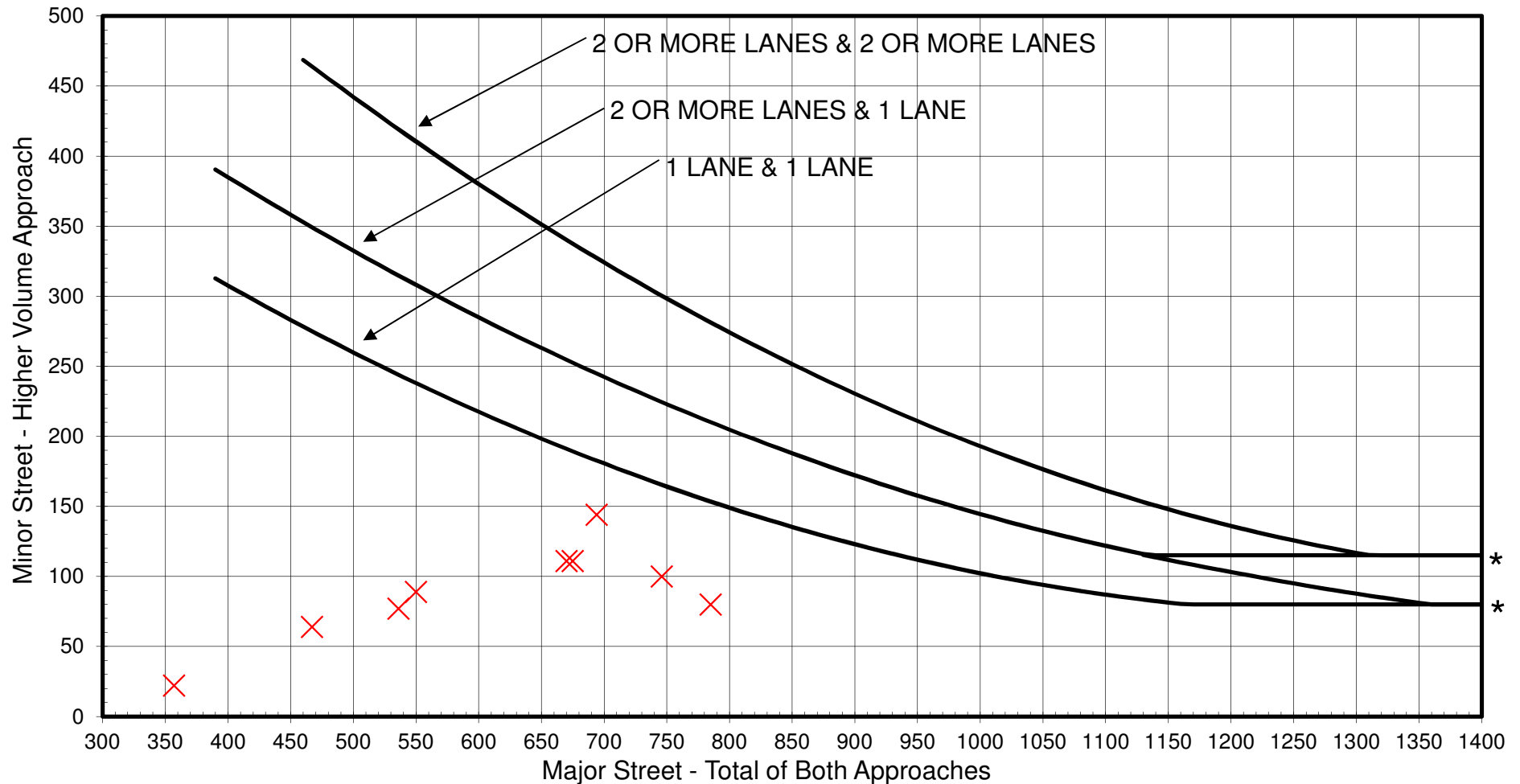
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	1 Hours Meet	No
Condition A (80%) =	1 Hours Meet	No
Condition B (80%) =	5 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	<b>Lanes</b>	
Major Road =	Broadway Ave	1
Minor Road =	W 20th St and E 20th St	1
Road Location =	Urban	

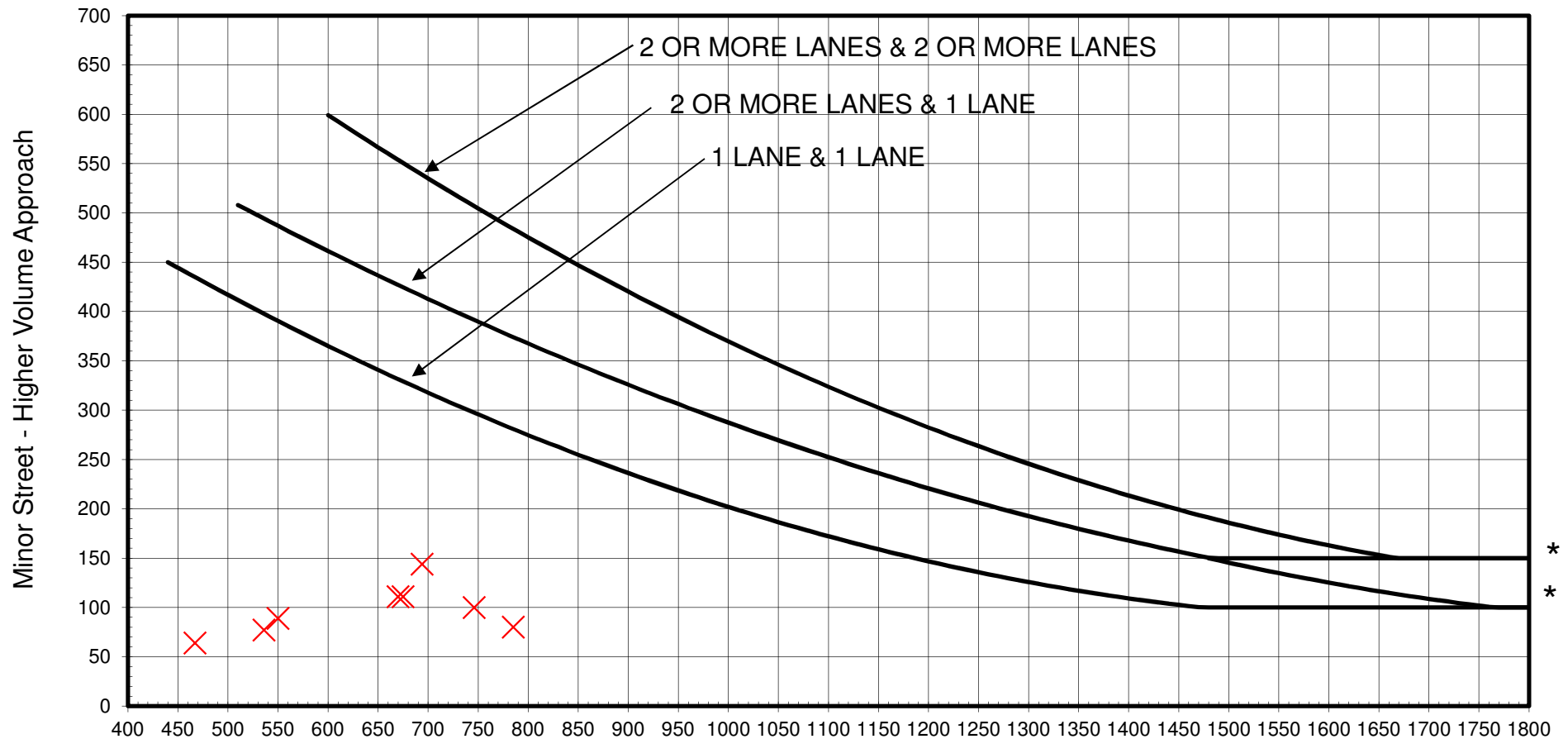
	<b>Warrant Met?</b>	
Warrant 2 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
 Akron, OH 44320-1100  
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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		<b>Lanes</b>
Major Road =	Broadway Ave	1
Minor Road =	W 20th St and E 20th St	1
Road Location =	Urban	

		<b>Warrant Met?</b>
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
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# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 21st St and E 21st St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED												
SKETCH OR DRAWING _____					SPEED DATA _____				OTHER (DESCRIBE): _____			
VEHICULAR VOLUME COUNT _____					DELAY ANALYSIS _____							
TRAFFIC PROJECTION _____					TIME/SPACE DIAGRAM _____							
ACCIDENT DATA _____					GROUND PHOTOGRAPHS _____							
PEDESTRIAN COUNT _____					AERIAL PHOTOGRAPHS _____							
GAP ANALYSIS _____					DOCUMENTATION/EXPLANATION _____							

		ADJUSTED HOURLY VOLUMES			WARRANT #1								WARRANT	
		MAJOR ST.	MINOR ST.	MINOR ST.	CONDITION A				CONDITION B				#2	#3
COND- TION	NO. OF LANES	2-WAY	1-WAY	1-WAY	100%		80%		100%		80%			
					MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR		
*	1	X	X	X	500	150	400	120	750	75	600	60		
NORM	2+				600	200	480	160	900	100	720	80		
*	1				350	105	280	84	525	53	420	42		
70%	2+				420	140	336	112	630	70	504	56		
MID-1AM		0	0	0										
1AM-2AM		0	0	0										
2AM-3AM		0	0	0										
3AM-4AM		0	0	0										
4AM-5AM		0	0	0										
5AM-6AM		0	0	0										
6AM-7AM		0	0	0										
7AM-8AM		557	281	275	X	X	X	X		X		X	X	
8AM-9AM		618	285	295	X	X	X	X		X	X	X	X	
9AM-10AM		695	266	321	X	X	X	X		X	X	X	X	X
10AM-11AM		0	0	0										
11AM-NOON		869	294	297	X	X	X	X	X	X	X	X	X	X
NOON-1PM		941	314	295	X	X	X	X	X	X	X	X	X	X
1PM-2PM		1012	311	325	X	X	X	X	X	X	X	X	X	X
2PM-3PM		0	0	0										
3PM-4PM		1096	335	386	X	X	X	X	X	X	X	X	X	X
4PM-5PM		1059	331	423	X	X	X	X	X	X	X	X	X	X
5PM-6PM		907	304	466	X	X	X	X	X	X	X	X	X	X
6PM-7PM		0	0	0										
7PM-8PM		0	0	0										
8PM-9PM		0	0	0										
9PM-10PM		0	0	0										
10PM-11PM		0	0	0										
11PM-MID		0	0	0										
HOURS MET					9		9		6		8			
WARRANT SATISFIED?					YES		YES		NO		YES			

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **YES**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

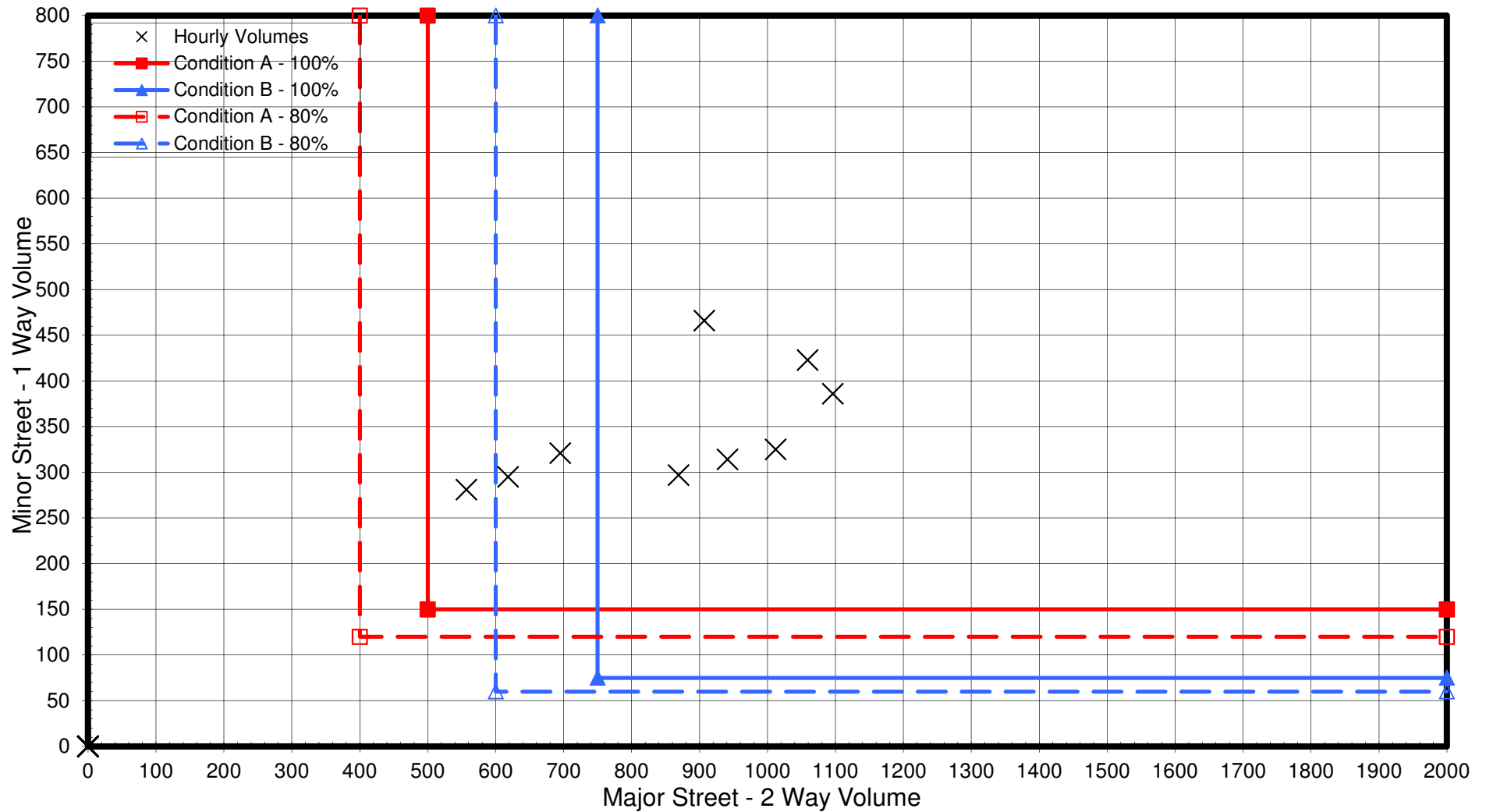
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 21st St and E 21st St		1
Road Location =	Urban		

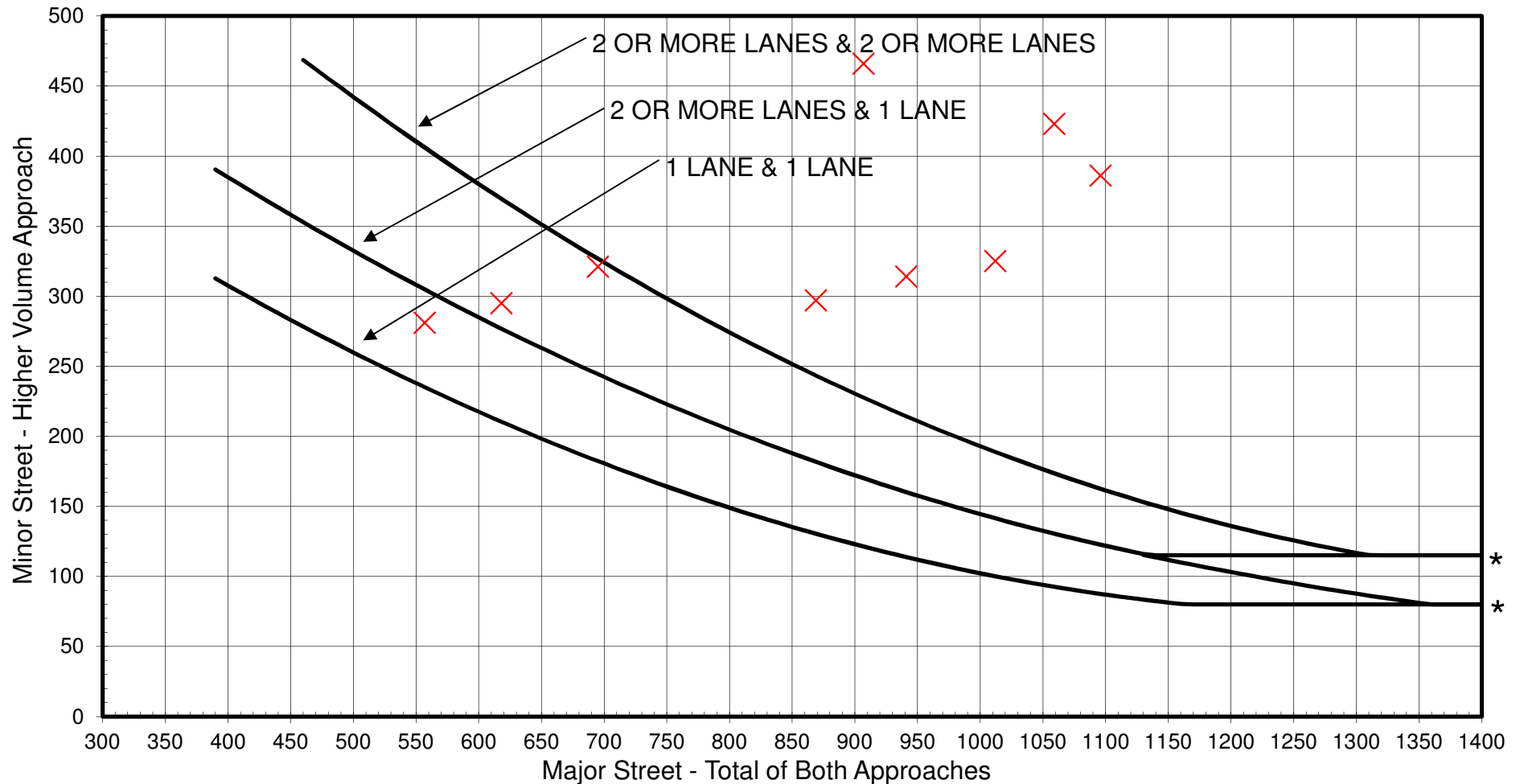
Warrant Met?		
Condition A (100%) =	9 Hours Meet	Yes
Condition B (100%) =	6 Hours Meet	No
Condition A (80%) =	9 Hours Meet	Yes
Condition B (80%) =	8 Hours Meet	Yes

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	<b>Lanes</b>	
Major Road =	Broadway Ave	1
Minor Road =	W 21st St and E 21st St	1
Road Location =	Urban	

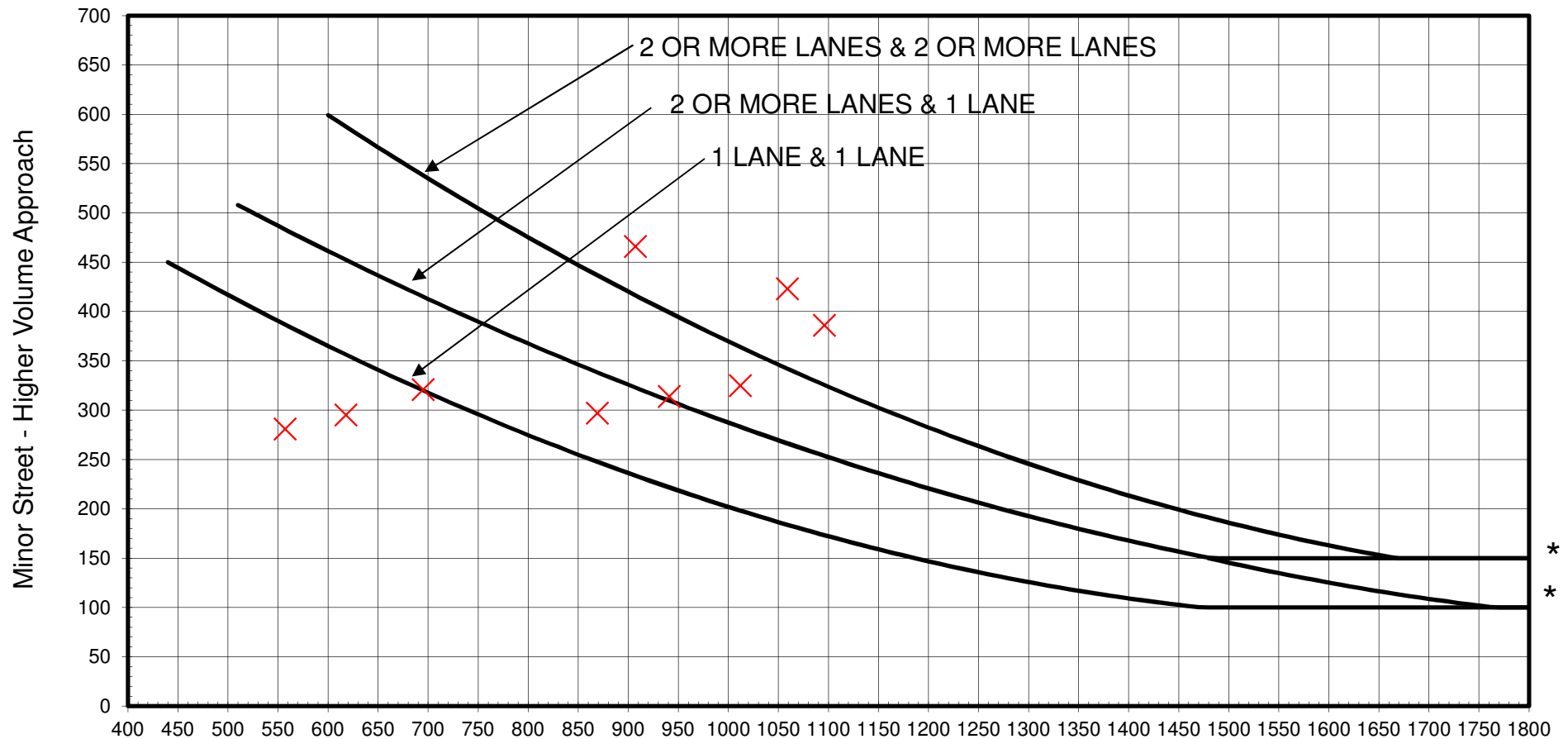
	<b>Warrant Met?</b>	
Warrant 2 (Urban) =	9 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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 Akron, OH 44320-1100  
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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		Lanes
Major Road =	Broadway Ave	1
Minor Road =	W 21st St and E 21st St	1
Road Location =	Urban	

		Warrant Met?
Warrant 3 (Urban) =	7 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

URS

564 White Pond Drive  
Akron, OH 44320-1100  
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# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 23rd St and E 23rd St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
CON- TION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
1AM-2AM	0	0	0	0														
2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	770	35	19	X			X		X		X							
8AM-9AM	817	31	40	X			X		X		X							
9AM-10AM	864	33	28	X			X		X		X							
10AM-11AM	0	0	0	0														
11AM-NOON	1013	35	36	X			X		X		X							
NOON-1PM	1091	46	40	X			X		X		X							
1PM-2PM	1190	63	47	X			X		X		X	X						
2PM-3PM	0	0	0	0														
3PM-4PM	1272	56	56	X			X		X		X							
4PM-5PM	1296	50	71	X			X		X		X	X						
5PM-6PM	1141	43	42	X			X		X		X							
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					0	0	0	0	2					0	0			
WARRANT SATISFIED?					NO	NO	NO	NO	NO					NO	NO			

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

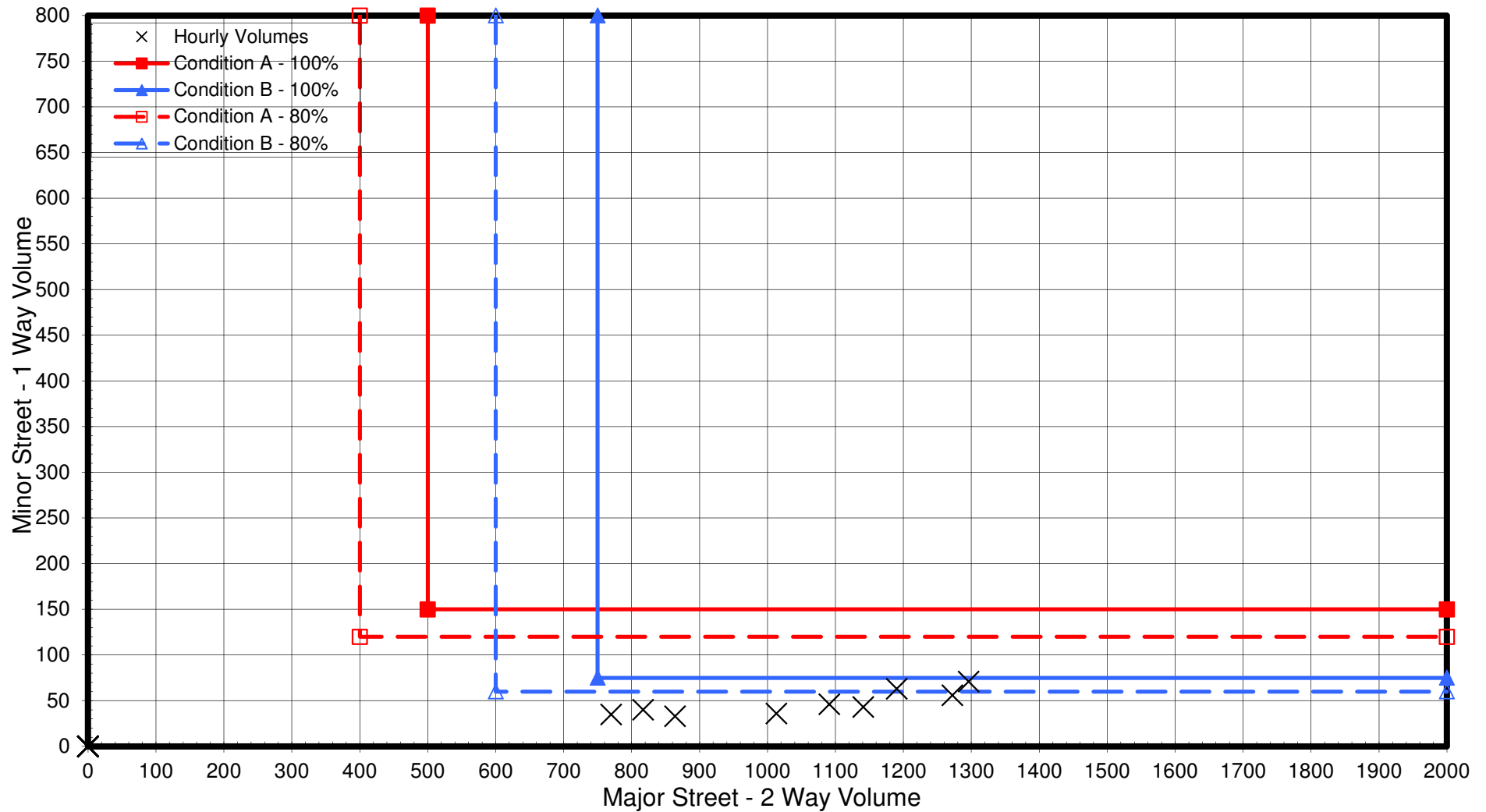
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can  
 be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be  
 prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 23rd St and E 23rd St		1
Road Location =	Urban		

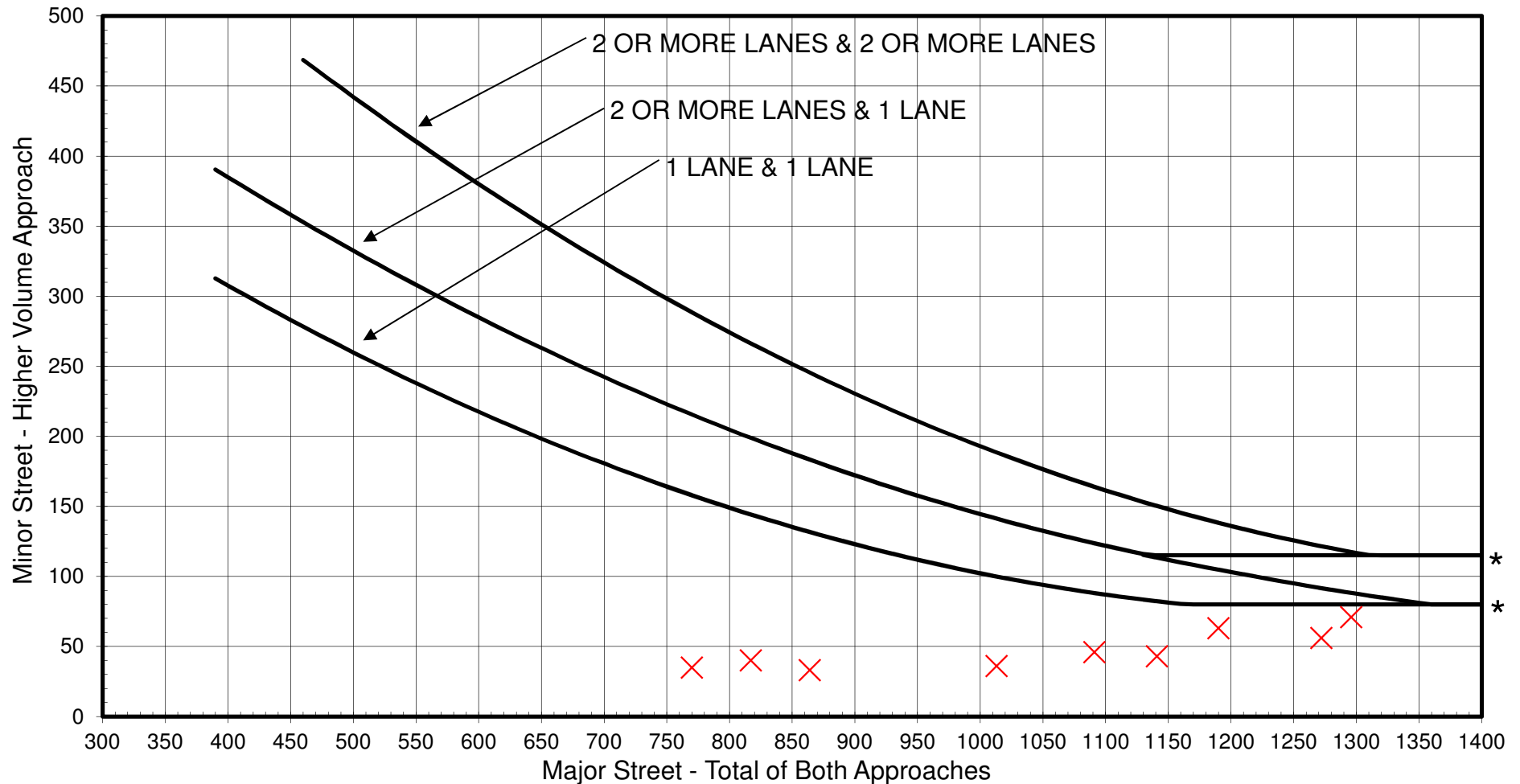
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	0 Hours Meet	No
Condition A (80%) =	0 Hours Meet	No
Condition B (80%) =	2 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
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Fax: 330.836.9115

## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Broadway Ave	1
Minor Road =	W 23rd St and E 23rd St	1
Road Location =	Urban	

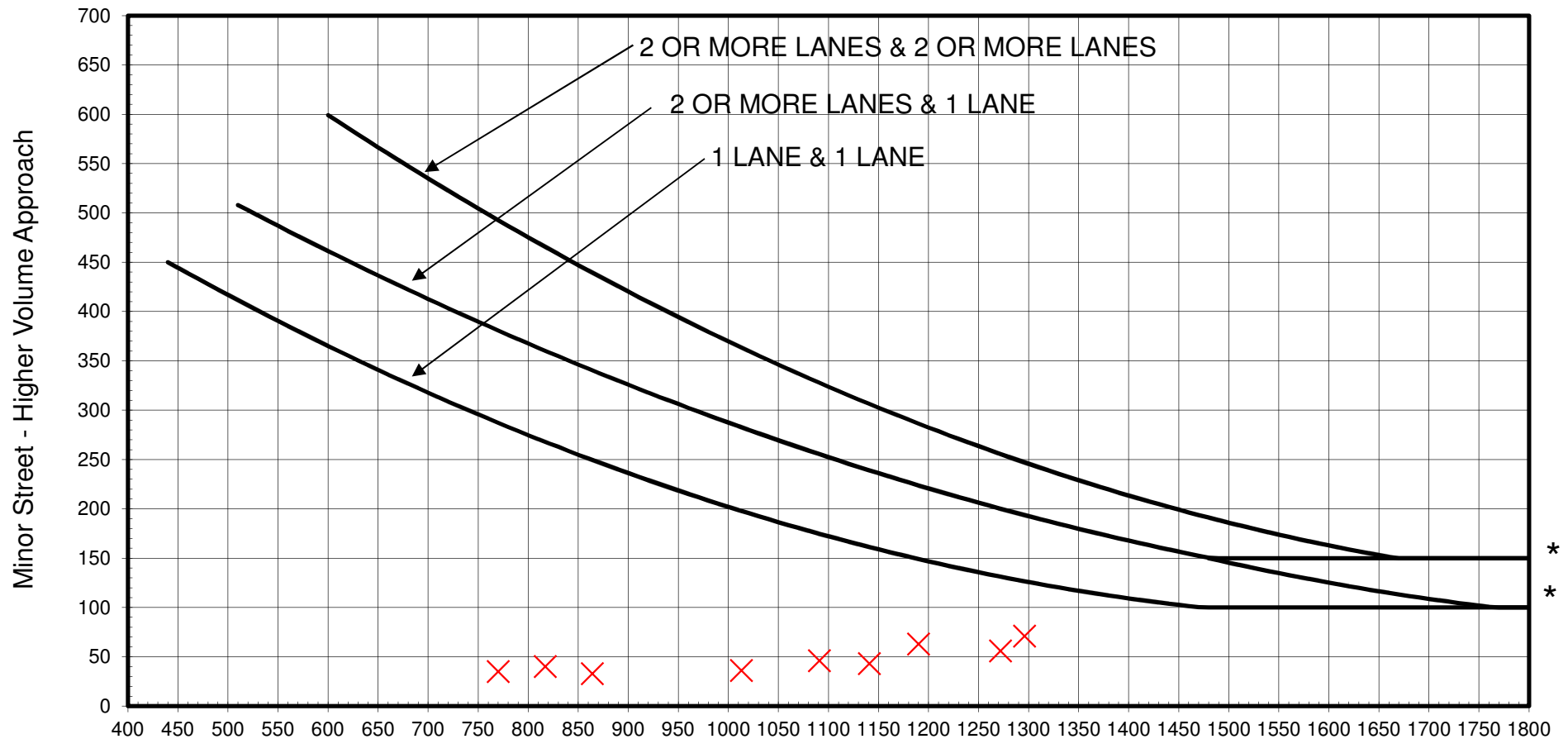
	Warrant Met?	
Warrant 2 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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 Akron, OH 44320-1100  
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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		<b>Lanes</b>
Major Road =	Broadway Ave	1
Minor Road =	W 23rd St and E 23rd St	1
Road Location =	Urban	

		<b>Warrant Met?</b>
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
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# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 28th St and E 28th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING _____					SPEED DATA _____				OTHER (DESCRIBE): _____				
VEHICULAR VOLUME COUNT _____					DELAY ANALYSIS _____								
TRAFFIC PROJECTION _____					TIME/SPACE DIAGRAM _____								
ACCIDENT DATA _____					GROUND PHOTOGRAPHS _____								
PEDESTRIAN COUNT _____					AERIAL PHOTOGRAPHS _____								
GAP ANALYSIS _____					DOCUMENTATION/EXPLANATION _____								

		ADJUSTED HOURLY VOLUMES			WARRANT #1												WARRANT			
		MAJOR ST.	MINOR ST.	MINOR ST.	CONDITION A				CONDITION B								#2	#3		
CON-DITION	NO. OF LANES	2-WAY	1-WAY	1-WAY	100%		80%		100%		80%						FOUR HOUR	PEAK HOUR		
					MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60								
NORM	2+				600	200	480	160	900	100	720	80								
*	1				350	105	280	84	525	53	420	42								
70%	2+				420	140	336	112	630	70	504	56								
MID-1AM		0	0	0																
1AM-2AM		0	0	0																
2AM-3AM		0	0	0																
3AM-4AM		0	0	0																
4AM-5AM		0	0	0																
5AM-6AM		0	0	0																
6AM-7AM		0	0	0																
7AM-8AM		736	104	225	X	X	X	X		X	X	X					X			
8AM-9AM		765	137	202	X	X	X	X	X	X	X	X					X			
9AM-10AM		795	110	309	X	X	X	X	X	X	X	X					X	X		
10AM-11AM		0	0	0																
11AM-NOON		916	99	289	X	X	X	X	X	X	X	X					X	X		
NOON-1PM		1001	184	344	X	X	X	X	X	X	X	X					X	X		
1PM-2PM		1073	157	426	X	X	X	X	X	X	X	X					X	X		
2PM-3PM		0	0	0																
3PM-4PM		1125	171	494	X	X	X	X	X	X	X	X					X	X		
4PM-5PM		1169	153	400	X	X	X	X	X	X	X	X					X	X		
5PM-6PM		1021	145	493	X	X	X	X	X	X	X	X					X	X		
6PM-7PM		0	0	0																
7PM-8PM		0	0	0																
8PM-9PM		0	0	0																
9PM-10PM		0	0	0																
10PM-11PM		0	0	0																
11PM-MID		0	0	0																
HOURS MET					9	9	8	9					9	7						
WARRANT SATISFIED?					YES	YES	YES	YES					YES	YES						

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **YES**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

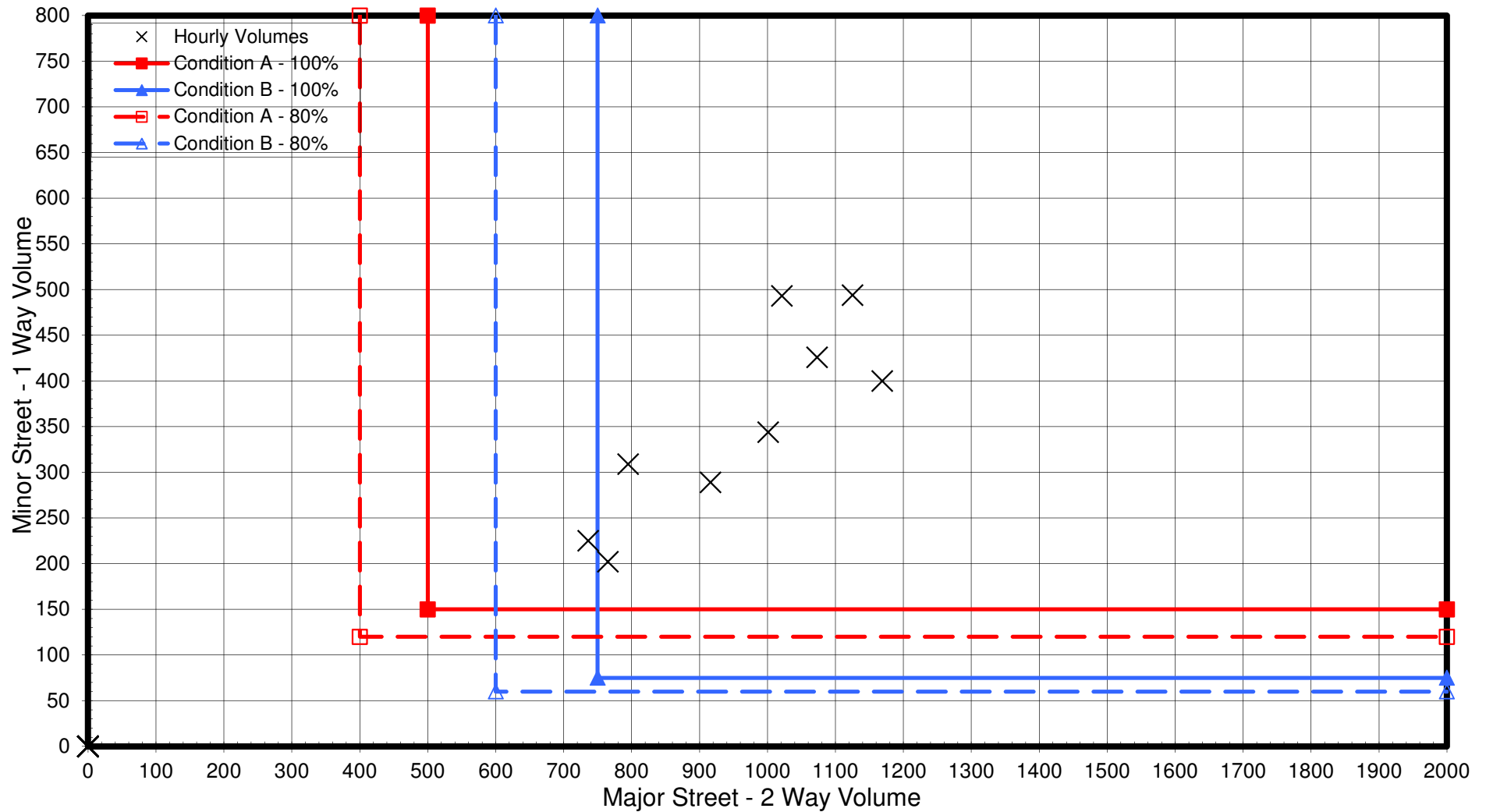
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 28th St and E 28th St		1
Road Location =	Urban		

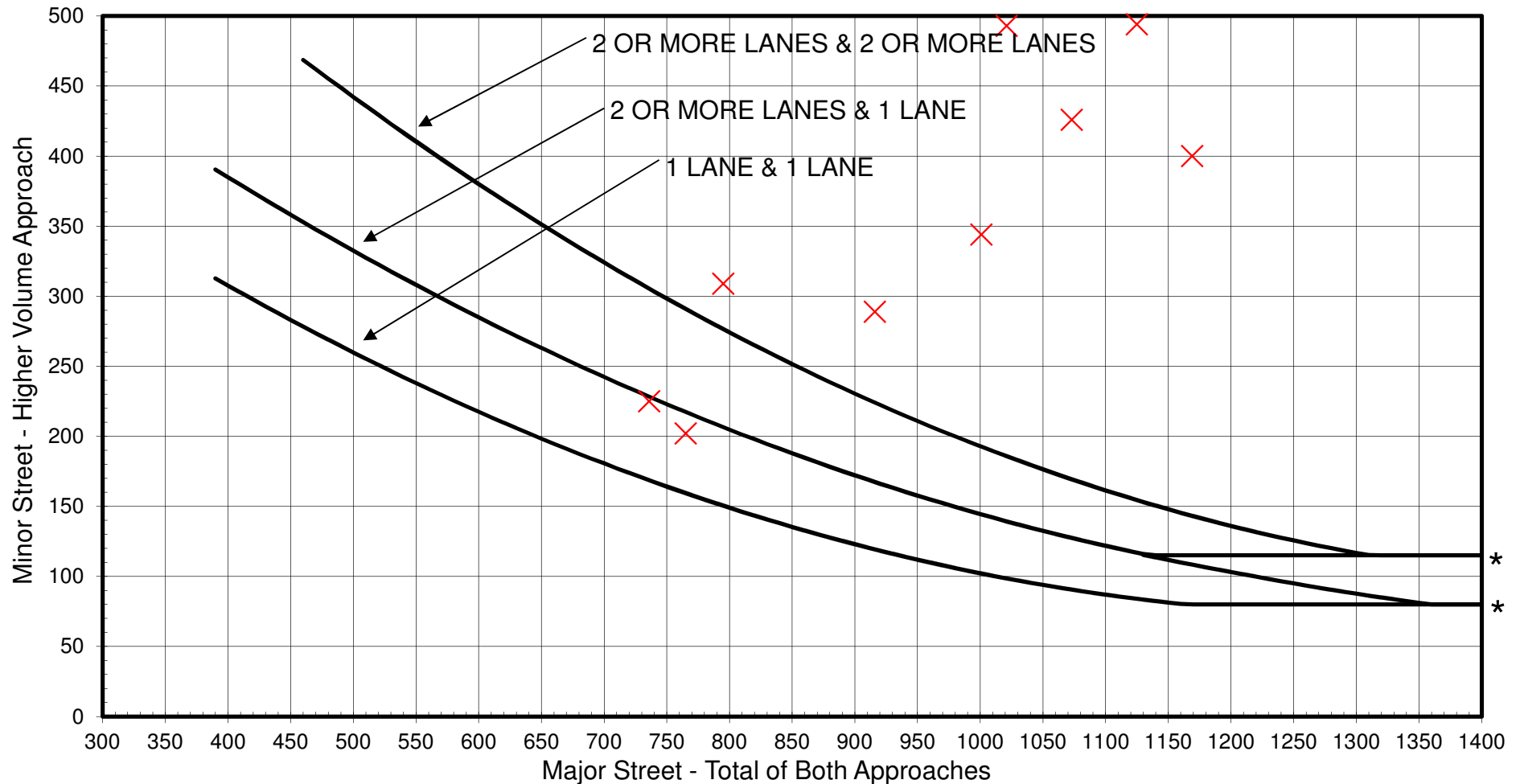
Warrant Met?		
Condition A (100%) =	9 Hours Meet	Yes
Condition B (100%) =	8 Hours Meet	Yes
Condition A (80%) =	9 Hours Meet	Yes
Condition B (80%) =	9 Hours Meet	Yes

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	<b>Lanes</b>	
Major Road =	Broadway Ave	1
Minor Road =	W 28th St and E 28th St	1
Road Location =	Urban	

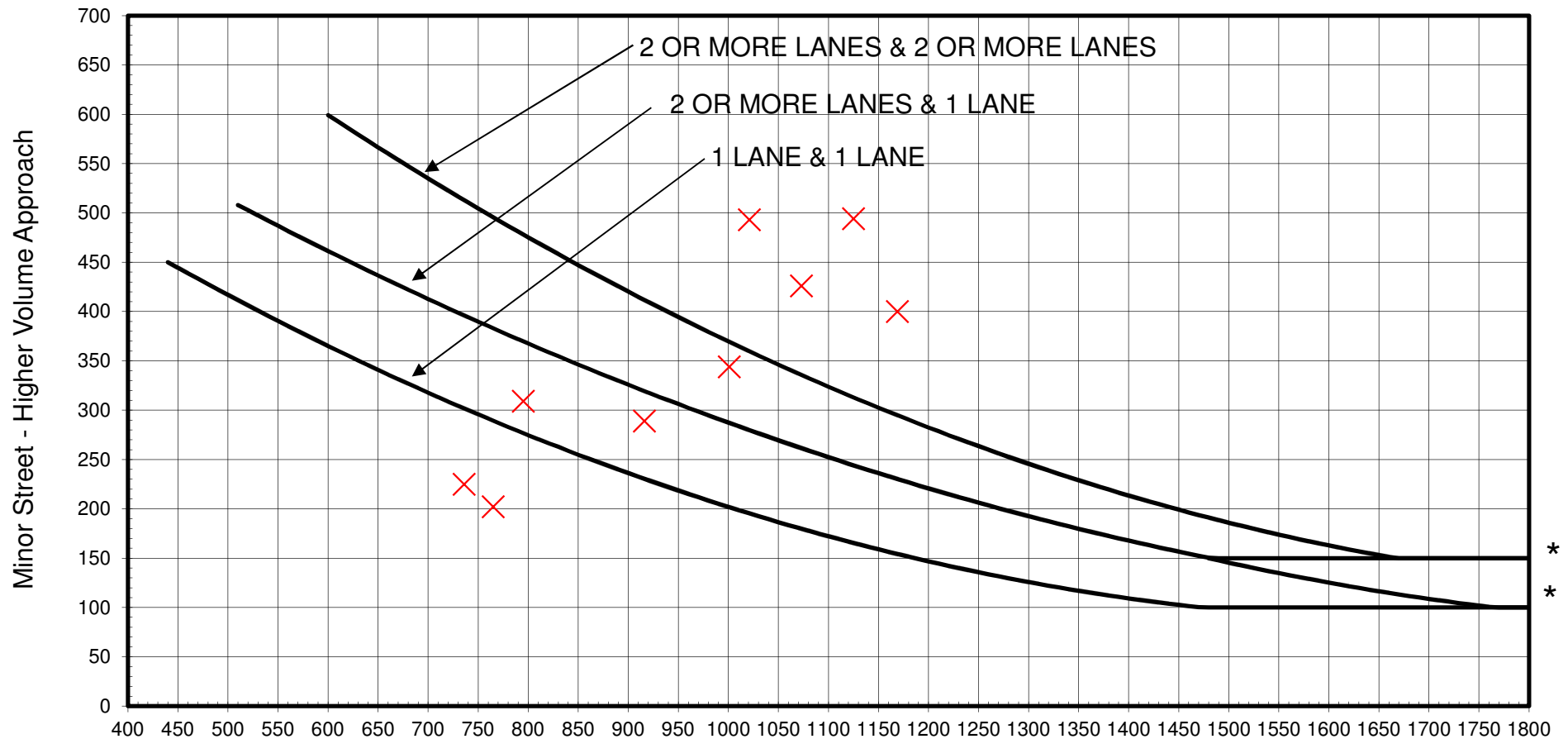
	<b>Warrant Met?</b>	
Warrant 2 (Urban) =	9 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
 Akron, OH 44320-1100  
 Tel: 330.836.9111  
 Fax: 330.836.9115

## PEAK HOUR VOLUME WARRANT (WARRANT 3)



★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Broadway Ave	1
Minor Road =	W 28th St and E 28th St	1
Road Location =	Urban	

	Warrant Met?	
Warrant 3 (Urban) =	7 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 30th St and E 30th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

		ADJUSTED HOURLY VOLUMES			WARRANT #1												WARRANT			
		MAJOR ST.	MINOR ST.	MINOR ST.	CONDITION A				CONDITION B								#2	#3		
CON-DITION	NO. OF LANES	2-WAY	1-WAY	1-WAY	100%		80%		100%		80%						FOUR HOUR	PEAK HOUR		
					MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60								
NORM	2+				600	200	480	160	900	100	720	80								
*	1				350	105	280	84	525	53	420	42								
70%	2+				420	140	336	112	630	70	504	56								
MID-1AM		0	0	0																
1AM-2AM		0	0	0																
2AM-3AM		0	0	0																
3AM-4AM		0	0	0																
4AM-5AM		0	0	0																
5AM-6AM		0	0	0																
6AM-7AM		0	0	0																
7AM-8AM		699	79	31	X		X		X	X	X									
8AM-9AM		736	80	35	X		X		X	X	X									
9AM-10AM		728	61	38	X		X			X	X									
10AM-11AM		0	0	0																
11AM-NOON		831	75	44	X		X		X	X	X	X								
NOON-1PM		922	121	54	X		X	X	X	X	X	X					X			
1PM-2PM		973	108	64	X		X		X	X	X	X					X			
2PM-3PM		0	0	0																
3PM-4PM		1119	105	70	X		X		X	X	X	X					X			
4PM-5PM		1155	103	82	X		X		X	X	X	X					X			
5PM-6PM		1046	90	85	X		X		X	X	X	X								
6PM-7PM		0	0	0																
7PM-8PM		0	0	0																
8PM-9PM		0	0	0																
9PM-10PM		0	0	0																
10PM-11PM		0	0	0																
11PM-MID		0	0	0																
HOURS MET					0		1		6		9						4	0		
WARRANT SATISFIED?					NO		NO		NO		YES						YES	NO		

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

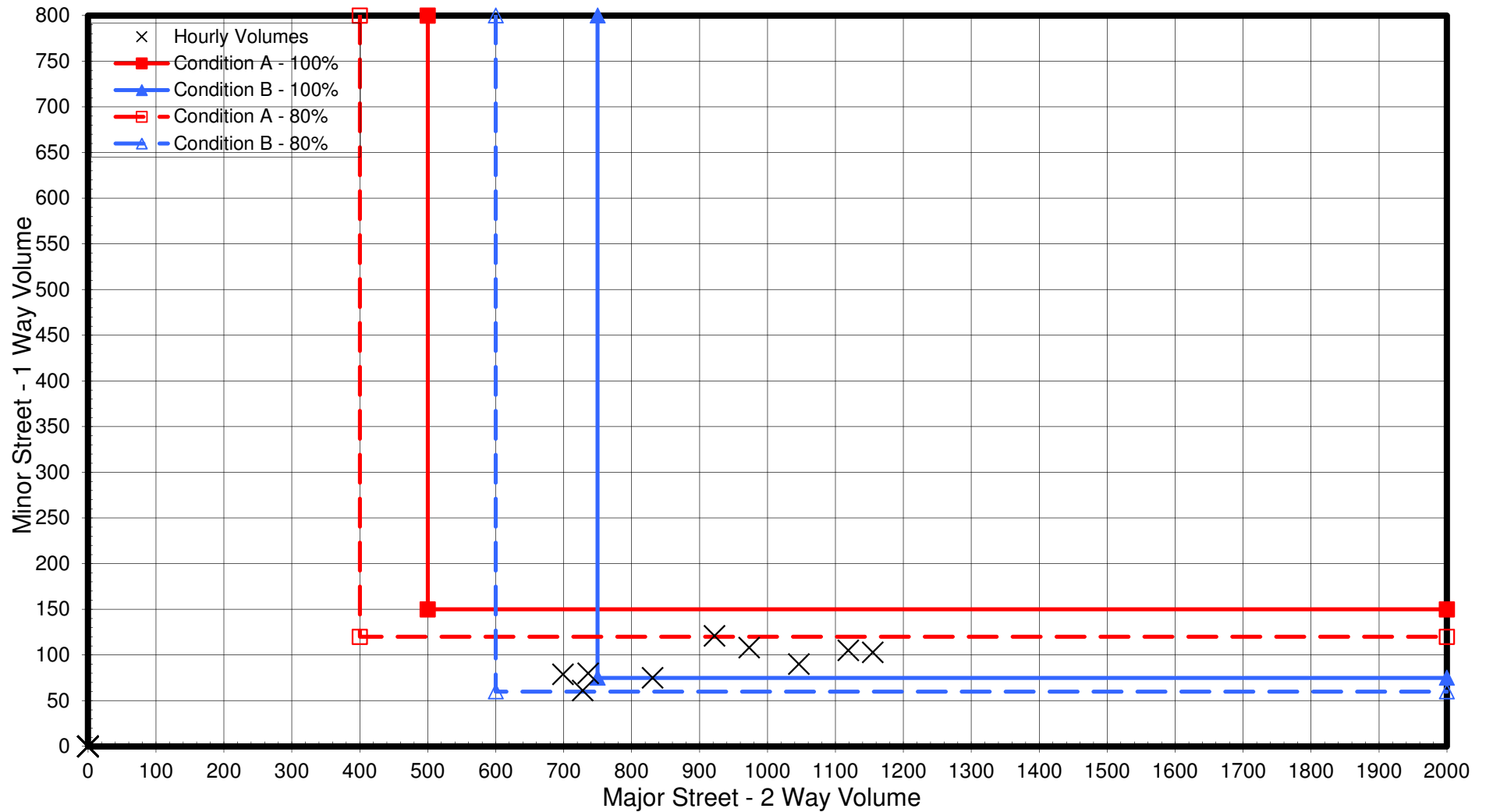
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 30th St and E 30th St	Lanes	1
Road Location =	Urban		

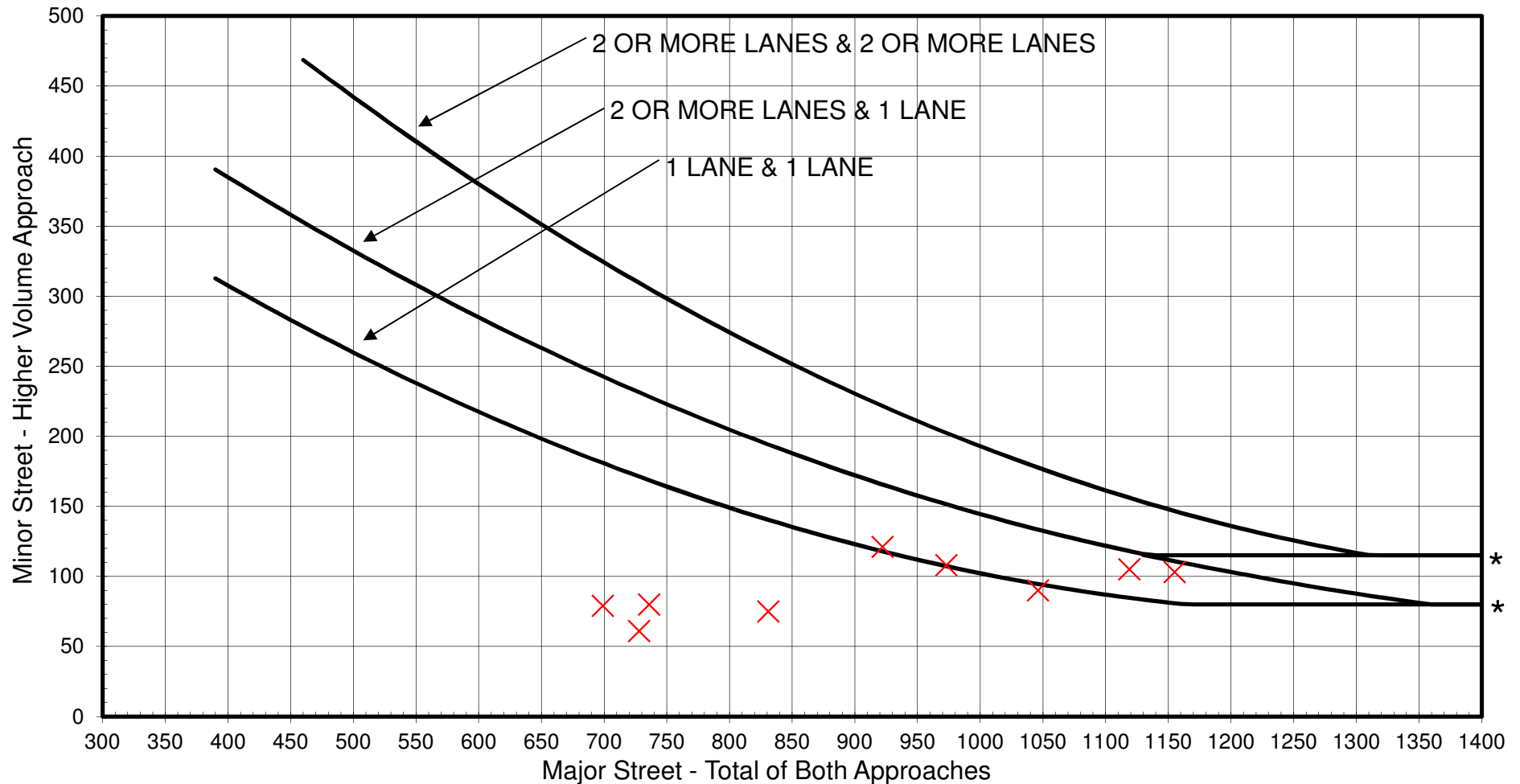
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	6 Hours Meet	No
Condition A (80%) =	1 Hours Meet	No
Condition B (80%) =	9 Hours Meet	Yes

Day of Week	Date & Year	Hours		Weather
From	To			
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Broadway Ave	1
Minor Road =	W 30th St and E 30th St	1
Road Location =	Urban	

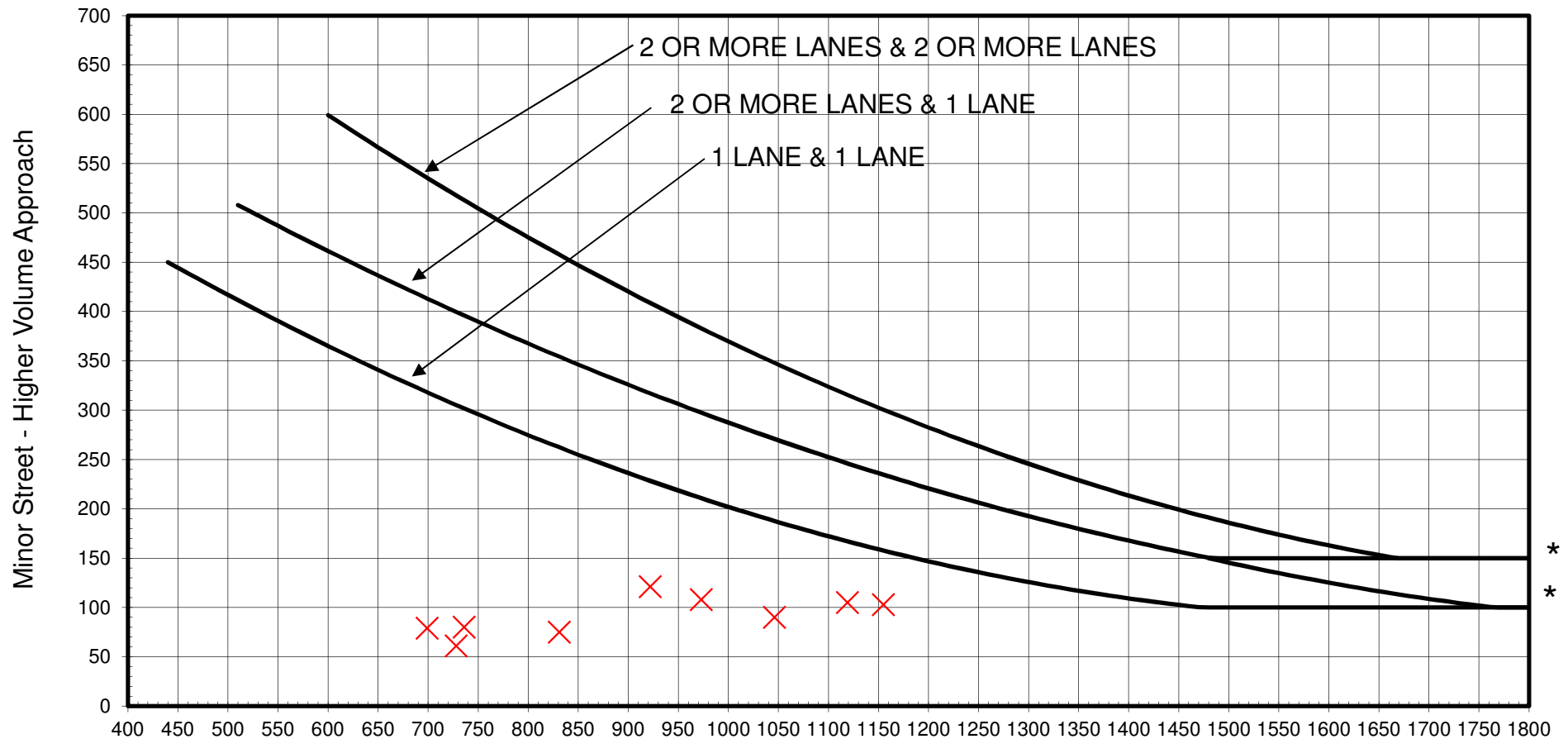
	Warrant Met?	
Warrant 2 (Urban) =	4 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



\* NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		<b>Lanes</b>
Major Road =	Broadway Ave	1
Minor Road =	W 30th St and E 30th St	1
Road Location =	Urban	

		<b>Warrant Met?</b>
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 31st St and E 31st St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING _____					SPEED DATA _____				OTHER (DESCRIBE): _____				
VEHICULAR VOLUME COUNT _____					DELAY ANALYSIS _____								
TRAFFIC PROJECTION _____					TIME/SPACE DIAGRAM _____								
ACCIDENT DATA _____					GROUND PHOTOGRAPHS _____								
PEDESTRIAN COUNT _____					AERIAL PHOTOGRAPHS _____								
GAP ANALYSIS _____					DOCUMENTATION/EXPLANATION _____								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
CON- TION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
1AM-2AM	0	0	0	0														
2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	742	19	18	X			X				X							
8AM-9AM	743	35	18	X			X				X							
9AM-10AM	746	9	9	X			X				X							
10AM-11AM	0	0	0	0														
11AM-NOON	817	19	12	X			X		X		X							
NOON-1PM	927	11	20	X			X		X		X							
1PM-2PM	966	45	20	X			X		X		X							
2PM-3PM	0	0	0	0														
3PM-4PM	1086	20	18	X			X		X		X							
4PM-5PM	1156	8	19	X			X		X		X							
5PM-6PM	1043	15	25	X			X		X		X							
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					0	0	0	0	0	0	0	0					0	0
WARRANT SATISFIED?					NO	NO	NO	NO	NO	NO	NO	NO					NO	NO

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

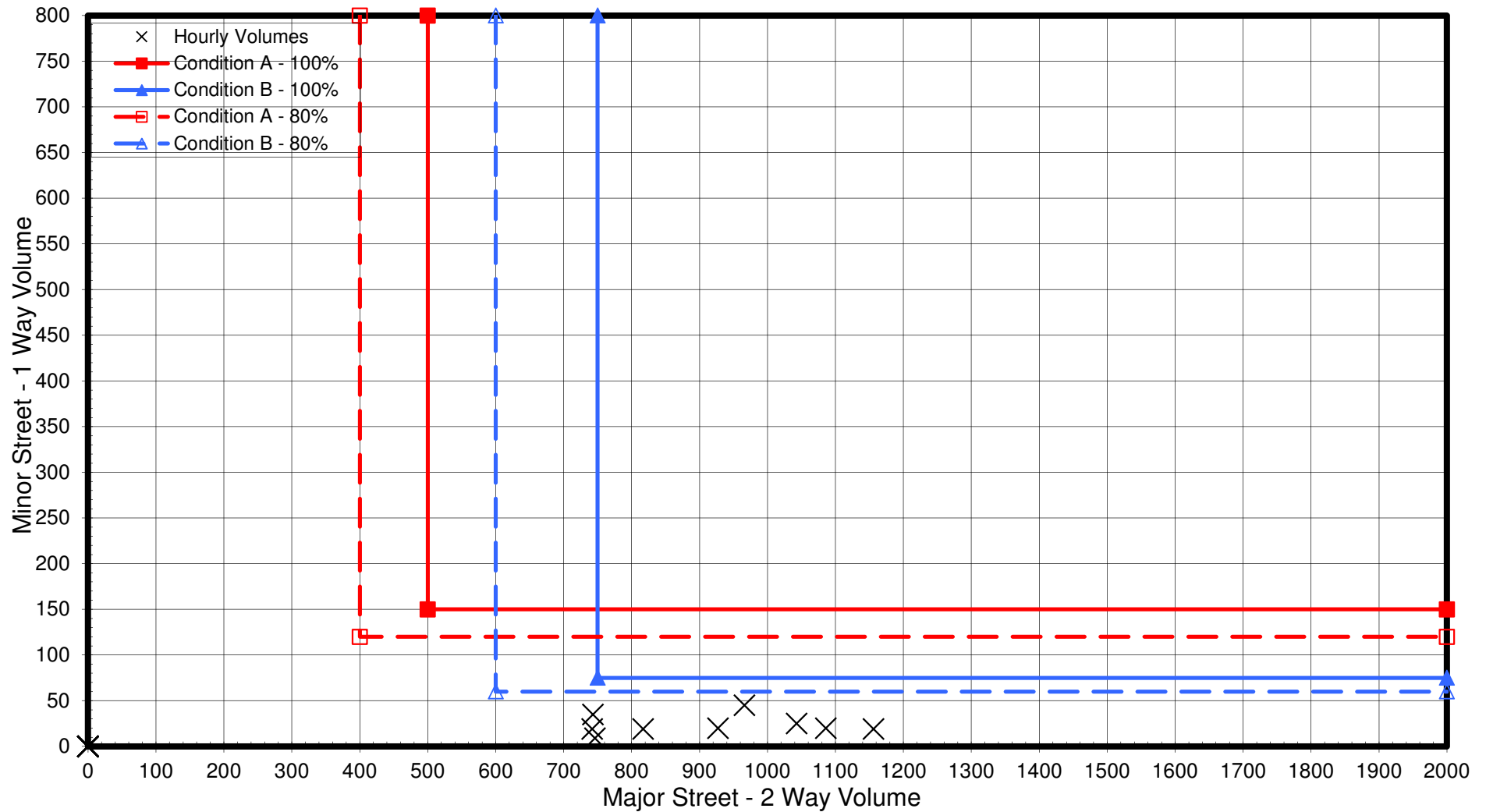
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can  
 be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be  
 prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 31st St and E 31st St	Lanes	1
Road Location =	Urban		

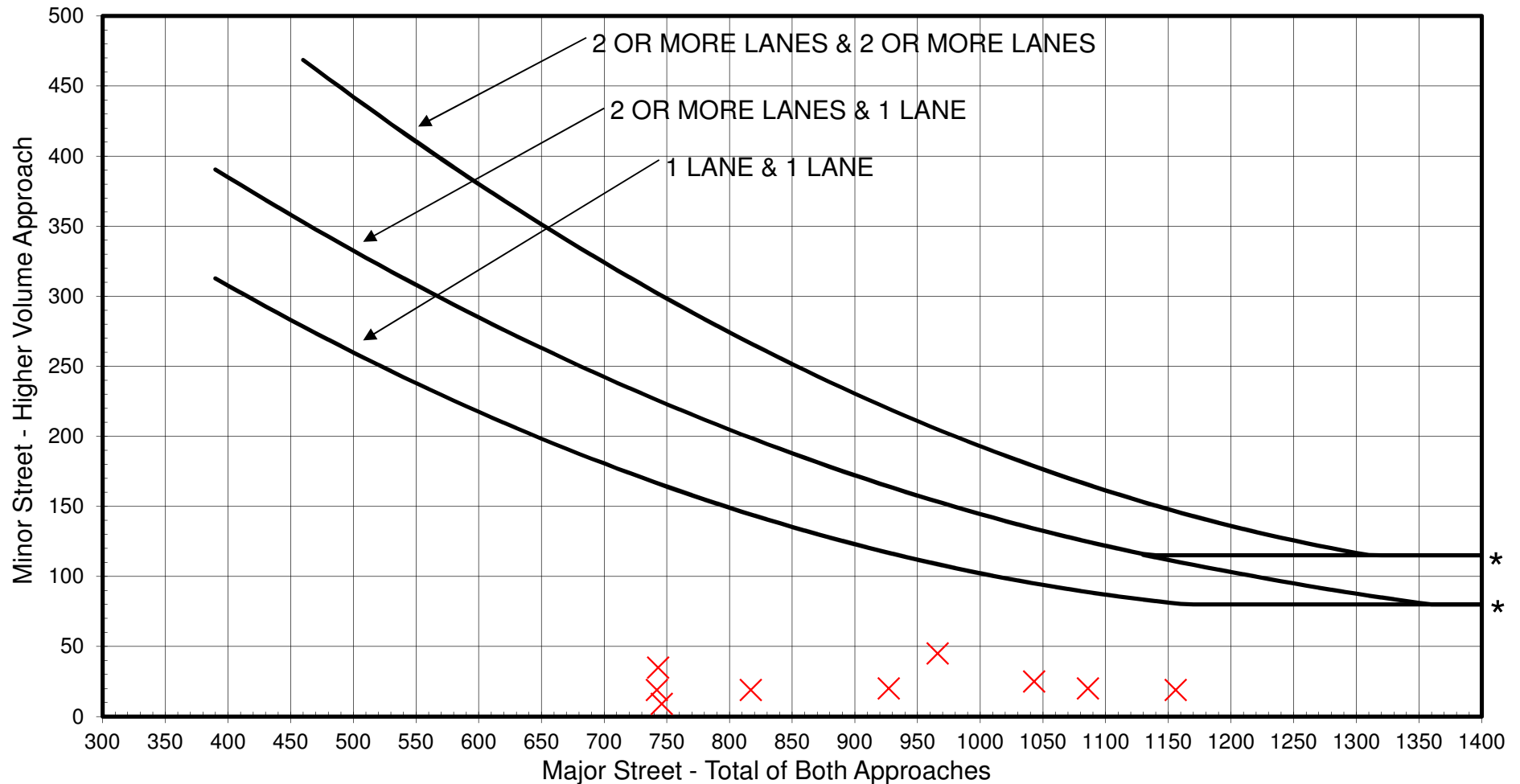
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	0 Hours Meet	No
Condition A (80%) =	0 Hours Meet	No
Condition B (80%) =	0 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	<b>Lanes</b>	
Major Road =	Broadway Ave	1
Minor Road =	W 31st St and E 31st St	1
Road Location =	Urban	

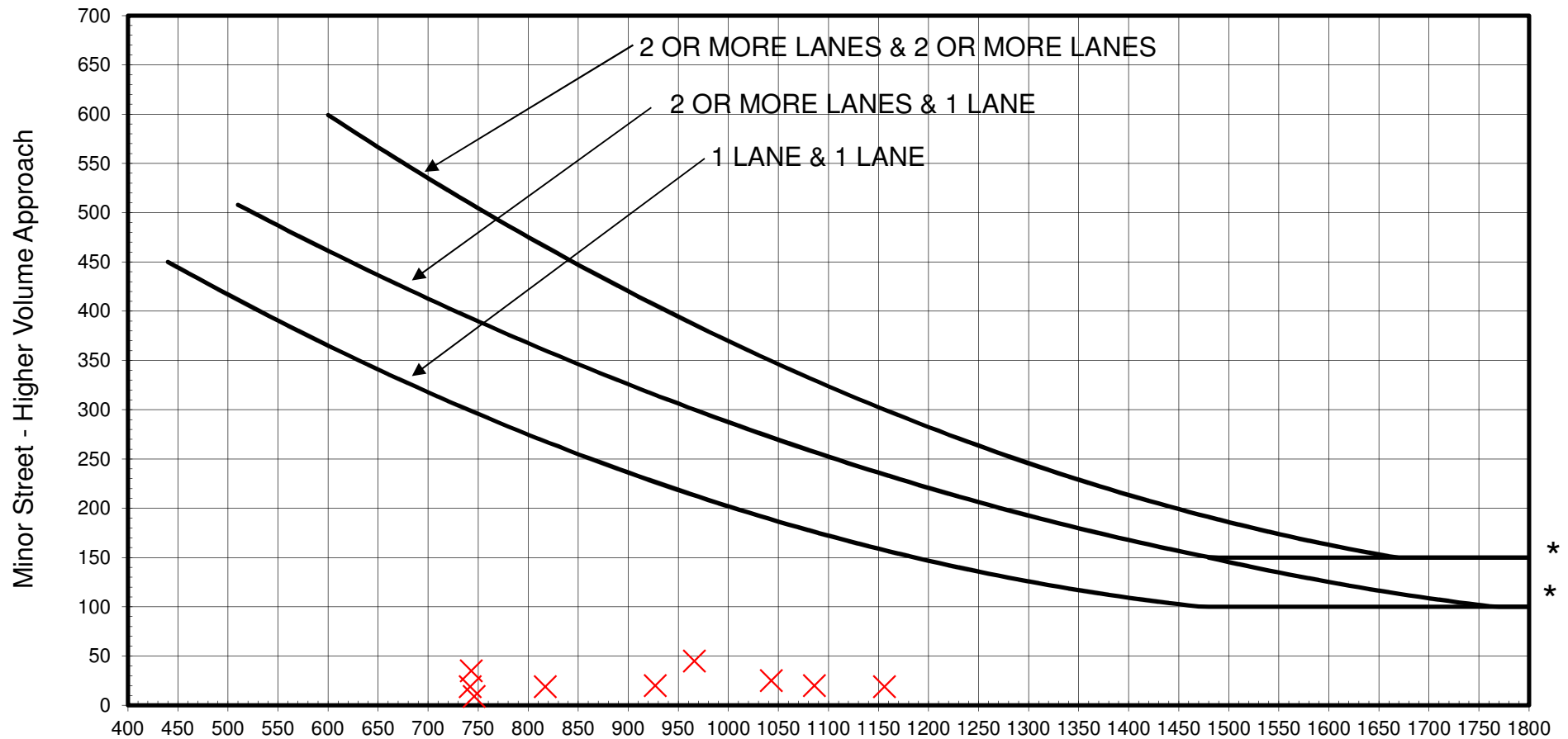
	<b>Warrant Met?</b>	
Warrant 2 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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 Akron, OH 44320-1100  
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 Fax: 330.836.9115

## PEAK HOUR VOLUME WARRANT (WARRANT 3)



\* NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		<b>Lanes</b>
Major Road =	Broadway Ave	1
Minor Road =	W 31st St and E 31st St	1
Road Location =	Urban	

		<b>Warrant Met?</b>
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 33rd St and E 33th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING _____					SPEED DATA _____				OTHER (DESCRIBE): _____				
VEHICULAR VOLUME COUNT _____					DELAY ANALYSIS _____								
TRAFFIC PROJECTION _____					TIME/SPACE DIAGRAM _____								
ACCIDENT DATA _____					GROUND PHOTOGRAPHS _____								
PEDESTRIAN COUNT _____					AERIAL PHOTOGRAPHS _____								
GAP ANALYSIS _____					DOCUMENTATION/EXPLANATION _____								

		ADJUSTED HOURLY VOLUMES			WARRANT #1												WARRANT			
		MAJOR ST.	MINOR ST.	MINOR ST.	CONDITION A				CONDITION B								#2	#3		
CON-DITION	NO. OF LANES	2-WAY	1-WAY	1-WAY	100%		80%		100%		80%						FOUR HOUR	PEAK HOUR		
					MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60								
NORM	2+				600	200	480	160	900	100	720	80								
*	1				350	105	280	84	525	53	420	42								
70%	2+				420	140	336	112	630	70	504	56								
MID-1AM		0	0	0																
1AM-2AM		0	0	0																
2AM-3AM		0	0	0																
3AM-4AM		0	0	0																
4AM-5AM		0	0	0																
5AM-6AM		0	0	0																
6AM-7AM		0	0	0																
7AM-8AM		759	131	47	X		X	X	X	X	X	X								
8AM-9AM		742	146	49	X		X	X		X	X	X								
9AM-10AM		762	131	62	X		X	X	X	X	X	X								
10AM-11AM		0	0	0																
11AM-NOON		799	149	50	X		X	X	X	X	X	X								
NOON-1PM		894	200	63	X	X	X	X	X	X	X	X					X			
1PM-2PM		916	212	75	X	X	X	X	X	X	X	X					X			
2PM-3PM		0	0	0																
3PM-4PM		1047	228	86	X	X	X	X	X	X	X	X					X	X		
4PM-5PM		1168	215	108	X	X	X	X	X	X	X	X					X	X		
5PM-6PM		1115	168	115	X	X	X	X	X	X	X	X					X			
6PM-7PM		0	0	0																
7PM-8PM		0	0	0																
8PM-9PM		0	0	0																
9PM-10PM		0	0	0																
10PM-11PM		0	0	0																
11PM-MID		0	0	0																
HOURS MET					5	9	8	9					5	2						
WARRANT SATISFIED?					NO	YES	YES	YES					YES	YES						

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **YES**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

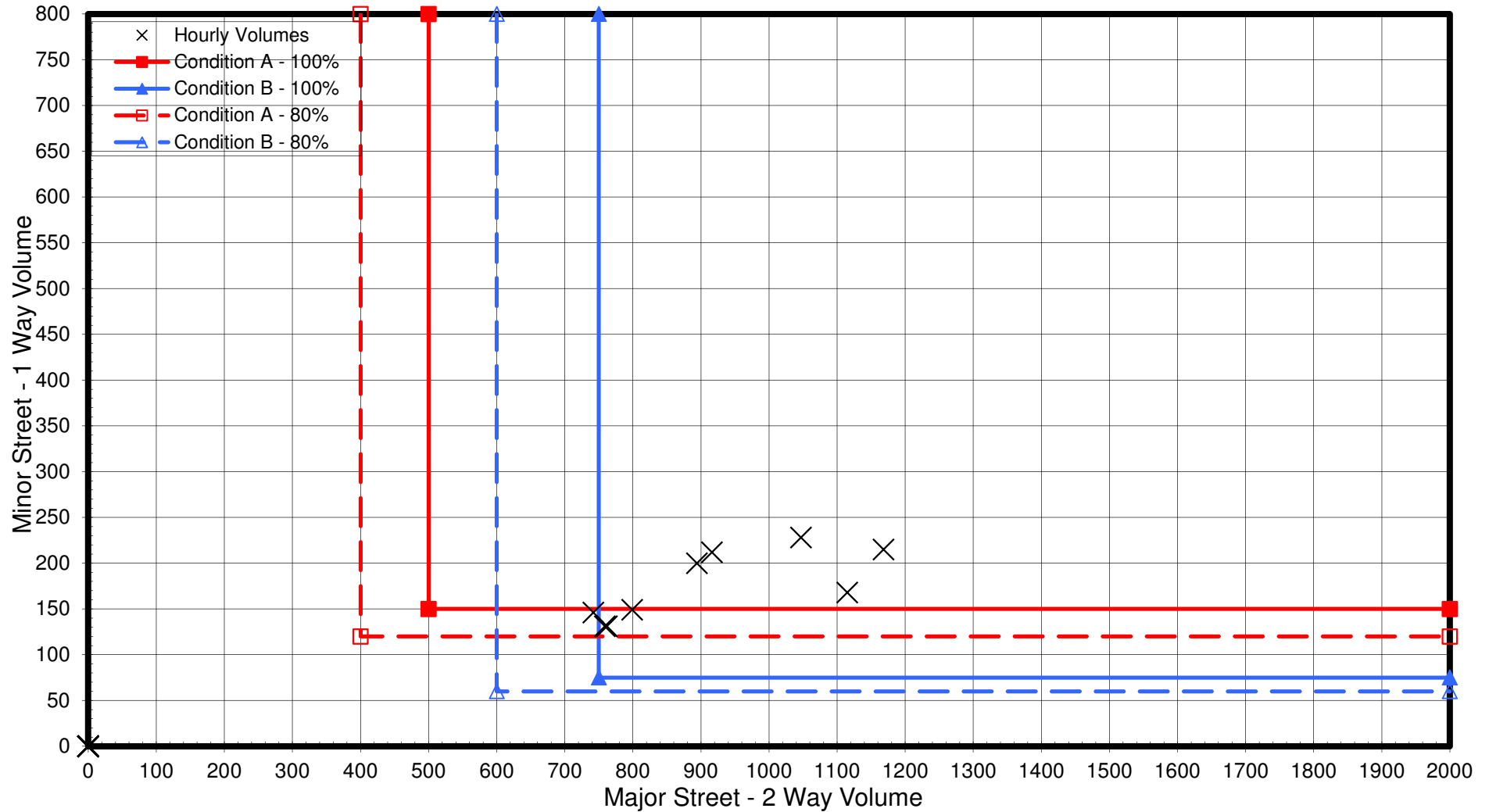
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 33rd St and E 33th St	Lanes	1
Road Location =	Urban		

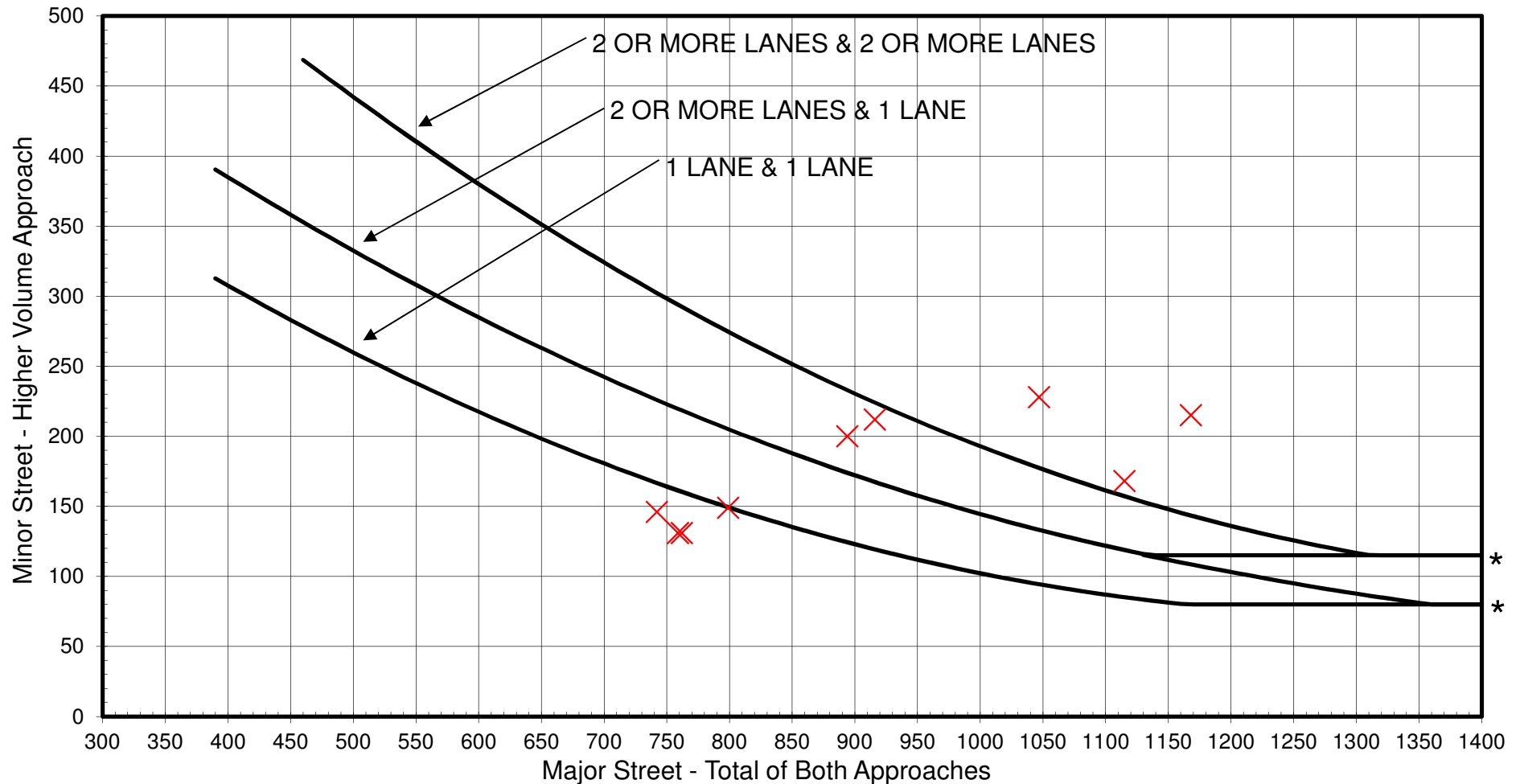
Warrant Met?		
Condition A (100%) =	5 Hours Meet	No
Condition B (100%) =	8 Hours Meet	Yes
Condition A (80%) =	9 Hours Meet	Yes
Condition B (80%) =	9 Hours Meet	Yes

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Broadway Ave	1
Minor Road =	W 33rd St and E 33th St	1
Road Location =	Urban	

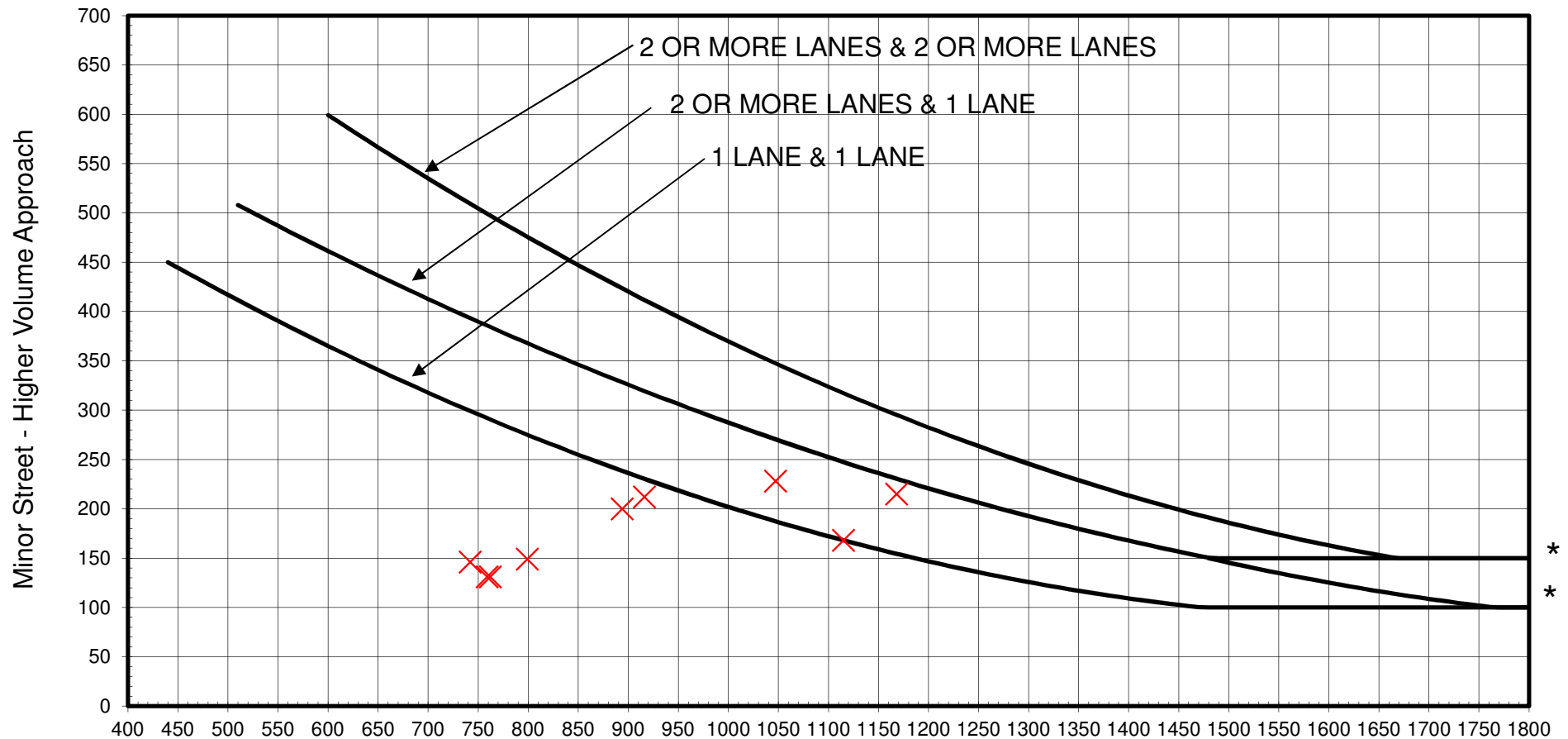
	Warrant Met?	
Warrant 2 (Urban) =	5 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		Lanes
Major Road =	Broadway Ave	1
Minor Road =	W 33rd St and E 33th St	1
Road Location =	Urban	

		Warrant Met?
Warrant 3 (Urban) =	2 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

URS

564 White Pond Drive  
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# SIGNAL WARRANT

INTERSECTION: Broadway Ave and E 35th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 0  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

		ADJUSTED HOURLY VOLUMES			WARRANT #1												WARRANT			
		MAJOR ST.	MINOR ST.	MINOR ST.	CONDITION A				CONDITION B								#2	#3		
CON-DITION	NO. OF LANES	2-WAY	1-WAY	1-WAY	100%		80%		100%		80%						FOUR HOUR	PEAK HOUR		
					MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR								
*	1	X		X	500	150	400	120	750	75	600	60								
NORM	2+				600	200	480	160	900	100	720	80								
*	1				350	105	280	84	525	53	420	42								
70%	2+				420	140	336	112	630	70	504	56								
MID-1AM	0	0	0																	
1AM-2AM	0	0	0																	
2AM-3AM	0	0	0																	
3AM-4AM	0	0	0																	
4AM-5AM	0	0	0																	
5AM-6AM	0	0	0																	
6AM-7AM	0	0	0																	
7AM-8AM	841	0	44	X			X		X		X									
8AM-9AM	801	0	59	X			X		X		X									
9AM-10AM	784	0	54	X			X		X		X									
10AM-11AM	0	0	0																	
11AM-NOON	795	0	54	X			X		X		X									
NOON-1PM	930	0	65	X			X		X		X	X								
1PM-2PM	941	0	56	X			X		X		X									
2PM-3PM	0	0	0																	
3PM-4PM	1101	0	91	X			X		X	X	X	X					X			
4PM-5PM	1243	0	49	X			X		X		X									
5PM-6PM	1080	0	82	X			X		X	X	X	X								
6PM-7PM	0	0	0																	
7PM-8PM	0	0	0																	
8PM-9PM	0	0	0																	
9PM-10PM	0	0	0																	
10PM-11PM	0	0	0																	
11PM-MID	0	0	0																	
HOURS MET					0	0	2	3					1	0						
WARRANT SATISFIED?					NO	NO	NO	NO					NO	NO						

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
**Warrant Satisfied?**.....

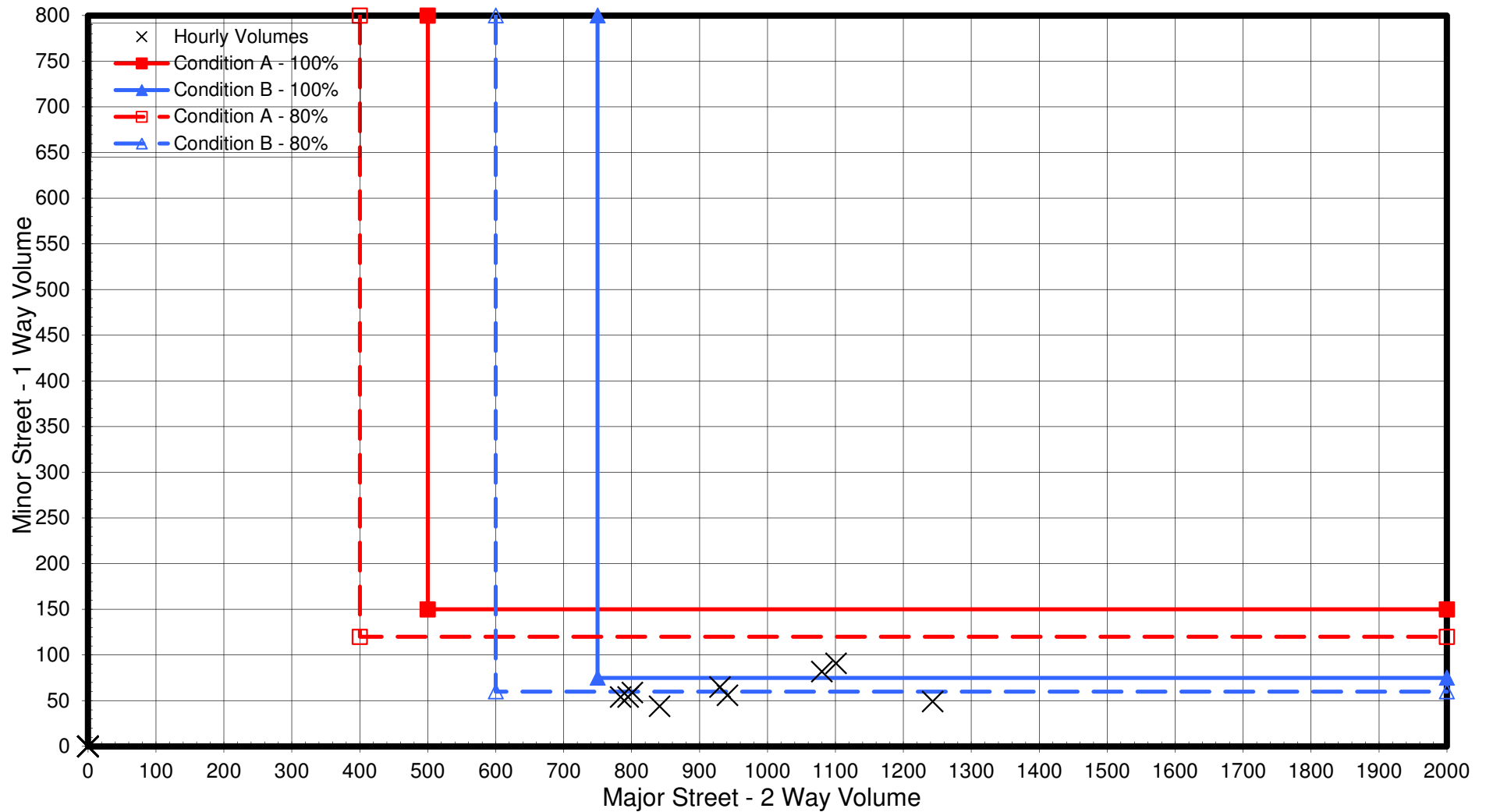
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
**Warrant Satisfied?**.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
**Warrant Satisfied?**.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
**Warrant Satisfied?**.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
**Warrant Satisfied?**.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	E 35th St		1
Road Location =	Urban		

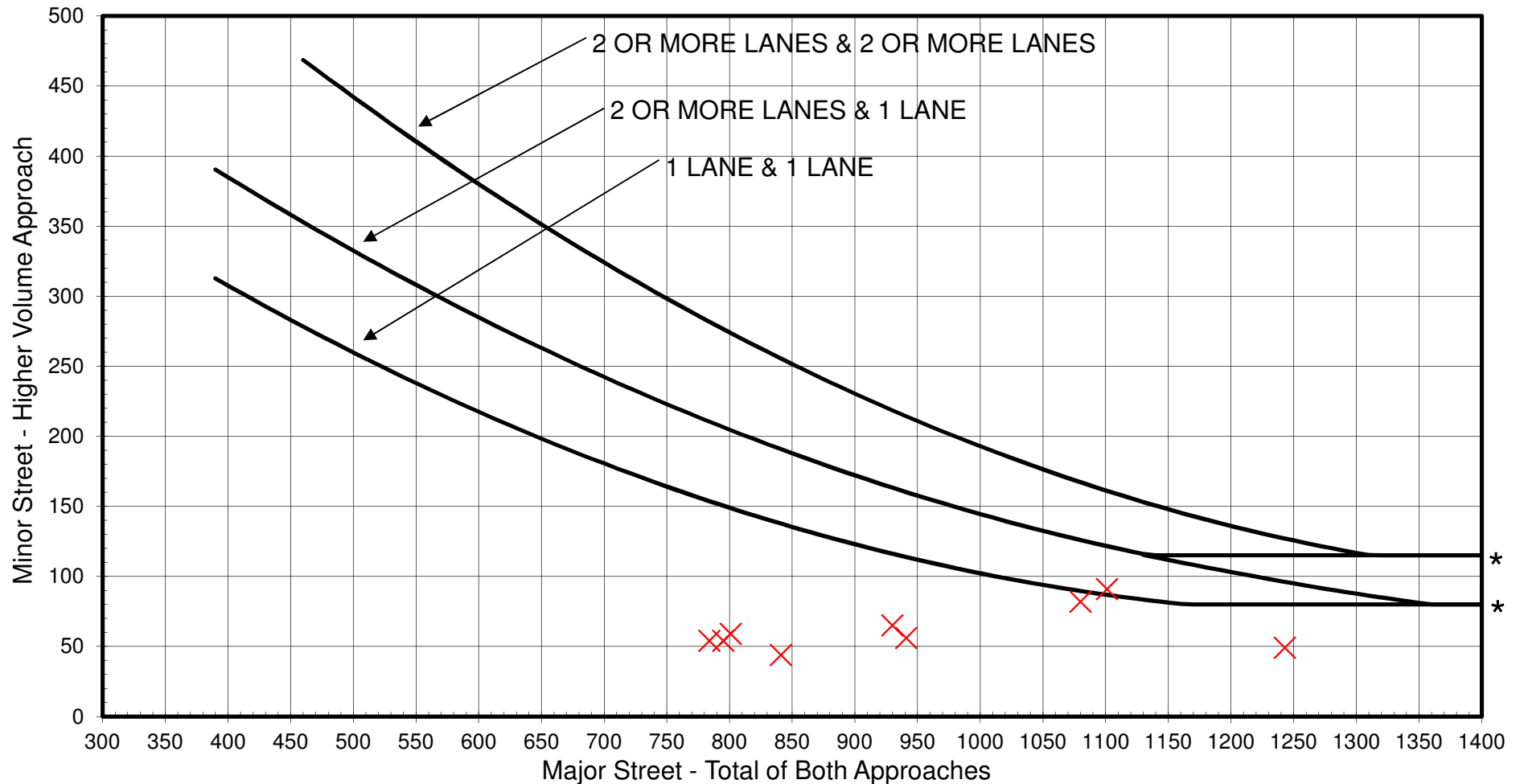
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	2 Hours Meet	No
Condition A (80%) =	0 Hours Meet	No
Condition B (80%) =	3 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



564 White Pond Drive  
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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		<b>Lanes</b>
Major Road =	Broadway Ave	1
Minor Road =	E 35th St	1
Road Location =	Urban	

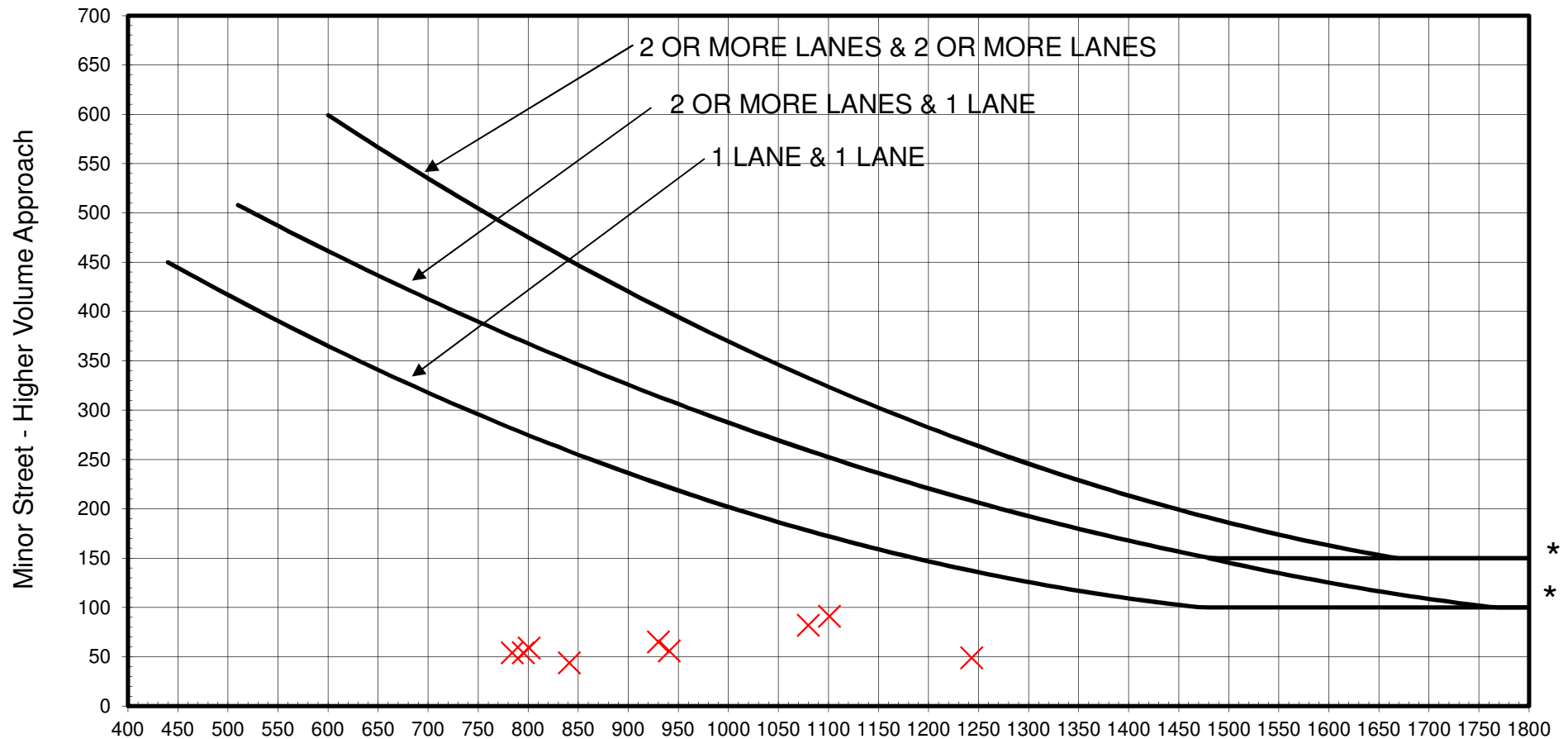
		<b>Warrant Met?</b>
Warrant 2 (Urban) =	1 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
 Akron, OH 44320-1100  
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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		<b>Lanes</b>
Major Road =	Broadway Ave	1
Minor Road =	E 35th St	1
Road Location =	Urban	

		<b>Warrant Met?</b>
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
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# SIGNAL WARRANT

INTERSECTION: Broadway Ave and W 39th St and E 39th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING _____					SPEED DATA _____				OTHER (DESCRIBE): _____				
VEHICULAR VOLUME COUNT _____					DELAY ANALYSIS _____								
TRAFFIC PROJECTION _____					TIME/SPACE DIAGRAM _____								
ACCIDENT DATA _____					GROUND PHOTOGRAPHS _____								
PEDESTRIAN COUNT _____					AERIAL PHOTOGRAPHS _____								
GAP ANALYSIS _____					DOCUMENTATION/EXPLANATION _____								

		ADJUSTED HOURLY VOLUMES			WARRANT #1												WARRANT			
		MAJOR ST.	MINOR ST.	MINOR ST.	CONDITION A				CONDITION B								#2	#3		
CON-DITION	NO. OF LANES	2-WAY	1-WAY	1-WAY	100%		80%		100%		80%						FOUR HOUR	PEAK HOUR		
					MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60								
NORM	2+				600	200	480	160	900	100	720	80								
*	1				350	105	280	84	525	53	420	42								
70%	2+				420	140	336	112	630	70	504	56								
MID-1AM	0	0	0	0																
1AM-2AM	0	0	0	0																
2AM-3AM	0	0	0	0																
3AM-4AM	0	0	0	0																
4AM-5AM	0	0	0	0																
5AM-6AM	0	0	0	0																
6AM-7AM	0	0	0	0																
7AM-8AM	892	29	112	X	X		X		X	X	X	X								
8AM-9AM	771	29	89	X	X		X		X	X	X	X								
9AM-10AM	728	41	115	X	X		X		X	X	X	X								
10AM-11AM	0	0	0	0																
11AM-NOON	770	36	105	X	X		X		X	X	X	X								
NOON-1PM	874	13	129	X	X		X	X	X	X	X	X								
1PM-2PM	839	41	149	X	X		X	X	X	X	X	X					X			
2PM-3PM	0	0	0	0																
3PM-4PM	1074	47	163	X	X	X	X	X	X	X	X	X					X			
4PM-5PM	1204	42	154	X	X	X	X	X	X	X	X	X					X	X		
5PM-6PM	1049	34	170	X	X	X	X	X	X	X	X	X					X			
6PM-7PM	0	0	0	0																
7PM-8PM	0	0	0	0																
8PM-9PM	0	0	0	0																
9PM-10PM	0	0	0	0																
10PM-11PM	0	0	0	0																
11PM-MID	0	0	0	0																
HOURS MET					3	5	8	9					4	1						
WARRANT SATISFIED?					NO	NO	YES	YES					YES	YES						

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
*Warrant Satisfied?*.....

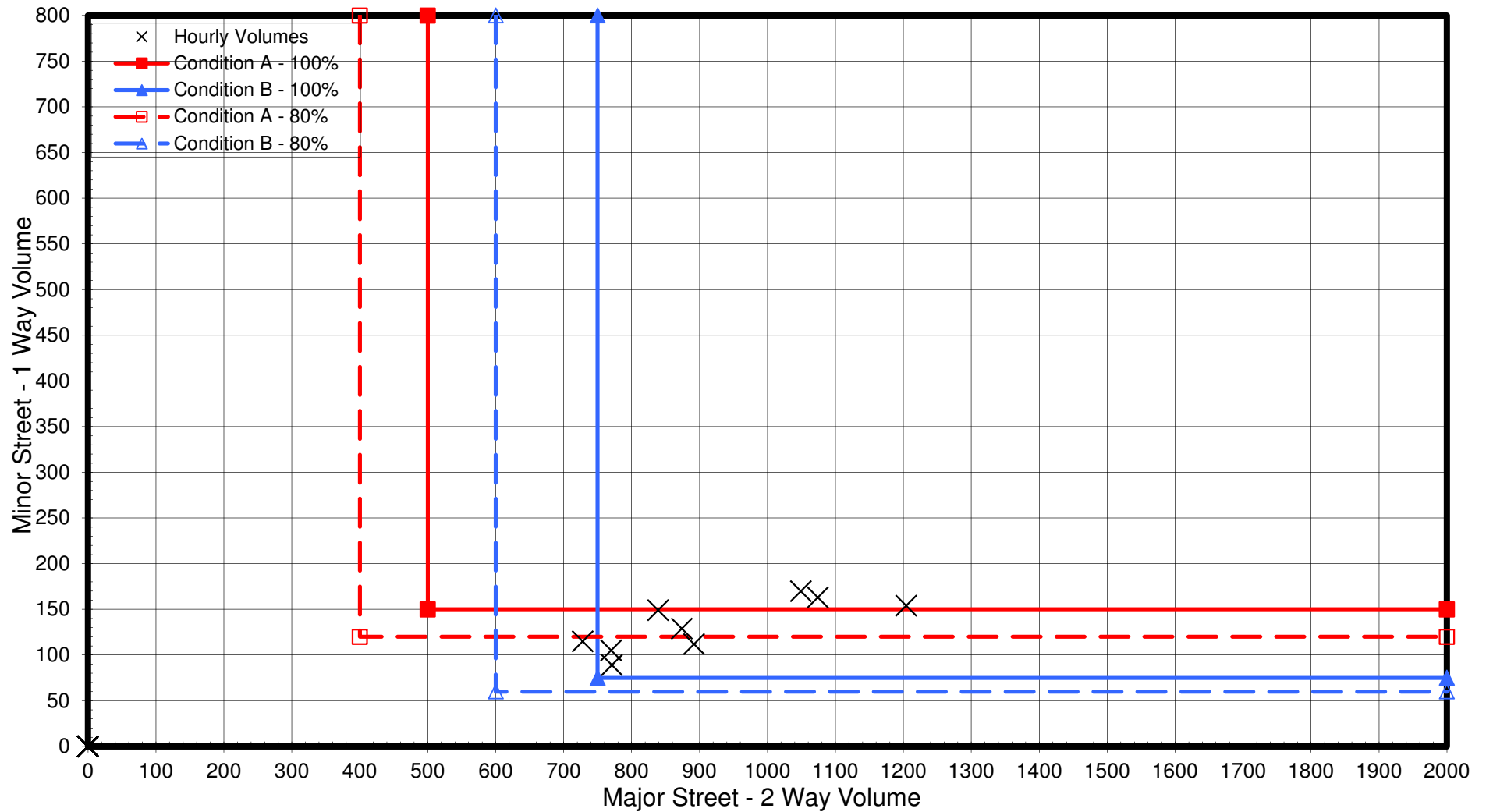
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
*Warrant Satisfied?*.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
*Warrant Satisfied?*.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
*Warrant Satisfied?*.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
*Warrant Satisfied?*.....

## WARRANT 1 - Conditions A & B



Major Road =	Broadway Ave	Lanes	1
Minor Road =	W 39th St and E 39th St	Lanes	1
Road Location =	Urban		

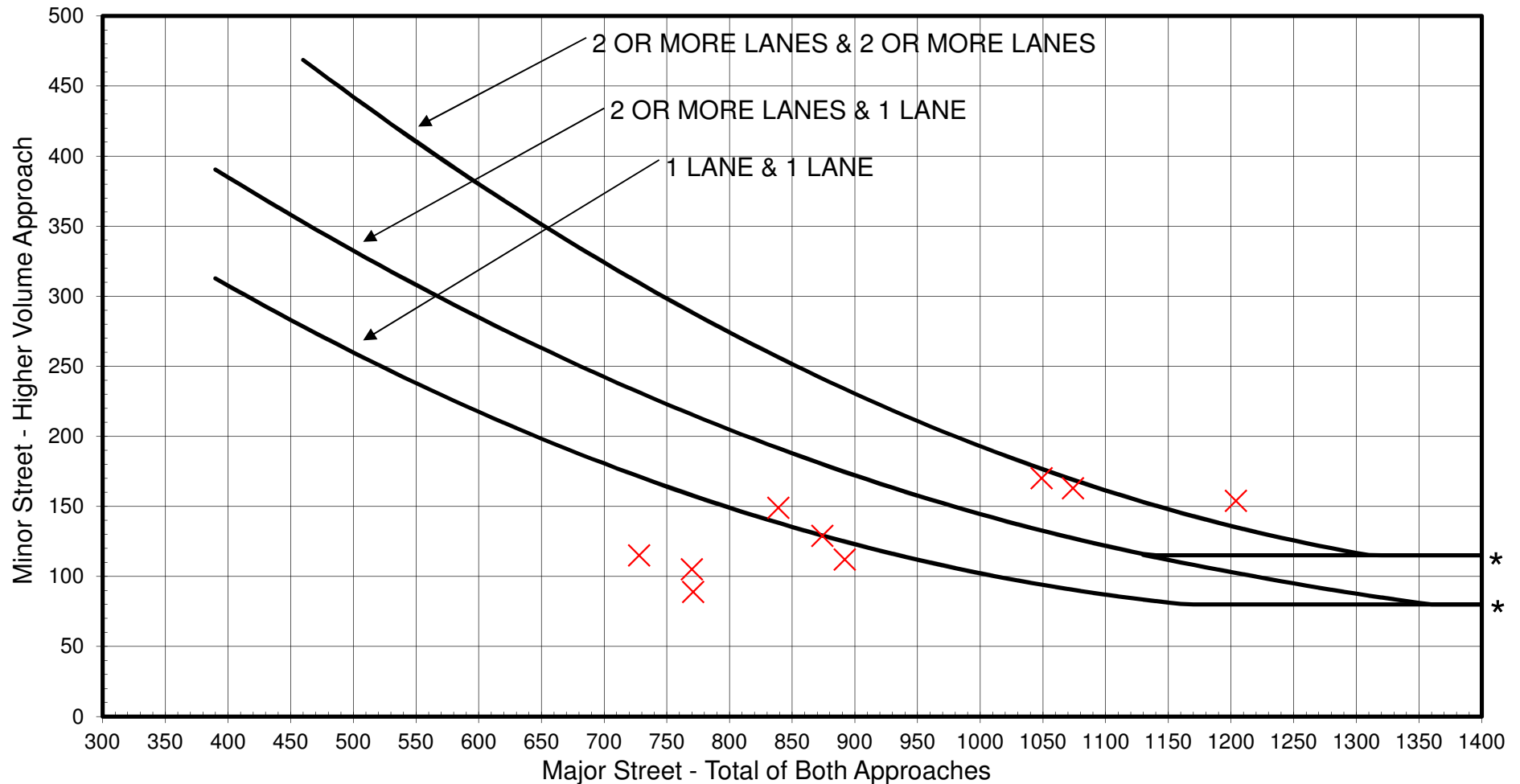
Warrant Met?		
Condition A (100%) =	3 Hours Meet	No
Condition B (100%) =	8 Hours Meet	Yes
Condition A (80%) =	5 Hours Meet	No
Condition B (80%) =	9 Hours Meet	Yes

Day of Week	Date & Year	Hours		Weather
From	To			
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		Lanes
Major Road =	Broadway Ave	1
Minor Road =	W 39th St and E 39th St	1
Road Location =	Urban	

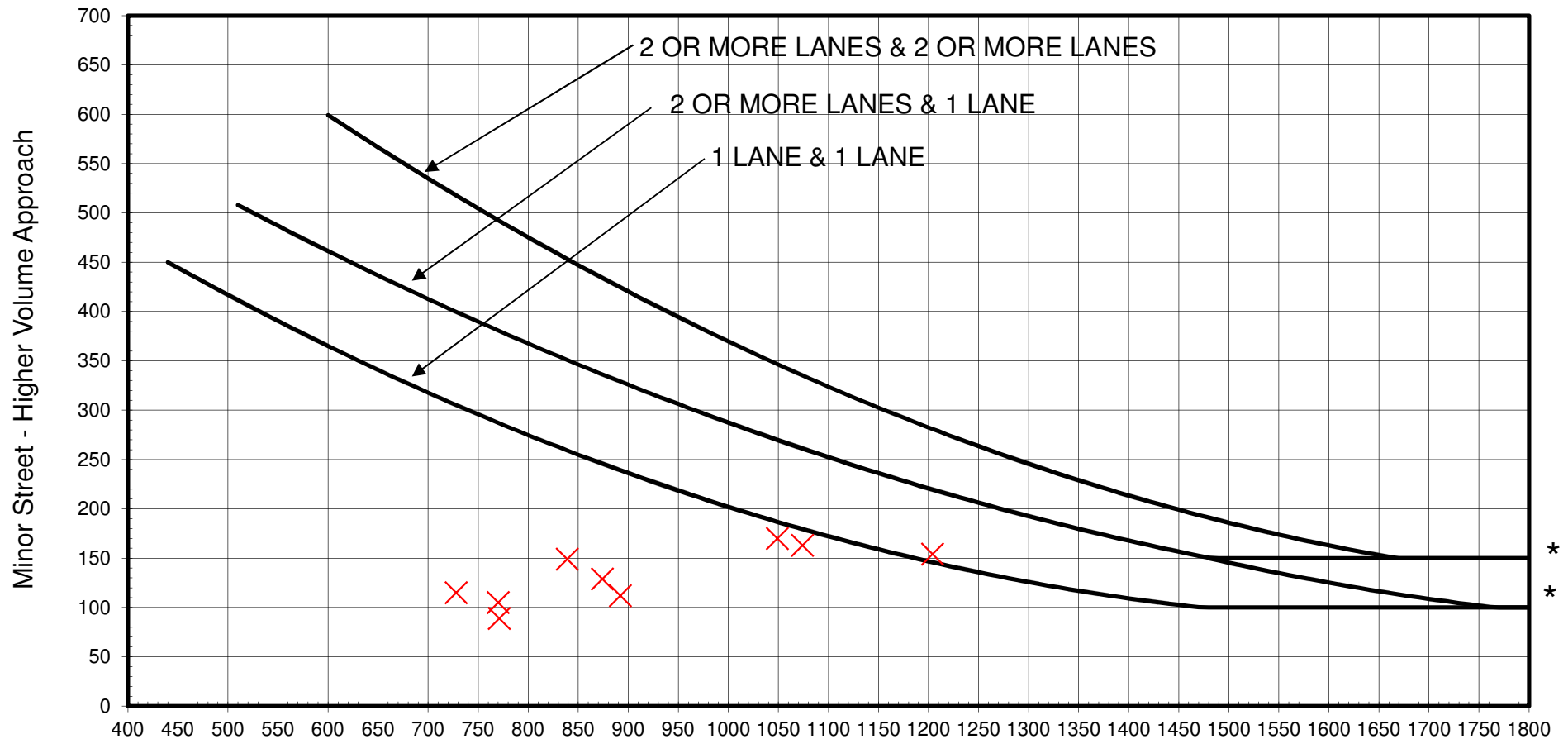
		Warrant Met?
Warrant 2 (Urban) =	4 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

URS

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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		<b>Lanes</b>
Major Road =	Broadway Ave	1
Minor Road =	W 39th St and E 39th St	1
Road Location =	Urban	

		<b>Warrant Met?</b>
Warrant 3 (Urban) =	1 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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Akron, OH 44320-1100  
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# SIGNAL WARRANT

INTERSECTION: Reid Ave and W 28th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY:

CO: Lorain RTE: SECT:  
 CONSULTANT:  
 CALC. BY: CKD BY:



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
CON-DITION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
1AM-2AM	0	0	0	0														
2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	190	45	32															
8AM-9AM	204	42	42															
9AM-10AM	244	35	35															
10AM-11AM	0	0	0	0														
11AM-NOON	178	54	31															
NOON-1PM	310	79	47						X		X							
1PM-2PM	321	66	51								X							
2PM-3PM	0	0	0	0														
3PM-4PM	340	74	55								X							
4PM-5PM	295	93	76						X		X							
5PM-6PM	385	69	76						X		X							
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					0	0	0	0	0	0	0	0					0	0
WARRANT SATISFIED?					NO	NO	NO	NO	NO	NO	NO	NO					NO	NO

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Warrant Satisfied?.....

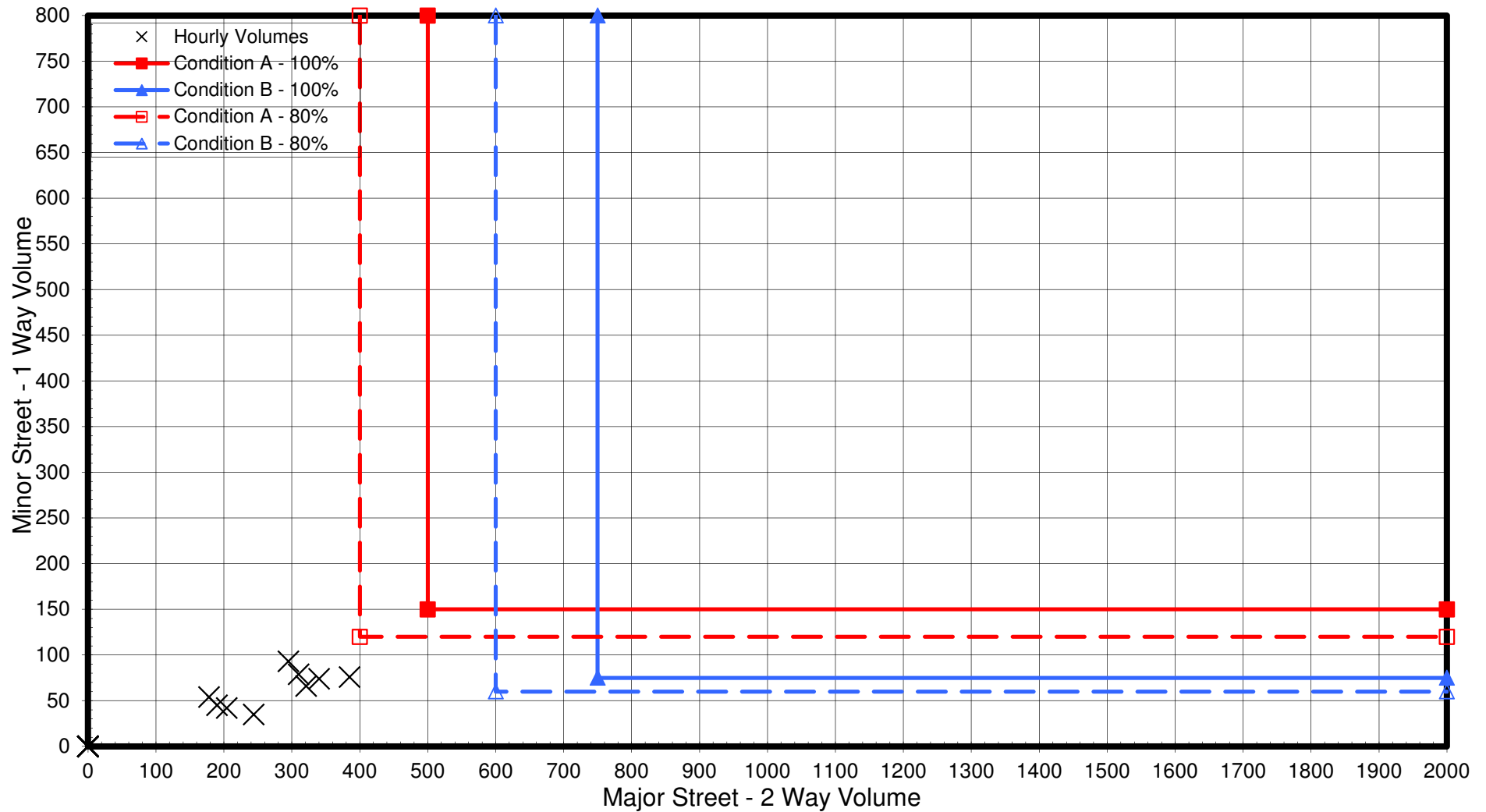
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
 Warrant Satisfied?.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
 Warrant Satisfied?.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
 Warrant Satisfied?.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
 Warrant Satisfied?.....

## WARRANT 1 - Conditions A & B



Major Road =	Reid Ave	Lanes	1
Minor Road =	W 28th St		1
Road Location =	Urban		

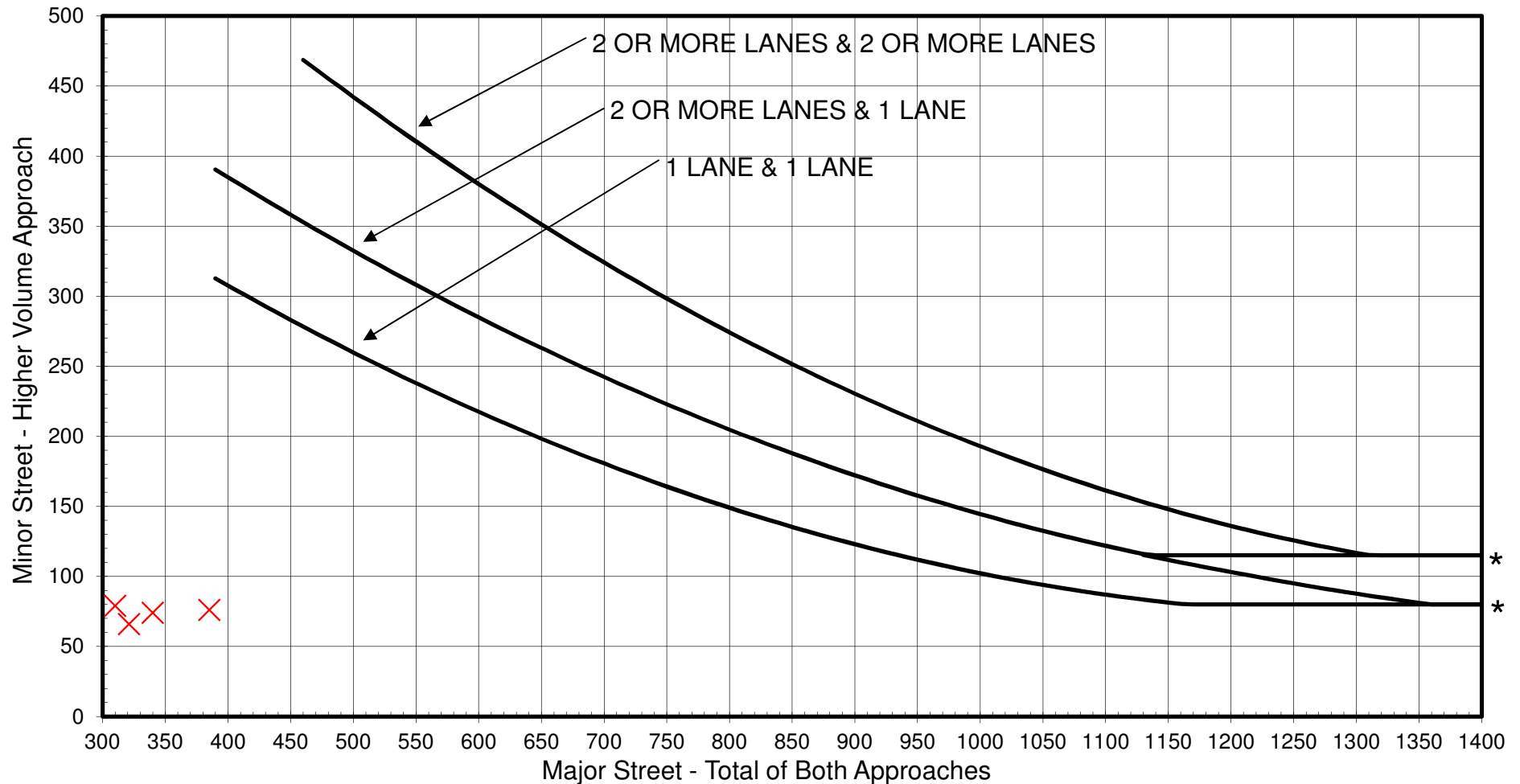
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	0 Hours Meet	No
Condition A (80%) =	0 Hours Meet	No
Condition B (80%) =	0 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	Reid Ave	1
Minor Road =	W 28th St	1
Road Location =	Urban	

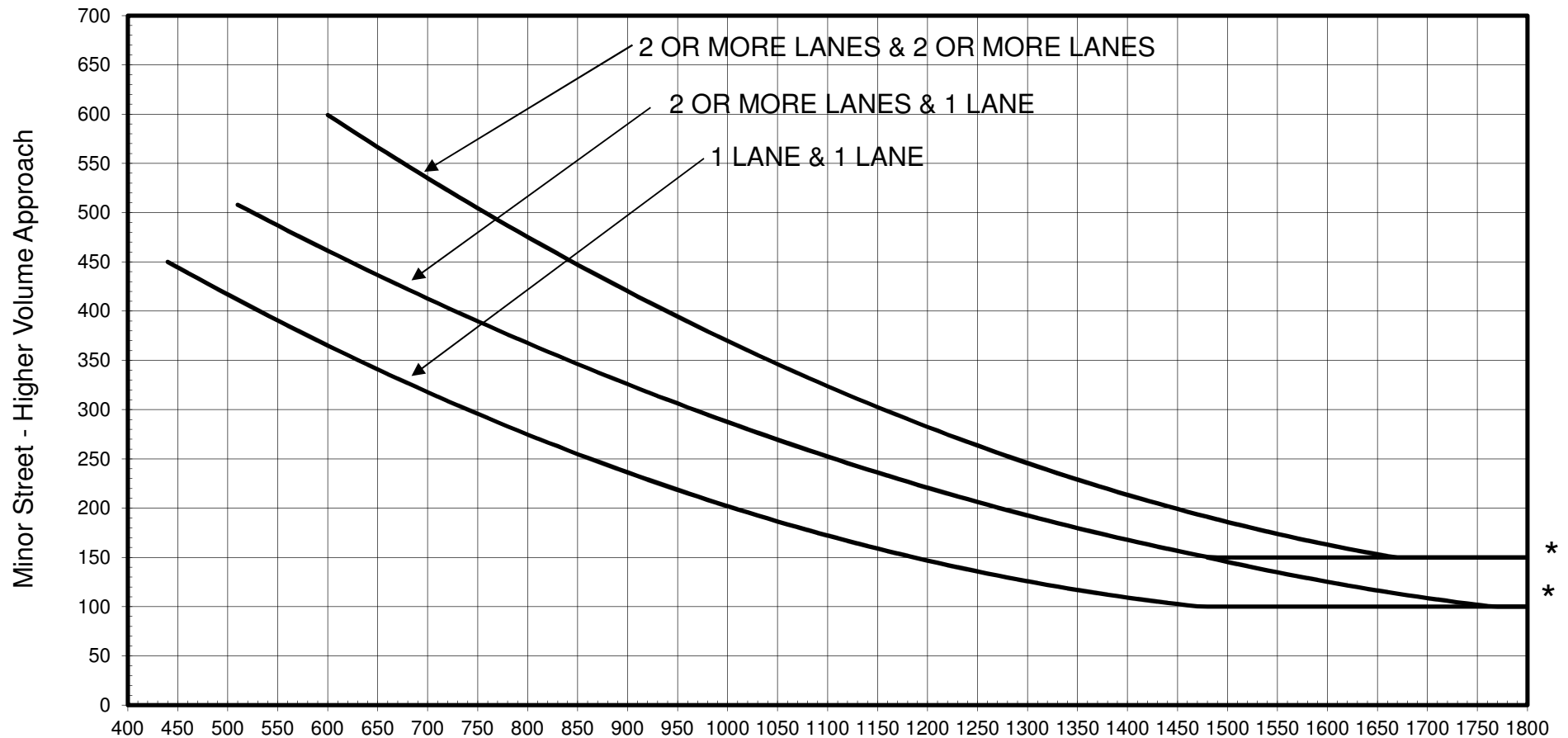
	Warrant Met?	
Warrant 2 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
 Akron, OH 44320-1100  
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 Fax: 330.836.9115

## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		Lanes
Major Road =	Reid Ave	1
Minor Road =	W 28th St	1
Road Location =	Urban	

		Warrant Met?
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
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# SIGNAL WARRANT

INTERSECTION: Elyria Ave and E 28th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY:

CO: Lorain RTE: SECT:  
 CONSULTANT:  
 CALC. BY: CKD BY:



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
CON-DITION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0															
1AM-2AM	0	0	0															
2AM-3AM	0	0	0															
3AM-4AM	0	0	0															
4AM-5AM	0	0	0															
5AM-6AM	0	0	0															
6AM-7AM	0	0	0															
7AM-8AM	481	141	233		X	X	X		X		X							
8AM-9AM	525	174	235		X	X	X	X	X		X							
9AM-10AM	599	162	217		X	X	X	X	X		X							
10AM-11AM	0	0	0															
11AM-NOON	609	191	307		X	X	X	X		X	X	X				X		
NOON-1PM	752	202	352		X	X	X	X	X	X	X	X				X	X	
1PM-2PM	811	251	322		X	X	X	X	X	X	X	X				X	X	
2PM-3PM	0	0	0															
3PM-4PM	926	257	362		X	X	X	X	X	X	X	X				X	X	
4PM-5PM	774	270	333		X	X	X	X	X	X	X	X				X	X	
5PM-6PM	877	245	311		X	X	X	X	X	X	X	X				X	X	
6PM-7PM	0	0	0															
7PM-8PM	0	0	0															
8PM-9PM	0	0	0															
9PM-10PM	0	0	0															
10PM-11PM	0	0	0															
11PM-MID	0	0	0															
HOURS MET					8	9	5	6					6	5				
WARRANT SATISFIED?					YES	YES	NO	NO					YES	YES				

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Warrant Satisfied?.....

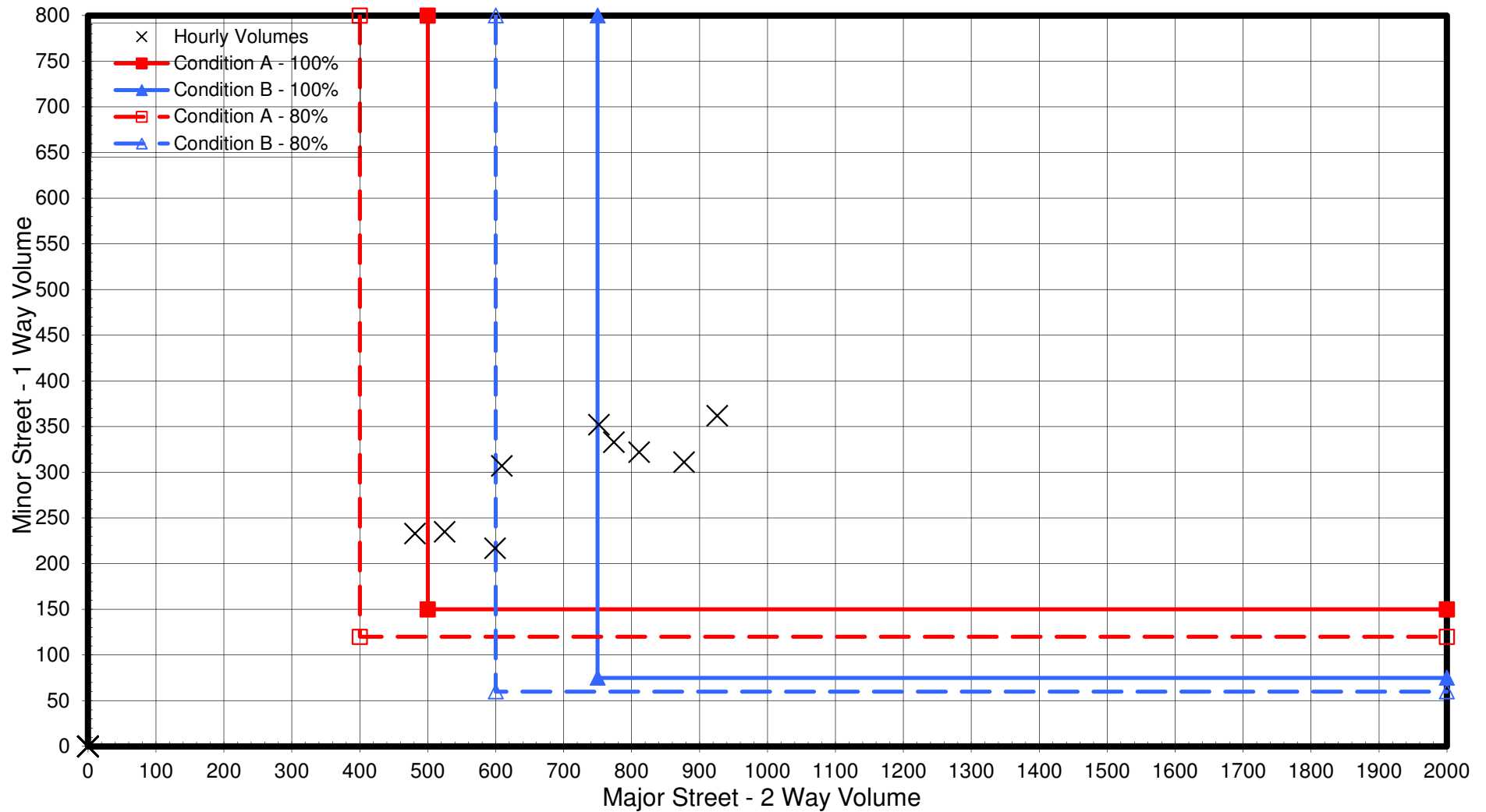
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
 Warrant Satisfied?.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
 Warrant Satisfied?.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
 Warrant Satisfied?.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
 Warrant Satisfied?.....

## WARRANT 1 - Conditions A & B



Major Road =	E 28th St	Lanes	1
Minor Road =	Elyria Ave		1
Road Location =	Urban		

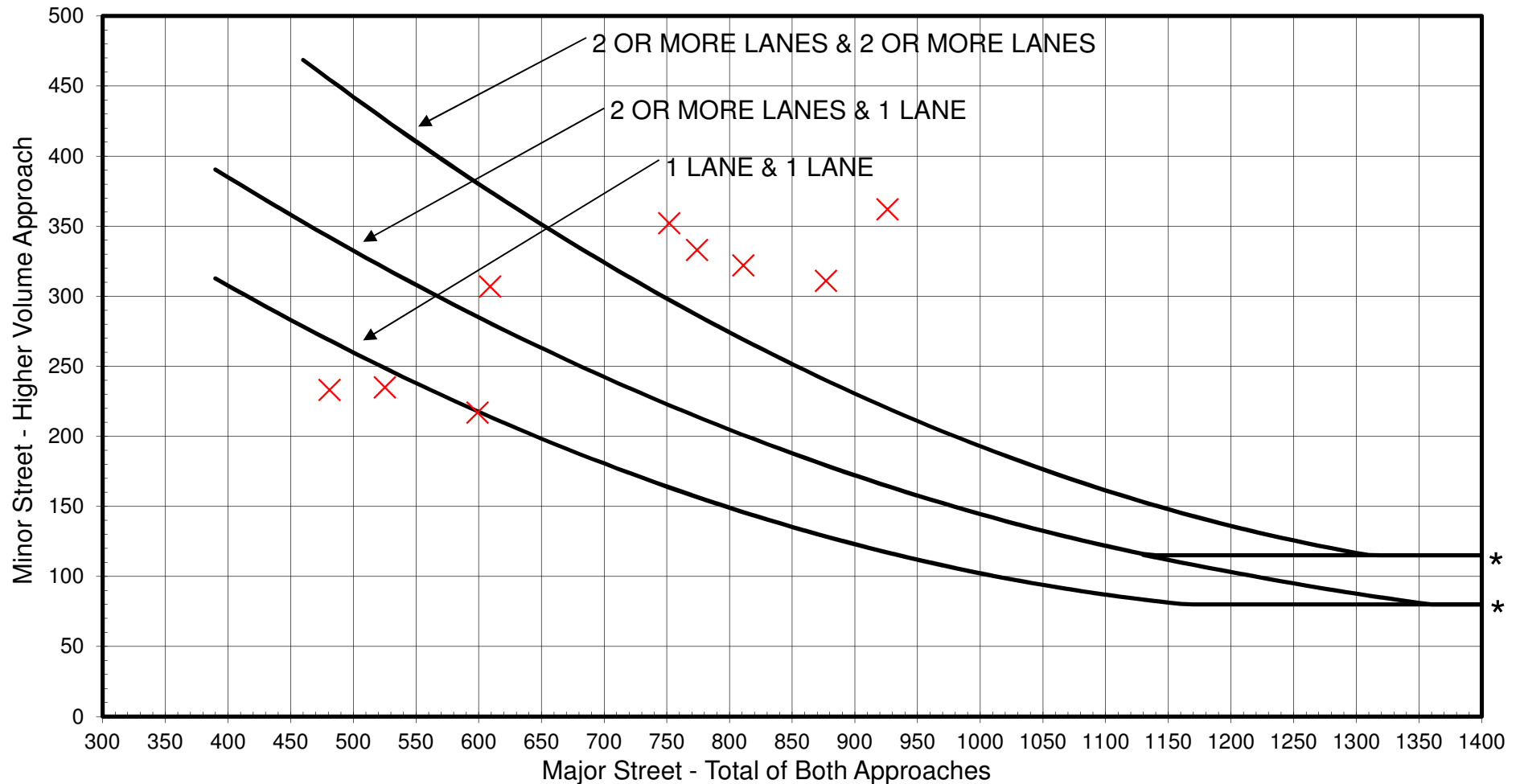
Warrant Met?		
Condition A (100%) =	8 Hours Meet	Yes
Condition B (100%) =	5 Hours Meet	No
Condition A (80%) =	9 Hours Meet	Yes
Condition B (80%) =	6 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



564 White Pond Drive  
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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		<b>Lanes</b>
Major Road =	E 28th St	1
Minor Road =	Elyria Ave	1
Road Location =	Urban	

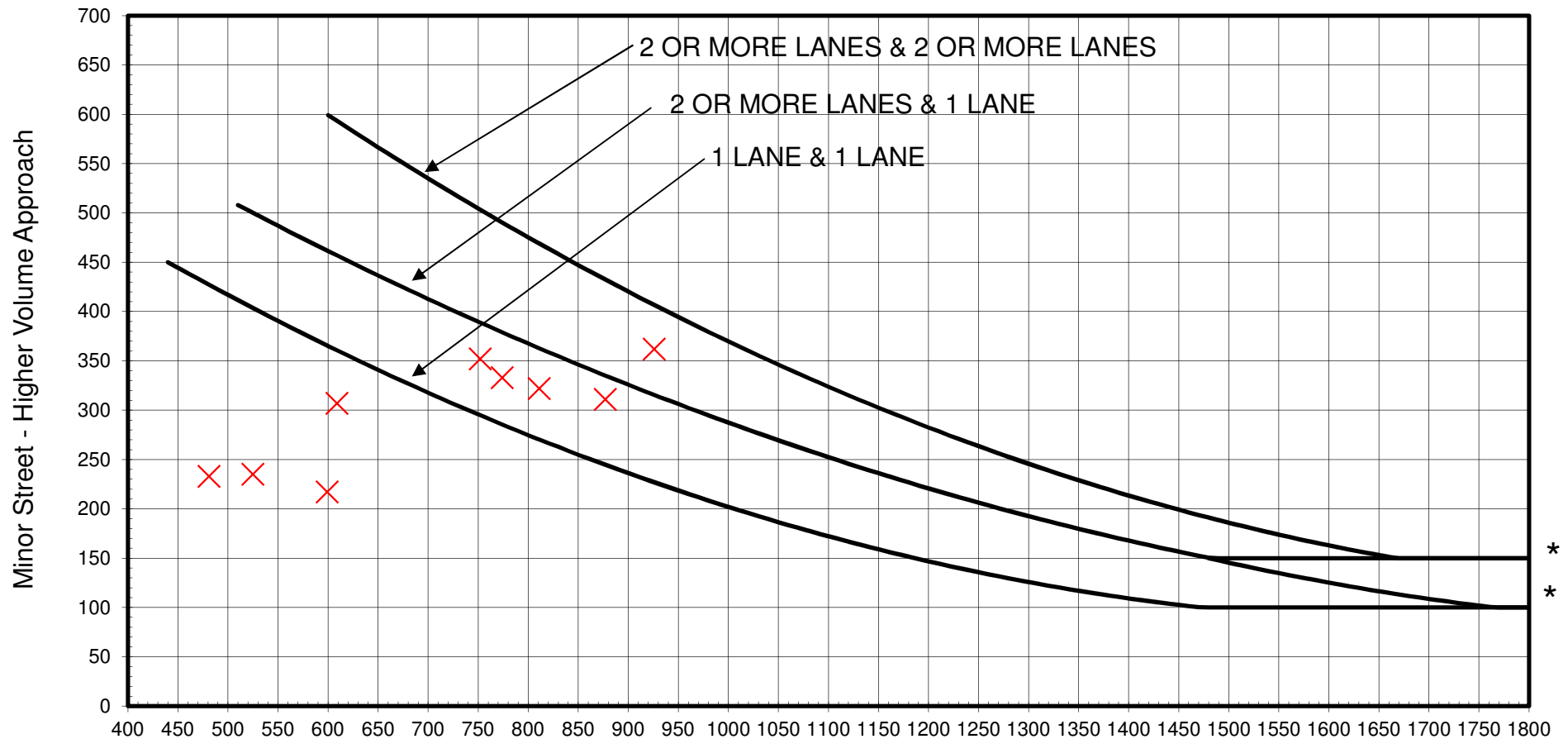
		<b>Warrant Met?</b>
Warrant 2 (Urban) =	6 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
 Akron, OH 44320-1100  
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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	<b>Lanes</b>	
Major Road =	E 28th St	1
Minor Road =	Elyria Ave	1
Road Location =	Urban	

	<b>Warrant Met?</b>	
Warrant 3 (Urban) =	5 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
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# SIGNAL WARRANT

INTERSECTION: Denver Ave and E 28th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY:

CO: Lorain RTE: SECT:  
 CONSULTANT:  
 CALC. BY: CKD BY:



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
CON- TION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR						
*	1	X	X	X	500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
1AM-2AM	0	0	0	0														
2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	624	10	45	X			X				X							
8AM-9AM	678	7	48	X			X				X							
9AM-10AM	732	13	43	X			X				X							
10AM-11AM	0	0	0	0														
11AM-NOON	801	15	41	X			X		X		X							
NOON-1PM	933	21	57	X			X		X		X							
1PM-2PM	1039	13	70	X			X		X		X	X						
2PM-3PM	0	0	0	0														
3PM-4PM	1178	23	85	X			X		X	X	X	X			X			
4PM-5PM	997	22	68	X			X		X		X	X						
5PM-6PM	1099	23	58	X			X		X		X							
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					0	0	1	3					1	0				
WARRANT SATISFIED?					NO	NO	NO	NO					NO	NO				

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Warrant Satisfied?.....

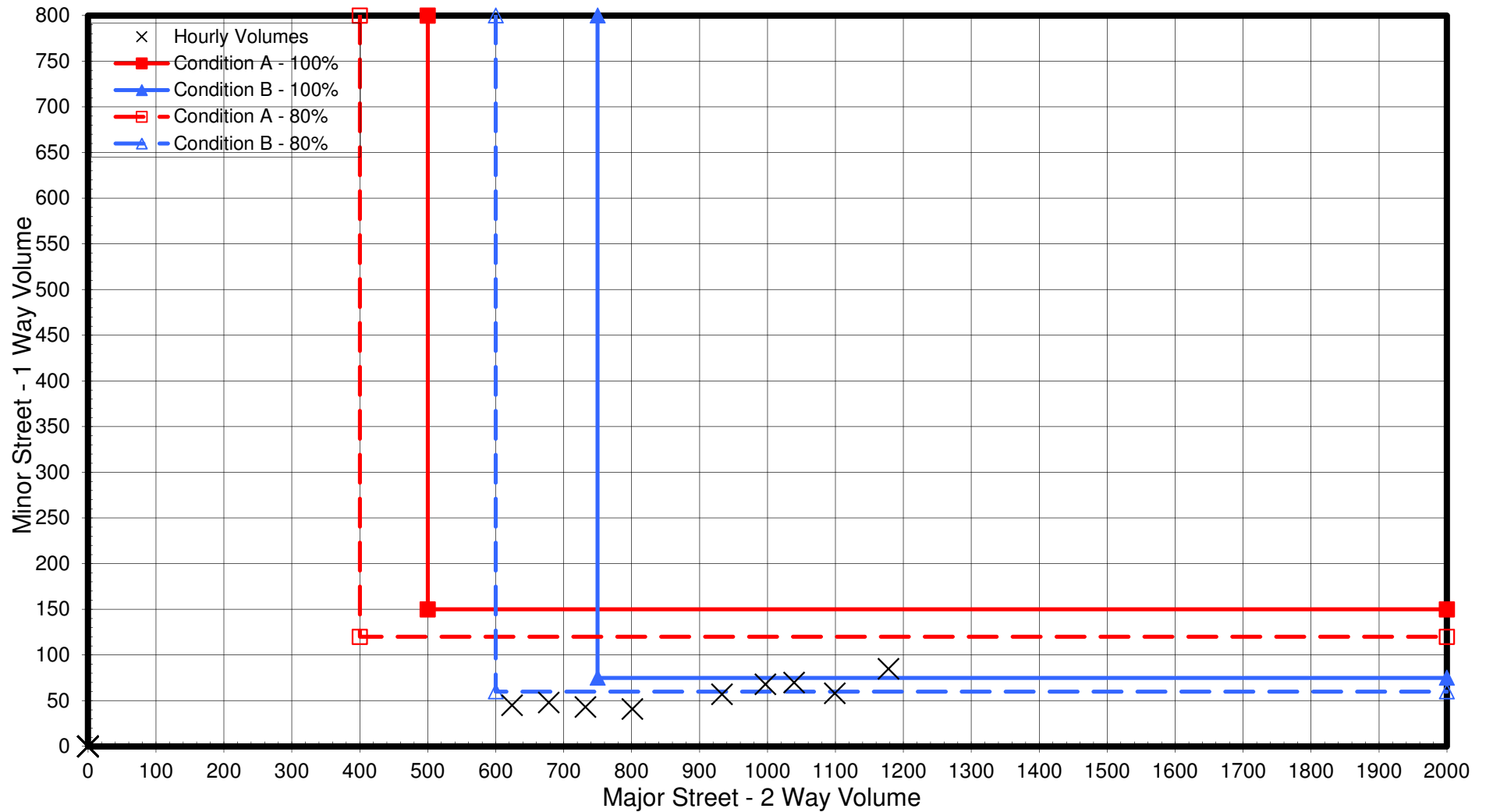
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
 Warrant Satisfied?.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can  
 be implemented into a system:.....  
 Warrant Satisfied?.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be  
 prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
 Warrant Satisfied?.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
 Warrant Satisfied?.....

## WARRANT 1 - Conditions A & B



Major Road =	E 28th St	Lanes	1
Minor Road =	Denver Ave		1
Road Location =	Urban		

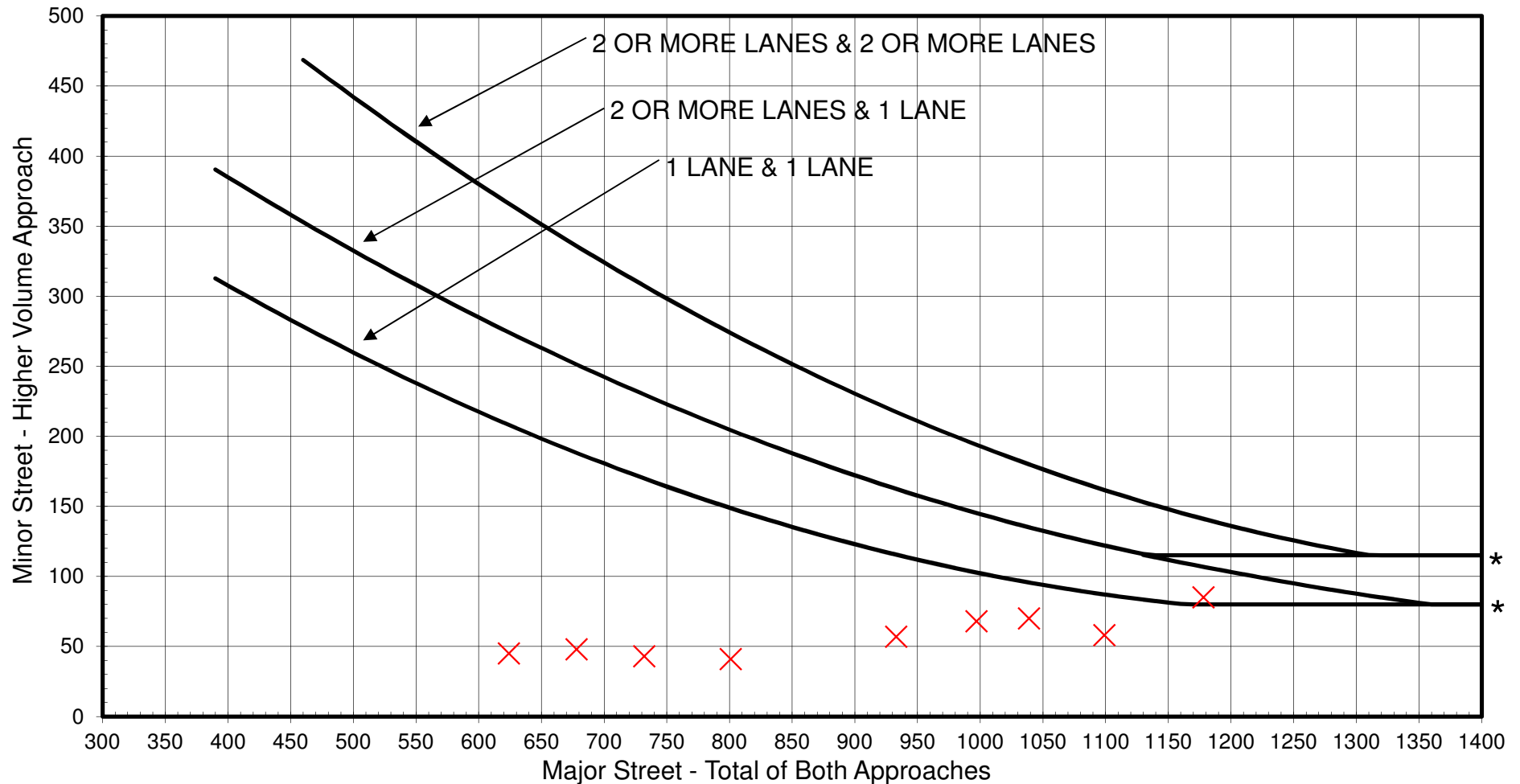
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	1 Hours Meet	No
Condition A (80%) =	0 Hours Meet	No
Condition B (80%) =	3 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	E 28th St	1
Minor Road =	Denver Ave	1
Road Location =	Urban	

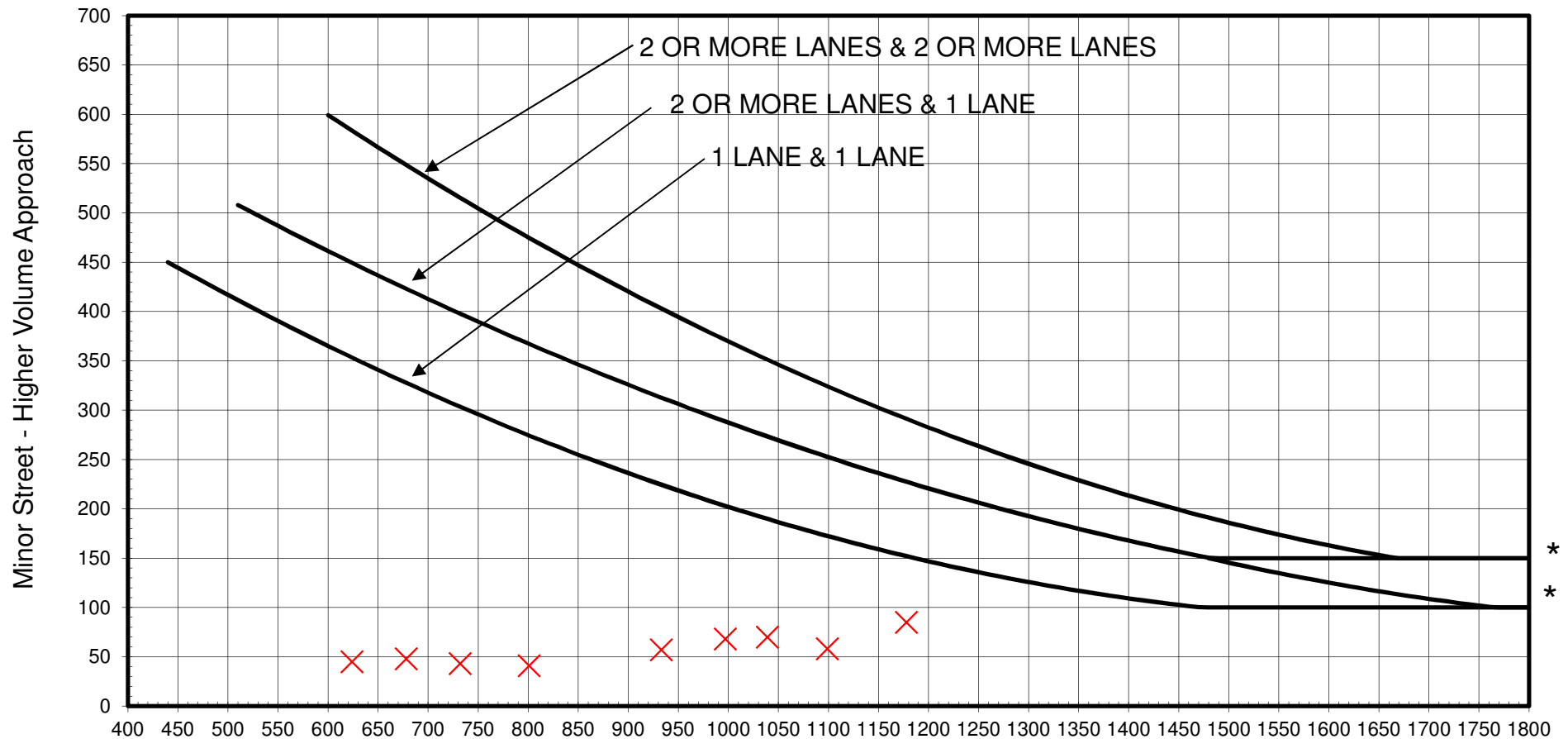
	Warrant Met?	
Warrant 2 (Urban) =	1 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

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 Akron, OH 44320-1100  
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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		<b>Lanes</b>
Major Road =	E 28th St	1
Minor Road =	Denver Ave	1
Road Location =	Urban	

		<b>Warrant Met?</b>
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
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# SIGNAL WARRANT

INTERSECTION: 1280 E 28th St and E 28th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY:

CO: Lorain RTE: SECT:  
 CONSULTANT:  
 CALC. BY: CKD BY:



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
CON- DIT- ION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
1AM-2AM	0	0	0	0														
2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	667	5	0	0	X		X				X							
8AM-9AM	712	3	0	0	X		X				X							
9AM-10AM	776	3	0	0	X		X		X		X							
10AM-11AM	0	0	0	0														
11AM-NOON	802	13	0	0	X		X		X		X							
NOON-1PM	980	7	0	0	X		X		X		X							
1PM-2PM	1106	5	0	0	X		X		X		X							
2PM-3PM	0	0	0	0														
3PM-4PM	1257	13	5	0	X		X		X		X							
4PM-5PM	1049	5	0	0	X		X		X		X							
5PM-6PM	1151	9	0	0	X		X		X		X							
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					0	0	0	0	0	0	0	0					0	0
WARRANT SATISFIED?					NO	NO	NO	NO	NO	NO	NO	NO					NO	NO

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Warrant Satisfied?.....

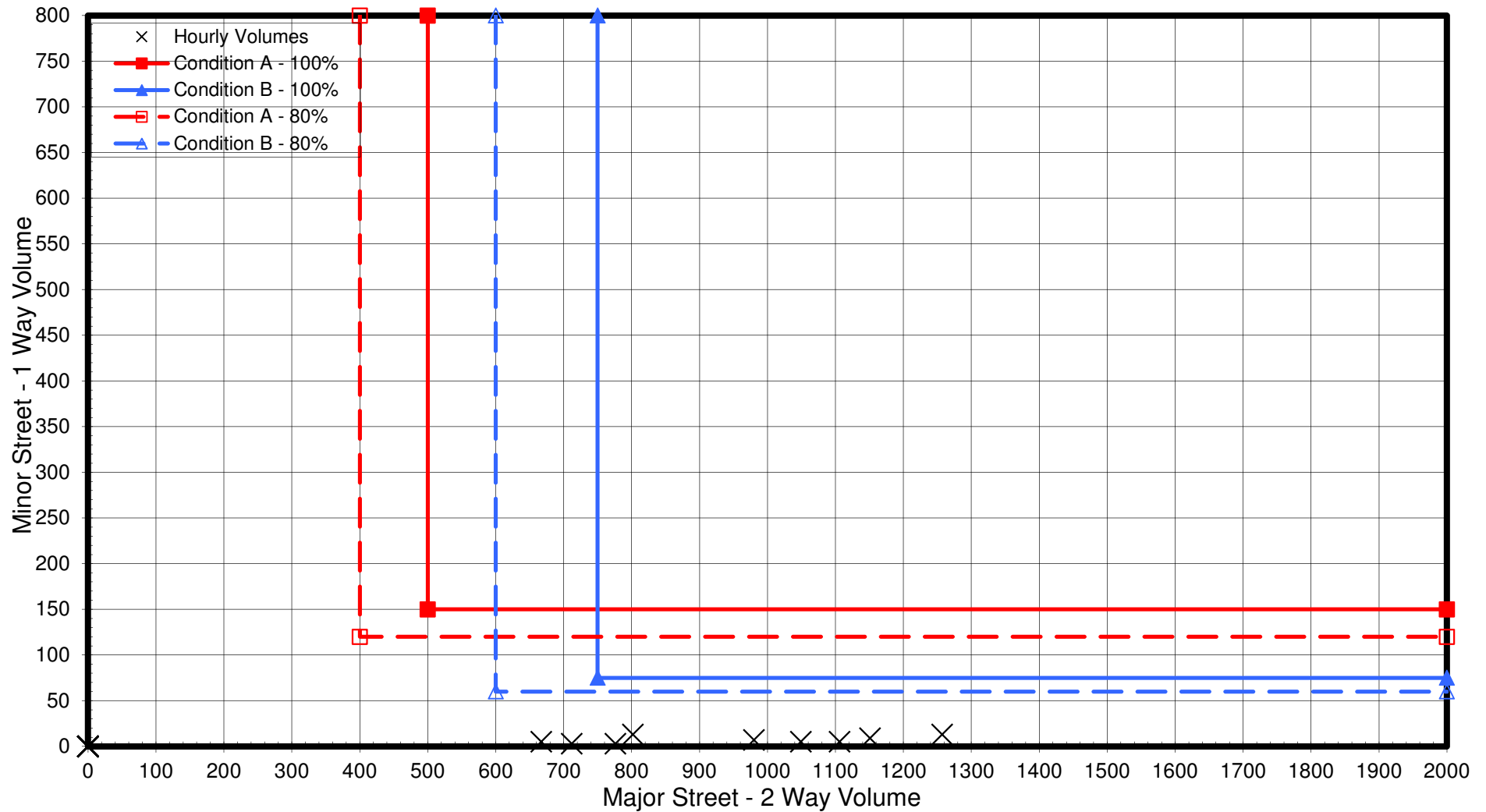
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
 Warrant Satisfied?.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can  
 be implemented into a system:.....  
 Warrant Satisfied?.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be  
 prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
 Warrant Satisfied?.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
 Warrant Satisfied?.....

## WARRANT 1 - Conditions A & B



Major Road =	E 28th St	Lanes	1
Minor Road =	1280 E 28th St		1
Road Location =	Urban		

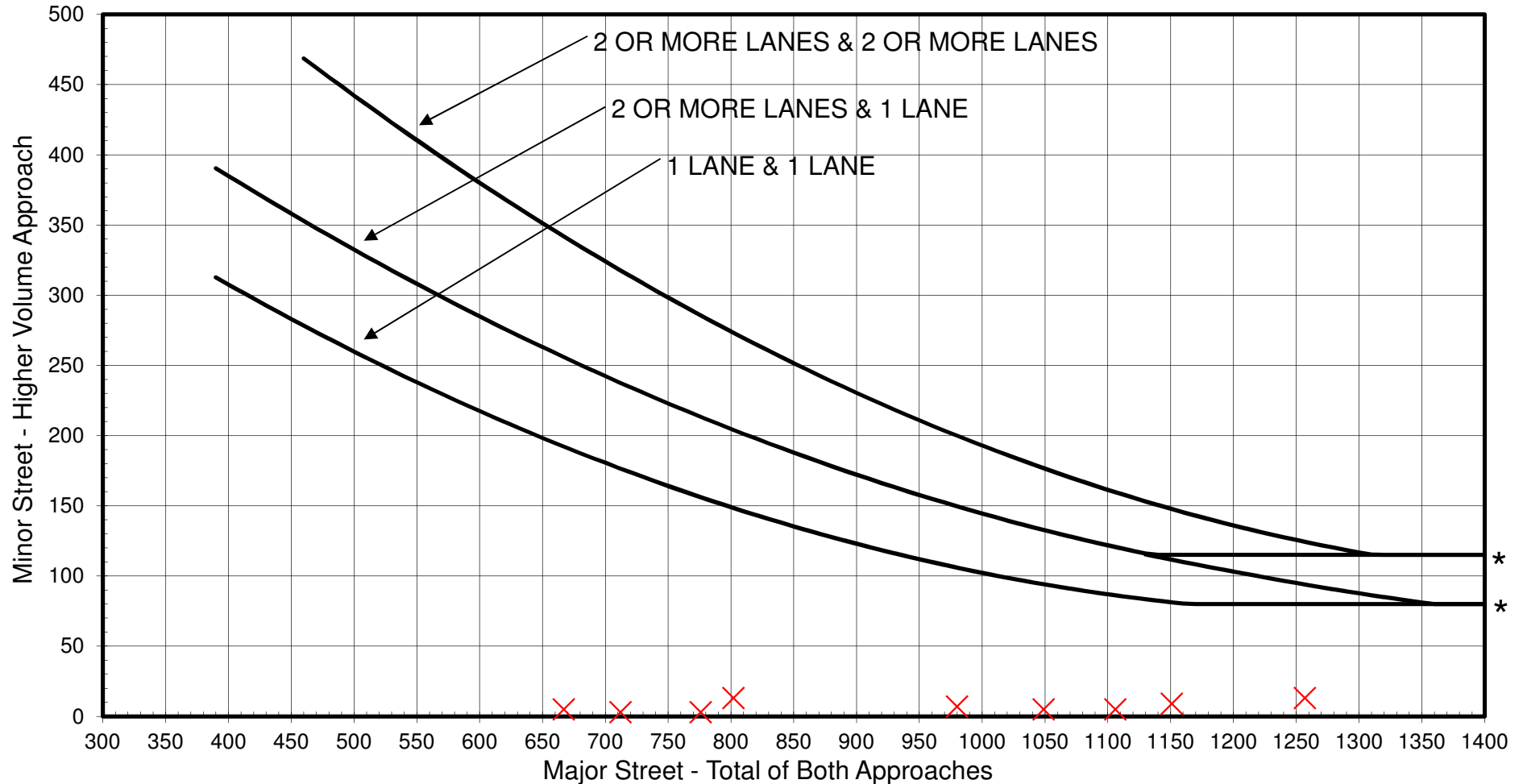
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	0 Hours Meet	No
Condition A (80%) =	0 Hours Meet	No
Condition B (80%) =	0 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		Lanes
Major Road =	E 28th St	1
Minor Road =	1280 E 28th St	1
Road Location =	Urban	

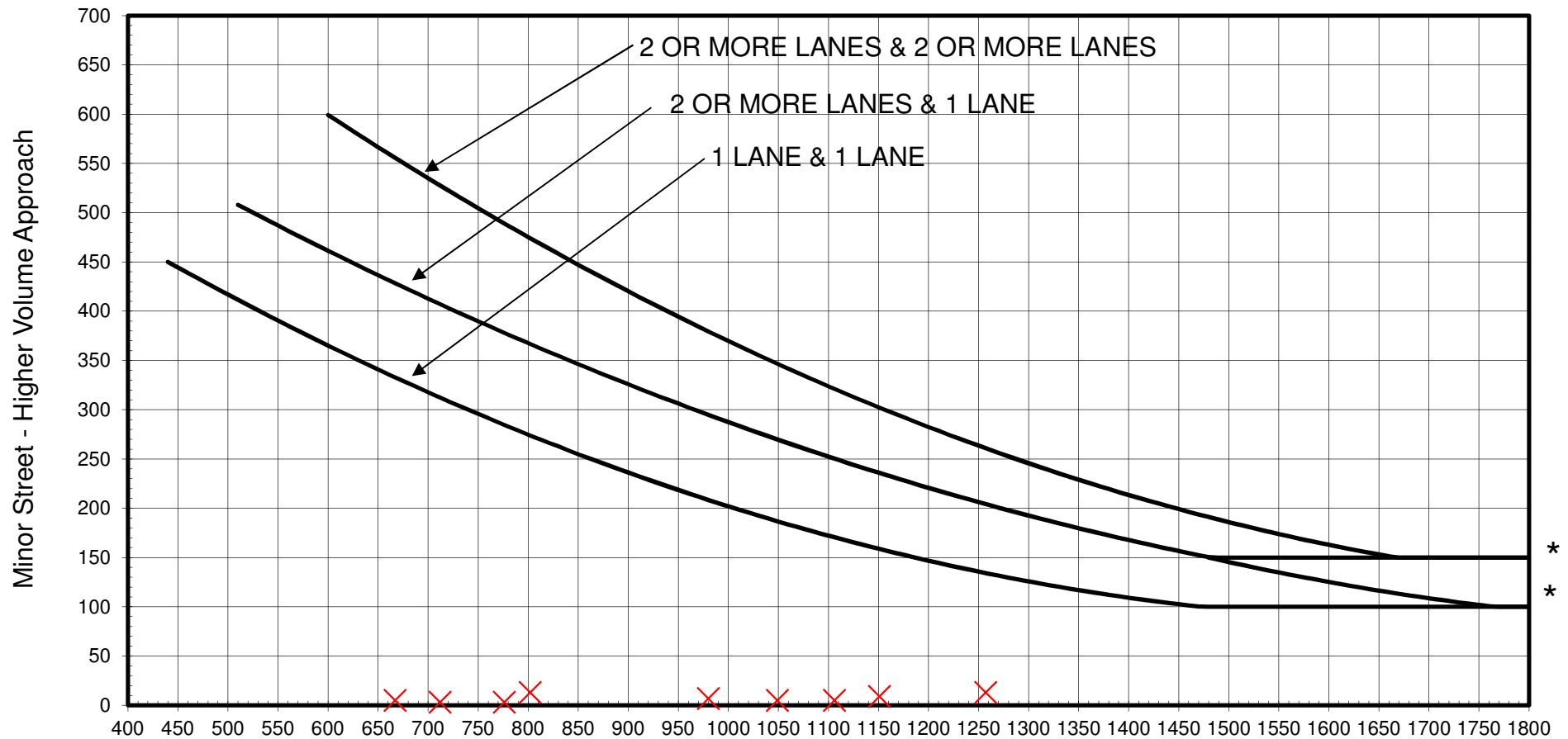
		Warrant Met?
Warrant 2 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

URS

564 White Pond Drive  
 Akron, OH 44320-1100  
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 Fax: 330.836.9115

## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

	Lanes	
Major Road =	E 28th St	1
Minor Road =	1280 E 28th St	1
Road Location =	Urban	

	Warrant Met?	
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115



# SIGNAL WARRANT

INTERSECTION: Fulton Rd and E 28th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 0 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY: \_\_\_\_\_

CO: Lorain RTE: \_\_\_\_\_ SECT: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_  
 CALC. BY: \_\_\_\_\_ CKD BY: \_\_\_\_\_



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

		ADJUSTED HOURLY VOLUMES			WARRANT #1												WARRANT			
		MAJOR ST.	MINOR ST.	MINOR ST.	CONDITION A				CONDITION B								#2	#3		
COND- TION	NO. OF LANES	2-WAY	1-WAY	1-WAY	100%		80%		100%		80%						FOUR HOUR	PEAK HOUR		
					MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR								
*	1	X	X		500	150	400	120	750	75	600	60								
NORM	2+				600	200	480	160	900	100	720	80								
*	1				350	105	280	84	525	53	420	42								
70%	2+				420	140	336	112	630	70	504	56								
MID-1AM		0	0	0																
1AM-2AM		0	0	0																
2AM-3AM		0	0	0																
3AM-4AM		0	0	0																
4AM-5AM		0	0	0																
5AM-6AM		0	0	0																
6AM-7AM		0	0	0																
7AM-8AM		615	61	0	X		X				X	X								
8AM-9AM		642	79	0	X		X			X	X	X								
9AM-10AM		651	116	0	X		X			X	X	X								
10AM-11AM		0	0	0																
11AM-NOON		738	98	0	X		X			X	X	X								
NOON-1PM		858	120	0	X		X	X	X	X	X	X								
1PM-2PM		1007	112	0	X		X		X	X	X	X					X			
2PM-3PM		0	0	0																
3PM-4PM		1109	152	0	X	X	X	X	X	X	X	X					X			
4PM-5PM		947	145	0	X		X	X	X	X	X	X					X			
5PM-6PM		987	155	0	X	X	X	X	X	X	X	X					X			
6PM-7PM		0	0	0																
7PM-8PM		0	0	0																
8PM-9PM		0	0	0																
9PM-10PM		0	0	0																
10PM-11PM		0	0	0																
11PM-MID		0	0	0																
HOURS MET					2		4		5		9						4	0		
WARRANT SATISFIED?					NO		NO		NO		YES						YES	NO		

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
*Warrant Satisfied?*.....

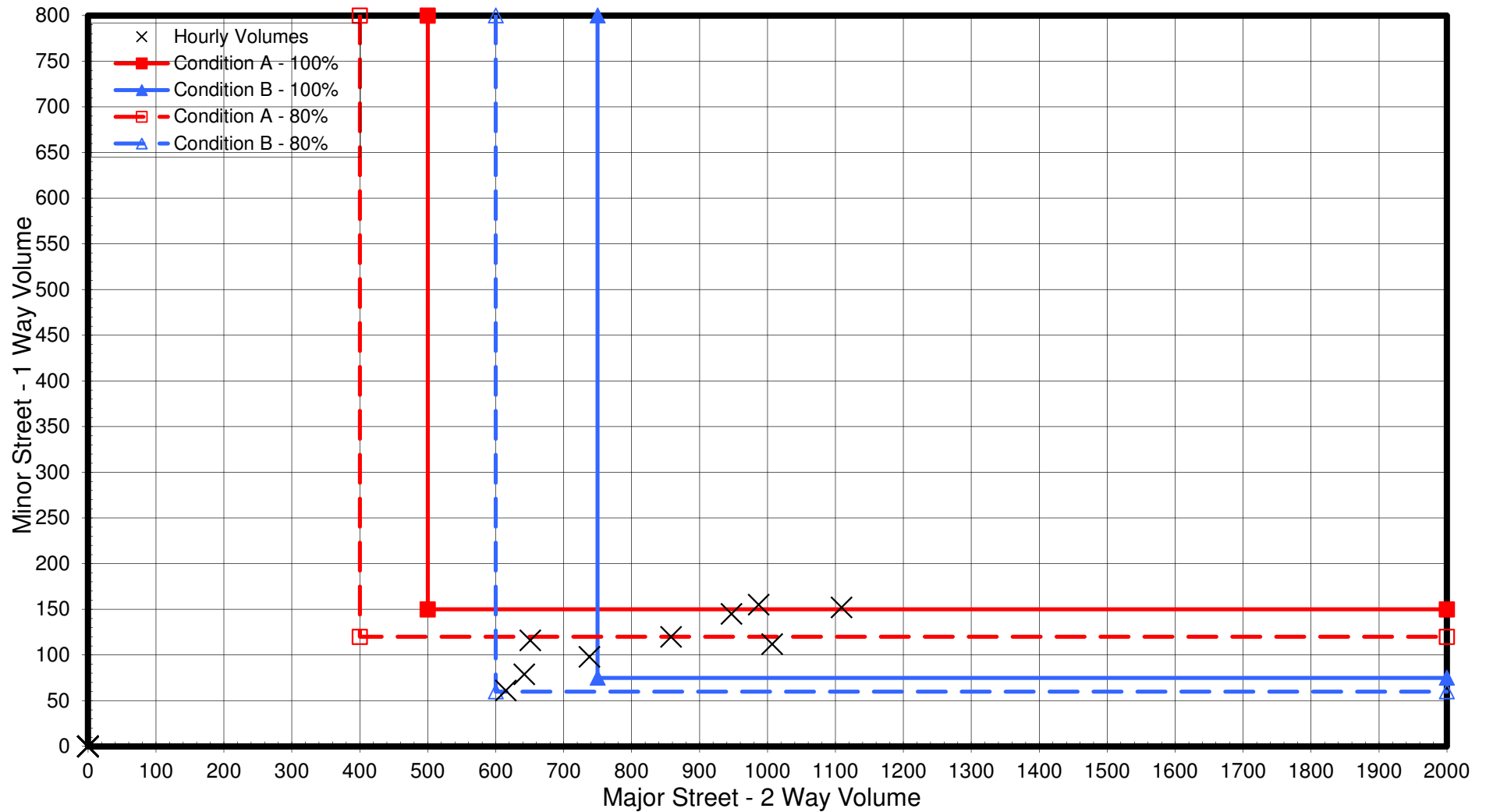
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
*Warrant Satisfied?*.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can  
 be implemented into a system:.....  
*Warrant Satisfied?*.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be  
 prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
*Warrant Satisfied?*.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
*Warrant Satisfied?*.....

## WARRANT 1 - Conditions A & B



Major Road =	E 28th St	Lanes	1
Minor Road =	Fulton Rd		1
Road Location =	Urban		

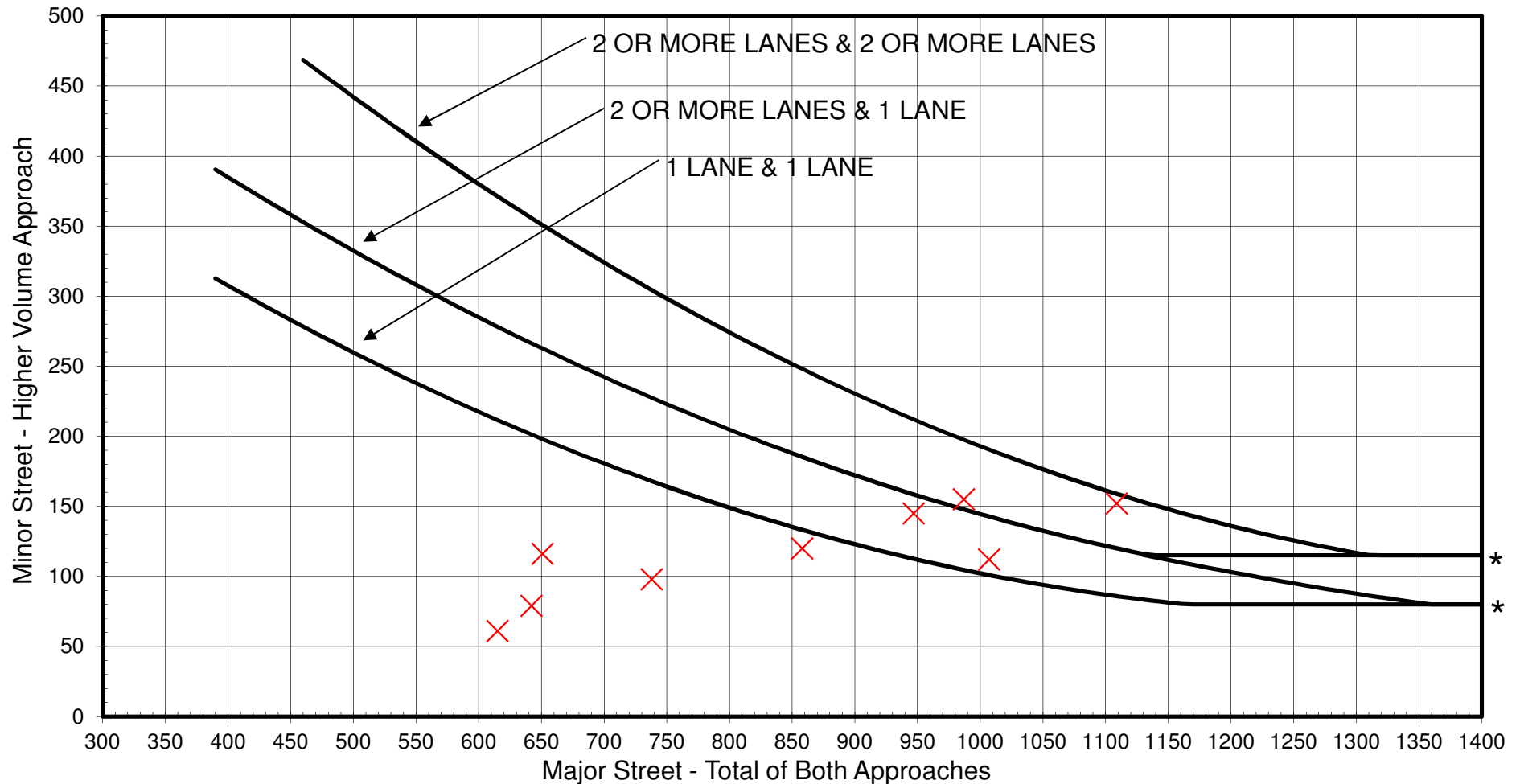
Warrant Met?		
Condition A (100%) =	2 Hours Meet	No
Condition B (100%) =	5 Hours Meet	No
Condition A (80%) =	4 Hours Meet	No
Condition B (80%) =	9 Hours Meet	Yes

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		Lanes
Major Road =	E 28th St	1
Minor Road =	Fulton Rd	1
Road Location =	Urban	

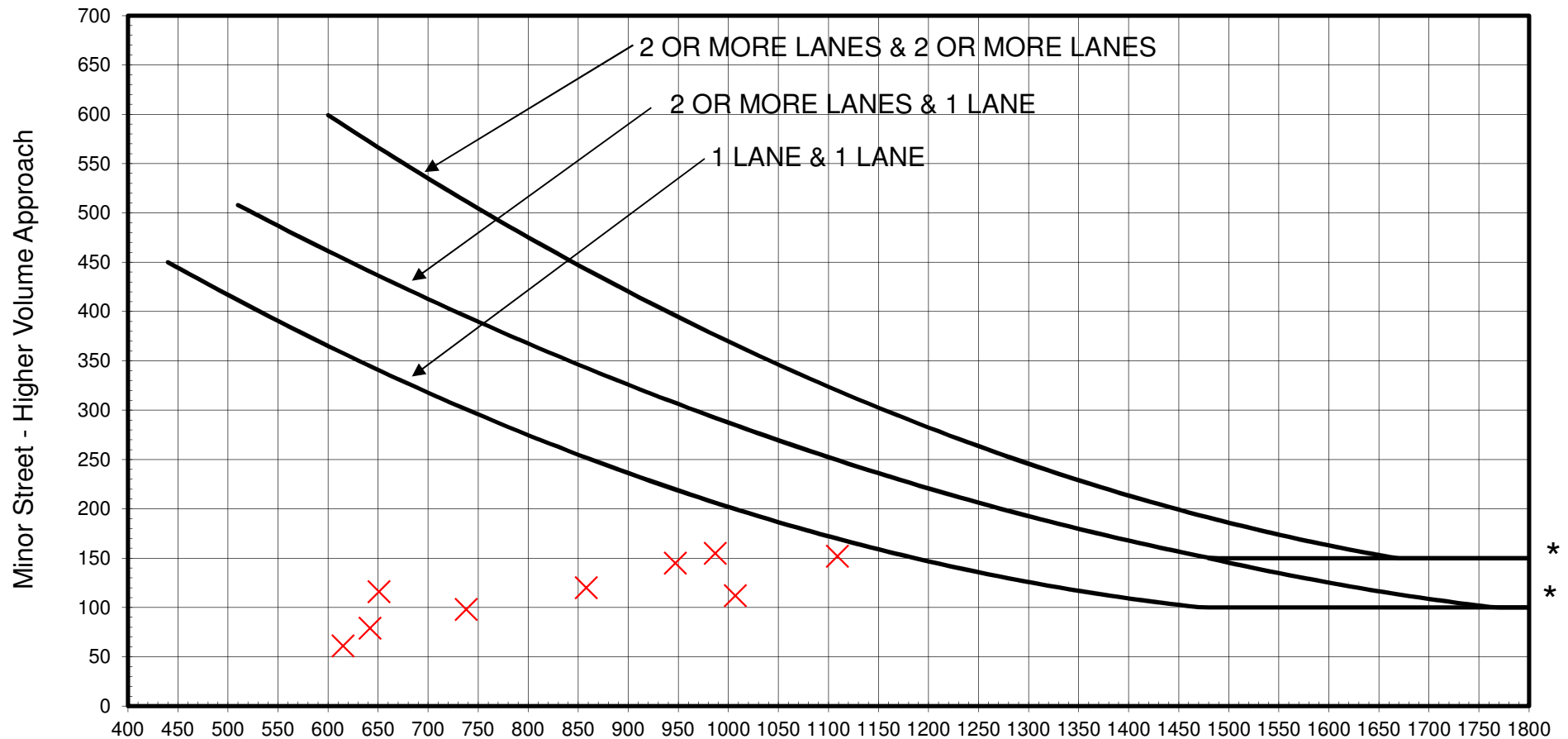
		Warrant Met?
Warrant 2 (Urban) =	4 Hours Meet	YES

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

URS

564 White Pond Drive  
 Akron, OH 44320-1100  
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 Fax: 330.836.9115

## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		Lanes
Major Road =	E 28th St	1
Minor Road =	Fulton Rd	1
Road Location =	Urban	

		Warrant Met?
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

URS

564 White Pond Drive  
Akron, OH 44320-1100  
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# SIGNAL WARRANT

INTERSECTION: Vine Ave and E 28th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 0 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY:

CO: Lorain RTE: SECT:  
 CONSULTANT:  
 CALC. BY: CKD BY:



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
COND- TION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X		500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
1AM-2AM	0	0	0	0														
2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	585	0	0	0	X		X											
8AM-9AM	600	0	0	0	X		X				X							
9AM-10AM	620	0	0	0	X		X				X							
10AM-11AM	0	0	0	0														
11AM-NOON	686	0	1	1	X		X				X							
NOON-1PM	795	0	1	1	X		X		X		X							
1PM-2PM	934	0	1	1	X		X		X		X							
2PM-3PM	0	0	0	0														
3PM-4PM	1013	0	9	9	X		X		X		X							
4PM-5PM	833	0	0	0	X		X		X		X							
5PM-6PM	904	0	5	5	X		X		X		X							
6PM-7PM	0	0	0	0														
7PM-8PM	0	0	0	0														
8PM-9PM	0	0	0	0														
9PM-10PM	0	0	0	0														
10PM-11PM	0	0	0	0														
11PM-MID	0	0	0	0														
HOURS MET					0	0	0	0	0	0	0	0					0	0
WARRANT SATISFIED?					NO	NO	NO	NO	NO	NO	NO	NO					NO	NO

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH  
 ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Warrant Satisfied?.....

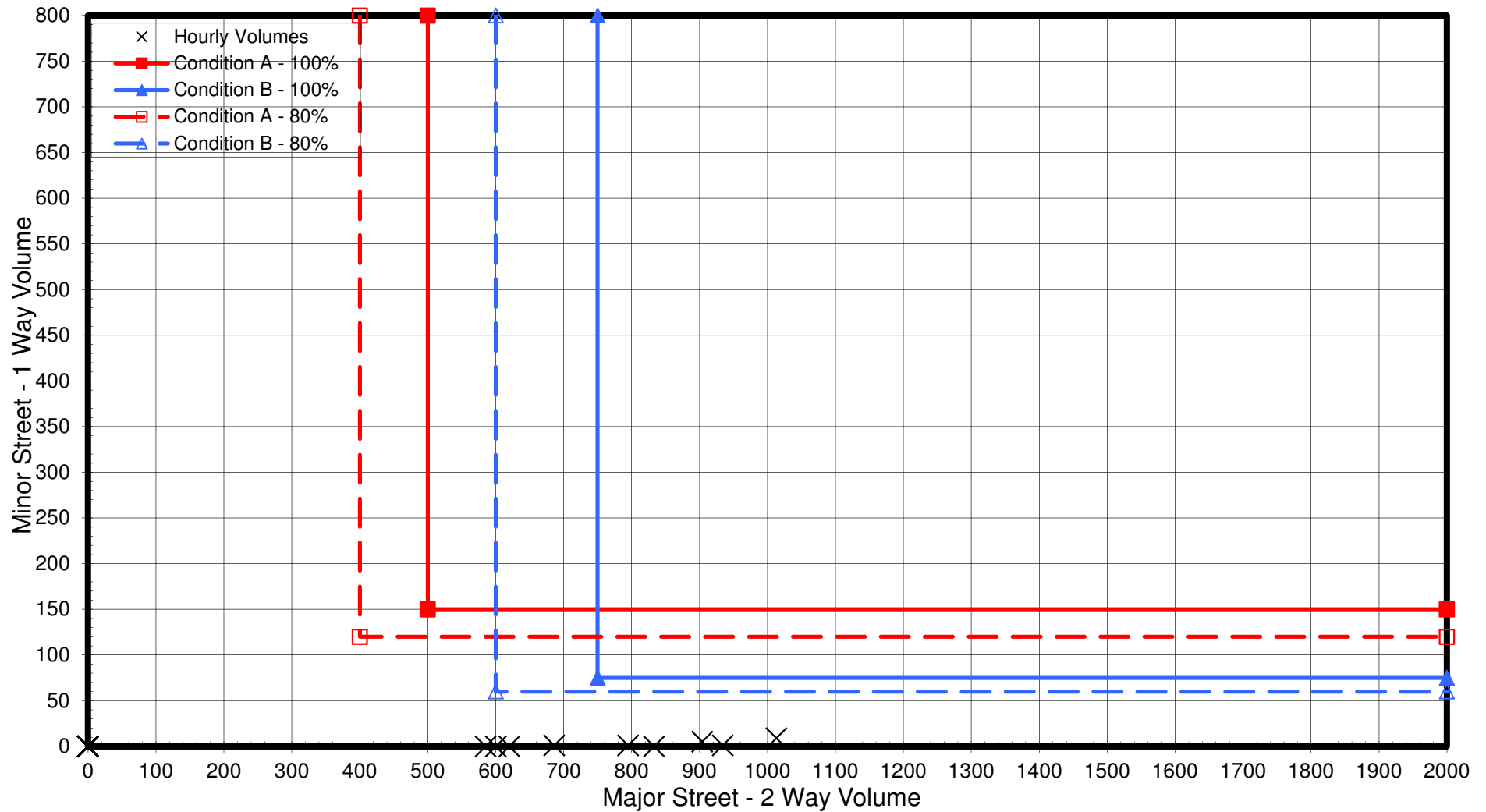
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
 Warrant Satisfied?.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can  
 be implemented into a system:.....  
 Warrant Satisfied?.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be  
 prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
 Warrant Satisfied?.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
 Warrant Satisfied?.....

## WARRANT 1 - Conditions A & B



Major Road =	E 28th St	Lanes	1
Minor Road =	Vine Ave		1
Road Location =	Urban		

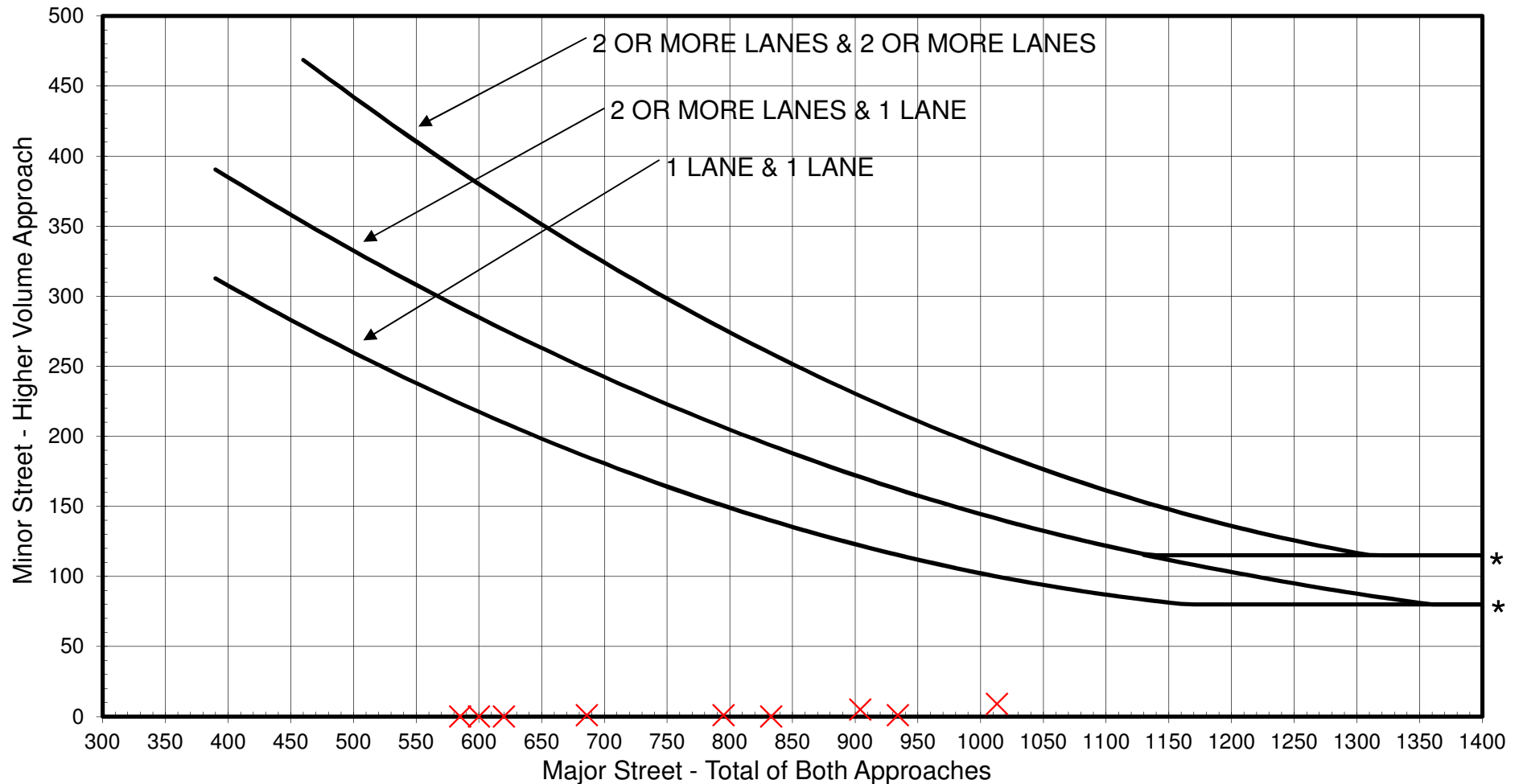
	Warrant Met?
Condition A (100%) =	0 Hours Meet No
Condition B (100%) =	0 Hours Meet No
Condition A (80%) =	0 Hours Meet No
Condition B (80%) =	0 Hours Meet No

Day of Week	Date & Year	From	To	Weather
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



		<b>Lanes</b>
Major Road =	E 28th St	1
Minor Road =	Vine Ave	1
Road Location =	Urban	

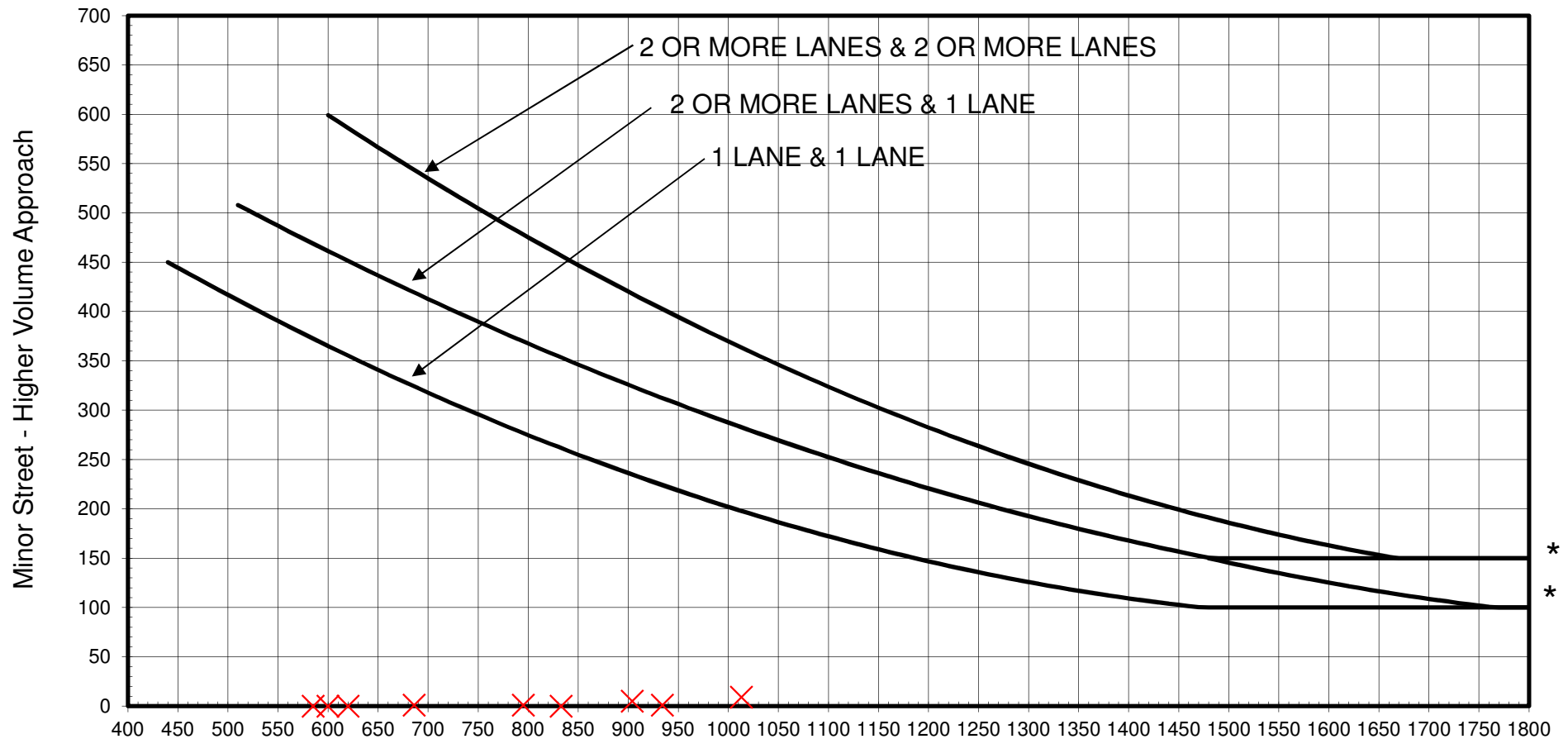
		<b>Warrant Met?</b>
Warrant 2 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115

## PEAK HOUR VOLUME WARRANT (WARRANT 3)



★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		<b>Lanes</b>
Major Road =	E 28th St	1
Minor Road =	Vine Ave	1
Road Location =	Urban	

		<b>Warrant Met?</b>
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	

**URS**

564 White Pond Drive  
Akron, OH 44320-1100  
Tel: 330.836.9111  
Fax: 330.836.9115



# SIGNAL WARRANT

INTERSECTION: Pearl Ave and E 28th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY:

CO: Lorain RTE: SECT:  
 CONSULTANT:  
 CALC. BY: CKD BY:



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

		ADJUSTED HOURLY VOLUMES			WARRANT #1												WARRANT			
		MAJOR ST.	MINOR ST.	MINOR ST.	CONDITION A				CONDITION B								#2	#3		
COND- TION	NO. OF LANES	2-WAY	1-WAY	1-WAY	100%		80%		100%		80%						FOUR HOUR	PEAK HOUR		
					MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR	MAJOR	MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60								
NORM	2+				600	200	480	160	900	100	720	80								
*	1				350	105	280	84	525	53	420	42								
70%	2+				420	140	336	112	630	70	504	56								
MID-1AM	0	0	0	0																
1AM-2AM	0	0	0	0																
2AM-3AM	0	0	0	0																
3AM-4AM	0	0	0	0																
4AM-5AM	0	0	0	0																
5AM-6AM	0	0	0	0																
6AM-7AM	0	0	0	0																
7AM-8AM	546	62	10	X			X				X									
8AM-9AM	549	78	6	X			X			X	X									
9AM-10AM	557	91	12	X			X			X	X									
10AM-11AM	0	0	0	0																
11AM-NOON	607	104	24	X			X			X	X	X								
NOON-1PM	739	134	15	X			X	X		X	X	X								
1PM-2PM	823	109	21	X			X			X	X	X	X							
2PM-3PM	0	0	0	0																
3PM-4PM	839	137	130	X			X	X		X	X	X	X							
4PM-5PM	751	122	62	X			X	X		X	X	X	X							
5PM-6PM	858	145	39	X			X	X		X	X	X	X					X		
6PM-7PM	0	0	0	0																
7PM-8PM	0	0	0	0																
8PM-9PM	0	0	0	0																
9PM-10PM	0	0	0	0																
10PM-11PM	0	0	0	0																
11PM-MID	0	0	0	0																
HOURS MET					0	4			4		6						1	0		
WARRANT SATISFIED?					NO	NO			NO		NO						NO	NO		

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Warrant Satisfied?.....

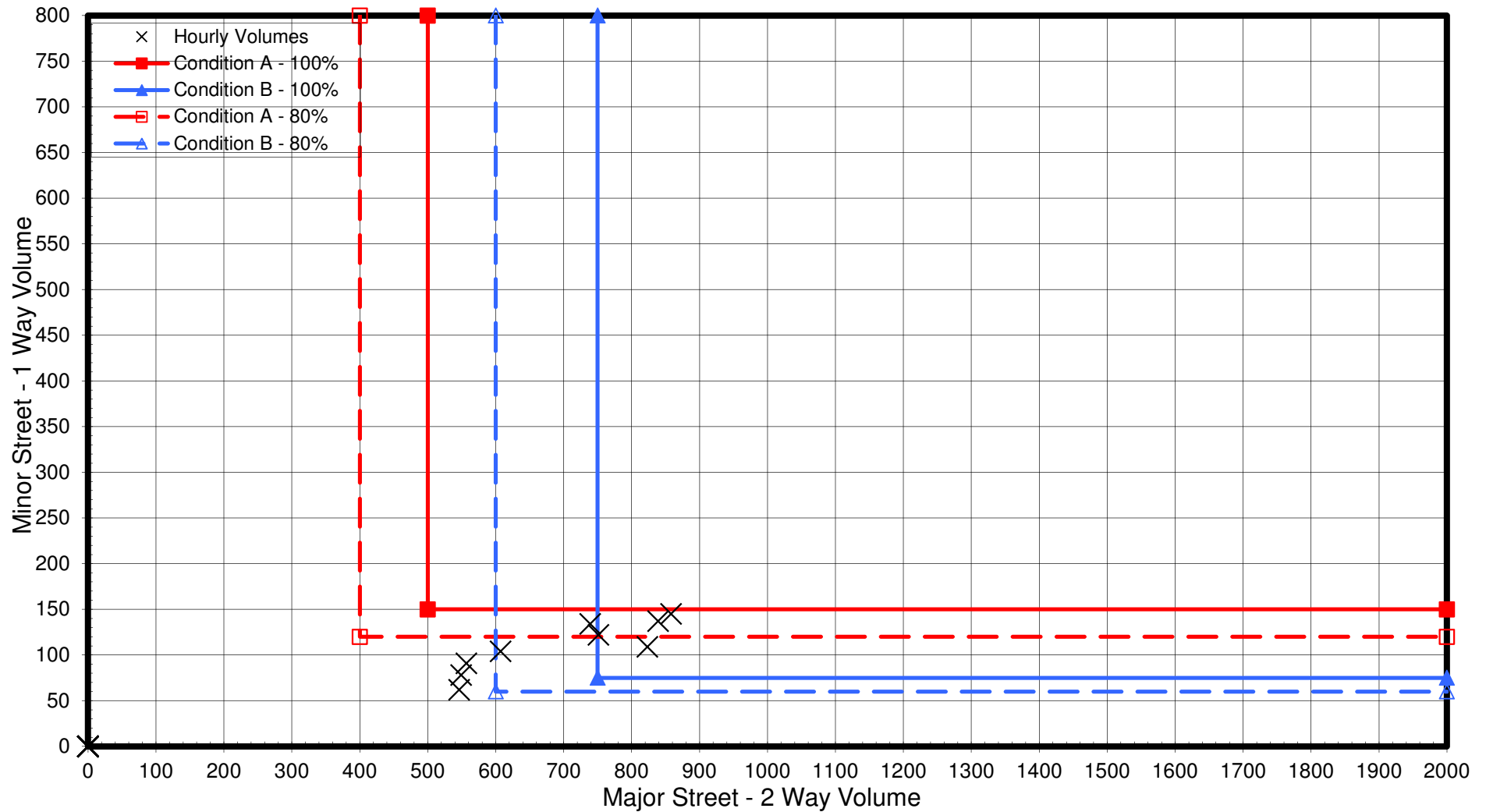
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
 Warrant Satisfied?.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
 Warrant Satisfied?.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
 Warrant Satisfied?.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
 Warrant Satisfied?.....

## WARRANT 1 - Conditions A & B



Major Road =	E 28th St	Lanes	1
Minor Road =	Pearl Ave		1
Road Location =	Urban		

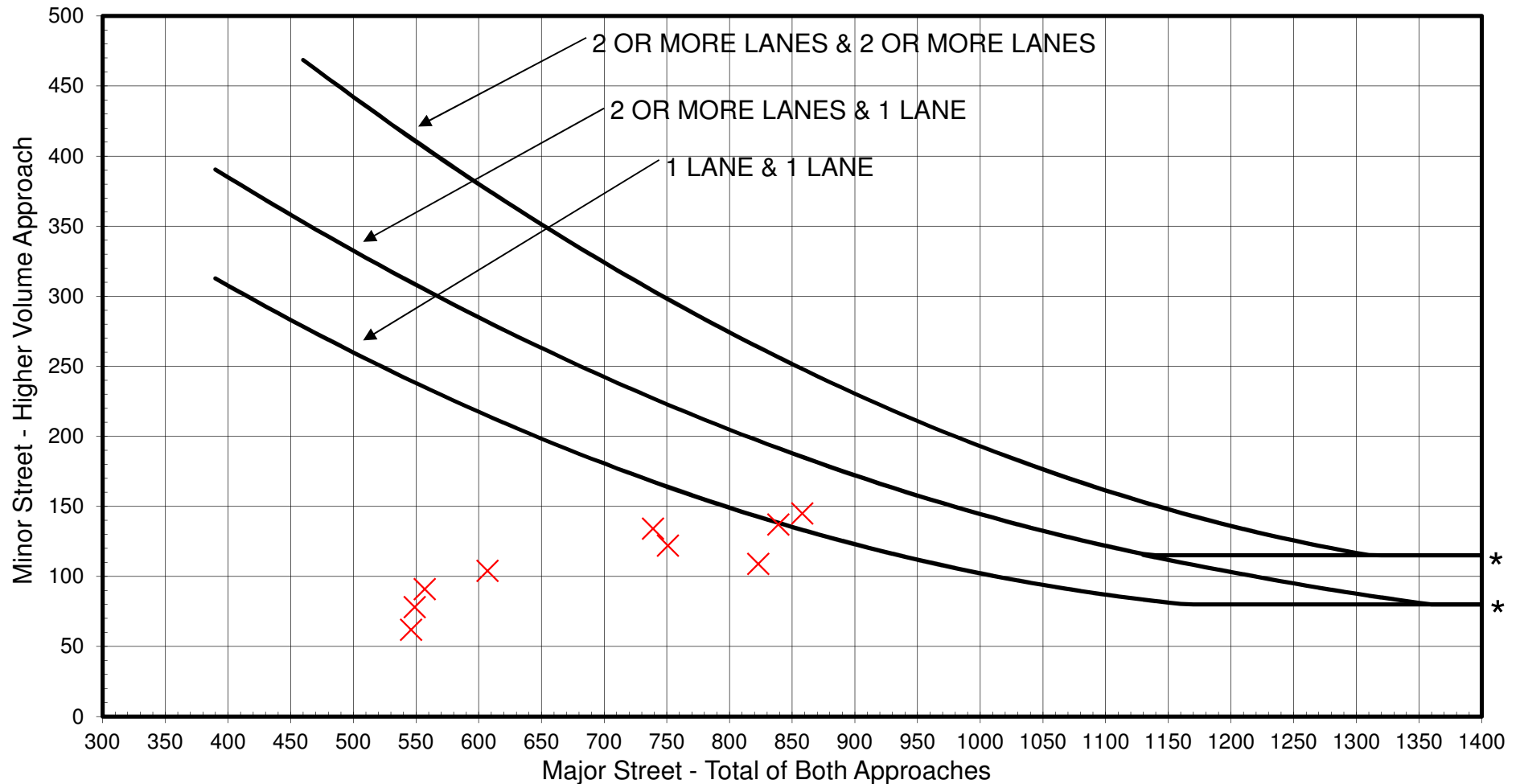
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	4 Hours Meet	No
Condition A (80%) =	4 Hours Meet	No
Condition B (80%) =	6 Hours Meet	No

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
Tuesday	June 4, 2013	11:00 AM	2:00 PM	
Tuesday	June 4, 2013	3:00 PM	6:00 PM	



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## FOUR HOUR VOLUME WARRANT (WARRANT 2)



\* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		Lanes
Major Road =	E 28th St	1
Minor Road =	Pearl Ave	1
Road Location =	Urban	

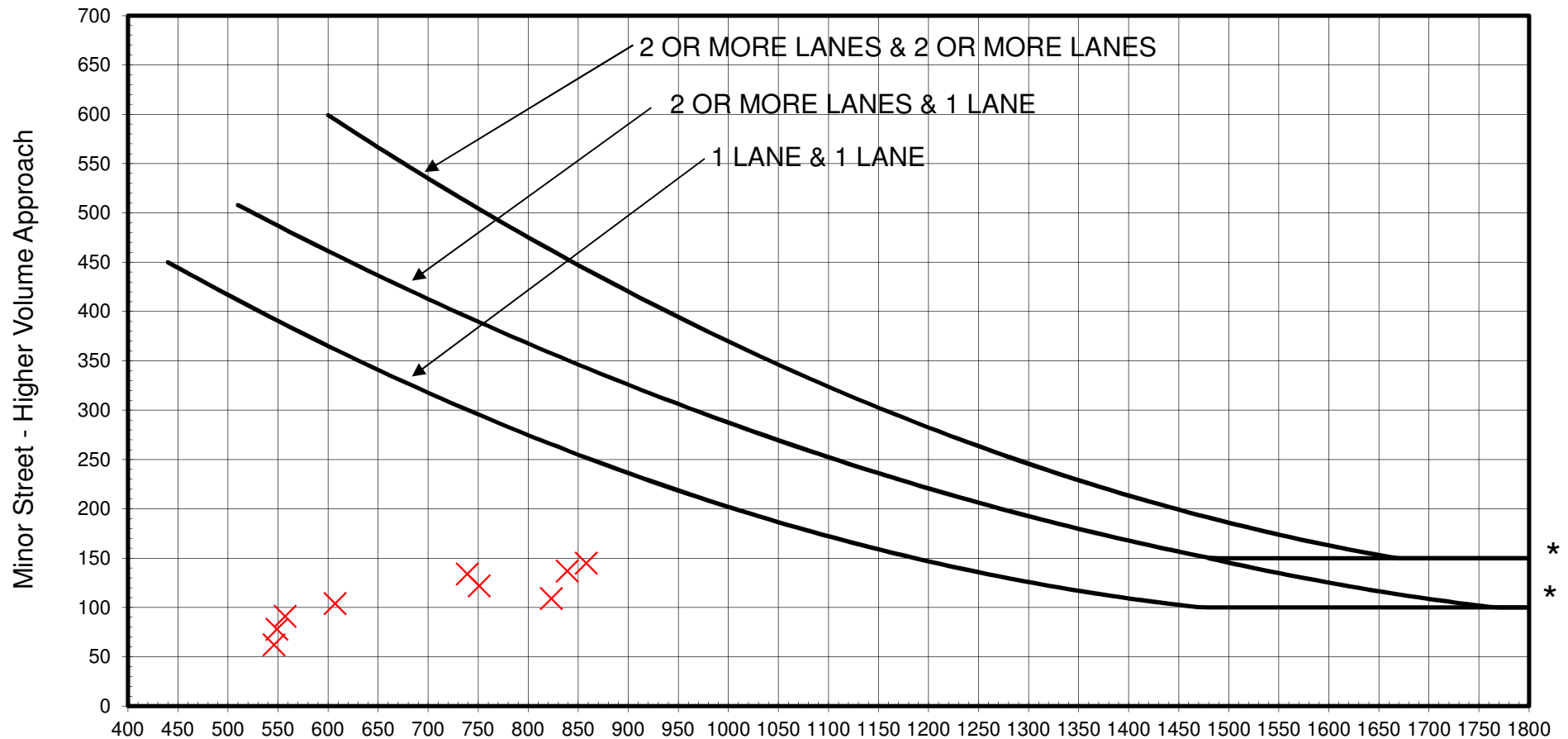
		Warrant Met?
Warrant 2 (Urban) =	1 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
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URS

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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES.  
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

		<b>Lanes</b>
Major Road =	E 28th St	1
Minor Road =	Pearl Ave	1
Road Location =	Urban	

		<b>Warrant Met?</b>
Warrant 3 (Urban) =	0 Hours Meet	NO

Day of Week	Date & Year	Hours		Weather
		From	To	
Tuesday	June 4, 2013	7:00 AM	10:00 AM	
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# SIGNAL WARRANT

INTERSECTION: Grove Ave and E 28th St  
 LOCATED IN CITY/VILLAGE/RURAL: Lorain / Ohio / Urban  
 NUMBER OF LANES PER APPROACH: N: 1 S: 1 E: 1 W: 1  
 PRESENTLY SIGNALIZED? YES DOES 70% WARRANT APPLY? NO  
 MAINTAINING AGENCY:

CO: Lorain RTE: SECT:  
 CONSULTANT:  
 CALC. BY: CKD BY:



ADDITIONAL ITEMS ATTACHED													
SKETCH OR DRAWING					SPEED DATA				OTHER (DESCRIBE):				
VEHICULAR VOLUME COUNT					DELAY ANALYSIS								
TRAFFIC PROJECTION					TIME/SPACE DIAGRAM								
ACCIDENT DATA					GROUND PHOTOGRAPHS								
PEDESTRIAN COUNT					AERIAL PHOTOGRAPHS								
GAP ANALYSIS					DOCUMENTATION/EXPLANATION								

ADJUSTED HOURLY VOLUMES					WARRANT #1								WARRANT					
CON-DITION	NO. OF LANES	MAJOR ST. 2-WAY	MINOR ST. 1-WAY	MINOR ST. 1-WAY	CONDITION A				CONDITION B								#2	#3
					100% MAJOR	80% MINOR	100% MAJOR	80% MINOR	100% MAJOR	80% MINOR								
*	1	X	X	X	500	150	400	120	750	75	600	60						
NORM	2+				600	200	480	160	900	100	720	80						
*	1				350	105	280	84	525	53	420	42						
70%	2+				420	140	336	112	630	70	504	56						
MID-1AM	0	0	0	0														
1AM-2AM	0	0	0	0														
2AM-3AM	0	0	0	0														
3AM-4AM	0	0	0	0														
4AM-5AM	0	0	0	0														
5AM-6AM	0	0	0	0														
6AM-7AM	0	0	0	0														
7AM-8AM	384	223	37		X		X		X		X							
8AM-9AM	288	192	32		X		X		X		X							
9AM-10AM	266	223	41		X		X		X		X							
10AM-11AM	0	0	0															
11AM-NOON	282	253	56		X		X		X		X							
NOON-1PM	325	277	53		X		X		X		X							
1PM-2PM	358	312	44		X		X		X		X							
2PM-3PM	0	0	0															
3PM-4PM	430	375	77		X	X	X		X		X				X			
4PM-5PM	402	306	77		X	X	X		X		X							
5PM-6PM	438	299	61		X	X	X		X		X				X			
6PM-7PM	0	0	0															
7PM-8PM	0	0	0															
8PM-9PM	0	0	0															
9PM-10PM	0	0	0															
10PM-11PM	0	0	0															
11PM-MID	0	0	0															
HOURS MET					0	3	0	0					2	0				
WARRANT SATISFIED?					NO	NO	NO	NO					NO	NO				

\* CONDITION IS DETERMINED BY ENVIRONMENT: USE 70% VALUES IF 85 PERCENTILE SPEED EXCEEDS 40 MPH ON THE MAJOR APPROACH OR IF LOCATION IS IN THE BUILT-UP AREA OF AN ISOLATED COMMUNITY WITH A POPULATION OF LESS THAN 10,000.

**WARRANT #1 (COMBINATION)**  
 Conditions A & B are each met at the 80% level:..... **NO**

**WARRANT #4 (PEDESTRIAN VOLUME)**  
 Hours with 100 or more pedestrians:.....  
 Hours with 190 or more pedestrians:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Warrant Satisfied?.....

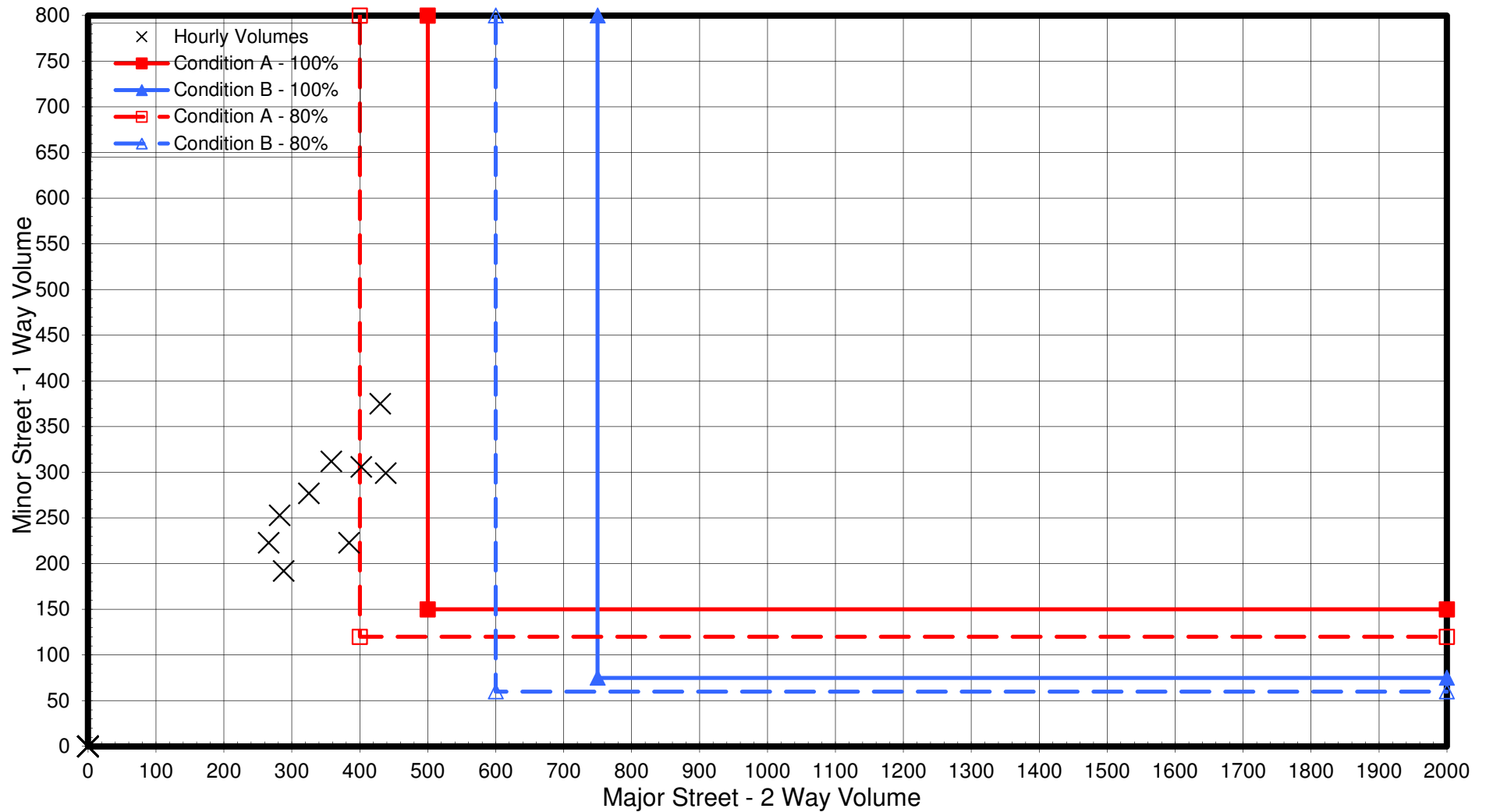
**WARRANT #5 (SCHOOL CROSSING)**  
 On approved school route?.....  
 Gap analysis made during period from..... to.....  
 Number of vehicles during analysis period:.....  
 Pedestrian crossing time (t):.....  
 Number of gaps greater than (t) during period:.....  
 Approximate vehicular speed:.....  
 Number of children crossing during period:.....  
 Warrant Satisfied?.....

**WARRANT #6 (COORDINATED SIGNAL SYSTEM)**  
 Major street is:..... **TWO-WAY**  
 Distance to nearest signal in each direction on major street:.....  
 Time space diagram (attached) shows that this location can be implemented into a system:.....  
 Warrant Satisfied?.....

**WARRANT #7 (CRASH EXPERIENCE)**  
 Adequate trial of less restrictive measures:.....  
 Number of accidents per year of a type which could be prevented by signalization:.....  
 80% of warrant #1 or #2 satisfied:.....  
 Will signalization disrupt progressive movement?.....  
 Warrant Satisfied?.....

**WARRANT #8 (ROADWAY NETWORK)**  
 Both streets are considered major routes:.....  
 At least 1000 V.P.H. during weekday peak hour:.....  
 5-Year projection meets Warrant 1, 2, or 3:.....  
 At least 1000 V.P.H. for any 5 hours on a Saturday or Sunday:.....  
 Meets Characteristic requirements?.....  
 Warrant Satisfied?.....

## WARRANT 1 - Conditions A & B



Major Road =	Grove Ave	Lanes	1
Minor Road =	E 28th St		1
Road Location =	Urban		

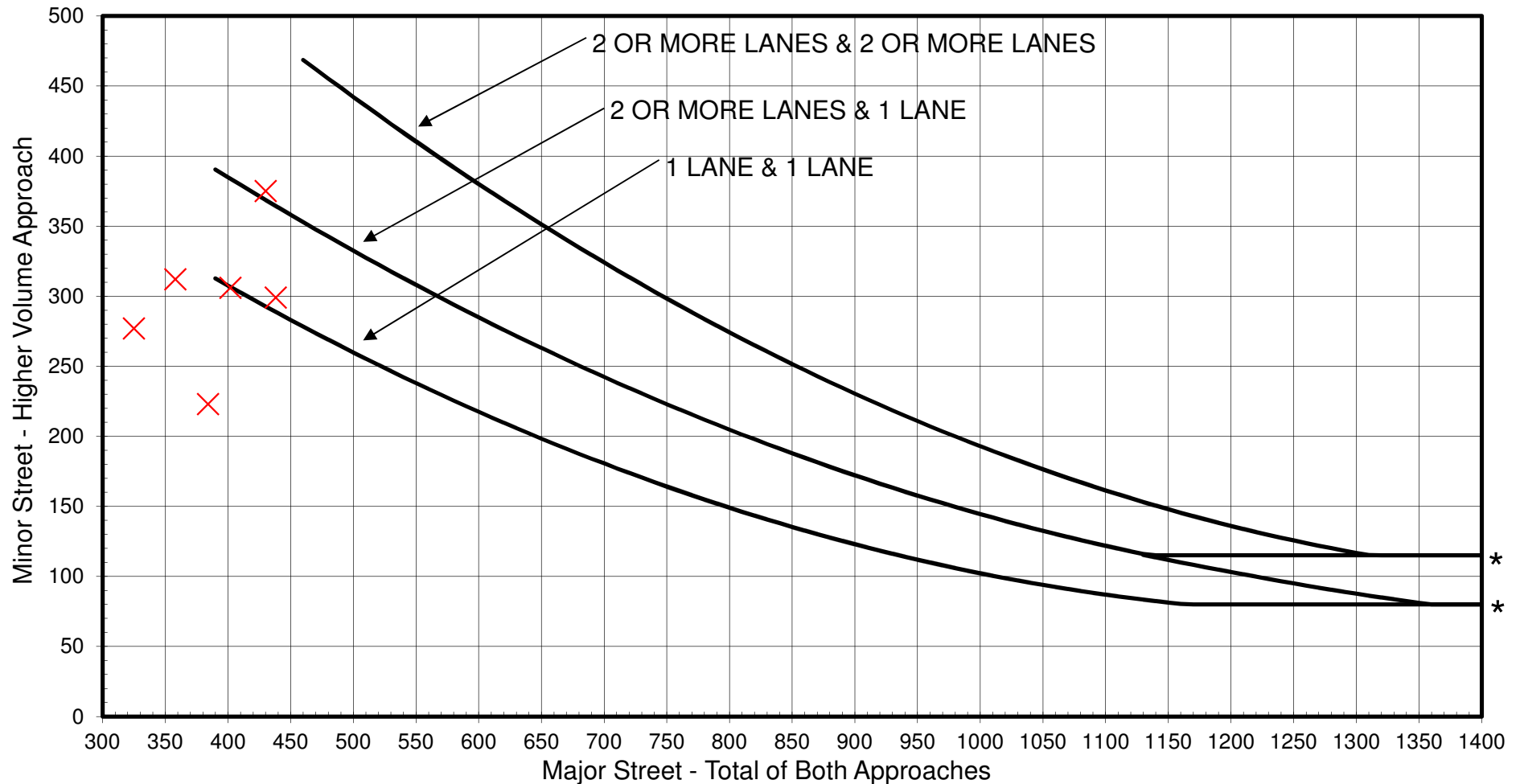
Warrant Met?		
Condition A (100%) =	0 Hours Meet	No
Condition B (100%) =	0 Hours Meet	No
Condition A (80%) =	3 Hours Meet	No
Condition B (80%) =	0 Hours Meet	No

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Road Location =	Urban	

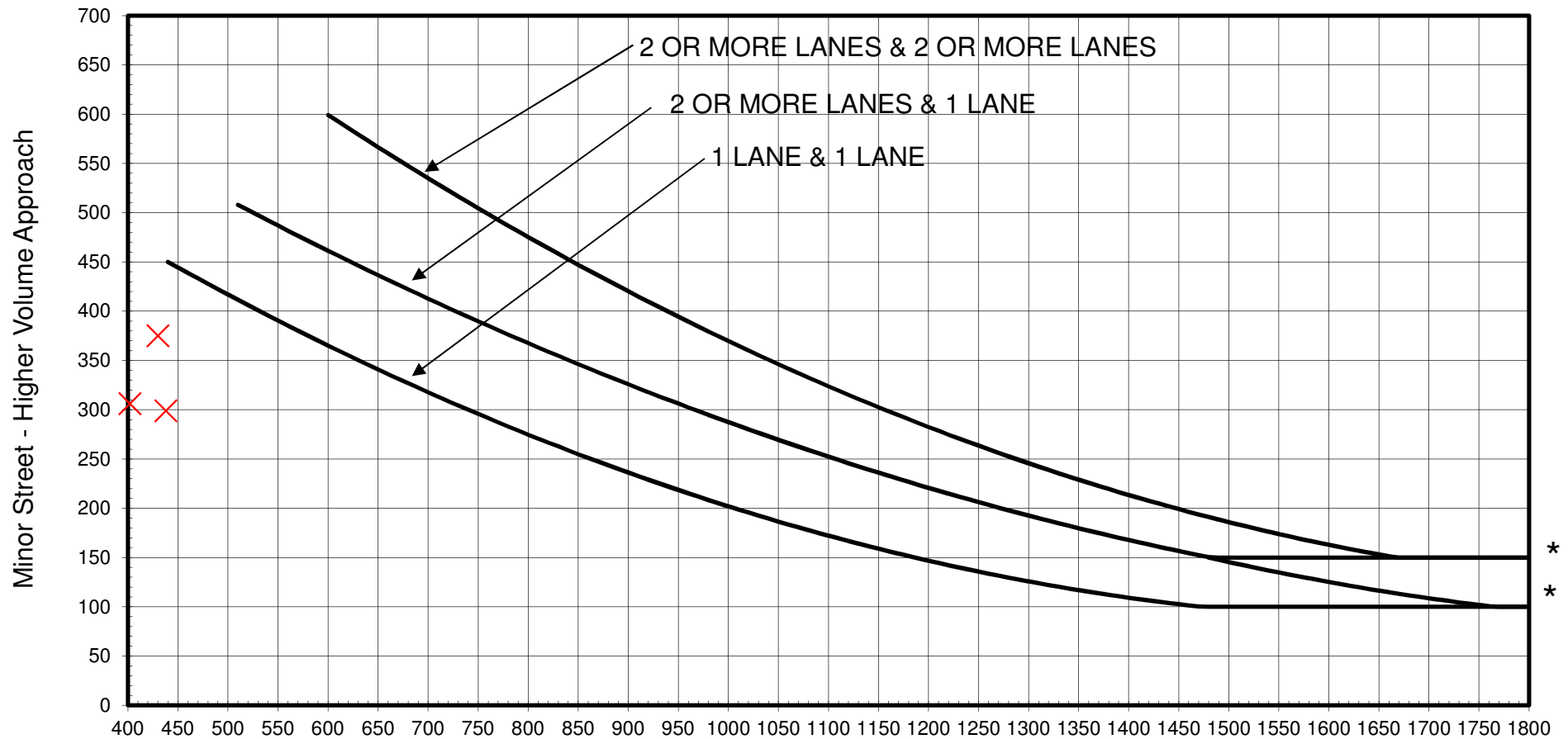
	Warrant Met?	
Warrant 2 (Urban) =	2 Hours Meet	NO

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## PEAK HOUR VOLUME WARRANT (WARRANT 3)



Major Street - Total of Both Approaches

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Road Location =	Urban	

		Warrant Met?
Warrant 3 (Urban) =	0 Hours Meet	NO

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