

*Intersection Evaluation Study  
Report*

**Crandall Street/Sherman Avenue**  
**Intersection Evaluation**

**City of Glens Falls  
Warren County, New York**

January 10, 2014



Prepared for:

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*Intersection Evaluation Study  
Report*

**Crandall Street/Sherman Avenue  
Intersection Evaluation**

**City of Glens Falls  
Warren County, New York**

Chazen Project #: 31348.00



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- Appendix C: Accident Data
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## **EXECUTIVE SUMMARY**

An Intersection Evaluation has been completed for the Adirondack/Glenss Falls Transportation Council (AGFTC), on behalf of the City of Glenss Falls, for the intersection of Crandall Street and Sherman Avenue. This intersection is currently under fixed time traffic signal control. The evaluation was performed to examine the intersection operation and recommend actions to facilitate a more efficient operation for all intersection users.

As a result of this evaluation it is recommended that the existing traffic signal be removed and the intersection placed under all way stop control, with pavement markings and signing in accordance with the National and NYSDOT Manual of Uniform Traffic Control Devices (MUTCD).

This recommended change in intersection control would reduce overall vehicle delays, decrease the likelihood for rear end and right angle accidents, and lessen conflicts between vehicles and pedestrians. In addition it would relieve the City of Glenss Falls from the responsibility for signal maintenance.

## 1.0 INTRODUCTION

The Adirondack/Glens Falls Transportation Council (AGFTC), on behalf of the City of Glens Falls, tasked The Chazen Companies to perform a Traffic Intersection Evaluation at the intersection of Crandall Street and Sherman Avenue in the City of Glens Falls. The traffic evaluation reviewed the appropriateness of the existing traffic signal control, and developed potential operational improvements to the intersection.

The study examined the traffic operations and accident history at the intersection of Crandall Street and Sherman Avenue and conducted field observation of nearby intersections under alternative traffic control such as the four-way stop sign control.

The intersection evaluation study follows accepted national engineering practice and utilizes accepted engineering data sources and software analysis programs. Field reviews were undertaken. Manual vehicular turning counts and automatic traffic recording (ATR) data were completed for the study intersection. All field data and analysis results are presented in the Appendices to this report.

### 1.1 Study Methodology

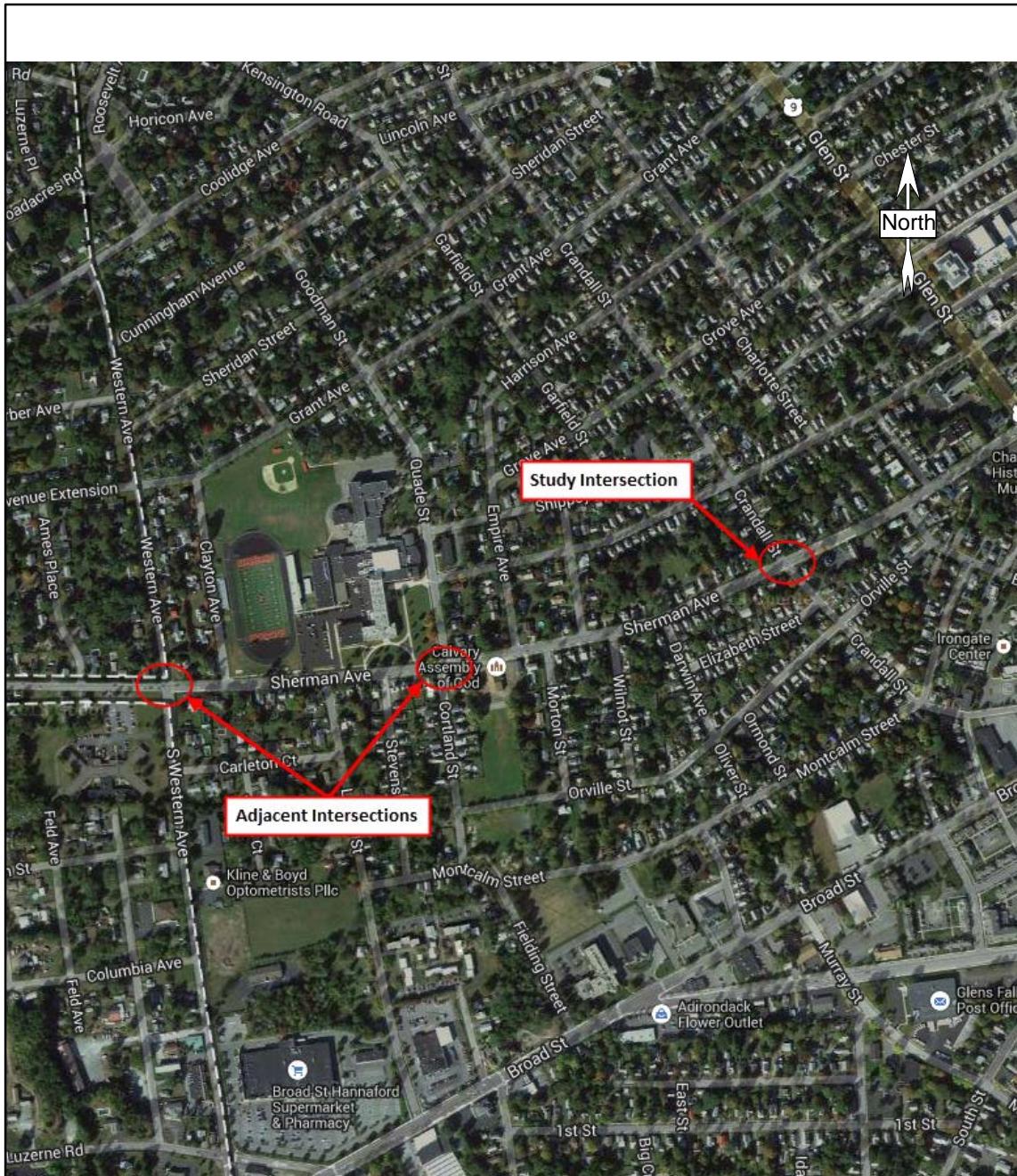
Traffic and accident data were collected for the intersection of Crandall Street and Sherman Avenue as well as field review/evaluation of nearby intersections, such as the Sherman Avenue/Quade Street intersection and the Sherman Avenue/Western Avenue intersection. The following is a brief description of the detailed tasks, which were a part of the analysis.

- Information pertinent to the existing traffic and roadway conditions was collected and analyzed relative to its effect on operating characteristics.
- Field observations were made to observe traffic movement, including pedestrian and bicycle movements within the existing roadway network to determine and verify traffic patterns and distributions.
- 2013 Existing traffic volumes were determined.
- Accident Data provided by the Glens Falls Police Department for the study intersection was reviewed and analyzed.
- Operational analysis of the study intersections were conducted for the AM and PM peak hours to assist in the determination of possible improvements to the intersection operation.
- A Signal Warrant analysis was conducted at the study intersection to determine the appropriateness of the current intersection control based on accepted national guidelines.
- Adjacent intersections were reviewed relative to operational similarities with the study intersection.

- Conclusions and recommendations were made of the potential traffic improvements as a result of the data, facts gathered, and analyses in this study.

Figure 1 shows the project intersection and the immediate adjacent roadways.

Figure 1 - Area Map



<b>THE <i>Chazen</i> COMPANIES®</b>	<b>Crandall Street &amp; Sherman Avenue</b> Intersection Evaluation Study City of Glen Falls Warren County, New York		Project Site Location
Project #: 31348.00	Date: December 2013	Figure: #1	

## 2.0 EXISTING CONDITIONS

### 2.1 Study Intersection

**Crandall Street at Sherman Avenue** is a four way intersection under two-phase fixed time traffic signal control. Crandall Street runs in a general north/south orientation, with Sherman Avenue running in an east/west orientation. Crandall Street consists of an unmarked 24-foot wide travel roadway section from the north and an unmarked 20-foot wide travel roadway from the south. Sherman Avenue consists of an unmarked 30-foot wide travel roadway section from the west and an unmarked 28-foot wide travel roadway from the east.

The intersection is in the City of Glens Falls School District, which is a walking school district with bus transport provided to handicapped students only. Consequently, school age pedestrian traffic is significant along Sherman Avenue and at this intersection, as is school destined vehicular traffic and some bicycle traffic.

There are 4-foot wide sidewalks along both sides of each intersection approach with marked pedestrian crosswalks and stop bars on each approach. Pedestrian signing, pedestrian push buttons, or "Walk/Don't Walk" signal indications are not present at this intersection. Pedestrians must cross an approach by determining if that approach has a red or green indication. If crossing at the appropriate time, when the approach being crossed is under a red indication, a pedestrian has no way of knowing for how long that red indication will remain before changing to a green indication.

The traffic signal control consists of one signal face (red/yellow/green indications) for each intersection approach. While the use of one signal face per approach is allowed in the NYSDOT MUTCD (Manual of Uniform Traffic Control Devices) for an intersection with one lane approaches not on a State or Federal highway, the standard for traffic signal control is two signal faces for an approach. Two faces per approach increases signal visibility and the second indication provides redundancy in the event that one indication goes out. Since the signal is supported by a single mast arm, an upgrade to two faces per approach is not feasible due to signal face sight line requirements. In addition the added additional weight imposed on the mast arm would be problematical.

The signal also does not have vehicle detection and operates on a fixed time basis with each roadway receiving a fixed amount of green time regardless of the traffic demand. Crandall Street, for example, receives green time even when there are no vehicles on the approach.

"No Parking" restrictions are in effect on the west side of the Crandall Street northbound approach, on both sides of the Crandall Street southbound approach and the Sherman Avenue westbound approach, and on the north side of Sherman Avenue eastbound approach to the intersection. Both Crandall Street and Sherman Avenue are characterized by residential land use. There is no posted speed limit in the vicinity of the intersection, and accordingly the City of Glens Falls 30 mph city wide speed limit is in effect.

The intersection is memorialized by photographs in Appendix D.

## 2.2 Adjacent Intersections

**The Sherman Avenue and Quade Street/Cortland Street intersection** is approximately 1,500-feet west of the study intersection with the City of Glens Falls Middle and High School campus in the northwest quadrant of the intersection. This intersection is a four way intersection operating under all-way stop sign control. Each approach provides an unmarked single travel lane. Quade Street and Cortland Street are slightly offset from each other with Cortland Street being slightly more to the west. Quade Street provides access driveways to both the Glens Falls Middle School and High School. Parking is provided on the west side of the street. There are sidewalks along each side of each approach at the intersection. Marked pedestrian crosswalks are present on all intersection approaches, as well as at three locations crossing Sherman Avenue in front of the school campus. The eastbound and southbound approaches are under a "15-mph School Speed Limit", with the northbound and westbound approaches under the city wide 30-mph speed limit.

The intersection is memorialized by photographs in Appendix D

**The Sherman and Western Avenue intersection** is located  $0.5 \pm$  mile west from the study intersection. This intersection is a four way intersection operating under all-way stop sign control. Sidewalks are provided on the east side of both Western Avenue approaches, as well as the south side of the Sherman Avenue westbound approach. There are no sidewalks on the Sherman Avenue eastbound approach. Pedestrian crosswalk markings are provided on the southbound and westbound approaches. The city wide "30-mph City Speed Limit" applies to each intersection approach except for the westbound approach which is under a "15-mph School Speed Limit". By observation, this intersection operates well under similar traffic volumes as the Crandall Street at Sherman Avenue

## 2.3 Traffic Volumes (Vehicular, Pedestrian, Bicyclist)

Traffic counts were conducted in October and November of 2013 to capture current traffic patterns and volumes while local schools were in session. The hourly traffic volumes were collected by Automatic Traffic Recorders (ATRs) from Monday, October 28, 2013 to Thursday, October 31, 2013. Manual traffic turning movement counts as well as pedestrian and bicyclist counts were also undertaken in the same October timeframe during the morning (7:00AM to 9:00AM on Tuesday October 29<sup>th</sup>) weekday commuter peak hour and during the afternoon (2:45PM to 6:00PM on Wednesday October 30<sup>th</sup>) weekday school and commuter peak hours. Manual counts were also undertaken at the Sherman Avenue and Quade Street intersection on Wednesday, November 20<sup>th</sup> during the afternoon (2:45PM to 3:45PM) peak hour as this time represented the highest traffic volumes from the October counts.

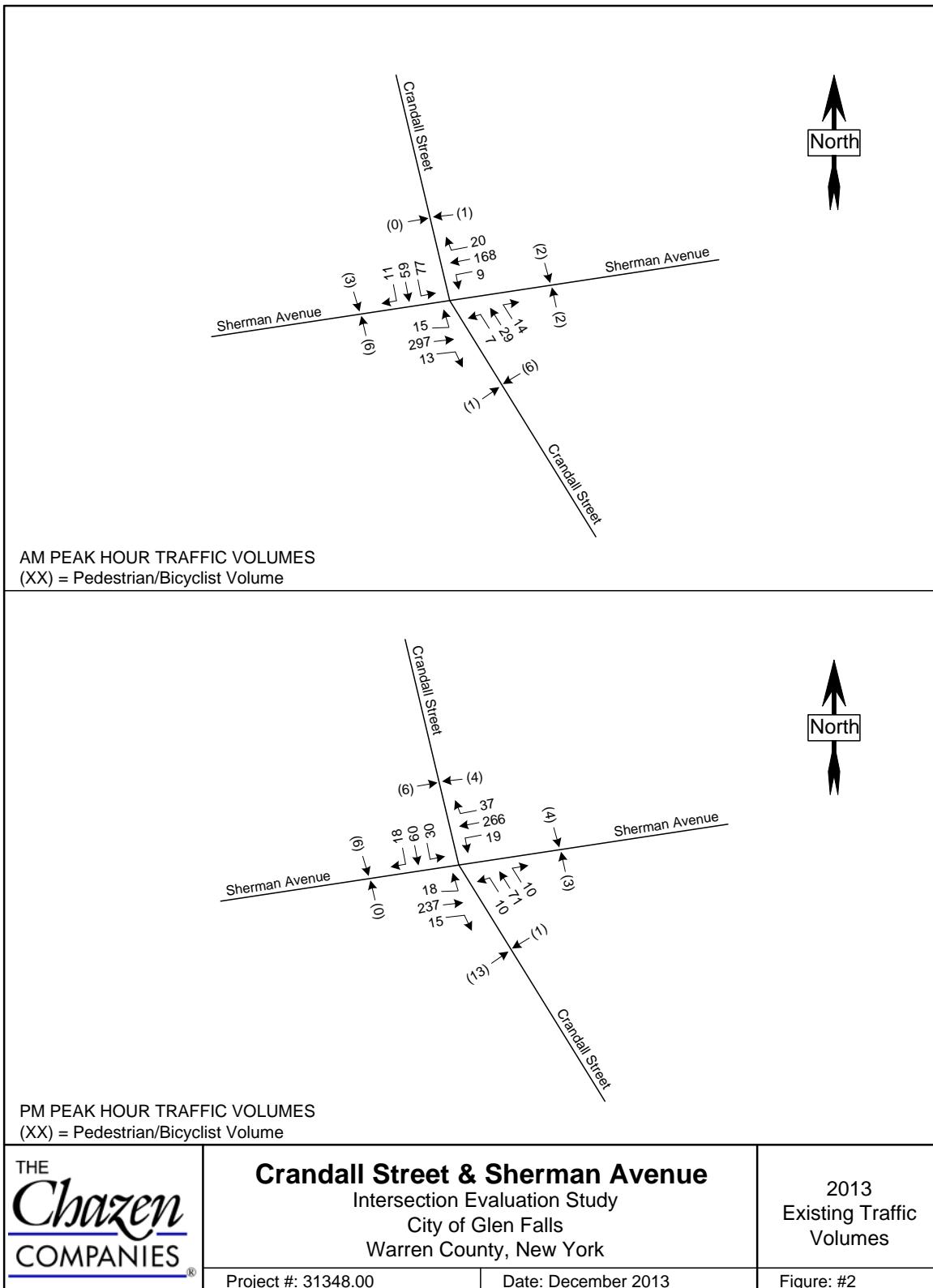
Appendix A presents the vehicular count data as well as the pedestrian and bicyclist count data.

Based upon the traffic count data collected the following observations are evident:

- The morning and afternoon peak periods for vehicular traffic in October, while local schools were in session, was 7:45AM to 8:45AM and 2:45PM to 3:45PM respectively. These times coincide with school arrivals/commuter peak in the morning, and with school dismissals, but not commuter peak, in the afternoon. The PM peak hour (2:45 to 3:45) is the busiest time frame for this intersection for vehicular, pedestrian and bicycle traffic

- Intersection volumes at the study intersection are 717 vehicles in the AM peak and 791 vehicles during the PM peak. The two-way traffic volume on Crandall Street is 197 vehicles during the AM peak hour and 199 vehicles during the PM peak hour. The two-way traffic volume on Sherman Avenue is 522 vehicles during the AM peak hour and 592 vehicles during the PM peak hour.
- Thirty-seven (37) pedestrians and bicyclists crossed the intersection during the PM (2:45 to 3:45 PM) peak hour during the October counts, coinciding with school dismissal. The number of pedestrians and bicyclists decreased during the November counts, coinciding with colder weather.
- The October AM peak pedestrian/bicyclist numbers were less than the PM numbers with twenty-one (21) pedestrians and bicyclists crossing the intersection.
- The afternoon peak hour (2:45-3:45PM) count at the intersection of Sherman Avenue and Quade Street/Cortland Street showed a two-way traffic volume on Sherman Avenue of 515 vehicles with 172 vehicles traveling on Quade Street/Cortland Street.
- Figure 2 provides the AM and PM peak vehicular/pedestrian/bicyclist volumes.

Figure 2 - Existing Traffic Volumes



## 3.0 ANALYSIS

### 3.1 Capacity/Level of Service Analysis

A level of service analysis of the signalized intersection of Crandall Street and Sherman Avenue was conducted for the morning and evening weekday peak hours. The analysis utilized the latest version of Synchro software by McTrans<sup>1</sup>. This analysis determines the operational efficiency of the intersection associated with the prescribed traffic control by estimating the vehicle delay experienced.

The capacity analysis methodology is based upon the 2010 Highway Capacity Manual which utilizes "levels-of-service" (LOS) designations to identify traffic flow based on vehicle delay. A LOS A represents the best condition and a LOS F represents the worst condition. A LOS C is generally used as a design standard while a LOS D is acceptable during peak periods. LOS E represents an operation at or near capacity. In order to identify a signalized intersection's level-of-service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the over-all intersection.

Tables 1 summarize the level-of-service criteria for signalized intersections.

**Table 1 - Signalized Intersection LOS Criteria**

Level of Service (LOS)	Control Delay Per Vehicle in Seconds
A	Less than or equal to <b>10</b>
B	Greater than <b>10</b> and less than or equal to <b>20</b>
C	Greater than <b>20</b> and less than or equal to <b>35</b>
D	Greater than <b>35</b> and less than or equal to <b>55</b>
E	Greater than <b>55</b> and less than or equal to <b>80</b>
F	Greater than <b>80</b>

The signal operation at the study intersection is a fixed time operation providing for a constant amount of green time for each roadway regardless of traffic demand. Accordingly traffic may wait on the Sherman approaches even when there is no traffic utilizing the green time provided for the Crandall approaches. Fixed time operations, especially at an intersection with a predominant traffic flow on one roadway, may cause drivers to try and beat the red indication, resulting in rear end and right angle accidents.

As indicated in Table 2 below, the study intersection currently operates at good to acceptable level of service with moderate vehicle delays. Each approach at the Crandall Street & Sherman Avenue intersection operates at level of service "C" or better with an overall intersection level of service of "B" during both peak hours with average delays of 18 seconds. It is noted that the "C" LOSs are only fractions of a second above an LOS of "B". The level of service analysis outputs are presented in Appendix B to this report.

<sup>1</sup> Synchro 8 Software

**Table 2 Level of Service Summary (Signalized - fixed timed)**

Level of Service/Estimated Delay (Seconds per Vehicle)

Crandall Street/Sherman Avenue fixed time Signalized		2013 Existing Traffic Volumes	
		AM Peak	PM Peak
Intersection Approach			
Sherman Avenue EB	LTR	C (20.1)	B (19.0)
Sherman Avenue WB	LTR	B (17.4)	C (20.3)
Crandall Street NB	LTR	B (15.2)	B (15.8)
Crandall Street SB	LTR	B (18.0)	B (16.3)
Overall		B (18.6)	B (18.8)

Key: X (Y.Y) = Level of Service/Estimate Delay (Seconds per Vehicle).

NB, SB, WB, EB = Northbound, Southbound, Westbound, Eastbound intersection approaches.

LTR = Left-turn, through, and/or right-turn movements.

Since fixed timed signal operation is usually less efficient than an actuated signal operation, the signalized analysis was then run under a semi-actuated signal operation. This operation takes into account vehicle demand on the lesser volume roadway and should eliminate unnecessary delays to Sherman Avenue traffic by only servicing traffic that is actually on Crandall Street.

As indicated in Table 3 below, the study intersection, as a semi-actuated signal, operates at excellent to acceptable level of service with moderate vehicle delays. The overall intersection operates at LOS "B" during both peak periods, with the Crandall Street approaches operating at LOS "C", and the Sherman Avenue, the heavier traveled roadway, at LOS "A". The overall intersection delays (12.7 and 11.4 seconds) are less under this operation than under the current fixed time operation. The level of service analysis outputs are presented in Appendix B to this report.

**Table 3 Level of Service Summary (Signalized - Semi-actuated)**

Level of Service/Estimated Delay (Seconds per Vehicle)

Crandall Street/Sherman Avenue Semi-actuated Signalized		2013 Existing Traffic Volumes	
		AM Peak	PM Peak
Intersection Approach			
Sherman Avenue EB	LTR	A (9.3)	A (7.3)
Sherman Avenue WB	LTR	A (8.2)	A (7.8)
Crandall Street NB	LTR	C (20.3)	C (22.6)
Crandall Street SB	LTR	C (23.4)	C (23.2)
Overall		B (12.7)	B (11.4)

Key: X (Y.Y) = Level of Service/Estimate Delay (Seconds per Vehicle).

NB, SB, WB, EB = Northbound, Southbound, Westbound, Eastbound intersection approaches.

LTR = Left-turn, through, and/or right-turn movements.

An analysis of this intersection operating as a fully actuated signal with vehicle detection on all approaches produced the same results as under the semi-actuated operation scenario.

### 3.2 Signal Warrant Analysis

Traffic signal warrants are guidelines used in the determination of the need for a signal, a decision which must be accompanied by engineering judgment and other factors. The same can be said of the evaluation of an existing signal, in that removal of a signal should not be predicated simply on meeting or not meeting the signal warrants. Other factors such as intersection operation without the signal and intersection safety should be given considerable weight in the decision process.

A traffic signal warrant analysis was conducted in accordance with procedures documented in the National Manual on Uniform Traffic Control Devices, 2009 Edition (MUTCD) by the Federal Highway Administration. The analysis process consists of comparing the current traffic conditions with the traffic signal warrants for an average weekday. Warrants 4- School Crossing, 5-Progressive Movement, 7- Systems Warrant, 8-Combination of Warrants and 10-Peak Hour Delay were not evaluated due to a lack of available data or non-relevance. A discussion of the analysis for Warrant 6 - Accident Experience is presented following Table 4.

**Table 4 Signal Warrant Analysis**

Time	Major Street Volume	Minor Street Volume	Warrant 1 Minimum Vehicular Volume	Warrant 2 Interruption of Continuous Traffic	Warrant 9 Four Hour Volumes	Warrant 11 Peak Hour Volume	Pedestrian and Bicyclist Volume	Warrant 3 Minimum Pedestrian Volume
7:00 AM	364	80	No	No	No	No	20	No
8:00 AM	433	141	No	No	No	No	5	No
9:00 AM	352	59	No	No	No	No	--	--
10:00 AM	315	72	No	No	No	No	--	--
11:00 AM	406	70	No	No	No	No	--	--
12:00 PM	380	68	No	No	No	No	--	--
1:00 PM	393	88	No	No	No	No	--	--
2:00 PM	477	95	No	No	No	No	8	No
3:00 PM	583	106	No	No	No	No	27	No
4:00 PM	494	70	No	No	No	No	21	No
5:00 PM	559	81	No	No	No	No	18	No
6:00 PM	392	58	No	No	No	No	--	--
Warrant Met? (Yes/No)		No	No	No	No	No	--	No

The intersection of Crandall Street and Sherman Avenue did not meet any of the applicable traffic volume based warrants analyzed.

The accident warrant is satisfied when five or more accidents are susceptible of correction with the installation of a traffic signal control. Accidents historically correctable by the installation of a traffic signal include "Left-Turns", "Overtaking", and "Right Angle" types of accidents. Each year's total is below the minimum threshold of five accidents per year required for the meeting of Warrant 6-Crash Experience. Therefore Warrant 6 – Accident Experience is not met.

### 3.3 Four-Way Stop Analysis

As the Crandall Street and Sherman Avenue intersection failed to meet any warrants for signalization, a capacity/level of service analysis was conducted for the intersection operating under all way stop control, as a means of assisting in the determination of appropriate traffic control for this location. Table 5 presents the level of service criteria for un-signalized intersections.

**Table 5 - Un-Signalized Intersection LOS Criteria**

Level of Service (LOS)	Control Delay Per Vehicle (seconds)
A	Less than or equal to <b>10</b>
B	Greater than <b>10</b> and less than or equal to <b>15</b>
C	Greater than <b>15</b> and less than or equal to <b>25</b>
D	Greater than <b>25</b> and less than or equal to <b>35</b>
E	Greater than <b>35</b> and less than or equal to <b>50</b>
F	Greater than <b>50</b>

As indicated in Table 6 below, the study intersection would operate at good to excellent levels of service with minimal vehicle delays under all way stop control. Each approach would operate at level of service "A" or "B" with an overall intersection level of service of "B" during both peak hours with intersection delay of 10.7 seconds in the AM peak and 11.3 seconds in the PM peak. The intersection operation is less than 2 seconds from LOS "A" during the worst peak period.

**Table 6 - Level of Service Summary (All way stop control)**

Level of Service/Estimated Delay (Seconds per Vehicle)

Crandall Street/Sherman Avenue All way stop control		2013 Existing Traffic Volumes	
		AM Peak	PM Peak
Intersection Approach			
Sherman Avenue EB	LTR	B (11.8)	B (11.3)
Sherman Avenue WB	LTR	A (9.9)	B (12.1)
Crandall Street NB	LTR	A (8.9)	A (9.7)
Crandall Street SB	LTR	B (10.1)	A (9.9)
Overall		B (10.7)	B (11.3)

Key: X (Y.Y) = Level of Service/Estimate Delay (Seconds per Vehicle).

NB, SB, WB, EB = Northbound, Southbound, Westbound, Eastbound intersection approaches.

LTR = Left-turn, through, and/or right-turn movements.

These results show a better intersection operation with less vehicle delay under all way stop control than currently experienced under fixed time traffic signal control. The all way stop control operation also provides a slightly better operation than a semi actuated traffic signal would. The level of service analysis outputs are presented in Appendix B to this report.

An all way stop intersection operation slows down the overall intersection speed and removes the concern for vehicles speeding to beat a red light. Since all vehicles must stop, pedestrian crossings are made safer as possible conflicts with vehicles moving through the intersection are decreased.

All approaches to this intersection provide good sight distance to the intersection, and consequently to stop signs if installed. There would be no need for additional signs warning of a new stop condition at the intersection. Sight lines on each approach are presented pictorially in Appendix D.

### **3.4 Accident Data Analysis**

Accident data for the study intersection was obtained from the Glens Falls Police Department for the latest available 3-year period, from 09/30/2010 to 09/30/2013. During this period there were a total of 11 accidents at the study intersection; one in 2010, four in 2011, two in 2012 and four in 2013. The accident history shows that 10 of the 11 accidents were classified as "Rear End" (5) and "Right Angle" (5), two accident types usually associated with traffic signal control. The primary contributing factors were identified as "Following Too Closely" and "Driver Inattention". There was only one "Injury" accident, with the rest being "Property Damage Only".

There were no reported accidents involving pedestrians and/or bicyclists at this location within the three year study period. Details of the three year accident history, with accident summaries and tables, are present in the Appendix C to this report.

As previously noted in Section 3.2, this accident history does not meet the "Accident Experience" guideline associated with the installation of a traffic signal.

## 4.0 CONCLUSIONS AND RECOMMENDATIONS

### 4.1 Conclusions

- 1) The intersection of Crandall Street and Sherman Avenue operates at good levels of service (LOSs of "B" and "C") under the current fixed time signal operation, with vehicle delays between 15 and 20 seconds.
- 2) The operation would improve slightly with the addition of vehicle detection on Crandall Street, with LOSs of "A" and "C", and but with a wider range of vehicle delays of between 7 and 23 seconds.
- 3) The intersection operates at excellent to good levels of service (LOS "A" and "B") under all way stop control, with vehicle delays decreasing to between 8 and 11 seconds.
- 4) Each of the three intersection operations is considered an efficient operation with acceptable vehicle delays.
- 5) The results do not indicate a significant benefit to the intersection operation by upgrading the traffic signal with vehicle detection. Nor would a change in signal timing under the current operation result in any significant benefit.
- 6) A change to an all way stop control intersection would remove safety concerns for both vehicles and pedestrians in that all vehicles must stop before traversing the intersection. This would help ameliorate some vehicle to vehicle type accidents and also vehicle/pedestrian conflicts. Pedestrians would have a clearer understanding of the requirements for vehicles to stop as without a signal, all vehicles must stop before entering the intersection.
- 7) An all way stop control intersection would also be consistent with other intersections in the local roadway network including Sherman Avenue at Western Avenue.

### 4.2 Recommendations

Based on studies conducted and the conclusions formed, the following recommendations are presented.

- 1) It is recommended that the existing traffic signal be removed and the intersection placed under all way stop control with appropriate signing ("Stop" signs supplemented by "All Way" or "4 Way" signs) on each approach. The existing pavement markings (crosswalks and stop bars) are in good condition. The stop bar locations should be reviewed in the field in regard to location and new stop bars installed closer to the intersection if appropriate. An all way stop controlled intersection would provide the following benefits.
  - a) Reduce vehicle delays
  - b) Decrease the likelihood for rear end and right angle accidents
  - c) Lessen conflicts between vehicles and pedestrians

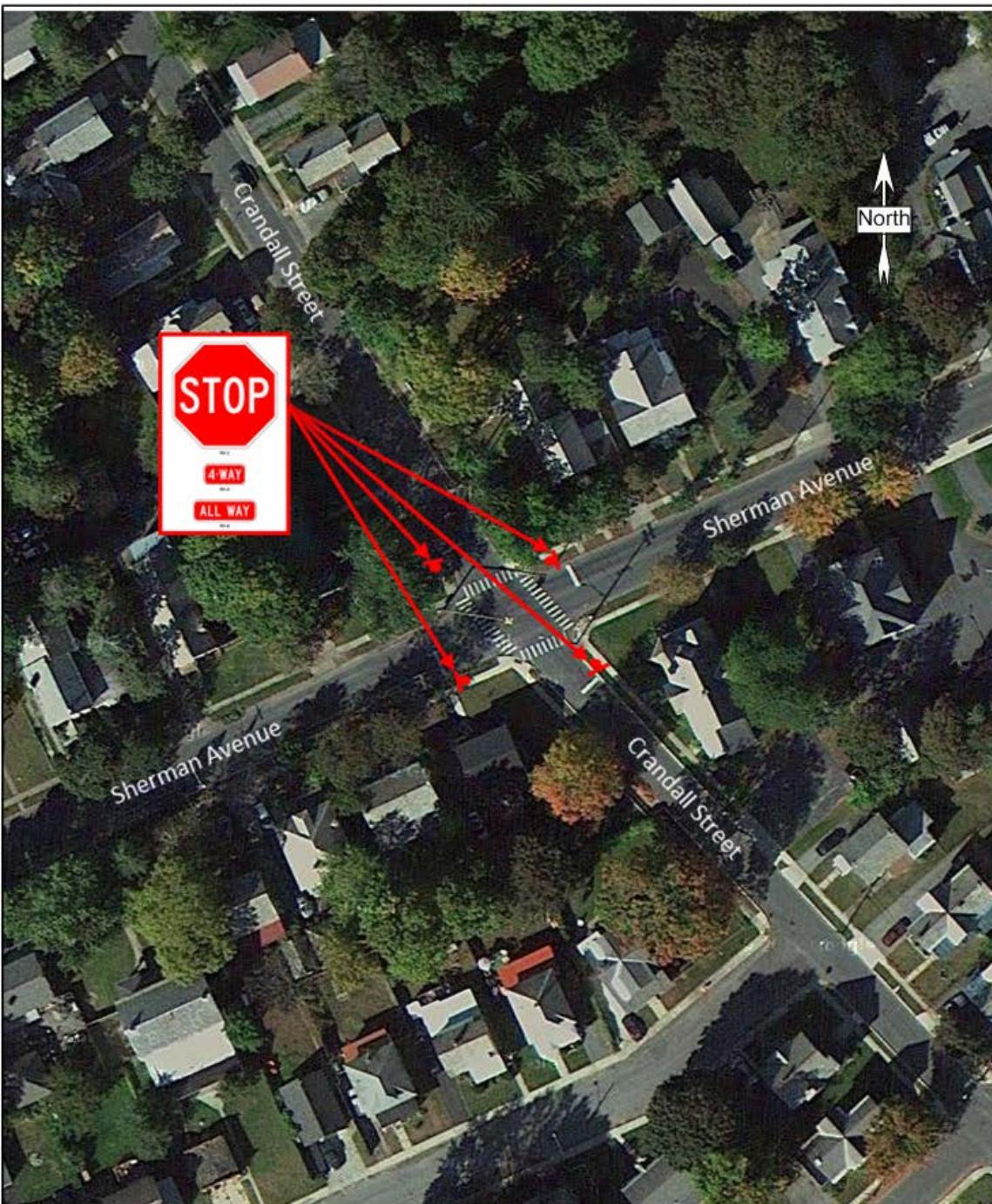
- d) Provide pedestrians with a clear understanding of the responsibility for all vehicles to stop prior to entering the intersection.
  - e) Relieve the City of Glens Falls of the responsibility for signal maintenance.
- 2) Based on a cursory review of the Sherman Avenue at the Sherman Avenue and Quade Street/Cortland Street intersection it is recommended that future consideration be given to conducting an intersection evaluation, with particular emphasis on the appropriateness of installing a traffic signal. This evaluation would complement the June 1, 2012 Glens Falls School District Traffic Circulation Study prepared by Resource Systems Group, Inc.

## 5.0 ESTIMATED COSTS - RECOMMENDED ACTION AND ALTERNATIVES

Figure 3 presents the all way stop control recommendation. Preliminary cost estimates for the recommended action, as well as other alternatives analyzed are presented.

1. **All Way Stop:** The recommended action would remove the existing traffic signal and install "Stop" signs with "All Way" or "4 Way" supplemental signs on each intersection approach. The sign work could be accomplished by the City Department of Public Works with a minimal cost for materials. The removal of the traffic signal would cost an estimated \$2,500 if contracted out. Due to the simple single pole/mast arm signal configuration, the removal could also be performed by City personnel.
2. **Install Vehicle Detection:** Under this analyzed, but not recommended, alternative, two types of vehicle detection could be utilized at this location.
  - a. Detection loops in the roadway would require a system of conduit runs and pull boxes to carry the detection cables to the signal controller, in addition to the installation of the actual detection loops. Based on recent contract bids and the fact that this would be an isolated installation, the cost to install vehicle detection on Crandall Street is estimated at \$3,750. This does not include replacement of the signal controller/cabinet which may be necessary and would cost a minimum of \$5,000.
  - b. Overhead detectors, mounted on the existing signal pole would also provide acceptable detection operation. Due to possible sight line restrictions it may be necessary to mount one overhead detector on an existing utility pole with cable run overhead to the signal controller. Installation of this type of detection is estimated at \$4,250, and as per the above estimate does not include the possible replacement of the signal controller/cabinet.
3. **Do Nothing:** This alternative keeps the fixed time signal operation and presents no cost to the City other than signal maintenance. Regardless, this is not the recommended course of action

Figure 3 - All Way STOP Sign Control



<b>THE Chazen COMPANIES®</b>	<b>Crandall Street &amp; Sherman Avenue</b> Intersection Evaluation Study City of Glen Falls Warren County, New York	All-Way Stop Sign Control Option
Project #: 31348.00	Date: December 2013	Figure: #3

## Appendix A: Traffic Movement Counts

# The Chazen Companies

547 River Street  
Troy, New York, 12180  
[www.chazencompanies.com](http://www.chazencompanies.com)

Project No.: 31348.00

Counted By: E. Droz

Intersection: Crandall St/Sherman Ave

Time: 7:00 - 9:00AM

File Name : 31348.00\_TMC\_10-30-2013\_AM

Site Code : 3134800

Start Date : 10/30/2013

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School Busses

	Crandall Street Southbound					Sherman Avenue Westbound					Crandall Street Northbound					Sherman Avenue Eastbound						
	Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0			
07:00 AM	8	7	4	0		19	0	21	2	1	24	1	5	0	0	6	1	40	0	0	41	90
07:15 AM	9	12	6	3		30	1	23	1	0	25	1	2	1	0	4	2	48	2	0	52	111
07:30 AM	8	14	0	0		22	2	41	3	0	46	1	8	3	1	13	1	61	2	0	64	145
07:45 AM	16	13	4	0		33	2	46	4	1	53	1	10	5	0	16	3	77	4	0	84	186
Total	41	46	14	3		104	5	131	10	2	148	4	25	9	1	39	7	226	8	0	241	532
08:00 AM	17	18	5	0		40	5	53	8	0	66	4	12	4	0	20	7	66	2	2	77	203
08:15 AM	36	16	1	0		53	2	35	3	0	40	2	3	1	0	6	2	73	1	0	76	175
08:30 AM	8	12	1	0		21	0	34	5	0	39	0	4	4	1	9	3	81	6	0	90	159
08:45 AM	8	20	2	0		30	2	46	5	0	53	1	8	5	3	17	6	56	3	0	65	165
Total	69	66	9	0		144	9	168	21	0	198	7	27	14	4	52	18	276	12	2	308	702
Grand Total	110	112	23	3		248	14	299	31	2	346	11	52	23	5	91	25	502	20	2	549	1234
Apprch %	44.4	45.2	9.3	1.2			4	86.4	9	0.6		12.1	57.1	25.3	5.5		4.6	91.4	3.6	0.4		
Total %	8.9	9.1	1.9	0.2		20.1	1.1	24.2	2.5	0.2	28	0.9	4.2	1.9	0.4	7.4	2	40.7	1.6	0.2	44.5	
Passenger Vehicles	109	112	22	3		246	14	279	29	2	324	11	51	23	5	90	24	492	20	2	538	1198
% Passenger Vehicles	99.1	100	95.7	100		99.2	100	93.3	93.5	100	93.6	100	98.1	100	100	98.9	96	98	100	100	98	97.1
Heavy Vehicles	1	0	0	0		1	0	16	2	0	18	0	0	0	0	0	1	6	0	0	7	26
% Heavy Vehicles	0.9	0	0	0		0.4	0	5.4	6.5	0	5.2	0	0	0	0	0	4	1.2	0	0	1.3	2.1
School Busses	0	0	1	0		1	0	4	0	0	4	0	1	0	0	1	0	4	0	0	4	10
% School Busses	0	0	4.3	0		0.4	0	1.3	0	0	1.2	0	1.9	0	0	1.1	0	0.8	0	0	0.7	0.8

# The Chazen Companies

547 River Street  
Troy, New York, 12180  
[www.chazencompanies.com](http://www.chazencompanies.com)

Project No.: 31348.00

Counted By: E. Droz

Intersection: Crandall St/Sherman Ave

Time: 7:00 - 9:00AM

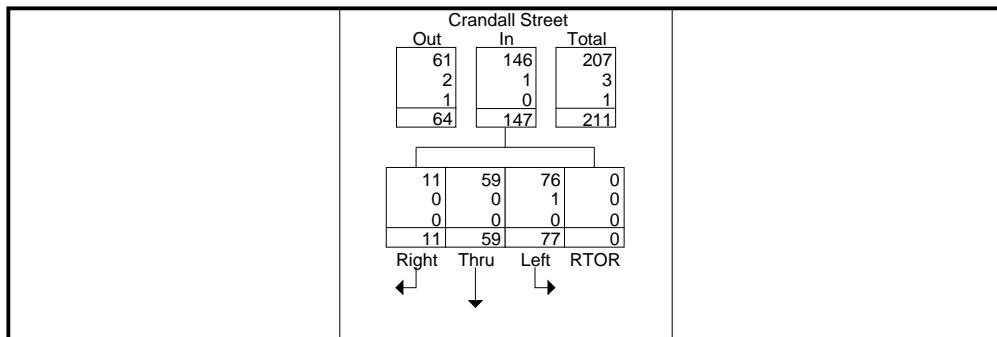
File Name : 31348.00\_TMC\_10-30-2013\_AM  
Site Code : 3134800  
Start Date : 10/30/2013  
Page No : 2

	Crandall Street Southbound				Sherman Avenue Westbound				Crandall Street Northbound				Sherman Avenue Eastbound				Int. Total
	Start Time	Left	Thru	Rig ht	RT OR	App. Total	Left	Thru	Rig ht	RT OR	App. Total	Left	Thru	Rig ht	RT OR	App. Total	

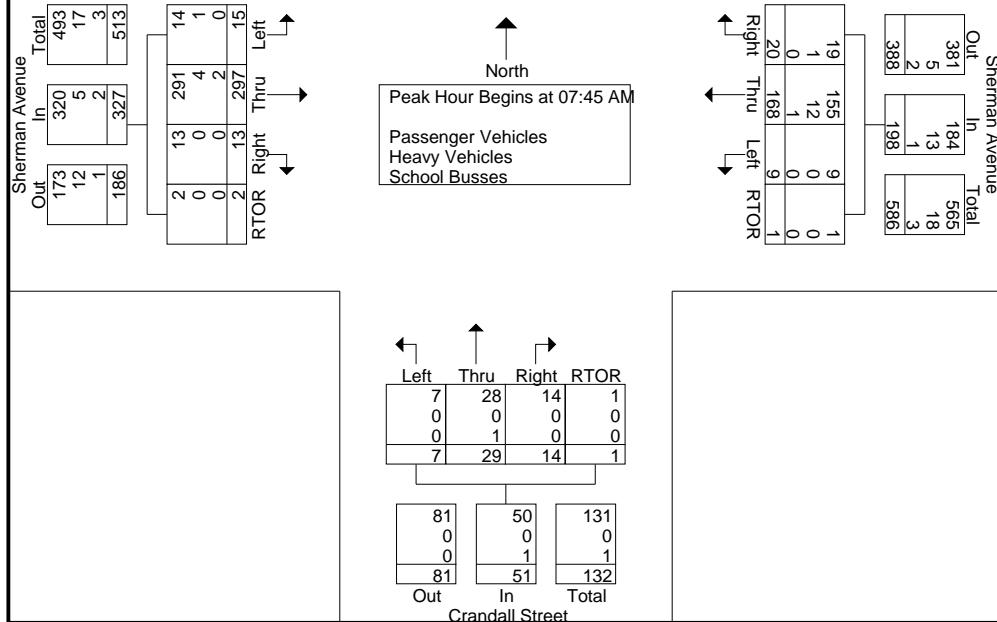
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:45 AM

07:45 AM	16	13	4	0	33	2	46	4	1	53	1	10	5	0	16	3	77	4	0	84	186
08:00 AM	17	18	5	0	40	5	53	8	0	66	4	12	4	0	20	7	66	2	2	77	203
08:15 AM	36	16	1	0	53	2	35	3	0	40	2	3	1	0	6	2	73	1	0	76	175
08:30 AM	8	12	1	0	21	0	34	5	0	39	0	4	4	1	9	3	81	6	0	90	159
Total Volume	77	59	11	0	147	9	168	20	1	198	7	29	14	1	51	15	297	13	2	327	723
% App. Total	52.4	40.1	7.5	0		4.5	84.8	10.1	0.5		13.7	56.9	27.5	2		4.6	90.8	4	0.6		
PHF	.535	.819	.550	.000	.693	.450	.792	.625	.250	.750	.438	.604	.700	.250	.638	.536	.917	.542	.250	.908	.890
Passenger Vehicles	76	59	11	0	146	9	155	19	1	184	7	28	14	1	50	14	291	13	2	320	700
% Passenger Vehicles	98.7	100	100	0	99.3	100	92.3	95.0	100	92.9	100	96.6	100	100	98.0	93.3	98.0	100	100	97.9	96.8
Heavy Vehicles	1	0	0	0	1	0	12	1	0	13	0	0	0	0	0	1	4	0	0	5	19
% Heavy Vehicles	1.3	0	0	0	0.7	0	7.1	5.0	0	6.6	0	0	0	0	0	6.7	1.3	0	0	1.5	2.6
School Busses	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	4
% School Busses	0	0	0	0	0	0	0.6	0	0	0.5	0	3.4	0	0	2.0	0	0.7	0	0	0.6	0.6



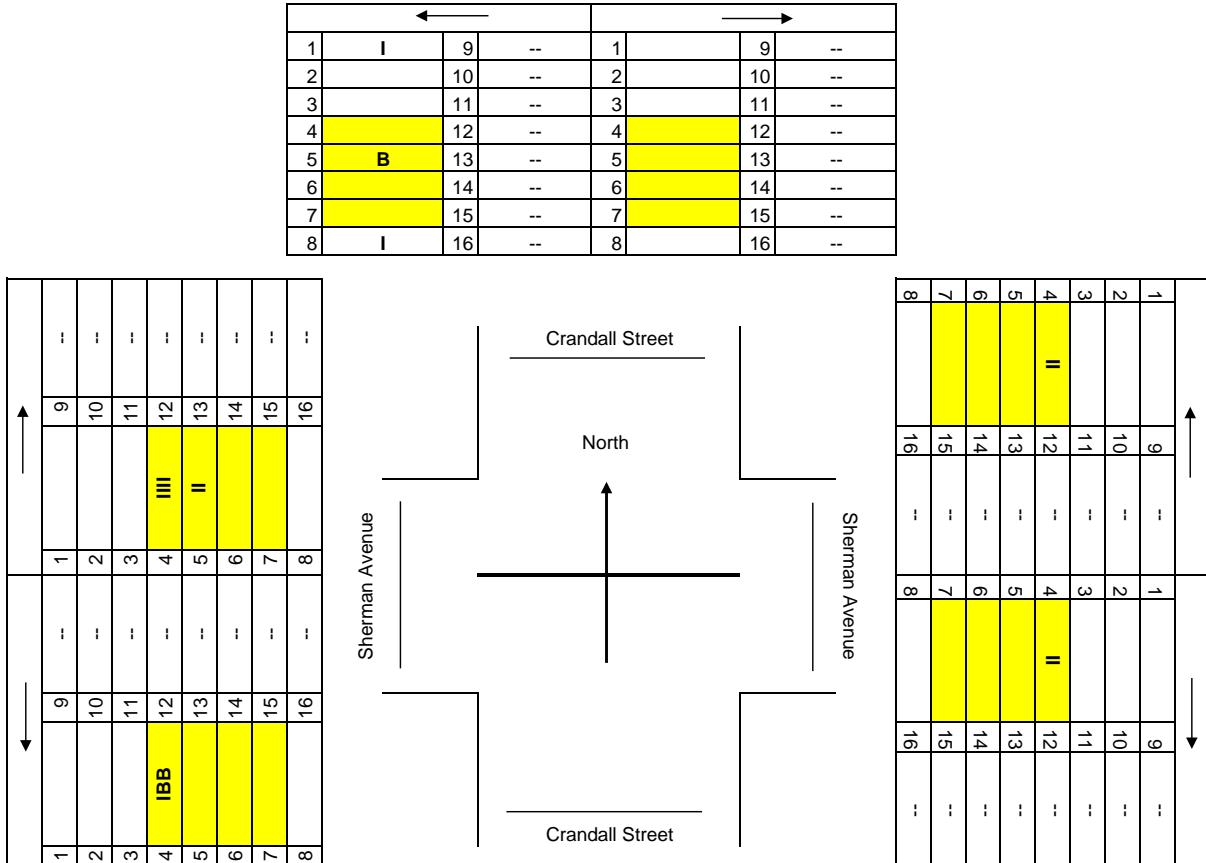
## Peak Hour Data





## Pedestrian Movement Count

Date: 10/30/2013 Time: 7-9AM  
 Project No.: 31348.00  
 Intersection: Crandall Street & Sherman Avenue  
 Recorder: E. Droz



1		9	--	1	I	9	--
2		10	--	2	B	10	--
3		11	--	3		11	--
4	III-	12	--	4	I	12	--
5	I	13	--	5		13	--
6		14	--	6		14	--
7		15	--	7		15	--
8		16	--	8		16	--

Notes:  
 B = Bicyclists  
 I = Pedestrians  
 -- = Not Applicable

Peak Hour was 7:45-8:45AM (Based on the Manual Vehicular Turning Movement Count)

# The Chazen Companies

547 River Street  
Troy, New York, 12180  
[www.chazencompanies.com](http://www.chazencompanies.com)

Project No.: 31348.00

Counted By: E. Droz

Intersection: Crandall St/Sherman Ave

Time: 2:45 - 6:00PM

File Name : 31348.00\_TMC\_10-30-2013\_PM

Site Code : 03134800

Start Date : 10/29/2013

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School Busses

	Crandall Street Southbound					Sherman Avenue Westbound					Crandall Street Northbound					Sherman Avenue Eastbound						
	Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0			
02:45 PM	6	18	7	1		32	4	79	8	0	91	3	19	3	0	25	3	39	4	2	48	196
Total	6	18	7	1		32	4	79	8	0	91	3	19	3	0	25	3	39	4	2	48	196
03:00 PM	8	18	2	1		29	5	53	8	3	69	0	14	2	0	16	6	70	2	0	78	192
03:15 PM	2	14	3	2		21	4	60	7	1	72	3	14	2	0	19	4	60	3	1	68	180
03:30 PM	14	10	6	0		30	6	74	14	1	95	4	24	3	0	31	5	68	6	2	81	237
03:45 PM	4	13	2	0		19	4	66	6	1	77	3	14	4	2	23	2	49	1	0	52	171
Total	28	55	13	3		99	19	253	35	6	313	10	66	11	2	89	17	247	12	3	279	780
04:00 PM	4	14	6	1		25	4	59	6	0	69	4	12	3	2	21	4	51	2	1	58	173
04:15 PM	2	8	2	0		12	3	62	8	1	74	2	10	2	2	16	3	51	1	0	55	157
04:30 PM	3	9	7	3		22	2	71	10	0	83	4	20	5	1	30	3	47	1	1	52	187
04:45 PM	2	10	5	2		19	2	64	5	0	71	3	17	2	0	22	5	32	1	0	38	150
Total	11	41	20	6		78	11	256	29	1	297	13	59	12	5	89	15	181	5	2	203	667
05:00 PM	3	8	5	2		18	7	79	13	1	100	3	13	2	1	19	2	75	2	0	79	216
05:15 PM	5	7	7	3		22	2	77	6	1	86	1	13	2	1	17	1	67	2	1	71	196
05:30 PM	2	13	2	1		18	3	63	6	1	73	3	14	3	1	21	4	45	3	0	52	164
05:45 PM	4	9	4	1		18	3	68	6	0	77	3	10	3	1	17	1	43	2	1	47	159
Total	14	37	18	7		76	15	287	31	3	336	10	50	10	4	74	8	230	9	2	249	735
Grand Total	59	151	58	17		285	49	875	103	10	1037	36	194	36	11	277	43	697	30	9	779	2378
Apprch %	20.7	53	20.4	6			4.7	84.4	9.9	1		13	70	13	4		5.5	89.5	3.9	1.2		
Total %	2.5	6.3	2.4	0.7		12	2.1	36.8	4.3	0.4	43.6	1.5	8.2	1.5	0.5	11.6	1.8	29.3	1.3	0.4	32.8	
Passenger Vehicles	58	151	58	17		284	49	866	102	10	1027	36	193	36	11	276	42	678	30	9	759	2346
% Passenger Vehicles	98.3	100	100	100		99.6	100	99	99	100	99	100	99.5	100	100	99.6	97.7	97.3	100	100	97.4	98.7
Heavy Vehicles	1	0	0	0		1	0	4	1	0	5	0	1	0	0	1	1	11	0	0	12	19
% Heavy Vehicles	1.7	0	0	0		0.4	0	0.5	1	0	0.5	0	0.5	0	0	0.4	2.3	1.6	0	0	1.5	0.8
School Busses	0	0	0	0		0	0	5	0	0	5	0	0	0	0	0	0	8	0	0	8	13
% School Busses	0	0	0	0		0	0	0.6	0	0	0.5	0	0	0	0	0	0	1.1	0	0	1	0.5

# The Chazen Companies

547 River Street  
Troy, New York, 12180  
[www.chazencompanies.com](http://www.chazencompanies.com)

Project No.: 31348.00

Counted By: E. Droz

Intersection: Crandall St/Sherman Ave

Time: 2:45 - 6:00PM

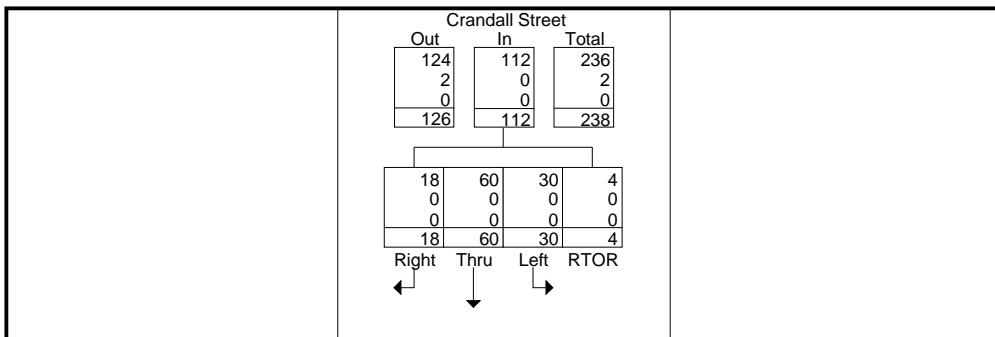
File Name : 31348.00\_TMC\_10-30-2013\_PM  
Site Code : 03134800  
Start Date : 10/29/2013  
Page No : 2

	Crandall Street Southbound				Sherman Avenue Westbound				Crandall Street Northbound				Sherman Avenue Eastbound				Int. Total
	Start Time	Left	Thru	Rig ht	RT OR	App. Total	Left	Thru	Rig ht	RT OR	App. Total	Left	Thru	Rig ht	RT OR	App. Total	

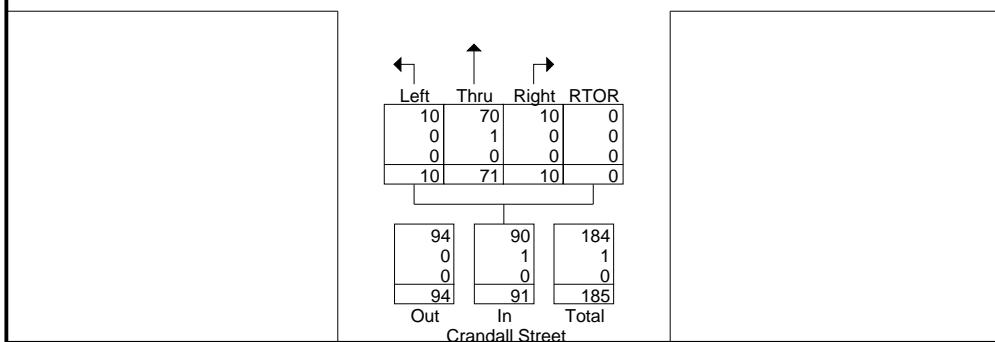
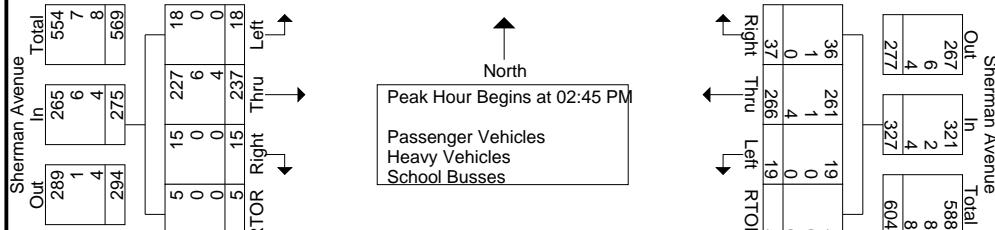
Peak Hour Analysis From 02:45 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:45 PM

02:45 PM	6	18	7	1	32	4	79	8	0	91	3	19	3	0	25	3	39	4	2	48	196
03:00 PM	8	18	2	1	29	5	53	8	3	69	0	14	2	0	16	6	70	2	0	78	192
03:15 PM	2	14	3	2	21	4	60	7	1	72	3	14	2	0	19	4	60	3	1	68	180
03:30 PM	14	10	6	0	30	6	74	14	1	95	4	24	3	0	31	5	68	6	2	81	237
Total Volume	30	60	18	4	112	19	266	37	5	327	10	71	10	0	91	18	237	15	5	275	805
% App. Total	26.8	53.6	16.1	3.6		5.8	81.3	11.3	1.5		11	78	11	0		6.5	86.2	5.5	1.8		
PHF	.536	.833	.643	.500	.875	.792	.842	.661	.417	.861	.625	.740	.833	.000	.734	.750	.846	.625	.625	.849	.849
Passenger Vehicles	30	60	18	4	112	19	261	36	5	321	10	70	10	0	90	18	227	15	5	265	788
% Passenger Vehicles	100	100	100	100	100	100	98.1	97.3	100	98.2	100	98.6	100	0	98.9	100	95.8	100	100	96.4	97.9
Heavy Vehicles	0	0	0	0	0	0	1	1	0	2	0	1	0	0	1	0	6	0	0	6	9
% Heavy Vehicles	0	0	0	0	0	0	0.4	2.7	0	0.6	0	1.4	0	0	1.1	0	2.5	0	0	2.2	1.1
School Busses	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
% School Busses	0	0	0	0	0	0	1.5	0	0	1.2	0	0	0	0	0	0	1.7	0	0	1.5	1.0



## Peak Hour Data



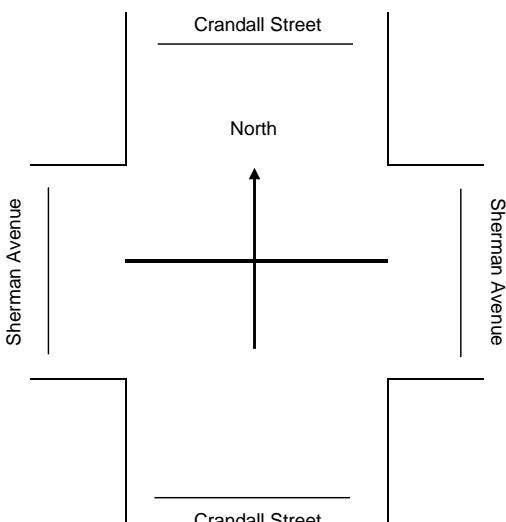
## Pedestrian Movement Count



Date: 10/30/2013 Time: 2:45-6:00PM  
 Project No.: 31348.00  
 Intersection: Crandall Street and Sherman Avenue  
 Recorder: E. Droz

1	II	9	1	II	9
2		10	2		10
3		11	3		11
4	II	12	B <small>I</small>	III	12
5		13	5	I	13
6		14	--	6	I
7		15	--	7	
8		16	--	8	I
					16
					--

1	II	9	1	II	9
2		10	2		10
3		11	3		11
4	II	12	B <small>I</small>	III	12
5		13	5	I	13
6		14	--	6	I
7		15	--	7	
8		16	--	8	I
					16
					--



1	II	9	1	II	9
2		10	2	B	10
3		11	3	B	11
4	II	12	4	B <small>I</small>	12
5		13	5	I	13
6		14	6	--	14
7	B	15	7	--	15
8	BB	16	8	--	16
					--

1	I	9	1	BBIII	9
2		10	2		10
3		11	3	III	11
4		12	4	BIB	12
5		13	B <small>II</small>	5	II <small>B</small>
6		14	--	6	14
7	BB	15	--	7	III
8	BB	16	--	8	15
					--

Notes:  
 B = Bicyclists  
 I = Pedestrians  
 -- = Not Applicable

Peak Hour was 2:45-3:45AM (Based on the Manual Vehicular Turning Movement Count)

# The Chazen Companies

547 River Street  
Troy, New York, 12180  
[www.chazencompanies.com](http://www.chazencompanies.com)

Project No.: 31348.00

Counted By: E Droz

Intersection: Sherman Ave/Quade St

Time: 2:45 - 3:45 PM

File Name : Not Named 1  
Site Code : 31348001  
Start Date : 11/20/2013  
Page No : 1

## Groups Printed- Passenger Vehicles - Heavy Vehicles - School Busses

	Quade Street Southbound					Sherman Avenue Westbound					Cortland Street Northbound					Sherman Avenue Eastbound						
	Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0			
02:45 PM	0	1	2	0		3	3	50	4		57	7	13	13	0	33	10	38	5	0	53	146
Total	0	1	2	0		3	3	50	4		57	7	13	13	0	33	10	38	5	0	53	146
03:00 PM	12	5	17	0		34	7	48	5		60	4	9	6	0	19	3	48	4	0	55	168
03:15 PM	6	8	22	0		36	7	65	3		75	2	8	2	0	12	9	73	2	0	84	207
03:30 PM	9	5	10	0		24	8	47	3		58	6	2	3	0	11	15	57	1	0	73	166
Grand Total	27	19	51	0		97	25	210	15		250	19	32	24	0	75	37	216	12	0	265	687
Apprch %	27.8	19.6	52.6	0			10	84	6			25.3	42.7	32	0		14	81.5	4.5	0		
Total %	3.9	2.8	7.4	0		14.1	3.6	30.6	2.2		36.4	2.8	4.7	3.5	0	10.9	5.4	31.4	1.7	0	38.6	
Passenger Vehicles	27	19	49	0		95	24	205	15		244	19	32	24	0	75	37	208	12	0	257	671
% Passenger Vehicles	100	100	96.1	0		97.9	96	97.6	100		97.6	100	100	100	0	100	100	96.3	100	0	97	97.7
Heavy Vehicles	0	0	1	0		1	1	4	0		5	0	0	0	0	0	0	7	0	0	7	13
% Heavy Vehicles	0	0	2	0		1	4	1.9	0		2	0	0	0	0	0	0	3.2	0	0	2.6	1.9
School Busses	0	0	1	0		1	0	1	0		1	0	0	0	0	0	0	1	0	0	1	3
% School Busses	0	0	2	0		1	0	0.5	0		0.4	0	0	0	0	0	0	0.5	0	0	0.4	0.4

# The Chazen Companies

547 River Street  
Troy, New York, 12180  
[www.chazencompanies.com](http://www.chazencompanies.com)

Project No.: 31348.00

Counted By: E Droz

Intersection: Sherman Ave/Quade St

Time: 2:45 - 3:45 PM

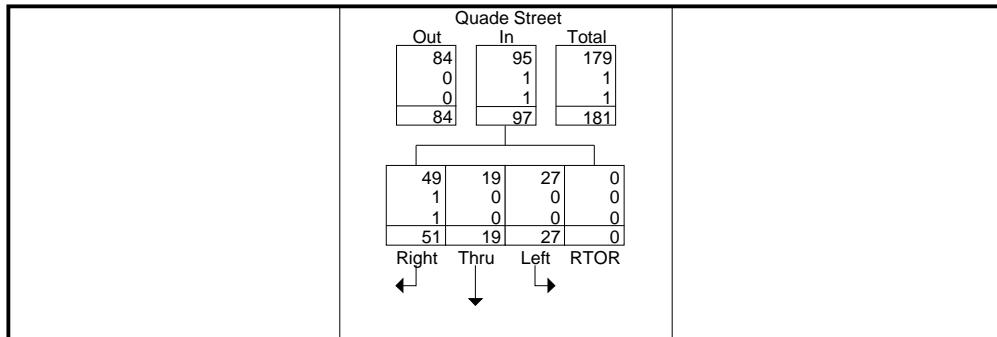
File Name : Not Named 1  
Site Code : 31348001  
Start Date : 11/20/2013  
Page No : 2

	Quade Street Southbound				Sherman Avenue Westbound				Cortland Street Northbound				Sherman Avenue Eastbound				Int. Total
	Start Time	Left	Thru	Rig ht	RT OR	App. Total	Left	Thru	Rig ht	RT OR	App. Total	Left	Thru	Rig ht	RT OR	App. Total	

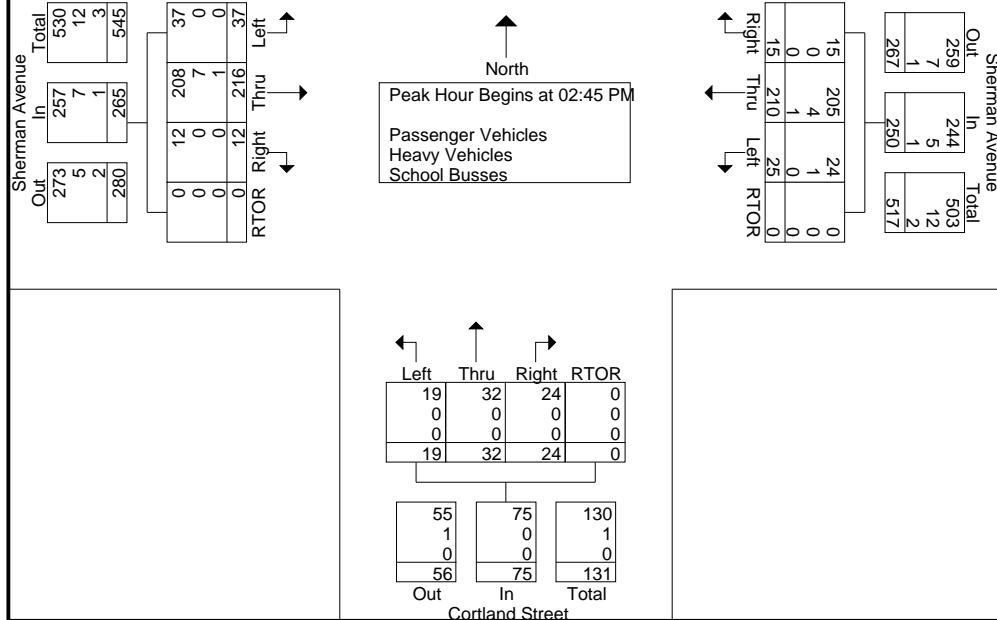
Peak Hour Analysis From 02:45 PM to 03:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:45 PM

02:45 PM	0	1	2	0	3	3	50	4	0	57	7	13	13	0	33	10	38	5	0	53	146
03:00 PM	12	5	17	0	34	7	48	5	0	60	4	9	6	0	19	3	48	4	0	55	168
03:15 PM	6	8	22	0	36	7	65	3	0	75	2	8	2	0	12	9	73	2	0	84	207
03:30 PM	9	5	10	0	24	8	47	3	0	58	6	2	3	0	11	15	57	1	0	73	166
Total Volume	27	19	51	0	97	25	210	15	0	250	19	32	24	0	75	37	216	12	0	265	687
% App. Total	27.8	19.6	52.6	0		10	84	6	0		25.3	42.7	32	0		14	81.5	4.5	0		
PHF	.563	.594	.580	.000	.674	.781	.808	.750	.000	.833	.679	.615	.462	.000	.568	.617	.740	.600	.000	.789	.830
Passenger Vehicles	27	19	49	0	95	24	205	15	0	244	19	32	24	0	75	37	208	12	0	257	671
% Passenger Vehicles	100	100	96.1	0	97.9	96.0	97.6	100	0	97.6	100	100	100	0	100	100	96.3	100	0	97.0	97.7
Heavy Vehicles	0	0	1	0	1	1	4	0	0	5	0	0	0	0	0	0	0	7	0	0	7
% Heavy Vehicles	0	0	2.0	0	1.0	4.0	1.9	0	0	2.0	0	0	0	0	0	0	0	3.2	0	0	2.6
School Busses	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
% School Busses	0	0	2.0	0	1.0	0	0.5	0	0	0.4	0	0	0	0	0	0	0.5	0	0	0.4	0.4



## Peak Hour Data

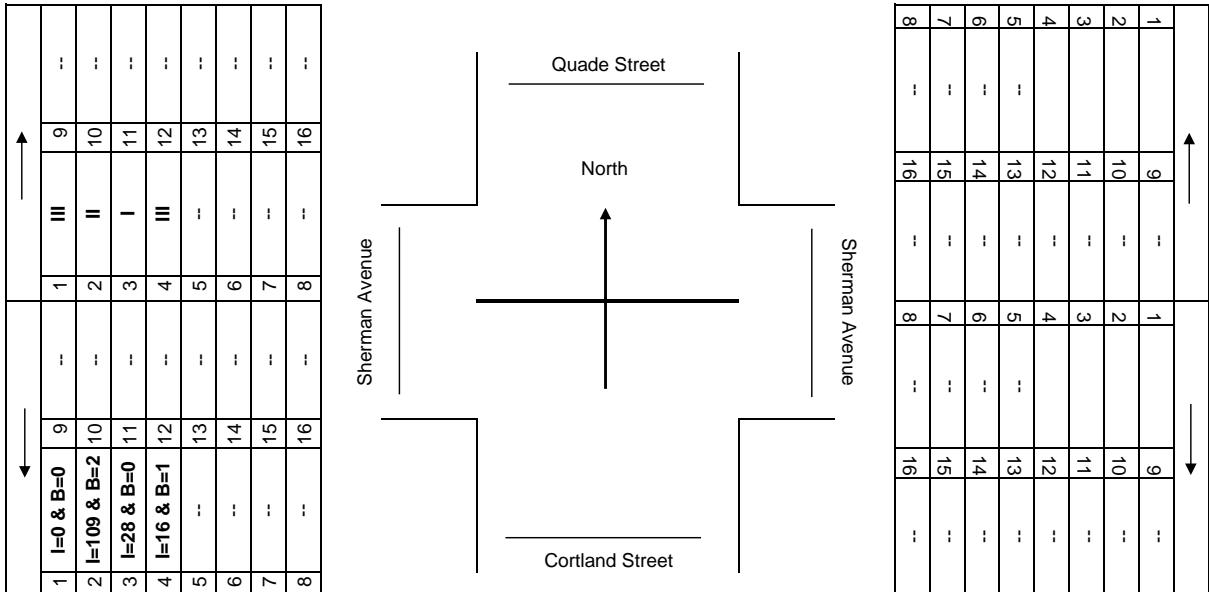


## Pedestrian Movement Count



Date: 11/20/2013 Time: 2:45-3:45PM  
 Project No.: 31348.00  
 Intersection: Sherman Ave & Quade St/Cortland St  
 Recorder: E. Droz

			←				→
1	I	9	--	1		9	--
2		10	--	2	III	10	--
3		11	--	3	I	11	--
4		12	--	4	B	12	--
5	--	13	--	5	--	13	--
6	--	14	--	6	--	14	--
7	--	15	--	7	--	15	--
8	--	16	--	8	--	16	--



			←				→
1		9	--	1	I	9	--
2		10	--	2	III	10	--
3	III	11	--	3		11	--
4		12	--	4	I	12	--
5	--	13	--	5	--	13	--
6	--	14	--	6	--	14	--
7	--	15	--	7	--	15	--
8	--	16	--	8	--	16	--

Notes: B = Bicyclists  
 I = Pedestrians  
 -- = Not Applicable

Peak Hour was 2:45-3:45AM (Based on the Manual Vehicular Turning Movement Count)

# Tristate Traffic Data, Inc.

Page 1

Location: Glens Falls, NY  
 Road: Crandall St (North Side)  
 Segment:~240ft north of Sherman Ave  
 Counter: Metro5600/cp20

184 Baker Road  
 Coatesville, PA 19320

Start Time	28-Oct-13 Mon	Northbound		Southbound		Combined		29-Oct-Tue	Northbound		Southbound		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	*	*	*	*	3	22	0	13	3	35	
12:15	*	*	*	*	*	*	*	4	11	0	16	4	27	
12:30	*	*	*	*	*	*	*	2	15	0	14	2	29	
12:45	*	*	*	*	*	*	*	3	18	2	25	5	43	
01:00	*	*	*	*	*	*	*	2	15	0	18	2	33	
01:15	*	*	*	*	*	*	*	0	7	0	20	0	27	
01:30	*	*	*	*	*	*	*	0	12	0	22	0	34	
01:45	*	*	*	*	*	*	*	1	15	0	28	1	43	
02:00	*	18	*	16	*	34	*	1	11	0	22	1	33	
02:15	*	20	*	16	*	36	*	0	32	0	17	0	49	
02:30	*	26	*	19	*	45	*	0	22	0	28	0	50	
02:45	*	21	*	25	*	46	*	1	27	1	28	2	55	
03:00	*	25	*	32	*	57	*	1	33	1	26	2	59	
03:15	*	32	*	29	*	61	*	0	27	2	29	2	56	
03:30	*	26	*	14	*	40	*	0	45	0	25	0	70	
03:45	*	23	*	26	*	49	*	1	19	1	26	2	45	
04:00	*	31	*	18	*	49	*	0	29	1	21	1	50	
04:15	*	23	*	14	*	37	*	0	13	2	14	2	27	
04:30	*	22	*	21	*	43	*	0	38	2	21	2	59	
04:45	*	30	*	27	*	57	*	0	28	1	14	1	42	
05:00	*	29	*	14	*	43	*	0	32	1	19	1	51	
05:15	*	37	*	19	*	56	*	0	21	3	19	3	40	
05:30	*	19	*	14	*	33	*	0	25	1	21	1	46	
05:45	*	17	*	17	*	34	*	1	21	4	22	5	43	
06:00	*	22	*	12	*	34	*	2	16	2	24	4	40	
06:15	*	20	*	4	*	24	*	1	17	5	14	6	31	
06:30	*	10	*	15	*	25	*	3	17	14	14	17	31	
06:45	*	14	*	14	*	28	*	6	16	19	6	25	22	
07:00	*	7	*	11	*	18	*	7	9	12	3	19	12	
07:15	*	11	*	11	*	22	*	4	15	20	8	24	23	
07:30	*	7	*	5	*	12	*	9	7	18	4	27	11	
07:45	*	9	*	6	*	15	*	14	11	30	5	44	16	
08:00	*	8	*	3	*	11	*	25	10	33	5	58	15	
08:15	*	7	*	4	*	11	*	14	7	53	9	67	16	
08:30	*	9	*	7	*	16	*	12	6	27	2	39	8	
08:45	*	10	*	2	*	12	*	11	6	28	4	39	10	
09:00	*	6	*	3	*	9	*	15	10	21	7	36	17	
09:15	*	10	*	3	*	13	*	10	5	9	7	19	12	
09:30	*	8	*	2	*	10	*	9	4	14	5	23	9	
09:45	*	10	*	6	*	16	*	12	6	15	2	27	8	
10:00	*	3	*	4	*	7	*	9	2	17	3	26	5	
10:15	*	4	*	8	*	12	*	10	6	16	1	26	7	
10:30	*	4	*	2	*	6	*	19	3	21	2	40	5	
10:45	*	2	*	2	*	4	*	10	1	18	4	28	5	
11:00	*	6	*	3	*	9	*	18	6	15	3	33	9	
11:15	*	1	*	3	*	4	*	12	2	19	2	31	4	
11:30	*	1	*	2	*	3	*	19	2	14	2	33	4	
11:45	*	0	*	0	*	0	*	23	1	22	0	45	1	
Total Day Total	0	588	0	453	0	1041		294	723	484	644	778	1367	
% Total	0.0%	56.5%	0.0%	43.5%	1041			13.7%	33.7%	22.6%	30.0%	2145		
Peak Vol.	-	-	04:30	-	02:30	-	02:30	-	11:00	02:45	07:45	02:30	07:45	02:45
P.H.F.	-	-	118	-	105	-	209	-	72	132	143	111	208	240
			0.797		0.820		0.857		0.720	0.733	0.675	0.957	0.776	0.857

# Tristate Traffic Data, Inc.

Page 2

Location: Glens Falls, NY  
 Road: Crandall St (North Side)  
 Segment:~240ft north of Sherman Ave  
 Counter: Metro5600/cp20

184 Baker Road  
 Coatesville, PA 19320

Start Time	30-Oct-13 Wed	Northbound		Southbound		Combined		31-Oct-Thu	Northbound		Southbound		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		3	13	3	13	6	26		3	15	2	25	5	40
12:15		3	19	2	16	5	35		3	18	2	12	5	30
12:30		1	24	2	21	3	45		1	15	2	23	3	38
12:45		2	19	1	22	3	41		1	18	0	25	1	43
01:00		0	18	1	28	1	46		1	12	0	17	1	29
01:15		0	18	0	21	0	39		1	19	0	10	1	29
01:30		0	10	0	23	0	33		0	0	1	0	1	0
01:45		0	15	3	23	3	38		1	0	0	0	1	0
02:00		0	13	0	17	0	30		0	0	0	0	0	0
02:15		0	15	0	23	0	38		0	0	0	0	0	0
02:30		2	17	0	22	2	39		1	0	1	0	2	0
02:45		1	18	0	25	1	43		0	0	1	0	1	0
03:00		1	32	0	32	1	64		1	0	0	0	1	0
03:15		2	19	0	37	2	56		1	0	1	0	2	0
03:30		0	29	0	29	0	58		0	*	0	*	0	*
03:45		0	23	1	24	1	47		0	*	2	*	2	*
04:00		1	25	0	11	1	36		0	*	0	*	0	*
04:15		1	27	1	20	2	47		0	*	2	*	2	*
04:30		0	21	1	25	1	46		0	*	3	*	3	*
04:45		1	24	0	30	1	54		0	*	0	*	0	*
05:00		0	35	2	25	2	60		0	*	2	*	2	*
05:15		0	31	3	31	3	62		0	*	2	*	2	*
05:30		0	23	1	17	1	40		1	*	2	*	3	*
05:45		1	23	1	19	2	42		2	*	3	*	5	*
06:00		3	21	5	13	8	34		4	*	3	*	7	*
06:15		2	18	9	24	11	42		2	*	9	*	11	*
06:30		6	15	10	13	16	28		2	*	13	*	15	*
06:45		3	12	25	11	28	23		4	*	15	*	19	*
07:00		8	18	20	13	28	31		7	*	13	*	20	*
07:15		5	14	24	13	29	27		12	*	22	*	34	*
07:30		9	10	22	10	31	20		7	*	23	*	30	*
07:45		13	6	34	9	47	15		13	*	36	*	49	*
08:00		28	15	35	7	63	22		14	*	38	*	52	*
08:15		14	11	60	5	74	16		18	*	52	*	70	*
08:30		14	6	25	5	39	11		8	*	30	*	38	*
08:45		12	9	27	5	39	14		17	*	23	*	40	*
09:00		12	7	19	10	31	17		6	*	12	*	18	*
09:15		15	2	19	3	34	5		18	*	24	*	42	*
09:30		6	13	12	2	18	15		6	*	17	*	23	*
09:45		7	13	19	4	26	17		11	*	25	*	36	*
10:00		14	4	17	6	31	10		10	*	12	*	22	*
10:15		10	9	11	5	21	14		10	*	19	*	29	*
10:30		19	2	15	1	34	3		13	*	14	*	27	*
10:45		17	6	11	4	28	10		9	*	14	*	23	*
11:00		14	8	23	3	37	11		14	*	23	*	37	*
11:15		21	5	19	3	40	8		18	*	15	*	33	*
11:30		15	1	21	3	36	4		15	*	17	*	32	*
11:45		21	0	29	2	50	2		16	*	18	*	34	*
Total Day Total		307	736	533	728	840	1464		271	97	513	112	784	209
% Total		13.3%	31.9%	23.1%	31.6%				27.3%	9.8%	51.7%	11.3%		993
Peak Vol.	-	10:30	04:45	07:45	02:45	07:45	03:00	-	11:00	12:00	07:45	12:00	07:45	12:00
P.H.F.	-	71	113	154	123	223	225	-	63	66	156	85	209	151
ADT	ADT	2,076	ADT	2,076					0.875	0.917	0.750	0.850	0.746	0.878

**Tristate Traffic Data, Inc.**

Location: Glens Falls, NY  
Road: Crandall St (North Side)  
Segment: ~240 ft north of Sherman Ave  
Counter: Metro5600/cp20

184 Baker Road  
Coatesville, PA 19320

## **Tristate Traffic Data, Inc.**

Page 2

Location: Glens Falls, NY  
Road: Crandall St (North Side)  
Segment: ~240 ft north of Sherman Ave  
Counter: Metro5600/cp20  
YR

184 Baker Road  
Coatesville, PA 19320

# **Tristate Traffic Data, Inc.**

Location: Glens Falls, NY  
Road: Crandall St (North Side)  
Segment: ~240 ft north of Sherman Ave  
Counter: Metro5600/cp20

184 Baker Road  
Coatesville, PA 19320

# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls, NY  
 Road: Crandall St (North Side)  
 Segment: ~240 ft north of Sherman Ave  
 Counter: Metro5600/cp20  
 NB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/31/13	0	0	0	0	3	2	3	0	0	0	0	0	0	0	0	0	8
01:00	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
06:00	0	0	0	1	6	5	0	0	0	0	0	0	0	0	0	0	12
07:00	0	0	2	3	22	10	2	0	0	0	0	0	0	0	0	0	39
08:00	0	0	0	10	26	20	1	0	0	0	0	0	0	0	0	0	57
09:00	0	1	1	2	14	20	3	0	0	0	0	0	0	0	0	0	41
10:00	0	0	0	6	21	13	2	0	0	0	0	0	0	0	0	0	42
11:00	0	0	0	7	33	20	3	0	0	0	0	0	0	0	0	0	63
12 PM	0	0	0	4	30	28	4	0	0	0	0	0	0	0	0	0	66
13:00	0	0	1	4	13	12	1	0	0	0	0	0	0	0	0	0	31
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	1	4	38	172	133	20	0	0	0	0	0	0	0	0	0	368
Grand Total	0	6	49	266	1493	1051	143	7	1	0	0	0	0	0	0	0	3016

Stats	15th Percentile :	19 MPH
	50th Percentile :	24 MPH
	85th Percentile :	28 MPH
	95th Percentile :	31 MPH
	Mean Speed(Average) :	25 MPH
	10 MPH Pace Speed :	20-29 MPH
	Number in Pace :	2301
	Percent in Pace :	76.3%
	Number of Vehicles > 30 MPH :	151
	Percent of Vehicles > 30 MPH :	5.0%

# **Tristate Traffic Data, Inc.**

Location: Glens Falls, NY  
Road: Crandall St (North Side)  
Segment: ~240 ft north of Sherman Ave  
Counter: Metro5600/cp20  
CS

184 Baker Road  
Coatesville, PA 19320

Page 5

# **Tristate Traffic Data, Inc.**

Location: Glens Falls, NY  
Road: Crandall St (North Side)  
Segment: ~240 ft north of Sherman Ave  
Counter: Metro5600/cp20  
SP

184 Baker Road  
Coatesville, PA 19320

# **Tristate Traffic Data, Inc.**

Location: Glens Falls, NY  
Road: Crandall St (North Side)  
Segment: ~240 ft north of Sherman Ave  
Counter: Metro5600/cp20  
SB

184 Baker Road  
Coatesville, PA 19320

# Tristate Traffic Data, Inc.

Location: Glens Falls, NY  
 Road: Crandall St (North Side)  
 Segment: ~240 ft north of Sherman Ave  
 Counter: Metro5600/cp20  
 SB

184 Baker Road  
 Coatesville, PA 19320

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/31/13	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	6
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	0	0	1	1	3	0	0	0	0	0	0	0	0	0	0	5
05:00	0	0	0	0	3	5	1	0	0	0	0	0	0	0	0	0	9
06:00	0	0	0	2	19	16	3	0	0	0	0	0	0	0	0	0	40
07:00	0	0	2	12	41	32	7	0	0	0	0	0	0	0	0	0	94
08:00	0	0	4	32	58	40	9	0	0	0	0	0	0	0	0	0	143
09:00	0	1	1	15	36	22	3	0	0	0	0	0	0	0	0	0	78
10:00	0	0	3	11	27	15	3	0	0	0	0	0	0	0	0	0	59
11:00	0	0	2	14	40	15	2	0	0	0	0	0	0	0	0	0	73
12 PM	0	0	6	14	37	24	3	1	0	0	0	0	0	0	0	0	85
13:00	0	1	1	1	17	6	1	0	0	0	0	0	0	0	0	0	27
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	2	19	104	285	182	32	1	0	0	0	0	0	0	0	0	625
Grand Total	0	13	110	603	1570	985	168	17	1	0	0	0	0	0	0	0	3467

Stats	15th Percentile :	18 MPH
	50th Percentile :	23 MPH
	85th Percentile :	28 MPH
	95th Percentile :	31 MPH
	Mean Speed(Average) :	24 MPH
	10 MPH Pace Speed :	20-29 MPH
	Number in Pace :	2406
	Percent in Pace :	69.4%
	Number of Vehicles > 30 MPH :	186
	Percent of Vehicles > 30 MPH :	5.4%

# Tristate Traffic Data, Inc.

Page 1

Location: Glens Falls, NY  
 Road: Crandall St (South Side)  
 Segment: ~90ft South of Sherman Ave  
 Counter: Metro5600/cp27

184 Baker Road  
 Coatesville, PA 19320

Start Time	28-Oct-13	NB		SB		Combined		29-Oct-Tue	NB		SB		Combined	
		Mon	A.M.	P.M.	A.M.	P.M.	A.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		*	*	*	*	*	*		2	19	2	16	4	35
12:15		*	*	*	*	*	*		2	10	0	16	2	26
12:30		*	*	*	*	*	*		2	13	0	15	2	28
12:45		*	*	*	*	*	*		1	16	1	24	2	40
01:00		*	*	*	*	*	*		2	17	1	8	3	25
01:15		*	*	*	*	*	*		1	11	0	17	1	28
01:30		*	*	*	*	*	*		0	12	0	21	0	33
01:45		*	*	*	*	*	*		1	11	0	17	1	28
02:00		*	12	*	13	*	25		0	10	0	19	0	29
02:15		*	17	*	17	*	34		0	19	0	20	0	39
02:30		*	19	*	24	*	43		0	20	0	29	0	49
02:45		*	22	*	24	*	46		0	25	0	21	0	46
03:00		*	23	*	26	*	49		1	19	0	20	1	39
03:15		*	20	*	21	*	41		0	19	1	31	1	50
03:30		*	22	*	11	*	33		0	34	0	15	0	49
03:45		*	18	*	24	*	42		1	22	1	24	2	46
04:00		*	23	*	14	*	37		0	22	2	19	2	41
04:15		*	16	*	16	*	32		0	8	1	15	1	23
04:30		*	19	*	15	*	34		0	32	2	12	2	44
04:45		*	26	*	22	*	48		0	22	0	11	0	33
05:00		*	23	*	18	*	41		0	22	2	17	2	39
05:15		*	15	*	18	*	33		0	15	2	12	2	27
05:30		*	12	*	11	*	23		0	19	0	21	0	40
05:45		*	11	*	14	*	25		1	20	3	15	4	35
06:00		*	11	*	9	*	20		0	15	1	21	1	36
06:15		*	13	*	4	*	17		2	16	7	9	9	25
06:30		*	5	*	10	*	15		4	11	9	10	13	21
06:45		*	11	*	11	*	22		7	10	14	6	21	16
07:00		*	10	*	8	*	18		2	3	5	3	7	6
07:15		*	5	*	8	*	13		4	5	11	4	15	9
07:30		*	6	*	4	*	10		11	5	11	7	22	12
07:45		*	6	*	4	*	10		8	7	17	2	25	9
08:00		*	6	*	5	*	11		19	9	21	3	40	12
08:15		*	6	*	3	*	9		10	3	23	7	33	10
08:30		*	1	*	4	*	5		13	3	17	1	30	4
08:45		*	5	*	4	*	9		11	4	20	8	31	12
09:00		*	6	*	2	*	8		11	4	18	4	29	8
09:15		*	5	*	3	*	8		8	5	9	5	17	10
09:30		*	5	*	5	*	10		11	4	9	2	20	6
09:45		*	6	*	5	*	11		18	3	12	2	30	5
10:00		*	2	*	2	*	4		10	1	14	4	24	5
10:15		*	2	*	5	*	7		7	4	16	2	23	6
10:30		*	6	*	5	*	11		12	1	14	1	26	2
10:45		*	3	*	1	*	4		9	2	20	1	29	3
11:00		*	4	*	5	*	9		15	5	13	0	28	5
11:15		*	1	*	3	*	4		10	1	17	2	27	3
11:30		*	0	*	1	*	1		15	0	16	1	31	1
11:45		*	1	*	1	*	2		17	1	18	0	35	1
Total Day Total		0	424	0	400	0	824		248	559	350	540	598	1099
% Total		0.0%	51.5%	0.0%	48.5%		824		14.6%	32.9%	20.6%	31.8%		1697
Peak Vol.	-	-	02:45	-	02:30	-	02:30	-	11:00	02:45	08:00	02:30	08:00	03:15
P.H.F.	-	-	87	-	95	-	179	-	57	97	81	101	134	186
			0.946		0.913		0.913		0.792	0.713	0.880	0.815	0.838	0.930

**Tristate Traffic Data, Inc.**

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls, NY  
Road: Crandall St (South Side)  
Segment: ~90ft South of Sherman Ave  
Counter: Metro5600/cp27

Start Time	30-Oct-13 Wed	NB		SB		Combined		31-Oct- Thu	NB		SB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		3	10	3	16	6	26		3	17	3	13	6	30
12:15		1	11	1	18	2	29		4	12	2	11	6	23
12:30		1	15	0	16	1	31		2	16	3	21	5	37
12:45		0	16	0	15	0	31		1	12	1	22	2	34
01:00		1	12	1	22	2	34		0	6	0	10	0	16
01:15		0	14	0	17	0	31		0	14	0	7	0	21
01:30		0	7	1	17	1	24		0	2	0	4	0	6
01:45		0	14	2	23	2	37		1	0	0	0	1	0
02:00		2	10	1	23	3	33		0	0	1	0	1	0
02:15		0	13	0	15	0	28		0	0	0	0	0	0
02:30		0	14	0	18	0	32		1	0	0	0	1	0
02:45		0	16	1	24	1	40		0	0	1	0	1	0
03:00		2	26	0	24	2	50		0	0	0	0	0	0
03:15		1	19	1	33	2	52		1	0	1	0	2	0
03:30		0	25	0	24	0	49		0	*	0	*	0	*
03:45		0	18	1	21	1	39		0	*	2	*	2	*
04:00		0	18	0	13	0	31		1	*	1	*	2	*
04:15		1	26	0	21	1	47		0	*	1	*	1	*
04:30		0	19	1	25	1	44		0	*	2	*	2	*
04:45		0	21	0	21	0	42		0	*	0	*	0	*
05:00		1	31	4	15	5	46		0	*	3	*	3	*
05:15		2	25	1	19	3	44		0	*	1	*	1	*
05:30		0	14	0	13	0	27		4	*	2	*	6	*
05:45		2	11	1	15	3	26		2	*	3	*	5	*
06:00		1	12	2	12	3	24		0	*	2	*	2	*
06:15		0	9	8	13	8	22		3	*	6	*	9	*
06:30		5	10	10	9	15	19		3	*	12	*	15	*
06:45		5	9	15	13	20	22		6	*	9	*	15	*
07:00		6	11	10	11	16	22		3	*	8	*	11	*
07:15		3	7	15	6	18	13		7	*	9	*	16	*
07:30		10	6	16	7	26	13		7	*	20	*	27	*
07:45		11	10	17	9	28	19		9	*	16	*	25	*
08:00		21	5	26	6	47	11		11	*	20	*	31	*
08:15		10	3	23	3	33	6		18	*	33	*	51	*
08:30		8	2	20	4	28	6		9	*	22	*	31	*
08:45		10	9	22	5	32	14		13	*	13	*	26	*
09:00		11	2	16	6	27	8		4	*	18	*	22	*
09:15		12	2	13	4	25	6		15	*	19	*	34	*
09:30		9	10	14	5	23	15		7	*	13	*	20	*
09:45		5	7	15	2	20	9		12	*	19	*	31	*
10:00		13	4	7	2	20	6		9	*	15	*	24	*
10:15		9	7	11	2	20	9		10	*	11	*	21	*
10:30		14	1	12	2	26	3		13	*	10	*	23	*
10:45		13	4	12	5	25	9		9	*	9	*	18	*
11:00		13	5	17	1	30	6		13	*	20	*	33	*
11:15		13	1	14	3	27	4		14	*	19	*	33	*
11:30		15	3	19	4	34	7		12	*	13	*	25	*
11:45		19	2	19	5	38	7		10	*	16	*	26	*
Total Day Total		253	546	372	607	625	1153		237	79	379	88	616	167
% Total		14.2%	30.7%	20.9%	34.1%				30.3%	10.1%	48.4%	11.2%		783
Peak Vol.	-	11:00	04:15	08:00	02:45	08:00	02:45	-	08:00	12:00	07:45	12:00	08:00	12:00
P.H.F.	-	60	97	91	105	140	191	-	51	57	91	67	139	124
ADT	ADT	1,622		AADT	1,622				0.708	0.838	0.689	0.761	0.681	0.838

# **Tristate Traffic Data, Inc.**

Location: Glens Falls, NY  
Road: Crandall St (South Side)  
Segment: ~90ft south of Sherman Ave  
Counter: Metro5600/cp27

184 Baker Road  
Coatesville, PA 19320

# **Tristate Traffic Data, Inc.**

Location: Glens Falls, NY  
Road: Crandall St (South Side)  
Segment: ~90ft south of Sherman Ave  
Counter: Metro5600/cp27

184 Baker Road  
Coatesville, PA 19320

# **Tristate Traffic Data, Inc.**

Location: Glens Falls, NY  
Road: Crandall St (South Side)  
Segment: ~90ft south of Sherman Ave  
Counter: Metro5600/cp27

184 Baker Road  
Coatesville, PA 19320

# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls, NY  
 Road: Crandall St (South Side)  
 Segment: ~90ft south of Sherman Ave  
 Counter: Metro5600/cp27  
 nb

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/31/13	0	0	1	4	3	2	0	0	0	0	0	0	0	0	0	0	10
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	2	2	1	1	0	0	0	0	0	0	0	0	0	6
06:00	0	0	0	2	8	2	0	0	0	0	0	0	0	0	0	0	12
07:00	0	0	3	7	11	5	0	0	0	0	0	0	0	0	0	0	26
08:00	0	2	7	17	18	7	0	0	0	0	0	0	0	0	0	0	51
09:00	0	1	3	6	16	9	3	0	0	0	0	0	0	0	0	0	38
10:00	0	0	1	10	18	9	3	0	0	0	0	0	0	0	0	0	41
11:00	0	0	3	9	30	6	0	1	0	0	0	0	0	0	0	0	49
12 PM	0	1	2	24	17	9	3	1	0	0	0	0	0	0	0	0	57
13:00	0	0	0	7	9	4	2	0	0	0	0	0	0	0	0	0	22
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	4	20	88	135	55	12	2	0	0	0	0	0	0	0	0	316
Grand Total	0	18	128	610	1047	449	85	9	0	0	0	0	0	0	0	0	2346

Stats	15th Percentile :	16 MPH
	50th Percentile :	21 MPH
	85th Percentile :	27 MPH
	95th Percentile :	30 MPH
	Mean Speed(Average) :	22 MPH
	10 MPH Pace Speed :	18-27 MPH
	Number in Pace :	1591
	Percent in Pace :	67.8%
	Number of Vehicles > 30 MPH :	94
	Percent of Vehicles > 30 MPH :	4.0%

# **Tristate Traffic Data, Inc.**

Location: Glens Falls, NY  
Road: Crandall St (South Side)  
Segment: ~90ft south of Sherman Ave  
Counter: Metro5600/cp27

184 Baker Road  
Coatesville, PA 19320

**Tristate Traffic Data, Inc.**

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls, NY  
Road: Crandall St (South Side)  
Segment: ~90ft south of Sherman Ave  
Counter: Metro5600/cp27

# **Tristate Traffic Data, Inc.**

Location: Glens Falls, NY  
Road: Crandall St (South Side)  
Segment: ~90ft south of Sherman Ave  
Counter: Metro5600/cp27  
sh

184 Baker Road  
Coatesville, PA 19320

# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls, NY  
 Road: Crandall St (South Side)  
 Segment: ~90ft south of Sherman Ave  
 Counter: Metro5600/cp27  
 sb

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/31/13	0	0	1	4	4	0	0	0	0	0	0	0	0	0	0	0	9
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
04:00	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	4
05:00	0	0	0	1	3	5	0	0	0	0	0	0	0	0	0	0	9
06:00	0	0	1	2	21	5	0	0	0	0	0	0	0	0	0	0	29
07:00	0	0	1	8	33	11	0	0	0	0	0	0	0	0	0	0	53
08:00	0	0	1	19	50	17	1	0	0	0	0	0	0	0	0	0	88
09:00	0	0	3	20	38	7	1	0	0	0	0	0	0	0	0	0	69
10:00	0	0	2	9	23	9	1	1	0	0	0	0	0	0	0	0	45
11:00	0	0	4	26	29	9	0	0	0	0	0	0	0	0	0	0	68
12 PM	0	0	1	20	39	7	0	0	0	0	0	0	0	0	0	0	67
13:00	0	0	0	8	9	3	1	0	0	0	0	0	0	0	0	0	21
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total	0	0	14	118	254	76	4	1	0	0	0	0	0	0	0	0	467
Grand Total	0	12	90	683	1439	471	37	4	0	0	0	0	0	0	0	0	2736

Stats	15th Percentile :	17 MPH
	50th Percentile :	22 MPH
	85th Percentile :	26 MPH
	95th Percentile :	29 MPH
	Mean Speed(Average) :	22 MPH
	10 MPH Pace Speed :	18-27 MPH
	Number in Pace :	2036
	Percent in Pace :	74.4%
	Number of Vehicles > 30 MPH :	41
	Percent of Vehicles > 30 MPH :	1.5%

# Tristate Traffic Data, Inc.

Page 1

Location: Glens Falls, NY  
 Road: Sherman Ave (East Side)  
 Segment: ~180ft East of Crandall St  
 Counter: Metro5600/CP38

184 Baker Road  
 Coatesville, PA 19320

Start Time	28-Oct-13 Mon	EB		WB		Combined		29-Oct-Tue	EB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	*	*	*	*	1	38	4	57	5	95	
12:15	*	*	*	*	*	*	*	2	36	5	51	7	87	
12:30	*	*	*	*	*	*	*	1	45	4	62	5	107	
12:45	*	*	*	*	*	*	*	4	59	8	48	12	107	
01:00	*	*	*	*	*	*	*	1	47	4	50	5	97	
01:15	*	*	*	*	*	*	*	1	52	4	46	5	98	
01:30	*	*	*	*	*	*	*	3	61	1	57	4	118	
01:45	*	*	*	*	*	*	*	2	59	5	52	7	111	
02:00	*	50	*	59	*	109	*	1	47	1	62	2	109	
02:15	*	41	*	66	*	107	*	1	39	2	47	3	86	
02:30	*	46	*	68	*	114	*	1	66	1	90	2	156	
02:45	*	44	*	62	*	106	*	0	46	5	82	5	128	
03:00	*	76	*	85	*	161	*	2	79	2	68	4	147	
03:15	*	83	*	63	*	146	*	2	63	0	72	2	135	
03:30	*	51	*	75	*	126	*	1	76	1	86	2	162	
03:45	*	61	*	69	*	130	*	3	71	1	76	4	147	
04:00	*	62	*	78	*	140	*	5	55	4	75	9	130	
04:15	*	55	*	83	*	138	*	4	54	3	72	7	126	
04:30	*	60	*	82	*	142	*	3	56	4	78	7	134	
04:45	*	55	*	84	*	139	*	2	40	2	68	4	108	
05:00	*	51	*	93	*	144	*	6	71	0	94	6	165	
05:15	*	63	*	86	*	149	*	5	72	4	78	9	150	
05:30	*	53	*	75	*	128	*	17	56	4	77	21	133	
05:45	*	53	*	67	*	120	*	11	47	4	71	15	118	
06:00	*	43	*	56	*	99	*	10	60	14	66	24	126	
06:15	*	51	*	65	*	116	*	21	56	16	54	37	110	
06:30	*	41	*	44	*	85	*	33	45	24	43	57	88	
06:45	*	46	*	47	*	93	*	35	40	32	53	67	93	
07:00	*	43	*	45	*	88	*	41	29	12	45	53	74	
07:15	*	22	*	48	*	70	*	70	27	21	37	91	64	
07:30	*	22	*	33	*	55	*	80	24	31	32	111	56	
07:45	*	21	*	21	*	42	*	88	16	46	34	134	50	
08:00	*	25	*	35	*	60	*	73	27	53	23	126	50	
08:15	*	20	*	22	*	42	*	98	21	43	22	141	43	
08:30	*	24	*	31	*	55	*	67	14	30	41	97	55	
08:45	*	18	*	30	*	48	*	81	7	42	25	123	32	
09:00	*	23	*	28	*	51	*	52	13	51	31	103	44	
09:15	*	14	*	14	*	28	*	35	9	33	20	68	29	
09:30	*	11	*	18	*	29	*	46	22	45	20	91	42	
09:45	*	10	*	20	*	30	*	61	11	50	17	111	28	
10:00	*	12	*	22	*	34	*	49	5	42	19	91	24	
10:15	*	9	*	11	*	20	*	44	5	34	18	78	23	
10:30	*	11	*	16	*	27	*	48	10	34	8	82	18	
10:45	*	10	*	8	*	18	*	36	8	40	9	76	17	
11:00	*	8	*	11	*	19	*	54	11	44	10	98	21	
11:15	*	5	*	7	*	12	*	56	1	49	3	105	4	
11:30	*	6	*	7	*	13	*	55	7	40	6	95	13	
11:45	*	3	*	3	*	6	*	58	0	65	7	123	7	
Total Day Total	0	1402	0	1837	0	3239	1370	1803	964	2262	2334	4065	6399	
% Total	0.0%	43.3%	0.0%	56.7%			21.4%	28.2%	15.1%	35.3%				
Peak Vol.	-	-	03:00	-	04:30	-	04:30	-	07:30	03:00	11:00	05:00	07:30	03:00
P.H.F.	-	-	271	-	345	-	574	-	339	289	198	320	512	591
			0.816		0.927		0.963		0.865	0.915	0.762	0.851	0.908	0.912

# Tristate Traffic Data, Inc.

Page 2

Location: Glens Falls, NY  
 Road: Sherman Ave (East Side)  
 Segment: ~180ft East of Crandall St  
 Counter: Metro5600/CP38

184 Baker Road  
 Coatesville, PA 19320

Start Time	30-Oct-13 Wed	EB		WB		Combined		31-Oct- Thu	EB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		7	53	3	60	10	113		5	63	7	55	12	118
12:15		0	50	4	61	4	111		3	52	6	46	9	98
12:30		3	53	4	61	7	114		2	55	2	65	4	120
12:45		1	55	4	53	5	108		1	54	4	61	5	115
01:00		1	60	3	55	4	115		0	54	2	62	2	116
01:15		0	60	2	62	2	122		1	34	2	39	3	73
01:30		3	50	2	42	5	92		1	0	3	0	4	0
01:45		1	49	5	54	6	103		5	0	1	0	6	0
02:00		2	43	1	68	3	111		2	0	6	0	8	0
02:15		2	55	4	63	6	118		1	0	2	0	3	0
02:30		2	54	4	73	6	127		1	0	1	0	2	0
02:45		0	48	1	68	1	116		1	0	3	0	4	0
03:00		2	61	4	82	6	143		1	0	1	0	2	0
03:15		2	82	3	70	5	152		1	0	0	0	1	0
03:30		0	76	1	76	1	152		0	*	2	*	2	*
03:45		1	54	2	69	3	123		1	*	1	*	2	*
04:00		2	56	5	78	7	134		7	*	6	*	13	*
04:15		2	75	2	82	4	157		1	*	4	*	5	*
04:30		2	56	3	80	5	136		2	*	3	*	5	*
04:45		1	70	7	93	8	163		5	*	0	*	5	*
05:00		6	66	3	91	9	157		6	*	1	*	7	*
05:15		13	64	5	82	18	146		10	*	6	*	16	*
05:30		14	54	8	64	22	118		17	*	7	*	24	*
05:45		12	63	7	77	19	140		8	*	4	*	12	*
06:00		10	46	14	58	24	104		13	*	13	*	26	*
06:15		17	45	15	54	32	99		19	*	13	*	32	*
06:30		25	35	17	70	42	105		31	*	22	*	53	*
06:45		42	45	24	39	66	84		38	*	21	*	59	*
07:00		33	38	25	60	58	98		46	*	20	*	66	*
07:15		62	32	24	39	86	71		68	*	26	*	94	*
07:30		70	30	35	45	105	75		72	*	41	*	113	*
07:45		93	29	50	39	143	68		87	*	59	*	146	*
08:00		75	28	74	38	149	66		87	*	49	*	136	*
08:15		117	17	52	23	169	40		83	*	52	*	135	*
08:30		79	19	41	39	120	58		64	*	33	*	97	*
08:45		76	27	49	38	125	65		71	*	56	*	127	*
09:00		57	16	40	30	97	46		55	*	40	*	95	*
09:15		54	24	46	20	100	44		56	*	39	*	95	*
09:30		47	16	41	25	88	41		45	*	29	*	74	*
09:45		31	15	43	30	74	45		58	*	41	*	99	*
10:00		58	12	52	15	110	27		39	*	39	*	78	*
10:15		41	16	38	17	79	33		48	*	44	*	92	*
10:30		44	7	47	11	91	18		41	*	44	*	85	*
10:45		49	7	51	13	100	20		34	*	54	*	88	*
11:00		56	11	48	11	104	22		52	*	51	*	103	*
11:15		58	7	58	19	116	26		48	*	63	*	111	*
11:30		67	5	53	6	120	11		46	*	50	*	96	*
11:45		46	6	52	6	98	12		47	*	57	*	104	*
Total Day Total		1386	1940	1076	2409	2462	4349		1330	312	1030	328	2360	640
% Total		20.3%	28.5%	15.8%	35.4%	3326	3485	6811		44.3%	10.4%	34.3%	10.9%	3000
Peak Vol.	-	07:45	03:00	07:45	04:15	07:45	04:15	-	07:30	12:00	11:00	00:15	07:30	12:00
P.H.F.	-	364	273	217	346	581	613	-	329	224	221	234	530	451
ADT	ADT	6,256	ADT	6,256									0.908	0.940

# **Tristate Traffic Data, Inc.**

Location: Glens Falls NY

Road: Sherman Ave (East Side)

Segment: ~180ft East of Crandall St

Counter: Metro5600/cp38

EB

184 Baker Road  
Coatesville, PA 19320

# **Tristate Traffic Data, Inc.**

Page 2

Location: Glens Falls NY

Road: Sherman Ave (East Side)

Read: Chisholm Ave (East Side)  
Segment: ~180ft East of Crandall St

Counter: Metro5600/cp38

EB

# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls NY

Road: Sherman Ave (East Side)

Segment: ~180ft East of Crandall St

Counter: Metro5600/cp38

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/30/13	0	0	0	0	2	6	3	0	0	0	0	0	0	0	0	0	11
01:00	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	5
02:00	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	6
03:00	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	5
04:00	0	0	0	0	3	4	0	0	0	0	0	0	0	0	0	0	7
05:00	0	0	1	0	2	19	18	4	1	0	0	0	0	0	0	0	45
06:00	0	0	0	0	13	48	29	4	0	0	0	0	0	0	0	0	94
07:00	0	0	0	10	81	120	42	5	0	0	0	0	0	0	0	0	258
08:00	0	1	1	14	141	157	32	0	1	0	0	0	0	0	0	0	347
09:00	0	0	5	9	51	95	28	1	0	0	0	0	0	0	0	0	189
10:00	0	0	5	8	57	93	25	3	0	1	0	0	0	0	0	0	192
11:00	0	0	3	19	67	106	31	1	0	0	0	0	0	0	0	0	227
12 PM	0	0	1	0	51	124	32	3	0	0	0	0	0	0	0	0	211
13:00	0	1	3	13	59	114	29	0	0	0	0	0	0	0	0	0	219
14:00	0	0	1	6	59	107	24	3	0	0	0	0	0	0	0	0	200
15:00	0	1	2	19	112	118	17	4	0	0	0	0	0	0	0	0	273
16:00	0	0	0	4	72	138	41	2	0	0	0	0	0	0	0	0	257
17:00	0	1	2	6	49	150	34	5	0	0	0	0	0	0	0	0	247
18:00	0	0	0	7	55	83	22	3	1	0	0	0	0	0	0	0	171
19:00	0	0	0	1	36	59	31	2	0	0	0	0	0	0	0	0	129
20:00	0	0	0	0	24	49	16	1	1	0	0	0	0	0	0	0	91
21:00	0	1	0	0	17	29	20	4	0	0	0	0	0	0	0	0	71
22:00	0	0	0	0	2	28	11	1	0	0	0	0	0	0	0	0	42
23:00	0	0	0	0	2	14	13	0	0	0	0	0	0	0	0	0	29
Total	0	5	24	116	961	1668	501	46	4	1	0	0	0	0	0	0	3326

# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls NY

Road: Sherman Ave (East Side)

Segment: ~180ft East of Crandall St

Counter: Metro5600/cp38

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/31/13	0	0	0	0	1	5	5	0	0	0	0	0	0	0	0	0	11
01:00	0	0	0	0	2	3	2	0	0	0	0	0	0	0	0	0	7
02:00	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	5
03:00	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
04:00	0	0	1	0	4	5	3	2	0	0	0	0	0	0	0	0	15
05:00	0	0	0	0	2	19	16	4	0	0	0	0	0	0	0	0	41
06:00	0	0	0	5	15	61	19	1	0	0	0	0	0	0	0	0	101
07:00	0	0	0	9	73	145	42	4	0	0	0	0	0	0	0	0	273
08:00	0	0	1	16	96	153	33	6	0	0	0	0	0	0	0	0	305
09:00	0	0	0	8	73	101	25	7	0	0	0	0	0	0	0	0	214
10:00	0	0	0	7	53	69	32	1	0	0	0	0	0	0	0	0	162
11:00	0	1	0	5	64	104	18	1	0	0	0	0	0	0	0	0	193
12 PM	0	0	2	15	80	97	29	1	0	0	0	0	0	0	0	0	224
13:00	0	2	4	13	21	38	8	0	0	0	1	0	0	0	1	0	88
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	3	8	78	487	803	233	28	0	0	1	0	0	0	1	1642	
Grand Total	0	17	72	389	2740	4747	1425	141	9	1	1	0	0	0	1	9543	

Stats	15th Percentile :	21 MPH
	50th Percentile :	26 MPH
	85th Percentile :	30 MPH
	95th Percentile :	34 MPH
	Mean Speed(Average) :	27 MPH
	10 MPH Pace Speed :	22-31 MPH
	Number in Pace :	6996
	Percent in Pace :	73.3%
	Number of Vehicles > 30 MPH :	1578
	Percent of Vehicles > 30 MPH :	16.5%

# **Tristate Traffic Data, Inc.**

Location: Glens Falls NY

Location: Glen Falls NY  
Road: Sherman Ave (East Side)

Segment: ~180ft East of Crandall St

Counter: Metro5600/cp38

WB

184 Baker Road  
Coatesville, PA 19320

# **Tristate Traffic Data, Inc.**

Location: Glens Falls NY

Location: Glen Falls NY  
Road: Sherman Ave (East Side)

Read: Chisholm Ave (East Side)  
Segment: ~180ft East of Crandall St

Counter: Metro5600/cp38

WB

# **Tristate Traffic Data, Inc.**

Location: Glens Falls NY

Road: Sherman Ave (East Side)

Segment: ~180ft East of Crandall St

Counter: Metro5600/cp38

WB

184 Baker Road  
Coatesville, PA 19320

# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls NY

Road: Sherman Ave (East Side)

Segment: ~180ft East of Crandall St

Counter: Metro5600/cp38

WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/31/13	0	0	1	0	2	10	4	1	0	1	0	0	0	0	0	0	19
01:00	0	0	0	0	0	4	3	1	0	0	0	0	0	0	0	0	8
02:00	0	0	0	0	4	2	4	2	0	0	0	0	0	0	0	0	12
03:00	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4
04:00	0	0	0	0	1	4	5	2	1	0	0	0	0	0	0	0	13
05:00	0	0	0	1	1	7	5	2	2	0	0	0	0	0	0	0	18
06:00	0	0	0	1	17	35	14	2	0	0	0	0	0	0	0	0	69
07:00	0	0	0	11	51	60	22	1	1	0	0	0	0	0	0	0	146
08:00	0	2	4	17	48	92	24	3	0	0	0	0	0	0	0	0	190
09:00	0	1	0	12	43	57	31	5	0	0	0	0	0	0	0	0	149
10:00	0	0	3	13	55	84	25	1	0	0	0	0	0	0	0	0	181
11:00	0	0	2	15	88	86	25	4	1	0	0	0	0	0	0	0	221
12 PM	0	0	5	41	76	84	18	2	1	0	0	0	0	0	0	0	227
13:00	0	1	2	8	42	41	6	0	0	0	0	0	0	0	0	1	101
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	4	17	119	428	567	188	27	6	1	0	0	0	0	1	1	1358
Grand Total	0	57	228	940	2934	4094	1459	173	19	1	0	0	0	0	1	1	9906

Stats	15th Percentile :	20 MPH
	50th Percentile :	25 MPH
	85th Percentile :	30 MPH
	95th Percentile :	34 MPH
	Mean Speed(Average) :	26 MPH
	10 MPH Pace Speed :	22-31 MPH
	Number in Pace :	6544
	Percent in Pace :	66.1%
	Number of Vehicles > 30 MPH :	1653
	Percent of Vehicles > 30 MPH :	16.7%

# Tristate Traffic Data, Inc.

Page 1

Location: Glens Falls, NY  
 Road: Sherman Ave (West Side)  
 Segment: ~270ft west of Crandall St  
 Counter: Metro5600/cp31

184 Baker Road  
 Coatesville, PA 19320

Start Time	28-Oct-13 Mon	EB		WB		Combined		29-Oct-Tue	EB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	*	*	*	*	2	35	2	48	4	83	
12:15	*	*	*	*	*	*	*	2	30	3	46	5	76	
12:30	*	*	*	*	*	*	*	2	46	3	59	5	105	
12:45	*	*	*	*	*	*	*	2	51	7	43	9	94	
01:00	*	18	*	21	*	39	*	2	42	4	52	6	94	
01:15	*	44	*	44	*	88	*	1	46	5	45	6	91	
01:30	*	52	*	41	*	93	*	3	51	1	48	4	99	
01:45	*	52	*	32	*	84	*	1	49	4	46	5	95	
02:00	*	49	*	49	*	98	*	1	43	0	62	1	105	
02:15	*	34	*	49	*	83	*	1	49	2	48	3	97	
02:30	*	48	*	56	*	104	*	1	60	1	73	2	133	
02:45	*	40	*	61	*	101	*	0	44	5	82	5	126	
03:00	*	72	*	73	*	145	*	1	80	2	63	3	143	
03:15	*	72	*	54	*	126	*	2	68	1	64	3	132	
03:30	*	50	*	72	*	122	*	1	74	0	76	1	150	
03:45	*	64	*	65	*	129	*	3	59	2	66	5	125	
04:00	*	67	*	73	*	140	*	4	55	3	78	7	133	
04:15	*	53	*	71	*	124	*	4	58	4	65	8	123	
04:30	*	53	*	75	*	128	*	3	49	4	71	7	120	
04:45	*	55	*	85	*	140	*	2	39	3	69	5	108	
05:00	*	54	*	87	*	141	*	7	73	0	91	7	164	
05:15	*	60	*	75	*	135	*	6	65	4	71	10	136	
05:30	*	50	*	63	*	113	*	15	56	6	71	21	127	
05:45	*	53	*	62	*	115	*	10	45	4	67	14	112	
06:00	*	46	*	52	*	98	*	13	52	13	61	26	113	
06:15	*	52	*	57	*	109	*	22	44	20	53	42	97	
06:30	*	39	*	41	*	80	*	28	46	23	39	51	85	
06:45	*	44	*	49	*	93	*	33	34	36	43	69	77	
07:00	*	39	*	47	*	86	*	41	28	14	40	55	68	
07:15	*	20	*	45	*	65	*	69	26	24	30	93	56	
07:30	*	24	*	32	*	56	*	62	27	32	29	94	56	
07:45	*	20	*	22	*	42	*	82	17	45	36	127	53	
08:00	*	26	*	26	*	52	*	65	22	57	22	122	44	
08:15	*	16	*	19	*	35	*	71	22	45	20	116	42	
08:30	*	22	*	24	*	46	*	62	13	31	38	93	51	
08:45	*	20	*	25	*	45	*	67	8	35	19	102	27	
09:00	*	21	*	25	*	46	*	44	13	46	25	90	38	
09:15	*	17	*	10	*	27	*	34	11	34	20	68	31	
09:30	*	10	*	12	*	22	*	41	16	44	22	85	38	
09:45	*	9	*	16	*	25	*	54	11	43	15	97	26	
10:00	*	9	*	23	*	32	*	38	5	36	15	74	20	
10:15	*	11	*	13	*	24	*	43	5	27	15	70	20	
10:30	*	11	*	11	*	22	*	42	11	33	7	75	18	
10:45	*	9	*	9	*	18	*	42	5	37	9	79	14	
11:00	*	10	*	9	*	19	*	49	7	39	10	88	17	
11:15	*	5	*	7	*	12	*	51	2	46	3	97	5	
11:30	*	7	*	6	*	13	*	56	7	33	6	89	13	
11:45	*	1	*	2	*	3	*	52	0	60	7	112	7	
Total Day Total	0	1528	0	1790	0	3318	3318	1237	1699	923	2088	2160	3787	
% Total	0.0%	46.1%	0.0%	53.9%				20.8%	28.6%	15.5%	35.1%		5947	
Peak Vol.	-	-	03:00	-	04:30	-	04:30	-	07:30	03:00	07:30	04:30	07:30	02:45
P.H.F.	-	-	258	-	322	-	544	-	280	281	179	302	459	551
			0.896		0.925		0.965		0.854	0.878	0.785	0.830	0.904	0.918

# Tristate Traffic Data, Inc.

Page 2

Location: Glens Falls, NY  
 Road: Sherman Ave (West Side)  
 Segment: ~270ft west of Crandall St  
 Counter: Metro5600/cp31

184 Baker Road  
 Coatesville, PA 19320

Start Time	30-Oct-13 Wed	EB		WB		Combined		31-Oct- Thu	EB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		6	42	2	57	8	99		6	49	7	56	13	105
12:15		1	54	3	51	4	105		1	53	5	39	6	92
12:30		1	47	3	55	4	102		3	49	2	55	5	104
12:45		1	48	2	48	3	96		1	54	2	59	3	113
01:00		2	59	6	49	8	108		0	47	1	54	1	101
01:15		0	54	2	50	2	104		2	16	2	24	4	40
01:30		3	43	1	42	4	85		1	0	4	0	5	0
01:45		1	43	5	44	6	87		5	0	1	0	6	0
02:00		2	40	1	59	3	99		2	0	5	0	7	0
02:15		2	47	3	50	5	97		1	0	2	0	3	0
02:30		3	49	3	72	6	121		0	0	1	0	1	0
02:45		1	42	1	66	2	108		1	0	3	0	4	0
03:00		1	57	3	75	4	132		1	0	0	0	1	0
03:15		3	70	3	71	6	141		1	0	0	0	1	0
03:30		0	73	1	70	1	143		0	*	2	*	2	*
03:45		2	53	1	62	3	115		0	*	0	*	0	*
04:00		1	53	5	74	6	127		6	*	6	*	12	*
04:15		3	75	3	74	6	149		1	*	5	*	6	*
04:30		1	49	3	73	4	122		3	*	4	*	7	*
04:45		1	64	6	87	7	151		5	*	0	*	5	*
05:00		7	61	3	99	10	160		6	*	1	*	7	*
05:15		10	60	6	80	16	140		10	*	7	*	17	*
05:30		14	56	10	67	24	123		15	*	9	*	24	*
05:45		11	61	6	65	17	126		8	*	4	*	12	*
06:00		11	46	16	51	27	97		13	*	11	*	24	*
06:15		19	47	13	56	32	103		17	*	15	*	32	*
06:30		28	29	22	63	50	92		30	*	22	*	52	*
06:45		33	42	29	32	62	74		31	*	25	*	56	*
07:00		33	39	28	47	61	86		45	*	20	*	65	*
07:15		50	29	26	41	76	70		60	*	25	*	85	*
07:30		59	30	36	40	95	70		65	*	39	*	104	*
07:45		80	20	42	37	122	57		63	*	50	*	113	*
08:00		67	29	65	32	132	61		74	*	55	*	129	*
08:15		80	19	53	21	133	40		70	*	56	*	126	*
08:30		78	19	35	34	113	53		56	*	34	*	*	*
08:45		68	22	46	33	114	55		66	*	57	*	123	*
09:00		48	13	34	27	82	40		56	*	32	*	88	*
09:15		43	25	40	20	83	45		50	*	32	*	82	*
09:30		44	14	35	18	79	32		42	*	33	*	75	*
09:45		34	13	45	23	79	36		47	*	37	*	84	*
10:00		42	11	43	17	85	28		36	*	34	*	70	*
10:15		37	16	35	18	72	34		40	*	47	*	87	*
10:30		44	7	36	8	80	15		35	*	42	*	77	*
10:45		42	8	44	10	86	18		29	*	47	*	76	*
11:00		48	9	43	9	91	18		44	*	41	*	85	*
11:15		49	9	46	14	95	23		48	*	58	*	106	*
11:30		53	5	47	9	100	14		39	*	46	*	85	*
11:45		42	5	49	4	91	9		43	*	51	*	94	*
Total Day Total		1209	1806	990	2204	2199	4010		1178	268	982	287	2160	555
% Total		3015	15.9%	3194	35.5%	6209			43.4%	9.9%	36.2%	10.6%	2715	
Peak Vol.	-	07:45	03:30	08:00	04:30	07:45	04:15	-	07:30	12:00	08:00	12:00	07:30	12:00
P.H.F.	-	305	254	199	339	500	582	-	272	205	202	209	472	414
ADT	ADT	5,754	ADT	5,754									0.915	0.916

# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls, NY  
 Road: Sherman Ave (West Side)  
 Segment: ~270ft West of Crandall St  
 Counter: Metro5600/cp31  
**EB**

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/28/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	0	0	0	3	18	79	50	14	2	0	0	0	0	0	0	0	166
14:00	0	0	1	2	20	80	61	6	0	1	0	0	0	0	0	0	171
15:00	0	0	1	14	41	118	73	9	2	0	0	0	0	0	0	0	258
16:00	0	0	1	9	50	105	50	13	0	0	0	0	0	0	0	0	228
17:00	0	0	0	7	48	107	50	5	0	0	0	0	0	0	0	0	217
18:00	0	0	3	6	55	84	27	6	0	0	0	0	0	0	0	0	181
19:00	0	0	0	1	12	55	29	6	0	0	0	0	0	0	0	0	103
20:00	0	0	0	1	8	36	34	4	1	0	0	0	0	0	0	0	84
21:00	0	0	1	2	6	17	22	8	1	0	0	0	0	0	0	0	57
22:00	0	0	0	0	4	20	14	2	0	0	0	0	0	0	0	0	40
23:00	0	0	0	0	1	11	7	3	0	1	0	0	0	0	0	0	23
Total	0	0	7	45	263	712	417	76	6	2	0	0	0	0	0	0	1528

# **Tristate Traffic Data, Inc.**

Page 2

Location: Glens Falls, NY

Road: Sherman Ave (West Side)

Segment: ~270ft West of Crandall St

Counter: Metro5600/cp31

EB

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# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls, NY  
 Road: Sherman Ave (West Side)  
 Segment: ~270ft West of Crandall St  
 Counter: Metro5600/cp31  
 EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/30/13	0	0	0	0	0	5	4	0	0	0	0	0	0	0	0	0	9
01:00	0	0	0	1	0	2	3	0	0	0	0	0	0	0	0	0	6
02:00	0	0	0	0	2	1	5	0	0	0	0	0	0	0	0	0	8
03:00	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	6
04:00	0	0	0	0	2	3	1	0	0	0	0	0	0	0	0	0	6
05:00	0	0	1	0	1	13	18	6	3	0	0	0	0	0	0	0	42
06:00	0	0	1	0	6	30	38	16	0	0	0	0	0	0	0	0	91
07:00	0	0	0	7	46	104	57	8	0	0	0	0	0	0	0	0	222
08:00	0	1	2	17	80	126	61	6	0	0	0	0	0	0	0	0	293
09:00	0	1	3	7	20	85	47	6	0	0	0	0	0	0	0	0	169
10:00	0	0	4	9	35	68	44	3	1	1	0	0	0	0	0	0	165
11:00	0	0	4	8	50	89	36	5	0	0	0	0	0	0	0	0	192
12 PM	0	0	0	1	31	90	55	13	1	0	0	0	0	0	0	0	191
13:00	0	0	0	5	29	104	55	6	0	0	0	0	0	0	0	0	199
14:00	0	0	1	8	38	84	42	5	0	0	0	0	0	0	0	0	178
15:00	0	0	4	11	81	114	40	3	0	0	0	0	0	0	0	0	253
16:00	0	0	1	4	46	105	70	15	0	0	0	0	0	0	0	0	241
17:00	0	0	1	5	28	111	73	18	2	0	0	0	0	0	0	0	238
18:00	0	0	0	2	38	73	46	5	0	0	0	0	0	0	0	0	164
19:00	0	0	2	0	16	59	41	0	0	0	0	0	0	0	0	0	118
20:00	0	0	1	0	20	39	26	2	1	0	0	0	0	0	0	0	89
21:00	0	1	0	3	5	33	16	6	1	0	0	0	0	0	0	0	65
22:00	0	0	0	0	3	16	20	3	0	0	0	0	0	0	0	0	42
23:00	0	0	0	0	0	8	17	3	0	0	0	0	0	0	0	0	28
Total	0	3	25	88	577	1365	818	129	9	1	0	0	0	0	0	0	3015

# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls, NY  
 Road: Sherman Ave (West Side)  
 Segment: ~270ft West of Crandall St  
 Counter: Metro5600/cp31  
**EB**

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/31/13	0	0	0	0	1	3	4	3	0	0	0	0	0	0	0	0	11
01:00	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	8
02:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
03:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
04:00	0	0	2	0	1	3	6	2	1	0	0	0	0	0	0	0	15
05:00	0	0	2	0	5	7	16	9	0	0	0	0	0	0	0	0	39
06:00	0	0	0	0	5	41	33	12	0	0	0	0	0	0	0	0	91
07:00	0	0	1	7	45	110	64	6	0	0	0	0	0	0	0	0	233
08:00	0	1	1	11	51	112	76	11	3	0	0	0	0	0	0	0	266
09:00	0	0	2	5	36	90	46	15	0	1	0	0	0	0	0	0	195
10:00	0	0	0	0	21	55	57	6	1	0	0	0	0	0	0	0	140
11:00	0	0	1	2	17	82	69	3	0	0	0	0	0	0	0	0	174
12 PM	0	0	2	1	27	96	70	9	0	0	0	0	0	0	0	0	205
13:00	0	0	0	6	9	32	13	3	0	0	0	0	0	0	0	0	63
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total	0	1	11	32	220	635	461	80	5	1	0	0	0	0	0	0	1446
Grand Total	0	6	54	254	1648	4059	2478	393	29	4	0	0	0	0	0	0	8925

Stats	15th Percentile :	23 MPH
	50th Percentile :	28 MPH
	85th Percentile :	33 MPH
	95th Percentile :	35 MPH
	Mean Speed(Average) :	29 MPH
	10 MPH Pace Speed :	24-33 MPH
	Number in Pace :	6205
	Percent in Pace :	69.5%
	Number of Vehicles > 30 MPH :	2904
	Percent of Vehicles > 30 MPH :	32.5%

# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls, NY  
 Road: Sherman Ave (West Side)  
 Segment: ~270ft West of Crandall St  
 Counter: Metro5600/cp31  
 WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/28/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	0	0	1	2	13	62	53	7	0	0	0	0	0	0	0	0	138
14:00	0	0	0	3	27	88	83	13	1	0	0	0	0	0	0	0	215
15:00	0	3	0	5	37	134	73	11	1	0	0	0	0	0	0	0	264
16:00	0	0	0	15	52	119	104	14	0	0	0	0	0	0	0	0	304
17:00	0	0	0	2	59	149	69	7	1	0	0	0	0	0	0	0	287
18:00	0	0	1	0	34	107	50	6	1	0	0	0	0	0	0	0	199
19:00	0	0	0	1	9	67	58	8	2	1	0	0	0	0	0	0	146
20:00	0	0	0	0	6	44	38	6	0	0	0	0	0	0	0	0	94
21:00	0	0	0	0	3	24	30	4	2	0	0	0	0	0	0	0	63
22:00	0	0	0	0	3	23	22	6	1	0	0	0	0	0	1	0	56
23:00	0	0	0	0	0	8	16	0	0	0	0	0	0	0	0	0	24
Total	0	3	2	28	243	825	596	82	9	1	0	0	0	0	1	0	1790

# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls, NY  
 Road: Sherman Ave (West Side)  
 Segment: ~270ft West of Crandall St  
 Counter: Metro5600/cp31  
 WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/29/13	0	0	0	1	1	6	5	1	1	0	0	0	0	0	0	0	15
01:00	0	0	1	1	0	4	5	2	1	0	0	0	0	0	0	0	14
02:00	0	0	0	0	0	5	2	1	0	0	0	0	0	0	0	0	8
03:00	0	0	0	0	0	1	3	1	0	0	0	0	0	0	0	0	5
04:00	0	0	0	0	0	4	5	5	0	0	0	0	0	0	0	0	14
05:00	0	0	0	0	0	3	7	4	0	0	0	0	0	0	0	0	14
06:00	0	0	1	3	4	34	40	10	0	0	0	0	0	0	0	0	92
07:00	0	0	1	1	15	55	34	8	1	0	0	0	0	0	0	0	115
08:00	0	0	0	3	24	100	38	2	1	0	0	0	0	0	0	0	168
09:00	0	0	0	0	33	84	43	6	1	0	0	0	0	0	0	0	167
10:00	0	0	0	0	14	63	45	9	2	0	0	0	0	0	0	0	133
11:00	0	0	0	4	27	96	45	6	0	0	0	0	0	0	0	0	178
12 PM	0	0	1	0	19	92	67	15	2	0	0	0	0	0	0	0	196
13:00	0	0	1	0	31	103	48	7	1	0	0	0	0	0	0	0	191
14:00	0	1	0	2	44	119	84	14	1	0	0	0	0	0	0	0	265
15:00	0	1	0	7	45	130	77	9	0	0	0	0	0	0	0	0	269
16:00	0	0	1	2	48	147	68	17	0	0	0	0	0	0	0	0	283
17:00	0	0	0	11	66	146	70	5	2	0	0	0	0	0	0	0	300
18:00	0	0	0	3	28	94	60	11	0	0	0	0	0	0	0	0	196
19:00	0	1	0	2	10	72	44	5	1	0	0	0	0	0	0	0	135
20:00	0	0	0	3	8	44	37	7	0	0	0	0	0	0	0	0	99
21:00	0	0	0	0	7	40	29	4	1	1	0	0	0	0	0	0	82
22:00	0	0	0	0	0	16	25	5	0	0	0	0	0	0	0	0	46
23:00	0	0	0	0	2	10	10	2	2	0	0	0	0	0	0	0	26
Total	0	3	6	43	426	1468	891	156	17	1	0	0	0	0	0	0	3011

# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls, NY  
 Road: Sherman Ave (West Side)  
 Segment: ~270ft West of Crandall St  
 Counter: Metro5600/cp31  
 WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/30/13	0	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0	10
01:00	0	1	0	1	0	4	6	2	0	0	0	0	0	0	0	0	14
02:00	0	0	0	0	0	1	3	4	0	0	0	0	0	0	0	0	8
03:00	0	0	0	0	0	3	4	1	0	0	0	0	0	0	0	0	8
04:00	0	0	0	0	1	6	5	4	1	0	0	0	0	0	0	0	17
05:00	0	0	0	0	1	8	14	2	0	0	0	0	0	0	0	0	25
06:00	0	0	0	1	3	31	38	4	3	0	0	0	0	0	0	0	80
07:00	0	0	0	2	18	69	38	4	1	0	0	0	0	0	0	0	132
08:00	0	0	4	8	44	89	47	7	0	0	0	0	0	0	0	0	199
09:00	0	1	0	4	19	82	41	6	1	0	0	0	0	0	0	0	154
10:00	0	0	0	5	29	71	46	7	0	0	0	0	0	0	0	0	158
11:00	0	0	0	0	33	93	49	10	0	0	0	0	0	0	0	0	185
12 PM	0	0	2	4	18	114	67	4	2	0	0	0	0	0	0	0	211
13:00	0	0	0	2	35	94	48	6	0	0	0	0	0	0	0	0	185
14:00	0	0	1	7	48	125	55	10	1	0	0	0	0	0	0	0	247
15:00	0	0	2	22	60	123	63	8	0	0	0	0	0	0	0	0	278
16:00	0	0	2	11	37	172	76	7	3	0	0	0	0	0	0	0	308
17:00	0	0	2	10	52	149	88	9	1	0	0	0	0	0	0	0	311
18:00	0	0	0	3	37	97	50	13	1	1	0	0	0	0	0	0	202
19:00	0	0	2	2	22	90	41	7	1	0	0	0	0	0	0	0	165
20:00	0	0	0	1	13	59	45	2	0	0	0	0	0	0	0	0	120
21:00	0	0	0	0	4	39	37	7	1	0	0	0	0	0	0	0	88
22:00	0	0	0	1	3	21	25	0	3	0	0	0	0	0	0	0	53
23:00	0	0	0	0	1	11	20	3	1	0	0	0	0	0	0	0	36
Total	0	2	15	84	478	1556	911	127	20	1	0	0	0	0	0	0	3194

# Tristate Traffic Data, Inc.

184 Baker Road  
Coatesville, PA 19320

Location: Glens Falls, NY  
 Road: Sherman Ave (West Side)  
 Segment: ~270ft West of Crandall St  
 Counter: Metro5600/cp31  
 WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	75	Total
10/31/13	0	0	0	0	1	8	4	2	0	0	1	0	0	0	0	0	16
01:00	0	0	0	0	1	1	5	1	0	0	0	0	0	0	0	0	8
02:00	0	0	0	0	0	3	5	2	1	0	0	0	0	0	0	0	11
03:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	3	8	4	0	0	0	0	0	0	0	0	15
05:00	0	0	0	1	1	5	10	4	0	0	0	0	0	0	0	0	21
06:00	0	0	0	0	3	40	26	4	0	0	0	0	0	0	0	0	73
07:00	0	0	0	2	8	76	44	3	1	0	0	0	0	0	0	0	134
08:00	0	2	2	6	27	110	48	6	1	0	0	0	0	0	0	0	202
09:00	0	0	0	3	22	45	56	7	1	0	0	0	0	0	0	0	134
10:00	0	0	0	0	15	95	47	13	0	0	0	0	0	0	0	0	170
11:00	0	0	0	0	31	95	60	10	0	0	0	0	0	0	0	0	196
12 PM	0	0	1	6	25	127	42	7	1	0	0	0	0	0	0	0	209
13:00	0	1	5	4	10	30	26	2	0	0	0	0	0	0	0	0	78
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	3	8	22	144	638	382	66	5	0	1	0	0	0	0	0	1269
Grand Total	0	11	31	177	1291	4487	2780	431	51	3	1	0	0	1	0	0	9264

Stats	15th Percentile :	24 MPH
	50th Percentile :	28 MPH
	85th Percentile :	33 MPH
	95th Percentile :	36 MPH
	Mean Speed(Average) :	29 MPH
	10 MPH Pace Speed :	25-34 MPH
	Number in Pace :	6747
	Percent in Pace :	72.8%
	Number of Vehicles > 30 MPH :	3267
	Percent of Vehicles > 30 MPH :	35.3%

## Appendix B: Level of Service Analysis

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Crandall Street & Sherman Avenue - Actuated Signal Control

AM Peak Hour  
 12/10/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	297	13	9	168	20	7	29	14	77	59	11
Movement Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1883	1883	1883	1884	1884	1884	1867	1867	1867	1900	1900	1900
Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Assignment												
Capacity, veh/h	63	651	28	60	607	70	103	386	169	273	195	32
Proportion Arriving On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Movement Delay, s/veh	20.1	0.0	0.0	17.4	0.0	0.0	15.2	0.0	0.0	18.0	0.0	0.0
Movement LOS	C			B			B			B		
Approach Volume, veh/h		353			214			54			160	
Approach Delay, s/veh		20.1			17.4			15.2			18.0	
Approach LOS	C			B			B			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phase		2		4		6		8				
Case No		8.0		8.0		8.0		8.0				
Phase Duration (G+Y+Rc), s		38.00		38.00		38.00		38.00				
Change Period (Y+Rc), s		9.00		9.00		9.00		9.00				
Max. Allowable Headway (MAH), s		5.36		5.30		5.36		5.30				
Maximum Green Setting (Gmax), s		29.00		29.00		29.00		29.00				
Max. Queue Clearance Time (g_c+l1), s		3.48		12.95		8.65		8.15				
Green Extension Time (g_e), s		1.24		3.18		1.14		3.49				
Probability of Phase Call (p_c)		1.000		1.000		1.000		1.000				
Probability of Max Out (p_x)		0.000		0.092		0.001		0.032				
<b>Left-Turn Movement Data</b>												
Assigned Movement		5		7		1		3				
Mvmt. Sat Flow, veh/h		221.38		83.61		586.63		82.19				
<b>Through Movement Data</b>												
Assigned Movement		2		4		6		8				
Mvmt. Sat Flow, veh/h		917.15		1655.39		449.50		1534.18				
<b>Right-Turn Movement Data</b>												
Assigned Movement		12		14		16		18				
Mvmt. Sat Flow, veh/h		442.76		72.46		83.80		182.64				
<b>Left Lane Group Data</b>												
Assigned Movement	0	5	0	7	0	1	0	3				
Lane Assignment		L+T+R		L+T+R		L+T+R		L+T+R				
Lanes in Group	0	1	0	1	0	1	0	1				
Group Volume (v), veh/h	0.0	54.3	0.0	353.3	0.0	159.8	0.0	214.1				
Group Sat. Flow (s), veh/h/ln	0.0	1581.3	0.0	1811.5	0.0	1119.9	0.0	1799.0				
Queue Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0				
Cycle Queue Clear Time (g_c), s	0.0	1.5	0.0	10.9	0.0	6.6	0.0	6.1				

Perm LT Sat Flow Rate ( $s_l$ ), veh/h/ln	0.0	722.8	0.0	697.7	0.0	773.1	0.0	636.3
Shared LT Sat Flow ( $s_{sh}$ ), veh/h/ln	0.0	1867.4	0.0	1882.8	0.0	1900.0	0.0	1884.0
Perm LT Eff. Green ( $g_p$ ), s	0.0	29.0	0.0	29.0	0.0	29.0	0.0	29.0
Perm LT Serve Time ( $g_u$ ), s	0.0	22.4	0.0	22.9	0.0	27.5	0.0	18.1
Perm LT Que Serve Time ( $g_{ps}$ ), s	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0
Time to First Blk ( $g_f$ ), s	0.0	10.9	0.0	16.7	0.0	1.8	0.0	19.1
Serve Time pre Blk ( $g_{fs}$ ), s	0.0	1.5	0.0	10.9	0.0	1.8	0.0	6.1
Proportion LT Inside Lane ( $P_L$ )	0.000	0.140	0.000	0.046	0.000	0.524	0.000	0.046
Lane Group Capacity ( $c$ ), veh/h	0.0	657.4	0.0	740.8	0.0	499.5	0.0	736.0
Volume-to-Capacity Ratio ( $X$ )	0.000	0.083	0.000	0.477	0.000	0.320	0.000	0.291
Available Capacity ( $c_a$ ), veh/h	0.0	657.4	0.0	740.8	0.0	499.5	0.0	736.0
Upstream Filter Factor ( $I$ )	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay ( $d_1$ ), s/veh	0.0	15.0	0.0	17.9	0.0	16.3	0.0	16.4
Incremental Delay ( $d_2$ ), s/veh	0.0	0.2	0.0	2.2	0.0	1.7	0.0	1.0
Initial Queue Delay ( $d_3$ ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay ( $d$ ), s/veh	0.0	15.2	0.0	20.1	0.0	18.0	0.0	17.4
First-Term Queue ( $Q_1$ ), veh/ln	0.0	0.6	0.0	4.4	0.0	2.0	0.0	2.5
Second-Term Queue ( $Q_2$ ), veh/ln	0.0	0.0	0.0	0.5	0.0	0.2	0.0	0.2
Third-Term Queue ( $Q_3$ ), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor ( $f_B\%$ )	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue ( $Q\%$ ), veh/ln	0.0	0.6	0.0	4.9	0.0	2.2	0.0	2.7
Percentile Storage Ratio ( $RQ\%$ )	0.00	0.02	0.00	0.39	0.00	0.14	0.00	0.19
Initial Queue ( $Q_b$ ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue ( $Q_e$ ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay ( $ds$ ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue ( $Q_s$ ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity ( $cs$ ), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time ( $tc$ ), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

#### Middle Lane Group Data

Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Group	0	0	0	0	0	0	0	0
Group Volume ( $v$ ), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Group Sat. Flow ( $s$ ), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Serve Time ( $g_s$ ), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clear Time ( $g_c$ ), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Capacity ( $c$ ), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume-to-Capacity Ratio ( $X$ )	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Available Capacity ( $c_a$ ), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upstream Filter Factor ( $I$ )	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Delay ( $d_1$ ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incremental Delay ( $d_2$ ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Delay ( $d_3$ ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay ( $d$ ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
First-Term Queue ( $Q_1$ ), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Second-Term Queue ( $Q_2$ ), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Third-Term Queue ( $Q_3$ ), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor ( $f_B\%$ )	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue ( $Q\%$ ), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile Storage Ratio ( $RQ\%$ )	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Crandall Street & Sherman Avenue - Actuated Signal Control

AM Peak Hour

12/10/2013

Initial Queue (Q <sub>b</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Q <sub>e</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Q <sub>s</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Right Lane Group Data</b>								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment								
Lanes in Group	0	0	0	0	0	0	0	0
Group Volume (v), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Group Sat. Flow (s), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	0.280	0.000	0.040	0.000	0.075	0.000	0.102
Lane Group Capacity (c), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume-to-Capacity Ratio (X)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Available Capacity (c_a), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upstream Filter Factor (I)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incremental Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
First-Term Queue (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Queue (Q <sub>b</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Q <sub>e</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Q <sub>s</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Intersection Summary</b>								
HCM Average Control Delay			18.6					
HCM Level of Service			B					

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	237	15	19	266	37	10	71	10	30	60	18
Movement Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1867	1867	1867	1869	1869	1869	1900	1900	1900	1900	1900	1900
Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Assignment												
Capacity, veh/h	70	612	37	68	573	77	89	547	72	174	332	89
Proportion Arriving On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Movement Delay, s/veh	19.0	0.0	0.0	20.3	0.0	0.0	15.8	0.0	0.0	16.3	0.0	0.0
Movement LOS	B			C			B			B		
Approach Volume, veh/h		293			350			99			117	
Approach Delay, s/veh		19.0			20.3			15.8			16.3	
Approach LOS	B			C			B			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phase		2		4		6		8				
Case No		8.0		8.0		8.0		8.0				
Phase Duration (G+Y+Rc), s		38.00		38.00		38.00		38.00				
Change Period (Y+Rc), s		9.00		9.00		9.00		9.00				
Max. Allowable Headway (MAH), s		5.34		5.33		5.34		5.33				
Maximum Green Setting (Gmax), s		29.00		29.00		29.00		29.00				
Max. Queue Clearance Time (g_c+l1), s		4.63		10.87		5.19		13.10				
Green Extension Time (g_e), s		1.22		3.89		1.21		3.69				
Probability of Phase Call (p_c)		1.000		1.000		1.000		1.000				
Probability of Max Out (p_x)		0.000		0.087		0.000		0.133				
<b>Left-Turn Movement Data</b>												
Assigned Movement		5		7		1		3				
Mvmt. Sat Flow, veh/h		188.78		116.74		389.61		103.16				
<b>Through Movement Data</b>												
Assigned Movement		2		4		6		8				
Mvmt. Sat Flow, veh/h		1340.31		1537.14		779.23		1444.20				
<b>Right-Turn Movement Data</b>												
Assigned Movement		12		14		16		18				
Mvmt. Sat Flow, veh/h		188.78		97.29		233.77		200.88				
<b>Left Lane Group Data</b>												
Assigned Movement	0	5	0	7	0	1	0	3				
Lane Assignment		L+T+R		L+T+R		L+T+R		L+T+R				
Lanes in Group	0	1	0	1	0	1	0	1				
Group Volume (v), veh/h	0.0	98.9	0.0	293.5	0.0	117.4	0.0	350.0				
Group Sat. Flow (s), veh/h/ln	0.0	1717.9	0.0	1751.2	0.0	1402.6	0.0	1748.2				
Queue Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Cycle Queue Clear Time (g_c), s	0.0	2.6	0.0	8.9	0.0	3.2	0.0	11.1				

Perm LT Sat Flow Rate ( $s_l$ ), veh/h/ln	0.0	742.7	0.0	637.7	0.0	751.6	0.0	662.2
Shared LT Sat Flow ( $s_{sh}$ ), veh/h/ln	0.0	1900.0	0.0	1867.2	0.0	1900.0	0.0	1869.1
Perm LT Eff. Green ( $g_p$ ), s	0.0	29.0	0.0	29.0	0.0	29.0	0.0	29.0
Perm LT Serve Time ( $g_u$ ), s	0.0	25.8	0.0	17.9	0.0	26.4	0.0	20.1
Perm LT Que Serve Time ( $g_{ps}$ ), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk ( $g_f$ ), s	0.0	13.2	0.0	15.7	0.0	5.2	0.0	15.4
Serve Time pre Blk ( $g_{fs}$ ), s	0.0	2.6	0.0	8.9	0.0	3.2	0.0	11.1
Proportion LT Inside Lane ( $P_L$ )	0.000	0.110	0.000	0.067	0.000	0.278	0.000	0.059
Lane Group Capacity ( $c$ ), veh/h	0.0	708.1	0.0	718.7	0.0	595.7	0.0	717.3
Volume-to-Capacity Ratio ( $X$ )	0.000	0.140	0.000	0.408	0.000	0.197	0.000	0.488
Available Capacity ( $c_a$ ), veh/h	0.0	708.1	0.0	718.7	0.0	595.7	0.0	717.3
Upstream Filter Factor ( $I$ )	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay ( $d_1$ ), s/veh	0.0	15.3	0.0	17.3	0.0	15.5	0.0	18.0
Incremental Delay ( $d_2$ ), s/veh	0.0	0.4	0.0	1.7	0.0	0.7	0.0	2.4
Initial Queue Delay ( $d_3$ ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay ( $d$ ), s/veh	0.0	15.8	0.0	19.0	0.0	16.3	0.0	20.3
First-Term Queue ( $Q_1$ ), veh/ln	0.0	1.1	0.0	3.5	0.0	1.3	0.0	4.4
Second-Term Queue ( $Q_2$ ), veh/ln	0.0	0.1	0.0	0.3	0.0	0.1	0.0	0.5
Third-Term Queue ( $Q_3$ ), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor ( $f_B\%$ )	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue ( $Q\%$ ), veh/ln	0.0	1.1	0.0	3.9	0.0	1.4	0.0	4.9
Percentile Storage Ratio ( $RQ\%$ )	0.00	0.04	0.00	0.31	0.00	0.09	0.00	0.36
Initial Queue ( $Q_b$ ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue ( $Q_e$ ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay ( $ds$ ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue ( $Q_s$ ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity ( $cs$ ), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time ( $tc$ ), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Middle Lane Group Data**

Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Group	0	0	0	0	0	0	0	0
Group Volume ( $v$ ), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Group Sat. Flow ( $s$ ), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Serve Time ( $g_s$ ), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clear Time ( $g_c$ ), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Capacity ( $c$ ), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume-to-Capacity Ratio ( $X$ )	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Available Capacity ( $c_a$ ), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upstream Filter Factor ( $I$ )	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Delay ( $d_1$ ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incremental Delay ( $d_2$ ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Delay ( $d_3$ ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay ( $d$ ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
First-Term Queue ( $Q_1$ ), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Second-Term Queue ( $Q_2$ ), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Third-Term Queue ( $Q_3$ ), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor ( $f_B\%$ )	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue ( $Q\%$ ), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile Storage Ratio ( $RQ\%$ )	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Initial Queue (Q <sub>b</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Q <sub>e</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Q <sub>s</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Right Lane Group Data</b>								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment								
Lanes in Group	0	0	0	0	0	0	0	0
Group Volume (v), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Group Sat. Flow (s), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	0.110	0.000	0.056	0.000	0.167	0.000	0.115
Lane Group Capacity (c), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume-to-Capacity Ratio (X)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Available Capacity (c_a), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upstream Filter Factor (I)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incremental Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
First-Term Queue (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Queue (Q <sub>b</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Q <sub>e</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Q <sub>s</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Intersection Summary</b>								
HCM Average Control Delay			18.8					
HCM Level of Service			B					

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	297	13	9	168	20	7	29	14	77	59	11
Movement Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00			1.00			1.00	1.00		1.00	1.00	1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1883	1883	1883	1884	1884	1884	1867	1867	1867	1900	1900	1900
Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Assignment												
Capacity, veh/h	82	877	37	78	817	94	88	194	82	178	108	15
Proportion Arriving On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.17	0.17	0.17	0.17	0.17	0.17
Movement Delay, s/veh	9.3	0.0	0.0	8.2	0.0	0.0	20.3	0.0	0.0	23.4	0.0	0.0
Movement LOS	A			A			C			C		
Approach Volume, veh/h		353			214			54			160	
Approach Delay, s/veh		9.3			8.2			20.3			23.4	
Approach LOS	A			A			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phase		2		4		6		8				
Case No		8.0		8.0		8.0		8.0				
Phase Duration (G+Y+Rc), s		18.73		38.00		18.73		38.00				
Change Period (Y+Rc), s		9.00		9.00		9.00		9.00				
Max. Allowable Headway (MAH), s		5.36		0.06		5.36		0.06				
Maximum Green Setting (Gmax), s		29.00		29.00		29.00		29.00				
Max. Queue Clearance Time (g_c+l1), s		3.48		0.00		8.93		0.00				
Green Extension Time (g_e), s		1.24		0.00		1.14		0.00				
Probability of Phase Call (p_c)		0.966		1.000		0.966		1.000				
Probability of Max Out (p_x)		0.000		0.000		0.001		0.000				
<b>Left-Turn Movement Data</b>												
Assigned Movement		5		7		1		3				
Mvmt. Sat Flow, veh/h		237.84		83.92		625.04		82.47				
<b>Through Movement Data</b>												
Assigned Movement		2		4		6		8				
Mvmt. Sat Flow, veh/h		985.35		1661.57		478.93		1539.35				
<b>Right-Turn Movement Data</b>												
Assigned Movement		12		14		16		18				
Mvmt. Sat Flow, veh/h		475.68		72.73		89.29		183.26				
<b>Left Lane Group Data</b>												
Assigned Movement	0	5	0	7	0	1	0	3				
Lane Assignment		L+T+R		L+T+R		L+T+R		L+T+R				
Lanes in Group	0	1	0	1	0	1	0	1				
Group Volume (v), veh/h	0.0	54.3	0.0	353.3	0.0	159.8	0.0	214.1				
Group Sat. Flow (s), veh/h/ln	0.0	1698.9	0.0	1818.2	0.0	1193.3	0.0	1805.1				
Queue Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0				
Cycle Queue Clear Time (g_c), s	0.0	1.5	0.0	6.5	0.0	6.9	0.0	3.6				

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Perm LT Sat Flow Rate (s_l), veh/h/ln	0.0	722.8	0.0	697.7	0.0	773.1	0.0	636.3
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	1867.4	0.0	1882.8	0.0	1900.0	0.0	1884.0
Perm LT Eff. Green (g_p), s	0.0	9.7	0.0	29.0	0.0	9.7	0.0	29.0
Perm LT Serve Time (g_u), s	0.0	2.8	0.0	25.4	0.0	8.2	0.0	22.5
Perm LT Que Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0
Time to First Blk (g_f), s	0.0	5.8	0.0	18.1	0.0	1.5	0.0	20.2
Serve Time pre Blk (g_fs), s	0.0	1.5	0.0	6.5	0.0	1.5	0.0	3.6
Proportion LT Inside Lane (P_L)	0.000	0.140	0.000	0.046	0.000	0.524	0.000	0.046
Lane Group Capacity (c), veh/h	0.0	363.6	0.0	995.9	0.0	301.3	0.0	989.2
Volume-to-Capacity Ratio (X)	0.000	0.149	0.000	0.355	0.000	0.530	0.000	0.216
Available Capacity (c_a), veh/h	0.0	860.3	0.0	995.9	0.0	664.7	0.0	989.2
Upstream Filter Factor (l)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	20.1	0.0	8.4	0.0	22.0	0.0	7.7
Incremental Delay (d2), s/veh	0.0	0.2	0.0	1.0	0.0	1.4	0.0	0.5
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.3	0.0	9.3	0.0	23.4	0.0	8.2
First-Term Queue (Q1), veh/ln	0.0	0.6	0.0	2.1	0.0	2.0	0.0	1.2
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.1
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.6	0.0	2.4	0.0	2.1	0.0	1.3
Percentile Storage Ratio (RQ%)	0.00	0.02	0.00	0.19	0.00	0.13	0.00	0.10
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Movement	0	2	0	4	0	6	0	8
<b>Lane Assignment</b>								
Lanes in Group	0	0	0	0	0	0	0	0
Group Volume (v), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Group Sat. Flow (s), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Capacity (c), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume-to-Capacity Ratio (X)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Available Capacity (c_a), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upstream Filter Factor (l)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incremental Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
First-Term Queue (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Initial Queue (Q <sub>b</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Q <sub>e</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Q <sub>s</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Right Lane Group Data</b>								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment								
Lanes in Group	0	0	0	0	0	0	0	0
Group Volume (v), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Group Sat. Flow (s), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	0.280	0.000	0.040	0.000	0.075	0.000	0.102
Lane Group Capacity (c), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume-to-Capacity Ratio (X)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Available Capacity (c_a), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upstream Filter Factor (I)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incremental Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
First-Term Queue (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Queue (Q <sub>b</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Q <sub>e</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Q <sub>s</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Intersection Summary</b>								
HCM Average Control Delay			12.7					
HCM Level of Service			B					

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Crandall Street & Sherman Avenue - Semi-Actuated Signal Control

PM Peak Hour  
 12/10/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	237	15	19	266	37	10	71	10	30	60	18
Movement Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj. Factor (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj. Factors	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Sat. Flow Rate, veh/h/ln	1867	1867	1867	1869	1869	1869	1900	1900	1900	1900	1900	1900
Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Assignment												
Capacity, veh/h	95	883	53	93	825	110	87	172	23	121	118	30
Proportion Arriving On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.12	0.12	0.12	0.12	0.12	0.12
Movement Delay, s/veh	7.3	0.0	0.0	7.8	0.0	0.0	22.6	0.0	0.0	23.2	0.0	0.0
Movement LOS	A			A			C			C		
Approach Volume, veh/h		293			350			99			117	
Approach Delay, s/veh		7.3			7.8			22.6			23.2	
Approach LOS	A			A			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phase		2		4		6		8				
Case No		8.0		8.0		8.0		8.0				
Phase Duration (G+Y+Rc), s		15.34		38.00		15.34		38.00				
Change Period (Y+Rc), s		9.00		9.00		9.00		9.00				
Max. Allowable Headway (MAH), s		5.34		0.09		5.34		0.09				
Maximum Green Setting (Gmax), s		29.00		29.00		29.00		29.00				
Max. Queue Clearance Time (g_c+l1), s		4.63		0.00		5.40		0.00				
Green Extension Time (g_e), s		1.22		0.00		1.21		0.00				
Probability of Phase Call (p_c)		0.959		1.000		0.959		1.000				
Probability of Max Out (p_x)		0.000		0.000		0.000		0.000				
<b>Left-Turn Movement Data</b>												
Assigned Movement		5		7		1		3				
Mvmt. Sat Flow, veh/h		191.53		117.64		427.49		103.84				
<b>Through Movement Data</b>												
Assigned Movement		2		4		6		8				
Mvmt. Sat Flow, veh/h		1359.88		1548.99		854.98		1453.70				
<b>Right-Turn Movement Data</b>												
Assigned Movement		12		14		16		18				
Mvmt. Sat Flow, veh/h		191.53		98.04		256.49		202.21				
<b>Left Lane Group Data</b>												
Assigned Movement	0	5	0	7	0	1	0	3				
Lane Assignment		L+T+R		L+T+R		L+T+R		L+T+R				
Lanes in Group	0	1	0	1	0	1	0	1				
Group Volume (v), veh/h	0.0	98.9	0.0	293.5	0.0	117.4	0.0	350.0				
Group Sat. Flow (s), veh/h/ln	0.0	1742.9	0.0	1764.7	0.0	1539.0	0.0	1759.7				
Queue Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0				
Cycle Queue Clear Time (g_c), s	0.0	2.6	0.0	4.6	0.0	3.4	0.0	5.7				

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Crandall Street & Sherman Avenue - Semi-Actuated Signal Control

PM Peak Hour

12/10/2013

Perm LT Sat Flow Rate (s_l), veh/h/ln	0.0	742.7	0.0	637.7	0.0	751.6	0.0	662.2
Shared LT Sat Flow (s_sh), veh/h/ln	0.0	1900.0	0.0	1867.2	0.0	1900.0	0.0	1869.1
Perm LT Eff. Green (g_p), s	0.0	6.3	0.0	29.0	0.0	6.3	0.0	29.0
Perm LT Serve Time (g_u), s	0.0	2.9	0.0	23.3	0.0	3.7	0.0	24.4
Perm LT Que Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Time to First Blk (g_f), s	0.0	2.8	0.0	17.5	0.0	1.7	0.0	17.3
Serve Time pre Blk (g_fs), s	0.0	2.6	0.0	4.6	0.0	1.7	0.0	5.7
Proportion LT Inside Lane (P_L)	0.000	0.110	0.000	0.067	0.000	0.278	0.000	0.059
Lane Group Capacity (c), veh/h	0.0	282.0	0.0	1031.4	0.0	269.1	0.0	1028.2
Volume-to-Capacity Ratio (X)	0.000	0.351	0.000	0.285	0.000	0.436	0.000	0.340
Available Capacity (c_a), veh/h	0.0	960.0	0.0	1031.4	0.0	824.4	0.0	1028.2
Upstream Filter Factor (l)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Uniform Delay (d1), s/veh	0.0	21.9	0.0	6.6	0.0	22.1	0.0	6.9
Incremental Delay (d2), s/veh	0.0	0.7	0.0	0.7	0.0	1.1	0.0	0.9
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.6	0.0	7.3	0.0	23.2	0.0	7.8
First-Term Queue (Q1), veh/ln	0.0	1.1	0.0	1.4	0.0	1.3	0.0	1.7
Second-Term Queue (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.3
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	1.1	0.0	1.6	0.0	1.4	0.0	1.9
Percentile Storage Ratio (RQ%)	0.00	0.04	0.00	0.12	0.00	0.09	0.00	0.14
Initial Queue (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Movement	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Group	0	0	0	0	0	0	0	0
Group Volume (v), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Group Sat. Flow (s), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Capacity (c), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume-to-Capacity Ratio (X)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Available Capacity (c_a), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upstream Filter Factor (l)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incremental Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
First-Term Queue (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Crandall Street & Sherman Avenue - Semi-Actuated Signal Control

PM Peak Hour  
 12/10/2013

Initial Queue (Q <sub>b</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Q <sub>e</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Q <sub>s</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Right Lane Group Data</b>								
Assigned Movement	0	12	0	14	0	16	0	18
Lane Assignment								
Lanes in Group	0	0	0	0	0	0	0	0
Group Volume (v), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Group Sat. Flow (s), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow Rate (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff. Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion RT Outside Lane (P_R)	0.000	0.110	0.000	0.056	0.000	0.167	0.000	0.115
Lane Group Capacity (c), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume-to-Capacity Ratio (X)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Available Capacity (c_a), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upstream Filter Factor (I)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incremental Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
First-Term Queue (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Second-Term Queue (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Third-Term Queue (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile bk-of-que factor (f_B%)	0.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
Percentile Back of Queue (Q%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Queue (Q <sub>b</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Queue (Q <sub>e</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Queue (Q <sub>s</sub> ), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saturated Capacity (cs), veh/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Queue Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Intersection Summary</b>								
HCM Average Control Delay			11.4					
HCM Level of Service			B					

**Intersection**

Intersection Delay (sec/veh)	10.7											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	15	297	13	9	168	20	7	29	14	77	59	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	0	1	0	0	1	0	0	3	0	0	0	0
Movement Flow Rate	16	323	14	10	183	22	8	32	15	84	64	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.8	9.9	8.9	10.1
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Volume Left (%)	14%	5%	5%	52%
Volume Thru (%)	58%	91%	85%	40%
Volume Right (%)	28%	4%	10%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Volume by Lane	50	325	197	147
Left Turning Volume	29	297	168	59
Through Volume	14	13	20	11
Right Turning Volume	7	15	9	77
Lane Flow Rate	54	353	214	160
Geometry Group	1	1	1	1
Degree of Utilization, X	0.082	0.462	0.288	0.237
Departure Headway, Hd	5.441	4.71	4.835	5.349
Convergence(Y/N)	Yes	Yes	Yes	Yes
Capacity	663	760	734	663
Service Time	3.441	2.782	2.917	3.444
HCM Lane V/C Ratio	0.081	0.464	0.292	0.241
HCM Control Delay	8.9	11.8	9.9	10.1
HCM Lane LOS	A	B	A	B
HCM 95th Percentile Queue	0.3	2.6	1.2	0.9

**Intersection**

Intersection Delay (sec/veh)	11.3											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	18	237	15	19	266	37	10	71	10	30	60	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	0	2	0	0	2	0	0	0	0	0	0	0
Movement Flow Rate	20	258	16	21	289	40	11	77	11	33	65	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.3	12.1	9.7	9.9
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Volume Left (%)	11%	7%	6%	28%
Volume Thru (%)	78%	88%	83%	56%
Volume Right (%)	11%	6%	11%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Volume by Lane	91	270	322	108
Left Turning Volume	71	237	266	60
Through Volume	10	15	37	18
Right Turning Volume	10	18	19	30
Lane Flow Rate	99	293	350	117
Geometry Group	1	1	1	1
Degree of Utilization, X	0.156	0.398	0.465	0.184
Departure Headway, Hd	5.667	4.995	4.89	5.629
Convergence(Y/N)	Yes	Yes	Yes	Yes
Capacity	636	725	742	641
Service Time	3.674	2.995	2.89	3.635
HCM Lane V/C Ratio	0.156	0.404	0.472	0.183
HCM Control Delay	9.7	11.3	12.1	9.9
HCM Lane LOS	A	B	B	A
HCM 95th Percentile Queue	0.6	2	2.6	0.7

## Appendix C: Accident Data

DETAILS OF ACCIDENT HISTORY FOR LOCATION																				
Diagram No.:																				
County:	Warren	PIN:	Route No. or Street Name:									Case No.:								
Town:			Sherman Avenue									File:								
City:	Glens Falls		At Intersection with/ or Between:									By: AF								
Village of:			Crandall Street									Date: 10/28/2013								
Time Period			No. of Veh.	Severity (NR, PDO,	Light Conditions	Roadway Character	Roadway Surface Condition	Weather												
From:		09/30/10										Apparent								
To:		09/30/13							Contributing											
No. of Months:									Factors	Type	Direction	Description			Location					
ID No.	Date	Time				INJ, FAT)	Light	Roadway	Roadway	Surface	Condition	Weather	RE	SW, SW	MV 1 struck MV 2 from behind	Sherman / Crandall				
1	08/24/13	14:14	2	PDO	1	1	1	1	1	9	RE	SW, SW	MV 1 struck MV 2 from behind	Sherman / Crandall						
2	5/1/13	11:04	2	PDO	1	1	1	1	4	RA	E, S	MV 2 struck MV 1; both claimed green light	Sherman / Crandall							
3	2/6/13	19:19	2	PDO	4	1	1	2	4, 17	RA	N, E	MV 1 ran red light and struck MV 2	Sherman / Crandall							
4	01/29/13	8:32	2	PDO	1	1	2	2	3, 60	RE	S, W	MV 1 reversed at intersection to yield to left turning veh. and struck MV 2	Sherman / Crandall							
5	06/25/12	15:41	2	PDO	1	1	2	2	4	RE	W,W	MV 1 struck MV 2 from behind, claiming foot slipped off of brake pedal.	Sherman / Crandall							
6	06/11/12	9:33	2	PDO	1	1	1	1	4	RE	W,W	MV 1 struck MV 2 from behind	Sherman / Crandall							
7	7/5/11	9:31	2	INJ	1	1	1	1	9	RE	W,W	MV 1 struck MV 2 from behind	Sherman / Crandall							
8	5/24/11	15:04	2	PDO	1	1	1	1	17, 7	RA	S, E	MV 1 ran red light and struck MV 2	Sherman / Crandall							
9	03/03/11	11:53	2	PDO	1	1	1	1	13	SS	W, E	MV 1 entered lane of MV 2, sideswiping vehicle and forcing MV 2 into snowbank	Sherman / Crandall							
10	03/25/11	13:51	2	PDO	1	1	1	1	17	RA	NW, NE	MV 1 disregarded flagger and struck MV 2	Sherman / Crandall							
11	12/14/10	8:12	3	PDO	1	1	1	4	66	RA, HO	S,W,E	MV 1 struck MV 2, sending MV 2 into MV 3	Sherman / Crandall							
unk - unknown																				
Accident Type Legend																				
RA - Right Angle																				
RE - Rear End																				
SS - sideswipe, opposite																				
HO - head on																				

## Appendix D: Intersection Photos



Photo #1

Description: Crandall Street Southbound Approach



Photo #2

Description: Crandall Street Northbound Approach



Photo #3

Description: Sherman Avenue Eastbound Approach



Photo #4

Description: Sherman Avenue Westbound Approach

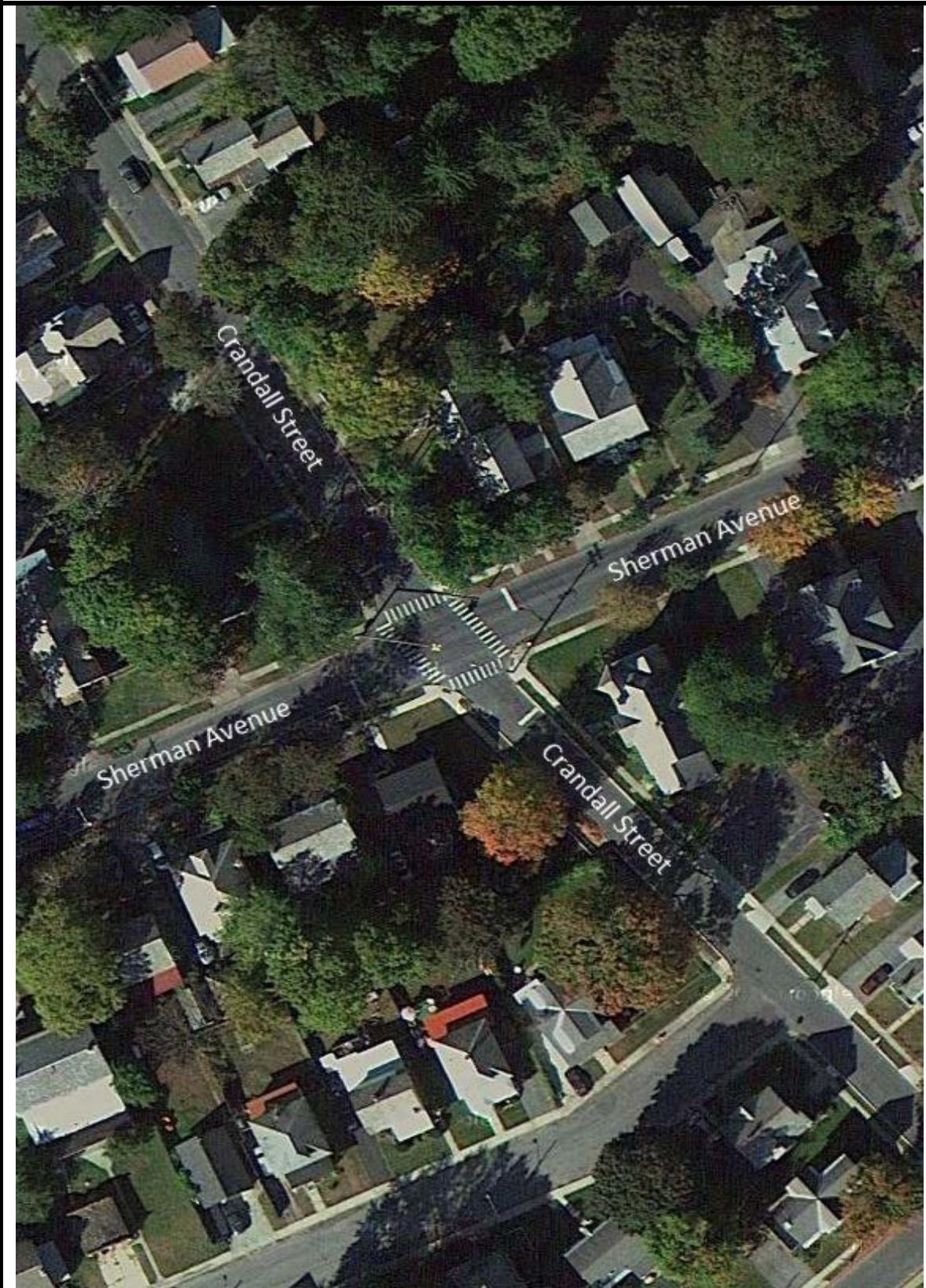


Photo #5

Description: Crandall Street and Sherman Avenue - Intersection Layout



Photo #6

Description: Sherman Avenue and Quade Street/Cortland Street - Intersection Layout