

UUWC1601

February 16, 2017

Cary Vargo, Township Manager
Upper Uwchlan Township
140 Pottstown Pike
Chester Springs, PA 19425

Ernie Holling, Supervisor
West Pikeland Township
1645 Art School Road
Chester Springs, PA 19425

John Jacobs, Chairman
West Vincent Township
729 St. Matthews Road
Chester Springs, PA 19425

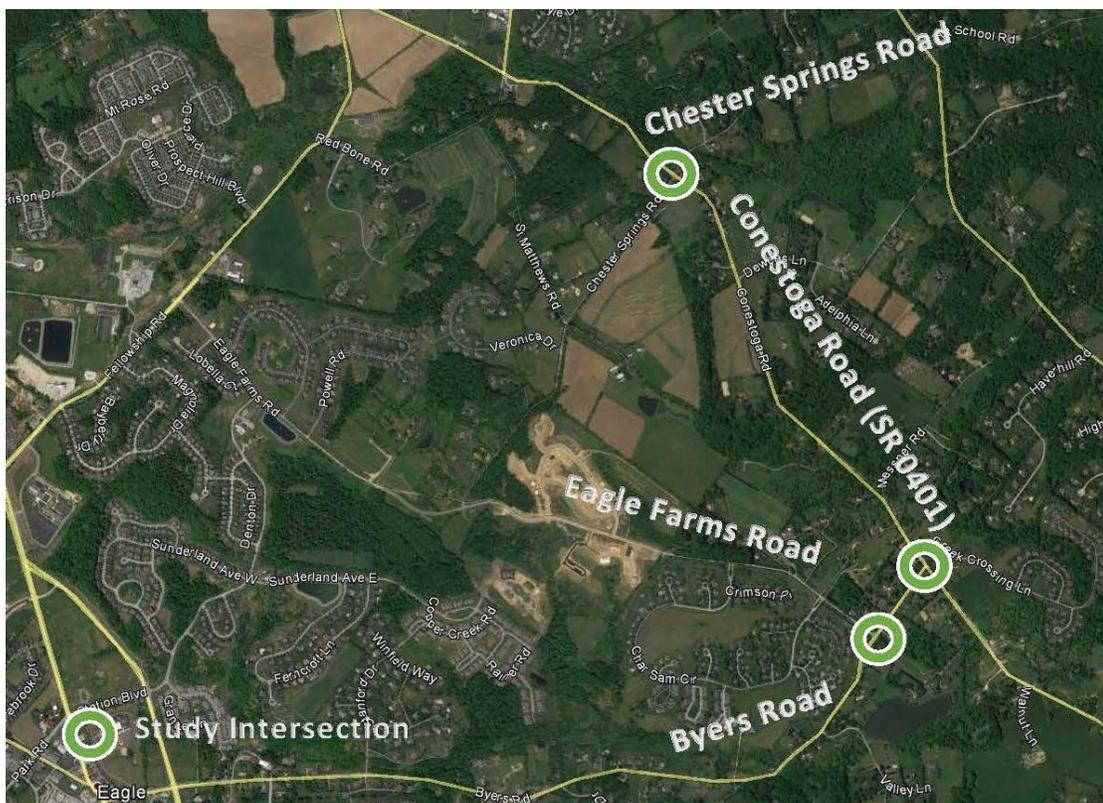
**RE: Regional Transportation Engineering Evaluation
Upper Uwchlan, West Pikeland and West Vincent Townships, Chester County, PA**

Dear Mr. Vargo, Mr. Holling & Mr. Jacobs:

As requested, we have evaluated the potential installation of a Multi-Way Stop condition, Traffic Signal, or other enhancements that would improve the safety and operation of the intersections listed below, which are shown in **Figure 1**:

- Conestoga Road (Rt. 401) & Chester Springs Road, West Vincent Township
- Conestoga Road (Rt. 401) & Byers Road (SR 1022), West Pikeland Township
- Byers Road (SR 1002) & Eagle Farms Road, West Pikeland Township

**FIGURE 1
Study Area**



As part of this evaluation, we have obtained updated traffic volume and speed information, reviewed the most recent crash history, and evaluated the existing sight distance at each location.

1. Existing Conditions

Traffic Volume & Speed Data

Manual turning movement (MTM) counts and pedestrian activity counts were completed at each study intersection on October 11, 2016 from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. Automatic Traffic Recorder (ATR) Data, which included the measurement of 24-hour volume and traffic speed, was collected for each direction along Conestoga Road (Rt. 401) to the east and west of Chester Springs Road between October 10 and October 17, 2016.

Conestoga Road (Rt. 401) is a State owned Minor Arterial that carries an average of 4,280 vehicles per day in the eastbound direction and 4,235 vehicles per day in the westbound direction in accordance with ATR data collected in October 2016. It is a 2-lane highway with a posted speed of 35 MPH and a measured 85th percentile speed of 48 MPH (eastbound approach) and 51 MPH (westbound approach). Left-turns from eastbound Conestoga Road onto northbound Chester Springs Road, and from southbound Chester Springs Road to eastbound Conestoga Road are currently prohibited. Volume and speed data for Conestoga Road (Rt. 401) is summarized in Figure 2.

FIGURE 2
Conestoga Road & Chester Springs Road



Byers Road (SR 1022) is a State-owned Collector that carries approximately 2, 280 vehicles per day in both directions in accordance with PennDOT’s Internet Traffic Monitoring System (iTMS). It is a 2-way, 2-lane highway with a posted speed limit of 35 mph.

Eagle Farms Road is a 2-way, 2-lane Township owned roadway, half of which is owned by West Pikeland Township and half owned by West Vincent Township. There is no posted speed limit along Eagle Farms Road. Chester Springs Road is a 2-way, 2-lane Township owned roadway with a posted speed limit of 25 MPH.

Detailed volume data for the manual turning movement and ATR counts cited in this report are located in **Appendix A**.

Crash History

The most recent available crash data was obtained from the Pennsylvania Department of Transportation (PennDOT) and West Vincent & West Pikeland Townships for the project intersections. Upon review of the most recent crash history, the total number of reportable and non-reportable crashes are summarized in **Table 1**:

**Table 1
Crash History Summary**

Intersection	Total Crashes	Time Period	Rear-End	Angle-Major Street	Angle-Minor Street	Speed	Weather
Conestoga Road (Rt. 401) & Chester Springs Road	5*	1/2010 – 12/2015	1	0	1	3	0
Conestoga Road (Rt. 401) & Byers Road (SR 1022)	30	1/2009 – 11/2016	11	9	3	4	3
Byers Road (SR 1002) & Eagle Farms Road	<i>No Crash History as Per Township</i>						

**At the intersection of Conestoga Road and Chester Springs Road, the crash history also indicates an additional six (6) crashes during the same timeframe occurred along Conestoga Road in close proximity to Chester Springs Road, but not at or related to the intersection, that appear to be related to excessive speed/weather conditions and resulted in hitting fixed objects.*

Corner Sight Distance

The corner sight distance was measured at each study intersection, in accordance with PennDOT requirements and criteria. PennDOT Publication 212, *Appendix Section 16.ii, Corner Sight Distance*, requires that the measurement be made 10 feet back from the edge of the travel lane, from a driver’s eye height of 3.5 feet looking for an object height of 3.5 feet. A summary of the available vs. required sight distances are summarized in **Tables 2** through **4** below.

**Table 2
Corner Sight Distance
Conestoga Road (SR 0401) & Chester Springs Road**

Roadway	Approach	Direction	Available Sight Distance	Minimum – Posted Speed Limit (35 MPH)*
Chester Springs Road	Northbound	Left	280'	386'
		Right	359'	335'
	Southbound	Left	404'	386'
		Right	112'	335'

*If the 85% speed of traffic along Conestoga Road (SR 0401) is considered, the sight distance required to the west is 478', and to the east is 474';

**Table 3
Corner Sight Distance
Conestoga Road (SR 0401) & Byers Road**

Roadway	Approach	Direction	Available Sight Distance	Minimum – Posted Speed Limit (45 MPH)
Byers Road	Northbound	Left	750'	496'
		Right	312'	430'

**Table 4
Corner Sight Distance
Byers Road & Eagle Farms Road**

Roadway	Approach	Direction	Available Sight Distance	Minimum – Posted Speed Limit (35 MPH)
Byers Road	Northbound	Left	1,200'	386'
		Right	417'	335'

As indicated in Table 2, there are existing corner sight distance limitations at the intersection of Conestoga Road (SR 0401) & Chester Springs Road, which are currently addressed by restricting the eastbound left-turn movement from Conestoga Road to northbound Chester Springs Road, and the southbound left-turn movement from Chester Springs Road to eastbound Conestoga Road (SR 0401). To provide adequate sight distance for these movements, significant roadway work would be required.

Previous Safety Enhancement Evaluation

In 2016, the Pennsylvania Department of Transportation (PennDOT) implemented several low-cost safety enhancements along Conestoga Road through the study intersections, which consisted of center-line and edge-line rumble strips, upgraded pavement markings and supplemental warning and regulatory signage.

2. Analysis

Chester Springs Road Traffic Diversion

Currently, Chester Springs Road is blocked just north of Eagle Farms Road, preventing any access between Eagle Farms Road and Conestoga Road. As such, the data collected reflects any diverted traffic that may normally use Chester Springs Road, through the intersection of Eagle Farms Road and Byers Road. Based upon the existing traffic patterns observed at the study intersections, we estimated the amount of traffic that could re-distribute to Chester Springs Road if access to Conestoga Road (SR 0401) were re-opened. Figures summarizing the existing peak hour traffic volume at each intersection, as well as the anticipated traffic volume associated with removing the barrier on Chester Springs Road between Eagle Farms Road and Conestoga Road, are contained in **Appendix B**.

Multi-way Stop, Traffic Signal, and Intersection Warning Sign Warrant Evaluation

For each study intersection, a Multi-Way Stop warrant analysis, Traffic Signal warrant analysis, and warning sign needs analysis was completed. The detailed criteria utilized for the consideration of a potential Multi-Way Stop or Traffic Signal installation are contained in **Appendix C**.

A multi-way stop analysis consists of assessing the traffic volumes and conditions based upon Pennsylvania Department of Transportation (PennDOT) and MUTCD criteria. The criteria are based primarily on traffic volume, but there are also several other factors that can be considered:

- A. The need to control left-turn conflicts;
- B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
- C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop;
- D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.

As can be seen in **Table 5**, under both existing conditions and possible future conditions (with Chester Springs Road open between Conestoga Road and Eagle Farms Road), the traffic-volume related multi-way stop warrants are not met for any study intersection. In accordance with Section 2B.07 of the MUTCD, volumes on the minor street approaches will not meet the required 140 units per hour (70% of 200 – Criteria C.3.) for 8 hours of an average day at any of the study intersections. Although 8 hours of data was not collected, the reduced minimum volume criteria were not met for the 4 highest volume hours collected at the intersections of Rt. 401 & Chester Springs Road and at Byers Road (SR 1002) & Eagle Farms Road. At the intersection of Conestoga Road (Rt. 401) & Byers Road (SR 1022), although the 4 hours of data collected will meet the reduced minimum volume criteria, these are typically the highest volume hours. It can be assumed, based on the count data, that there will potentially be one more hour in the PM between 6PM & 7PM that will meet warrants and volumes will reduce after that hour. Also, in accordance with Section

212.106 of PennDOT Pub 212, the number of reportable and non-reportable crashes in a 12-month period will not meet the required 5 crashes at any of the study intersections. The traffic-volume related warrants are also not met at any of the study intersections when criteria are combined and minimum values are reduced.

However, when considering the other factors above, Criteria C may be applicable for the installation of a multi-way stop at the intersection of Conestoga Road (SR 0401) & Chester Springs Road when considering the existing corner sight distance limitations, and the difficult nature of remedying these deficiencies. It is important to note that a multi-way stop installation could create queue issues on Conestoga Road (SR 0401) that do not currently exist, and which may be complicated by the limited sight distance approaching the intersection in the eastbound direction and should be further evaluated with PennDOT.

A traffic signal warrant analysis also consists of assessing the traffic volumes and conditions based upon Pennsylvania Department of Transportation (PennDOT) and MUTCD criteria. Typically, nine (9) different warrants are available for consideration in determining whether a traffic signal should be installed, although only two (2) are commonly satisfied, and both are related primarily to traffic volume (Warrant #2 – Four-Hour Volume, and Warrant #3 – Peak-Hour Volume).

As can be seen in **Table 5**, under existing conditions or future conditions with Chester Springs Road open with access to Eagle Farms Road, signal warrants appear to be satisfied at the intersection of Conestoga Road (Rt. 401) & Byers Road. Signal warrants are not satisfied at the other study intersections.

As per PennDOT Pub 236, *Handbook of Approved Signs*, the use of the CROSS ROAD (W2-1) Intersection Warning Sign should be restricted to intersections with roads that have a large volume of traffic entering or crossing the through route and where poor sight distance or obscured entrances make it advisable that the intersection be called to the motorists' attention. Although these criteria are not absolute requirements, this guidance is provided to avoid too frequent use of the signs so that they are not discounted by motorists. Based on the results of the sight distance evaluation, additional Intersection Warning Signs are justified at the intersections along Conestoga Road (Rt. 401).

Table 5
Warrant Analysis Summary

Intersection	Warrant Satisfied/Need Established		
	Multi-Way Stop	Traffic Signal	Intersection Warning Signs
Conestoga Road (SR 0401) & Chester Springs Road	Yes*	No	Yes
Conestoga Road (SR 0401) & Byers Road	No	Yes**	Yes
Byers Road & Eagle Farms Road	No	No	No

*Based upon other criteria beyond typical traffic-volume warrants;

**In addition, a left-turn lane on Conestoga Road (SR 0401) is warranted;

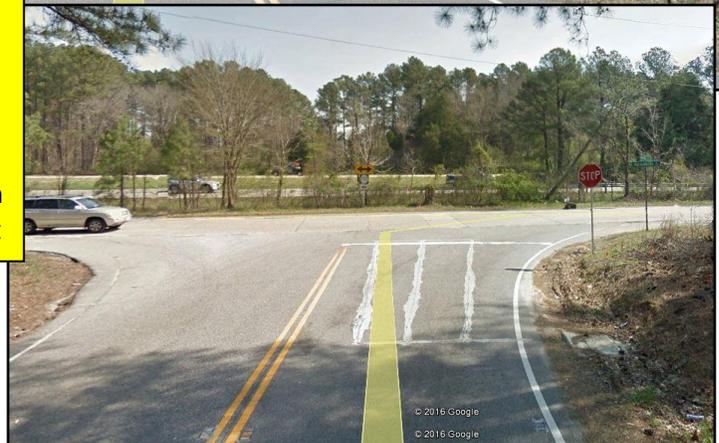
Other Potential Safety Enhancements

In addition to potential improvements based on the results of the warrant analyses, other low and high cost improvements were evaluated to improve safety at each study intersection for further consideration by the municipalities. PennDOT approval is required for any of the suggestions listed below.

- Conestoga Road (Rt. 401) & Chester Springs Road
 - Install permanent or semi-permanent radar-based speed signs ('Your Speed is MM mph') on Conestoga Road to reduce the speed of vehicles approaching the intersection;
 - Install dashed white edge lines and double-yellow centerlines along Conestoga Road (Rt. 401) across the intersection with Chester Springs Road.
 - Consider the installation of a multi-way stop sign installation at this intersection.
 - In lieu of conventional dashed pavement markings along the lane edge lines, install a 2' painted center median on Conestoga Road for approximately 150' in advance of the intersection with Chester Springs Road in each direction to reduce the lane widths to 10' and potentially reduce speeds near the intersection. This is an FHWA low cost technique Publication No. FHWA-HRT-08-063.
 - Trim Vegetation along Conestoga Road (Rt. 401) as necessary to obtain as much sight distance as possible.
 - Install CROSS ROAD (W2-1) Intersection Warning Signs on both sides of Conestoga Road (Rt. 401) in both directions and supplement the signs with a SINGLE-LINE ADVANCE STREET NAME (W16-8P) Plaques.
 - If a multi-way stop installation is not approved by PennDOT, consider installation of a flashing warning device on top of the intersection warning signs on Conestoga Road (Rt. 401) in both directions and detection loops on Chester Spring Road. With this installation, flashing lights will be normally off, but will flash only when a vehicle is detected on Chester Spring Road.



Example:
Flashing Warning Device activated by waiting vehicle on minor approach to unsignalized intersection, signage indicates 'Watch for Turning Vehicles When Flashing' to traffic on major street



- Conestoga Road (Rt. 401) & Byers Road (SR 1022)
 - Pursue installation of traffic signal and left-turn lane on westbound approach of Conestoga Road (SR 0401).
- Byers Road (SR 1002) & Eagle Farms Road
 - Trim Vegetation along Byers Road (SR 1022) as necessary to ensure sight distance is met (from eastbound Eagle Farms Road to the north on Byers Road).
 - Install dashed white edge lines and double-yellow centerlines along Byers Road (SR 1022) across the intersection with Eagle Farms Road.

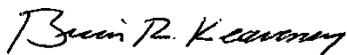
3. Conclusions & Recommendations

Based on the results of this analysis, which included the consideration of current traffic volume data, crash history, traffic speed, and available sight distance, several options to improve traffic safety at each of the study intersections have been outlined. As a next step, we recommend meeting with the Pennsylvania Department of Transportation to discuss these options in more detail, and develop a plan to fund and implement some or all of these options.

We trust that this information is satisfactory to pursue a course of action at each location. If you require further information, or have any questions, please do not hesitate to contact us.

Very truly yours,

PENNONI ASSOCIATES INC.



Brian R. Keaveney, PE, PTOE
Transportation Division

Attachments: Appendix A – Traffic Volume, Speed & Classification Data
Appendix B – Peak Hour Traffic Volume
Appendix C – Multi-Way Stop & Traffic Signal Warrant Criteria
Appendix D – Traffic Signal Warrant Analysis & Left Turn Lane Warrant Analysis –
Conestoga Road (SR 0401) & Byers Road (SR 1022)

Appendix A

Traffic Volume, Speed & Classification Data



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184 Baker Rd

Chester County, PA
Rt 401/Chester Springs Rd
Tuesday, October 11, 2016
Location: 40.10125, -75.658936

Coatesville, Pennsylvania, United States 19320
610-466-1469
Serving Transportation Professionals Since 1995

Count Name: Rt 401-Chester Springs
Site Code:
Start Date: 10/11/2016
Page No: 1

Turning Movement Data

Start Time	Chester Springs Rd Southbound						Rt 401 Westbound						Chester Springs Rd Northbound						Rt 401 Eastbound						Int. Total	
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total		
7:00 AM	1	0	0	0	0	1	1	29	0	0	0	30	5	0	1	0	0	6	0	170	0	0	0	170	207	
7:15 AM	1	0	0	0	0	1	0	26	1	0	0	27	1	1	1	0	0	3	1	194	0	0	0	195	226	
7:30 AM	1	0	0	0	0	1	1	34	2	0	0	37	0	1	1	0	0	2	0	161	0	0	0	161	201	
7:45 AM	5	0	0	0	0	5	2	31	1	0	0	34	3	2	0	0	0	5	1	180	0	0	0	181	225	
Hourly Total	8	0	0	0	0	8	4	120	4	0	0	128	9	4	3	0	0	16	2	705	0	0	0	707	859	
8:00 AM	1	1	0	0	0	2	3	32	1	0	0	36	5	1	0	0	0	6	0	156	1	0	0	157	201	
8:15 AM	4	0	0	0	2	4	0	25	1	0	0	26	2	0	1	0	0	3	1	154	0	0	0	155	188	
8:30 AM	4	0	0	0	0	4	0	33	2	0	0	35	4	0	0	0	0	4	1	159	1	0	0	161	204	
8:45 AM	1	0	0	0	0	1	7	35	0	0	0	42	1	0	1	0	0	2	0	130	1	0	0	131	176	
Hourly Total	10	1	0	0	2	11	10	125	4	0	0	139	12	1	2	0	0	15	2	599	3	0	0	604	769	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	4	124	4	0	0	132	1	0	0	0	0	1	1	64	2	0	0	67	200	
4:15 PM	1	0	0	0	0	1	5	137	2	0	0	144	1	1	0	0	0	2	2	46	0	0	0	48	195	
4:30 PM	0	0	0	0	0	0	4	139	1	0	0	144	2	0	0	0	0	2	2	47	1	0	0	50	196	
4:45 PM	1	0	0	0	7	1	4	137	1	0	0	142	1	0	0	0	0	1	0	46	0	0	0	46	190	
Hourly Total	2	0	0	0	7	2	17	537	8	0	0	562	5	1	0	0	0	6	5	203	3	0	0	211	781	
5:00 PM	0	0	0	0	13	0	0	154	4	0	0	158	3	0	0	0	0	3	1	53	0	0	1	54	215	
5:15 PM	0	0	0	0	0	0	0	148	2	0	0	150	2	0	0	0	0	2	0	71	0	0	0	71	223	
5:30 PM	0	0	0	0	0	0	0	136	0	0	0	136	0	0	1	0	0	1	0	62	0	0	0	62	199	
5:45 PM	0	0	0	0	0	0	0	140	0	0	0	140	1	0	1	0	0	2	3	59	0	0	0	62	204	
Hourly Total	0	0	0	0	13	0	0	578	6	0	0	584	6	0	2	0	0	8	4	245	0	0	1	249	841	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	20	1	0	0	22	21	31	1360	22	0	0	1413	32	6	7	0	0	45	13	1752	6	0	1	1771	3250	
Approach %	95.2	4.8	0.0	0.0	-	-	2.2	96.2	1.6	0.0	-	-	71.1	13.3	15.6	0.0	-	-	0.7	98.9	0.3	0.0	-	-	-	-
Total %	0.6	0.0	0.0	0.0	-	0.6	1.0	41.8	0.7	0.0	-	43.5	1.0	0.2	0.2	0.0	-	1.4	0.4	53.9	0.2	0.0	-	54.5	-	
Lights	19	1	0	0	-	20	27	1315	22	0	-	1364	31	5	6	0	-	42	11	1703	6	0	-	1720	3146	
% Lights	95.0	100.0	-	-	-	95.2	87.1	96.7	100.0	-	-	96.5	96.9	83.3	85.7	-	-	93.3	84.6	97.2	100.0	-	-	97.1	96.8	
Mediums	1	0	0	0	-	1	4	41	0	0	-	45	1	1	1	0	-	3	2	45	0	0	-	47	96	
% Mediums	5.0	0.0	-	-	-	4.8	12.9	3.0	0.0	-	-	3.2	3.1	16.7	14.3	-	-	6.7	15.4	2.6	0.0	-	-	2.7	3.0	
Articulated Trucks	0	0	0	0	-	0	0	4	0	0	-	4	0	0	0	0	-	0	0	4	0	0	-	4	8	
% Articulated Trucks	0.0	0.0	-	-	-	0.0	0.0	0.3	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	0.2	0.0	-	-	0.2	0.2	
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	
Pedestrians	-	-	-	-	22	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	



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Count Name: Rt 401-Chester Springs
Site Code:
Start Date: 10/11/2016
Page No: 3

Chester County, PA
Rt 401/Chester Springs Rd
Tuesday, October 11, 2016
Location: 40.10125, -75.658936

Turning Movement Peak Hour Data (7:00 AM)

Start Time	Chester Springs Rd Southbound						Rt 401 Westbound						Chester Springs Rd Northbound						Rt 401 Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	1	0	0	0	0	1	1	29	0	0	0	30	5	0	1	0	0	6	0	170	0	0	0	170	207
7:15 AM	1	0	0	0	0	1	0	26	1	0	0	27	1	1	1	0	0	3	1	194	0	0	0	195	226
7:30 AM	1	0	0	0	0	1	1	34	2	0	0	37	0	1	1	0	0	2	0	161	0	0	0	161	201
7:45 AM	5	0	0	0	0	5	2	31	1	0	0	34	3	2	0	0	0	5	1	180	0	0	0	181	225
Total	8	0	0	0	0	8	4	120	4	0	0	128	9	4	3	0	0	16	2	705	0	0	0	707	859
Approach %	100.0	0.0	0.0	0.0	-	-	3.1	93.8	3.1	0.0	-	-	56.3	25.0	18.8	0.0	-	-	0.3	99.7	0.0	0.0	-	-	-
Total %	0.9	0.0	0.0	0.0	-	0.9	0.5	14.0	0.5	0.0	-	14.9	1.0	0.5	0.3	0.0	-	1.9	0.2	82.1	0.0	0.0	-	82.3	-
PHF	0.400	0.000	0.000	0.000	-	0.400	0.500	0.882	0.500	0.000	-	0.865	0.450	0.500	0.750	0.000	-	0.667	0.500	0.909	0.000	0.000	-	0.906	0.950
Lights	8	0	0	0	-	8	2	105	4	0	-	111	8	3	3	0	-	14	0	686	0	0	-	686	819
% Lights	100.0	-	-	-	-	100.0	50.0	87.5	100.0	-	-	86.7	88.9	75.0	100.0	-	-	87.5	0.0	97.3	-	-	-	97.0	95.3
Mediums	0	0	0	0	-	0	2	15	0	0	-	17	1	1	0	0	-	2	2	18	0	0	-	20	39
% Mediums	0.0	-	-	-	-	0.0	50.0	12.5	0.0	-	-	13.3	11.1	25.0	0.0	-	-	12.5	100.0	2.6	-	-	-	2.8	4.5
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	1
% Articulated Trucks	0.0	-	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.1	-	-	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Count Name: Rt 401-Chester Springs
Site Code:
Start Date: 10/11/2016
Page No: 5

Chester County, PA
Rt 401/Chester Springs Rd
Tuesday, October 11, 2016
Location: 40.10125, -75.658936

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Chester Springs Rd Southbound						Rt 401 Westbound						Chester Springs Rd Northbound						Rt 401 Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
5:00 PM	0	0	0	0	13	0	0	154	4	0	0	158	3	0	0	0	0	3	1	53	0	0	1	54	215
5:15 PM	0	0	0	0	0	0	0	148	2	0	0	150	2	0	0	0	0	2	0	71	0	0	0	71	223
5:30 PM	0	0	0	0	0	0	0	136	0	0	0	136	0	0	1	0	0	1	0	62	0	0	0	62	199
5:45 PM	0	0	0	0	0	0	0	140	0	0	0	140	1	0	1	0	0	2	3	59	0	0	0	62	204
Total	0	0	0	0	13	0	0	578	6	0	0	584	6	0	2	0	0	8	4	245	0	0	1	249	841
Approach %	NaN	NaN	NaN	NaN	-	-	0.0	99.0	1.0	0.0	-	-	75.0	0.0	25.0	0.0	-	-	1.6	98.4	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	68.7	0.7	0.0	-	69.4	0.7	0.0	0.2	0.0	-	1.0	0.5	29.1	0.0	0.0	-	29.6	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.000	0.938	0.375	0.000	-	0.924	0.500	0.000	0.500	0.000	-	0.667	0.333	0.863	0.000	0.000	-	0.877	0.943
Lights	0	0	0	0	-	0	0	573	6	0	-	579	6	0	1	0	-	7	4	236	0	0	-	240	826
% Lights	-	-	-	-	-	-	-	99.1	100.0	-	-	99.1	100.0	-	50.0	-	-	87.5	100.0	96.3	-	-	-	96.4	98.2
Mediums	0	0	0	0	-	0	0	5	0	0	-	5	0	0	1	0	-	1	0	9	0	0	-	9	15
% Mediums	-	-	-	-	-	-	-	0.9	0.0	-	-	0.9	0.0	-	50.0	-	-	12.5	0.0	3.7	-	-	-	3.6	1.8
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	13	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data, Inc.

www.TSTData.com

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/10/1																
6	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	0	0	0	0	0	1	6	30	78	72	19	1	2	0	0	209
12 PM	0	0	1	0	0	1	5	29	72	77	28	4	1	0	0	218
13:00	0	0	0	0	0	0	4	12	62	74	33	10	1	0	0	196
14:00	0	0	0	0	0	0	1	11	61	81	33	4	0	0	0	191
15:00	0	0	0	0	1	1	1	24	76	94	30	3	0	0	0	230
16:00	0	0	1	0	1	6	12	25	50	70	29	8	0	0	0	202
17:00	0	0	0	0	0	1	2	19	54	65	44	4	1	0	1	191
18:00	0	0	0	0	0	0	3	16	42	49	26	2	0	0	0	138
19:00	0	0	0	0	0	3	6	23	27	37	7	2	2	0	0	107
20:00	0	0	0	0	0	0	2	7	19	33	10	2	0	0	0	73
21:00	0	0	0	0	0	0	0	2	10	10	7	2	0	0	0	31
22:00	0	0	0	0	0	0	0	0	7	3	5	2	0	0	0	17
23:00	0	0	0	0	0	0	0	2	3	7	0	0	0	0	0	12
Total	0	0	2	0	2	13	42	200	561	672	271	44	7	0	1	1815

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/11/1																
6	0	0	0	0	0	0	0	0	1	0	5	0	0	0	0	6
01:00	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	4	0	1	0	0	0	0	5
03:00	0	0	0	0	0	0	0	0	3	1	2	2	0	0	0	8
04:00	0	0	0	0	0	0	1	2	3	11	16	3	2	0	0	38
05:00	0	0	0	0	0	0	0	3	28	83	55	13	2	1	1	186
06:00	0	0	0	0	0	1	5	35	188	243	64	3	0	0	0	539
07:00	0	0	0	1	7	2	9	43	234	318	76	7	0	0	0	697
08:00	0	0	1	0	1	0	1	20	168	314	96	9	0	0	0	610
09:00	0	0	0	0	0	0	6	19	94	167	59	2	1	0	0	348
10:00	0	0	0	0	0	0	1	3	55	95	39	9	0	0	0	202
11:00	0	0	0	0	0	0	5	26	66	71	22	0	0	0	0	190
12 PM	0	0	0	0	1	1	0	20	83	73	29	2	0	0	0	209
13:00	0	0	0	0	0	1	2	18	64	56	19	5	0	0	1	166
14:00	0	0	0	0	1	1	7	25	92	64	20	6	1	0	0	217
15:00	0	0	1	1	1	3	2	31	80	88	32	6	2	0	0	247
16:00	0	0	0	0	0	1	0	12	79	83	30	7	1	0	0	213
17:00	0	0	0	0	1	4	3	19	55	105	48	8	1	0	0	244
18:00	0	0	0	0	2	0	6	24	52	70	17	3	1	0	0	175
19:00	0	0	0	0	0	1	1	8	34	35	8	1	0	0	0	88
20:00	0	0	0	0	0	0	3	12	16	23	8	2	0	0	0	64
21:00	0	0	0	0	1	0	1	6	15	15	4	1	0	0	0	43
22:00	0	0	0	0	0	0	0	4	6	5	6	1	0	0	0	22
23:00	0	0	0	0	0	0	0	1	2	2	1	0	0	0	0	6
Total	0	0	2	2	15	15	53	331	1423	1923	658	90	11	1	2	4526

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/12/1																
6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
01:00	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
03:00	0	0	0	0	0	0	0	1	2	3	2	1	0	0	0	9
04:00	0	0	0	0	0	0	0	2	11	15	11	6	3	0	0	48
05:00	0	0	0	0	0	0	0	6	36	64	57	12	1	0	0	176
06:00	0	0	0	0	0	2	5	38	166	183	60	6	0	0	0	460
07:00	0	0	0	1	1	8	8	55	218	301	64	6	1	0	0	663
08:00	0	0	1	2	5	4	1	19	148	315	90	5	0	0	0	590
09:00	0	0	0	0	0	0	5	21	93	157	50	6	0	0	0	332
10:00	0	0	0	0	1	0	0	15	68	102	33	3	1	0	0	223
11:00	0	0	0	0	0	0	2	9	77	88	25	5	0	0	0	206
12 PM	0	0	1	0	0	0	2	24	87	75	23	8	1	0	0	221
13:00	0	0	0	0	0	1	3	15	61	82	31	6	1	0	0	200
14:00	0	0	1	3	5	0	2	12	62	82	27	2	2	0	0	198
15:00	0	0	1	0	1	0	4	29	78	98	28	5	1	0	0	245
16:00	0	0	1	0	0	2	6	12	88	76	32	5	0	0	0	222
17:00	0	0	1	0	0	0	4	15	79	106	32	10	0	0	0	247
18:00	0	0	0	0	0	0	4	18	48	68	22	2	1	1	0	164
19:00	0	0	0	0	0	1	2	11	39	38	13	1	0	0	0	105
20:00	0	0	0	0	0	0	0	15	24	32	5	1	0	0	0	77
21:00	0	0	0	0	0	0	1	2	7	20	5	3	0	0	0	38
22:00	0	0	0	0	0	0	1	8	8	6	4	5	2	0	0	34
23:00	0	0	0	0	0	0	0	0	5	1	2	0	0	0	0	8
Total	0	0	6	6	13	18	51	328	1409	1913	616	98	15	1	0	4474

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTDData.com

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	0	6	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	
10/13/1																
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	1	2	1	1	0	2	0	0	7
02:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	5	4	4	1	0	0	0	14
04:00	0	1	0	0	0	1	0	5	12	13	13	5	0	1	0	51
05:00	0	0	0	0	1	0	1	3	31	60	43	11	3	0	0	153
06:00	0	0	0	0	0	0	27	76	184	188	23	5	1	0	0	504
07:00	0	0	0	2	2	1	15	66	273	281	66	1	0	0	0	707
08:00	0	0	1	0	4	4	8	64	206	237	61	1	1	0	0	587
09:00	0	0	0	0	0	1	5	34	100	148	39	3	1	0	0	331
10:00	0	0	0	0	0	0	1	9	76	78	30	4	0	0	0	198
11:00	0	0	0	0	0	0	2	27	87	77	30	5	0	0	0	228
12 PM	0	0	1	0	0	1	4	23	78	66	21	1	0	0	0	195
13:00	0	0	0	0	1	0	0	18	76	68	18	1	0	0	0	182
14:00	0	0	0	0	0	0	2	26	66	88	20	4	0	0	0	206
15:00	0	0	0	0	2	1	4	29	98	74	24	3	0	0	0	235
16:00	0	0	0	0	0	1	4	17	65	77	34	6	0	0	0	204
17:00	0	0	0	0	0	3	9	13	90	117	46	2	1	0	0	281
18:00	0	0	0	0	0	0	3	32	88	58	24	4	0	0	0	209
19:00	0	0	1	0	0	0	2	14	37	35	9	2	2	0	0	102
20:00	0	0	0	0	0	0	0	9	29	28	14	3	0	0	0	83
21:00	0	0	0	0	0	0	0	2	20	15	6	1	0	0	0	44
22:00	0	0	0	0	0	0	0	2	13	7	2	2	0	1	0	27
23:00	0	0	0	0	0	0	0	0	3	3	2	0	1	0	0	9
Total	0	1	3	2	10	13	87	470	1640	1723	530	65	12	2	0	4558

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/14/1																
6	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	2	3	1	1	0	0	0	7
02:00	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	2	4	2	2	0	0	0	10
04:00	0	0	0	0	0	0	0	2	4	13	17	2	2	2	0	42
05:00	0	0	0	0	0	0	1	1	33	58	43	8	3	0	0	147
06:00	0	0	0	0	0	2	14	50	149	170	41	8	1	0	0	435
07:00	0	0	1	0	3	14	7	18	183	297	84	9	0	0	0	616
08:00	0	0	0	0	0	0	5	37	125	269	89	10	0	0	0	535
09:00	0	0	1	0	1	0	1	17	111	154	46	9	2	1	0	343
10:00	0	0	0	1	0	1	0	20	54	88	19	3	1	0	0	187
11:00	0	0	1	0	4	3	4	16	49	75	33	5	1	0	0	191
12 PM	0	0	0	0	0	1	7	27	48	75	28	2	0	0	0	188
13:00	0	0	0	0	0	1	5	24	65	74	34	5	4	0	0	212
14:00	0	0	2	0	0	2	1	22	89	99	33	4	0	0	0	252
15:00	0	0	0	0	0	4	5	15	64	108	46	6	0	0	0	248
16:00	0	0	0	0	1	8	6	19	54	101	40	8	0	0	0	237
17:00	0	0	0	0	0	0	6	22	85	98	43	3	2	0	0	259
18:00	0	0	0	0	1	1	0	15	65	93	21	3	0	0	0	199
19:00	0	1	0	1	0	2	16	32	33	25	5	0	0	0	0	115
20:00	0	0	0	0	1	1	2	7	20	26	9	3	0	0	0	69
21:00	0	0	0	0	0	0	2	13	23	22	3	2	0	0	0	65
22:00	0	0	0	0	0	0	2	8	16	16	2	0	1	0	0	45
23:00	0	0	0	0	0	0	0	1	7	5	1	2	0	0	0	16
Total	0	1	5	2	11	41	84	367	1282	1874	641	95	17	3	0	4423

Tri-State Traffic Data, Inc.

www.TSTData.com

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/15/1																
6	0	0	0	0	0	0	0	2	2	1	1	0	0	0	0	6
01:00	0	0	0	0	0	0	0	4	1	1	0	0	0	0	0	6
02:00	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	3
03:00	0	0	0	0	0	1	0	1	2	3	1	1	0	0	0	9
04:00	0	0	0	0	0	0	0	1	3	4	3	1	0	0	0	12
05:00	0	0	0	0	0	0	0	0	5	15	13	9	1	1	0	44
06:00	0	0	0	0	1	1	1	2	29	24	16	2	0	0	0	76
07:00	0	0	0	0	0	1	2	7	27	60	22	10	0	2	0	131
08:00	0	0	1	0	0	0	0	17	64	98	28	3	0	0	1	212
09:00	0	0	0	0	1	1	7	24	64	105	43	2	1	0	0	248
10:00	0	0	0	0	0	2	1	12	85	112	41	7	0	0	0	260
11:00	0	0	0	0	1	0	3	27	88	84	32	8	0	0	0	243
12 PM	0	0	0	0	0	2	12	38	87	75	22	3	1	0	0	240
13:00	0	0	1	0	0	3	8	30	77	114	27	4	0	1	0	265
14:00	0	0	0	0	0	2	8	24	72	103	37	4	0	0	0	250
15:00	0	0	1	0	0	5	9	42	99	97	27	4	1	0	0	285
16:00	0	0	0	1	1	1	6	23	83	78	22	7	2	0	0	224
17:00	0	0	0	0	0	2	2	18	70	92	32	1	0	0	0	217
18:00	0	0	0	0	0	0	5	33	68	56	27	4	0	0	0	193
19:00	0	0	0	0	0	0	8	24	45	30	20	2	0	0	0	129
20:00	0	0	0	0	0	0	1	8	20	22	6	1	1	0	0	59
21:00	0	0	1	0	1	1	3	13	26	10	7	2	1	0	0	65
22:00	0	0	0	0	0	0	4	9	31	26	6	0	0	0	0	76
23:00	0	0	0	0	0	0	1	4	14	10	2	0	0	0	0	31
Total	0	0	4	1	5	22	81	363	1063	1221	436	75	8	4	1	3284

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTDData.com

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/16/1																
6	0	0	0	0	0	1	0	1	5	4	1	0	0	0	0	12
01:00	0	0	0	0	0	0	0	3	4	2	1	0	0	0	0	10
02:00	0	0	0	0	0	1	0	1	2	1	1	0	0	0	0	6
03:00	0	0	0	0	0	0	0	0	1	1	4	0	0	0	0	6
04:00	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
05:00	0	0	0	0	0	0	0	0	6	4	8	3	0	1	0	22
06:00	0	0	0	0	0	0	0	0	5	19	6	4	0	1	0	35
07:00	0	0	0	0	0	1	2	6	15	28	16	4	1	0	0	73
08:00	0	0	0	0	0	0	0	10	22	64	29	7	0	0	0	132
09:00	0	0	0	0	0	0	3	13	63	86	25	4	1	0	0	195
10:00	0	0	1	0	0	0	8	14	64	91	29	2	0	0	0	209
11:00	0	0	0	0	2	0	10	35	86	105	22	5	2	0	0	267
12 PM	0	0	1	0	3	1	3	26	96	89	27	3	0	0	0	249
13:00	0	0	0	0	0	0	2	17	59	62	31	6	0	0	0	177
14:00	0	0	0	0	1	1	2	17	68	97	22	3	1	0	0	212
15:00	0	0	0	0	0	1	3	27	61	63	29	8	1	1	0	194
16:00	0	0	0	0	0	2	4	18	84	77	33	5	0	0	0	223
17:00	0	0	0	0	0	1	1	18	59	73	33	7	0	0	0	192
18:00	0	0	0	0	0	0	3	14	77	64	17	5	0	0	0	180
19:00	0	0	0	0	0	0	0	14	24	33	10	2	0	0	0	83
20:00	0	0	0	0	0	0	0	2	26	26	7	1	0	0	0	62
21:00	0	0	0	0	0	0	0	2	8	8	6	0	0	0	0	24
22:00	0	0	0	0	0	0	1	3	10	10	4	1	0	0	0	29
23:00	0	0	0	0	0	0	0	2	3	1	1	0	0	0	0	7
Total	0	0	2	0	6	9	42	243	849	1008	363	70	6	3	0	2601

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTDData.com

Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/17/1																
6	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	4
02:00	0	0	0	0	1	1	0	1	2	0	0	0	0	0	0	5
03:00	0	0	0	0	0	0	0	2	5	2	4	3	0	0	0	16
04:00	0	0	0	0	0	0	0	3	10	9	14	3	1	0	0	40
05:00	0	0	0	0	0	0	0	1	26	64	53	12	0	1	0	157
06:00	0	0	0	0	0	2	13	48	177	188	52	6	1	0	0	487
07:00	0	0	0	9	12	7	20	83	245	275	62	6	0	0	0	719
08:00	0	0	1	0	1	2	7	24	175	320	146	6	0	0	0	682
09:00	0	0	0	0	0	1	2	15	89	146	52	8	2	0	0	315
10:00	0	0	0	0	0	0	3	11	39	78	29	4	1	0	0	165
11:00	0	0	0	0	0	1	2	13	56	87	32	2	1	0	0	194
12 PM	0	0	1	0	0	3	8	31	74	56	23	5	0	0	0	201
13:00	0	0	0	0	1	0	1	20	82	80	24	4	0	0	0	212
14:00	0	0	0	0	0	1	3	22	82	68	25	1	1	1	0	204
15:00	0	0	1	1	8	4	1	18	77	66	30	3	0	0	0	209
16:00	0	0	0	0	1	0	1	12	59	86	29	4	1	0	0	193
17:00	0	0	0	0	0	0	3	16	43	52	11	2	0	0	0	127
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	0	3	10	24	22	64	321	1243	1580	586	70	8	2	0	3933
Grand Total	0	2	27	23	86	153	504	2623	9470	11914	4101	607	84	16	4	29614

Stats

- 15th Percentile : 40 MPH
- 50th Percentile : 45 MPH
- 85th Percentile : 50 MPH
- 95th Percentile : 54 MPH

Mean Speed(Average) : 46 MPH

10 MPH Pace Speed : 41-50 MPH

Number in Pace : 21384

Percent in Pace : 72.2%

Number of Vehicles > 55 MPH : 711

Percent of Vehicles > 55 MPH : 2.4%

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/10/1																
6	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	0	0	0	0	0	1	1	10	49	80	31	2	0	0	0	174
12 PM	0	0	1	0	3	3	3	4	43	108	25	6	1	0	0	197
13:00	0	0	0	0	0	1	1	15	51	89	36	8	0	0	0	201
14:00	0	0	1	0	0	0	3	9	77	114	47	7	0	0	0	258
15:00	0	0	0	0	2	1	12	74	128	180	41	3	0	0	0	441
16:00	0	0	1	0	0	2	2	16	143	216	64	12	1	0	0	457
17:00	0	0	0	0	3	0	3	23	225	272	57	5	2	0	0	590
18:00	0	0	0	0	0	1	1	16	91	160	56	5	0	0	0	330
19:00	0	0	0	0	0	0	3	21	78	62	12	1	0	0	0	177
20:00	0	0	0	0	0	0	1	6	40	54	21	4	0	0	0	126
21:00	0	0	0	0	0	0	0	2	12	33	7	2	0	0	0	56
22:00	0	0	0	0	0	0	0	1	10	11	6	1	0	0	0	29
23:00	0	0	0	0	0	0	0	0	5	7	2	1	1	0	0	16
Total	0	0	3	0	8	9	30	197	952	1386	405	57	5	0	0	3052

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/11/1																
6	0	0	0	0	0	0	0	2	3	2	3	1	0	0	0	11
01:00	0	0	0	0	0	0	0	0	2	4	1	1	0	0	0	8
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3
04:00	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	3
05:00	0	0	0	0	0	0	0	0	6	7	5	3	0	0	0	21
06:00	0	0	0	0	0	0	0	4	26	23	10	2	0	0	0	65
07:00	0	0	0	0	0	0	0	19	48	42	21	4	0	0	0	134
08:00	0	0	0	0	0	0	1	5	33	74	27	5	0	0	0	145
09:00	0	0	0	0	0	1	0	6	37	79	28	5	0	1	0	157
10:00	0	0	0	0	0	0	1	6	42	61	24	3	1	0	0	138
11:00	0	2	1	1	0	1	5	20	44	89	29	6	1	0	0	199
12 PM	0	0	0	1	0	2	2	15	75	85	29	2	0	0	0	211
13:00	0	0	0	0	0	0	4	28	62	73	34	4	1	0	0	206
14:00	0	0	0	1	0	0	2	28	95	95	20	5	0	0	0	246
15:00	0	0	0	3	11	3	11	34	132	214	56	7	0	0	0	471
16:00	0	0	0	2	4	1	2	19	177	277	84	5	0	0	0	571
17:00	0	0	0	0	1	0	6	21	156	276	109	7	0	0	0	576
18:00	0	0	0	0	0	1	4	12	124	202	41	5	0	0	0	389
19:00	0	0	0	0	0	0	1	25	87	95	29	7	1	0	0	245
20:00	0	0	0	0	0	0	0	10	29	67	25	1	0	1	0	133
21:00	0	0	0	0	0	2	2	3	23	45	19	5	0	0	0	99
22:00	0	0	0	0	0	0	0	0	12	15	12	2	0	0	0	41
23:00	0	0	0	0	0	0	0	0	7	6	3	1	0	0	0	17
Total	0	2	1	8	16	11	41	258	1220	1835	610	81	4	2	0	4089

Tri-State Traffic Data, Inc.

www.TSTData.com

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	Total
10/12/1																
6	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	7
01:00	0	0	0	0	0	1	0	0	1	4	1	0	1	0	0	8
02:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	4
04:00	0	0	0	0	0	0	0	0	0	2	1	1	0	0	0	4
05:00	0	0	0	0	0	0	0	0	6	6	8	2	0	0	0	22
06:00	0	0	0	0	0	0	0	5	13	28	7	1	0	0	0	54
07:00	0	0	0	0	0	0	5	19	38	54	17	4	0	0	0	137
08:00	0	0	0	0	0	0	2	6	35	69	29	2	1	0	0	144
09:00	0	0	0	0	0	0	1	3	57	74	20	3	0	0	0	158
10:00	0	0	0	0	0	0	0	8	50	66	19	3	1	0	0	147
11:00	0	0	0	0	0	0	2	13	47	94	35	7	2	0	0	200
12 PM	0	0	1	2	2	2	1	8	37	73	42	5	2	0	0	175
13:00	0	0	0	0	0	1	6	7	47	96	41	6	0	1	0	205
14:00	0	0	0	0	0	0	1	9	61	164	41	9	1	0	0	286
15:00	0	1	1	2	2	1	0	36	133	194	66	9	0	0	1	446
16:00	0	0	0	0	0	0	2	29	130	280	93	16	0	1	0	551
17:00	0	0	0	0	0	0	0	25	146	314	93	5	0	0	0	583
18:00	0	0	0	1	1	1	2	40	150	182	40	3	1	0	0	421
19:00	0	0	0	0	0	0	0	14	66	80	30	2	0	0	0	192
20:00	0	0	0	0	0	0	0	8	31	66	29	6	0	0	0	140
21:00	0	0	0	0	0	1	0	3	23	48	17	5	1	0	0	98
22:00	0	0	0	0	0	0	0	0	12	15	12	4	2	0	0	45
23:00	0	0	0	0	0	0	0	1	7	8	9	3	0	0	0	28
Total	0	1	2	5	5	7	22	234	1093	1924	652	96	12	2	1	4056

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/13/1																
6	0	0	0	0	0	0	0	1	5	5	2	1	0	0	0	14
01:00	0	0	0	0	0	0	1	0	2	2	0	2	0	0	0	7
02:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
04:00	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	4
05:00	0	0	0	0	0	0	0	2	3	4	6	2	1	0	0	18
06:00	0	0	0	0	0	0	0	11	26	27	7	0	0	0	0	71
07:00	0	0	0	2	0	0	1	17	37	73	25	1	0	0	0	156
08:00	0	0	0	0	0	0	3	9	61	59	22	3	1	0	0	158
09:00	0	0	0	0	1	1	2	8	47	69	22	2	0	0	0	152
10:00	0	0	0	0	0	0	0	6	26	66	29	0	0	0	0	127
11:00	0	0	0	0	0	0	2	9	50	90	25	6	0	0	0	182
12 PM	0	0	0	0	0	2	2	28	77	86	20	0	0	1	0	216
13:00	0	0	0	0	0	0	5	21	75	85	29	2	0	0	0	217
14:00	0	0	0	0	0	2	1	14	90	112	24	4	0	1	0	248
15:00	0	0	0	5	6	1	3	21	132	225	51	6	0	0	0	450
16:00	0	0	0	1	8	5	0	17	177	268	85	16	0	0	0	577
17:00	0	0	0	0	0	0	6	16	146	295	92	12	0	0	0	567
18:00	0	0	0	1	0	0	2	24	119	169	51	2	0	0	0	368
19:00	0	0	0	0	0	0	0	9	66	123	28	7	0	0	0	233
20:00	0	0	0	0	0	0	1	9	49	66	19	3	2	0	0	149
21:00	0	0	0	0	1	0	2	6	43	39	18	5	1	0	0	115
22:00	0	0	0	0	0	0	2	8	16	30	14	1	2	0	0	73
23:00	0	0	0	0	0	0	0	4	11	14	7	0	0	0	0	36
Total	0	0	0	9	16	11	33	242	1258	1911	577	75	7	2	0	4141

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTDData.com

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/14/1																
6	0	0	0	0	0	0	0	2	1	8	6	1	0	0	0	18
01:00	0	0	0	0	0	0	0	1	4	2	1	1	1	0	0	10
02:00	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
03:00	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	3
04:00	0	0	0	0	0	0	1	1	0	1	2	1	0	0	0	6
05:00	0	0	0	0	0	0	0	5	3	4	4	1	0	0	0	17
06:00	0	0	0	0	0	0	0	8	20	21	16	2	0	0	0	67
07:00	0	0	0	0	0	0	3	18	45	60	13	3	0	0	0	142
08:00	0	0	0	0	0	0	0	8	46	83	31	6	2	0	0	176
09:00	0	0	0	0	0	1	2	9	41	74	17	4	2	0	0	150
10:00	0	0	1	0	0	1	4	9	58	59	33	5	0	0	1	171
11:00	0	0	0	0	1	0	1	15	65	87	23	4	1	0	0	197
12 PM	0	1	0	0	1	0	0	9	48	97	49	3	1	0	0	209
13:00	0	0	0	0	0	0	1	7	59	94	45	6	0	0	0	212
14:00	0	0	1	1	1	1	3	14	64	160	67	3	0	0	0	315
15:00	0	0	0	0	0	0	3	26	134	221	73	7	0	0	0	464
16:00	0	0	0	0	0	0	10	36	154	234	85	17	3	0	0	539
17:00	0	0	0	0	1	3	2	8	168	297	76	10	0	0	0	565
18:00	0	0	0	0	0	0	1	33	111	129	36	2	1	0	0	313
19:00	0	1	1	1	5	4	5	17	70	69	25	4	0	0	0	202
20:00	0	0	0	0	0	0	1	3	54	59	18	5	1	0	0	141
21:00	0	0	0	0	0	1	1	10	35	62	17	0	1	0	0	127
22:00	0	0	0	0	0	0	0	5	28	43	17	3	1	0	0	97
23:00	0	0	0	0	0	0	0	5	14	18	5	0	0	0	0	42
Total	0	2	3	2	9	11	38	249	1224	1883	660	89	14	0	1	4185

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/15/1																
6	0	0	0	0	0	0	0	1	7	9	4	1	1	0	0	23
01:00	0	0	0	0	0	0	0	1	10	2	4	1	0	0	0	18
02:00	0	0	0	0	0	0	1	0	3	4	0	0	0	0	0	8
03:00	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	4
04:00	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
05:00	0	0	0	0	0	0	1	0	1	2	2	1	0	0	0	7
06:00	0	0	0	0	0	0	1	10	11	11	3	1	0	0	0	37
07:00	0	0	0	0	0	0	2	4	33	39	9	1	1	0	0	89
08:00	0	0	0	0	0	0	0	6	31	75	31	5	0	0	0	148
09:00	0	0	0	0	0	0	2	6	66	55	28	8	1	0	0	166
10:00	0	0	0	0	0	0	1	11	51	87	42	3	0	0	0	195
11:00	0	0	0	0	0	1	4	7	68	111	56	5	0	0	0	252
12 PM	0	0	0	0	0	0	6	22	78	112	55	7	2	0	0	282
13:00	0	0	0	0	0	0	2	13	75	107	40	3	0	0	0	240
14:00	0	0	0	0	0	3	3	12	58	126	48	6	0	0	0	256
15:00	0	0	0	0	0	1	0	9	58	145	48	10	0	0	0	271
16:00	0	0	0	0	1	1	0	12	55	129	58	4	1	0	0	261
17:00	0	0	0	2	1	0	1	5	65	111	39	6	2	0	0	232
18:00	0	0	0	0	1	1	2	9	59	97	23	4	0	0	0	196
19:00	0	0	0	2	0	0	1	7	50	67	15	0	0	1	0	143
20:00	0	0	0	0	0	0	1	5	31	41	19	1	0	0	0	98
21:00	0	0	0	0	0	2	1	3	24	49	12	3	0	0	0	94
22:00	0	0	0	0	0	0	0	1	18	30	9	3	0	0	0	61
23:00	0	0	0	0	0	0	0	6	14	21	6	2	0	0	0	49
Total	0	0	0	4	3	9	29	150	868	1432	553	75	8	1	0	3132

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	0	6	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	
10/16/1																
6	0	0	0	0	0	0	0	5	7	11	3	2	0	0	0	28
01:00	0	0	0	0	0	0	0	1	5	5	5	0	0	0	0	16
02:00	0	0	0	0	1	0	0	0	0	3	2	0	1	0	0	7
03:00	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	2	2	1	1	0	0	6
05:00	0	0	0	0	0	0	0	0	1	4	2	0	1	0	0	8
06:00	0	0	0	0	0	0	4	1	3	10	1	0	0	0	0	19
07:00	0	0	0	0	0	0	1	4	20	22	19	1	0	0	0	67
08:00	0	0	0	0	1	0	0	4	19	32	29	2	0	0	0	87
09:00	0	0	0	0	0	0	1	7	33	79	30	5	1	0	0	156
10:00	0	0	0	0	0	0	1	10	55	67	16	1	3	0	0	153
11:00	0	0	0	0	0	2	2	12	47	84	32	4	1	0	0	184
12 PM	0	0	0	1	0	0	7	24	62	131	38	9	1	0	0	273
13:00	0	0	0	0	1	3	2	9	62	117	40	8	1	0	0	243
14:00	0	0	0	0	0	0	0	9	66	109	50	1	3	1	0	239
15:00	0	0	0	0	1	0	2	6	18	106	53	7	1	0	0	194
16:00	0	0	0	0	0	2	0	11	49	82	32	4	0	0	0	180
17:00	0	0	0	0	0	0	0	10	46	70	35	4	1	0	0	166
18:00	0	0	0	0	0	1	0	9	59	73	27	1	0	0	0	170
19:00	0	0	0	0	0	0	0	2	33	66	21	6	0	0	0	128
20:00	0	0	0	0	0	0	0	6	24	32	17	3	0	0	0	82
21:00	0	0	0	0	0	0	0	4	12	23	15	3	0	0	0	57
22:00	0	0	0	0	0	0	1	1	12	9	7	0	1	0	0	31
23:00	0	0	0	0	0	0	0	1	3	8	6	2	0	0	0	20
Total	0	0	0	1	4	8	21	136	636	1146	483	64	16	1	0	2516

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/17/1																
6	0	0	0	0	0	0	0	1	2	3	2	0	1	0	0	9
01:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	4
04:00	0	0	0	0	0	0	1	0	0	4	0	0	0	0	0	5
05:00	0	0	0	0	0	0	0	1	6	7	4	0	0	0	0	18
06:00	0	0	0	0	0	0	0	3	20	25	4	2	1	0	0	55
07:00	0	0	0	0	0	1	1	8	29	63	21	3	0	0	0	126
08:00	0	0	0	0	0	0	0	8	43	65	23	5	1	0	0	145
09:00	0	0	0	0	0	0	2	10	42	68	21	3	3	0	0	149
10:00	0	0	0	0	0	0	2	12	62	66	30	5	1	0	0	178
11:00	0	0	0	0	0	1	0	10	42	86	33	7	0	0	0	179
12 PM	0	0	0	1	3	5	1	10	43	74	26	3	2	0	0	168
13:00	0	0	0	0	0	0	2	10	57	86	29	6	1	0	0	191
14:00	0	0	0	0	0	3	6	11	67	129	48	5	1	0	0	270
15:00	0	0	0	2	1	1	11	19	107	196	53	4	1	0	0	395
16:00	0	0	0	0	0	0	0	29	143	236	114	12	1	0	0	535
17:00	0	0	0	0	0	1	5	34	126	131	37	9	0	0	0	343
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	0	0	3	4	12	31	167	792	1243	445	64	13	0	0	2774
Grand Total	0	5	9	32	65	78	245	1633	8043	12760	4385	601	79	8	2	27945

Stats

- 15th Percentile : 41 MPH
- 50th Percentile : 46 MPH
- 85th Percentile : 51 MPH
- 95th Percentile : 54 MPH

Mean Speed(Average) : 47 MPH

10 MPH Pace Speed : 41-50 MPH

Number in Pace : 20803

Percent in Pace : 74.4%

Number of Vehicles > 55 MPH : 690

Percent of Vehicles > 55 MPH : 2.5%

Tri-State Traffic Data, Inc.

www.TSTData.com

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/10/1																
6	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	0	0	0	0	1	3	7	32	88	71	11	0	0	0	0	213
13:00	0	0	0	0	0	0	3	32	80	65	14	2	0	0	0	196
14:00	0	0	0	0	0	0	1	18	78	71	13	1	1	0	0	183
15:00	0	0	0	0	0	0	2	44	76	81	13	1	0	0	0	217
16:00	0	0	0	1	0	0	4	24	78	75	17	1	0	0	0	200
17:00	0	0	0	0	1	1	7	31	70	62	12	0	0	0	0	184
18:00	0	0	0	0	0	0	6	32	70	47	12	2	0	0	0	169
19:00	0	0	0	0	0	1	3	21	49	31	3	2	0	0	0	110
20:00	0	0	0	0	0	0	0	9	30	27	6	1	0	0	0	73
21:00	0	0	0	0	0	0	2	2	12	14	5	0	0	0	0	35
22:00	0	0	0	0	0	0	1	0	8	5	5	0	0	0	0	19
23:00	0	0	0	0	0	0	0	3	6	2	2	0	0	0	0	13
Total	0	0	0	1	2	5	36	248	645	551	113	10	1	0	0	1612

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/11/1																
6	0	0	0	0	0	0	0	1	2	4	2	0	0	0	0	9
01:00	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	1	2	0	1	0	0	0	0	4
03:00	0	0	0	0	0	0	0	1	3	1	1	0	0	0	0	6
04:00	0	0	0	0	0	0	0	3	13	9	2	1	0	0	0	28
05:00	0	0	0	0	0	0	3	7	48	63	26	2	1	0	0	150
06:00	0	0	0	0	0	0	6	41	206	178	19	2	0	0	0	452
07:00	0	0	0	0	0	0	9	111	386	189	15	0	0	0	0	710
08:00	0	0	0	0	1	2	10	115	350	136	18	1	0	0	0	633
09:00	0	0	0	0	3	2	3	67	169	125	19	2	1	0	0	391
10:00	0	0	0	0	0	0	5	20	93	68	16	1	0	0	0	203
11:00	0	0	1	1	4	2	3	36	78	57	10	0	0	0	0	192
12 PM	0	0	0	0	0	2	4	32	106	59	11	0	0	0	0	214
13:00	0	0	0	0	7	24	9	25	66	24	4	1	0	0	0	160
14:00	0	1	0	0	4	11	22	42	81	37	2	0	1	0	0	201
15:00	0	0	0	0	1	1	9	36	85	85	16	2	0	0	0	235
16:00	0	0	0	0	0	0	7	15	101	78	17	2	0	0	0	220
17:00	0	0	1	0	0	1	4	23	108	83	16	3	0	1	0	240
18:00	0	0	0	0	0	0	5	33	75	48	11	1	0	0	0	173
19:00	0	0	0	0	1	0	2	17	57	25	2	1	0	0	0	105
20:00	0	0	0	0	0	0	2	9	29	20	5	0	0	0	0	65
21:00	0	0	0	0	0	0	6	14	21	10	2	0	0	0	0	53
22:00	0	0	0	0	0	0	0	8	8	9	1	0	0	0	0	26
23:00	0	0	0	0	0	0	0	2	2	5	1	0	0	0	0	10
Total	0	1	2	1	21	45	109	660	2090	1314	217	19	3	1	0	4483

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/12/1																
6	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
01:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	1	1	2	1	0	0	0	0	0	5
03:00	0	0	0	0	0	0	0	2	4	2	1	0	0	0	0	9
04:00	0	0	0	0	0	0	0	5	10	16	7	2	0	0	0	40
05:00	0	0	0	0	0	0	0	7	31	74	25	3	0	0	0	140
06:00	0	0	0	0	0	0	4	41	186	147	20	5	2	0	0	405
07:00	0	0	0	0	2	8	13	103	335	179	11	2	0	0	0	653
08:00	0	0	0	0	0	0	8	124	310	151	25	0	0	0	0	618
09:00	0	0	0	0	0	0	7	54	169	101	16	1	0	0	0	348
10:00	0	0	0	0	0	0	3	32	102	74	18	2	0	0	0	231
11:00	0	0	0	0	0	0	3	35	87	66	12	0	0	0	0	203
12 PM	0	0	0	0	0	0	4	37	106	57	9	1	0	0	0	214
13:00	0	0	0	0	1	1	3	38	82	63	18	1	0	0	0	207
14:00	0	0	0	0	0	0	1	16	95	52	15	1	2	0	0	182
15:00	0	0	0	0	0	0	3	34	105	78	14	2	0	0	0	236
16:00	0	0	0	0	0	4	3	25	94	72	23	0	0	0	0	221
17:00	0	0	0	0	0	0	4	34	115	84	16	1	0	0	0	254
18:00	0	0	0	0	0	2	3	34	72	51	12	0	0	0	0	174
19:00	0	0	0	0	0	0	6	17	56	25	7	0	0	0	0	111
20:00	0	0	0	0	0	0	1	18	40	29	2	0	0	0	0	90
21:00	0	0	0	0	0	0	1	7	12	15	4	1	0	0	0	40
22:00	0	0	0	0	0	0	1	10	11	9	1	3	0	0	0	35
23:00	0	0	0	0	0	0	0	0	5	3	3	0	0	0	0	11
Total	0	0	0	0	3	15	69	674	2030	1349	259	26	4	0	0	4429

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/13/1																
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	1	2	1	1	1	0	0	0	6
02:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
03:00	0	0	0	0	0	0	0	1	8	2	1	0	0	0	0	12
04:00	0	0	0	0	0	0	0	4	17	13	8	0	0	0	0	42
05:00	0	0	0	0	0	0	2	2	38	55	20	3	1	0	0	121
06:00	0	0	0	0	0	0	7	57	207	126	22	1	0	0	0	420
07:00	0	0	0	0	0	1	7	129	368	179	17	0	0	0	0	701
08:00	0	0	0	0	0	0	18	116	315	150	19	1	0	0	0	619
09:00	0	0	1	0	1	0	8	63	188	89	8	1	0	0	0	359
10:00	0	0	0	0	0	0	6	36	100	51	9	0	0	0	0	202
11:00	0	0	0	0	0	1	5	52	102	61	6	0	0	0	0	227
12 PM	0	0	0	0	0	2	4	35	95	51	4	1	0	0	0	192
13:00	0	0	0	0	0	1	3	33	79	49	7	0	0	0	0	172
14:00	0	0	0	0	0	1	3	34	104	54	7	1	0	0	0	204
15:00	0	0	0	0	1	4	6	49	92	56	16	0	0	0	0	224
16:00	0	0	0	0	0	0	8	32	75	68	20	2	0	0	0	205
17:00	0	0	0	0	0	1	6	35	120	87	14	3	0	0	0	266
18:00	0	0	0	0	0	0	4	42	101	58	12	0	0	0	0	217
19:00	0	0	0	0	0	0	3	25	49	31	7	0	0	0	0	115
20:00	0	0	0	0	0	0	3	17	35	26	7	0	0	0	0	88
21:00	0	0	0	0	1	0	0	11	18	7	6	2	0	0	0	45
22:00	0	0	0	0	0	0	1	4	12	9	4	1	0	0	0	31
23:00	0	0	0	0	0	0	0	2	3	5	2	1	0	0	0	13
Total	0	0	1	0	3	11	94	780	2128	1228	218	18	1	0	0	4482

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/14/1																
6	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
01:00	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	3
02:00	0	0	0	0	0	1	0	0	2	2	1	1	0	0	0	7
03:00	0	0	0	0	0	0	0	3	1	3	0	1	0	0	0	8
04:00	0	0	0	0	0	0	1	5	6	11	4	1	0	0	0	28
05:00	0	0	0	0	0	0	3	3	33	68	19	3	1	0	0	130
06:00	0	0	0	0	0	0	4	43	154	136	28	4	0	0	0	369
07:00	0	0	0	0	0	1	9	98	312	166	21	0	0	0	0	607
08:00	0	0	0	0	1	1	23	98	277	160	13	1	0	0	0	574
09:00	0	0	0	0	0	0	4	70	146	112	21	3	0	0	0	356
10:00	0	0	0	1	0	0	3	25	79	58	13	0	1	0	0	180
11:00	0	0	0	0	0	0	6	24	73	69	19	1	0	0	0	192
12 PM	0	0	0	0	0	0	6	45	63	57	8	2	0	0	0	181
13:00	0	0	0	0	1	0	4	21	80	76	11	4	0	0	0	197
14:00	0	0	0	0	1	0	2	33	117	82	17	0	0	0	0	252
15:00	0	0	0	0	1	0	7	24	102	96	18	5	0	0	0	253
16:00	0	0	0	0	0	4	5	34	81	77	20	0	0	0	0	221
17:00	0	0	0	0	1	0	7	44	113	77	15	4	0	0	0	261
18:00	0	0	0	0	0	4	4	31	103	54	8	3	0	1	0	208
19:00	0	0	0	0	0	3	5	24	48	39	8	1	0	0	0	128
20:00	0	0	0	0	2	0	0	13	24	21	6	0	0	0	0	66
21:00	0	0	0	0	0	0	1	13	33	16	3	0	0	0	0	66
22:00	0	0	0	0	0	0	2	12	22	11	1	1	0	0	0	49
23:00	0	0	0	0	0	0	3	2	6	2	4	0	0	0	0	17
Total	0	0	0	1	7	14	99	667	1876	1394	259	35	2	1	0	4355

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	0	6	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	
10/15/1																
6	0	0	0	0	0	0	0	4	4	0	1	0	0	0	0	9
01:00	0	0	0	0	0	0	0	5	1	1	0	0	0	0	0	7
02:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	4	2	1	0	0	0	0	7
04:00	0	0	0	0	0	0	1	2	6	1	2	1	0	0	0	13
05:00	0	0	0	0	0	0	0	1	7	18	8	2	0	0	0	36
06:00	0	0	0	0	1	1	0	16	25	22	5	2	0	0	0	72
07:00	0	0	0	0	0	0	0	14	55	36	10	4	1	0	0	120
08:00	0	0	0	0	2	1	5	30	92	44	8	1	1	1	0	185
09:00	0	0	0	0	0	0	8	40	118	68	16	0	0	0	0	250
10:00	0	0	0	0	0	0	2	30	112	93	15	2	0	0	0	254
11:00	0	0	0	0	0	0	7	36	92	79	16	2	0	0	0	232
12 PM	0	0	0	0	0	0	10	42	99	64	19	3	0	0	0	237
13:00	0	0	0	1	1	1	8	30	113	88	15	0	0	0	0	257
14:00	0	0	0	1	0	1	10	44	115	68	12	1	0	0	0	252
15:00	0	0	0	1	0	2	8	34	118	102	7	1	0	0	0	273
16:00	0	0	0	1	2	4	8	32	96	78	12	3	1	0	0	237
17:00	0	0	0	0	0	0	8	36	93	49	11	3	0	0	0	200
18:00	0	0	0	0	0	0	1	34	96	62	10	0	0	0	0	203
19:00	0	0	0	0	0	0	6	27	61	44	2	0	0	0	0	140
20:00	0	0	0	0	0	0	3	11	33	20	4	1	0	0	0	72
21:00	0	0	0	0	0	0	4	19	22	13	2	3	0	0	0	63
22:00	0	0	0	0	0	1	1	17	32	17	4	0	0	0	0	72
23:00	0	0	0	1	0	1	1	7	27	6	0	0	0	0	0	43
Total	0	0	0	5	6	12	91	511	1422	976	180	29	3	1	0	3236

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	0	6	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	
10/16/1																
6	0	0	0	1	0	0	0	1	6	3	2	0	0	0	0	13
01:00	0	0	0	0	0	0	1	2	2	3	1	0	0	0	0	9
02:00	0	0	0	0	0	0	0	4	1	1	0	0	0	0	0	6
03:00	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	4
04:00	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	4
05:00	0	0	0	0	0	0	1	2	4	5	3	2	0	0	0	17
06:00	0	0	0	0	0	0	0	3	10	15	5	1	0	0	0	34
07:00	0	0	0	0	0	0	1	11	18	23	3	2	0	0	0	58
08:00	0	0	0	0	0	1	2	14	49	34	14	0	0	0	0	114
09:00	0	0	0	0	0	2	5	26	77	58	12	0	0	0	0	180
10:00	0	0	0	0	0	0	11	36	94	68	11	0	0	0	0	220
11:00	0	0	0	0	0	1	7	43	103	65	14	3	0	0	0	236
12 PM	0	0	0	0	1	2	4	49	130	66	12	4	0	0	0	268
13:00	0	0	0	0	1	2	4	22	76	64	11	0	0	0	0	180
14:00	0	0	0	1	0	0	2	31	94	58	14	1	0	0	0	201
15:00	0	0	0	1	0	0	2	29	87	68	15	2	1	0	0	205
16:00	0	0	0	0	2	0	0	30	84	69	15	1	1	0	0	202
17:00	0	0	0	0	0	1	3	24	77	83	7	2	0	0	0	197
18:00	0	0	0	0	0	0	1	24	101	40	11	2	0	0	0	179
19:00	0	0	0	0	0	0	0	19	43	28	10	0	0	0	0	100
20:00	0	0	0	0	0	0	1	14	25	22	3	1	0	0	0	66
21:00	0	0	0	0	0	0	0	4	10	7	2	0	0	0	0	23
22:00	0	0	0	0	0	0	2	4	11	7	4	0	0	0	0	28
23:00	0	0	0	0	0	0	0	3	5	3	1	0	0	0	0	12
Total	0	0	0	3	4	9	47	396	1108	793	173	21	2	0	0	2556

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB	0	6	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
Start Time	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	
10/17/1																
6	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	4
02:00	0	0	0	0	0	0	1	2	0	2	0	0	0	0	0	5
03:00	0	0	0	0	0	0	2	2	3	3	2	0	0	0	0	12
04:00	0	0	0	0	0	0	0	6	7	15	7	0	0	0	0	35
05:00	0	0	0	0	0	0	0	3	35	73	21	1	1	0	0	134
06:00	0	0	0	0	0	0	9	39	198	146	23	1	0	0	0	416
07:00	0	0	0	12	3	4	19	119	350	166	10	0	0	0	0	683
08:00	0	0	0	0	0	0	14	146	356	192	15	0	0	0	0	723
09:00	0	0	0	0	1	0	5	44	148	123	24	1	0	0	0	346
10:00	0	0	0	0	0	0	4	21	74	75	15	1	1	0	0	191
11:00	0	0	0	0	0	0	6	14	65	83	13	0	0	0	0	181
12 PM	0	0	0	0	0	0	3	49	77	39	13	1	0	0	0	182
13:00	0	0	0	0	0	0	2	36	98	62	8	1	0	0	0	207
14:00	0	0	0	1	0	0	9	34	103	48	9	1	0	0	0	205
15:00	0	0	0	0	5	1	3	35	88	72	8	0	0	0	0	212
16:00	0	0	0	0	0	0	2	23	80	63	15	0	0	0	0	183
17:00	0	0	1	2	3	4	4	26	80	62	12	2	0	0	0	196
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	0	1	15	12	9	83	599	1763	1228	196	9	2	0	0	3917
Grand Total	0	1	4	26	58	120	628	4535	13062	8833	1615	167	18	3	0	29070

Stats

- 15th Percentile : 38 MPH
- 50th Percentile : 43 MPH
- 85th Percentile : 48 MPH
- 95th Percentile : 51 MPH

Mean Speed(Average) : 44 MPH

10 MPH Pace Speed : 41-50 MPH

Number in Pace : 21895

Percent in Pace : 75.3%

Number of Vehicles > 55 MPH : 188

Percent of Vehicles > 55 MPH : 0.6%

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	0	6	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	
10/10/1																
6	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	0	0	0	0	0	1	4	21	88	58	4	3	0	0	0	179
13:00	0	0	0	0	0	0	2	56	94	36	7	2	0	0	0	197
14:00	0	0	0	0	0	0	0	24	122	68	7	0	0	0	0	221
15:00	0	0	0	0	0	0	8	68	222	99	5	0	0	0	0	402
16:00	0	0	0	2	3	1	11	88	229	99	9	1	0	0	0	443
17:00	0	0	0	0	0	2	22	152	304	80	7	1	0	0	0	568
18:00	0	0	0	0	0	2	12	70	195	66	9	1	0	0	0	355
19:00	0	0	0	0	0	0	10	42	98	32	5	0	0	0	0	187
20:00	0	0	0	0	0	0	3	27	56	32	4	1	0	0	0	123
21:00	0	0	0	0	0	0	0	12	29	21	4	0	0	0	0	66
22:00	0	0	0	0	0	0	0	4	10	14	3	0	0	0	0	31
23:00	0	0	0	0	0	0	0	1	7	7	0	1	0	0	0	16
Total	0	0	0	2	3	6	72	565	1454	612	64	10	0	0	0	2788

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/11/1																
6	0	0	0	0	0	0	2	1	4	1	0	1	0	0	0	9
01:00	0	0	0	0	0	0	0	1	5	2	1	0	0	0	0	9
02:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	3
04:00	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	3
05:00	0	0	0	0	0	0	0	3	3	7	0	0	0	0	0	13
06:00	0	0	0	0	0	0	2	13	19	17	2	0	0	0	0	53
07:00	0	0	0	0	0	0	9	29	64	24	5	0	0	0	0	131
08:00	0	0	0	0	0	0	6	29	69	25	5	0	0	0	0	134
09:00	0	0	0	0	0	1	3	30	82	36	3	1	0	0	0	156
10:00	0	0	0	0	0	0	1	34	55	28	3	2	1	0	0	124
11:00	0	0	0	5	3	0	2	17	90	55	5	0	0	0	0	177
12 PM	0	0	0	0	0	0	6	37	105	41	7	0	0	0	0	196
13:00	0	0	2	0	4	3	22	57	61	38	3	1	0	0	0	191
14:00	0	0	0	0	4	4	16	58	104	39	5	0	1	0	0	231
15:00	0	0	1	2	0	0	7	82	212	116	3	1	0	0	0	424
16:00	0	0	0	0	0	0	11	89	294	127	9	0	0	0	0	530
17:00	0	0	4	1	1	1	22	115	284	149	12	1	0	0	0	590
18:00	0	1	0	1	2	0	7	87	212	103	3	0	0	0	0	416
19:00	0	0	0	0	0	1	15	62	122	44	7	0	0	0	0	251
20:00	0	0	0	0	0	0	2	22	72	37	9	1	0	0	0	143
21:00	0	0	0	0	0	0	1	17	60	22	5	0	1	0	0	106
22:00	0	0	0	0	0	0	0	4	21	19	2	0	0	0	0	46
23:00	0	0	0	0	0	0	0	3	5	4	1	1	0	0	0	14
Total	0	1	7	9	15	10	134	792	1944	936	91	9	3	0	0	3951

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/12/1																
6	0	0	0	0	0	0	0	1	3	2	0	0	0	0	0	6
01:00	0	0	0	0	0	0	1	2	1	3	1	0	1	0	0	9
02:00	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
04:00	0	0	0	0	0	0	0	0	3	0	2	0	0	0	0	5
05:00	0	0	0	0	0	0	0	3	4	5	3	0	0	0	0	15
06:00	0	0	0	0	0	0	4	11	22	10	3	0	0	0	0	50
07:00	0	0	0	0	0	0	3	20	56	30	2	0	0	0	0	111
08:00	0	0	0	0	0	1	4	27	85	33	4	1	0	0	0	155
09:00	0	0	0	0	0	0	6	26	77	38	4	0	0	0	0	151
10:00	0	0	0	0	0	0	6	29	64	39	4	0	0	0	0	142
11:00	0	0	0	0	0	2	6	39	99	44	8	0	0	0	0	198
12 PM	0	0	0	0	0	1	7	27	79	48	8	0	0	0	0	170
13:00	0	0	0	0	0	0	8	32	92	43	9	0	0	0	0	184
14:00	0	0	0	0	0	0	0	37	137	92	6	0	0	0	0	272
15:00	0	0	0	0	0	0	1	65	217	93	8	1	0	0	0	385
16:00	0	0	0	0	0	0	5	74	301	140	13	1	0	0	0	534
17:00	0	0	0	0	0	0	6	84	298	150	14	3	0	0	0	555
18:00	0	0	0	0	0	5	10	84	238	93	8	0	0	0	0	438
19:00	0	0	0	0	0	0	8	56	86	56	8	0	1	0	0	215
20:00	0	0	0	0	0	0	0	20	75	33	12	0	0	0	0	140
21:00	0	0	0	0	0	0	2	22	39	32	7	0	0	0	0	102
22:00	0	0	0	0	0	0	1	3	19	19	7	0	0	0	0	49
23:00	0	0	0	0	0	0	0	1	13	7	3	1	0	0	0	25
Total	0	0	0	0	0	9	78	665	2010	1012	134	7	2	0	0	3917

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/13/1																
6	0	0	0	0	0	0	0	1	5	7	3	0	0	0	0	16
01:00	0	0	0	0	0	0	1	0	1	5	0	0	1	0	0	8
02:00	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	4
05:00	0	0	0	1	0	0	0	2	4	2	2	0	0	0	0	11
06:00	0	0	0	0	0	0	1	10	33	10	2	0	0	0	0	56
07:00	0	0	0	0	1	6	14	34	64	27	2	0	0	0	0	148
08:00	0	0	0	0	0	3	6	33	56	52	0	1	0	0	0	151
09:00	0	0	0	0	3	2	5	24	72	36	4	0	0	0	0	146
10:00	0	0	0	0	0	0	5	31	58	35	2	0	0	0	0	131
11:00	0	0	0	0	0	0	5	34	94	41	1	1	0	0	0	176
12 PM	0	0	0	0	0	2	20	42	92	35	3	1	0	0	0	195
13:00	0	0	0	0	0	0	8	60	99	44	1	0	0	0	0	212
14:00	0	0	0	0	0	0	7	60	107	44	9	0	0	0	0	227
15:00	0	0	0	0	0	0	14	71	214	71	15	0	0	0	0	385
16:00	0	0	1	4	6	5	10	91	285	120	13	1	0	0	0	536
17:00	0	0	0	0	0	1	14	102	322	154	11	0	0	0	0	604
18:00	0	0	0	0	0	0	9	84	189	80	10	1	0	0	0	373
19:00	0	0	0	0	0	0	2	46	114	60	1	2	0	0	0	225
20:00	0	0	0	0	0	0	2	28	87	32	4	1	0	0	0	154
21:00	0	0	0	0	0	0	0	24	56	33	2	2	0	0	0	117
22:00	0	0	0	0	0	0	2	18	29	17	4	0	0	0	0	70
23:00	0	0	0	0	0	0	1	4	13	19	3	0	0	0	0	40
Total	0	0	1	5	10	19	126	802	1995	926	94	10	1	0	0	3989

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/14/1																
6	0	0	0	0	0	0	0	2	8	7	1	0	0	0	0	18
01:00	0	0	0	0	1	1	1	0	2	5	1	0	0	0	0	11
02:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
03:00	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	3
04:00	0	0	0	0	0	0	1	1	2	1	1	1	0	0	0	7
05:00	0	0	0	0	0	0	1	3	4	4	0	0	0	0	0	12
06:00	0	0	0	0	0	0	3	13	16	15	6	0	0	0	0	53
07:00	0	0	0	0	0	1	5	27	64	31	5	0	0	0	0	133
08:00	0	0	0	0	0	0	9	38	76	34	5	0	0	0	0	162
09:00	0	0	0	0	0	0	7	26	81	38	9	0	0	0	0	161
10:00	0	0	0	0	0	3	0	19	82	41	9	0	0	0	0	154
11:00	0	0	0	0	1	0	1	43	86	54	6	0	0	0	0	191
12 PM	0	0	0	0	1	2	5	32	90	66	8	2	0	0	0	206
13:00	0	0	0	0	0	0	1	38	96	68	10	0	0	0	0	213
14:00	0	0	0	0	0	0	6	42	133	79	11	0	0	0	0	271
15:00	0	0	0	0	1	7	18	63	211	107	17	0	0	0	0	424
16:00	0	0	0	0	1	9	26	86	234	131	11	1	0	0	0	499
17:00	0	0	0	0	2	1	6	109	324	107	8	0	0	0	0	557
18:00	0	0	0	0	0	2	16	75	164	85	9	1	0	0	0	352
19:00	0	0	0	0	1	2	12	76	92	16	3	0	0	0	0	202
20:00	0	0	0	0	0	1	6	20	75	33	13	2	0	0	0	150
21:00	0	0	0	0	0	0	1	16	54	35	3	0	0	0	0	109
22:00	0	0	0	0	0	0	0	15	49	28	8	0	0	0	0	100
23:00	0	0	0	0	0	0	0	6	26	9	2	0	0	0	0	43
Total	0	0	0	0	9	29	125	750	1972	996	146	7	0	0	0	4034

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	0	6	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	
10/15/1																
6	0	0	0	0	1	0	0	1	13	4	1	0	0	0	0	20
01:00	0	0	0	0	0	0	0	4	7	6	4	0	0	0	0	21
02:00	0	0	0	0	0	1	1	0	2	2	1	0	0	0	0	7
03:00	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	4
04:00	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	3
05:00	0	0	0	0	0	0	0	1	1	3	1	0	0	0	0	6
06:00	0	0	0	0	0	0	3	7	8	9	1	0	0	0	0	28
07:00	0	0	0	0	0	0	6	14	32	22	3	1	0	0	0	78
08:00	0	0	0	0	0	3	2	29	51	56	7	0	0	0	0	148
09:00	0	0	0	0	0	1	4	23	71	41	10	1	0	0	0	151
10:00	0	0	0	0	0	2	2	14	81	80	6	2	0	0	0	187
11:00	0	0	0	0	0	0	4	39	94	73	13	1	0	1	0	225
12 PM	0	0	0	0	0	0	10	38	108	99	8	4	0	0	0	267
13:00	0	0	0	0	0	1	8	41	118	76	6	0	0	0	0	250
14:00	0	0	0	0	1	6	1	59	98	65	7	1	0	0	0	238
15:00	0	0	0	0	2	1	2	27	128	106	10	1	0	0	0	277
16:00	0	0	0	0	1	3	4	23	125	82	5	1	0	0	0	244
17:00	0	0	0	0	0	0	2	43	114	72	6	1	0	0	0	238
18:00	0	0	0	0	0	0	1	43	93	50	5	0	0	0	0	192
19:00	0	0	0	0	0	1	5	34	66	47	3	1	1	0	0	158
20:00	0	0	0	0	0	0	0	11	45	30	5	0	0	0	0	91
21:00	0	0	0	0	1	0	2	17	38	24	3	2	0	0	0	87
22:00	0	0	0	0	0	0	4	12	28	20	0	0	0	0	0	64
23:00	0	0	0	0	0	0	6	14	15	11	2	0	0	0	0	48
Total	0	0	0	1	6	19	67	495	1337	981	108	16	1	1	0	3032

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	05	06	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
10/16/1																
6	0	0	0	0	0	0	1	9	10	6	1	0	0	0	0	27
01:00	0	0	0	0	0	0	0	4	5	7	1	0	0	0	0	17
02:00	0	0	0	0	1	0	0	1	1	3	0	0	0	0	0	6
03:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	1	2	0	1	0	0	0	4
05:00	0	0	0	0	0	0	0	0	6	1	1	0	0	0	0	8
06:00	0	0	0	0	0	0	1	3	4	4	1	0	0	0	0	13
07:00	0	0	0	0	0	0	1	9	28	21	1	0	0	0	0	60
08:00	0	0	0	0	0	0	0	20	25	24	10	2	0	0	0	81
09:00	0	0	0	0	0	1	2	9	74	46	11	1	0	0	0	144
10:00	0	0	0	0	0	1	4	32	65	46	4	1	0	0	0	153
11:00	0	0	0	0	0	1	2	25	84	49	12	1	0	0	0	174
12 PM	0	0	0	0	0	0	3	32	126	77	10	2	0	0	0	250
13:00	0	0	0	0	1	4	6	28	100	78	10	1	0	0	0	228
14:00	0	0	0	0	0	0	0	26	123	70	12	0	0	1	0	232
15:00	0	0	0	1	2	1	1	23	74	77	14	1	1	0	0	195
16:00	0	0	0	0	1	0	1	25	84	46	9	0	0	0	0	166
17:00	0	0	0	0	2	2	1	34	77	50	4	0	0	0	0	170
18:00	0	0	0	0	1	0	5	26	74	41	8	0	0	0	0	155
19:00	0	0	0	0	0	0	4	14	50	46	5	2	0	0	0	121
20:00	0	0	0	0	0	0	0	12	35	26	6	1	0	0	0	80
21:00	0	0	0	0	0	0	1	7	28	17	4	0	0	0	0	57
22:00	0	0	0	0	0	0	0	3	17	9	2	0	1	0	0	32
23:00	0	0	0	0	0	0	0	4	3	10	2	0	0	0	0	19
Total	0	0	0	1	8	10	33	346	1095	757	128	13	2	1	0	2394

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 00000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	0	6	11	16	21	26	31	36	41	46	51	56	61	66	71	Total
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	
10/17/1																
6	0	0	0	0	0	0	0	1	4	3	2	0	0	0	0	10
01:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
03:00	0	0	0	0	1	0	1	2	1	0	0	0	0	0	0	5
04:00	0	0	0	0	0	0	1	0	1	3	0	0	0	0	0	5
05:00	0	0	0	0	0	0	0	3	3	5	1	0	0	0	0	12
06:00	0	0	0	0	1	1	0	15	20	10	1	0	0	0	0	48
07:00	0	0	0	0	0	0	5	15	58	28	7	0	0	0	0	113
08:00	0	0	0	0	0	4	6	25	68	36	6	1	0	0	0	146
09:00	0	0	0	0	0	0	3	18	85	34	5	0	1	0	0	146
10:00	0	0	0	0	0	0	9	29	87	45	2	0	0	0	0	172
11:00	0	0	0	0	0	1	1	24	96	42	7	1	0	0	0	172
12 PM	0	0	0	0	0	0	2	35	66	52	10	0	0	0	0	165
13:00	0	0	0	0	0	0	8	38	98	36	5	2	0	0	0	187
14:00	0	0	1	1	2	0	4	55	115	54	8	0	0	0	0	240
15:00	0	0	0	1	2	3	9	71	160	90	9	0	0	0	0	345
16:00	0	0	0	0	0	0	11	106	262	113	10	0	0	0	0	502
17:00	0	0	0	0	1	18	23	138	232	118	14	0	0	0	0	544
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	0	1	2	7	27	84	575	1357	670	87	4	1	0	0	2815
Grand Total	0	1	9	20	58	129	719	4990	13164	6890	852	76	10	2	0	26920

Stats

- 15th Percentile : 38 MPH
- 50th Percentile : 42 MPH
- 85th Percentile : 47 MPH
- 95th Percentile : 49 MPH

Mean Speed(Average) : 43 MPH

10 MPH Pace Speed : 41-50 MPH

Number in Pace : 20054

Percent in Pace : 74.5%

Number of Vehicles > 55 MPH : 88

Percent of Vehicles > 55 MPH : 0.3%

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/10/16	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	0	178	23	1	3	1	1	1	1	0	0	0	0	209
12 PM	0	168	31	4	8	2	0	3	2	0	0	0	0	218
13:00	0	162	22	1	8	1	0	1	1	0	0	0	0	196
14:00	1	153	25	3	5	1	0	3	0	0	0	0	0	191
15:00	4	176	32	2	15	0	0	0	1	0	0	0	0	230
16:00	2	166	27	2	3	0	0	2	0	0	0	0	0	202
17:00	3	171	12	0	3	0	0	2	0	0	0	0	0	191
18:00	1	118	13	0	6	0	0	0	0	0	0	0	0	138
19:00	0	92	14	0	1	0	0	0	0	0	0	0	0	107
20:00	0	62	10	0	1	0	0	0	0	0	0	0	0	73
21:00	0	29	1	0	1	0	0	0	0	0	0	0	0	31
22:00	0	13	4	0	0	0	0	0	0	0	0	0	0	17
23:00	0	10	1	0	1	0	0	0	0	0	0	0	0	12
Day Total	11	1498	215	13	55	5	1	12	5	0	0	0	0	1815
Percent	0.6%	82.5%	11.8%	0.7%	3.0%	0.3%	0.1%	0.7%	0.3%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00					11:00
Vol.		178	23	1	3	1	1	1	1					209
PM Peak	15:00	15:00	15:00	12:00	15:00	12:00		12:00	12:00					15:00
Vol.	4	176	32	4	15	2		3	2					230

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/11/16	0	6	0	0	0	0	0	0	0	0	0	0	0	6
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	3	1	0	1	0	0	0	0	0	0	0	0	5
03:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
04:00	0	26	11	0	1	0	0	0	0	0	0	0	0	38
05:00	1	136	36	2	7	1	0	1	2	0	0	0	0	186
06:00	1	418	98	4	11	3	0	3	1	0	0	0	0	539
07:00	1	584	88	3	12	4	0	3	2	0	0	0	0	697
08:00	1	533	60	2	8	1	0	2	3	0	0	0	0	610
09:00	1	291	44	0	7	1	0	2	2	0	0	0	0	348
10:00	1	162	29	3	4	0	0	3	0	0	0	0	0	202
11:00	0	148	30	1	7	1	1	1	1	0	0	0	0	190
12 PM	0	175	28	0	4	0	0	1	0	1	0	0	0	209
13:00	0	133	26	0	5	1	0	1	0	0	0	0	0	166
14:00	0	165	34	1	14	2	0	1	0	0	0	0	0	217
15:00	1	195	37	7	7	0	0	0	0	0	0	0	0	247
16:00	2	164	39	0	5	0	0	3	0	0	0	0	0	213
17:00	1	203	30	1	8	0	0	1	0	0	0	0	0	244
18:00	0	143	24	0	6	1	0	1	0	0	0	0	0	175
19:00	0	75	10	0	3	0	0	0	0	0	0	0	0	88
20:00	0	58	6	0	0	0	0	0	0	0	0	0	0	64
21:00	0	34	9	0	0	0	0	0	0	0	0	0	0	43
22:00	0	17	4	0	0	1	0	0	0	0	0	0	0	22
23:00	0	4	1	0	0	0	0	0	1	0	0	0	0	6
Day Total	10	3682	647	24	110	16	1	23	12	1	0	0	0	4526
Percent	0.2%	81.4%	14.3%	0.5%	2.4%	0.4%	0.0%	0.5%	0.3%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	06:00	06:00	07:00	07:00	11:00	06:00	08:00					07:00
Vol.	1	584	98	4	12	4	1	3	3					697
PM Peak	16:00	17:00	16:00	15:00	14:00	14:00		16:00	23:00	12:00				15:00
Vol.	2	203	39	7	14	2		3	1	1				247

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/12/16	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	1	1	0	1	0	0	0	1	0	0	0	0	4
03:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
04:00	0	31	13	0	2	1	0	1	0	0	0	0	0	48
05:00	1	128	39	0	6	1	0	1	0	0	0	0	0	176
06:00	1	353	85	3	10	4	0	2	2	0	0	0	0	460
07:00	0	568	68	3	14	3	0	4	3	0	0	0	0	663
08:00	1	504	70	3	10	1	0	0	1	0	0	0	0	590
09:00	0	281	39	0	11	0	0	1	0	0	0	0	0	332
10:00	1	186	27	3	5	1	0	0	0	0	0	0	0	223
11:00	0	165	33	1	4	0	0	2	1	0	0	0	0	206
12 PM	0	183	34	0	4	0	0	0	0	0	0	0	0	221
13:00	2	157	26	3	7	2	0	2	1	0	0	0	0	200
14:00	2	160	25	1	9	1	0	0	0	0	0	0	0	198
15:00	2	183	44	4	8	1	0	1	2	0	0	0	0	245
16:00	5	177	34	0	3	1	0	2	0	0	0	0	0	222
17:00	0	209	28	0	7	0	0	3	0	0	0	0	0	247
18:00	1	138	17	1	5	0	0	1	1	0	0	0	0	164
19:00	0	86	16	0	2	0	0	1	0	0	0	0	0	105
20:00	0	69	7	0	1	0	0	0	0	0	0	0	0	77
21:00	0	29	9	0	0	0	0	0	0	0	0	0	0	38
22:00	0	27	4	0	2	0	0	0	1	0	0	0	0	34
23:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
Day Total	16	3654	621	22	111	16	0	21	13	0	0	0	0	4474
Percent	0.4%	81.7%	13.9%	0.5%	2.5%	0.4%	0.0%	0.5%	0.3%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	06:00	06:00	07:00	06:00		07:00	07:00					07:00
Vol.	1	568	85	3	14	4		4	3					663
PM Peak	16:00	17:00	15:00	15:00	14:00	13:00		17:00	15:00					17:00
Vol.	5	209	44	4	9	2		3	2					247

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/13/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	7	6	0	1	0	0	0	0	0	0	0	0	14
04:00	1	34	12	0	2	2	0	0	0	0	0	0	0	51
05:00	1	113	31	1	6	1	0	0	0	0	0	0	0	153
06:00	0	380	97	3	16	5	1	2	0	0	0	0	0	504
07:00	1	597	82	5	14	1	0	4	1	1	0	0	1	707
08:00	1	504	61	3	13	2	1	2	0	0	0	0	0	587
09:00	0	276	42	1	9	0	1	2	0	0	0	0	0	331
10:00	1	158	28	1	6	3	1	0	0	0	0	0	0	198
11:00	0	174	35	3	9	2	1	3	1	0	0	0	0	228
12 PM	0	149	28	1	11	2	0	3	1	0	0	0	0	195
13:00	0	135	35	1	7	0	0	4	0	0	0	0	0	182
14:00	0	155	37	2	12	0	0	0	0	0	0	0	0	206
15:00	1	182	36	5	9	0	0	1	1	0	0	0	0	235
16:00	1	166	28	0	6	3	0	0	0	0	0	0	0	204
17:00	1	245	28	0	4	0	0	3	0	0	0	0	0	281
18:00	0	182	24	0	2	0	0	0	1	0	0	0	0	209
19:00	0	85	15	0	2	0	0	0	0	0	0	0	0	102
20:00	0	75	6	0	2	0	0	0	0	0	0	0	0	83
21:00	0	37	6	1	0	0	0	0	0	0	0	0	0	44
22:00	0	25	2	0	0	0	0	0	0	0	0	0	0	27
23:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
Day Total	8	3694	641	27	131	21	5	24	5	1	0	0	1	4558
Percent	0.2%	81.0%	14.1%	0.6%	2.9%	0.5%	0.1%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	04:00	07:00	06:00	07:00	06:00	06:00	06:00	07:00	07:00	07:00			07:00	07:00
Vol.	1	597	97	5	16	5	1	4	1	1			1	707
PM Peak	15:00	17:00	14:00	15:00	14:00	16:00		13:00	12:00					17:00
Vol.	1	245	37	5	12	3		4	1					281

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/14/16	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
02:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
03:00	0	6	3	0	1	0	0	0	0	0	0	0	0	10
04:00	0	28	11	0	3	0	0	0	0	0	0	0	0	42
05:00	1	94	37	1	11	1	0	1	1	0	0	0	0	147
06:00	0	332	78	3	11	5	2	2	2	0	0	0	0	435
07:00	1	528	68	3	13	0	0	3	0	0	0	0	0	616
08:00	1	449	64	3	12	4	0	2	0	0	0	0	0	535
09:00	1	283	43	3	9	1	0	2	1	0	0	0	0	343
10:00	1	143	34	0	6	0	0	2	1	0	0	0	0	187
11:00	2	149	31	1	4	1	2	1	0	0	0	0	0	191
12 PM	2	144	27	2	10	0	1	1	1	0	0	0	0	188
13:00	0	169	35	0	6	0	0	1	1	0	0	0	0	212
14:00	3	190	41	5	10	0	0	3	0	0	0	0	0	252
15:00	3	194	35	3	6	2	0	4	1	0	0	0	0	248
16:00	1	204	27	1	4	0	0	0	0	0	0	0	0	237
17:00	1	213	36	0	5	0	0	3	0	0	0	0	0	258
18:00	1	175	21	0	2	0	0	0	0	0	0	0	0	199
19:00	0	99	14	0	1	0	0	1	0	0	0	0	0	115
20:00	0	61	7	0	1	0	0	0	0	0	0	0	0	69
21:00	0	59	5	0	0	0	0	0	1	0	0	0	0	65
22:00	0	39	6	0	0	0	0	0	0	0	0	0	0	45
23:00	0	13	3	0	0	0	0	0	0	0	0	0	0	16
Day Total	18	3582	627	25	116	14	5	26	9	0	0	0	0	4422
Percent	0.4%	81.0%	14.2%	0.6%	2.6%	0.3%	0.1%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	06:00	06:00	07:00	06:00	06:00	07:00	06:00					07:00
Vol.	2	528	78	3	13	5	2	3	2					616
PM Peak	14:00	17:00	14:00	14:00	12:00	15:00	12:00	15:00	12:00					17:00
Vol.	3	213	41	5	10	2	1	4	1					258

Tri-State Traffic Data, Inc.

Street: Rt 401
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 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/15/16	0	5	1	0	0	0	0	0	0	0	0	0	0	6
01:00	0	5	0	0	0	0	0	0	1	0	0	0	0	6
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	6	3	0	0	0	0	0	0	0	0	0	0	9
04:00	0	9	1	0	1	1	0	0	0	0	0	0	0	12
05:00	1	33	9	0	1	0	0	0	0	0	0	0	0	44
06:00	0	60	10	0	3	0	0	0	3	0	0	0	0	76
07:00	0	106	18	1	3	0	0	2	1	0	0	0	0	131
08:00	0	179	21	1	6	0	0	4	1	0	0	0	0	212
09:00	2	197	40	1	6	0	0	2	0	0	0	0	0	248
10:00	3	213	39	0	4	0	0	1	0	0	0	0	0	260
11:00	3	208	24	1	4	0	0	3	0	0	0	0	0	243
12 PM	4	209	21	0	6	0	0	0	0	0	0	0	0	240
13:00	1	222	36	1	3	1	0	0	0	0	0	0	0	264
14:00	6	208	30	0	5	0	0	0	0	1	0	0	0	250
15:00	8	245	25	0	6	0	0	1	0	0	0	0	0	285
16:00	5	194	19	0	6	0	0	0	0	0	0	0	0	224
17:00	2	183	25	0	6	0	0	1	0	0	0	0	0	217
18:00	1	168	22	0	2	0	0	0	0	0	0	0	0	193
19:00	0	114	14	0	1	0	0	0	0	0	0	0	0	129
20:00	0	52	5	0	1	0	0	0	0	1	0	0	0	59
21:00	0	59	6	0	0	0	0	0	0	0	0	0	0	65
22:00	0	71	5	0	0	0	0	0	0	0	0	0	0	76
23:00	0	29	1	0	1	0	0	0	0	0	0	0	0	31
Day Total	36	2778	375	5	65	2	0	14	6	2	0	0	0	3283
Percent	1.1%	84.6%	11.4%	0.2%	2.0%	0.1%	0.0%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%	
AM Peak	10:00	10:00	09:00	07:00	08:00	04:00		08:00	06:00					10:00
Vol.	3	213	40	1	6	1		4	3					260
PM Peak	15:00	15:00	13:00	13:00	12:00	13:00		15:00		14:00				15:00
Vol.	8	245	36	1	6	1		1		1				285

Tri-State Traffic Data, Inc.

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 Counter: TSTD

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Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/16/16	0	12	0	0	0	0	0	0	0	0	0	0	0	12
01:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
04:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
05:00	0	19	1	0	2	0	0	0	0	0	0	0	0	22
06:00	0	30	4	0	1	0	0	0	0	0	0	0	0	35
07:00	0	57	12	0	3	0	0	1	0	0	0	0	0	73
08:00	0	114	17	0	1	0	0	0	0	0	0	0	0	132
09:00	0	166	26	0	3	0	0	0	0	0	0	0	0	195
10:00	2	177	26	0	3	0	0	1	0	0	0	0	0	209
11:00	8	226	28	0	5	0	0	0	0	0	0	0	0	267
12 PM	1	217	27	0	3	0	0	1	0	0	0	0	0	249
13:00	4	154	16	0	2	0	0	1	0	0	0	0	0	177
14:00	5	182	24	0	0	0	0	1	0	0	0	0	0	212
15:00	7	168	17	0	1	0	0	1	0	0	0	0	0	194
16:00	12	183	23	0	5	0	0	1	0	0	0	0	0	224
17:00	2	163	26	0	0	0	0	1	0	0	0	0	0	192
18:00	4	153	20	0	2	0	0	1	0	0	0	0	0	180
19:00	0	69	14	0	0	0	0	0	0	0	0	0	0	83
20:00	0	59	3	0	0	0	0	0	0	0	0	0	0	62
21:00	0	20	3	0	0	0	0	1	0	0	0	0	0	24
22:00	0	24	2	0	0	0	0	3	0	0	0	0	0	29
23:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
Day Total	45	2218	295	0	31	0	0	13	0	0	0	0	0	2602
Percent	1.7%	85.2%	11.3%	0.0%	1.2%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00		11:00			07:00						11:00
Vol.	8	226	28		5			1						267
PM Peak	16:00	12:00	12:00		16:00			22:00						12:00
Vol.	12	217	27		5			3						249

Tri-State Traffic Data, Inc.

Street: Rt 401
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 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/17/16	0	3	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
02:00	0	3	1	0	1	0	0	0	0	0	0	0	0	5
03:00	0	13	2	0	1	0	0	0	0	0	0	0	0	16
04:00	0	32	7	0	0	1	0	0	0	0	0	0	0	40
05:00	2	99	41	0	12	2	0	0	1	0	0	0	0	157
06:00	1	379	77	3	13	5	0	6	2	1	0	0	0	487
07:00	3	617	78	3	10	3	0	2	3	0	0	0	0	719
08:00	0	568	94	3	13	2	0	1	1	0	0	0	0	682
09:00	1	262	39	0	8	0	0	2	3	0	0	0	0	315
10:00	0	127	29	1	3	1	0	2	2	0	0	0	0	165
11:00	2	152	34	1	4	1	0	0	0	0	0	0	0	194
12 PM	1	160	27	1	10	0	0	1	1	0	0	0	0	201
13:00	0	155	49	2	3	1	0	0	2	0	0	0	0	212
14:00	3	158	26	1	12	1	0	1	2	0	0	0	0	204
15:00	0	154	35	5	12	0	0	2	1	0	0	0	0	209
16:00	2	155	30	0	5	0	0	1	0	0	0	0	0	193
17:00	2	107	14	0	2	0	0	2	0	0	0	0	0	127
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	17	3147	584	20	109	17	0	20	18	1	0	0	0	3933
Percent	0.4%	80.0%	14.8%	0.5%	2.8%	0.4%	0.0%	0.5%	0.5%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	08:00	06:00	06:00	06:00		06:00	07:00	06:00				07:00
Vol.	3	617	94	3	13	5		6	3	1				719
PM Peak	14:00	12:00	13:00	15:00	14:00	13:00		15:00	13:00					13:00
Vol.	3	160	49	5	12	1		2	2					212
Grand Total	161	24253	4005	136	728	91	12	153	68	5	0	0	1	29613
Percent	0.5%	81.9%	13.5%	0.5%	2.5%	0.3%	0.0%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	

Tri-State Traffic Data, Inc.

Street: Rt 401
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 Weather: Clear
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Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/10/16	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	2	136	28	2	1	3	0	2	0	0	0	0	0	174
12 PM	2	151	27	3	7	2	0	2	2	1	0	0	0	197
13:00	0	164	25	1	4	4	1	2	0	0	0	0	0	201
14:00	1	203	34	3	10	3	0	4	0	0	0	0	0	258
15:00	1	331	78	1	19	5	1	4	1	0	0	0	0	441
16:00	1	366	73	1	9	3	0	2	2	0	0	0	0	457
17:00	3	513	67	0	4	3	0	0	0	0	0	0	0	590
18:00	1	295	30	0	4	0	0	0	0	0	0	0	0	330
19:00	0	156	19	0	1	0	0	1	0	0	0	0	0	177
20:00	1	115	10	0	0	0	0	0	0	0	0	0	0	126
21:00	0	52	3	0	1	0	0	0	0	0	0	0	0	56
22:00	0	24	3	0	2	0	0	0	0	0	0	0	0	29
23:00	0	15	0	0	1	0	0	0	0	0	0	0	0	16
Day Total	12	2521	397	11	63	23	2	17	5	1	0	0	0	3052
Percent	0.4%	82.6%	13.0%	0.4%	2.1%	0.8%	0.1%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	11:00	11:00	11:00		11:00						11:00
Vol.	2	136	28	2	1	3		2						174
PM Peak	17:00	17:00	15:00	12:00	15:00	15:00	13:00	14:00	12:00	12:00				17:00
Vol.	3	513	78	3	19	5	1	4	2	1				590

Tri-State Traffic Data, Inc.

Street: Rt 401
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 Counter: TSTD

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Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/11/16	0	9	1	0	0	0	0	0	1	0	0	0	0	11
01:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
05:00	1	12	7	0	1	0	0	0	0	0	0	0	0	21
06:00	1	47	11	2	3	1	0	0	0	0	0	0	0	65
07:00	0	98	20	1	10	2	0	3	0	0	0	0	0	134
08:00	2	93	40	0	7	0	0	1	2	0	0	0	0	145
09:00	0	109	34	2	10	0	0	2	0	0	0	0	0	157
10:00	0	110	17	2	8	1	0	0	0	0	0	0	0	138
11:00	0	156	34	0	6	1	0	2	0	0	0	0	0	199
12 PM	0	168	31	2	5	1	1	3	0	0	0	0	0	211
13:00	2	145	34	1	18	1	2	3	0	0	0	0	0	206
14:00	2	198	32	1	9	1	1	2	0	0	0	0	0	246
15:00	1	365	85	2	10	5	0	2	1	0	0	0	0	471
16:00	4	476	74	3	11	2	0	0	1	0	0	0	0	571
17:00	1	514	51	1	9	0	0	0	0	0	0	0	0	576
18:00	1	346	39	0	1	0	0	2	0	0	0	0	0	389
19:00	0	217	27	0	1	0	0	0	0	0	0	0	0	245
20:00	0	116	17	0	0	0	0	0	0	0	0	0	0	133
21:00	0	91	5	0	2	0	0	0	1	0	0	0	0	99
22:00	0	39	2	0	0	0	0	0	0	0	0	0	0	41
23:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
Day Total	15	3338	563	17	111	15	4	20	6	0	0	0	0	4089
Percent	0.4%	81.6%	13.8%	0.4%	2.7%	0.4%	0.1%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	08:00	06:00	07:00	07:00		07:00	08:00					11:00
Vol.	2	156	40	2	10	2		3	2					199
PM Peak	16:00	17:00	15:00	16:00	13:00	15:00	13:00	12:00	15:00					17:00
Vol.	4	514	85	3	18	5	2	3	1					576

Tri-State Traffic Data, Inc.

Street: Rt 401
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 Weather: Clear
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Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/12/16	0	6	1	0	0	0	0	0	0	0	0	0	0	7
01:00	0	6	1	0	0	0	0	0	1	0	0	0	0	8
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
05:00	0	13	5	0	2	2	0	0	0	0	0	0	0	22
06:00	1	38	9	0	4	2	0	0	0	0	0	0	0	54
07:00	0	103	21	1	1	3	0	8	0	0	0	0	0	137
08:00	0	104	30	1	8	0	0	0	1	0	0	0	0	144
09:00	0	117	29	0	7	1	0	2	2	0	0	0	0	158
10:00	1	112	29	1	1	1	1	0	1	0	0	0	0	147
11:00	1	148	34	3	5	5	0	4	0	0	0	0	0	200
12 PM	0	129	33	3	7	2	0	1	0	0	0	0	0	175
13:00	1	156	34	2	7	2	1	2	0	0	0	0	0	205
14:00	1	228	45	3	7	1	0	0	1	0	0	0	0	286
15:00	1	330	96	0	12	3	0	2	1	1	0	0	0	446
16:00	1	456	82	1	6	2	0	3	0	0	0	0	0	551
17:00	0	505	71	0	6	0	0	0	1	0	0	0	0	583
18:00	6	369	35	0	9	2	0	0	0	0	0	0	0	421
19:00	1	170	18	0	2	0	0	0	1	0	0	0	0	192
20:00	0	123	15	0	1	0	0	1	0	0	0	0	0	140
21:00	1	87	8	0	1	0	0	0	1	0	0	0	0	98
22:00	0	39	6	0	0	0	0	0	0	0	0	0	0	45
23:00	0	26	2	0	0	0	0	0	0	0	0	0	0	28
Day Total	15	3272	605	15	87	26	2	23	10	1	0	0	0	4056
Percent	0.4%	80.7%	14.9%	0.4%	2.1%	0.6%	0.0%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	11:00	11:00	11:00	08:00	11:00	10:00	07:00	09:00					11:00
Vol.	1	148	34	3	8	5	1	8	2					200
PM Peak	18:00	17:00	15:00	12:00	15:00	15:00	13:00	16:00	14:00	15:00				17:00
Vol.	6	505	96	3	12	3	1	3	1	1				583

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/13/16	0	13	1	0	0	0	0	0	0	0	0	0	0	14
01:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	9	7	0	2	0	0	0	0	0	0	0	0	18
06:00	1	55	9	1	3	1	0	0	1	0	0	0	0	71
07:00	0	113	27	0	10	2	1	3	0	0	0	0	0	156
08:00	0	104	41	0	12	0	0	1	0	0	0	0	0	158
09:00	0	104	34	0	9	3	0	2	0	0	0	0	0	152
10:00	0	86	30	1	5	4	0	1	0	0	0	0	0	127
11:00	0	129	37	4	9	1	0	2	0	0	0	0	0	182
12 PM	1	159	35	3	8	5	0	5	0	0	0	0	0	216
13:00	0	165	34	2	10	2	1	2	1	0	0	0	0	217
14:00	1	176	46	1	14	5	0	3	2	0	0	0	0	248
15:00	0	345	83	0	15	4	1	0	1	1	0	0	0	450
16:00	2	469	81	2	17	3	0	3	0	0	0	0	0	577
17:00	0	489	70	0	5	1	0	2	0	0	0	0	0	567
18:00	1	329	32	0	5	0	0	1	0	0	0	0	0	368
19:00	1	208	20	0	4	0	0	0	0	0	0	0	0	233
20:00	1	132	12	0	3	0	0	0	1	0	0	0	0	149
21:00	0	107	6	0	1	1	0	0	0	0	0	0	0	115
22:00	0	65	8	0	0	0	0	0	0	0	0	0	0	73
23:00	0	30	6	0	0	0	0	0	0	0	0	0	0	36
Day Total	8	3298	622	14	132	32	3	25	6	1	0	0	0	4141
Percent	0.2%	79.6%	15.0%	0.3%	3.2%	0.8%	0.1%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	11:00	08:00	11:00	08:00	10:00	07:00	07:00	06:00					11:00
Vol.	1	129	41	4	12	4	1	3	1					182
PM Peak	16:00	17:00	15:00	12:00	16:00	12:00	13:00	12:00	14:00	15:00				16:00
Vol.	2	489	83	3	17	5	1	5	2	1				577

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/14/16	0	15	3	0	0	0	0	0	0	0	0	0	0	18
01:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	5	0	0	1	0	0	0	0	0	0	0	0	6
05:00	0	11	3	0	1	1	0	0	1	0	0	0	0	17
06:00	1	47	17	1	1	0	0	0	0	0	0	0	0	67
07:00	0	99	25	0	9	0	0	7	0	1	0	0	0	141
08:00	2	122	33	0	13	3	0	3	0	0	0	0	0	176
09:00	0	110	23	3	9	2	0	2	1	0	0	0	0	150
10:00	2	122	34	4	5	0	0	4	0	0	0	0	0	171
11:00	0	146	36	0	10	2	0	2	1	0	0	0	0	197
12 PM	0	147	43	0	9	4	1	3	2	0	0	0	0	209
13:00	0	160	33	3	10	2	0	1	2	1	0	0	0	212
14:00	3	255	43	1	8	3	0	2	0	0	0	0	0	315
15:00	3	372	68	6	7	3	0	4	1	0	0	0	0	464
16:00	2	456	69	0	9	1	0	2	0	0	0	0	0	539
17:00	2	487	65	0	7	3	0	1	0	0	0	0	0	565
18:00	0	277	32	0	3	0	0	1	0	0	0	0	0	313
19:00	3	169	27	0	3	0	0	0	0	0	0	0	0	202
20:00	0	126	14	0	1	0	0	0	0	0	0	0	0	141
21:00	0	116	9	0	2	0	0	0	0	0	0	0	0	127
22:00	0	88	8	1	0	0	0	0	0	0	0	0	0	97
23:00	0	40	2	0	0	0	0	0	0	0	0	0	0	42
Day Total	18	3383	589	19	108	24	1	32	8	2	0	0	0	4184
Percent	0.4%	80.9%	14.1%	0.5%	2.6%	0.6%	0.0%	0.8%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	11:00	10:00	08:00	08:00		07:00	05:00	07:00				11:00
Vol.	2	146	36	4	13	3		7	1	1				197
PM Peak	14:00	17:00	16:00	15:00	13:00	12:00	12:00	15:00	12:00	13:00				17:00
Vol.	3	487	69	6	10	4	1	4	2	1				565

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/15/16	0	19	3	0	1	0	0	0	0	0	0	0	0	23
01:00	0	14	4	0	0	0	0	0	0	0	0	0	0	18
02:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	1	0	0	0	0	0	1	0	0	0	0	0	2
05:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
06:00	0	25	10	0	1	0	0	0	0	1	0	0	0	37
07:00	0	73	9	0	4	2	0	1	0	0	0	0	0	89
08:00	7	119	17	0	3	1	0	0	0	0	0	0	0	147
09:00	2	131	24	0	6	1	0	2	0	0	0	0	0	166
10:00	0	152	36	3	4	0	0	0	0	0	0	0	0	195
11:00	4	210	29	1	8	0	0	0	0	0	0	0	0	252
12 PM	4	238	33	0	5	0	0	0	2	0	0	0	0	282
13:00	6	201	31	0	1	0	0	1	0	0	0	0	0	240
14:00	9	225	18	0	3	0	0	0	0	0	0	0	1	256
15:00	5	236	25	0	4	0	0	1	0	0	0	0	0	271
16:00	3	231	24	0	3	0	0	0	0	0	0	0	0	261
17:00	3	196	31	0	1	1	0	0	0	0	0	0	0	232
18:00	0	179	14	0	3	0	0	0	0	0	0	0	0	196
19:00	1	125	15	0	2	0	0	0	0	0	0	0	0	143
20:00	0	87	10	0	1	0	0	0	0	0	0	0	0	98
21:00	0	86	7	0	1	0	0	0	0	0	0	0	0	94
22:00	0	56	5	0	0	0	0	0	0	0	0	0	0	61
23:00	1	43	5	0	0	0	0	0	0	0	0	0	0	49
Day Total	45	2663	353	4	51	5	0	6	2	1	0	0	1	3131
Percent	1.4%	85.1%	11.3%	0.1%	1.6%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	10:00	10:00	11:00	07:00		09:00		06:00				11:00
Vol.	7	210	36	3	8	2		2		1				252
PM Peak	14:00	12:00	12:00		12:00	17:00		13:00	12:00				14:00	12:00
Vol.	9	238	33		5	1		1	2				1	282

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/16/16	0	23	2	1	2	0	0	0	0	0	0	0	0	28
01:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
02:00	0	5	1	0	0	1	0	0	0	0	0	0	0	7
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
05:00	0	5	3	0	0	0	0	0	0	0	0	0	0	8
06:00	0	14	4	0	0	0	0	1	0	0	0	0	0	19
07:00	0	57	7	0	0	0	0	3	0	0	0	0	0	67
08:00	2	75	9	0	1	0	0	0	0	0	0	0	0	87
09:00	2	132	18	0	3	0	0	1	0	0	0	0	0	156
10:00	2	131	18	0	1	1	0	0	0	0	0	0	0	153
11:00	4	157	19	0	3	0	0	1	0	0	0	0	0	184
12 PM	7	235	28	0	2	0	0	1	0	0	0	0	0	273
13:00	7	206	28	0	1	0	0	1	0	0	0	0	0	243
14:00	6	206	25	0	1	0	0	1	0	0	0	0	0	239
15:00	1	175	17	0	0	0	0	1	0	0	0	0	0	194
16:00	2	159	16	0	1	0	0	2	0	0	0	0	0	180
17:00	3	150	13	0	0	0	0	0	0	0	0	0	0	166
18:00	1	149	18	0	2	0	0	0	0	0	0	0	0	170
19:00	0	118	8	1	1	0	0	0	0	0	0	0	0	128
20:00	0	73	9	0	0	0	0	0	0	0	0	0	0	82
21:00	0	53	4	0	0	0	0	0	0	0	0	0	0	57
22:00	0	28	3	0	0	0	0	0	0	0	0	0	0	31
23:00	0	16	4	0	0	0	0	0	0	0	0	0	0	20
Day Total	37	2190	255	2	18	2	0	12	0	0	0	0	0	2516
Percent	1.5%	87.0%	10.1%	0.1%	0.7%	0.1%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	00:00	09:00	02:00		07:00						11:00
Vol.	4	157	19	1	3	1		3						184
PM Peak	12:00	12:00	12:00	19:00	12:00			16:00						12:00
Vol.	7	235	28	1	2			2						273

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: East of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code:
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/17/16	0	8	1	0	0	0	0	0	0	0	0	0	0	9
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
04:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
05:00	0	12	5	0	0	0	0	0	1	0	0	0	0	18
06:00	1	37	14	1	2	0	0	0	0	0	0	0	0	55
07:00	0	98	22	0	3	1	0	2	0	0	0	0	0	126
08:00	1	96	34	1	10	2	0	1	0	0	0	0	0	145
09:00	0	107	30	0	10	0	0	1	2	0	0	0	0	150
10:00	2	124	34	1	7	2	1	4	3	0	0	0	0	178
11:00	1	134	32	2	6	1	1	0	0	2	0	0	0	179
12 PM	1	126	27	1	8	0	1	2	2	0	0	0	0	168
13:00	1	142	39	2	6	0	0	1	0	0	0	0	0	191
14:00	0	212	44	3	10	1	0	0	0	0	0	0	0	270
15:00	0	306	75	1	8	3	0	0	2	0	0	0	0	395
16:00	4	436	80	2	6	4	0	2	1	0	0	0	0	535
17:00	0	291	47	0	3	2	0	0	0	0	0	0	0	343
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	11	2139	487	14	79	16	3	13	11	2	0	0	0	2775
Percent	0.4%	77.1%	17.5%	0.5%	2.8%	0.6%	0.1%	0.5%	0.4%	0.1%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	08:00	11:00	08:00	08:00	10:00	10:00	10:00	11:00				11:00
Vol.	2	134	34	2	10	2	1	4	3	2				179
PM Peak	16:00	16:00	16:00	14:00	14:00	16:00	12:00	12:00	12:00					16:00
Vol.	4	436	80	3	10	4	1	2	2					535
Grand Total	161	22804	3871	96	649	143	15	148	48	8	0	0	1	27944
Percent	0.6%	81.6%	13.9%	0.3%	2.3%	0.5%	0.1%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/10/16	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	0	168	28	4	7	2	0	2	2	0	0	0	0	213
13:00	0	159	25	2	6	1	0	2	1	0	0	0	0	196
14:00	2	147	23	2	5	2	0	2	0	0	0	0	0	183
15:00	1	166	34	3	9	1	0	2	1	0	0	0	0	217
16:00	4	162	27	1	4	0	0	2	0	0	0	0	0	200
17:00	3	156	15	0	4	0	0	6	0	0	0	0	0	184
18:00	3	144	16	0	5	1	0	0	0	0	0	0	0	169
19:00	0	96	13	0	1	0	0	0	0	0	0	0	0	110
20:00	0	66	6	0	1	0	0	0	0	0	0	0	0	73
21:00	0	31	3	0	1	0	0	0	0	0	0	0	0	35
22:00	0	17	2	0	0	0	0	0	0	0	0	0	0	19
23:00	0	9	4	0	0	0	0	0	0	0	0	0	0	13
Day Total	13	1321	196	12	43	7	0	16	4	0	0	0	0	1612
Percent	0.8%	81.9%	12.2%	0.7%	2.7%	0.4%	0.0%	1.0%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.														
PM Peak Vol.	16:00 4	12:00 168	15:00 34	12:00 4	15:00 9	12:00 2		17:00 6	12:00 2					15:00 217

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/11/16	0	8	1	0	0	0	0	0	0	0	0	0	0	9
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
03:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
04:00	0	20	8	0	0	0	0	0	0	0	0	0	0	28
05:00	1	107	32	2	5	1	0	0	2	0	0	0	0	150
06:00	1	348	81	5	8	4	0	4	1	0	0	0	0	452
07:00	1	595	96	3	8	3	0	3	1	0	0	0	0	710
08:00	3	544	70	2	10	0	0	2	2	0	0	0	0	633
09:00	2	326	48	1	8	2	0	1	3	0	0	0	0	391
10:00	1	168	23	3	5	0	0	3	0	0	0	0	0	203
11:00	0	147	36	1	5	1	1	0	1	0	0	0	0	192
12 PM	0	174	31	1	5	0	0	2	1	0	0	0	0	214
13:00	0	133	22	0	5	0	0	0	0	0	0	0	0	160
14:00	0	151	35	2	8	3	0	2	0	0	0	0	0	201
15:00	0	187	32	7	8	0	0	0	1	0	0	0	0	235
16:00	3	171	36	0	7	1	0	2	0	0	0	0	0	220
17:00	1	195	36	0	5	0	0	3	0	0	0	0	0	240
18:00	0	145	21	0	5	1	0	1	0	0	0	0	0	173
19:00	0	86	17	0	2	0	0	0	0	0	0	0	0	105
20:00	0	63	2	0	0	0	0	0	0	0	0	0	0	65
21:00	0	43	10	0	0	0	0	0	0	0	0	0	0	53
22:00	0	20	5	0	0	1	0	0	0	0	0	0	0	26
23:00	0	7	2	0	0	0	0	0	1	0	0	0	0	10
Day Total	13	3648	647	27	94	17	1	23	13	0	0	0	0	4483
Percent	0.3%	81.4%	14.4%	0.6%	2.1%	0.4%	0.0%	0.5%	0.3%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	07:00	07:00	06:00	08:00	06:00	11:00	06:00	09:00					07:00
Vol.	3	595	96	5	10	4	1	4	3					710
PM Peak	16:00	17:00	16:00	15:00	14:00	14:00		17:00	12:00					17:00
Vol.	3	195	36	7	8	3		3	1					240

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/12/16	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	3	1	0	0	0	0	0	1	0	0	0	0	5
03:00	0	5	4	0	0	0	0	0	0	0	0	0	0	9
04:00	0	28	9	0	1	1	0	1	0	0	0	0	0	40
05:00	1	99	34	0	5	0	0	1	0	0	0	0	0	140
06:00	0	311	77	3	8	4	0	2	0	0	0	0	0	405
07:00	1	558	73	3	6	4	0	5	3	0	0	0	0	653
08:00	2	517	85	3	8	0	0	0	3	0	0	0	0	618
09:00	1	296	40	1	8	1	0	1	0	0	0	0	0	348
10:00	1	195	27	4	3	1	0	0	0	0	0	0	0	231
11:00	0	169	26	0	4	0	0	3	1	0	0	0	0	203
12 PM	0	176	32	1	4	0	0	1	0	0	0	0	0	214
13:00	2	166	25	0	8	2	0	3	1	0	0	0	0	207
14:00	1	144	23	3	10	1	0	0	0	0	0	0	0	182
15:00	2	182	36	5	8	1	0	1	0	1	0	0	0	236
16:00	4	173	36	0	4	1	0	2	0	0	0	0	1	221
17:00	1	213	32	0	4	0	0	4	0	0	0	0	0	254
18:00	2	148	16	1	5	0	0	1	1	0	0	0	0	174
19:00	0	89	17	0	3	0	1	1	0	0	0	0	0	111
20:00	0	80	9	0	1	0	0	0	0	0	0	0	0	90
21:00	0	30	10	0	0	0	0	0	0	0	0	0	0	40
22:00	0	28	5	0	1	0	0	0	1	0	0	0	0	35
23:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
Day Total	18	3623	617	24	91	16	1	26	11	1	0	0	1	4429
Percent	0.4%	81.8%	13.9%	0.5%	2.1%	0.4%	0.0%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	07:00	08:00	10:00	06:00	06:00		07:00	07:00					07:00
Vol.	2	558	85	4	8	4		5	3					653
PM Peak	16:00	17:00	15:00	15:00	14:00	13:00	19:00	17:00	13:00	15:00			16:00	17:00
Vol.	4	213	36	5	10	2	1	4	1	1			1	254

Tri-State Traffic Data, Inc.

Street: Rt 401
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 Counter: TSTD

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 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/13/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	6	5	0	1	0	0	0	0	0	0	0	0	12
04:00	0	28	10	0	1	3	0	0	0	0	0	0	0	42
05:00	1	90	25	1	4	0	0	0	0	0	0	0	0	121
06:00	0	312	87	4	11	4	1	1	0	0	0	0	0	420
07:00	1	580	96	3	12	3	0	4	2	0	0	0	0	701
08:00	1	533	63	5	10	2	1	2	1	1	0	0	0	619
09:00	1	300	44	2	8	0	1	3	0	0	0	0	0	359
10:00	1	163	32	1	2	2	1	0	0	0	0	0	0	202
11:00	0	177	32	3	8	2	1	3	1	0	0	0	0	227
12 PM	1	144	26	1	12	5	0	3	0	0	0	0	0	192
13:00	0	128	36	0	5	0	0	3	0	0	0	0	0	172
14:00	0	158	36	3	7	0	0	0	0	0	0	0	0	204
15:00	1	170	38	8	5	0	0	1	1	0	0	0	0	224
16:00	0	162	34	0	6	2	0	0	1	0	0	0	0	205
17:00	0	223	34	0	6	0	0	3	0	0	0	0	0	266
18:00	0	192	21	0	4	0	0	0	0	0	0	0	0	217
19:00	0	98	13	0	2	0	0	1	1	0	0	0	0	115
20:00	0	80	7	0	1	0	0	0	0	0	0	0	0	88
21:00	0	37	6	1	1	0	0	0	0	0	0	0	0	45
22:00	0	30	1	0	0	0	0	0	0	0	0	0	0	31
23:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13
Day Total	7	3629	648	32	106	23	5	24	7	1	0	0	0	4482
Percent	0.2%	81.0%	14.5%	0.7%	2.4%	0.5%	0.1%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	07:00	08:00	07:00	06:00	06:00	07:00	07:00	08:00				07:00
Vol.	1	580	96	5	12	4	1	4	2	1				701
PM Peak	12:00	17:00	15:00	15:00	12:00	12:00		12:00	15:00					17:00
Vol.	1	223	38	8	12	5		3	1					266

Tri-State Traffic Data, Inc.

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 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/14/16	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
03:00	0	5	3	0	0	0	0	0	0	0	0	0	0	8
04:00	0	19	9	0	0	0	0	0	0	0	0	0	0	28
05:00	1	84	34	1	8	1	0	0	1	0	0	0	0	130
06:00	0	270	80	4	6	4	2	2	1	0	0	0	0	369
07:00	1	517	69	3	12	1	0	3	1	0	0	0	0	607
08:00	1	497	62	3	6	4	0	1	0	0	0	0	0	574
09:00	2	290	48	4	9	1	0	1	1	0	0	0	0	356
10:00	2	139	31	0	6	0	0	1	1	0	0	0	0	180
11:00	1	150	32	1	4	1	2	1	0	0	0	0	0	192
12 PM	3	137	25	2	10	0	1	2	1	0	0	0	0	181
13:00	0	157	32	0	5	0	1	1	1	0	0	0	0	197
14:00	3	193	39	6	8	0	0	3	0	0	0	0	0	252
15:00	3	197	41	3	5	0	0	3	0	0	0	0	0	252
16:00	3	184	27	3	3	1	0	0	0	0	0	0	0	221
17:00	1	224	30	0	2	0	0	4	0	0	0	0	0	261
18:00	1	182	22	0	3	0	0	0	0	0	0	0	0	208
19:00	0	110	15	0	3	0	0	0	0	0	0	0	0	128
20:00	0	57	8	0	1	0	0	0	0	0	0	0	0	66
21:00	0	60	5	0	0	0	0	0	1	0	0	0	0	66
22:00	0	43	6	0	0	0	0	0	0	0	0	0	0	49
23:00	0	14	3	0	0	0	0	0	0	0	0	0	0	17
Day Total	22	3539	623	30	91	13	6	22	8	0	0	0	0	4354
Percent	0.5%	81.3%	14.3%	0.7%	2.1%	0.3%	0.1%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	07:00	06:00	06:00	07:00	06:00	06:00	07:00	05:00					07:00
Vol.	2	517	80	4	12	4	2	3	1					607
PM Peak	12:00	17:00	15:00	14:00	12:00	16:00	12:00	17:00	12:00					17:00
Vol.	3	224	41	6	10	1	1	4	1					261

Tri-State Traffic Data, Inc.

Street: Rt 401
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 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/15/16	0	8	1	0	0	0	0	0	0	0	0	0	0	9
01:00	0	6	0	0	0	0	0	0	1	0	0	0	0	7
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
04:00	0	9	3	0	0	1	0	0	0	0	0	0	0	13
05:00	1	26	8	0	1	0	0	0	0	0	0	0	0	36
06:00	0	58	10	0	1	0	0	0	3	0	0	0	0	72
07:00	0	95	18	1	4	0	0	1	1	0	0	0	0	120
08:00	0	151	27	1	3	0	0	2	1	0	0	0	0	185
09:00	1	206	33	1	6	0	0	3	0	0	0	0	0	250
10:00	1	210	40	0	3	0	0	0	0	0	0	0	0	254
11:00	6	195	22	0	5	0	0	4	0	0	0	0	0	232
12 PM	1	204	26	0	6	0	0	0	0	0	0	0	0	237
13:00	1	216	36	0	3	1	0	0	0	0	0	0	0	257
14:00	11	208	29	1	3	0	0	0	0	0	0	0	0	252
15:00	8	232	27	0	5	0	0	1	0	0	0	0	0	273
16:00	7	205	20	0	5	0	0	0	0	0	0	0	0	237
17:00	2	173	19	0	5	0	0	1	0	0	0	0	0	200
18:00	1	177	24	0	1	0	0	0	0	0	0	0	0	203
19:00	0	125	14	0	1	0	0	0	0	0	0	0	0	140
20:00	0	66	4	0	2	0	0	0	0	0	0	0	0	72
21:00	0	55	7	0	0	0	0	0	1	0	0	0	0	63
22:00	0	67	5	0	0	0	0	0	0	0	0	0	0	72
23:00	0	40	3	0	0	0	0	0	0	0	0	0	0	43
Day Total	40	2739	378	4	54	2	0	12	7	0	0	0	0	3236
Percent	1.2%	84.6%	11.7%	0.1%	1.7%	0.1%	0.0%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	10:00	10:00	07:00	09:00	04:00		11:00	06:00					10:00
Vol.	6	210	40	1	6	1		4	3					254
PM Peak	14:00	15:00	13:00	14:00	12:00	13:00		15:00	21:00					15:00
Vol.	11	232	36	1	6	1		1	1					273

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/16/16	0	13	0	0	0	0	0	0	0	0	0	0	0	13
01:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
04:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
05:00	0	15	1	0	1	0	0	0	0	0	0	0	0	17
06:00	0	29	4	0	1	0	0	0	0	0	0	0	0	34
07:00	0	48	8	0	1	0	0	1	0	0	0	0	0	58
08:00	0	96	17	0	1	0	0	0	0	0	0	0	0	114
09:00	0	154	23	0	3	0	0	0	0	0	0	0	0	180
10:00	1	191	24	0	4	0	0	0	0	0	0	0	0	220
11:00	10	195	28	0	2	0	0	1	0	0	0	0	0	236
12 PM	2	235	26	0	4	0	0	1	0	0	0	0	0	268
13:00	4	155	18	0	2	0	0	1	0	0	0	0	0	180
14:00	4	174	21	0	1	0	0	1	0	0	0	0	0	201
15:00	5	181	17	0	1	0	0	1	0	0	0	0	0	205
16:00	14	162	24	0	2	0	0	0	0	0	0	0	0	202
17:00	2	171	20	0	3	0	0	1	0	0	0	0	0	197
18:00	3	154	22	0	0	0	0	0	0	0	0	0	0	179
19:00	1	83	16	0	0	0	0	0	0	0	0	0	0	100
20:00	0	62	4	0	0	0	0	0	0	0	0	0	0	66
21:00	0	21	1	0	0	0	0	1	0	0	0	0	0	23
22:00	0	22	3	0	0	0	0	3	0	0	0	0	0	28
23:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
Day Total	46	2190	283	0	26	0	0	11	0	0	0	0	0	2556
Percent	1.8%	85.7%	11.1%	0.0%	1.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00		10:00			07:00						11:00
Vol.	10	195	28		4			1						236
PM Peak	16:00	12:00	12:00		12:00			22:00						12:00
Vol.	14	235	26		4			3						268

Tri-State Traffic Data, Inc.

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 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

EB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/17/16	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
02:00	0	4	0	0	1	0	0	0	0	0	0	0	0	5
03:00	0	8	4	0	0	0	0	0	0	0	0	0	0	12
04:00	0	28	6	0	0	1	0	0	0	0	0	0	0	35
05:00	2	86	34	0	9	2	0	0	1	0	0	0	0	134
06:00	1	315	82	3	8	2	0	5	0	0	0	0	0	416
07:00	4	571	83	4	8	6	0	1	5	1	0	0	0	683
08:00	0	618	89	4	9	2	0	1	0	0	0	0	0	723
09:00	1	301	32	1	6	1	0	1	3	0	0	0	0	346
10:00	0	149	32	1	4	1	0	2	2	0	0	0	0	191
11:00	2	139	36	0	3	1	0	0	0	0	0	0	0	181
12 PM	0	144	29	2	6	0	0	0	1	0	0	0	0	182
13:00	0	158	37	2	7	1	0	0	2	0	0	0	0	207
14:00	2	157	36	2	3	2	0	1	2	0	0	0	0	205
15:00	2	150	36	6	15	0	0	2	1	0	0	0	0	212
16:00	2	142	33	0	5	0	0	1	0	0	0	0	0	183
17:00	3	166	21	0	4	0	0	2	0	0	0	0	0	196
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	19	3141	591	25	88	19	0	16	17	1	0	0	0	3917
Percent	0.5%	80.2%	15.1%	0.6%	2.2%	0.5%	0.0%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	08:00	07:00	05:00	07:00		06:00	07:00	07:00				08:00
Vol.	4	618	89	4	9	6		5	5	1				723
PM Peak	17:00	17:00	13:00	15:00	15:00	14:00		15:00	13:00					15:00
Vol.	3	166	37	6	15	2		2	2					212
Grand Total	178	23830	3983	154	593	97	13	150	67	3	0	0	1	29069
Percent	0.6%	82.0%	13.7%	0.5%	2.0%	0.3%	0.0%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	

Tri-State Traffic Data, Inc.

Street: Rt 401
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 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/10/16	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	1	143	22	2	4	2	0	4	1	0	0	0	0	179
13:00	0	153	29	1	4	5	0	4	1	0	0	0	0	197
14:00	0	172	35	1	7	3	1	2	0	0	0	0	0	221
15:00	2	296	79	0	18	4	0	3	0	0	0	0	0	402
16:00	1	350	68	3	12	3	1	3	2	0	0	0	0	443
17:00	2	489	66	0	9	1	0	1	0	0	0	0	0	568
18:00	1	314	34	0	5	0	0	1	0	0	0	0	0	355
19:00	0	164	19	0	3	0	0	1	0	0	0	0	0	187
20:00	1	112	10	0	0	0	0	0	0	0	0	0	0	123
21:00	0	58	7	0	1	0	0	0	0	0	0	0	0	66
22:00	0	26	1	0	4	0	0	0	0	0	0	0	0	31
23:00	0	14	2	0	0	0	0	0	0	0	0	0	0	16
Day Total	8	2291	372	7	67	18	2	19	4	0	0	0	0	2788
Percent	0.3%	82.2%	13.3%	0.3%	2.4%	0.6%	0.1%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.														
PM Peak Vol.	15:00	17:00	15:00	16:00	15:00	13:00	14:00	12:00	16:00					17:00
	2	489	79	3	18	5	1	4	2					568

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

www.TSTData.com

Site Code: nestoga Road
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/11/16	0	7	1	0	0	0	0	0	1	0	0	0	0	9
01:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	6	6	0	0	0	0	0	1	0	0	0	0	13
06:00	1	34	12	2	4	0	0	0	0	0	0	0	0	53
07:00	1	96	18	1	10	2	0	3	0	0	0	0	0	131
08:00	0	86	36	0	7	0	0	3	2	0	0	0	0	134
09:00	0	109	34	1	10	0	0	2	0	0	0	0	0	156
10:00	0	101	11	2	8	2	0	0	0	0	0	0	0	124
11:00	0	136	31	1	7	1	0	1	0	0	0	0	0	177
12 PM	0	156	33	0	3	1	1	2	0	0	0	0	0	196
13:00	1	138	32	3	11	1	1	4	0	0	0	0	0	191
14:00	1	184	32	1	10	0	2	1	0	0	0	0	0	231
15:00	3	320	84	0	9	3	0	4	1	0	0	0	0	424
16:00	3	431	78	5	7	5	0	0	1	0	0	0	0	530
17:00	1	526	53	1	9	0	0	0	0	0	0	0	0	590
18:00	1	363	44	2	3	0	0	3	0	0	0	0	0	416
19:00	0	216	31	0	4	0	0	0	0	0	0	0	0	251
20:00	0	123	19	0	1	0	0	0	0	0	0	0	0	143
21:00	0	95	8	0	2	0	0	0	1	0	0	0	0	106
22:00	0	43	3	0	0	0	0	0	0	0	0	0	0	46
23:00	0	12	1	0	1	0	0	0	0	0	0	0	0	14
Day Total	12	3196	569	19	106	15	4	23	7	0	0	0	0	3951
Percent	0.3%	80.9%	14.4%	0.5%	2.7%	0.4%	0.1%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	11:00	08:00	06:00	07:00	07:00		07:00	08:00					11:00
Vol.	1	136	36	2	10	2		3	2					177
PM Peak	15:00	17:00	15:00	16:00	13:00	16:00	14:00	13:00	15:00					17:00
Vol.	3	526	84	5	11	5	2	4	1					590

Tri-State Traffic Data, Inc.

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 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/12/16	0	5	1	0	0	0	0	0	0	0	0	0	0	6
01:00	0	7	1	0	0	0	0	0	1	0	0	0	0	9
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	3	1	0	1	0	0	0	0	0	0	0	0	5
05:00	0	9	3	0	2	1	0	0	0	0	0	0	0	15
06:00	1	31	10	0	6	2	0	0	0	0	0	0	0	50
07:00	0	86	16	1	3	1	1	3	0	0	0	0	0	111
08:00	1	115	31	0	6	1	0	1	0	0	0	0	0	155
09:00	0	113	22	0	11	3	0	1	1	0	0	0	0	151
10:00	1	103	29	0	3	1	1	2	2	0	0	0	0	142
11:00	1	150	33	4	3	3	0	4	0	0	0	0	0	198
12 PM	0	121	37	2	8	2	0	0	0	0	0	0	0	170
13:00	1	142	27	2	9	0	1	2	0	0	0	0	0	184
14:00	1	208	48	2	8	3	1	0	1	0	0	0	0	272
15:00	1	279	85	1	10	3	0	3	3	0	0	0	0	385
16:00	2	440	77	1	10	1	0	3	0	0	0	0	0	534
17:00	0	473	73	0	7	1	0	0	1	0	0	0	0	555
18:00	3	378	42	0	13	0	0	2	0	0	0	0	0	438
19:00	3	182	24	0	4	1	0	0	1	0	0	0	0	215
20:00	1	125	13	0	1	0	0	0	0	0	0	0	0	140
21:00	1	88	10	0	2	0	0	0	1	0	0	0	0	102
22:00	0	44	5	0	0	0	0	0	0	0	0	0	0	49
23:00	0	22	3	0	0	0	0	0	0	0	0	0	0	25
Day Total	17	3130	591	13	107	23	4	21	11	0	0	0	0	3917
Percent	0.4%	79.9%	15.1%	0.3%	2.7%	0.6%	0.1%	0.5%	0.3%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	11:00	11:00	11:00	09:00	09:00	07:00	11:00	10:00					11:00
Vol.	1	150	33	4	11	3	1	4	2					198
PM Peak	18:00	17:00	15:00	12:00	18:00	14:00	13:00	15:00	15:00					17:00
Vol.	3	473	85	2	13	3	1	3	3					555

Tri-State Traffic Data, Inc.

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 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/13/16	0	14	2	0	0	0	0	0	0	0	0	0	0	16
01:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
02:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	7	2	1	1	0	0	0	0	0	0	0	0	11
06:00	1	40	10	0	3	2	0	0	0	0	0	0	0	56
07:00	1	103	29	1	10	1	1	2	0	0	0	0	0	148
08:00	0	106	34	0	9	1	0	1	0	0	0	0	0	151
09:00	0	91	31	0	16	5	0	3	0	0	0	0	0	146
10:00	0	95	27	1	5	1	0	2	0	0	0	0	0	131
11:00	0	121	38	3	9	4	0	1	0	0	0	0	0	176
12 PM	1	139	34	4	8	4	0	5	0	0	0	0	0	195
13:00	0	151	38	1	14	3	1	3	1	0	0	0	0	212
14:00	1	163	39	2	15	3	0	3	1	0	0	0	0	227
15:00	0	288	75	0	15	4	0	1	2	0	0	0	0	385
16:00	3	420	85	2	18	2	1	3	1	1	0	0	0	536
17:00	0	517	76	0	9	0	0	2	0	0	0	0	0	604
18:00	1	330	35	0	6	0	0	1	0	0	0	0	0	373
19:00	1	199	21	0	4	0	0	0	0	0	0	0	0	225
20:00	1	137	12	0	3	0	0	0	1	0	0	0	0	154
21:00	0	107	7	0	3	0	0	0	0	0	0	0	0	117
22:00	0	64	5	0	1	0	0	0	0	0	0	0	0	70
23:00	0	34	6	0	0	0	0	0	0	0	0	0	0	40
Day Total	10	3139	609	15	149	30	3	27	6	1	0	0	0	3989
Percent	0.3%	78.7%	15.3%	0.4%	3.7%	0.8%	0.1%	0.7%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	11:00	11:00	11:00	09:00	09:00	07:00	09:00						11:00
Vol.	1	121	38	3	16	5	1	3						176
PM Peak	16:00	17:00	16:00	12:00	16:00	12:00	13:00	12:00	15:00	16:00				17:00
Vol.	3	517	85	4	18	4	1	5	2	1				604

Tri-State Traffic Data, Inc.

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 Counter: TSTD

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 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/14/16	0	15	3	0	0	0	0	0	0	0	0	0	0	18
01:00	0	9	2	0	0	0	0	0	0	0	0	0	0	11
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
05:00	0	8	2	0	1	0	0	0	1	0	0	0	0	12
06:00	1	31	16	1	3	1	0	0	0	0	0	0	0	53
07:00	1	105	17	0	8	0	0	2	0	0	0	0	0	133
08:00	0	106	43	1	6	0	0	5	0	1	0	0	0	162
09:00	1	113	27	3	11	3	0	1	1	0	0	0	1	161
10:00	1	104	33	2	9	0	0	5	0	0	0	0	0	154
11:00	1	148	30	1	8	0	0	2	1	0	0	0	0	191
12 PM	0	146	41	1	11	2	1	2	2	0	0	0	0	206
13:00	0	155	39	3	10	2	0	2	2	0	0	0	0	213
14:00	1	223	34	0	8	2	0	2	1	0	0	0	0	271
15:00	5	322	71	5	13	3	0	4	1	0	0	0	0	424
16:00	2	413	69	1	11	1	0	2	0	0	0	0	0	499
17:00	1	481	59	0	14	0	0	2	0	0	0	0	0	557
18:00	0	297	45	0	10	0	0	0	0	0	0	0	0	352
19:00	3	166	28	0	5	0	0	0	0	0	0	0	0	202
20:00	0	136	13	0	1	0	0	0	0	0	0	0	0	150
21:00	0	96	13	0	0	0	0	0	0	0	0	0	0	109
22:00	0	91	8	0	1	0	0	0	0	0	0	0	0	100
23:00	0	40	1	1	1	0	0	0	0	0	0	0	0	43
Day Total	17	3217	594	19	132	14	1	29	9	1	0	0	1	4034
Percent	0.4%	79.7%	14.7%	0.5%	3.3%	0.3%	0.0%	0.7%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	11:00	08:00	09:00	09:00	09:00		08:00	05:00	08:00			09:00	11:00
Vol.	1	148	43	3	11	3		5	1	1			1	191
PM Peak	15:00	17:00	15:00	15:00	17:00	15:00	12:00	15:00	12:00					17:00
Vol.	5	481	71	5	14	3	1	4	2					557

Tri-State Traffic Data, Inc.

Street: Rt 401
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 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/15/16	0	15	3	0	2	0	0	0	0	0	0	0	0	20
01:00	0	17	4	0	0	0	0	0	0	0	0	0	0	21
02:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	1	1	0	0	0	0	1	0	0	0	0	0	3
05:00	0	3	2	0	1	0	0	0	0	0	0	0	0	6
06:00	0	17	9	0	1	0	0	0	1	0	0	0	0	28
07:00	0	57	12	0	7	1	0	1	0	0	0	0	0	78
08:00	4	121	20	0	1	1	0	0	0	0	0	0	1	148
09:00	2	118	22	0	5	1	0	3	0	0	0	0	0	151
10:00	0	149	27	2	9	0	0	0	0	0	0	0	0	187
11:00	5	184	30	1	5	0	0	0	0	0	0	0	0	225
12 PM	5	221	32	0	7	0	0	1	1	0	0	0	0	267
13:00	4	202	34	0	5	0	0	4	1	0	0	0	0	250
14:00	11	207	16	0	4	0	0	0	0	0	0	0	0	238
15:00	7	231	32	0	7	0	0	0	0	0	0	0	0	277
16:00	1	214	24	0	4	0	0	1	0	0	0	0	0	244
17:00	4	201	29	0	3	0	0	1	0	0	0	0	0	238
18:00	0	169	18	0	4	1	0	0	0	0	0	0	0	192
19:00	1	141	15	0	1	0	0	0	0	0	0	0	0	158
20:00	0	80	9	0	2	0	0	0	0	0	0	0	0	91
21:00	0	78	7	0	2	0	0	0	0	0	0	0	0	87
22:00	0	58	6	0	0	0	0	0	0	0	0	0	0	64
23:00	1	44	2	0	1	0	0	0	0	0	0	0	0	48
Day Total	45	2538	355	3	71	4	0	12	3	0	0	0	1	3032
Percent	1.5%	83.7%	11.7%	0.1%	2.3%	0.1%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	10:00	10:00	07:00		09:00	06:00				08:00	11:00
Vol.	5	184	30	2	9	1		3	1				1	225
PM Peak	14:00	15:00	13:00		12:00	18:00		13:00	12:00					15:00
Vol.	11	231	34		7	1		4	1					277

Tri-State Traffic Data, Inc.

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 Latitude: 0' 0.0000 Undefined

WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/16/16	0	20	3	1	3	0	0	0	0	0	0	0	0	27
01:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
05:00	0	5	2	0	1	0	0	0	0	0	0	0	0	8
06:00	0	8	5	0	0	0	0	0	0	0	0	0	0	13
07:00	0	50	5	0	0	0	0	5	0	0	0	0	0	60
08:00	1	68	10	0	2	0	0	0	0	0	0	0	0	81
09:00	2	121	19	0	2	0	0	0	0	0	0	0	0	144
10:00	2	128	20	0	2	0	0	1	0	0	0	0	0	153
11:00	2	152	18	0	1	0	0	1	0	0	0	0	0	174
12 PM	7	206	32	0	5	0	0	0	0	0	0	0	0	250
13:00	8	192	24	0	3	0	0	1	0	0	0	0	0	228
14:00	4	200	25	0	1	0	0	2	0	0	0	0	0	232
15:00	3	176	14	0	1	0	0	1	0	0	0	0	0	195
16:00	2	139	22	0	1	0	0	2	0	0	0	0	0	166
17:00	1	158	10	0	1	0	0	0	0	0	0	0	0	170
18:00	2	139	12	0	2	0	0	0	0	0	0	0	0	155
19:00	0	107	12	1	1	0	0	0	0	0	0	0	0	121
20:00	0	70	9	0	1	0	0	0	0	0	0	0	0	80
21:00	0	52	4	0	1	0	0	0	0	0	0	0	0	57
22:00	0	30	1	0	1	0	0	0	0	0	0	0	0	32
23:00	0	16	3	0	0	0	0	0	0	0	0	0	0	19
Day Total	34	2064	252	2	29	0	0	13	0	0	0	0	0	2394
Percent	1.4%	86.2%	10.5%	0.1%	1.2%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	10:00	00:00	00:00			07:00						11:00
Vol.	2	152	20	1	3			5						174
PM Peak	13:00	12:00	12:00	19:00	12:00			14:00						12:00
Vol.	8	206	32	1	5			2						250

Tri-State Traffic Data, Inc.

Street: Rt 401
 Location: West of Chester Springs Rd
 Weather: Clear
 Counter: TSTD

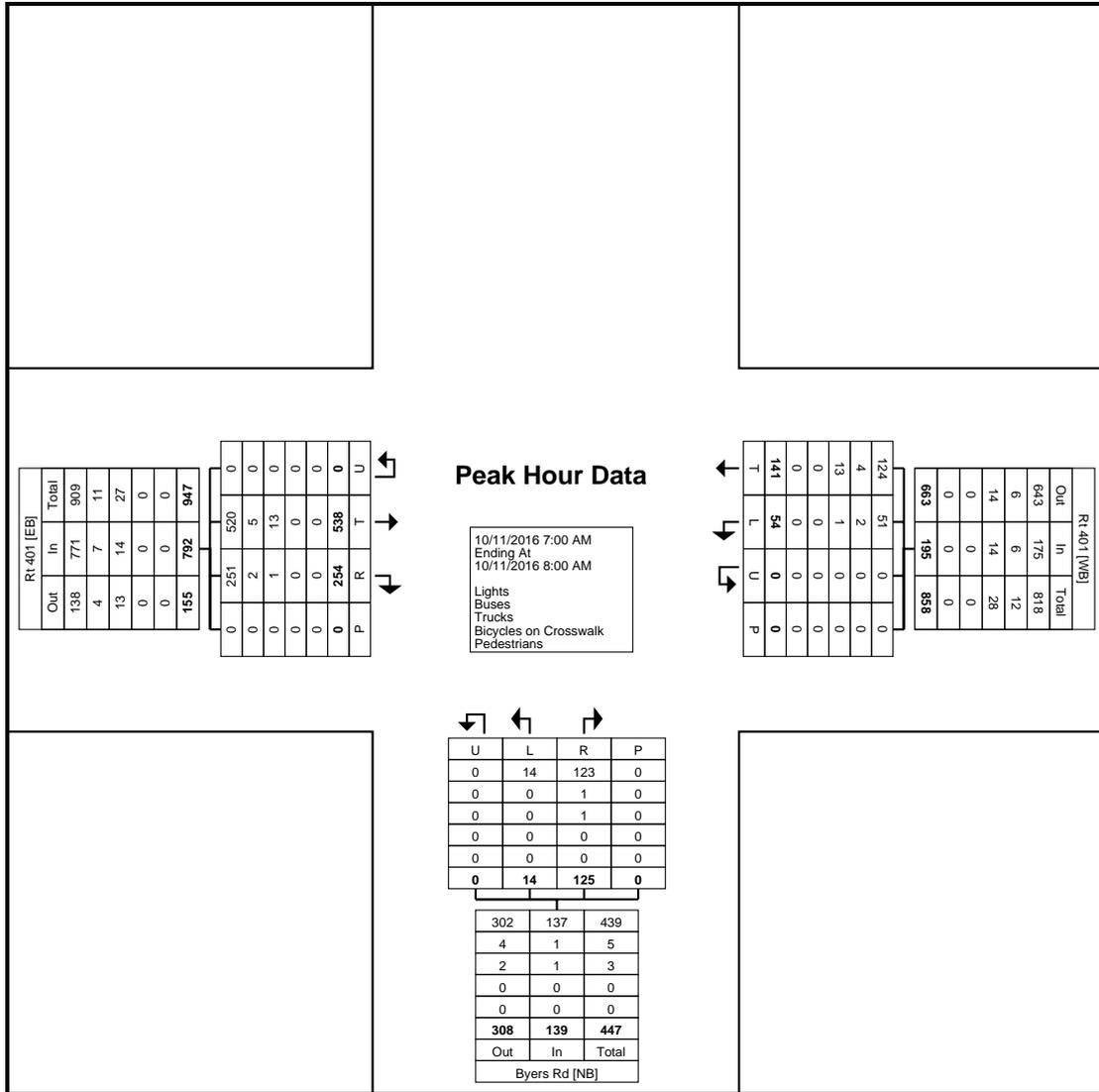
www.TSTData.com

Site Code: nestoga Road
 Station ID: 000000000000

Longitude: 0' 0.0000 Undefined
 Latitude: 0' 0.0000 Undefined

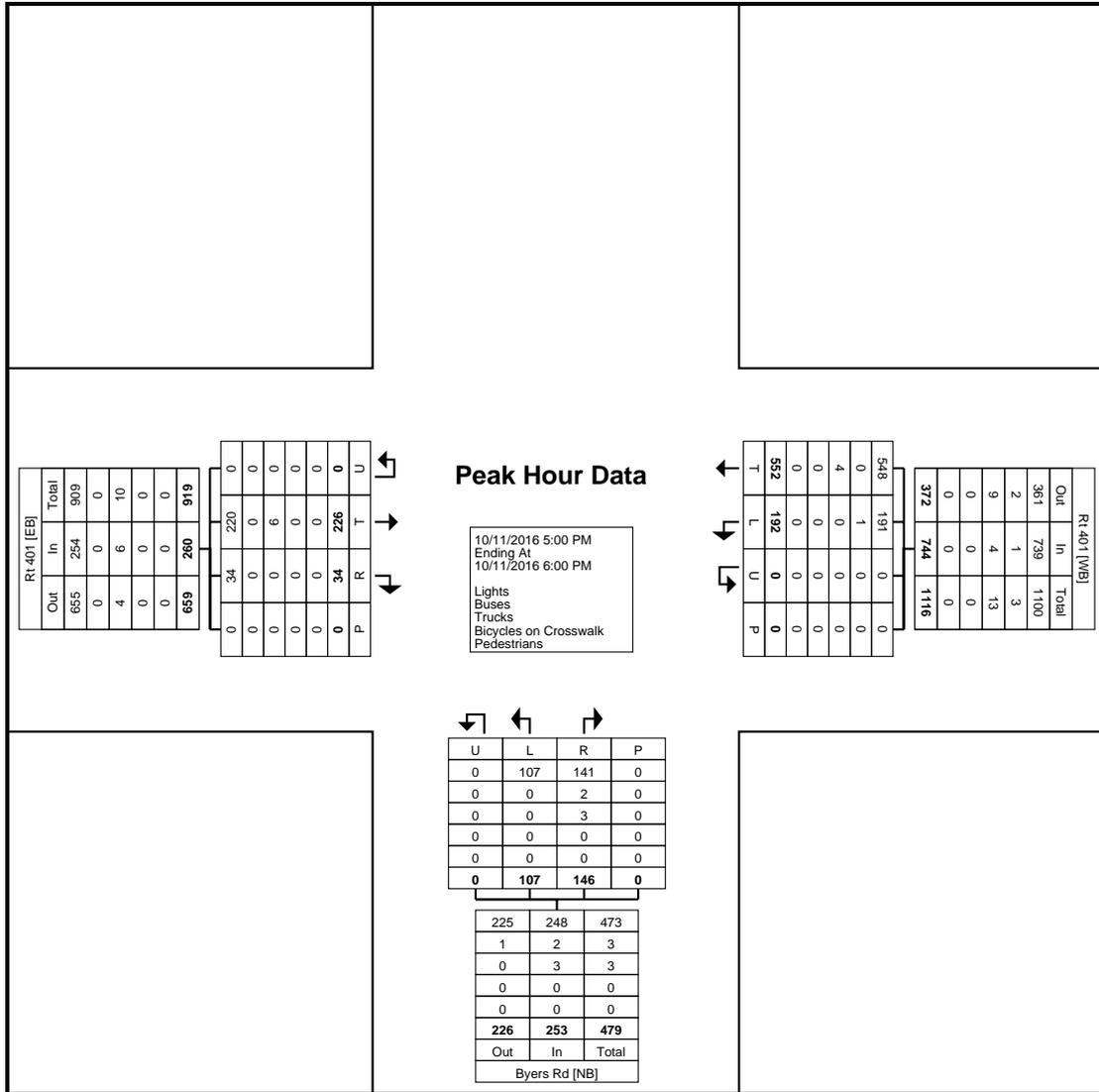
WB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
10/17/16	0	8	2	0	0	0	0	0	0	0	0	0	0	10
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
04:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
05:00	0	9	1	0	1	0	0	0	1	0	0	0	0	12
06:00	1	31	11	1	4	0	0	0	0	0	0	0	0	48
07:00	1	83	20	1	3	1	0	4	0	0	0	0	0	113
08:00	0	108	28	1	6	1	0	1	0	0	0	0	0	145
09:00	0	103	26	0	12	0	0	3	2	0	0	0	0	146
10:00	2	126	29	0	9	2	0	2	2	0	0	0	0	172
11:00	1	124	32	3	6	2	1	1	2	0	0	0	0	172
12 PM	1	126	26	1	6	1	0	2	2	0	0	0	0	165
13:00	1	136	40	1	8	0	0	1	0	0	0	0	0	187
14:00	0	182	42	3	13	0	0	0	0	0	0	0	0	240
15:00	0	269	63	0	8	3	0	0	1	1	0	0	0	345
16:00	1	392	89	3	10	4	0	2	1	0	0	0	0	502
17:00	2	465	66	0	9	1	0	1	0	0	0	0	0	544
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	10	2172	478	14	95	15	1	17	11	1	0	0	0	2814
Percent	0.4%	77.2%	17.0%	0.5%	3.4%	0.5%	0.0%	0.6%	0.4%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	10:00	11:00	11:00	09:00	10:00	11:00	07:00	09:00					10:00
Vol.	2	126	32	3	12	2	1	4	2					172
PM Peak	17:00	17:00	16:00	14:00	14:00	16:00		12:00	12:00	15:00				17:00
Vol.	2	465	89	3	13	4		2	2	1				544
Grand Total	153	21747	3820	92	756	119	15	161	51	3	0	0	2	26919
Percent	0.6%	80.8%	14.2%	0.3%	2.8%	0.4%	0.1%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	



Turning Movement Peak Hour Data Plot (7:00 AM)

Chester County, PA
Route 401/Byers Rd
Tuesday, October 11, 2016
Location: 40.086247, -
75.646415



Turning Movement Peak Hour Data Plot (5:00 PM)



www.TSTData.com
184 Baker Rd

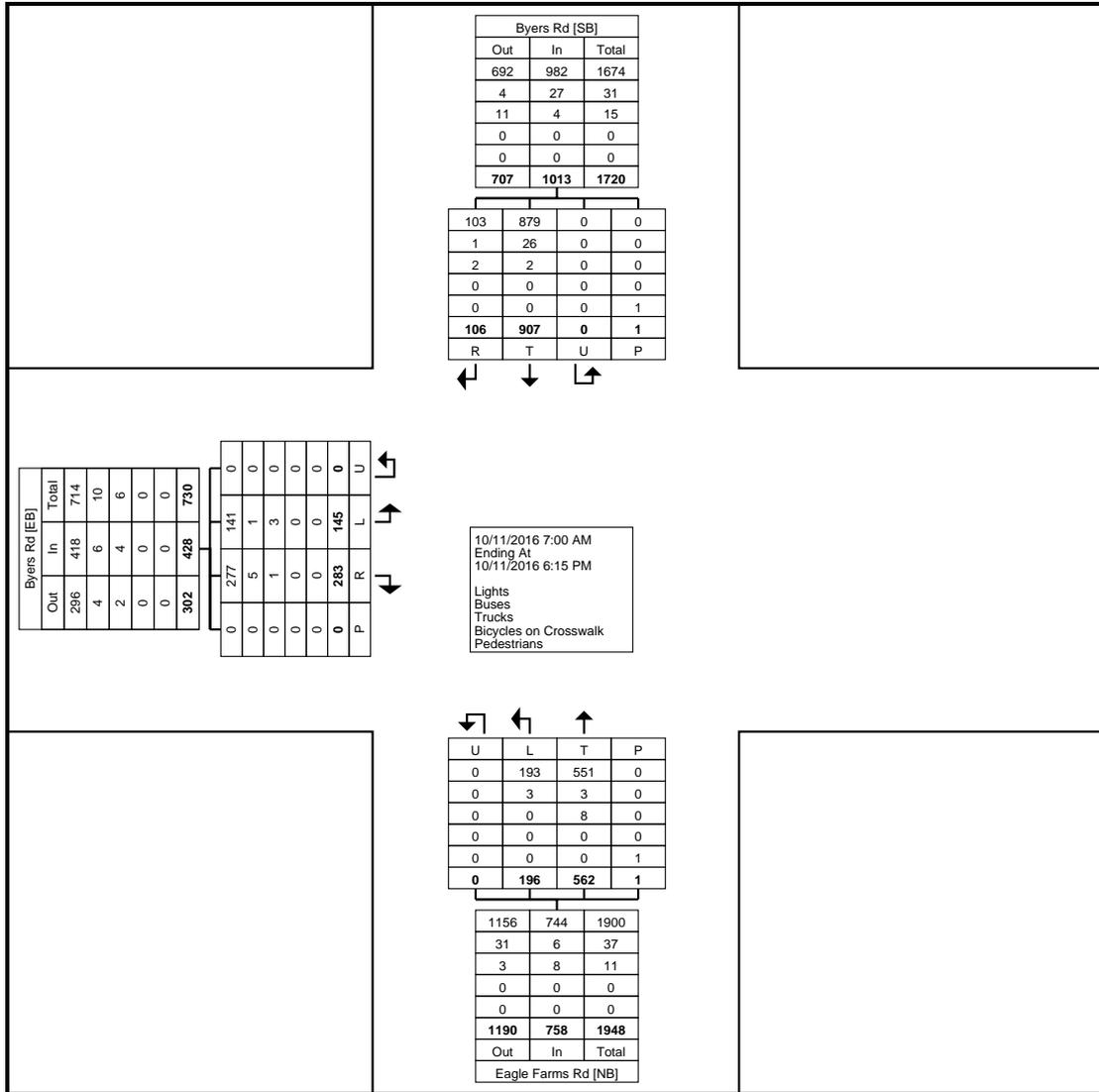
Chester County, PA
Byers Rd/Eagle Farms Rd
Tuesday, October 11, 2016
Location: 40.083596, -
75.649055

Coatesville, Pennsylvania, United States 19320
610-466-1469
Serving Transportation Professionals Since 1995

Count Name: Byers-Eagle Farm
Site Code:
Start Date: 10/11/2016
Page No: 1

Turning Movement Data

Start Time	Byers Rd Southbound					Eagle Farms Rd Northbound					Byers Rd Eastbound					Int. Total
	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	
7:00 AM	4	62	0	0	66	21	3	0	0	24	33	14	0	0	47	137
7:15 AM	0	65	0	0	65	23	0	0	0	23	32	10	0	0	42	130
7:30 AM	3	69	0	0	72	17	7	0	0	24	25	8	0	0	33	129
7:45 AM	3	99	0	0	102	30	5	0	0	35	23	12	0	0	35	172
Hourly Total	10	295	0	0	305	91	15	0	0	106	113	44	0	0	157	568
8:00 AM	3	71	0	0	74	20	4	0	0	24	17	20	0	0	37	135
8:15 AM	3	74	0	0	77	24	8	0	0	32	16	16	0	0	32	141
8:30 AM	1	85	0	0	86	35	3	0	0	38	18	12	0	0	30	154
8:45 AM	5	49	0	0	54	28	4	0	0	32	23	15	0	0	38	124
Hourly Total	12	279	0	0	291	107	19	0	0	126	74	63	0	0	137	554
9:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:00 PM	5	38	0	0	43	28	18	0	0	46	12	9	0	0	21	110
4:15 PM	6	38	0	0	44	30	16	0	0	46	6	2	0	0	8	98
4:30 PM	10	41	0	0	51	35	20	0	0	55	15	3	0	0	18	124
4:45 PM	11	40	0	0	51	36	23	0	0	59	9	3	0	0	12	122
Hourly Total	32	157	0	0	189	129	77	0	0	206	42	17	0	0	59	454
5:00 PM	6	40	0	0	46	69	27	0	0	96	9	3	0	0	12	154
5:15 PM	17	42	0	0	59	72	15	0	0	87	19	8	0	0	27	173
5:30 PM	11	52	0	1	63	56	18	0	1	74	21	4	0	0	25	162
5:45 PM	18	41	0	0	59	38	25	0	0	63	5	6	0	0	11	133
Hourly Total	52	175	0	1	227	235	85	0	1	320	54	21	0	0	75	622
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	106	907	0	1	1013	562	196	0	1	758	283	145	0	0	428	2199
Approach %	10.5	89.5	0.0	-	-	74.1	25.9	0.0	-	-	66.1	33.9	0.0	-	-	-
Total %	4.8	41.2	0.0	-	46.1	25.6	8.9	0.0	-	34.5	12.9	6.6	0.0	-	19.5	-
Lights	103	879	0	-	982	551	193	0	-	744	277	141	0	-	418	2144
% Lights	97.2	96.9	-	-	96.9	98.0	98.5	-	-	98.2	97.9	97.2	-	-	97.7	97.5
Buses	1	26	0	-	27	3	3	0	-	6	5	1	0	-	6	39
% Buses	0.9	2.9	-	-	2.7	0.5	1.5	-	-	0.8	1.8	0.7	-	-	1.4	1.8
Trucks	2	2	0	-	4	8	0	0	-	8	1	3	0	-	4	16
% Trucks	1.9	0.2	-	-	0.4	1.4	0.0	-	-	1.1	0.4	2.1	-	-	0.9	0.7
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	1	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-



Turning Movement Data Plot



www.TSTData.com
184 Baker Rd

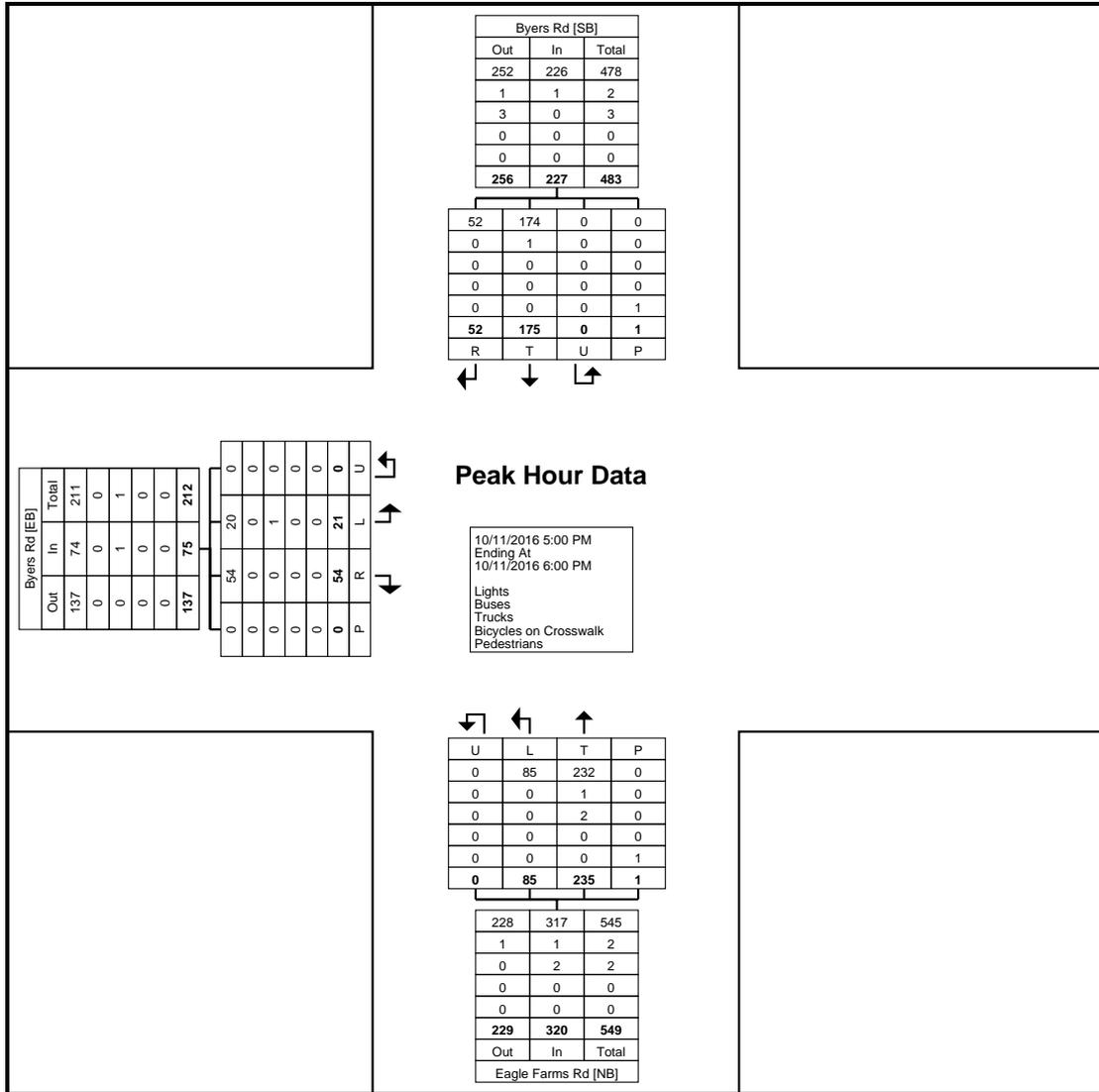
Coatesville, Pennsylvania, United States 19320
610-466-1469
Serving Transportation Professionals Since 1995

Chester County, PA
Byers Rd/Eagle Farms Rd
Tuesday, October 11, 2016
Location: 40.083596, -
75.649055

Count Name: Byers-Eagle Farm
Site Code:
Start Date: 10/11/2016
Page No: 5

Turning Movement Peak Hour Data (5:00 PM)

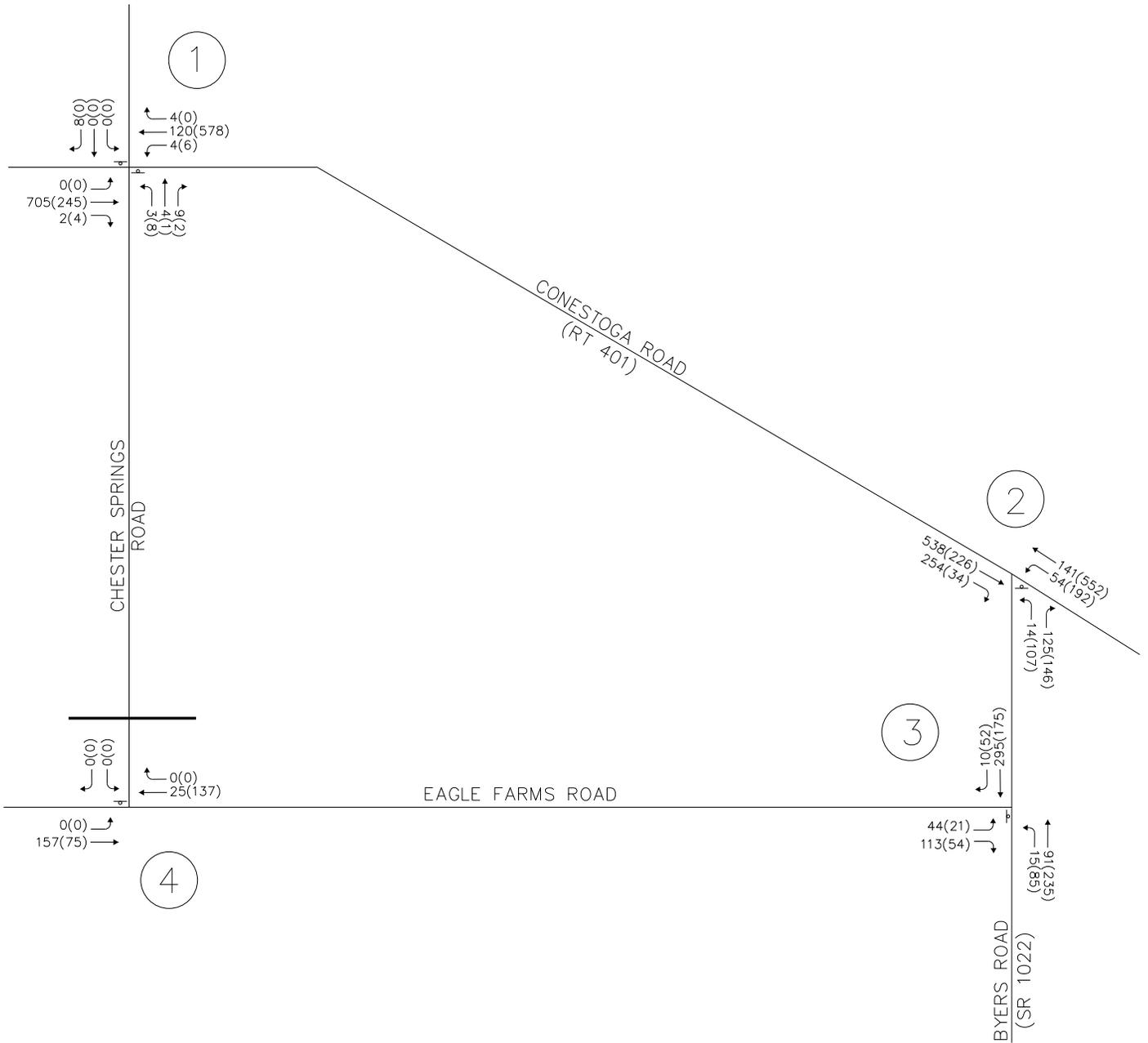
Start Time	Byers Rd Southbound					Eagle Farms Rd Northbound					Byers Rd Eastbound					Int. Total
	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	
5:00 PM	6	40	0	0	46	69	27	0	0	96	9	3	0	0	12	154
5:15 PM	17	42	0	0	59	72	15	0	0	87	19	8	0	0	27	173
5:30 PM	11	52	0	1	63	56	18	0	1	74	21	4	0	0	25	162
5:45 PM	18	41	0	0	59	38	25	0	0	63	5	6	0	0	11	133
Total	52	175	0	1	227	235	85	0	1	320	54	21	0	0	75	622
Approach %	22.9	77.1	0.0	-	-	73.4	26.6	0.0	-	-	72.0	28.0	0.0	-	-	-
Total %	8.4	28.1	0.0	-	36.5	37.8	13.7	0.0	-	51.4	8.7	3.4	0.0	-	12.1	-
PHF	0.722	0.841	0.000	-	0.901	0.816	0.787	0.000	-	0.833	0.643	0.656	0.000	-	0.694	0.899
Lights	52	174	0	-	226	232	85	0	-	317	54	20	0	-	74	617
% Lights	100.0	99.4	-	-	99.6	98.7	100.0	-	-	99.1	100.0	95.2	-	-	98.7	99.2
Buses	0	1	0	-	1	1	0	0	-	1	0	0	0	-	0	2
% Buses	0.0	0.6	-	-	0.4	0.4	0.0	-	-	0.3	0.0	0.0	-	-	0.0	0.3
Trucks	0	0	0	-	0	2	0	0	-	2	0	1	0	-	1	3
% Trucks	0.0	0.0	-	-	0.0	0.9	0.0	-	-	0.6	0.0	4.8	-	-	1.3	0.5
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	1	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-



Turning Movement Peak Hour Data Plot (5:00 PM)

Appendix B

Peak Hour Traffic Volume



NOT TO SCALE

LEGEND:



- Existing Traffic Signal



- STOP SIGN

XX(XX) - WEEKDAY AM, PM PEAK HOUR TRAFFIC VOLUMES

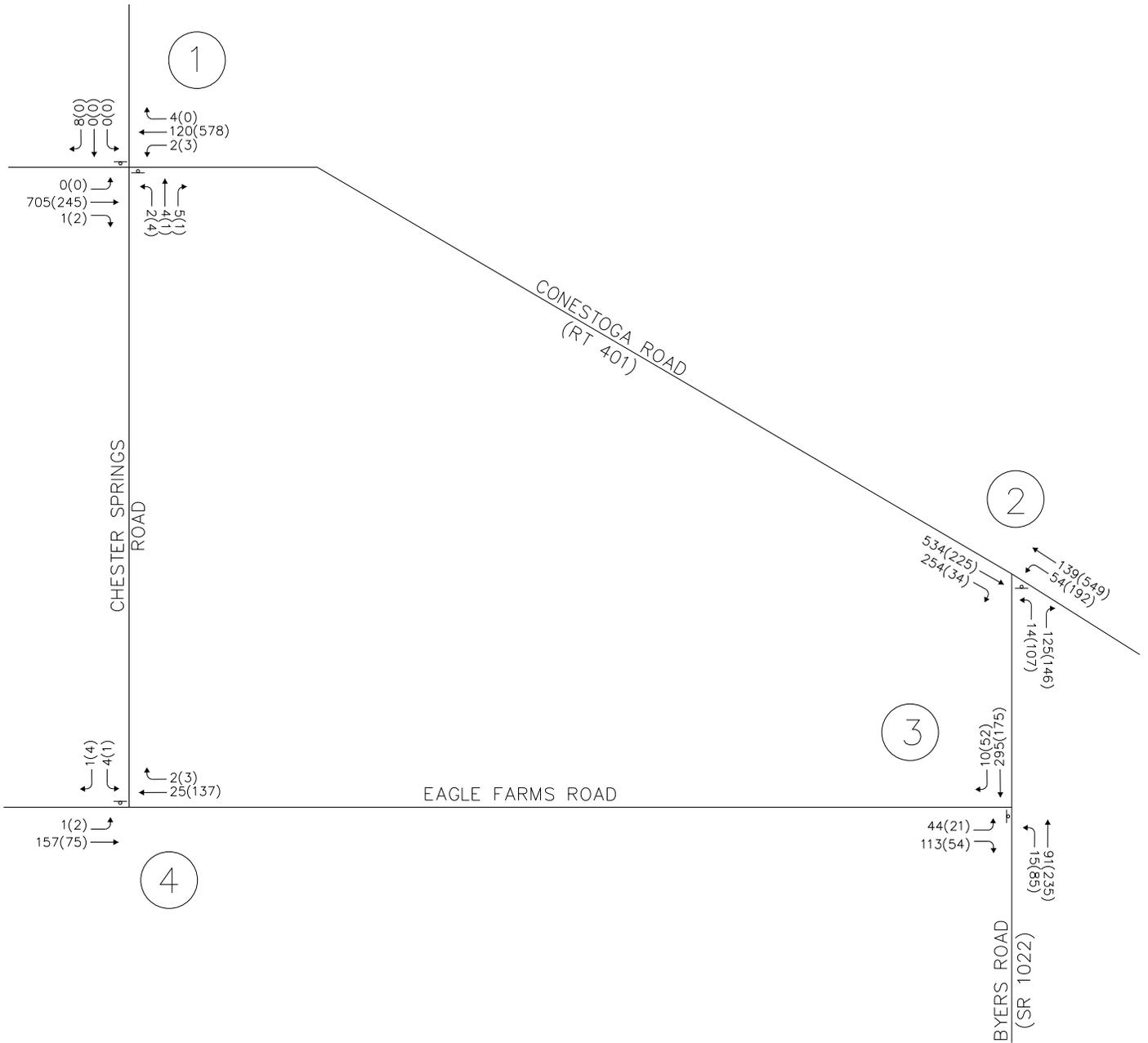
2016 EXISTING
PEAK HOUR TRAFFIC VOLUMES

CHESTER SPRINGS
REGIONAL TRANSPORTATION STUDY

FIGURE 1



PENNONI INC.
CONSULTING ENGINEERS
3100 HORIZON DRIVE
SUITE 200
KING OF PRUSSIA, PA 19406
UUWC1601



NOT TO SCALE

LEGEND:



- Existing Traffic Signal



- STOP SIGN

XX(XX) - WEEKDAY AM, PM PEAK HOUR TRAFFIC VOLUMES

2016 EXISTING
PEAK HOUR TRAFFIC VOLUMES
RE-DISTRIBUTED
CHESTER SPRINGS
REGIONAL TRANSPORTATION STUDY

FIGURE 2



PENNONI INC.
CONSULTING ENGINEERS
3100 HORIZON DRIVE
SUITE 200
KING OF PRUSSIA, PA 19406

UUWC1601

Appendix C

Multi-Way Stop & Traffic Signal Warrant Criteria

Section 2B.07 Multi-Way Stop Applications

Support:

- 1 Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal.
- 2 The restrictions on the use of STOP signs described in Section 2B.04 also apply to multi-way stop applications.

Guidance:

- 3 *The decision to install multi-way stop control should be based on an engineering study.*
- 4 *The following criteria should be considered in the engineering study for a multi-way STOP sign installation:*
 - A. *Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.*
 - B. *Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.*
 - C. *Minimum volumes:*
 1. *The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and*
 2. *The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but*
 3. *if the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in items 1 and 2.*
 - D. *Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.*

Option:

- 5 Other criteria that may be considered in an engineering study include:
 - A. The need to control left-turn conflicts;
 - B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
 - C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and
 - D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.

CHAPTER 4B. TRAFFIC CONTROL SIGNALS—GENERAL

Section 4B.01 General

Support:

- 01 Words such as pedestrians and bicyclists are used redundantly in selected Sections of Part 4 to encourage sensitivity to these elements of “traffic.”
- 02 Standards for traffic control signals are important because traffic control signals need to attract the attention of a variety of road users, including those who are older, those with impaired vision, as well as those who are fatigued or distracted, or who are not expecting to encounter a signal at a particular location.

Section 4B.02 Basis of Installation or Removal of Traffic Control Signals

Guidance:

- 01 *The selection and use of traffic control signals should be based on an engineering study of roadway, traffic, and other conditions.*

Support:

- 02 A careful analysis of traffic operations, pedestrian and bicyclist needs, and other factors at a large number of signalized and unsignalized locations, coupled with engineering judgment, has provided a series of signal warrants, described in Chapter 4C, that define the minimum conditions under which installing traffic control signals might be justified.

Guidance:

- 03 *Engineering judgment should be applied in the review of operating traffic control signals to determine whether the type of installation and the timing program meet the current requirements of all forms of traffic.*
- 04 *If changes in traffic patterns eliminate the need for a traffic control signal, consideration should be given to removing it and replacing it with appropriate alternative traffic control devices, if any are needed.*
- 05 *If the engineering study indicates that the traffic control signal is no longer justified, and a decision is made to remove the signal, removal should be accomplished using the following steps:*
- A. *Determine the appropriate traffic control to be used after removal of the signal.*
 - B. *Remove any sight-distance restrictions as necessary.*
 - C. *Inform the public of the removal study.*
 - D. *Flash or cover the signal heads for a minimum of 90 days, and install the appropriate stop control or other traffic control devices.*
 - E. *Remove the signal if the engineering data collected during the removal study period confirms that the signal is no longer needed.*

Option:

- 06 Because Items C, D, and E in Paragraph 5 are not relevant when a temporary traffic control signal (see Section 4D.32) is removed, a temporary traffic control signal may be removed immediately after Items A and B are completed.
- 07 Instead of total removal of a traffic control signal, the poles, controller cabinet, and cables may remain in place after removal of the signal heads for continued analysis.

Section 4B.03 Advantages and Disadvantages of Traffic Control Signals

Support:

- 01 When properly used, traffic control signals are valuable devices for the control of vehicular and pedestrian traffic. They assign the right-of-way to the various traffic movements and thereby profoundly influence traffic flow.
- 02 Traffic control signals that are properly designed, located, operated, and maintained will have one or more of the following advantages:
- A. They provide for the orderly movement of traffic.
 - B. They increase the traffic-handling capacity of the intersection if:
 1. Proper physical layouts and control measures are used, and
 2. The signal operational parameters are reviewed and updated (if needed) on a regular basis (as engineering judgment determines that significant traffic flow and/or land use changes have occurred) to maximize the ability of the traffic control signal to satisfy current traffic demands.
 - C. They reduce the frequency and severity of certain types of crashes, especially right-angle collisions.
 - D. They are coordinated to provide for continuous or nearly continuous movement of traffic at a definite speed along a given route under favorable conditions.
 - E. They are used to interrupt heavy traffic at intervals to permit other traffic, vehicular or pedestrian, to cross.

- 03 Traffic control signals are often considered a panacea for all traffic problems at intersections. This belief has led to traffic control signals being installed at many locations where they are not needed, adversely affecting the safety and efficiency of vehicular, bicycle, and pedestrian traffic.
- 04 Traffic control signals, even when justified by traffic and roadway conditions, can be ill-designed, ineffectively placed, improperly operated, or poorly maintained. Improper or unjustified traffic control signals can result in one or more of the following disadvantages:
- A. Excessive delay,
 - B. Excessive disobedience of the signal indications,
 - C. Increased use of less adequate routes as road users attempt to avoid the traffic control signals, and
 - D. Significant increases in the frequency of collisions (especially rear-end collisions).

Section 4B.04 Alternatives to Traffic Control Signals

Guidance:

- 01 *Since vehicular delay and the frequency of some types of crashes are sometimes greater under traffic signal control than under STOP sign control, consideration should be given to providing alternatives to traffic control signals even if one or more of the signal warrants has been satisfied.*

Option:

- 02 These alternatives may include, but are not limited to, the following:
- A. Installing signs along the major street to warn road users approaching the intersection;
 - B. Relocating the stop line(s) and making other changes to improve the sight distance at the intersection;
 - C. Installing measures designed to reduce speeds on the approaches;
 - D. Installing a flashing beacon at the intersection to supplement STOP sign control;
 - E. Installing flashing beacons on warning signs in advance of a STOP sign controlled intersection on major- and/or minor-street approaches;
 - F. Adding one or more lanes on a minor-street approach to reduce the number of vehicles per lane on the approach;
 - G. Revising the geometrics at the intersection to channelize vehicular movements and reduce the time required for a vehicle to complete a movement, which could also assist pedestrians;
 - H. Revising the geometrics at the intersection to add pedestrian median refuge islands and/or curb extensions;
 - I. Installing roadway lighting if a disproportionate number of crashes occur at night;
 - J. Restricting one or more turning movements, perhaps on a time-of-day basis, if alternate routes are available;
 - K. If the warrant is satisfied, installing multi-way STOP sign control;
 - L. Installing a pedestrian hybrid beacon (see Chapter 4F) or In-Roadway Warning Lights (see Chapter 4N) if pedestrian safety is the major concern;
 - M. Installing a roundabout; and
 - N. Employing other alternatives, depending on conditions at the intersection.

Section 4B.05 Adequate Roadway Capacity

Support:

- 01 The delays inherent in the alternating assignment of right-of-way at intersections controlled by traffic control signals can frequently be reduced by widening the major roadway, the minor roadway, or both roadways. Widening the minor roadway often benefits the operations on the major roadway, because it reduces the green time that must be assigned to minor-roadway traffic. In urban areas, the effect of widening can be achieved by eliminating parking on intersection approaches. It is desirable to have at least two lanes for moving traffic on each approach to a signalized location. Additional width on the departure side of the intersection, as well as on the approach side, will sometimes be needed to clear traffic through the intersection effectively.

Guidance:

- 02 *Adequate roadway capacity should be provided at a signalized location. Before an intersection is widened, the additional green time pedestrians need to cross the widened roadways should be considered to determine if it will exceed the green time saved through improved vehicular flow.*
- 03 *Other methods of increasing the roadway capacity at signalized locations that do not involve roadway widening, such as revisions to the pavement markings and the careful evaluation of proper lane-use assignments (including varying the lane use by time of day), should be considered where appropriate. Such consideration should include evaluation of any impacts that changes to pavement markings and lane assignments will have on bicycle travel.*

CHAPTER 4C. TRAFFIC CONTROL SIGNAL NEEDS STUDIES

Section 4C.01 Studies and Factors for Justifying Traffic Control Signals

Standard:

- 01 An engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location.
- 02 The investigation of the need for a traffic control signal shall include an analysis of factors related to the existing operation and safety at the study location and the potential to improve these conditions, and the applicable factors contained in the following traffic signal warrants:
- Warrant 1, Eight-Hour Vehicular Volume
 - Warrant 2, Four-Hour Vehicular Volume
 - Warrant 3, Peak Hour
 - Warrant 4, Pedestrian Volume
 - Warrant 5, School Crossing
 - Warrant 6, Coordinated Signal System
 - Warrant 7, Crash Experience
 - Warrant 8, Roadway Network
 - Warrant 9, Intersection Near a Grade Crossing
- 03 The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Support:

- 04 Sections 8C.09 and 8C.10 contain information regarding the use of traffic control signals instead of gates and/or flashing-light signals at highway-rail grade crossings and highway-light rail transit grade crossings, respectively.
- Guidance:*
- 05 A traffic control signal should not be installed unless one or more of the factors described in this Chapter are met.
- 06 A traffic control signal should not be installed unless an engineering study indicates that installing a traffic control signal will improve the overall safety and/or operation of the intersection.
- 07 A traffic control signal should not be installed if it will seriously disrupt progressive traffic flow.
- 08 The study should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count when evaluating the count against the signal warrants listed in Paragraph 2.
- 09 Engineering judgment should also be used in applying various traffic signal warrants to cases where approaches consist of one lane plus one left-turn or right-turn lane. The site-specific traffic characteristics should dictate whether an approach is considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left-turn lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles.
- 10 Similar engineering judgment and rationale should be applied to a street approach with one through/left-turn lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one-lane approach with only the traffic volume in the through/left-turn lane considered.
- 11 At a location that is under development or construction and where it is not possible to obtain a traffic count that would represent future traffic conditions, hourly volumes should be estimated as part of an engineering study for comparison with traffic signal warrants. Except for locations where the engineering study uses the satisfaction of Warrant 8 to justify a signal, a traffic control signal installed under projected conditions should have an engineering study done within 1 year of putting the signal into stop-and-go operation to determine if the signal is justified. If not justified, the signal should be taken out of stop-and-go operation or removed.
- 12 For signal warrant analysis, a location with a wide median, even if the median width is greater than 30 feet, should be considered as one intersection.

Option:

- 13 At an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher of the major-street left-turn volumes as the “minor-street” volume and the corresponding single direction of opposing traffic on the major street as the “major-street” volume.
- 14 For signal warrants requiring conditions to be present for a certain number of hours in order to be satisfied, any four sequential 15-minute periods may be considered as 1 hour if the separate 1-hour periods used in the warrant analysis do not overlap each other and both the major-street volume and the minor-street volume are for the same specific one-hour periods.
- 15 For signal warrant analysis, bicyclists may be counted as either vehicles or pedestrians.

Support:

- 16 When performing a signal warrant analysis, bicyclists riding in the street with other vehicular traffic are usually counted as vehicles and bicyclists who are clearly using pedestrian facilities are usually counted as pedestrians.

Option:

- 17 Engineering study data may include the following:
- A. The number of vehicles entering the intersection in each hour from each approach during 12 hours of an average day. It is desirable that the hours selected contain the greatest percentage of the 24-hour traffic volume.
 - B. Vehicular volumes for each traffic movement from each approach, classified by vehicle type (heavy trucks, passenger cars and light trucks, public-transit vehicles, and, in some locations, bicycles), during each 15-minute period of the 2 hours in the morning and 2 hours in the afternoon during which total traffic entering the intersection is greatest.
 - C. Pedestrian volume counts on each crosswalk during the same periods as the vehicular counts in Item B and during hours of highest pedestrian volume. Where young, elderly, and/or persons with physical or visual disabilities need special consideration, the pedestrians and their crossing times may be classified by general observation.
 - D. Information about nearby facilities and activity centers that serve the young, elderly, and/or persons with disabilities, including requests from persons with disabilities for accessible crossing improvements at the location under study. These persons might not be adequately reflected in the pedestrian volume count if the absence of a signal restrains their mobility.
 - E. The posted or statutory speed limit or the 85th-percentile speed on the uncontrolled approaches to the location.
 - F. A condition diagram showing details of the physical layout, including such features as intersection geometrics, channelization, grades, sight-distance restrictions, transit stops and routes, parking conditions, pavement markings, roadway lighting, driveways, nearby railroad crossings, distance to nearest traffic control signals, utility poles and fixtures, and adjacent land use.
 - G. A collision diagram showing crash experience by type, location, direction of movement, severity, weather, time of day, date, and day of week for at least 1 year.
- 18 The following data, which are desirable for a more precise understanding of the operation of the intersection, may be obtained during the periods described in Item B of Paragraph 17:
- A. Vehicle-hours of stopped time delay determined separately for each approach.
 - B. The number and distribution of acceptable gaps in vehicular traffic on the major street for entrance from the minor street.
 - C. The posted or statutory speed limit or the 85th-percentile speed on controlled approaches at a point near to the intersection but unaffected by the control.
 - D. Pedestrian delay time for at least two 30-minute peak pedestrian delay periods of an average weekday or like periods of a Saturday or Sunday.
 - E. Queue length on stop-controlled approaches.

Section 4C.02 Warrant 1, Eight-Hour Vehicular Volume

Support:

- 01 The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.
- 02 The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.
- 03 It is intended that Warrant 1 be treated as a single warrant. If Condition A is satisfied, then Warrant 1 is satisfied and analyses of Condition B and the combination of Conditions A and B are not needed. Similarly, if Condition B is satisfied, then Warrant 1 is satisfied and an analysis of the combination of Conditions A and B is not needed.

Standard:

- 04 The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:
- A. The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection;
 - B. The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Option:

- 05 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 70 percent columns in Table 4C-1 may be used in place of the 100 percent columns.

Guidance:

- 06 The combination of Conditions A and B is intended for application at locations where Condition A is not satisfied and Condition B is not satisfied and should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Standard:

- 07 The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:
- A. The vehicles per hour given in both of the 80 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and
 - B. The vehicles per hour given in both of the 80 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

^a Basic minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

^d May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Option:

- 08 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 56 percent columns in Table 4C-1 may be used in place of the 80 percent columns.

Section 4C.03 Warrant 2, Four-Hour Vehicular Volume

Support:

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

Standard:

- 02 **The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-1 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.**

Option:

- 03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-2 may be used in place of Figure 4C-1.

Section 4C.04 Warrant 3, Peak Hour

Support:

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

Standard:

- 02 **This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.**
- 03 **The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:**
- A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:**
 - 1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and**
 - 2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and**
 - 3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.**
 - B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.**

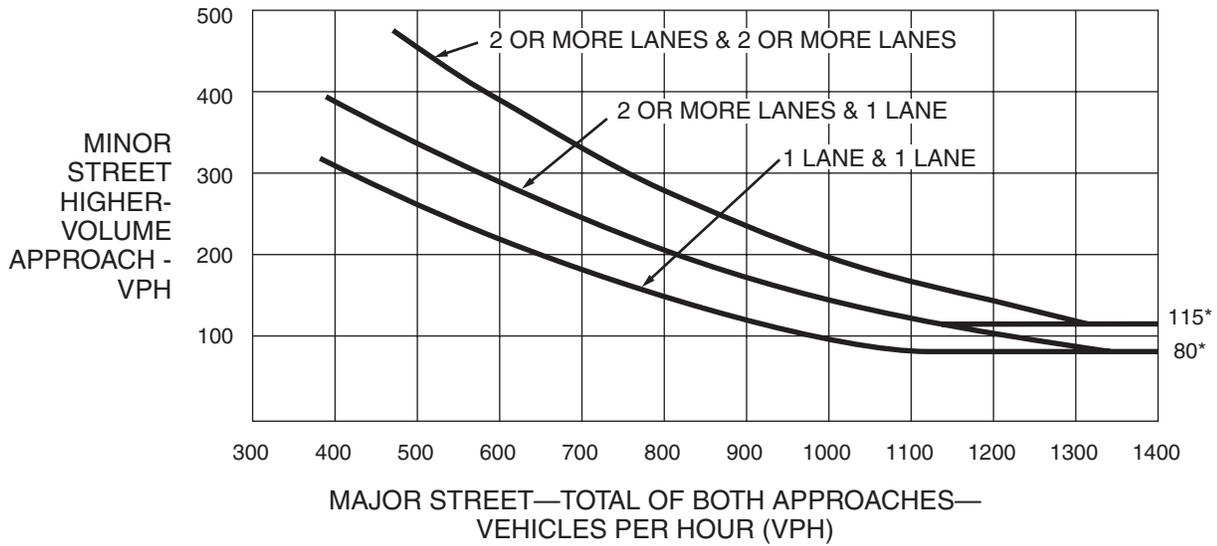
Option:

- 04 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-4 may be used in place of Figure 4C-3 to evaluate the criteria in the second category of the Standard.
- 05 If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal may be operated in the flashing mode during the hours that the volume criteria of this warrant are not met.

Guidance:

- 06 *If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal should be traffic-actuated.*

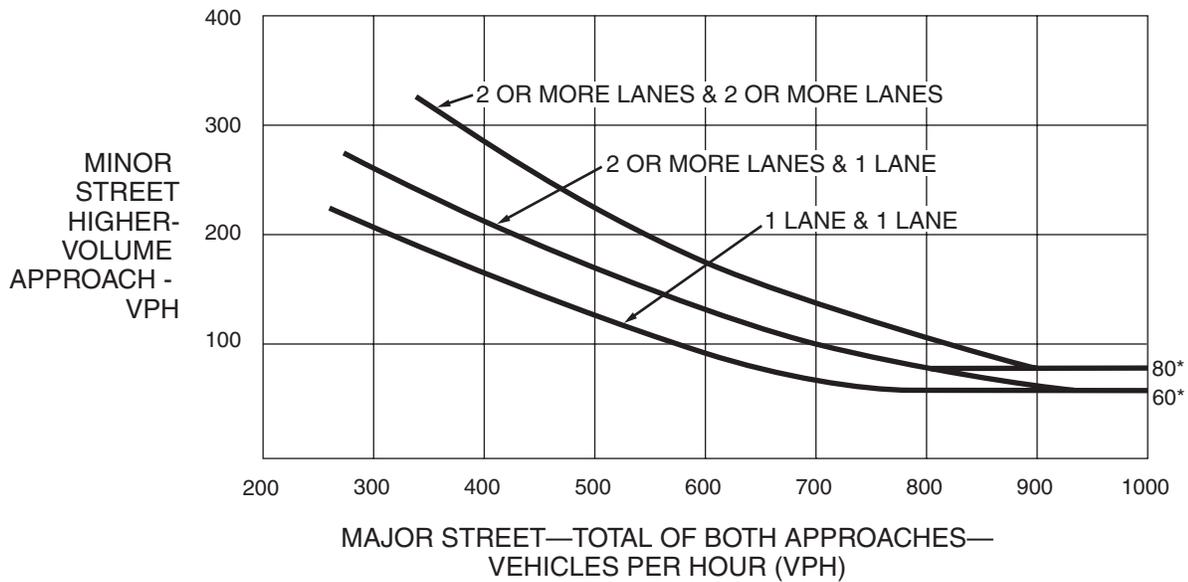
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



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

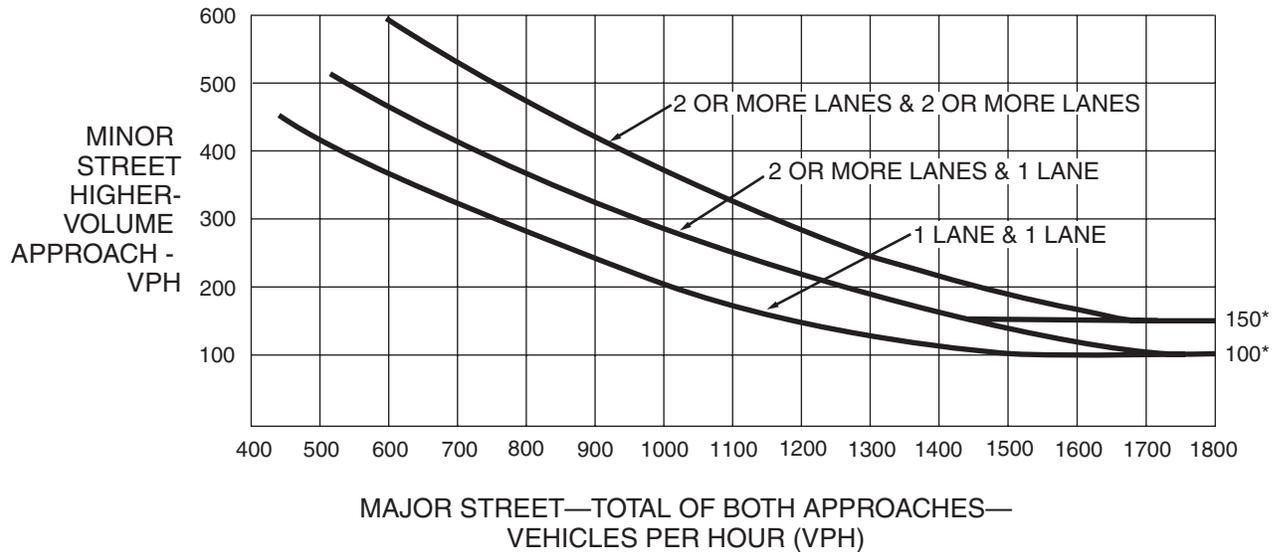
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

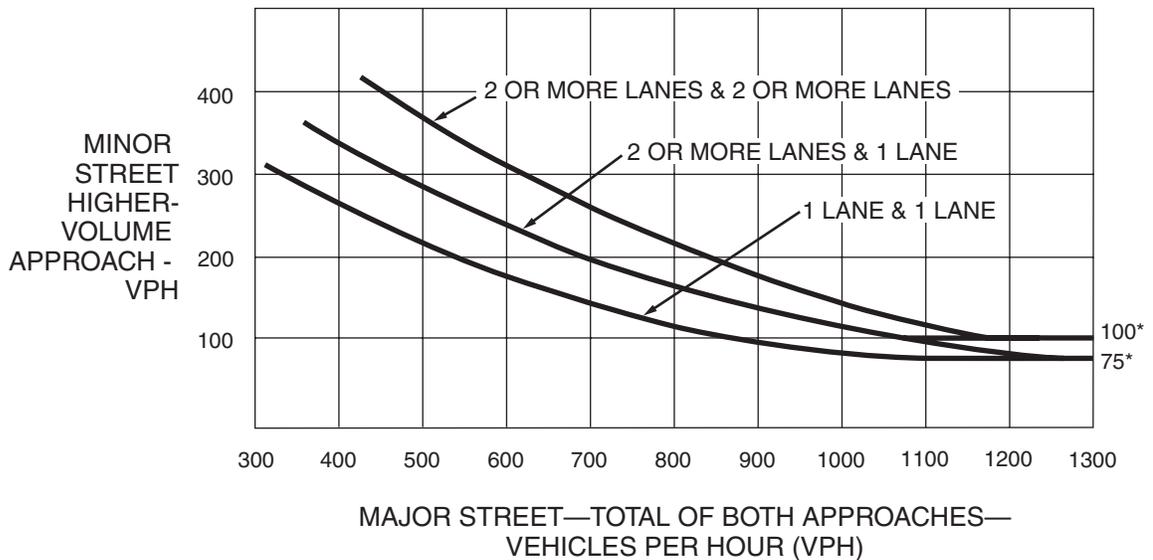
Figure 4C-3. Warrant 3, Peak Hour



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

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Section 4C.05 Warrant 4, Pedestrian Volume

Support:

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

Standard:

- 02 **The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that one of the following criteria is met:**
- A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-5; or
 - B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-7.

Option:

- 03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 35 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-6 may be used in place of Figure 4C-5 to evaluate Criterion A in Paragraph 2, and Figure 4C-8 may be used in place of Figure 4C-7 to evaluate Criterion B in Paragraph 2.

Standard:

- 04 **The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.**
- 05 **If this warrant is met and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E.**

Guidance:

- 06 *If this warrant is met and a traffic control signal is justified by an engineering study, then:*
- A. *If it is installed at an intersection or major driveway location, the traffic control signal should also control the minor-street or driveway traffic, should be traffic-actuated, and should include pedestrian detection.*
 - B. *If it is installed at a non-intersection crossing, the traffic control signal should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs, and should be pedestrian-actuated. If the traffic control signal is installed at a non-intersection crossing, at least one of the signal faces should be over the traveled way for each approach, parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the crosswalk or site accommodations should be made through curb extensions or other techniques to provide adequate sight distance, and the installation should include suitable standard signs and pavement markings.*
 - C. *Furthermore, if it is installed within a signal system, the traffic control signal should be coordinated.*

Option:

- 07 The criterion for the pedestrian volume crossing the major street may be reduced as much as 50 percent if the 15th-percentile crossing speed of pedestrians is less than 3.5 feet per second.
- 08 A traffic control signal may not be needed at the study location if adjacent coordinated traffic control signals consistently provide gaps of adequate length for pedestrians to cross the street.

Section 4C.06 Warrant 5, School Crossing

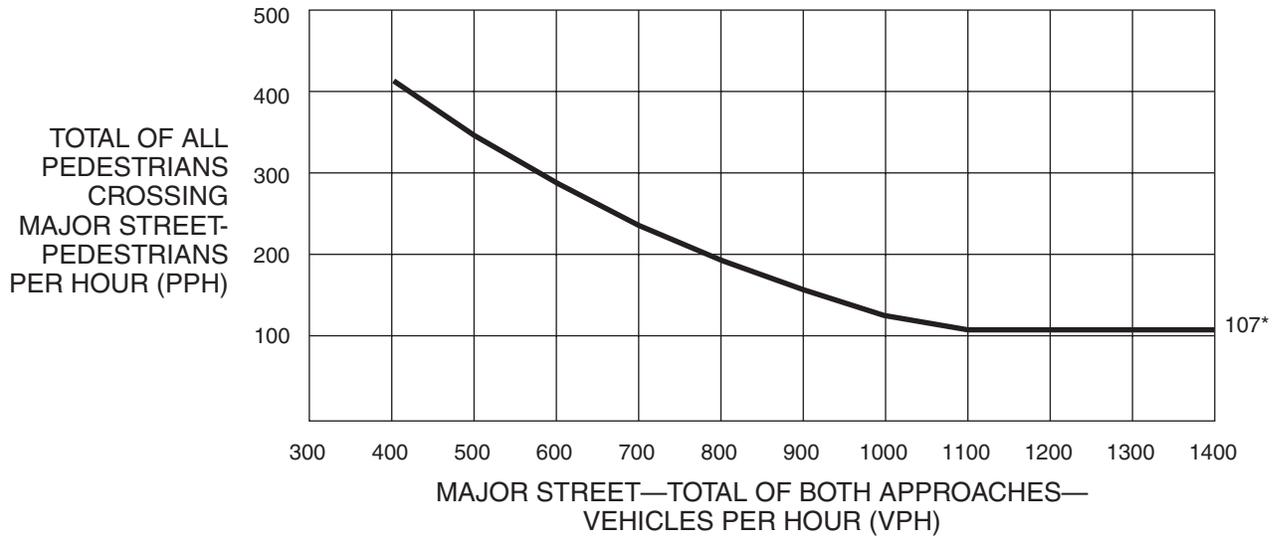
Support:

- 01 The School Crossing signal warrant is intended for application where the fact that schoolchildren cross the major street is the principal reason to consider installing a traffic control signal. For the purposes of this warrant, the word “schoolchildren” includes elementary through high school students.

Standard:

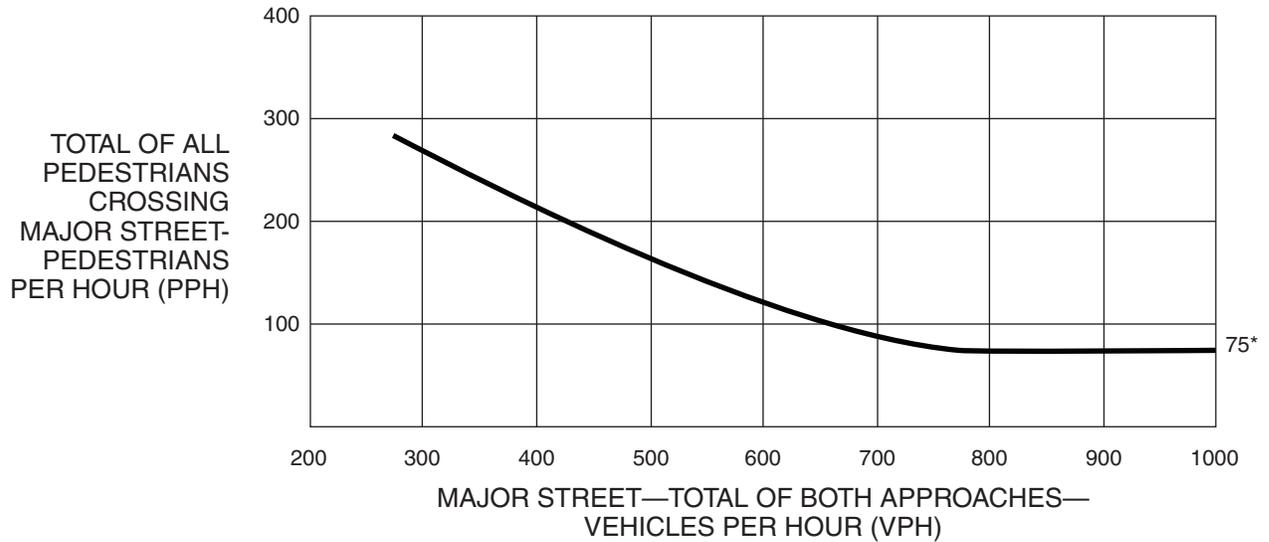
- 02 **The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of schoolchildren at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 schoolchildren during the highest crossing hour.**

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume



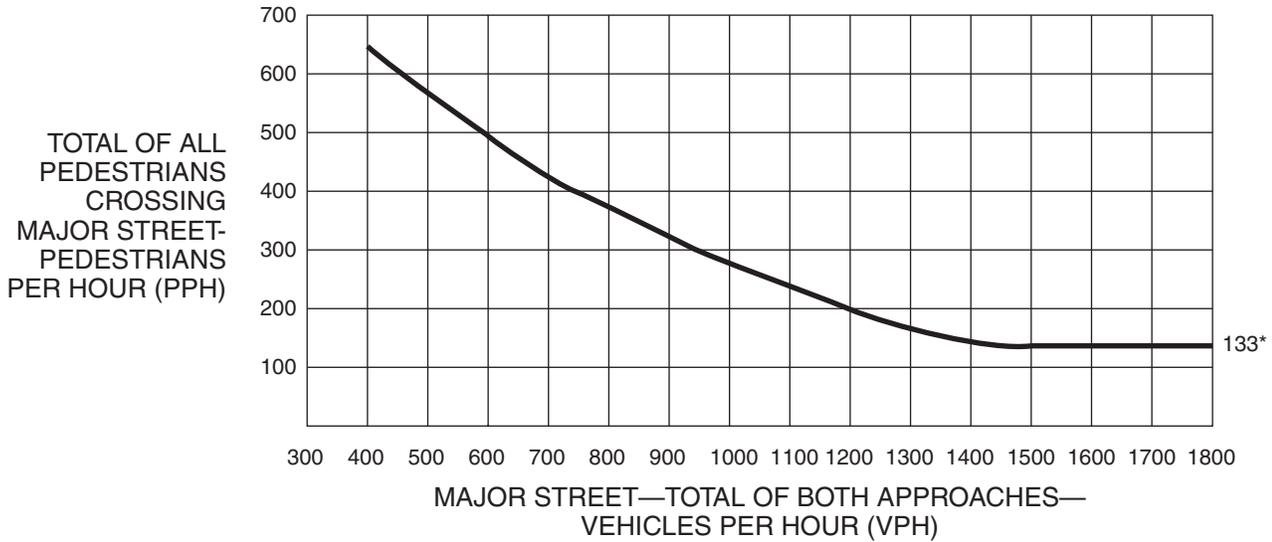
*Note: 107 pph applies as the lower threshold volume.

Figure 4C-6. Warrant 4, Pedestrian Four-Hour Volume (70% Factor)



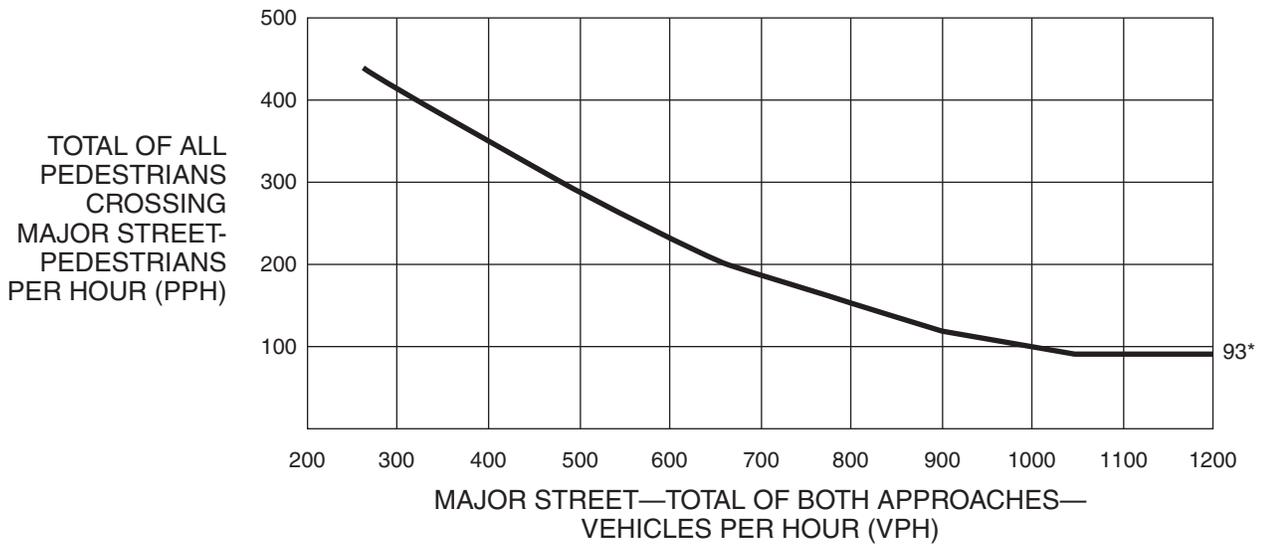
*Note: 75 pph applies as the lower threshold volume.

Figure 4C-7. Warrant 4, Pedestrian Peak Hour



*Note: 133 pph applies as the lower threshold volume.

Figure 4C-8. Warrant 4, Pedestrian Peak Hour (70% Factor)



*Note: 93 pph applies as the lower threshold volume.

- 03 **Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.**
- 04 **The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.**

Guidance:

- 05 *If this warrant is met and a traffic control signal is justified by an engineering study, then:*
- A. *If it is installed at an intersection or major driveway location, the traffic control signal should also control the minor-street or driveway traffic, should be traffic-actuated, and should include pedestrian detection.*
 - B. *If it is installed at a non-intersection crossing, the traffic control signal should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs, and should be pedestrian-actuated. If the traffic control signal is installed at a non-intersection crossing, at least one of the signal faces should be over the traveled way for each approach, parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the crosswalk or site accommodations should be made through curb extensions or other techniques to provide adequate sight distance, and the installation should include suitable standard signs and pavement markings.*
 - C. *Furthermore, if it is installed within a signal system, the traffic control signal should be coordinated.*

Section 4C.07 Warrant 6, Coordinated Signal System

Support:

- 01 Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles.

Standard:

- 02 **The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:**
- A. **On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.**
 - B. **On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.**

Guidance:

- 03 *The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1,000 feet.*

Section 4C.08 Warrant 7, Crash Experience

Support:

- 01 The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.

Standard:

- 02 **The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:**
- A. **Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and**
 - B. **Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and**
 - C. **For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.**

Option:

- 03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 56 percent columns in Table 4C-1 may be used in place of the 80 percent columns.

Section 4C.09 Warrant 8, Roadway Network

Support:

- 01 Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network.

Standard:

- 02 **The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:**

- A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or**
- B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).**

- 03 **A major route as used in this signal warrant shall have at least one of the following characteristics:**

- A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow.**
- B. It includes rural or suburban highways outside, entering, or traversing a city.**
- C. It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

Section 4C.10 Warrant 9, Intersection Near a Grade Crossing

Support:

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

Guidance:

- 02 *This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing. Among the alternatives that should be considered or tried are:*
- A. Providing additional pavement that would enable vehicles to clear the track or that would provide space for an evasive maneuver, or*
 - B. Reassigning the stop controls at the intersection to make the approach across the track a non-stopping approach.*

Standard:

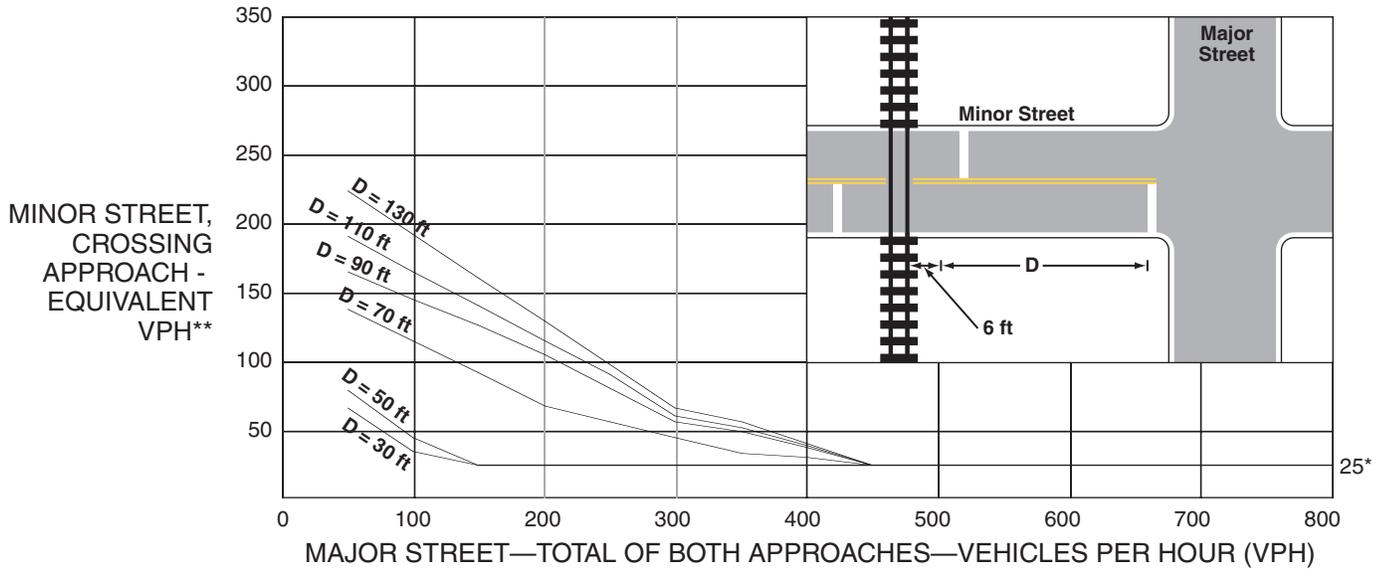
- 03 **The need for a traffic control signal shall be considered if an engineering study finds that both of the following criteria are met:**

- A. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and**
- B. During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13.**

Guidance:

- 04 *The following considerations apply when plotting the traffic volume data on Figure 4C-9 or 4C-10:*
- A. Figure 4C-9 should be used if there is only one lane approaching the intersection at the track crossing location and Figure 4C-10 should be used if there are two or more lanes approaching the intersection at the track crossing location.*

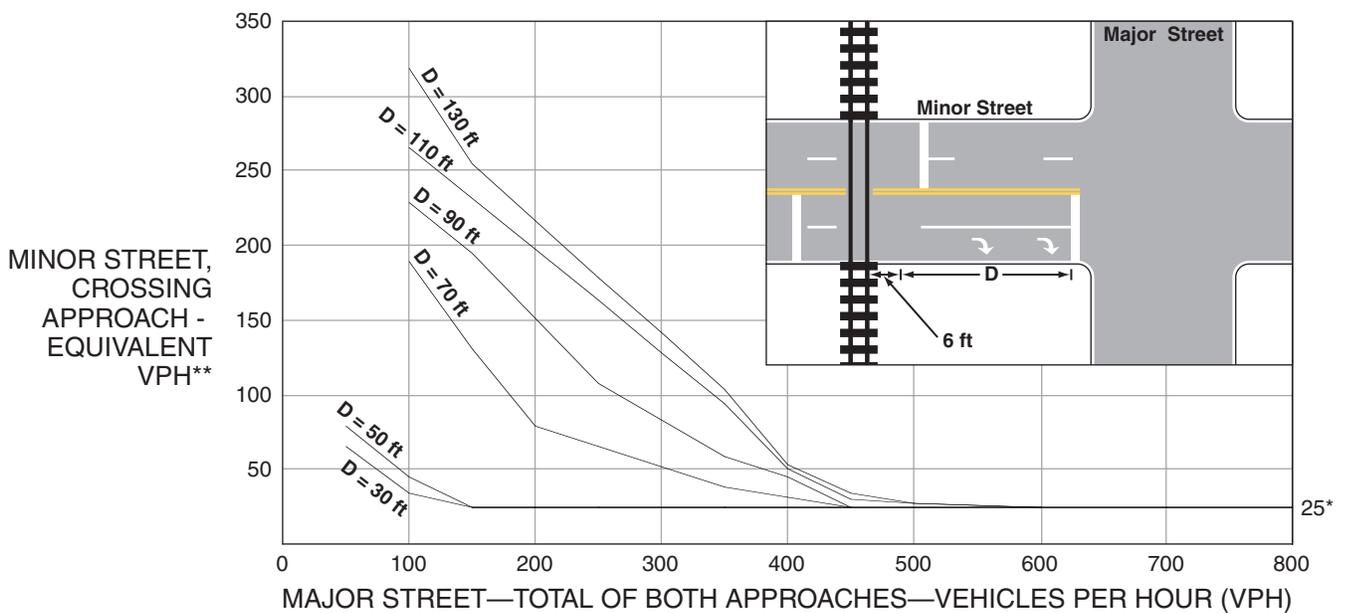
Figure 4C-9. Warrant 9, Intersection Near a Grade Crossing (One Approach Lane at the Track Crossing)



* 25 vph applies as the lower threshold volume

** VPH after applying the adjustment factors in Tables 4C-2, 4C-3, and/or 4C-4, if appropriate

Figure 4C-10. Warrant 9, Intersection Near a Grade Crossing (Two or More Approach Lanes at the Track Crossing)



* 25 vph applies as the lower threshold volume

** VPH after applying the adjustment factors in Tables 4C-2, 4C-3, and/or 4C-4, if appropriate

- B. After determining the actual distance D , the curve for the distance D that is nearest to the actual distance D should be used. For example, if the actual distance D is 95 feet, the plotted point should be compared to the curve for $D = 90$ feet.
- C. If the rail traffic arrival times are unknown, the highest traffic volume hour of the day should be used.

Option:

- 05 The minor-street approach volume may be multiplied by up to three adjustment factors as provided in Paragraphs 6 through 8.
- 06 Because the curves are based on an average of four occurrences of rail traffic per day, the vehicles per hour on the minor-street approach may be multiplied by the adjustment factor shown in Table 4C-2 for the appropriate number of occurrences of rail traffic per day.
- 07 Because the curves are based on typical vehicle occupancy, if at least 2% of the vehicles crossing the track are buses carrying at least 20 people, the vehicles per hour on the minor-street approach may be multiplied by the adjustment factor shown in Table 4C-3 for the appropriate percentage of high-occupancy buses.
- 08 Because the curves are based on tractor-trailer trucks comprising 10% of the vehicles crossing the track, the vehicles per hour on the minor-street approach may be multiplied by the adjustment factor shown in Table 4C-4 for the appropriate distance and percentage of tractor-trailer trucks.

Standard:

- 09 **If this warrant is met and a traffic control signal at the intersection is justified by an engineering study, then:**
 - A. The traffic control signal shall have actuation on the minor street;
 - B. Preemption control shall be provided in accordance with Sections 4D.27, 8C.09, and 8C.10; and
 - C. The grade crossing shall have flashing-light signals (see Chapter 8C).

Guidance:

- 10 *If this warrant is met and a traffic control signal at the intersection is justified by an engineering study, the grade crossing should have automatic gates (see Chapter 8C).*

Table 4C-2. Warrant 9, Adjustment Factor for Daily Frequency of Rail Traffic

Rail Traffic per Day	Adjustment Factor
1	0.67
2	0.91
3 to 5	1.00
6 to 8	1.18
9 to 11	1.25
12 or more	1.33

Table 4C-3. Warrant 9, Adjustment Factor for Percentage of High-Occupancy Buses

% of High-Occupancy Buses* on Minor-Street Approach	Adjustment Factor
0%	1.00
2%	1.09
4%	1.19
6% or more	1.32

* A high-occupancy bus is defined as a bus occupied by at least 20 people.

Table 4C-4. Warrant 9, Adjustment Factor for Percentage of Tractor-Trailer Trucks

% of Tractor-Trailer Trucks on Minor-Street Approach	Adjustment Factor	
	D less than 70 feet	D of 70 feet or more
0% to 2.5%	0.50	0.50
2.6% to 7.5%	0.75	0.75
7.6% to 12.5%	1.00	1.00
12.6% to 17.5%	2.30	1.15
17.6% to 22.5%	2.70	1.35
22.6% to 27.5%	3.28	1.64
More than 27.5%	4.18	2.09

Appendix D

**Traffic Signal Warrant Analysis &
Left Turn Lane Warrant Analysis –**

**Conestoga Road (SR 0401)
& Byers Road (SR 1022)**

STUDY AND ANALYSIS INFORMATION

Municipality: W. Vincent / W. Pikeland Twp
 County: Chester County
 PennDOT Engineering District: 6

Analysis Date: 11/22/2016
 Conducted By: WCK
 Agency/Company Name: Pennoni Assoc.

Analysis Information

Data Collection Date: 2016 Existing
 Day of the Week: Tuesday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Major Street Information

Major Street Name and Route Number: Conestoga Rd. (Rt. 401)
 Major Street Approach #1 Direction: E-Bound
 Major Street Approach #2 Direction: W-Bound

Number of Lanes for Moving Traffic on Each Major Street Approach: 1 LANE(S)
 Speed Limit or 85th Percentile Speed on the Major Street: 49 MPH

Minor Street Information

Minor Street Name and Route Number: Byers Rd. (SR 1022)
 Minor Street Approach #1 Direction: N-Bound
 Minor Street Approach #2 Direction: N/A

Number of Lanes for Moving Traffic on Each Minor Street Approach: 1 LANE(S)

TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	No	N/A
Warrant 2, Four-Hour Vehicular Volume	Yes	Yes
Warrant 3, Peak Hour	Yes	Yes
Warrant 4, Pedestrian Volume	No	N/A
Warrant 5, School Crossing	No	N/A
Warrant 6, Coordinated Signal System	No	N/A
Warrant 7, Crash Experience	Yes	No
Warrant 8, Roadway Network	No	N/A
Warrant 9, Intersection Near a Grade Crossing	No	N/A
Warrant PA-1, ADT Volume Warrant	No	N/A
Warrant PA-2, Midblock and Trail Crossings	No	N/A

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH						
Time Interval		Major Street Approach #1 (E-Bound)	Major Street Approach #2 (W-Bound)	Major Street Combined	Minor Street Approach #1 (N-Bound)	Minor Street Approach #2 (N/A)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 AM	12:14 AM			0		
12:15 AM	12:29 AM			0		
12:30 AM	12:44 AM			0		
12:45 AM	12:59 AM			0		
1:00 AM	1:14 AM			0		
1:15 AM	1:29 AM			0		
1:30 AM	1:44 AM			0		
1:45 AM	1:59 AM			0		
2:00 AM	2:14 AM			0		
2:15 AM	2:29 AM			0		
2:30 AM	2:44 AM			0		
2:45 AM	2:59 AM			0		
3:00 AM	3:14 AM			0		
3:15 AM	3:29 AM			0		
3:30 AM	3:44 AM			0		
3:45 AM	3:59 AM			0		
4:00 AM	4:14 AM			0		
4:15 AM	4:29 AM			0		
4:30 AM	4:44 AM			0		
4:45 AM	4:59 AM			0		
5:00 AM	5:14 AM			0		
5:15 AM	5:29 AM			0		
5:30 AM	5:44 AM			0		
5:45 AM	5:59 AM			0		
6:00 AM	6:14 AM			0		
6:15 AM	6:29 AM			0		
6:30 AM	6:44 AM			0		
6:45 AM	6:59 AM			0		
7:00 AM	7:14 AM	211	37	248	39	
7:15 AM	7:29 AM	206	41	247	33	
7:30 AM	7:44 AM	181	60	241	24	
7:45 AM	7:59 AM	194	57	251	43	
8:00 AM	8:14 AM	179	53	232	38	
8:15 AM	8:29 AM	166	60	226	42	
8:30 AM	8:44 AM	181	58	239	47	
8:45 AM	8:59 AM	137	73	210	42	
9:00 AM	9:14 AM			0		
9:15 AM	9:29 AM			0		
9:30 AM	9:44 AM			0		
9:45 AM	9:59 AM			0		
10:00 AM	10:14 AM			0		
10:15 AM	10:29 AM			0		
10:30 AM	10:44 AM			0		
10:45 AM	10:59 AM			0		
11:00 AM	11:14 AM			0		
11:15 AM	11:29 AM			0		
11:30 AM	11:44 AM			0		
11:45 AM	11:59 AM			0		

Traffic Signal Warrant Analysis Workbook

2/16/2017

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH						
Time Interval		Major Street Approach #1 (E-Bound)	Major Street Approach #2 (W-Bound)	Major Street Combined	Minor Street Approach #1 (N-Bound)	Minor Street Approach #2 (N/A)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 PM	12:14 PM			0		
12:15 PM	12:29 PM			0		
12:30 PM	12:44 PM			0		
12:45 PM	12:59 PM			0		
1:00 PM	1:14 PM			0		
1:15 PM	1:29 PM			0		
1:30 PM	1:44 PM			0		
1:45 PM	1:59 PM			0		
2:00 PM	2:14 PM			0		
2:15 PM	2:29 PM			0		
2:30 PM	2:44 PM			0		
2:45 PM	2:59 PM			0		
3:00 PM	3:14 PM			0		
3:15 PM	3:29 PM			0		
3:30 PM	3:44 PM			0		
3:45 PM	3:59 PM			0		
4:00 PM	4:14 PM	71	162	233	40	
4:15 PM	4:29 PM	57	187	244	32	
4:30 PM	4:44 PM	53	178	231	37	
4:45 PM	4:59 PM	48	188	236	41	
5:00 PM	5:14 PM	58	186	244	68	
5:15 PM	5:29 PM	80	172	252	83	
5:30 PM	5:44 PM	66	180	246	57	
5:45 PM	5:59 PM	56	206	262	45	
6:00 PM	6:14 PM			0		
6:15 PM	6:29 PM			0		
6:30 PM	6:44 PM			0		
6:45 PM	6:59 PM			0		
7:00 PM	7:14 PM			0		
7:15 PM	7:29 PM			0		
7:30 PM	7:44 PM			0		
7:45 PM	7:59 PM			0		
8:00 PM	8:14 PM			0		
8:15 PM	8:29 PM			0		
8:30 PM	8:44 PM			0		
8:45 PM	8:59 PM			0		
9:00 PM	9:14 PM			0		
9:15 PM	9:29 PM			0		
9:30 PM	9:44 PM			0		
9:45 PM	9:59 PM			0		
10:00 PM	10:14 PM			0		
10:15 PM	10:29 PM			0		
10:30 PM	10:44 PM			0		
10:45 PM	10:59 PM			0		
11:00 PM	11:14 PM			0		
11:15 PM	11:29 PM			0		
11:30 PM	11:44 PM			0		
11:45 PM	11:59 PM			0		
Approach Totals:		1944	1898	3842	711	0

MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

Total Number of Unique Hours Met On Figure 4C-2
4

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?
Yes

Hourly Vehicular Volume			
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Met?
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	
12:00 AM	0	0	
12:15 AM	0	0	
12:30 AM	0	0	
12:45 AM	0	0	
1:00 AM	0	0	
1:15 AM	0	0	
1:30 AM	0	0	
1:45 AM	0	0	
2:00 AM	0	0	
2:15 AM	0	0	
2:30 AM	0	0	
2:45 AM	0	0	
3:00 AM	0	0	
3:15 AM	0	0	
3:30 AM	0	0	
3:45 AM	0	0	
4:00 AM	0	0	
4:15 AM	0	0	
4:30 AM	0	0	
4:45 AM	0	0	
5:00 AM	0	0	
5:15 AM	0	0	
5:30 AM	0	0	
5:45 AM	0	0	
6:00 AM	0	0	
6:15 AM	248	39	
6:30 AM	495	72	
6:45 AM	736	96	Met
7:00 AM	987	139	Met
7:15 AM	971	138	Met
7:30 AM	950	147	Met
7:45 AM	948	170	Met
8:00 AM	907	169	Met
8:15 AM	675	131	Met
8:30 AM	449	89	
8:45 AM	210	42	
9:00 AM	0	0	
9:15 AM	0	0	
9:30 AM	0	0	
9:45 AM	0	0	
10:00 AM	0	0	
10:15 AM	0	0	
10:30 AM	0	0	
10:45 AM	0	0	
11:00 AM	0	0	
11:15 AM	0	0	
11:30 AM	0	0	
11:45 AM	0	0	

Hourly Vehicular Volume			
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Met?
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	
12:00 PM	0	0	
12:15 PM	0	0	
12:30 PM	0	0	
12:45 PM	0	0	
1:00 PM	0	0	
1:15 PM	0	0	
1:30 PM	0	0	
1:45 PM	0	0	
2:00 PM	0	0	
2:15 PM	0	0	
2:30 PM	0	0	
2:45 PM	0	0	
3:00 PM	0	0	
3:15 PM	233	40	
3:30 PM	477	72	
3:45 PM	708	109	Met
4:00 PM	944	150	Met
4:15 PM	955	178	Met
4:30 PM	963	229	Met
4:45 PM	978	249	Met
5:00 PM	1004	253	Met
5:15 PM	760	185	Met
5:30 PM	508	102	
5:45 PM	262	45	
6:00 PM	0	0	
6:15 PM	0	0	
6:30 PM	0	0	
6:45 PM	0	0	
7:00 PM	0	0	
7:15 PM	0	0	
7:30 PM	0	0	
7:45 PM	0	0	
8:00 PM	0	0	
8:15 PM	0	0	
8:30 PM	0	0	
8:45 PM	0	0	
9:00 PM	0	0	
9:15 PM	0	0	
9:30 PM	0	0	
9:45 PM	0	0	
10:00 PM	0	0	
10:15 PM	0	0	
10:30 PM	0	0	
10:45 PM	0	0	
11:00 PM	0	0	

MUTCD WARRANT 3, PEAK HOUR

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
---	-----

Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?	Yes
---	-----

Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*	
Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?	Yes
Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?	Yes
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?	No

**If applicable, attach all supporting calculations and documentation.*

Total Number of Unique Hours Met On Figure 4C-4
4

Hourly Vehicular Volume			
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Met?
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	
12:00 AM	0	0	
12:15 AM	0	0	
12:30 AM	0	0	
12:45 AM	0	0	
1:00 AM	0	0	
1:15 AM	0	0	
1:30 AM	0	0	
1:45 AM	0	0	
2:00 AM	0	0	
2:15 AM	0	0	
2:30 AM	0	0	
2:45 AM	0	0	
3:00 AM	0	0	
3:15 AM	0	0	
3:30 AM	0	0	
3:45 AM	0	0	
4:00 AM	0	0	
4:15 AM	0	0	
4:30 AM	0	0	
4:45 AM	0	0	
5:00 AM	0	0	
5:15 AM	0	0	
5:30 AM	0	0	
5:45 AM	0	0	
6:00 AM	0	0	
6:15 AM	248	39	
6:30 AM	495	72	
6:45 AM	736	96	
7:00 AM	987	139	Met
7:15 AM	971	138	Met
7:30 AM	950	147	Met
7:45 AM	948	170	Met
8:00 AM	907	169	Met
8:15 AM	675	131	

Hourly Vehicular Volume			
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Met?
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	
8:30 AM	449	89	
8:45 AM	210	42	
9:00 AM	0	0	
9:15 AM	0	0	
9:30 AM	0	0	
9:45 AM	0	0	
10:00 AM	0	0	
10:15 AM	0	0	
10:30 AM	0	0	
10:45 AM	0	0	
11:00 AM	0	0	
11:15 AM	0	0	
11:30 AM	0	0	
11:45 AM	0	0	
12:00 PM	0	0	
12:15 PM	0	0	
12:30 PM	0	0	
12:45 PM	0	0	
1:00 PM	0	0	
1:15 PM	0	0	
1:30 PM	0	0	
1:45 PM	0	0	
2:00 PM	0	0	
2:15 PM	0	0	
2:30 PM	0	0	
2:45 PM	0	0	
3:00 PM	0	0	
3:15 PM	233	40	
3:30 PM	477	72	
3:45 PM	708	109	
4:00 PM	944	150	Met
4:15 PM	955	178	Met
4:30 PM	963	229	Met
4:45 PM	978	249	Met
5:00 PM	1004	253	Met
5:15 PM	760	185	Met
5:30 PM	508	102	
5:45 PM	262	45	
6:00 PM	0	0	
6:15 PM	0	0	
6:30 PM	0	0	
6:45 PM	0	0	
7:00 PM	0	0	
7:15 PM	0	0	
7:30 PM	0	0	
7:45 PM	0	0	
8:00 PM	0	0	
8:15 PM	0	0	
8:30 PM	0	0	
8:45 PM	0	0	
9:00 PM	0	0	
9:15 PM	0	0	
9:30 PM	0	0	
9:45 PM	0	0	
10:00 PM	0	0	
10:15 PM	0	0	
10:30 PM	0	0	
10:45 PM	0	0	
11:00 PM	0	0	

Intersection of Conestoga Road (SR 0401) & Byers Road (SR 1022)
West Pikeland Township, Chester County, PA

Figure 3. Warrant for left turn lanes on two-lane highways (45 mph speed, unsignalized and
signalized intersections)
(L = % Left Turns in Advancing Volume)

