



**Traffic Impact Study Related to the Proposed
Construction and Operation of the Bell Bend Nuclear Power Plant
Preliminary Findings Report**



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September 24, 2008

TR-439
Rev. 2

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Executive Summary

UNISTAR and PPL plan to expand the existing power generation site in Berwick which is located in Luzerne County, Pennsylvania. Susquehanna Steam Electric Station (SSES) has 2 units currently operational. The plan is to construct one more unit (denoted “Bell Bend”) west of the existing site. The proposed expansion is planned over a 68 month period from May 2011 through December 2016. The new unit is expected to be operational by June 2017.

This report addresses the traffic impacts and mitigation alternatives for the “Future Build” and for the “Construction Phase Peak”, the latter with and without concurrent “outages” (the period during which one of the existing units is refueled and maintained, generally occurring once every two years and lasting approximately one month for each event).

In accord with PennDOT procedures, the “Future No Build” (with signals optimized for that traffic) was used as the baseline for the mitigation. That is, the target that should be achieved in the “Future Build” and the “Construction Phase Peak” is a level of service (LOS) that is the same as the “Future No Build”. Growth factors were based upon PennDOT tables, and data collection was done in accord with PennDOT requirements. Meetings were held with PennDOT District 4-0, Luzerne County, and Salem township and then with PennDOT District 3-0, Columbia County, and Berwick borough, given the area of probable impact.

The trip distribution for the future operational staff for the new Bell Bend unit was based upon the profile of the origins (by zip code) of workers at the existing SSES units. The trip distribution of the construction workers was based upon the regional concentration of jobs, using U.S. Census data.

The project area was identified based upon the dispersal of trips during the major event, namely the construction phase peak. The geography and road network dictated that the affected intersections were generally along Route 11, with many of the trips travelling to or from I-80 and I-81.

For the “Future Build” alternative, it was possible to retain the intersection levels of all affected signalized intersections, simply by optimizing the signals for the additional traffic. This was feasible because the total number of workers at the new unit is estimated to be 363.

For the “Construction Phase Peak”, both the impact of truck movements and of the workers was considered.

Although there are a very significant number of truck movements over the construction period, the impact on hourly flow is relatively low (typically 1-2 trucks per hour) due to the duration of the construction period. Wide loads are avoided, due to planned movements of larger elements by rail. Concrete is made on-site, using materials from a local quarry along Route 11, east of the site. Local requests to minimize truck trips during school start/end hours are planned to be taken into account in scheduling, to the maximum extent possible.

The number and concentration of construction worker trips to and from the site does however cause significant additions to the future no-build traffic loads, and poses substantial challenges for mitigation. The peak period of construction is estimated to generate 3039 trips per day by auto, split over three weekday shifts in a 60-35-5 proportion. These construction staff trips are estimated to come from the northeast of the site and from west of site in a 48/52 ratio, based upon census data on employment concentrations. The arrival/departure times at the busiest times actually shift the peak hour to the construction schedule.

The duration of the major impact period, when one considers the construction activity profile and the months on either side of it, is estimated to be 18-24 months long.

The primary measures considered and recommended for the “construction phase peak” are:

- Signal retiming at the intersections of RT 11 (2nd Street) & RT 93 (Market Street) will retain the “future no build” level of service;
- Signal retiming combined with removing of parking and/or re-designation of movements by lane will enable the “future no build” level of service to be attained at other intersections (RT 11 & Main Street, RT 11 & Union Street);
- At some intersections (RT 11 (Front Street) & RT 93 (Market Street), RT 11 and Polar Street, and RT 11 & RT 93 (Orange Street)), the traffic volumes combined with the restrictions on the geometry make it impossible to mitigate enough to attain the “future no build” levels but do allow intersection operation at LOS E or better during the both peaks;
- In one case (RT 11 & Poplar Street), it is assumed that some traffic from the side street will find alternate paths (readily available) because of the delays otherwise encountered. This will load traffic onto Route 11 from Mercer Street, leading to signalization there for system considerations (including the need to serve the minor street, and potential for blockages);
- The Bell Bend entrance along Route 11 carries very significant flows arriving from both directions in the AM (and departing in the PM), leading to a treatment that will require (a) signalization during the construction phase, (b) redesignation or realignment of through lanes on Route 11 during this same period to allow right turn lanes from WB Route 11 into the site & right turn lane onto SB Route 11 from the site, and (c) internal to

the site, a three-lane road with one reversible lane (by time of day) for the construction worker traffic.

These findings now have to be discussed with the local and state agencies, and then presented.

As part of that dialog, the following information has to be emphasized:

1. The construction phase peak, particularly combined with an outage, will lead to traffic impacts that cannot be fully mitigated, in the sense of always attaining the “future no build” levels of service;
2. Reduction of parking – even only for peak hours – is logically a concern. Likewise, channeling two lanes of traffic into one heavily loaded lane is a concern, even if this is done away from the intersections.
3. Further, the addition of at least one signal (Route 11 & Mercer) to avoid blockages and allow side street access (e.g. for system considerations) will need discussion;
4. The temporary treatments at the Bell Bend entrance on Route 11, including signalization, will need to be reversed after the peak of construction;
5. There are nominally other solutions, such as routing westbound traffic along Route 93 to Route 487 and then southbound towards I-80, but this is unattractive because of (a) the extra trip lengths incurred, and (b) the existence of a T-intersection at the intersection of Routes 93 and 487, so that the impact area is at best transferred;
6. Some alternatives including busing from remote parking fields were considered, but the operational issues involved with these lead to the conclusion that at this point, the most practical and effective mitigation approach is as described above.

With regard to the overall traffic plan, the proposed site includes a parking lot to handle all the expected construction traffic demand. The security checkpoints onsite are not expected to result in any spillback onto Route 11.

In short, there are traffic impacts during the construction phase that cannot be fully mitigated, although operational levels of service can generally be attained. In the “Future Build” condition, with the new Bell Bend unit operational, all traffic impacts can be mitigated simply by signal optimization.

1. Introduction

1.1. Project Objective

UNISTAR and PPL plan to expand the existing power generation site in Berwick which is located in Luzerne County, Pennsylvania. Susquehanna Steam Electric Station (SSES) has 2 units currently operational and there is a plan to construct one more unit (Bell Bend) west of the existing site. Figure 1, shows the location of the SSES and Bell Bend.

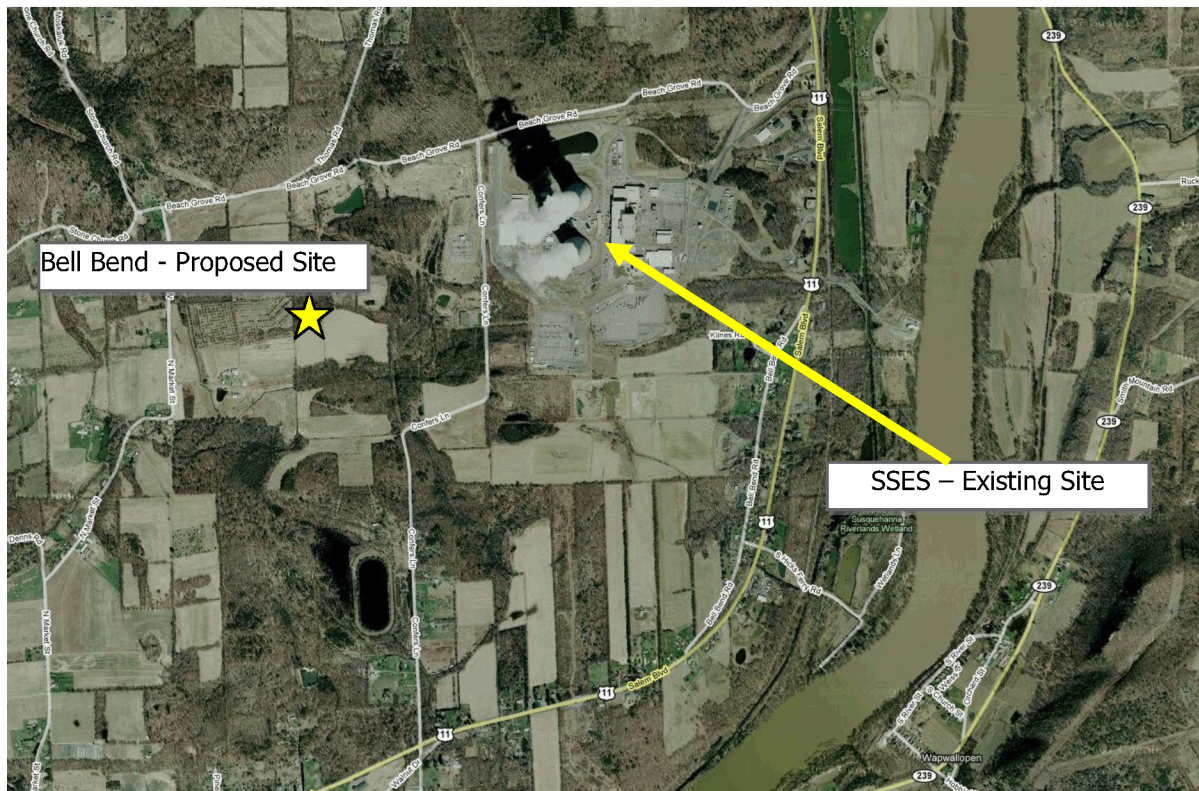


Figure 1 SSES/Bell Bend Site

This report describes the efforts of the Traffic Impact Analysis (TIA) of the additional unit. The following traffic conditions are analyzed: existing, future no-build (background), and future build (build-out) as shown in Figure 2. In addition, given the size and duration of the construction effort related to a nuclear reactor, the TIA will include analysis of the traffic during construction. This is also shown in Figure 2.

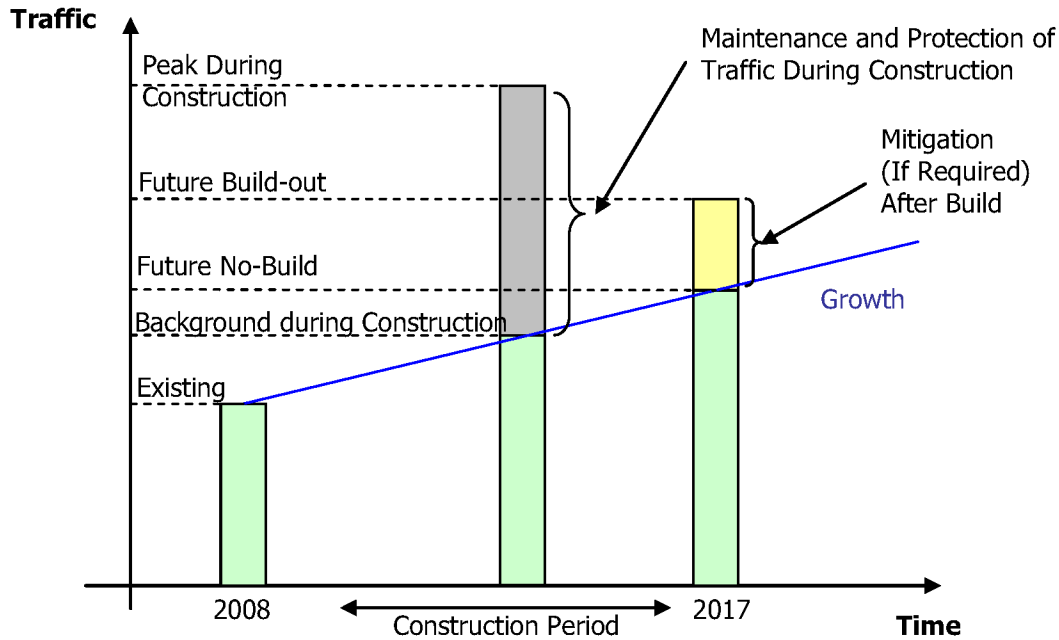


Figure 2 – Traffic Impact Analysis: Approach

This work effort analyzed the effects of the additional traffic that is expected at this site related to the construction and operation of the new unit and identified related mitigation measures.

1.2. Study Area Definition

SSSES is located along the PA Route 11, which is the major thoroughfare through this area. The scope of the study area as part of this TIA is presented in Figure 3. It includes the following intersections along RT 11:

Table 1 – Study Area Intersections

No.	Name	Type	PennDOT, District
A	RT 11 (Second Street) and RT 93 (Market Street)	Signal	3-0
B	RT 11 and Poplar Avenue	Signal	3-0
C	RT 11 (Front Street), RT 93 (Orange Street), LaSalle Street	Signal	3-0
D	RT 11 (Front Street) and RT 93 (Market Street)	Signal	3-0
E	RT 11 and Proposed Site Access for Bell Bend	New	4-0
F	RT 11 and PPL Site Entrance	Stop	4-0
G	RT 11 and Main Street	Signal	4-0
H	RT 11 and RT 239 (Union Street)	Signal	4-0

These are approximately within 4 miles from the site in the north and south direction. These intersections are identified as described in the following section.

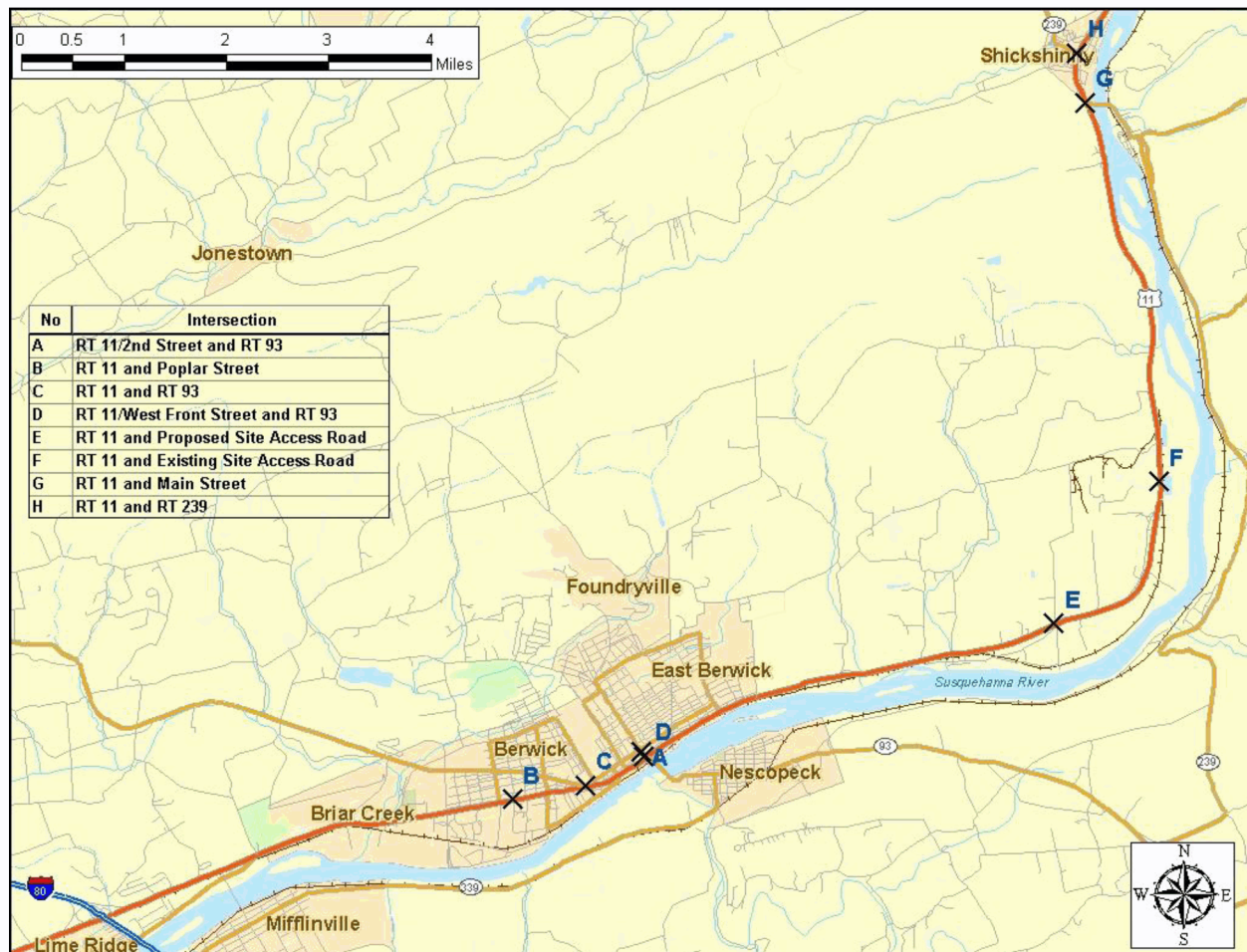


Figure 3 – Study Area

Identification of Study Intersections

Based on the location of the site, the major travel routes to/from the site would be the following:

From the North West and North – Route 239 and Route 11

From the North East and East – I-81, Route 29, and Route 11

From the South East, South and South West – I-80, Route 93 and Route 11

From the West – Route 93 and Route 11

The study area intersections were identified as the major intersections that were on route for the operations and construction workforce at the Bell Bend site. The operations workforce for the Bell Bend site is expected to have a spatial distribution similar to the current workforce at SSSES.

However, the construction workforce for the Bell Bend site is expected to be derived from all areas surrounding the site based on the census block population. That is, the more populated areas such as Wilkes-Barre and Hazelton would have higher contributions to the construction workforce.

2. Existing Conditions

2.1. Existing Lane Configuration

The roadway condition diagrams are included in Appendix A of this report. These condition diagrams define the posted speed limit, lane assignments and intersection traffic control. The existing traffic control permits for the study area were provided by PennDOT Districts 3-0 and 4-0 for the study area intersections. These plans are also included in Appendix A.

2.2. Existing Traffic Counts

The following traffic data was collected within the study area:

Table 2 – Field Data Collected

Location	Type Of Information	Date	Time
RT 11/East 2nd Street and RT 93/Market Street	Turning Movement	6/12/2008	6AM-9AM and 2:30PM-5:30PM
RT 11/W Front Street and RT 93/Market Street	Turning Movement	6/12/2008	6AM-9AM and 2:30PM-5:30PM
RT11 and Poplar Street	Turning Movement	6/11/2008	6AM-9AM and 2:30PM-5:30PM
RT11 and RT 93	Turning Movement	6/12/2008	6AM-9AM and 2:30PM-5:30PM
RT 11 and PPL Entrance	ATR	6/12/2008	1-week, 24 Hour
RT11 and Main Street	Turning Movement	6/11/2008	6AM-9AM and 2:30PM-5:30PM
RT 11 and RT 239	Turning Movement	6/12/2008	6AM-9AM and 2:30PM-5:30PM
RT 11 and Confers Lane	ATR	6/11/2008	1-week, 24 Hour
RT 11/Orange St/LaSalle St.	Turning Movement	6/12/2008	6AM-9AM and 2:30PM-5:30PM
US 11/Union St.	Turning Movement	6/12/2008	6AM-9AM and 2:30PM-5:30PM

The field data collected is presented in Appendix A.

2.3. Existing Level of Service (LOS) and Capacity Analysis

The ability of a roadway network to accommodate projected traffic volumes generated by the proposed development during its construction and operation is assessed utilizing the techniques to measure capacity and LOS. LOS is an ordinal scale that is defined from A to F with “A” being the best level of service. The different levels are defined in the latest edition of the Highway Capacity Manual (HCM 2000¹), in terms of average delay for intersections and average travel speed for arterials. Typically, the LOS is determined for the Peak 1-hour during the identified periods as it represents “worst case” conditions.

Based on the state guidelines signalized intersections were analyzed using HCM methodology as implemented in SYNCHRO² software. Unsignalized intersections (stop controlled) were analyzed using the HCM Methodology as implemented in the HCS+ software³.

Figures 4 and 5 present the peak hour volumes and turning movements at the study intersections for the weekday AM and PM peak conditions. Using these peak period values, capacity analyses were performed and the calculations are presented in Appendix B and the summary results are presented in Table 3.

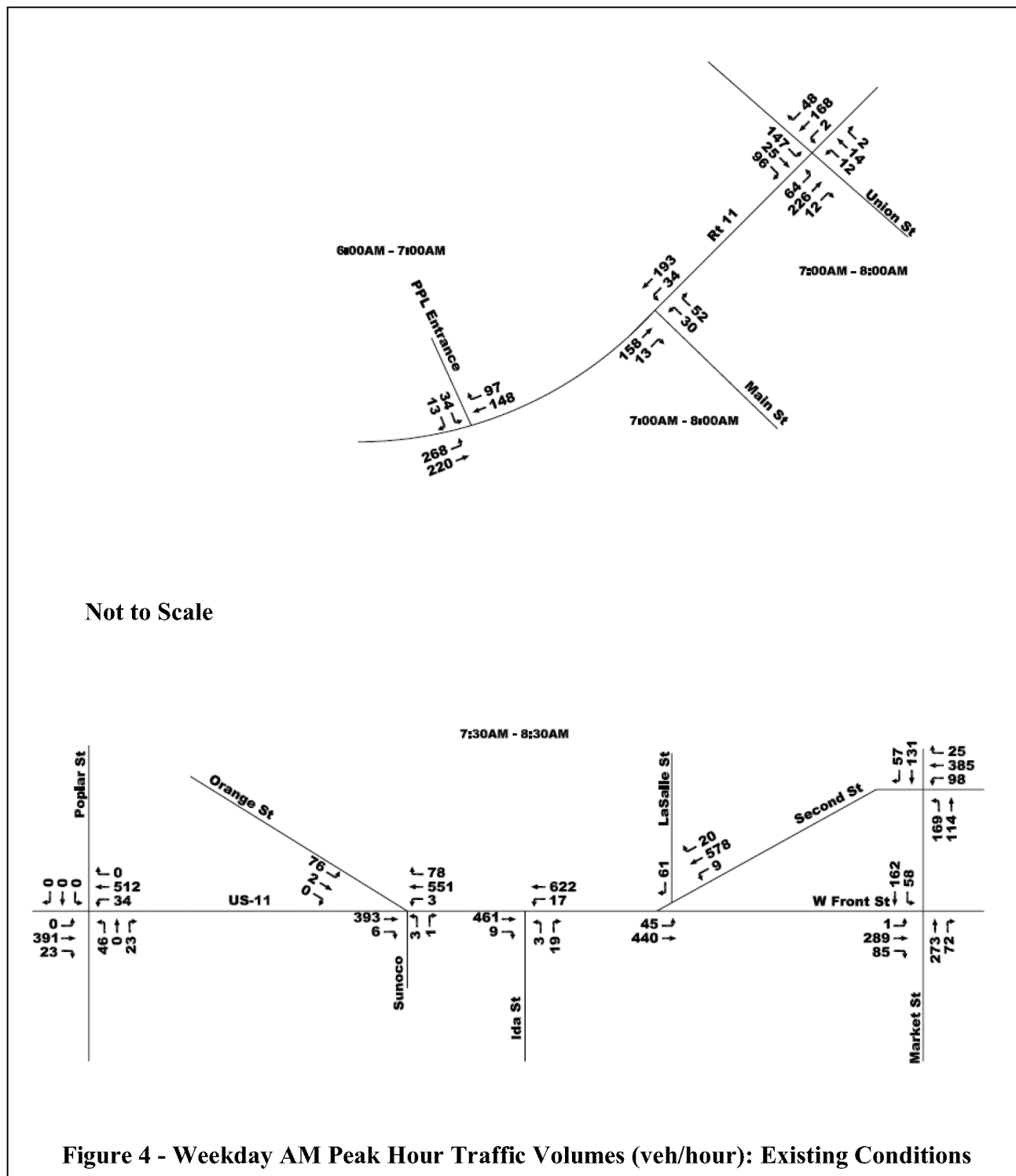
Table 3 – Intersection LOS: Existing Conditions

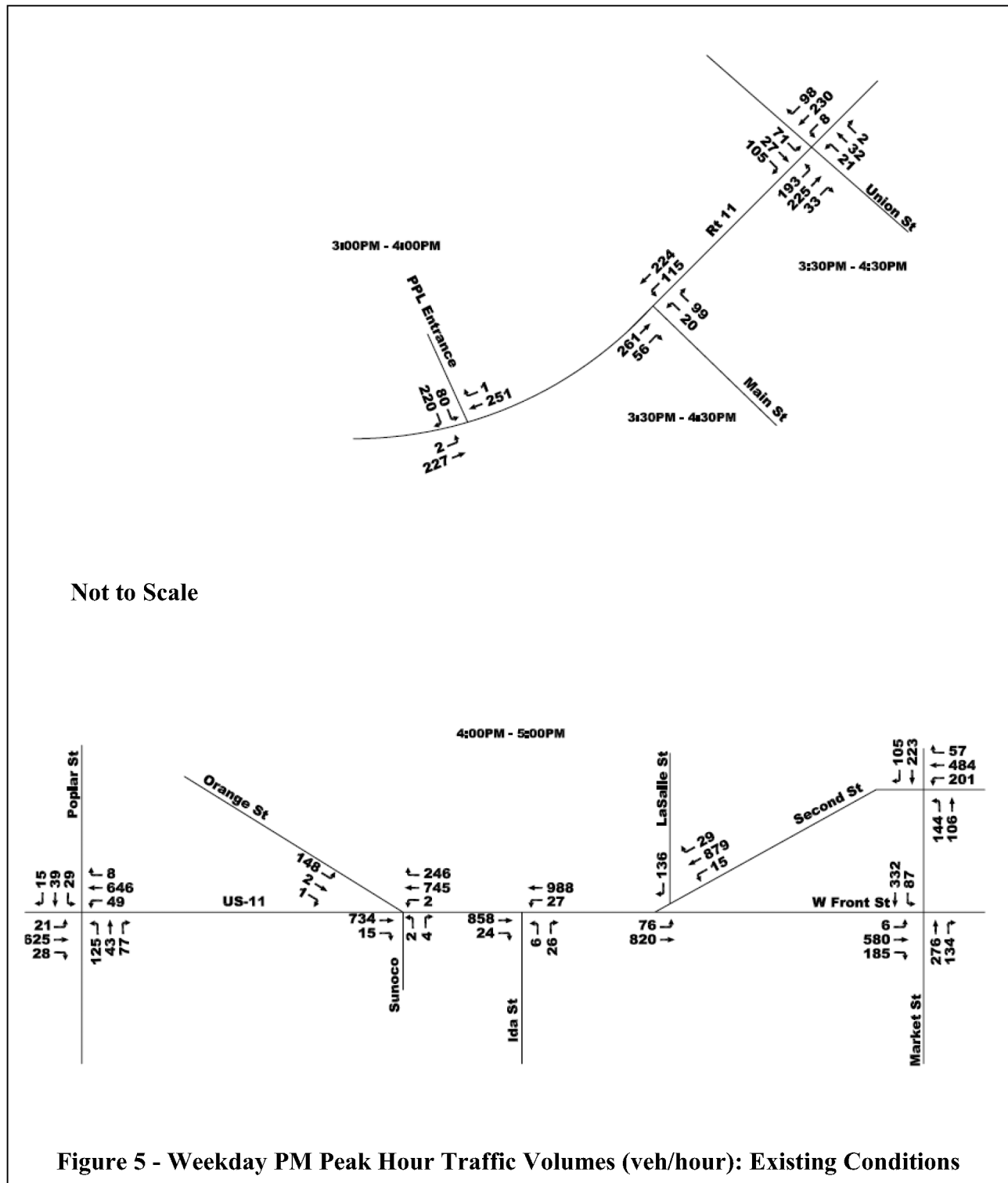
<i>Intersection</i>	<i>Type</i>	<i>Existing</i>	
		<i>AM</i>	<i>PM</i>
RT11 & Union Street	Signalized	B	B
RT11 & Main Street	Signalized	A	A
RT11 & PPL Entrance	Unsignalized	B	B
2 nd Street & Market Street	Signalized	B	B
Front Street & Market Street	Signalized	B	B
RT11 & LaSalle Street	Signalized	A	A
RT11 & Orange Street	Signalized	A	B
RT11 & Poplar Avenue	Signalized	B	E

¹ HCM 2000, Transportation Research Board, Washington DC, http://www.trb.org/news/blurb_detail.asp?id=1166

² SYNCHRO – This is a software package designed for analysis of signalized intersections that is recommended or required by most DOTs, (required by PennDOT Dist 3-0 and 4-0). It is developed by Traffic Ware. (<http://www.trafficware.com>). The LOS and delay calculations are performed using the LOS definitions outlined in the HCM.

³ HCS+ - This software package is the implementation of the methods and procedures outlined in the HCM. It was originally developed for the Federal Highway Administration (FHWA) but is currently maintained and updated by McTrans Centre at University of Florida. (<http://mctrans.ce.ufl.edu/index.htm>)





3. Background (Future No-Build) Conditions

3.1. Regional Growth and Other Developments

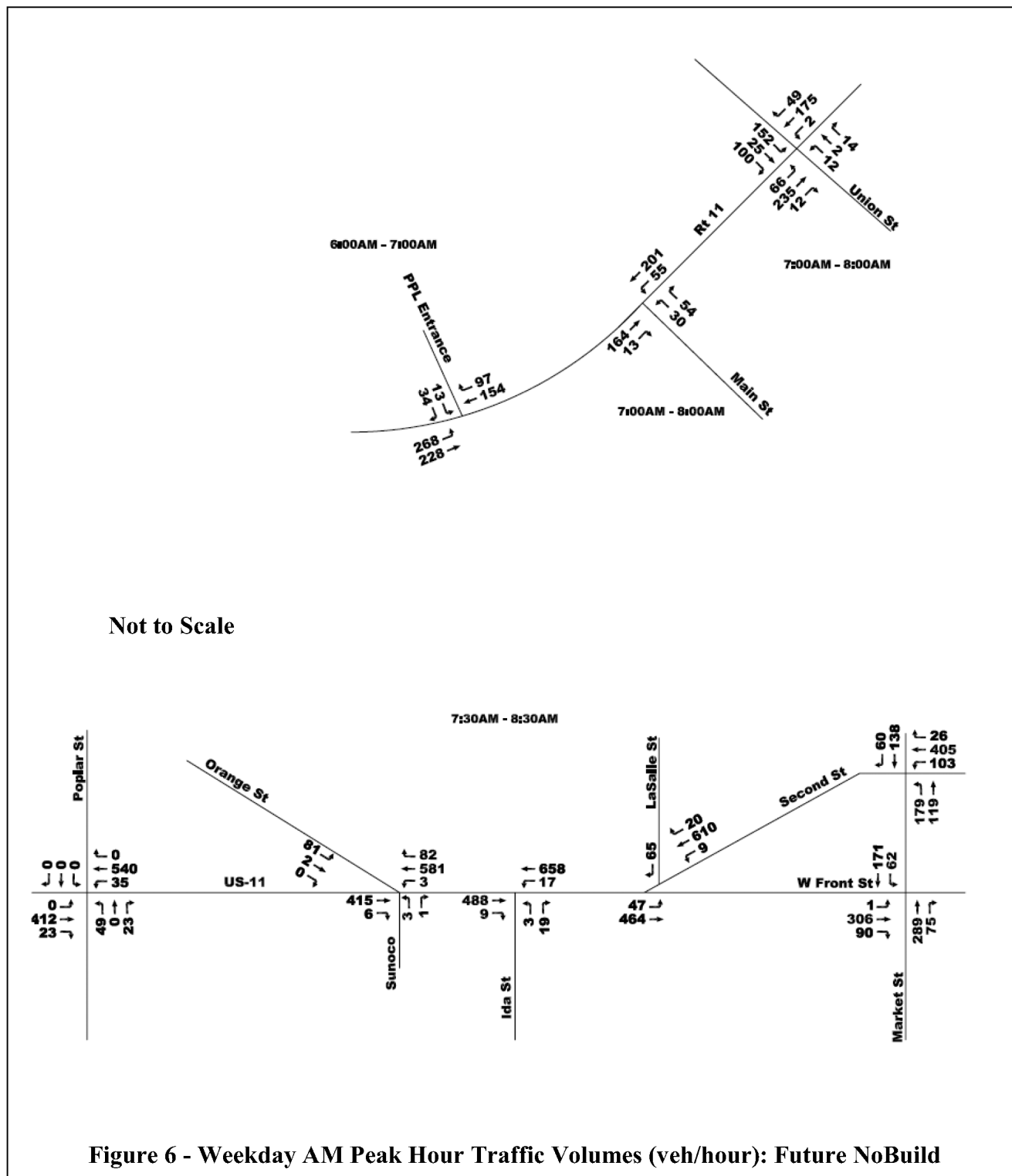
It is anticipated that the new unit will be operational in 2017. Based on guidance from PennDOT (growth factor tables) this report uses a compounded growth factor of 0.41% and 0.6% for rural non-interstate roads in Luzerne County and Columbia County respectively. Using these growth factors and the existing traffic volumes, the future traffic volumes for 2017 are calculated. These volumes were used for the LOS and capacity analyses. The future no-build results assume the signals retimed using SYNCHRO.

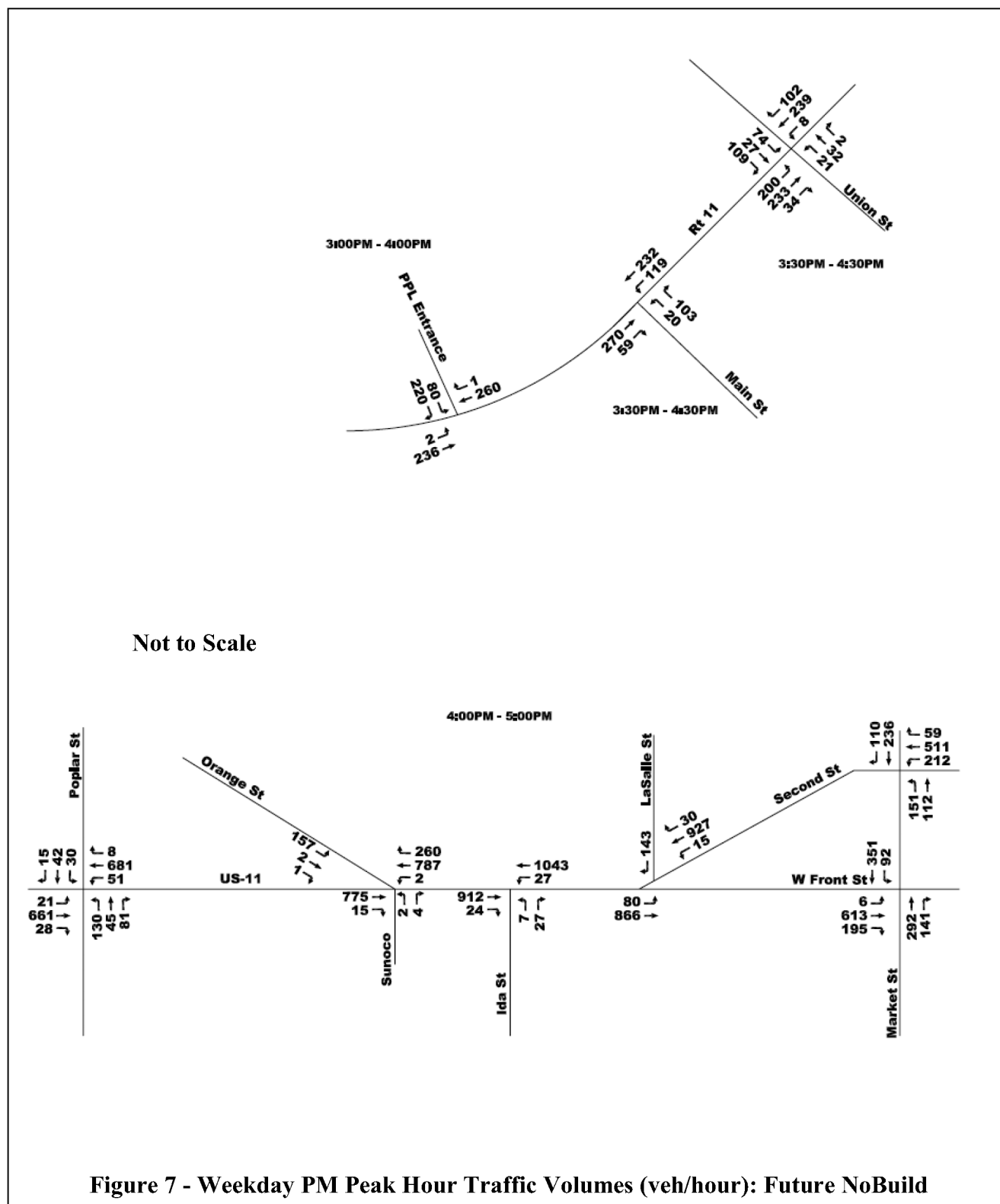
Given that there are no major highway development/improvement projects planned within the study area to influence the capacity of the roadway system, the forecasted volumes were analyzed using the existing highway network. The LOS analysis is presented in Table 4.

Table 4 – Intersection LOS: Future No-Build Conditions

<i>Intersection</i>	<i>Type</i>	<i>Future No-Build</i>	
		<i>AM</i>	<i>PM</i>
RT11 & Union Street	Signalized	B	B
RT11 & Main Street	Signalized	A	A
RT11 & PPL Entrance	Unsignalized	B	B
2 nd Street & Market Street	Signalized	B	B
Front Street & Market Street	Signalized	B	B
RT11 & LaSalle Street	Signalized	A	A
RT11 & Orange Street	Signalized	B	B
RT11 & Poplar Avenue	Signalized	B	B

The resulting peak hour volumes during the weekday AM and PM peak hours are shown in Figures 6 and 7. The LOS computations and capacity analysis are presented in Appendix C.





4. Future Build Conditions

4.1. Site Trip Generation

It is anticipated that the new unit will be operational in 2017 and will require 363 additional employees on site. Unistar Nuclear Development LLC, (the plant operator) estimates that the average vehicle occupancy for its employees is 1.0 implying that the new unit will generate 363 additional trips. These additional employees are assigned the same travel patterns as those on site and working on the existing two SSES units.

4.2. Site Trip Distribution and Assignment

The staff size for the existing 2 units is approximately 1460 employees (1200 full-time and 260 contractors).

Figure 8 represents the arrival and departure distribution across the workday of the power plant employees at the SSES Entrance along RT 11. These are derived from the ATR counts collected at the SSES Entrance.

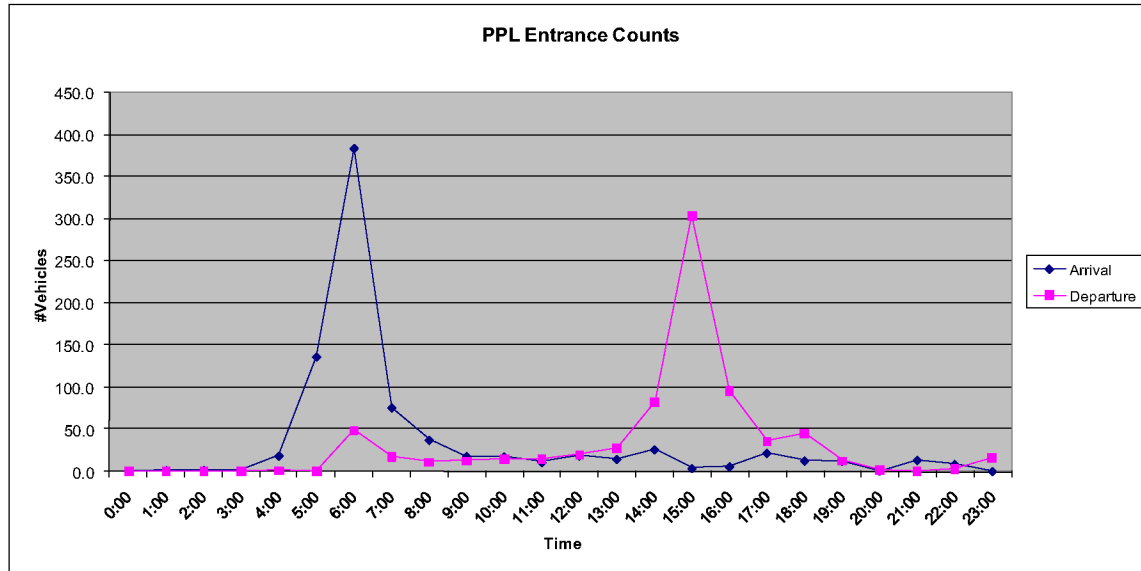


Figure 8 – Temporal Distribution of Power Plant Employees

It is anticipated that the new employees at the Bell Bend site will use the proposed access road east of Confers Lane along Route 11. Therefore, the 363 new trips anticipated on site will be assigned onto the Bell Bend access road based on the temporal distribution shown in Figure 8.

Because this result in an assignment of more than 100 trips in the peak hour, it requires LOS analysis including the additional traffic.

The traffic to/from the site is assigned as follows. Using the employee zip codes the spatial distribution of the workers on site is shown in Table 5. As shown in Table 5, most of the current operations workforce is drawn from the west (Berwick). Using this distribution and the available routes, the operations traffic leaving the site is assigned as shown in Figure 9.

Table 5 – Spatial Distribution of Current Employment on Site

Direction	No. of Workers	Distribution (%)
N	77	6.19
NW	60	4.83
<i>W</i>	<i>582</i>	<i>46.82</i>
SW	134	10.78
S	31	2.49
SE	105	8.45
E	119	9.57
NE	135	10.86

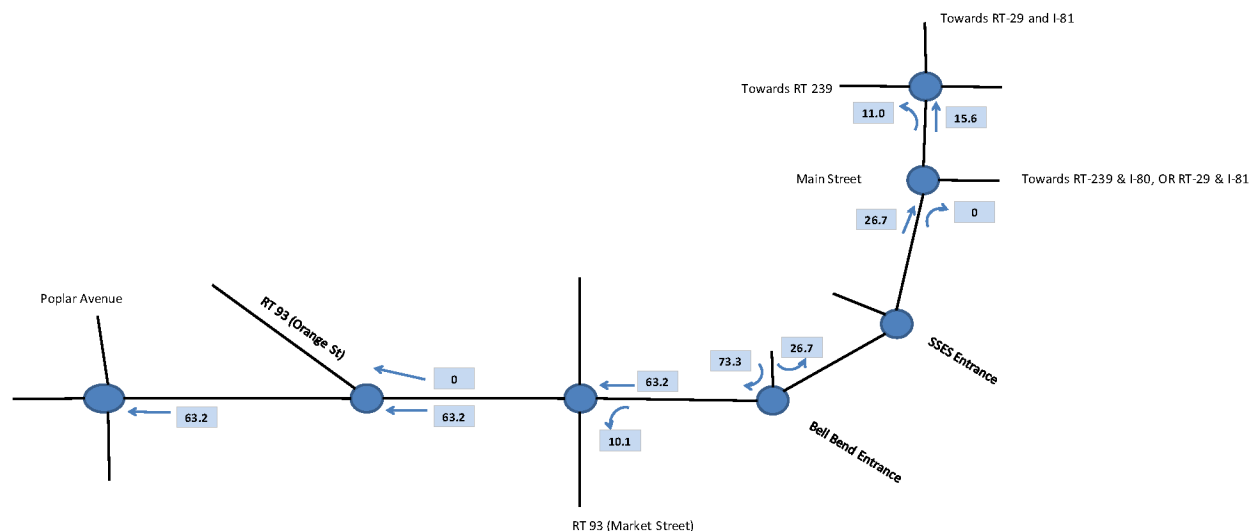


Figure 9 – Trip Assignment (%) of Bell Bend Power Plant Operations Staff

The same distribution is applied to the operations staff arriving on site. The calculations to derive these percentages are shown in Appendix D.

4.3. Total Traffic Volumes and Projected LOS

The total traffic on site, during the Future Build conditions are estimated by adding the trips generated on site with the Background Traffic. The resulting peak hour volumes are shown in Figures 10 and 11.

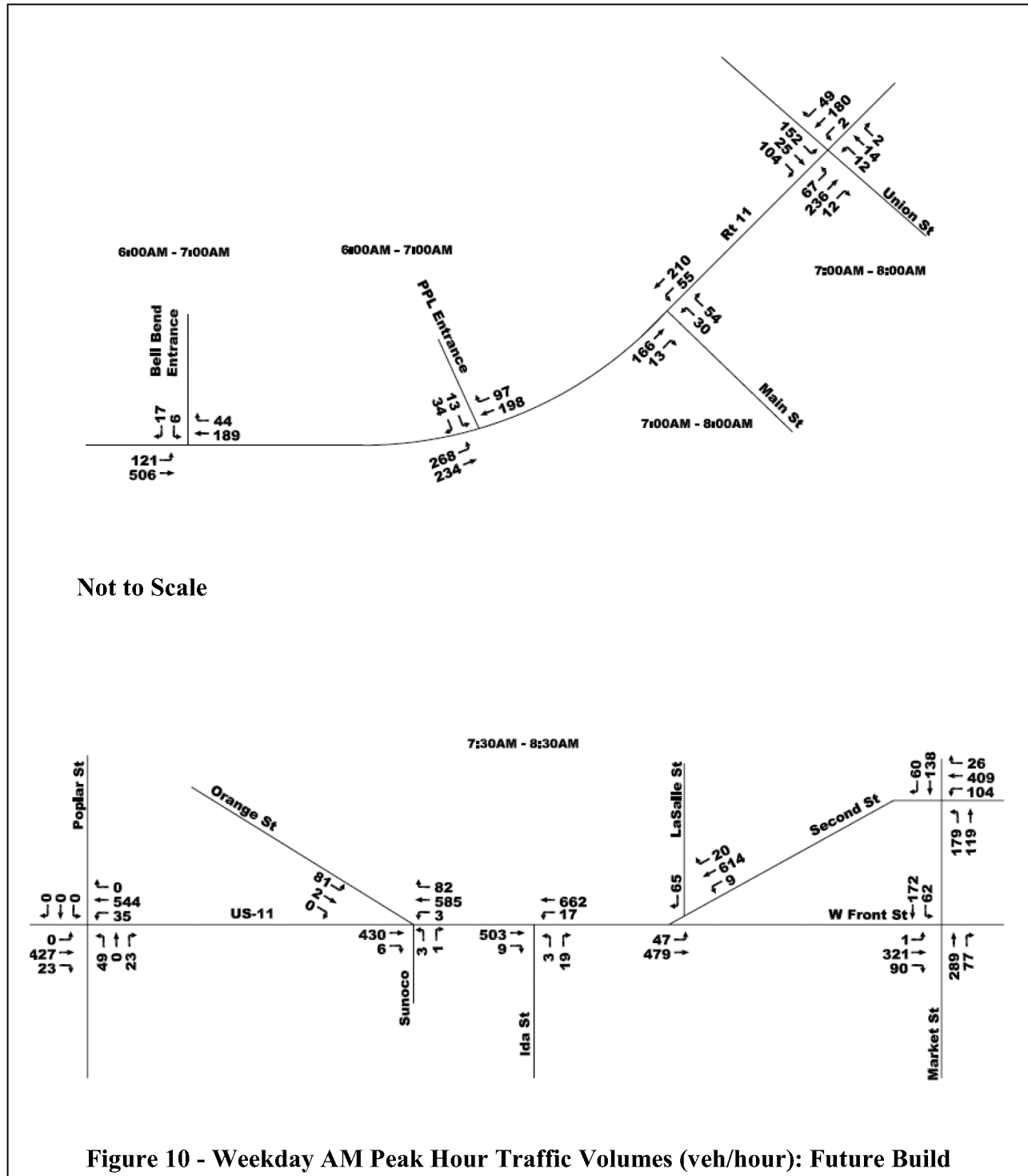
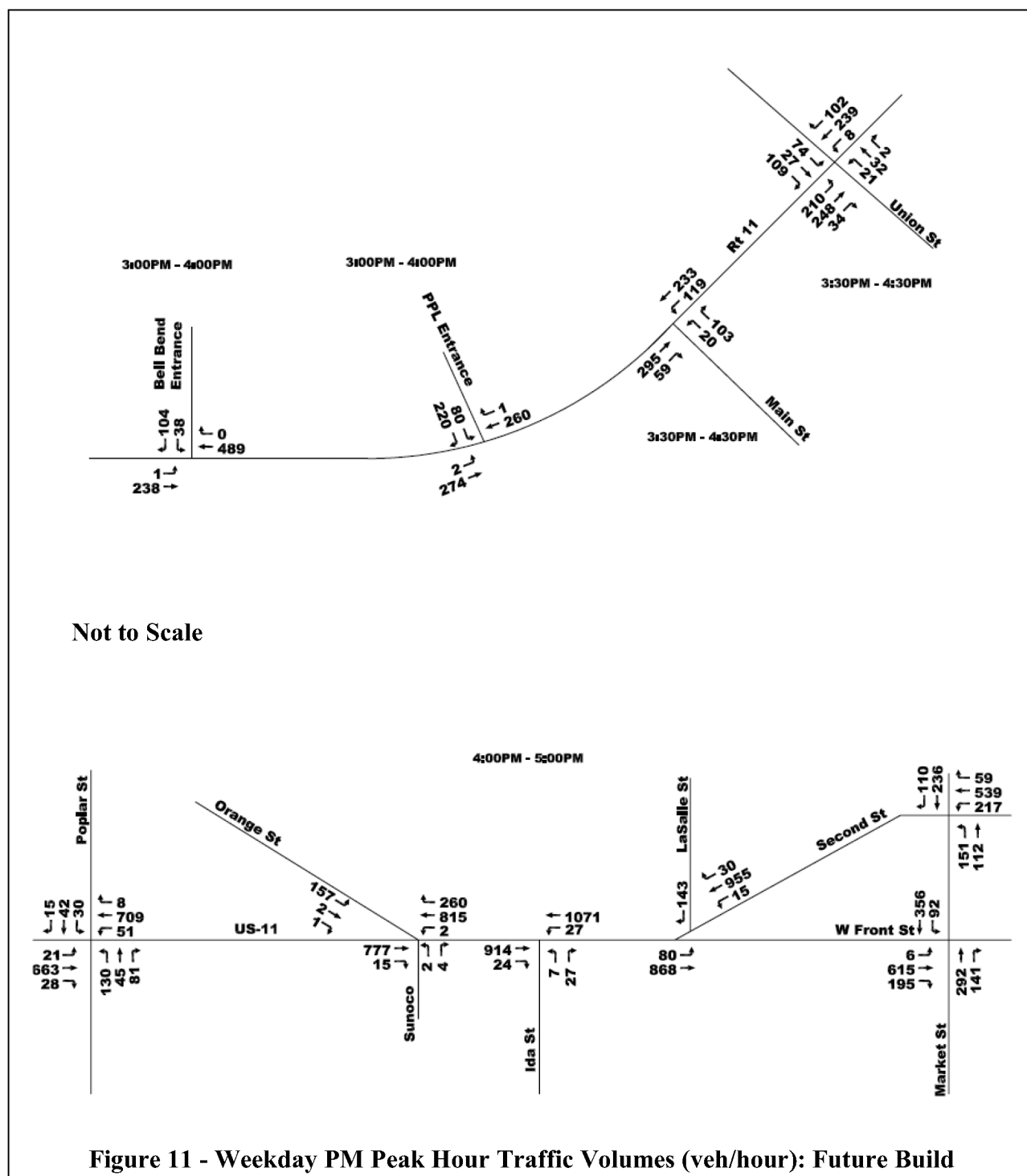


Figure 10 - Weekday AM Peak Hour Traffic Volumes (veh/hour): Future Build



The LOS within the study area is presented in Table 6.

Table 6 – Intersection LOS: Future Build Conditions

<i>Intersection</i>	<i>Type</i>	<i>Future No-Build</i>		<i>Future Build</i>	
		<i>AM</i>	<i>PM</i>	<i>AM</i>	<i>PM</i>
RT11 & Union Street	Signalized	B	B	B	B
RT11 & Main Street	Signalized	A	A	A	A
RT11 & PPL Entrance	Unsignalized	B	B	B	B
RT11 & Bell Bend Entrance	Unsignalized			B	B
2 nd Street & Market Street	Signalized	B	B	B	B
Front Street & Market Street	Signalized	B	B	B	B
RT11 & LaSalle Street	Signalized	A	A	A	A
RT11 & Orange Street	Signalized	B	B	B	B*
RT11 & Poplar Avenue	Signalized	B	B	B	B

Note: * at the intersection of RT 11 and Orange Street during the PM peak hour, the signal timing plan in the Future Build was modified to restore the level of service from LOS C to match the Future No-Build LOS B condition.

Appendix E presents the LOS calculations for the Future Build Conditions. As indicated in Table 6, the only mitigation required is the optimization of the signal timing plan at RT 11 and Orange Street once the Bell Bend unit is operational. The worksheets and the LOS computation for the Future Build conditions are presented in Appendix E.

5. Projected Traffic Conditions During Construction

The construction is planned over a 68-month schedule. The expected time line for construction is May 2011 through December 2016. The work is expected to be distributed over 3 shifts a day, 5 days a week. The shift timings are the following:

- Shift 1: 7:30 AM to 4:00 PM
- Shift 2: 4:00 PM to 12:00 AM
- Shift 3: 12:00 AM to 7:30 AM

5.1. Trip Generation and Site Access

The additional traffic expected on site can be grouped into 4 major categories

- Operational Staff
- Outage Staff
- Heavy Vehicles to haul in materials
- Construction Staff

The construction staff and heavy vehicle shipments and the operations staff expected on site will access the site using the proposed site access road for Bell Bend (east of Confers Lane along Route 11). The SSES outage staff (refueling) will access the site using the SSES site access as they will be plant employees and will use the existing parking lot on site.

5.2. Operational Staff

The new unit will require 363 additional personnel upon completion and it is estimated that less than 100 operations personnel will be on site before 2014. Using this information a conservative assumption is made that the number of operations personnel on site before 2014 is 100 and after 2014 is 363. Assuming average vehicle occupancy of 1.0 for these employees, 100 trips will be generated before 2014 and 363 trips after 2014. These employees will be distributed over the day and directionally as discussed under the Future Build Conditions.

5.3. Outage Staff – Maintenance and Refueling

The existing 2 units currently operate on a 24-month outage schedule, with each unit staggered by year. Table 7 presents the outage schedule for the next 4 outages. During each outage it is expected to have an outage workforce of 1400 personnel on site. These personnel work on the same shift schedule as the existing employees (2 shifts 6AM-6PM, 6PM-6AM) and will be distributed across the day and directionally assigned similar to the operational staff (Table 5). The calculations to derive the assignment are shown in Appendix D.

Table 7 – Outage Schedule

<i>Unit</i>	<i>Outage 1</i>	<i>Outage 2</i>	<i>Outage 3</i>	<i>Outage 4</i>
<i>Unit 1</i>	March 2009	March 2011	March 2013	March 2015
<i>Unit 2</i>	March 2010	March 2012	March 2014	March 2016

Assuming average vehicle occupancy of 1.0 for these employees also, 1400 trips are expected to be generated each month shown in Table 7.

5.4. Heavy Vehicles

It is expected that the heavy permanent plant equipment loads to include the Turbine Generator, Diesel Generators, Large Transformer, and Nuclear Steam Supply will be brought to the site by rail, the backfill and excavation will occur on site and all other plant material will arrive by road. The breakdown of the materials arriving on site is presented in Appendix F. Based on the data

provided by Unistar Nuclear (the operator), it is expected that a total of 67,879 15-ton-shipments will arrive through the construction schedule. Of these shipments, 56,557 are expected to arrive in all the shifts, over the first 60 months 6 days a week (Monday-Saturday) and the remaining are expected to arrive over the first 60 months only during the day shift. The set of 56,557 will be referred to as *Concrete Material Shipments* and the 11,322 will be referred to as *Other Shipments*. It is assumed that each 15-ton shipment will arrive on separate tractor-trailers leading to an average of 39 trucks and 8 trucks per day for the *Concrete Material Shipments* and *Other Shipments*, respectively. The spatial distribution of the heavy vehicles is discussed in the next section along with the construction staffing.

5.5. Construction Staffing

The schedule of the construction staffing is presented in Figure 12. This chart represents the total number of workers expected on site per day by month. As seen from the schedule the bulk of the construction staffing is expected in latter half of the 68 month schedule. Each bar in Figure 12 represents the number of workers expected on site. Months 42 to 53 have the highest number with 3950 workers on site. It is expected that the average vehicle occupancy for these workers will be 1.30, based upon expert guidance from a construction contractor (via UniStar) from their experience in its large construction projects. Also, these workers will be distributed as 60%-35%-5% between the 3 shifts each day.

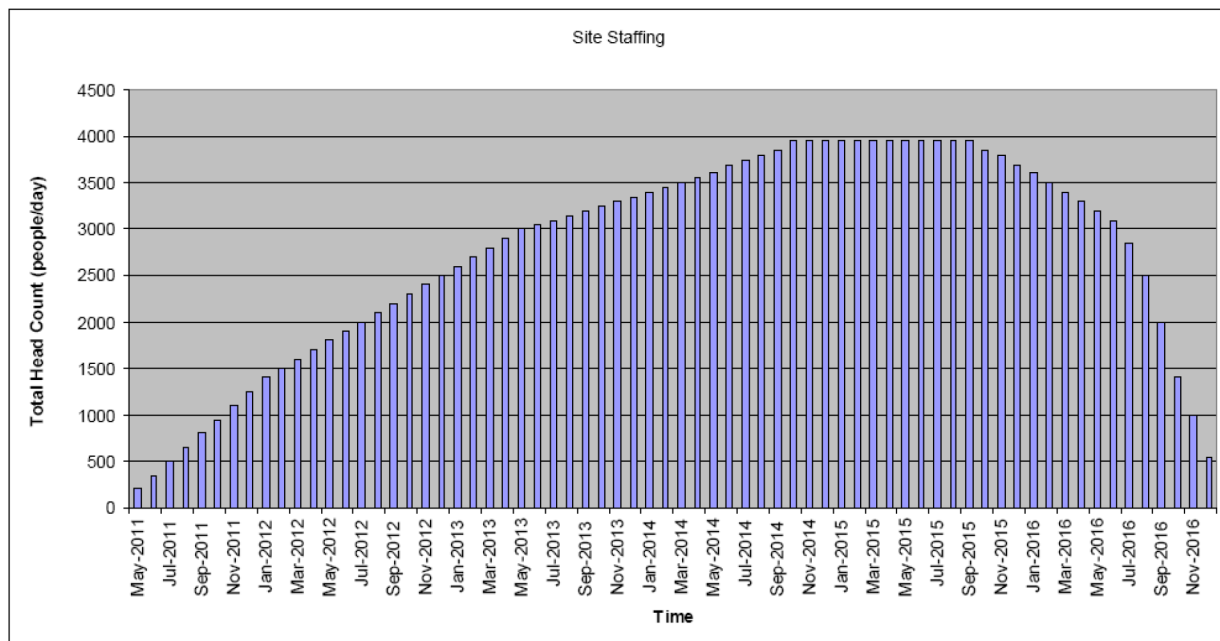


Figure 12 – Construction Staffing Schedule

Based on the census block data the major population centers would be logical sources for the construction staff. Using the 2000 census data within 40-miles of the site, Table 9 presents the spatial distribution of the construction workers.

Table 8 – Spatial Distribution of Census Block Population

Direction	2000 Census Block Population*	Distribution (%)
N	38,458	3.8
NW	19,451	1.9
W	117,235	11.5
SW	87,884	8.6
S	121,621	11.9
SE	158,518	15.5
E	96,586	9.8
NE	380,169	37.3

Note: * - The spatial analysis of the census block data was performed using ArcGIS 9.2

It appears from Table 8 that most of the traffic will come from the North East (NE) and South East (SE) directions. These correspond to the Wilkes-Barre/Scranton region and Hazelton areas respectively. Using these percentages and the available routes to the site the construction and heavy vehicle traffic departing the site is assigned to the study area intersections as shown in Figure 13.

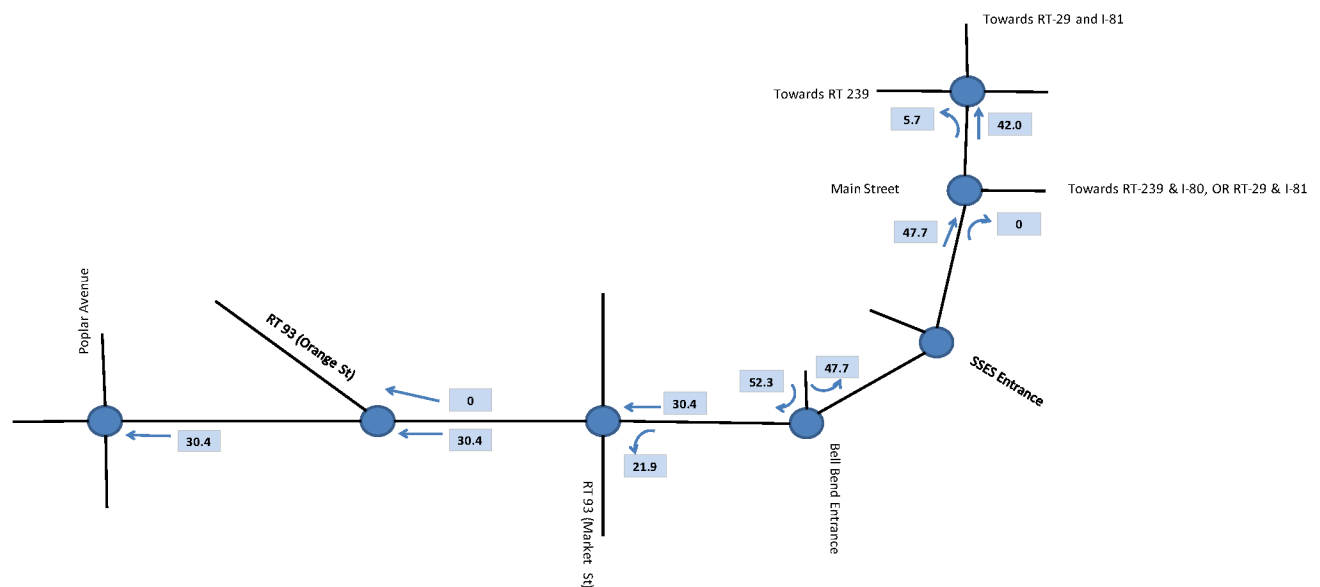


Figure 13 – Traffic Assignment – Construction Traffic (%) Leaving Site

A similar distribution is assumed for the traffic arriving on site and shown in Figure 14. The calculations to derive these percentages are shown in Appendix D.

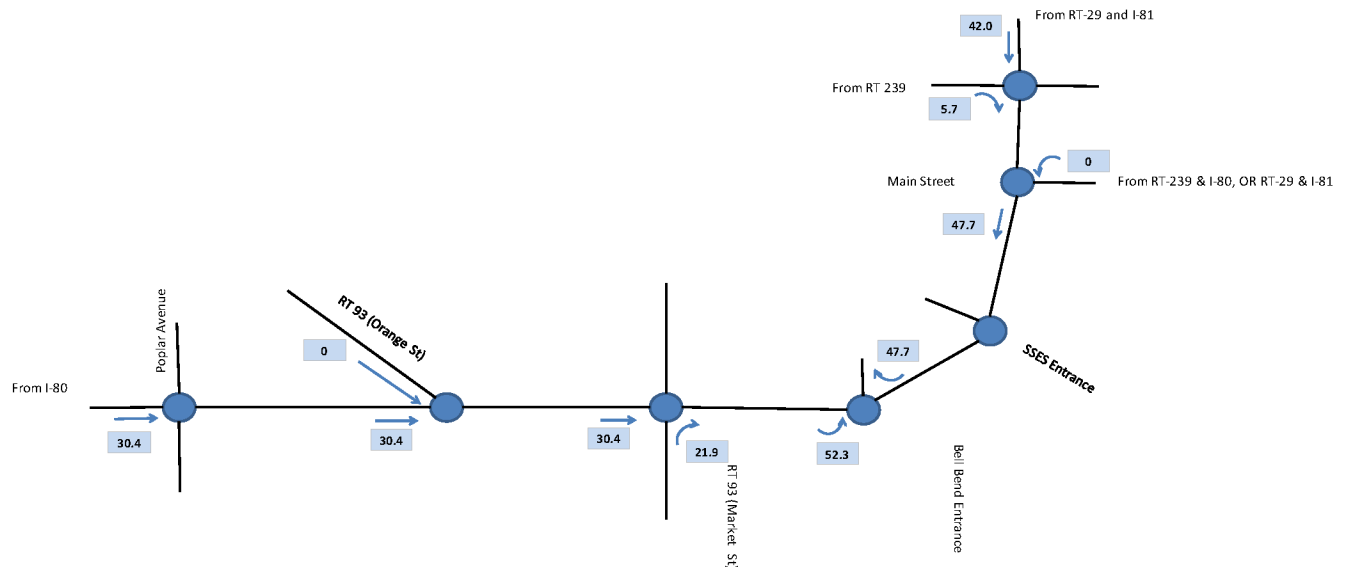


Figure 14 – Traffic Assignment – Construction Traffic (%) Arriving at Site

5.6. Total Trip Generation

The total traffic generated on site during the construction is the total of these 4 categories and is shown in Figure 15 by month in trips/day over the 68-month construction schedule. Figure 15 indicates that the month of highest traffic is coincident with outages. Over the 68-month schedule, the month of the highest traffic is March 2015 with 4849 trips. However, without the outage the periods of September 2014 to September 2015 have the highest expected traffic on site with 3449 trips.

These trips are assigned directionally and temporally to the two intersections near the site – Bell Bend and SSSES access roads along RT11. Subsequently, they are distributed to the other study area intersections.

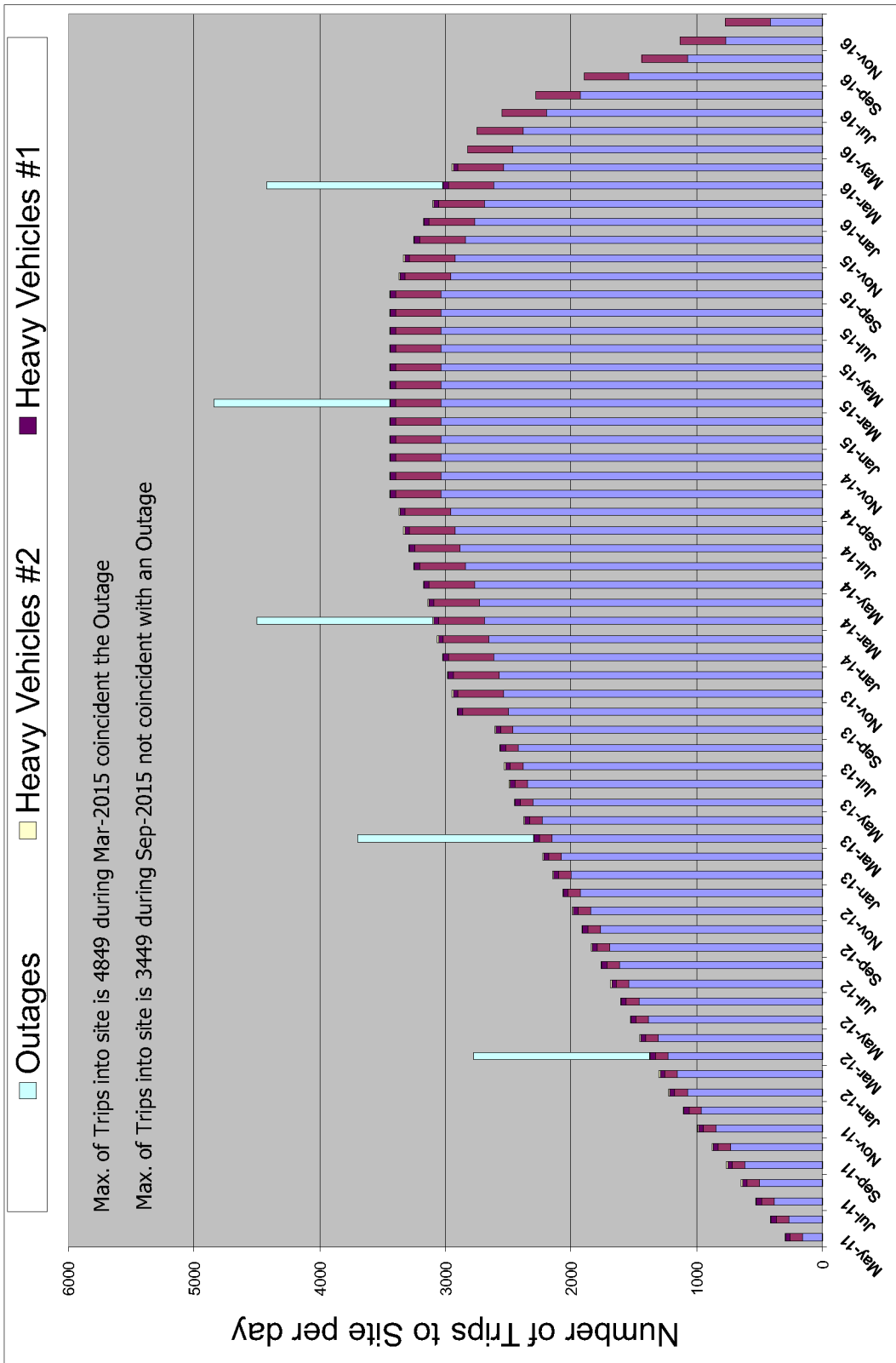


Figure 15 – Construction Site Trip Generation

5.7. Total Traffic Onsite Including Background Traffic

The selected period for analysis during construction is February 2015. Using a compounded growth factor of 0.41% for Luzerne and 0.6% Columbia County respectively, the background traffic volumes were calculated for 2015. These volumes are combined with the traffic generated from the construction on site and these totals were used for the LOS and capacity analyses.

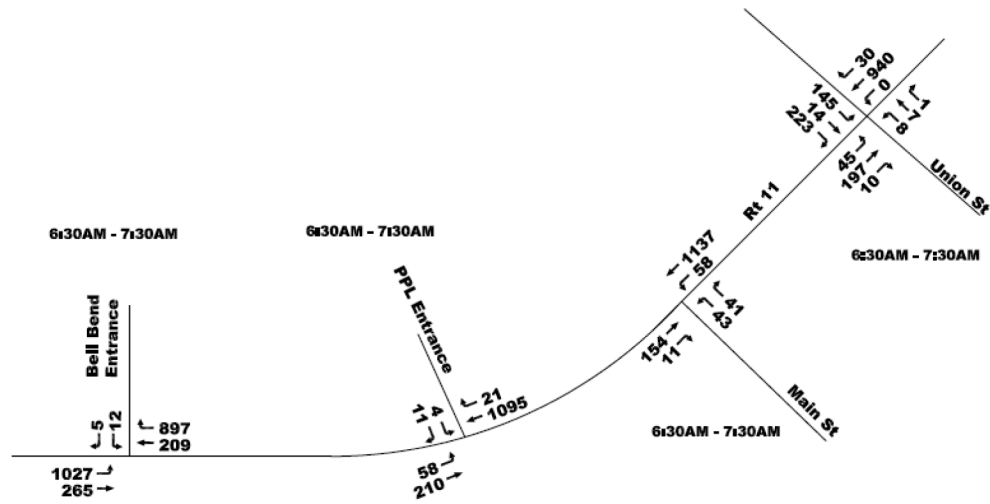
5.8. Projected Level of Service during Construction

Given that there are no major highway development/improvement projects planned within the study area to influence the capacity of the roadway system, the forecasted volumes were analyzed using the existing highway network. The resulting peak hour volumes are shown in Figures 16 and 17. The results of the capacity analysis and the LOS are presented in Table 9. Appendix G presents the worksheets for the calculations of the intersection LOS.

Table 9 – Intersection LOS: Projected Conditions During Construction

<i>Intersection</i>	<i>Type</i>	<i>Future No-Build</i>		<i>Construction</i>	
		<i>AM</i>	<i>PM</i>	<i>AM</i>	<i>PM</i>
RT11 & Union Street	Signalized	B	B	C	C
RT11 & Main Street	Signalized	A	A	C	F
RT11 & PPL Entrance	Unsignalized	B	B	C	B
RT11 & Bell Bend Entrance	Unsignalized			F	F
2 nd Street & Market Street	Signalized	B	B	B	F
Front Street & Market Street	Signalized	B	B	C	E
RT11 & LaSalle Street	Signalized	A	A	A	A
RT11 & Orange Street	Signalized	B	B	D	F
RT11 & Poplar Avenue	Signalized	B	B	F	E

As indicated in Table 9, almost all intersection requires mitigation during the AM and PM peak periods. The mitigation measures to address these intersections are discussed in the following section 6.



Not to Scale

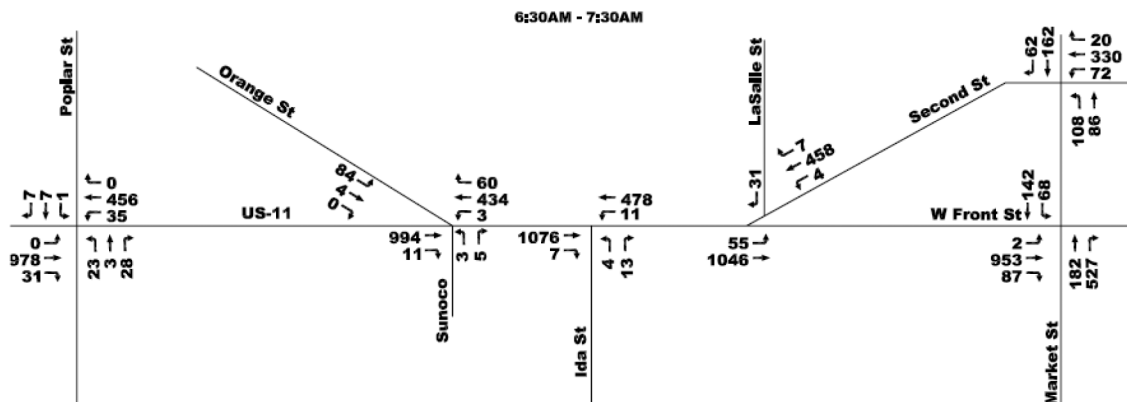
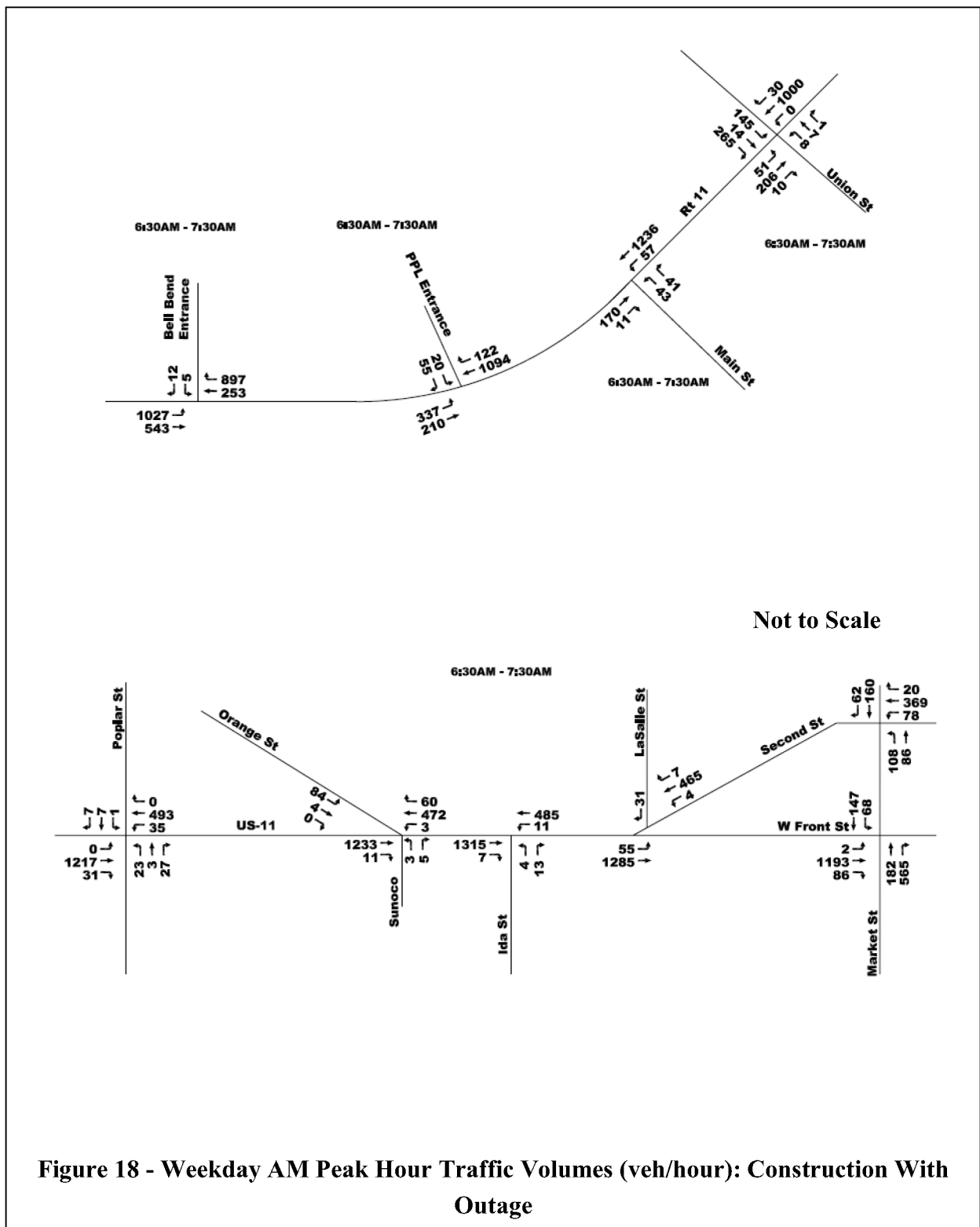


Figure 16 - Weekday AM Peak Hour Traffic Volumes (veh/hour): Construction Peak

Table 10 – Intersection LOS: Projected Conditions During Construction With Outage

<i>Intersection</i>	<i>Type</i>	<i>Future No-Build</i>		<i>Construction</i>	
		<i>AM</i>	<i>PM</i>	<i>AM</i>	<i>PM</i>
RT11 & Union Street	Signalized	B	B	E	C
RT11 & Main Street	Signalized	A	A	D	E
RT11 & PPL Entrance	Unsignalized	B	B	D	C
RT11 & Bell Bend Entrance	Unsignalized			F	F
2 nd Street & Market Street	Signalized	B	B	B	F
Front Street & Market Street	Signalized	B	B	E	E
RT11 & LaSalle Street	Signalized	A	A	A	A
RT11 & Orange Street	Signalized	B	B	F	E
RT11 & Poplar Avenue	Signalized	B	B	F	D

The LOS calculations for Table 10 are presented in Appendix H. The resulting peak hour volumes are shown in Figures 18 and 19. The results in Table 10 are similar to Table 9 with almost all intersection requiring mitigation during the AM and PM peak periods. The mitigation measures to address these intersections are discussed in the following section.



6. Mitigation Measures

Based on the results in Tables 9 and 10, mitigation is required at almost all the intersections. This section discusses the mitigation measures applied to each intersection within the study area.

RT 11 and RT239/Union Street

At this intersection signal optimization results in an intersection level of service comparable to the Future No-Build conditions during the PM peak periods. However, during the AM peak period, there is heavy demand in the EB and SB directions and the volumes are high for the single lane approaches. By using the parking lanes for the right turns from Union St/RT 239 going EB onto RT11 SB, and using the parking lanes along SB RT 11 intersection will operate at LOS B. This concept is presented in Figure 20. Table 11 presents the resulting LOS at these intersections. The updated signal settings and the worksheets for the LOS computations are presented in Appendix I.

Table 11 – Intersection LOS at RT 11 and RT239/Union Street with Mitigation

Case	Base (Target)	Before Mitigation	After Mitigation
Construction AM	B	C	B
Construction PM	B	C	B
Construction, Outage AM	B	E	B
Construction, Outage PM	B	C	B

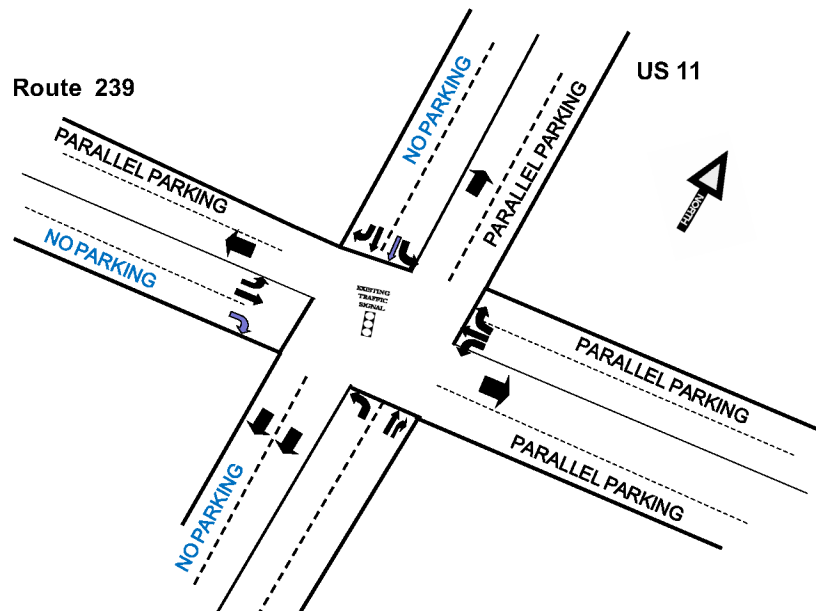


Figure 20 – Mitigation at Union Street/RT 239 and RT 11

RT 11 and Main Street

At this intersection, by optimizing the signal settings, the operating level of service at this intersection improves to LOS B, thereby mitigating some of the impacts of the construction traffic. Additionally, restriping the lanes along RT 11 NB in the PM and restriping lanes on SB RT 11 in the AM results in LOS A at this intersection. Table 12 presents the LOS at this intersection after mitigation.

Table 12 – Intersection LOS at RT 11 and Main Street with Mitigation

Case	Base (Target)	Before Mitigation	After Mitigation
Construction AM	A	C	A
Construction PM	A	F	A
Construction, Outage AM	A	D	A
Construction, Outage PM	A	E	A

The restriping would include converting SB RT 11 to 2 through with a shared left turn lane and converting the NB RT 11 to 2 through with a shared right turn lane. This concept is shown in Figure 21. The LOS computations and worksheets are presented in Appendix I.

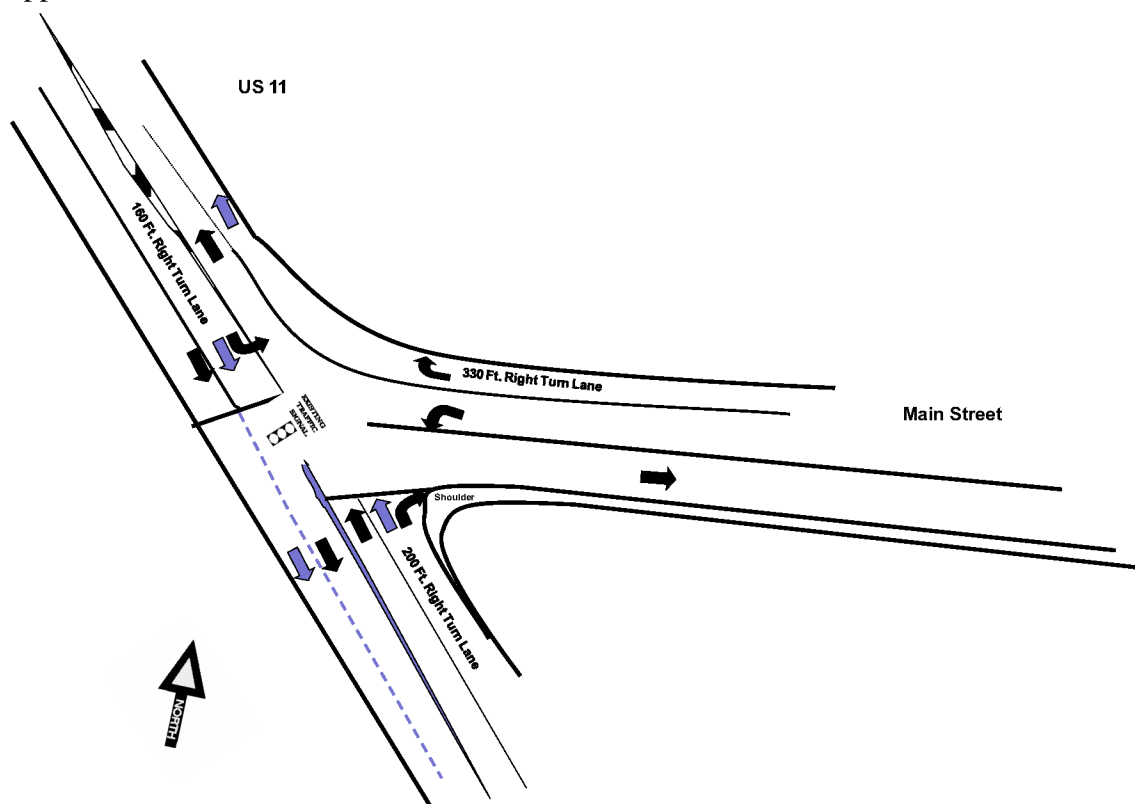


Figure 21 – Mitigation at Main Street and RT 11

RT 11/East 2nd Street/West Front Street/RT 93/Market Street

This is the one way pair for RT 11 at the RT 93 (Market Street) bridge. Signal optimization and retiming at East 2nd Street mitigates all impacts. The resulting LOS is shown in Table 13. The LOS computations and worksheets are presented in Appendix I. However, at West Front Street, the traffic is heavy along EB RT 93 and NB RT 11 and requires restriping. Figure 22 shows a concept to restripe this intersection. As shown in Figure 22, by restricting street parking along RT 11 the capacity to move traffic NB on RT 11 is increased. Similarly, along RT 93 towards the bridge, an additional through lane is added. Also the merge further along NB RT 11 and along EB RT 93 would need to be analyzed to measure any spillback effects. It is important to note that with these mitigation measures, the intersection is expected to operate only at LOS C during the AM peak period when an outage is coincident with the construction peak.

Table 13 – Intersection LOS at RT 11/Front St/2nd Street and RT 93 with Mitigation

<i>RT 11/East 2nd Street and RT 93/Market Street</i>			
Case	Base (Target)	Before Mitigation	After Mitigation
Construction AM	B	B	B
Construction PM	B	F	B
Construction, Outage AM	B	B	B
Construction, Outage PM	B	F	B
<i>RT 11/West Front Street and RT 93/Market Street</i>			
Construction AM	B	C	B
Construction PM	B	E	B
Construction, Outage AM	B	E	C
Construction, Outage PM	B	E	B

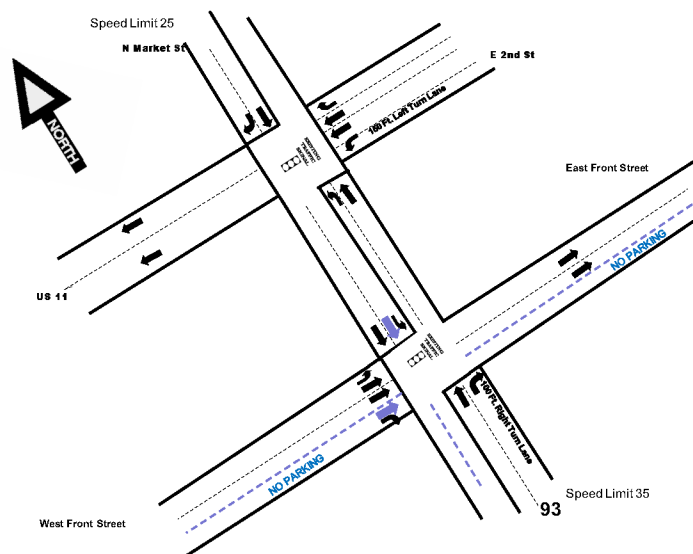


Figure 22 – Mitigation at RT 93 (Market St) and RT 11 (Front St, 2nd Street)

RT 11 & RT 93 (Orange Street)

At this intersection (Figure 23), the signal optimization improves the level of service. Table 14 presents the resulting LOS with the updated signal settings. The LOS computations and worksheets are presented in Appendix I.

Table 14 – Intersection LOS at RT 11 and RT93/Orange St with Mitigation

Case	Base (Target)	Before Mitigation	After Mitigation
Construction AM	B	D	B
Construction PM	B	F	C
Construction, Outage AM	B	F	B
Construction, Outage PM	B	E	D

This intersection is constrained in terms of increasing the capacity by widening or adding to the intersection. It is located in the center of the Berwick Town where RT 11 has no shoulder, narrow lanes and commercial establishments on either side that use the center left turn lane. Using this center lane as shown in Figure 24 is an enticing option, but it would be challenging in terms of operations and needs discussion.

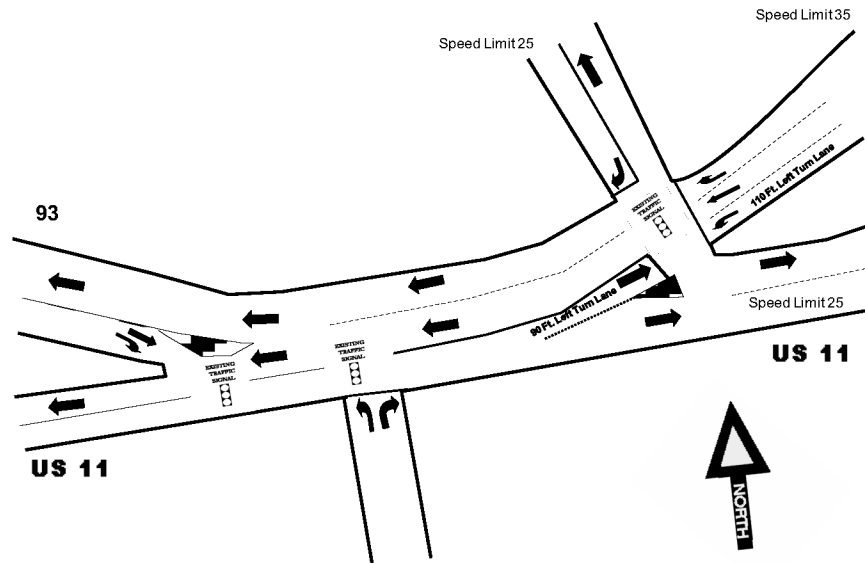


Figure 23 – RT 93 (Orange St) and RT 11 (Front St)

RT 11 and Poplar Street

This is another intersection (Figure 24) in downtown Berwick. The signal optimization improves the level of service and is presented in Table 15. The LOS computations and

worksheets are presented in Appendix I. However, with the high volumes of traffic travelling to/from the site and I-80, the single lane along RT 11 is not sufficient and results in operating LOS lower than the Future No-Build. Also, as mentioned earlier, there is limited room for intersection capacity improvements, since there is no shoulder, and the only option would be to use the center left turn lane, but that would need to be reversed to handle the AM and PM demands appropriately.

Table 15 – Intersection LOS at RT 11 and Poplar St with Mitigation

Case	Base (Target)	Before Mitigation	After Mitigation
Construction AM	B	F	B
Construction PM	B	E	D
Construction, Outage AM	B	F	E
Construction, Outage PM	B	D	D

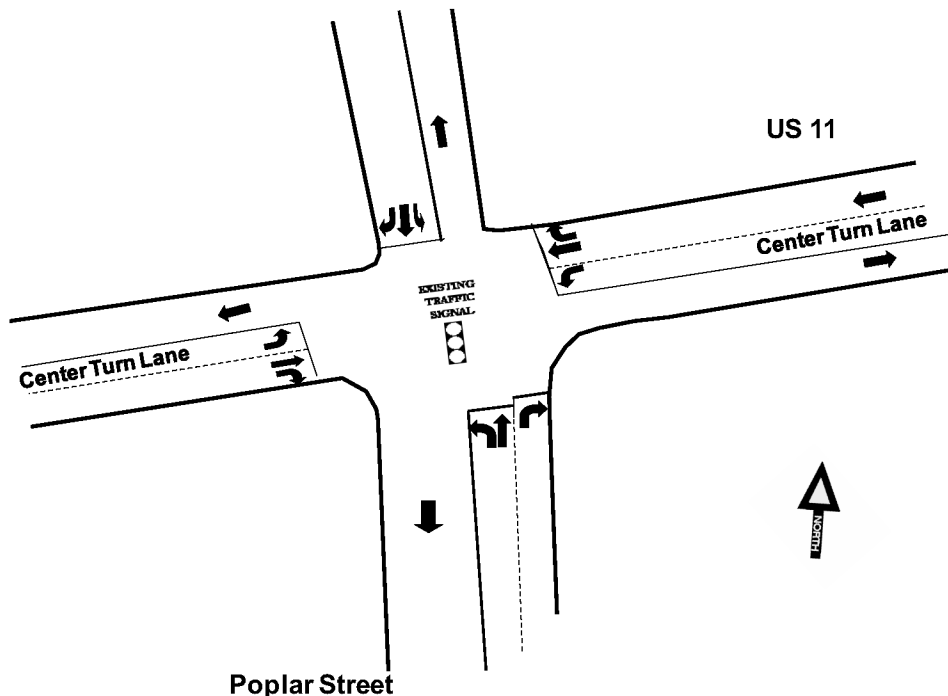


Figure 24 – RT 11 & Poplar Street

RT 11 and Bell Bend Site Access

The proposed site access road would require signalization and designation of lanes along the site entrance to operate acceptably and ensure that the workers can get to/from the site in a timely fashion. Given the heavy flow in and out of the site during the AM and PM

respectively, it is recommended that the site access road be set up as a 3 lane road with a reversible center lane. Also, the signalization would be temporary and last only during the construction peak periods.

The summary of the mitigation measures is presented in table 16.

Table 16 – Summary of Mitigation Measures

<i>Case</i>	<i>Future Build</i>	<i>Construction</i>		<i>Construction and Outage</i>		<i>Notes</i>
<i>Intersection</i>	<i>PM</i>	<i>AM</i>	<i>PM</i>	<i>AM</i>	<i>PM</i>	
Main St		Signal Retiming, Restriping SB RT 11	Signal Retiming, Restriping NB RT 11	Signal Retiming, Restriping SB RT 11	Signal Retiming, Restriping NB RT 11	-
Union St		Signal Retiming, Restriping SB RT 11	Signal Retiming	Signal Retiming, Restriping EB Union, and RT 11 SB	Signal Retiming	-
Bell Bend		Temporary signal during Construction	Temporary signal during Construction	Temporary signal during Construction	Temporary signal during Construction	-
2nd St		Signal Retiming	Signal Retiming	Signal Retiming	Signal Retiming	-
Front St		Signal Retiming, Restriping SB RT 11	Signal Retiming, Restriping EB RT 93	Signal Retiming, Restriping SB RT 11	Signal Retiming, Restriping EB RT 93	Mitigation attains LOS values shown and not the Future No Build level of service, LOS B.
		LOS B	LOS B	LOS C	LOS B	
Poplar		Signal Retiming	Signal Retiming	Signal Retiming	Signal Retiming	
		LOS B	LOS D	LOS E	LOS D	
Orange St	Signal Retiming	Signal Retiming	Signal Retiming	Signal Retiming	Signal Retiming	Any additional mitigation needs discussion
	LOS B	LOS B	LOS C	LOS B	LOS D	

7. Summary

The duration of the major impact period, when one considers the construction activity profile and the months on either side of it, is estimated to be 18-24 months long.

The primary measures considered and recommended for the “construction phase peak” are:

- Signal retiming at the intersections of RT 11 (2nd Street) & RT 93 (Market Street) will retain the “future no build” level of service;
- Signal retiming combined with removing of parking and/or re-designation of movements by lane will enable the “future no build” level of service to be attained at other intersections (RT 11 & Main Street, RT 11 & Union Street);
- At some intersections (RT 11 (Front Street) & RT 93 (Market Street), RT 11 and Polar Street, and RT 11 & RT 93 (Orange Street)), the traffic volumes combined with the restrictions on the geometry make it impossible to mitigate enough to attain the “future no build” levels but do allow intersection operation at LOS E or better during the both peaks;
- In one case (RT 11 & Poplar Street), it is assumed that some traffic from the side street will find alternate paths (readily available) because of the delays otherwise encountered. This will load traffic onto Route 11 from Mercer Street, leading to signalization there for system considerations (including the need to serve the minor street, and potential for blockages);
- The Bell Bend entrance along Route 11 carries very significant flows arriving from both directions in the AM (and departing in the PM), leading to a treatment that will require (a) signalization during the construction phase, (b) redesignation or realignment of through lanes on Route 11 during this same period to allow right turn lanes from WB Route 11 into the site & right turn lane onto SB Route 11 from the site, and (c) internal to the site, a three-lane road with one reversible lane (by time of day) for the construction worker traffic.

These findings now have to be discussed with the local and state agencies, and then presented.

As part of that dialog, the following information has to be emphasized:

1. The construction phase peak, particularly combined with an outage, will lead to traffic impacts that cannot be fully mitigated, in the sense of always attaining the “future no build” levels of service;

2. Reduction of parking – even only for peak hours – is logically a concern. Likewise, channeling two lanes of traffic into one heavily loaded lane is a concern, even if this is done away from the intersections.
3. Further, the addition of at least one signal (Route 11 & Mercer) to avoid blockages and allow side street access (e.g. for system considerations) will need discussion;
4. The temporary treatments at the Bell Bend entrance on Route 11, including signalization, will need to be reversed after the peak of construction;
5. There are nominally other solutions, such as routing westbound traffic along Route 93 to Route 487 and then southbound towards I-80, but this is unattractive because (a) the extra trip lengths incurred, and (b) the existence of a T-intersection at the intersection of Routes 93 and 487, so that the impact area is at best transferred;
6. Some alternatives including busing from remote parking fields were considered, but the operational issues involved with these lead to the conclusion that at this point, the most practical and effective mitigation approach is as described above.

With regard to the overall traffic plan, the proposed site includes a parking lot to handle all the expected construction traffic demand. The security checkpoints onsite are not expected to result in any spillback onto Route 11.

In short, there are traffic impacts during the construction phase that cannot be fully mitigated, although operational levels of service can generally be attained. In the “Future Build” condition, with the new Bell Bend unit operational, all traffic impacts can be mitigated simply by signal optimization.

8. References

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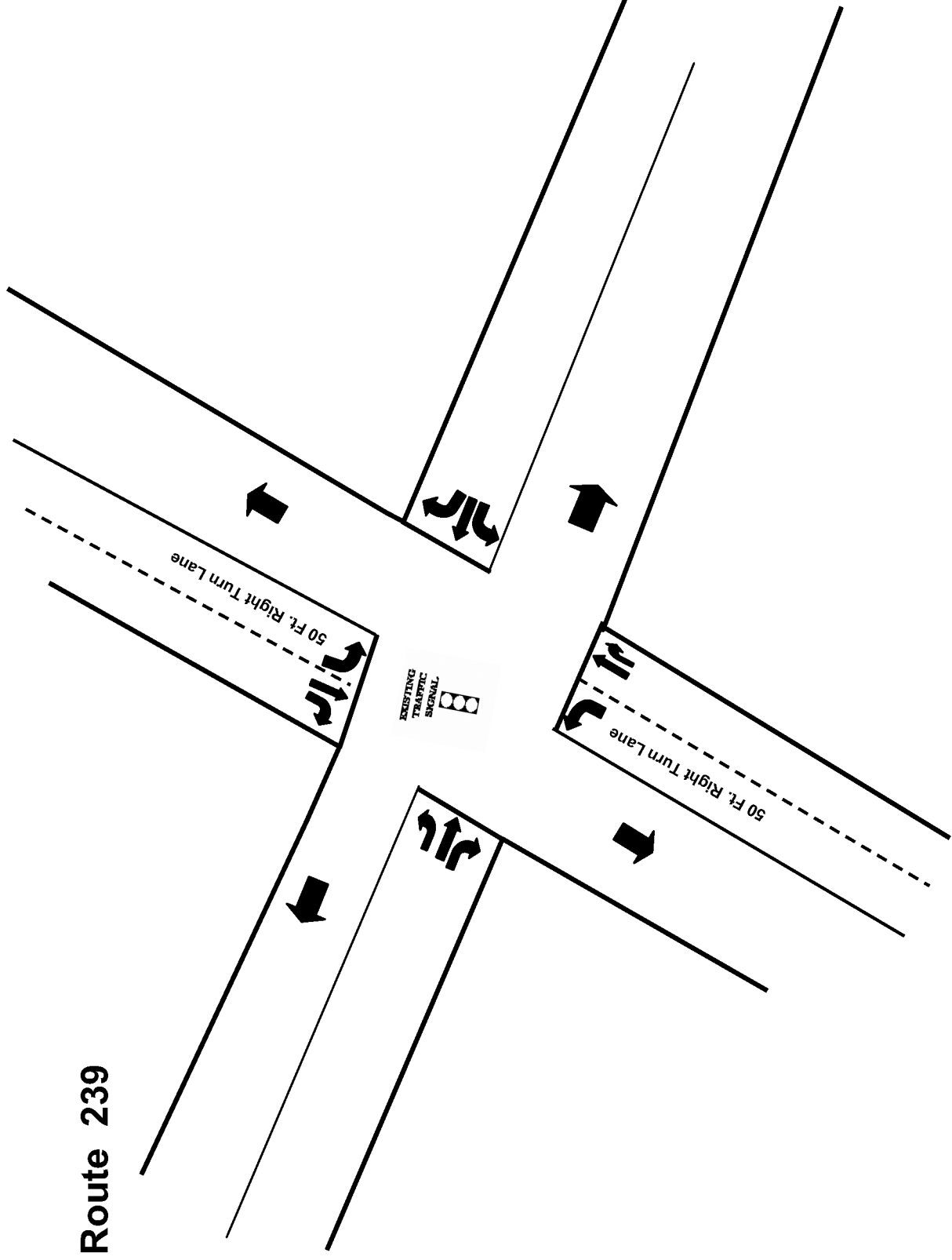
APPENDIX A

Existing Conditions:

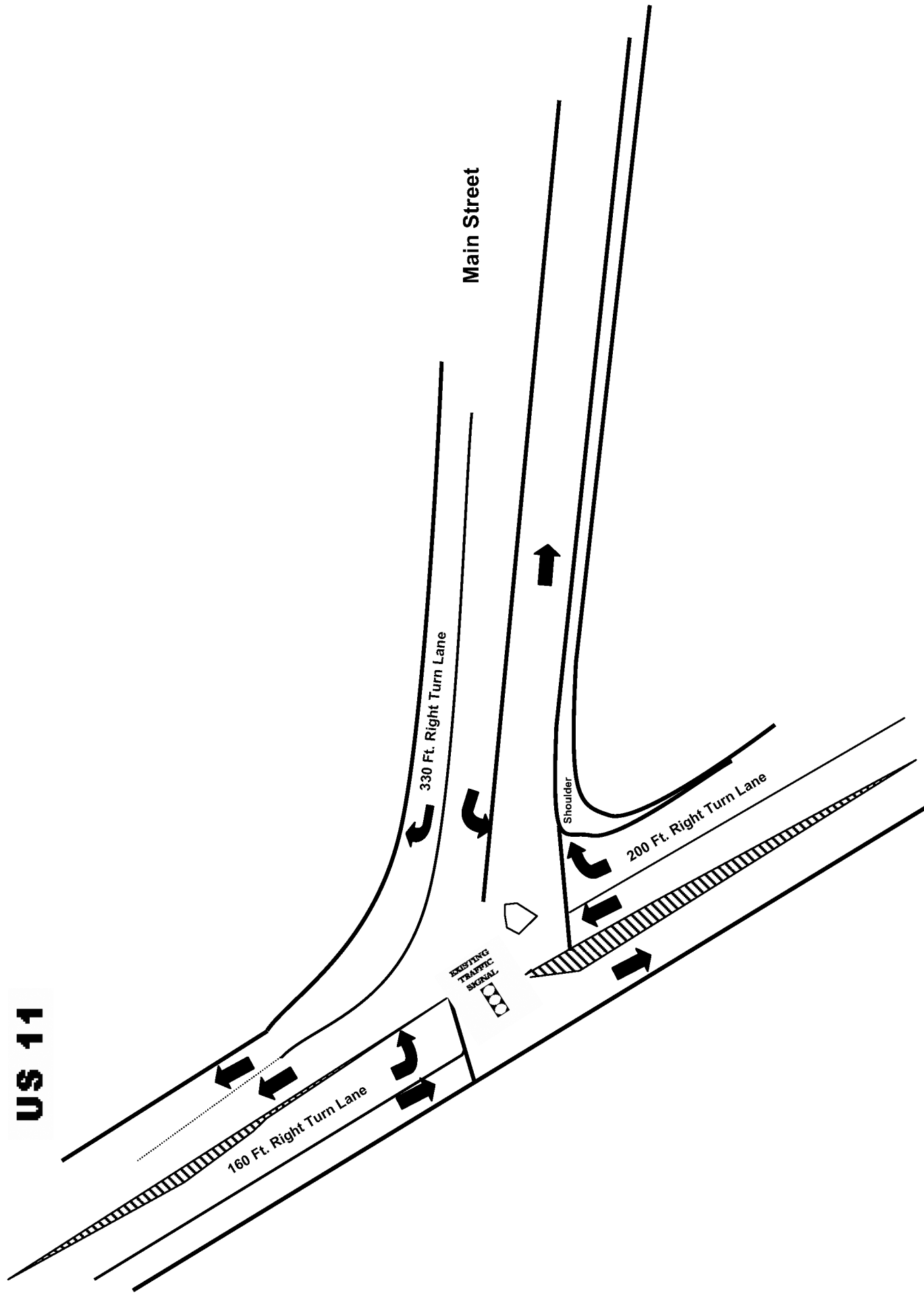
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2. Field Data Collected
3. Signal Permits

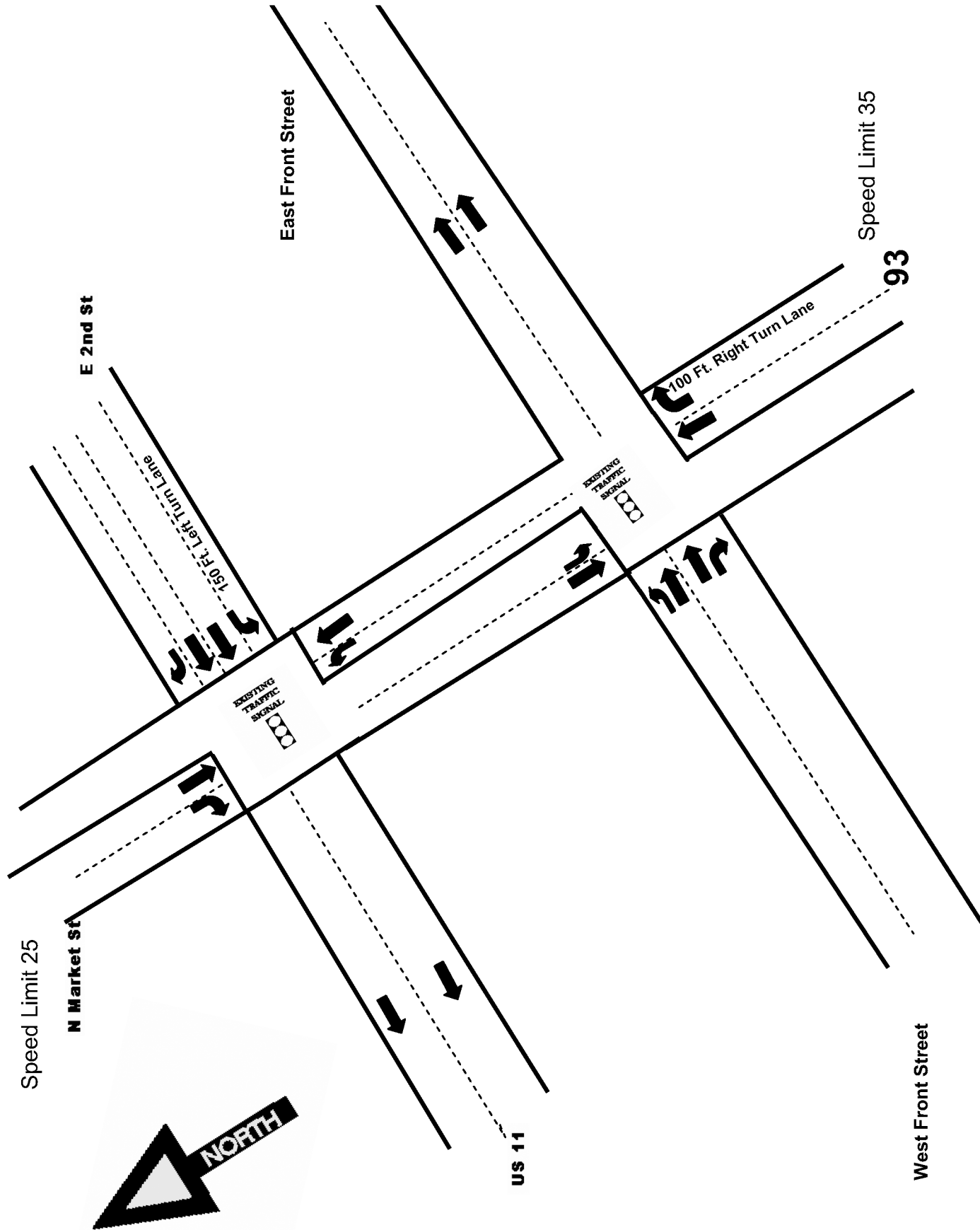
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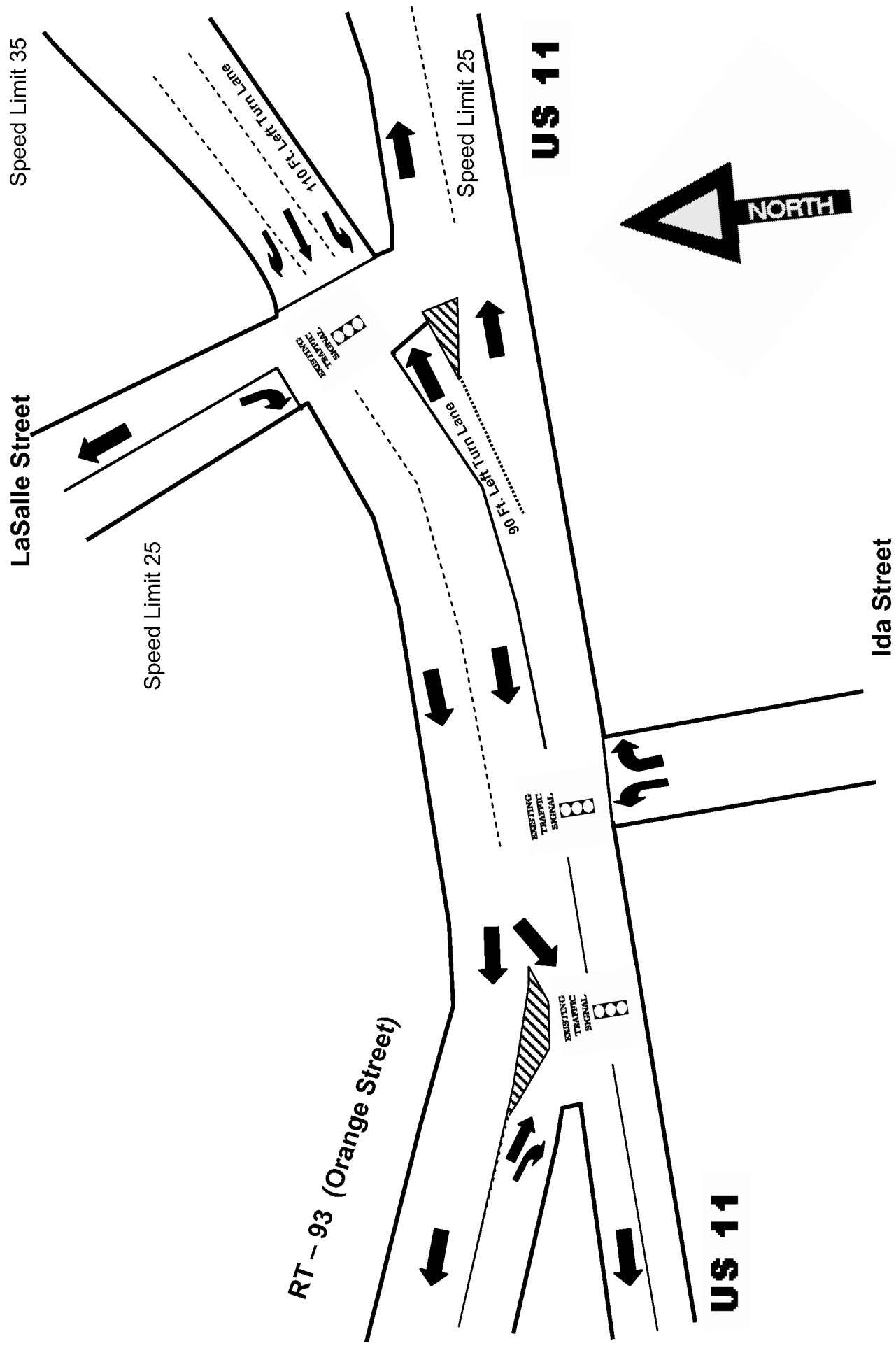
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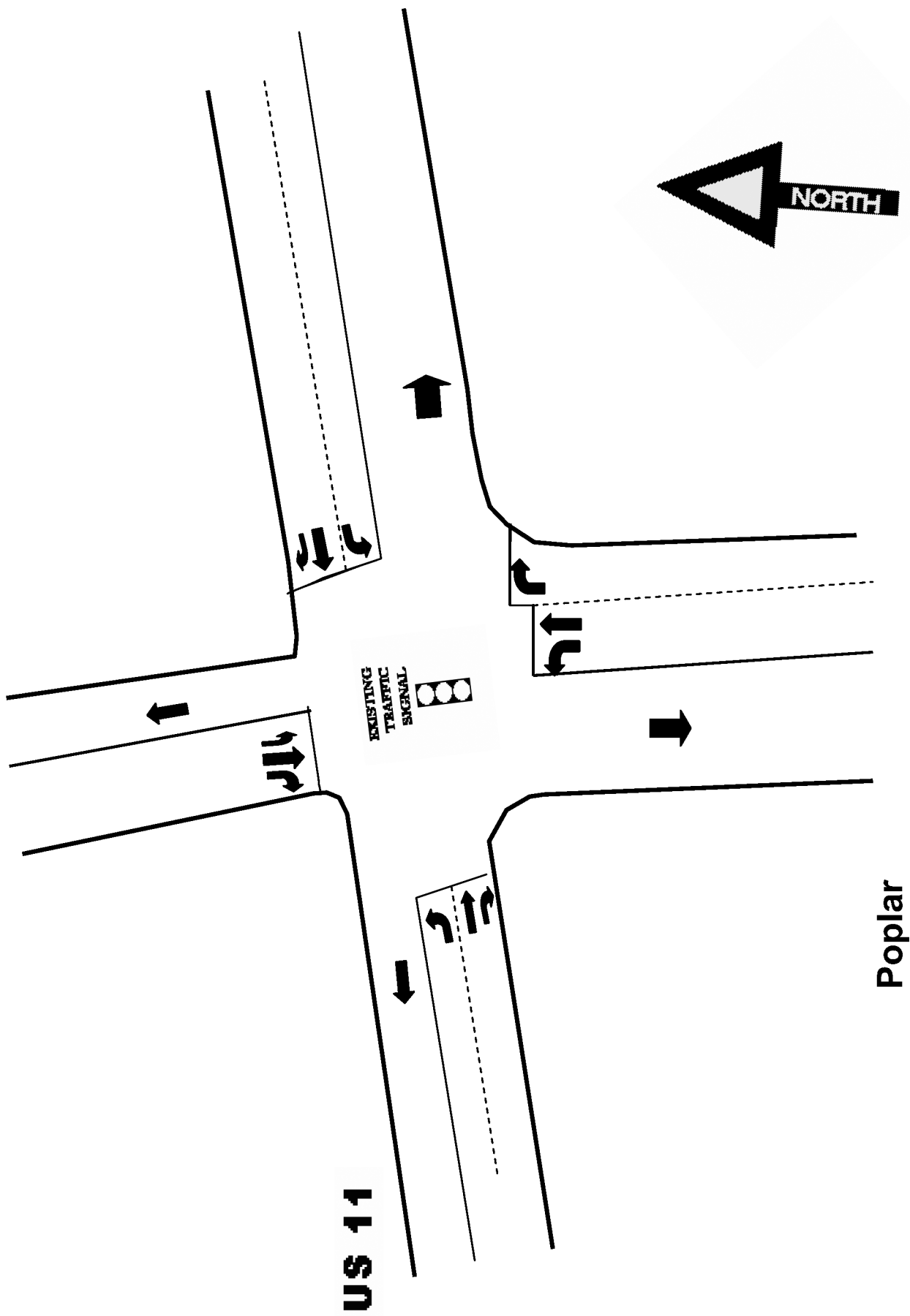


US 11









Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11 / Lasalle St
Date: Thursday, June 12 2008
Tech. RZ

File Name : SM0612-4C
Site Code : 00000000
Start Date : 6/12/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles - RTOR

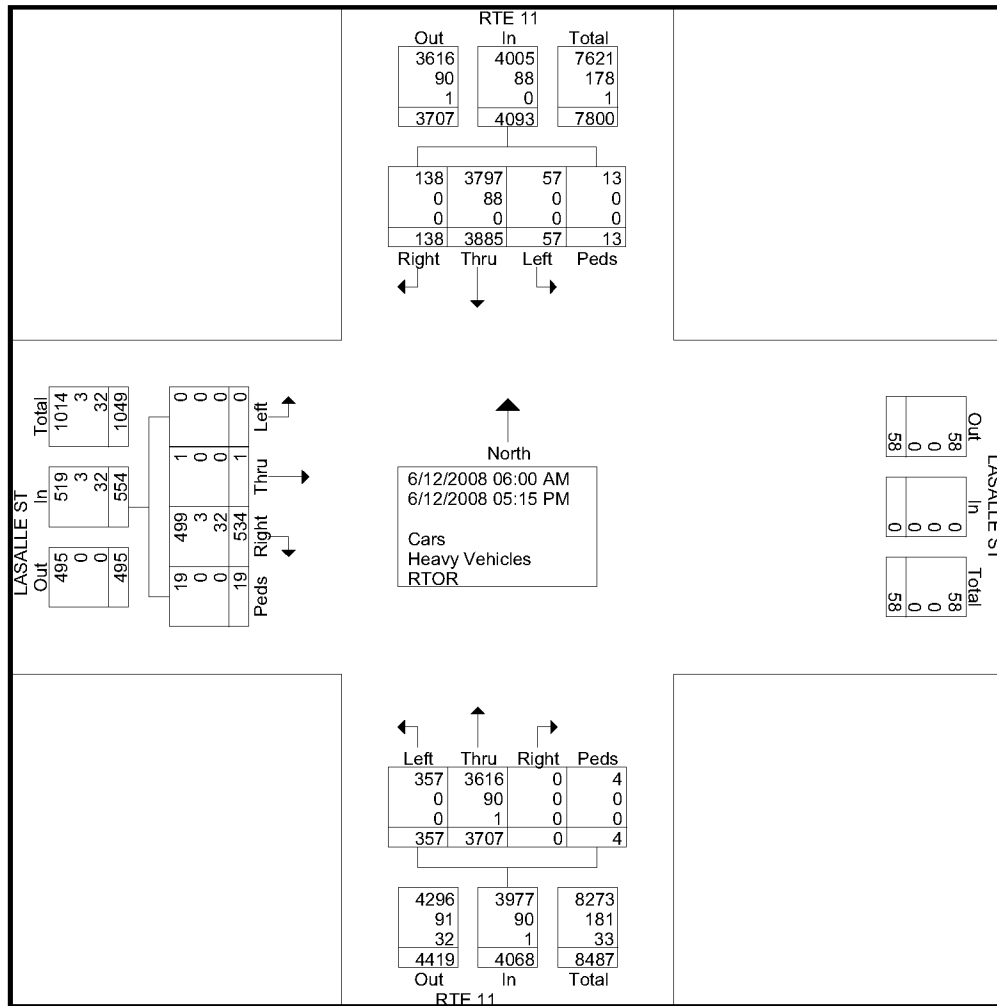
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	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:00 AM	4	76	1	0	81	0	88	8	0	96	6	0	0	0	6	183
06:15 AM	0	86	0	0	86	0	101	9	0	110	8	0	0	0	8	204
06:30 AM	0	115	1	0	116	0	116	16	0	132	11	0	0	0	11	259
06:45 AM	2	106	0	0	108	0	83	20	0	103	4	0	0	0	4	215
Total	6	383	2	0	391	0	388	53	0	441	29	0	0	0	29	861
07:00 AM	1	99	0	0	100	0	89	9	0	98	14	0	0	0	14	212
07:15 AM	4	109	3	0	116	0	124	8	0	132	8	0	0	1	9	257
07:30 AM	3	149	2	0	154	0	96	11	0	107	20	0	0	0	20	281
07:45 AM	6	172	3	1	182	0	80	21	1	102	19	0	0	2	21	305
Total	14	529	8	1	552	0	389	49	1	439	61	0	0	3	64	1055
08:00 AM	9	117	2	1	129	0	126	9	0	135	11	0	0	0	11	275
08:15 AM	2	140	2	0	144	0	138	4	0	142	15	0	0	0	15	301
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08:45 AM	4	131	0	0	135	0	133	11	0	144	10	0	0	1	11	290
Total	19	503	4	1	527	0	515	30	1	546	46	0	0	3	49	1122
*** BREAK ***																
02:30 PM	8	180	1	0	189	0	184	19	0	203	26	0	0	0	26	418
02:45 PM	8	164	4	1	177	0	152	21	0	173	28	0	0	1	29	379
Total	16	344	5	1	366	0	336	40	0	376	54	0	0	1	55	797
03:00 PM	13	223	4	0	240	0	189	9	0	198	43	0	0	0	43	481
03:15 PM	7	218	1	3	229	0	204	16	1	221	31	0	0	2	33	483
03:30 PM	8	225	5	0	238	0	197	22	1	220	38	0	0	1	39	497
03:45 PM	10	187	3	2	202	0	221	20	0	241	30	0	0	0	30	473
Total	38	853	13	5	909	0	811	67	2	880	142	0	0	3	145	1934
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Total	29	879	15	5	928	0	820	76	0	896	140	0	0	6	146	1970
05:00 PM	11	214	4	0	229	0	234	9	0	243	32	0	0	1	33	505
05:15 PM	5	180	6	0	191	0	214	33	0	247	30	1	0	2	33	471
Grand Total	138	3885	57	13	4093	0	3707	357	4	4068	534	1	0	19	554	8715
Apprch %	3.4	94.9	1.4	0.3		0	91.1	8.8	0.1		96.4	0.2	0	3.4		
Total %	1.6	44.6	0.7	0.1	47	0	42.5	4.1	0	46.7	6.1	0	0	0.2	6.4	
Cars	138	3797	57	13	4005	0	3616	357	4	3977	499	1	0	19	519	8501
% Cars	100	97.7	100	100	97.8	0	97.5	100	100	97.8	93.4	100	0	100	93.7	97.5
Heavy Vehicles	0	88	0	0	88	0	90	0	0	90	3	0	0	0	3	181
% Heavy Vehicles	0	2.3	0	0	2.2	0	2.4	0	0	2.2	0.6	0	0	0	0.5	2.1
RTOR	0	0	0	0	0	0	1	0	0	1	32	0	0	0	32	33
% RTOR	0	0	0	0	0	0	0	0	0	0	6	0	0	0	5.8	0.4

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Location: Columbia County, PA
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File Name : SM0612-4C
Site Code : 00000000
Start Date : 6/12/2008
Page No : 2



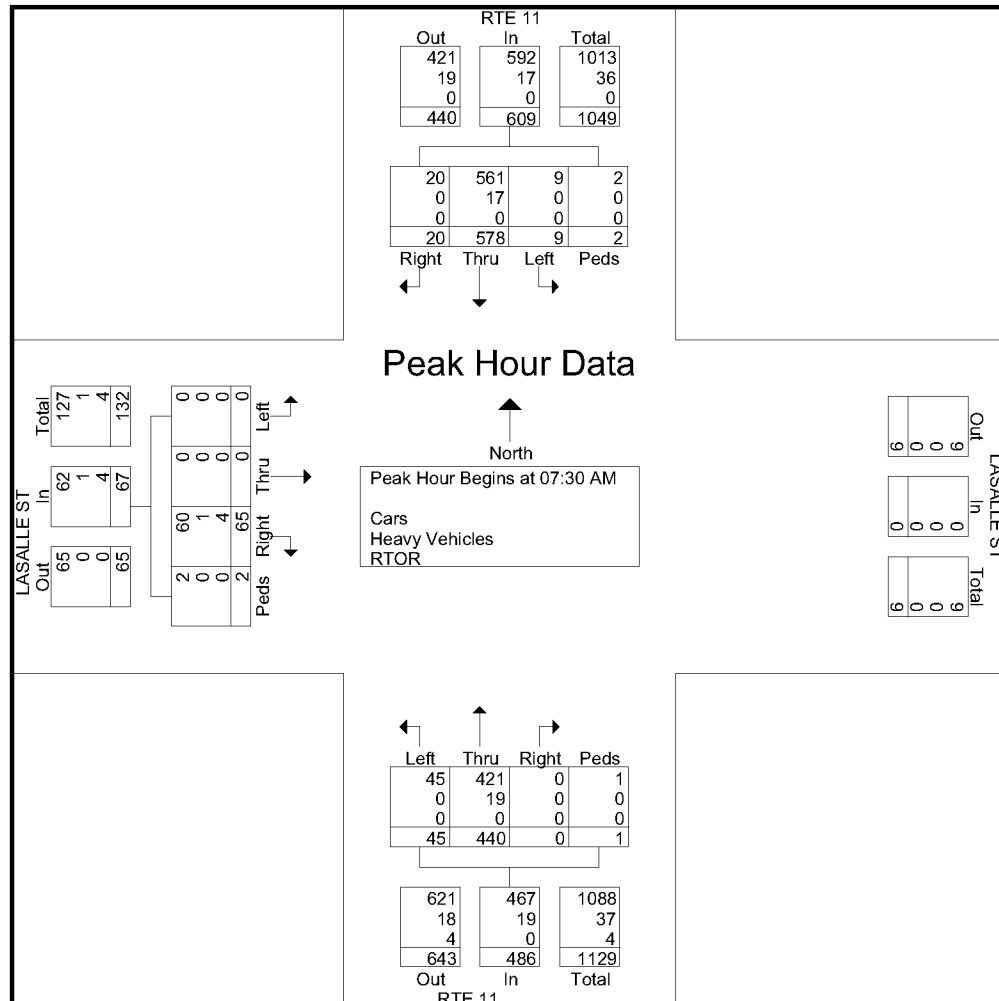
Tri-State Traffic Data, Inc.

610-466-1469
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Location: Columbia County, PA
Intersection: US 11 / Lasalle St
Date: Thursday, June 12 2008
Tech. RZ

File Name : SM0612-4C
Site Code : 00000000
Start Date : 6/12/2008
Page No : 3

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Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:30 AM																
07:30 AM	3	149	2	0	154	0	96	11	0	107	20	0	0	0	20	281
07:45 AM	6	172	3	1	182	0	80	21	1	102	19	0	0	2	21	305
08:00 AM	9	117	2	1	129	0	126	9	0	135	11	0	0	0	11	275
08:15 AM	2	140	2	0	144	0	138	4	0	142	15	0	0	0	15	301
Total Volume	20	578	9	2	609	0	440	45	1	486	65	0	0	2	67	1162
% App. Total	3.3	94.9	1.5	0.3		0	90.5	9.3	0.2		97	0	0	3		
PHF	.556	.840	.750	.500	.837	.000	.797	.536	.250	.856	.813	.000	.000	.250	.798	.952
Cars	20	561	9	2	592	0	421	45	1	467	60	0	0	2	62	1121
% Cars	100	97.1	100	100	97.2	0	95.7	100	100	96.1	92.3	0	0	100	92.5	96.5
Heavy Vehicles	0	17	0	0	17	0	19	0	0	19	1	0	0	0	1	37
% Heavy Vehicles	0	2.9	0	0	2.8	0	4.3	0	0	3.9	1.5	0	0	0	1.5	3.2
RTOR	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	4
% RTOR	0	0	0	0	0	0	0	0	0	0	6.2	0	0	0	6.0	0.3



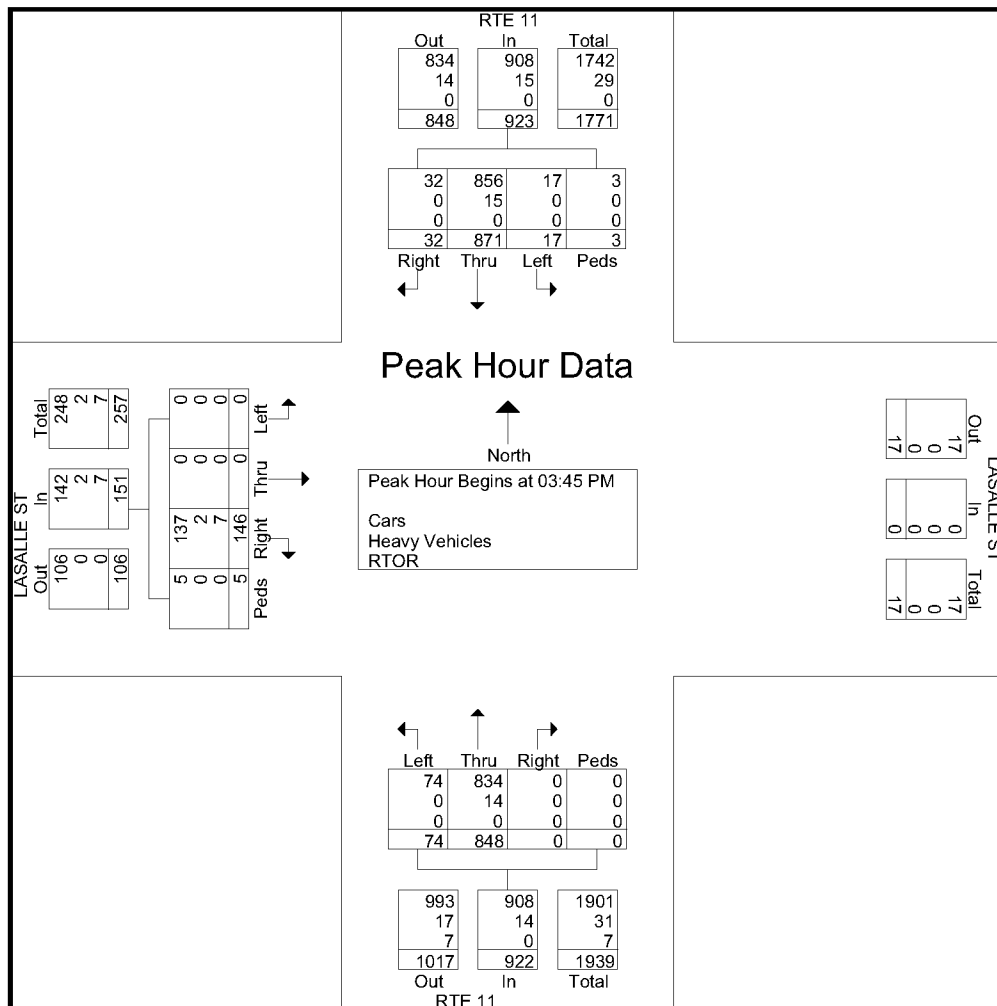
Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11 / Lasalle St
Date: Thursday, June 12 2008
Tech. RZ

File Name : SM0612-4C
Site Code : 00000000
Start Date : 6/12/2008
Page No : 4

	RTE 11 Southbound					RTE 11 Northbound					LASALLE ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 03:45 PM																
03:45 PM	10	187	3	2	202	0	221	20	0	241	30	0	0	0	30	473
04:00 PM	8	224	1	0	233	0	210	16	0	226	39	0	0	2	41	500
04:15 PM	11	223	7	1	242	0	188	17	0	205	21	0	0	1	22	469
04:30 PM	3	237	6	0	246	0	229	21	0	250	56	0	0	2	58	554
Total Volume	32	871	17	3	923	0	848	74	0	922	146	0	0	5	151	1996
% App. Total	3.5	94.4	1.8	0.3		0	92	8	0		96.7	0	0	3.3		
PHF	.727	.919	.607	.375	.938	.000	.926	.881	.000	.922	.652	.000	.000	.625	.651	.901
Cars	32	856	17	3	908	0	834	74	0	908	137	0	0	5	142	1958
% Cars	100	98.3	100	100	98.4	0	98.3	100	0	98.5	93.8	0	0	100	94.0	98.1
Heavy Vehicles	0	15	0	0	15	0	14	0	0	14	2	0	0	0	2	31
% Heavy Vehicles	0	1.7	0	0	1.6	0	1.7	0	0	1.5	1.4	0	0	0	1.3	1.6
RTOR	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7	7
% RTOR	0	0	0	0	0	0	0	0	0	0	4.8	0	0	0	4.6	0.4



Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11 Nb/Rt. 93
Date: Thursday, June 12, 2008
Counter: BB

File Name : SM0612-2
Site Code : 00000000
Start Date : 6/12/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles - RTOR

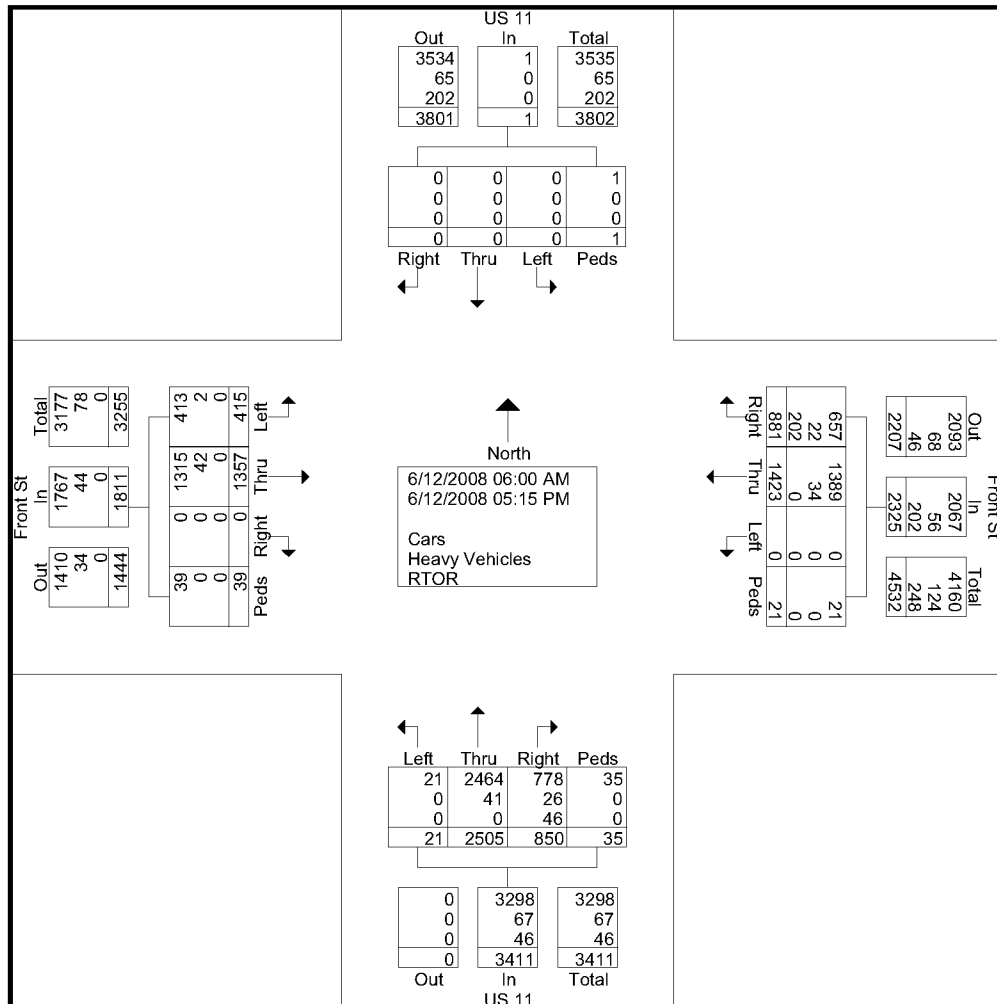
Start Time	US 11 Southbound					Front St Westbound					US 11 Northbound					Front St Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:00 AM	0	0	0	0	0	37	29	0	0	66	21	83	0	0	104	0	30	17	1	48	218
06:15 AM	0	0	0	0	0	51	26	0	0	77	13	83	0	0	96	0	45	14	0	59	232
06:30 AM	0	0	0	0	0	75	42	0	1	118	17	95	0	2	114	0	31	21	0	52	284
06:45 AM	0	0	0	0	0	33	39	0	2	74	16	67	1	0	84	0	31	19	2	52	210
Total	0	0	0	0	0	196	136	0	3	335	67	328	1	2	398	0	137	71	3	211	944
07:00 AM	0	0	0	0	0	27	52	0	0	79	33	69	0	0	102	0	34	15	1	50	231
07:15 AM	0	0	0	0	0	38	41	0	1	80	27	91	1	0	119	0	38	10	1	49	248
07:30 AM	0	0	0	0	0	27	29	0	0	56	17	68	0	1	86	0	50	11	0	61	203
07:45 AM	0	0	0	0	0	54	100	0	0	154	16	66	0	1	83	0	39	14	0	53	290
Total	0	0	0	0	0	146	222	0	1	369	93	294	1	2	390	0	161	50	2	213	972
08:00 AM	0	0	0	0	0	28	67	0	0	95	27	86	0	0	113	0	32	17	1	50	258
08:15 AM	0	0	0	0	0	39	77	0	1	117	39	69	1	0	109	0	41	16	0	57	283
08:30 AM	0	0	0	0	0	26	56	0	1	83	35	62	0	0	97	0	37	7	0	44	224
08:45 AM	0	0	0	0	0	39	54	0	0	93	24	76	4	5	109	0	31	16	1	48	250
Total	0	0	0	0	0	132	254	0	2	388	125	293	5	5	428	0	141	56	2	199	1015
*** BREAK ***																					
02:30 PM	0	0	0	1	1	37	48	0	0	85	46	116	1	0	163	0	59	14	2	75	324
02:45 PM	0	0	0	0	0	33	70	0	1	104	41	105	2	5	153	0	55	17	1	73	330
Total	0	0	0	1	1	70	118	0	1	189	87	221	3	5	316	0	114	31	3	148	654
03:00 PM	0	0	0	0	0	19	60	0	1	80	40	124	0	1	165	0	83	24	2	109	354
03:15 PM	0	0	0	0	0	34	58	0	1	93	52	114	1	4	171	0	81	17	5	103	367
03:30 PM	0	0	0	0	0	27	70	0	0	97	48	132	2	5	187	0	84	21	4	109	393
03:45 PM	0	0	0	0	0	37	68	0	2	107	44	152	0	4	200	0	73	20	3	96	403
Total	0	0	0	0	0	117	256	0	4	377	184	522	3	14	723	0	321	82	14	417	1517
04:00 PM	0	0	0	0	0	36	67	0	0	103	40	136	2	2	180	0	88	20	1	109	392
04:15 PM	0	0	0	0	0	26	78	0	2	106	46	136	2	1	185	0	64	13	7	84	375
04:30 PM	0	0	0	0	0	39	64	0	2	105	57	164	2	0	223	0	104	25	2	131	459
04:45 PM	0	0	0	0	0	36	67	0	1	104	43	144	0	0	187	0	76	29	1	106	397
Total	0	0	0	0	0	137	276	0	5	418	186	580	6	3	775	0	332	87	11	430	1623
05:00 PM	0	0	0	0	0	41	82	0	5	128	58	144	1	3	206	0	81	20	1	102	436
05:15 PM	0	0	0	0	0	42	79	0	0	121	50	123	1	1	175	0	70	18	3	91	387
Grand Total	0	0	0	1	1	881	1423	0	21	2325	850	2505	21	35	3411	0	1357	415	39	1811	7548
Apprch %	0	0	0	100		37.9	61.2	0	0.9		24.9	73.4	0.6	1		0	74.9	22.9	2.2		
Total %	0	0	0	0	0	11.7	18.9	0	0.3	30.8	11.3	33.2	0.3	0.5	45.2	0	18	5.5	0.5	24	
Cars	0	0	0	1	1	657	1389	0	21	2067	778	2464	21	35	3298	0	1315	413	39	1767	7133
% Cars	0	0	0	100	100	74.6	97.6	0	100	88.9	91.5	98.4	100	100	96.7	0	96.9	99.5	100	97.6	94.5
Heavy Vehicles	0	0	0	0	0	22	34	0	0	56	26	41	0	0	67	0	42	2	0	44	167
% Heavy Vehicles	0	0	0	0	0	2.5	2.4	0	0	2.4	3.1	1.6	0	0	2	0	3.1	0.5	0	2.4	2.2
RTOR	0	0	0	0	0	202	0	0	0	202	46	0	0	0	46	0	0	0	0	0	248
% RTOR	0	0	0	0	0	22.9	0	0	0	8.7	5.4	0	0	0	1.3	0	0	0	0	0	3.3

Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11 Nb/Rt. 93
Date: Thursday, June 12, 2008
Counter: BB

File Name : SM0612-2
Site Code : 00000000
Start Date : 6/12/2008
Page No : 2



Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11 Nb/Rt. 93
Date: Thursday, June 12, 2008
Counter: BB

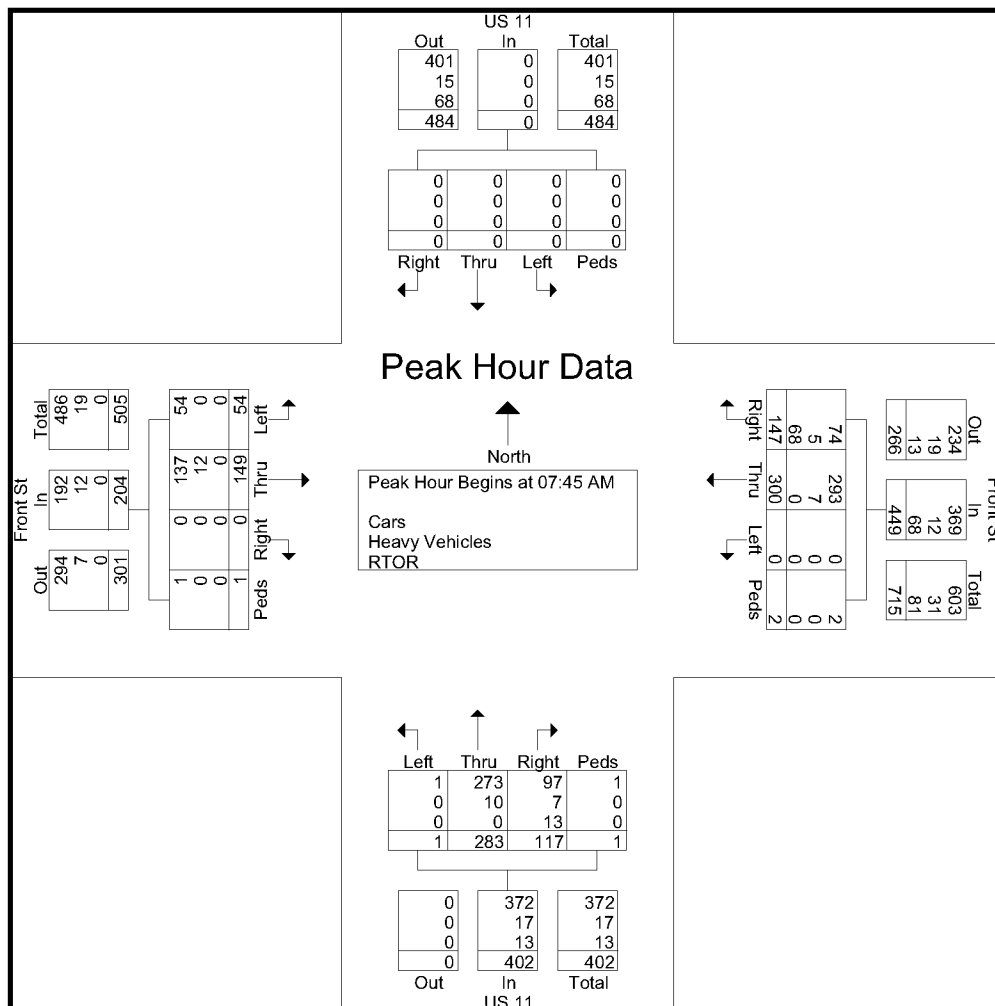
File Name : SM0612-2
Site Code : 00000000
Start Date : 6/12/2008
Page No : 3

	US 11 Southbound					Front St Westbound					US 11 Northbound					Front St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total

Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:45 AM

07:45 AM	0	0	0	0	0	54	100	0	0	154	16	66	0	1	83	0	39	14	0	53	290
08:00 AM	0	0	0	0	0	28	67	0	0	95	27	86	0	0	113	0	32	17	1	50	258
08:15 AM	0	0	0	0	0	39	77	0	1	117	39	69	1	0	109	0	41	16	0	57	283
08:30 AM	0	0	0	0	0	26	56	0	1	83	35	62	0	0	97	0	37	7	0	44	224
Total Volume	0	0	0	0	0	147	300	0	2	449	117	283	1	1	402	0	149	54	1	204	1055
% App. Total	0	0	0	0	0	32.7	66.8	0	0.4		29.1	70.4	0.2	0.2		0	73	26.5	0.5		
PHF	.000	.000	.000	.000	.000	.681	.750	.000	.500	.729	.750	.823	.250	.250	.889	.000	.909	.794	.250	.895	.909
Cars	0	0	0	0	0	74	293	0	2	369	97	273	1	1	372	0	137	54	1	192	933
% Cars	0	0	0	0	0	50.3	97.7	0	100	82.2	82.9	96.5	100	100	92.5	0	91.9	100	100	94.1	88.4
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	3.4	2.3	0	0	2.7	6.0	3.5	0	0	4.2	0	8.1	0	0	5.9	3.9
RTOR	0	0	0	0	0	68	0	0	0	68	13	0	0	0	13	0	0	0	0	0	81
% RTOR	0	0	0	0	0	46.3	0	0	0	15.1	11.1	0	0	0	3.2	0	0	0	0	0	7.7



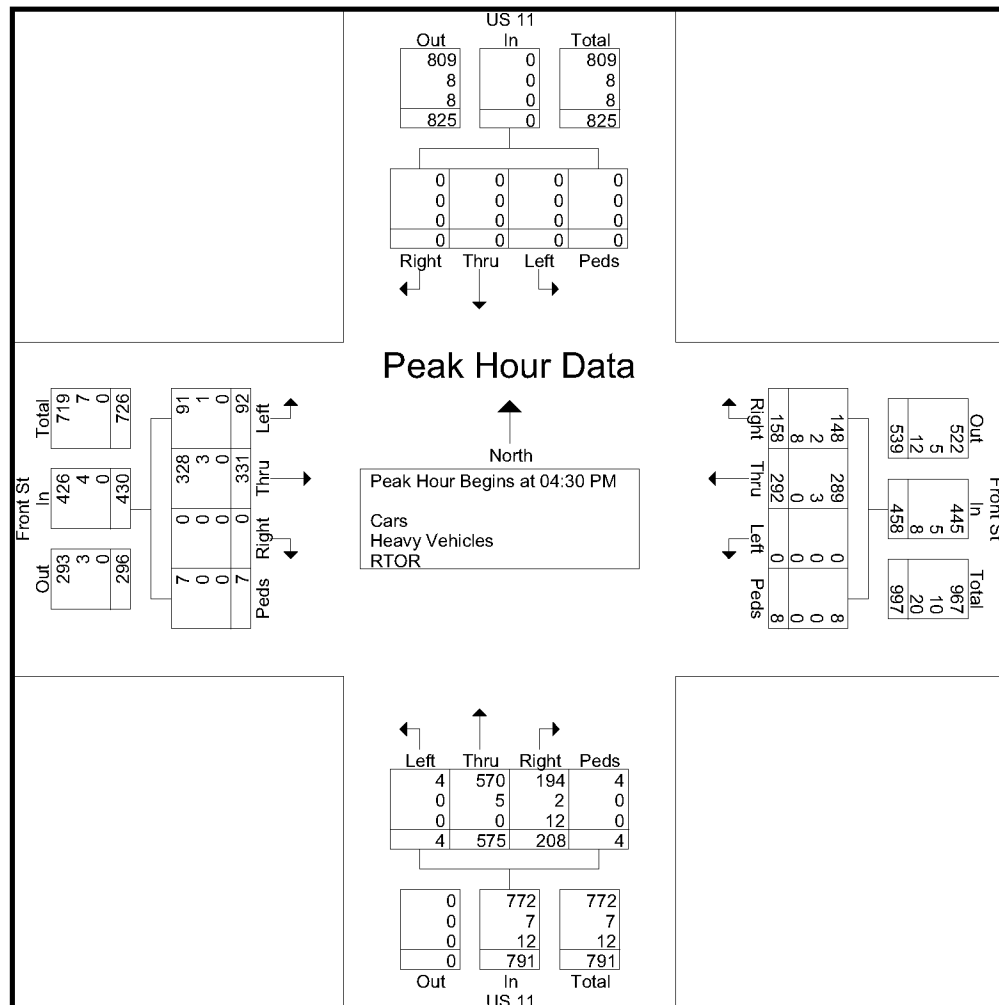
Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11 Nb/Rt. 93
Date: Thursday, June 12, 2008
Counter: BB

File Name : SM0612-2
Site Code : 00000000
Start Date : 6/12/2008
Page No : 4

	US 11 Southbound					Front St Westbound					US 11 Northbound					Front St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	39	64	0	2	105	57	164	2	0	223	0	104	25	2	131	459
04:45 PM	0	0	0	0	0	36	67	0	1	104	43	144	0	0	187	0	76	29	1	106	397
05:00 PM	0	0	0	0	0	41	82	0	5	128	58	144	1	3	206	0	81	20	1	102	436
05:15 PM	0	0	0	0	0	42	79	0	0	121	50	123	1	1	175	0	70	18	3	91	387
Total Volume	0	0	0	0	0	158	292	0	8	458	208	575	4	4	791	0	331	92	7	430	1679
% App. Total	0	0	0	0	0	34.5	63.8	0	1.7		26.3	72.7	0.5	0.5		0	77	21.4	1.6		
PHF	.000	.000	.000	.000	.000	.940	.890	.000	.400	.895	.897	.877	.500	.333	.887	.000	.796	.793	.583	.821	.914
Cars	0	0	0	0	0	148	289	0	8	445	194	570	4	4	772	0	328	91	7	426	1643
% Cars	0	0	0	0	0	93.7	99.0	0	100	97.2	93.3	99.1	100	100	97.6	0	99.1	98.9	100	99.1	97.9
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	1.3	1.0	0	0	1.1	1.0	0.9	0	0	0.9	0	0.9	1.1	0	0.9	1.0
RTOR	0	0	0	0	0	8	0	0	0	8	12	0	0	0	12	0	0	0	0	0	20
% RTOR	0	0	0	0	0	5.1	0	0	0	1.7	5.8	0	0	0	1.5	0	0	0	0	0	1.2



Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11/Main St
Date: Wednesday: June 11, 2008
Counter: JI

File Name : SM0611-6
Site Code : 00000000
Start Date : 6/11/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles - RTOR

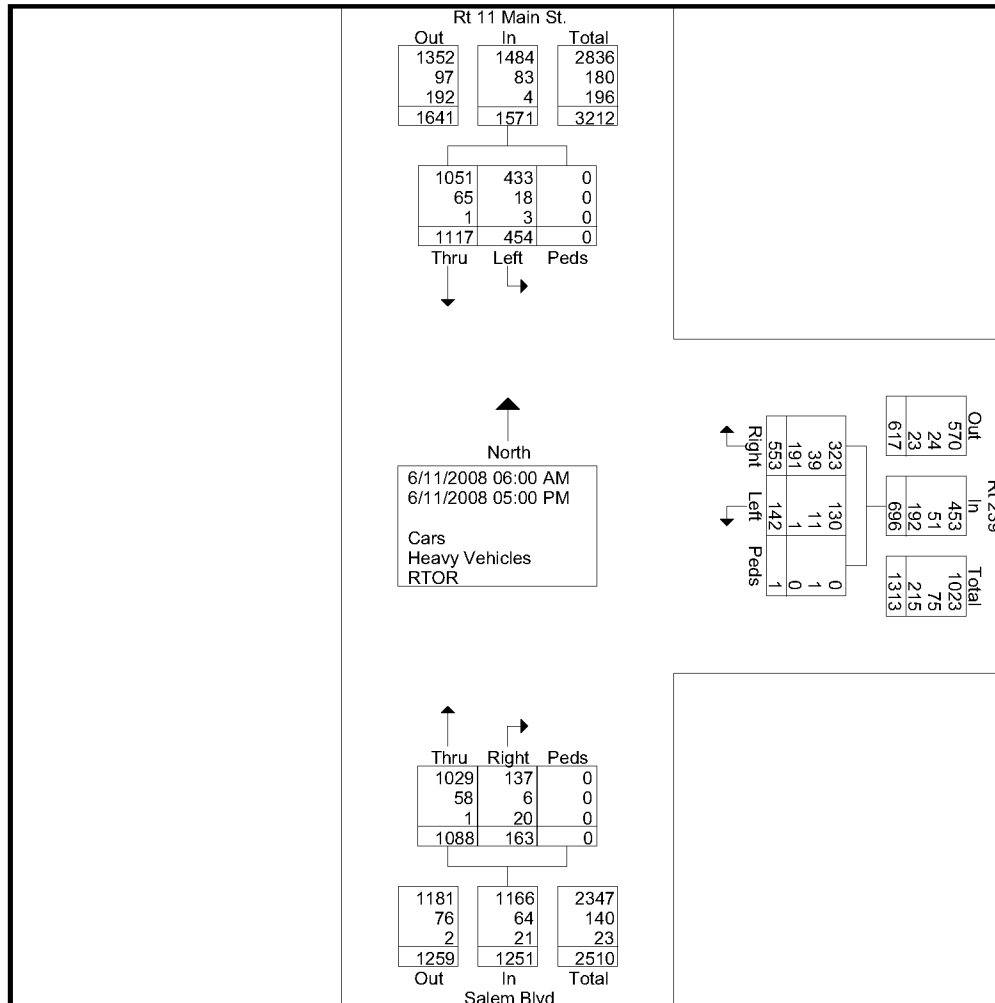
Start Time	Rt 11 Main St. Southbound				Rt 239 Westbound				Salem Blvd Northbound				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
06:00 AM	48	9	0	57	13	9	0	22	3	25	0	28	107
06:15 AM	80	20	0	100	16	8	0	24	4	37	0	41	165
06:30 AM	86	14	0	100	19	19	0	38	1	35	0	36	174
06:45 AM	54	16	0	70	20	7	0	27	2	30	0	32	129
Total	268	59	0	327	68	43	0	111	10	127	0	137	575
07:00 AM	42	12	0	54	17	7	0	24	5	37	0	42	120
07:15 AM	50	17	0	67	16	9	0	25	3	43	0	46	138
07:30 AM	50	12	0	62	27	7	0	34	1	40	0	41	137
07:45 AM	51	14	0	65	21	7	0	28	4	38	0	42	135
Total	193	55	0	248	81	30	0	111	13	158	0	171	530
08:00 AM	45	18	0	63	18	3	0	21	5	24	0	29	113
08:15 AM	40	15	0	55	18	4	0	22	2	29	0	31	108
08:30 AM	40	17	0	57	21	5	0	26	5	32	0	37	120
08:45 AM	26	10	0	36	21	1	1	23	4	33	0	37	96
Total	151	60	0	211	78	13	1	92	16	118	0	134	437
02:30 PM	45	16	0	61	24	7	0	31	8	50	0	58	150
02:45 PM	34	19	0	53	28	12	0	40	7	60	0	67	160
Total	79	35	0	114	52	19	0	71	15	110	0	125	310
03:00 PM	35	23	0	58	30	3	0	33	11	64	0	75	166
03:15 PM	38	21	0	59	23	6	0	29	13	61	0	74	162
03:30 PM	48	20	0	68	23	9	0	32	20	64	0	84	184
03:45 PM	60	26	0	86	37	5	0	42	18	55	0	73	201
Total	181	90	0	271	113	23	0	136	62	244	0	306	713
04:00 PM	61	31	0	92	34	2	0	36	11	63	0	74	202
04:15 PM	56	38	0	94	32	4	0	36	14	80	0	94	224
04:30 PM	39	40	0	79	23	1	0	24	9	65	0	74	177
04:45 PM	52	25	0	77	38	5	0	43	8	71	0	79	199
Total	208	134	0	342	127	12	0	139	42	279	0	321	802
05:00 PM	37	21	0	58	34	2	0	36	5	52	0	57	151
Grand Total	1117	454	0	1571	553	142	1	696	163	1088	0	1251	3518
Apprch %	71.1	28.9	0		79.5	20.4	0.1		13	87	0		
Total %	31.8	12.9	0	44.7	15.7	4	0	19.8	4.6	30.9	0	35.6	
Cars	1051	433	0	1484	323	130	0	453	137	1029	0	1166	3103
% Cars	94.1	95.4	0	94.5	58.4	91.5	0	65.1	84	94.6	0	93.2	88.2
Heavy Vehicles	65	18	0	83	39	11	1	51	6	58	0	64	198
% Heavy Vehicles	5.8	4	0	5.3	7.1	7.7	100	7.3	3.7	5.3	0	5.1	5.6
RTOR	1	3	0	4	191	1	0	192	20	1	0	21	217
% RTOR	0.1	0.7	0	0.3	34.5	0.7	0	27.6	12.3	0.1	0	1.7	6.2

Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11/Main St
Date: Wednesday: June 11, 2008
Counter: JI

File Name : SM0611-6
Site Code : 00000000
Start Date : 6/11/2008
Page No : 2



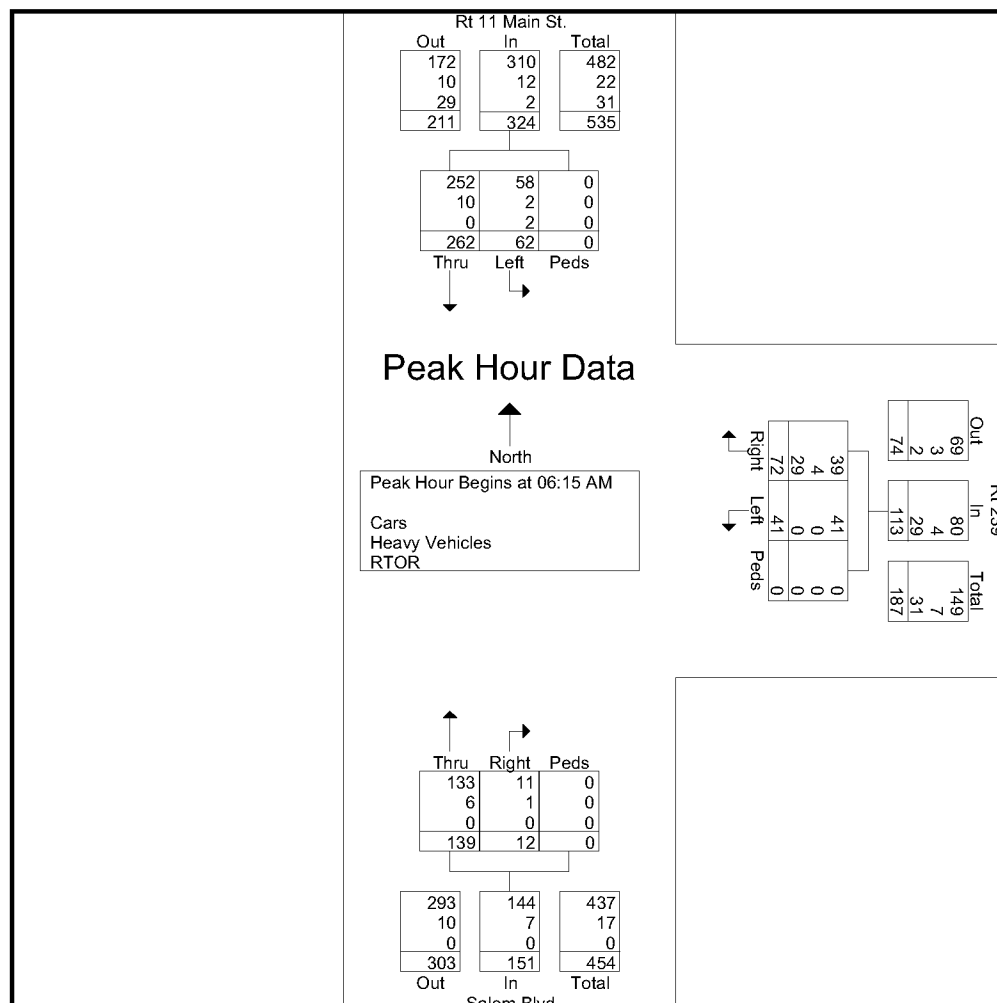
Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11/Main St
Date: Wednesday: June 11, 2008
Counter: JI

File Name : SM0611-6
Site Code : 00000000
Start Date : 6/11/2008
Page No : 3

	Rt 11 Main St. Southbound				Rt 239 Westbound				Salem Blvd Northbound				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 06:15 AM													
06:15 AM	80	20	0	100	16	8	0	24	4	37	0	41	165
06:30 AM	86	14	0	100	19	19	0	38	1	35	0	36	174
06:45 AM	54	16	0	70	20	7	0	27	2	30	0	32	129
07:00 AM	42	12	0	54	17	7	0	24	5	37	0	42	120
Total Volume	262	62	0	324	72	41	0	113	12	139	0	151	588
% App. Total	80.9	19.1	0		63.7	36.3	0		7.9	92.1	0		
PHF	.762	.775	.000	.810	.900	.539	.000	.743	.600	.939	.000	.899	.845
Cars	252	58	0	310	39	41	0	80	11	133	0	144	534
% Cars	96.2	93.5	0	95.7	54.2	100	0	70.8	91.7	95.7	0	95.4	90.8
Heavy Vehicles	10	2	0	12	4	0	0	4	1	6	0	7	23
% Heavy Vehicles	3.8	3.2	0	3.7	5.6	0	0	3.5	8.3	4.3	0	4.6	3.9
RTOR	0	2	0	2	29	0	0	29	0	0	0	0	31
% RTOR	0	3.2	0	0.6	40.3	0	0	25.7	0	0	0	0	5.3



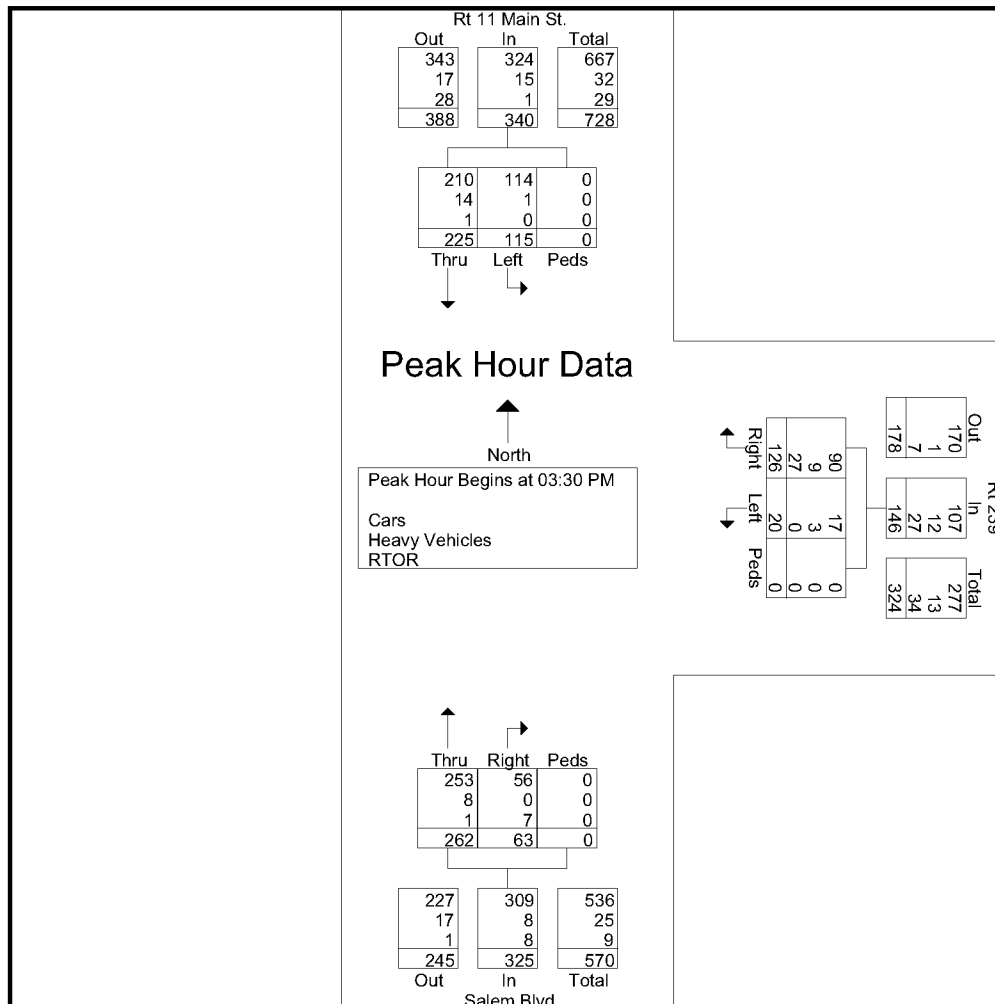
Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11/Main St
Date: Wednesday: June 11, 2008
Counter: JI

File Name : SM0611-6
Site Code : 00000000
Start Date : 6/11/2008
Page No : 4

	Rt 11 Main St. Southbound				Rt 239 Westbound				Salem Blvd Northbound				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:00 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:30 PM													
03:30 PM	48	20	0	68	23	9	0	32	20	64	0	84	184
03:45 PM	60	26	0	86	37	5	0	42	18	55	0	73	201
04:00 PM	61	31	0	92	34	2	0	36	11	63	0	74	202
04:15 PM	56	38	0	94	32	4	0	36	14	80	0	94	224
Total Volume	225	115	0	340	126	20	0	146	63	262	0	325	811
% App. Total	66.2	33.8	0		86.3	13.7	0		19.4	80.6	0		
PHF	.922	.757	.000	.904	.851	.556	.000	.869	.788	.819	.000	.864	.905
Cars	210	114	0	324	90	17	0	107	56	253	0	309	740
% Cars	93.3	99.1	0	95.3	71.4	85.0	0	73.3	88.9	96.6	0	95.1	91.2
Heavy Vehicles	14	1	0	15	9	3	0	12	0	8	0	8	35
% Heavy Vehicles	6.2	0.9	0	4.4	7.1	15.0	0	8.2	0	3.1	0	2.5	4.3
RTOR	1	0	0	1	27	0	0	27	7	1	0	8	36
% RTOR	0.4	0	0	0.3	21.4	0	0	18.5	11.1	0.4	0	2.5	4.4



Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11/E.2nd St
Date: Thursday, June 12, 2008
Counter: LE

File Name : SM0611-1
Site Code : 00000000
Start Date : 6/12/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles - RTOR

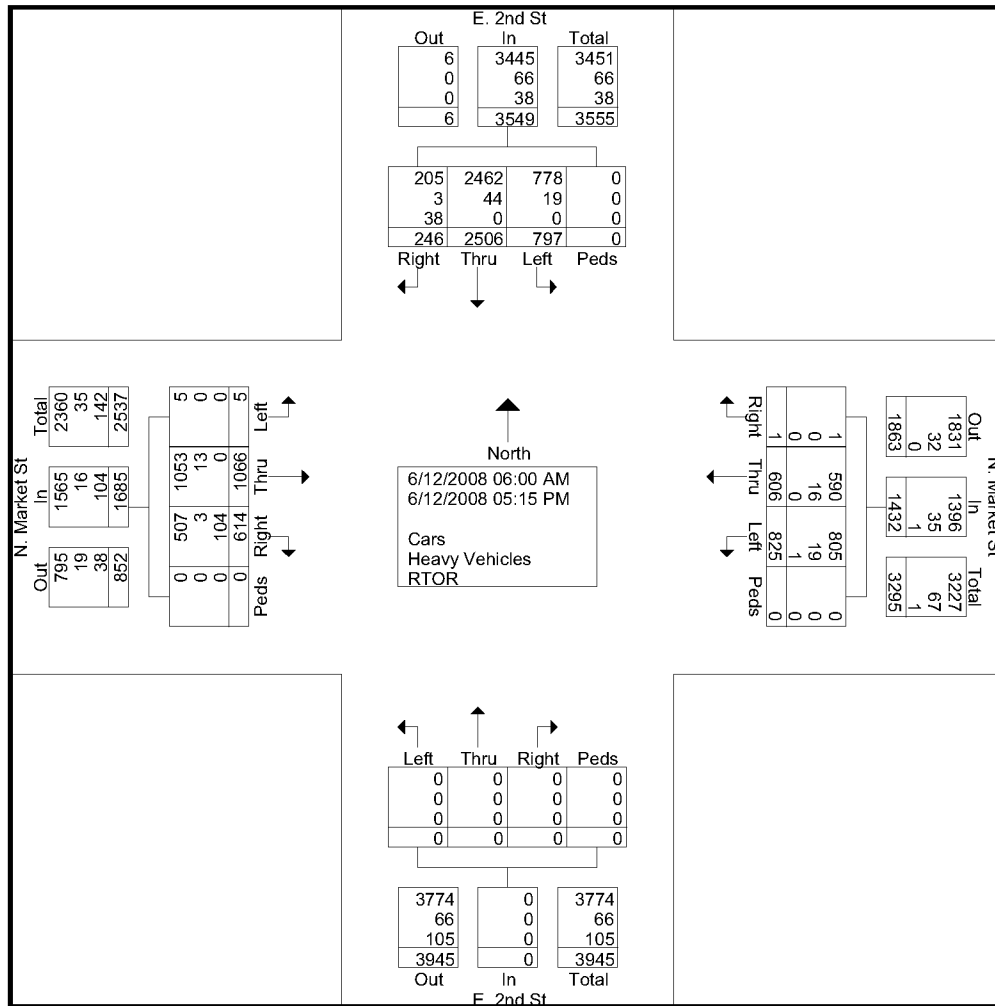
Start Time	E. 2nd St Southbound					N. Market St Westbound					E. 2nd St Northbound					N. Market St Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:00 AM	6	52	13	0	71	0	11	18	0	29	0	0	0	0	0	14	36	0	0	50	150
06:15 AM	6	58	19	0	83	0	11	17	0	28	0	0	0	0	0	19	45	0	0	64	175
06:30 AM	9	86	16	0	111	0	24	33	0	57	0	0	0	0	0	20	39	0	0	59	227
06:45 AM	7	73	14	0	94	0	18	17	0	35	0	0	0	0	0	21	36	0	0	57	186
Total	28	269	62	0	359	0	64	85	0	149	0	0	0	0	0	74	156	0	0	230	738
07:00 AM	5	49	14	0	68	0	21	30	0	51	0	0	0	0	0	20	44	4	0	68	187
07:15 AM	7	99	22	0	128	0	19	24	0	43	0	0	0	0	0	20	35	1	0	56	227
07:30 AM	14	145	25	0	184	0	8	28	0	36	0	0	0	0	0	21	38	0	0	59	279
07:45 AM	15	96	23	0	134	0	42	67	0	109	0	0	0	0	0	26	36	0	0	62	305
Total	41	389	84	0	514	0	90	149	0	239	0	0	0	0	0	87	153	5	0	245	998
08:00 AM	3	63	21	0	87	0	23	42	0	65	0	0	0	0	0	27	30	0	0	57	209
08:15 AM	7	81	29	0	117	0	41	32	0	73	0	0	0	0	0	22	27	0	0	49	239
08:30 AM	8	69	14	0	91	0	14	33	0	47	0	0	0	0	0	18	29	0	0	47	185
08:45 AM	2	89	14	0	105	0	27	17	0	44	0	0	0	0	0	26	32	0	0	58	207
Total	20	302	78	0	400	0	105	124	0	229	0	0	0	0	0	93	118	0	0	211	840
*** BREAK ***																					
02:30 PM	12	130	43	0	185	0	36	26	0	62	0	0	0	0	0	29	47	0	0	76	323
02:45 PM	4	114	32	0	150	0	29	32	0	61	0	0	0	0	0	41	51	0	0	92	303
Total	16	244	75	0	335	0	65	58	0	123	0	0	0	0	0	70	98	0	0	168	626
03:00 PM	18	152	58	0	228	0	41	42	0	83	0	0	0	0	0	40	56	0	0	96	407
03:15 PM	8	150	56	0	214	0	21	38	0	59	0	0	0	0	0	29	56	0	0	85	358
03:30 PM	34	150	62	0	246	0	32	58	0	90	0	0	0	0	0	24	47	0	0	71	407
03:45 PM	10	147	61	0	218	0	23	35	0	58	0	0	0	0	0	42	64	0	0	106	382
Total	70	599	237	0	906	0	117	173	0	290	0	0	0	0	0	135	223	0	0	358	1554
04:00 PM	19	135	58	0	212	0	36	41	0	77	0	0	0	0	0	31	60	0	0	91	380
04:15 PM	21	142	47	0	210	1	26	39	0	66	0	0	0	0	0	25	29	0	0	54	330
04:30 PM	10	122	52	0	184	0	28	38	0	66	0	0	0	0	0	30	69	0	0	99	349
04:45 PM	8	85	44	0	137	0	16	26	0	42	0	0	0	0	0	25	65	0	0	90	269
Total	58	484	201	0	743	1	106	144	0	251	0	0	0	0	0	111	223	0	0	334	1328
05:00 PM	6	103	31	0	140	0	35	53	0	88	0	0	0	0	0	20	46	0	0	66	294
05:15 PM	7	116	29	0	152	0	24	39	0	63	0	0	0	0	0	24	49	0	0	73	288
Grand Total	246	2506	797	0	3549	1	606	825	0	1432	0	0	0	0	0	614	1066	5	0	1685	6666
Apprch %	6.9	70.6	22.5	0		0.1	42.3	57.6	0		0	0	0	0	0	36.4	63.3	0.3	0		
Total %	3.7	37.6	12	0	53.2	0	9.1	12.4	0	21.5	0	0	0	0	0	9.2	16	0.1	0	25.3	
Cars	205	2462	778	0	3445	1	590	805	0	1396	0	0	0	0	0	507	1053	5	0	1565	6406
% Cars	83.3	98.2	97.6	0	97.1	100	97.4	97.6	0	97.5	0	0	0	0	0	82.6	98.8	100	0	92.9	96.1
Heavy Vehicles	3	44	19	0	66	0	16	19	0	35	0	0	0	0	0	3	13	0	0	16	117
% Heavy Vehicles	1.2	1.8	2.4	0	1.9	0	2.6	2.3	0	2.4	0	0	0	0	0	0.5	1.2	0	0	0.9	1.8
RTOR	38	0	0	0	38	0	0	1	0	1	0	0	0	0	0	104	0	0	0	104	143
% RTOR	15.4	0	0	0	1.1	0	0	0.1	0	0.1	0	0	0	0	0	16.9	0	0	0	6.2	2.1

Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11/E.2nd St
Date: Thursday, June 12, 2008
Counter: LE

File Name : SM0611-1
Site Code : 00000000
Start Date : 6/12/2008
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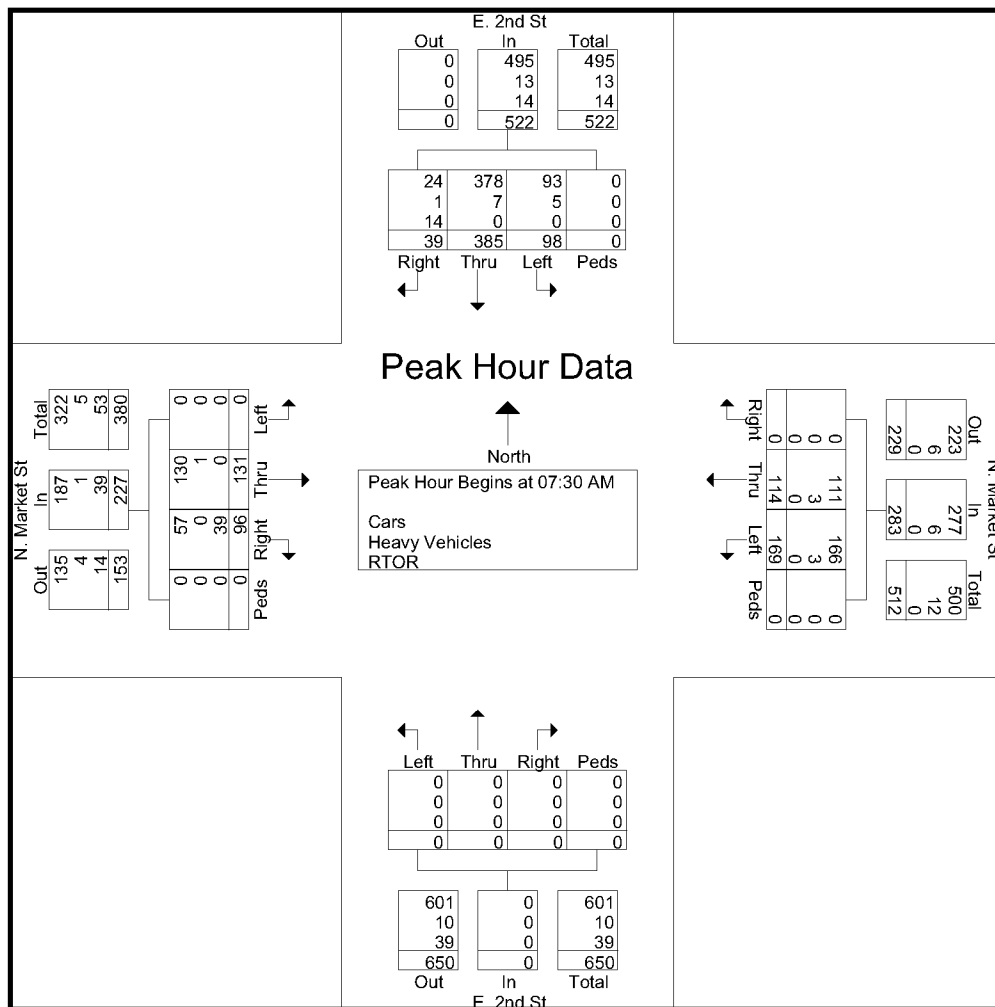
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	E. 2nd St Southbound					N. Market St Westbound					E. 2nd St Northbound					N. Market St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	14	145	25	0	184	0	8	28	0	36	0	0	0	0	0	21	38	0	0	59	279
07:45 AM	15	96	23	0	134	0	42	67	0	109	0	0	0	0	0	26	36	0	0	62	305
08:00 AM	3	63	21	0	87	0	23	42	0	65	0	0	0	0	0	27	30	0	0	57	209
08:15 AM	7	81	29	0	117	0	41	32	0	73	0	0	0	0	0	22	27	0	0	49	239
Total Volume	39	385	98	0	522	0	114	169	0	283	0	0	0	0	0	96	131	0	0	227	1032
% App. Total	7.5	73.8	18.8	0		0	40.3	59.7	0		0	0	0	0	0	42.3	57.7	0	0		
PHF	.650	.664	.845	.000	.709	.000	.679	.631	.000	.649	.000	.000	.000	.000	.000	.889	.862	.000	.000	.915	.846
Cars	24	378	93	0	495	0	111	166	0	277	0	0	0	0	0	57	130	0	0	187	959
% Cars	61.5	98.2	94.9	0	94.8	0	97.4	98.2	0	97.9	0	0	0	0	0	59.4	99.2	0	0	82.4	92.9
Heavy Vehicles																					
% Heavy Vehicles	2.6	1.8	5.1	0	2.5	0	2.6	1.8	0	2.1	0	0	0	0	0	0	0.8	0	0	0.4	1.9
RTOR	14	0	0	0	14	0	0	0	0	0	0	0	0	0	0	39	0	0	0	39	53
% RTOR	35.9	0	0	0	2.7	0	0	0	0	0	0	0	0	0	0	40.6	0	0	0	17.2	5.1



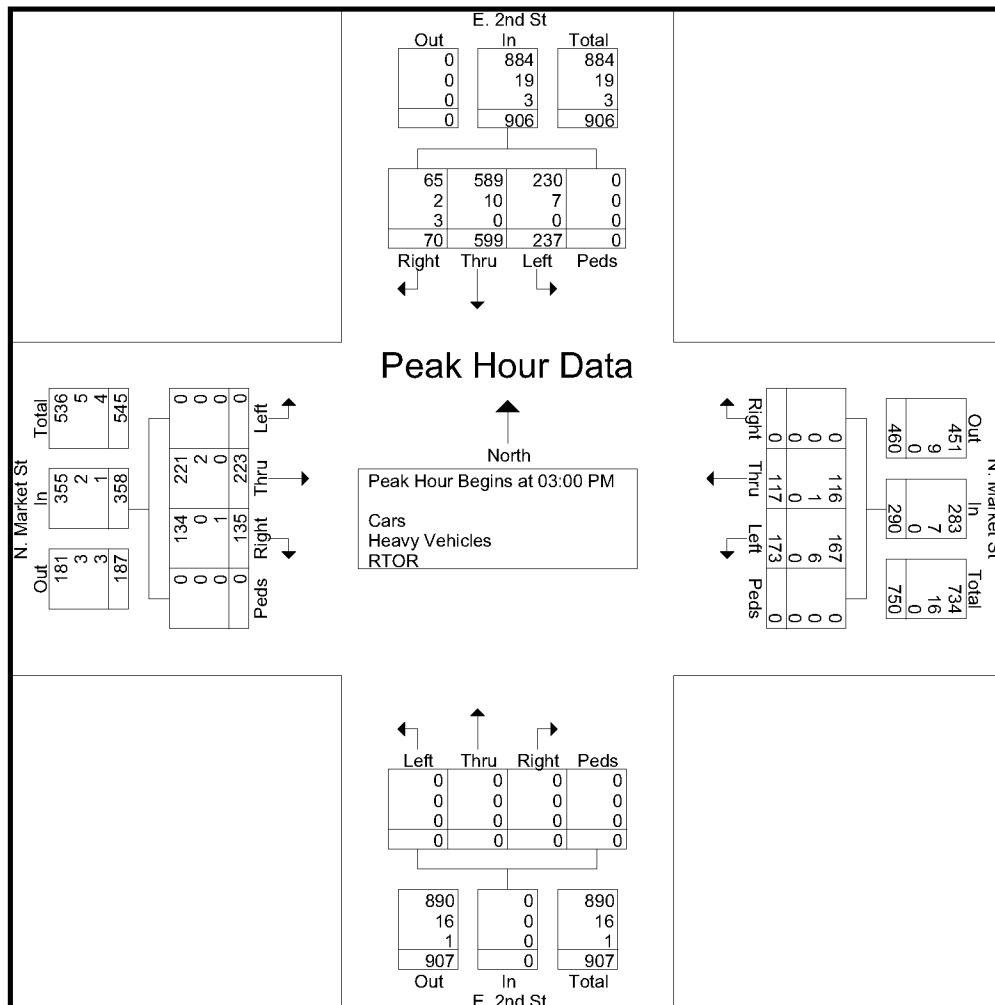
Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11/E.2nd St
Date: Thursday, June 12, 2008
Counter: LE

File Name : SM0611-1
Site Code : 00000000
Start Date : 6/12/2008
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	E. 2nd St Southbound					N. Market St Westbound					E. 2nd St Northbound					N. Market St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	18	152	58	0	228	0	41	42	0	83	0	0	0	0	0	40	56	0	0	96	407
03:15 PM	8	150	56	0	214	0	21	38	0	59	0	0	0	0	0	29	56	0	0	85	358
03:30 PM	34	150	62	0	246	0	32	58	0	90	0	0	0	0	0	24	47	0	0	71	407
03:45 PM	10	147	61	0	218	0	23	35	0	58	0	0	0	0	0	42	64	0	0	106	382
Total Volume	70	599	237	0	906	0	117	173	0	290	0	0	0	0	0	135	223	0	0	358	1554
% App. Total	7.7	66.1	26.2	0		0	40.3	59.7	0		0	0	0	0	0	37.7	62.3	0	0		
PHF	.515	.985	.956	.000	.921	.000	.713	.746	.000	.806	.000	.000	.000	.000	.000	.804	.871	.000	.000	.844	.955
Cars	65	589	230	0	884	0	116	167	0	283	0	0	0	0	0	134	221	0	0	355	1522
% Cars	92.9	98.3	97.0	0	97.6	0	99.1	96.5	0	97.6	0	0	0	0	0	99.3	99.1	0	0	99.2	97.9
Heavy Vehicles																					
% Heavy Vehicles	2.9	1.7	3.0	0	2.1	0	0.9	3.5	0	2.4	0	0	0	0	0	0	0.9	0	0	0.6	1.8
RTOR	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4
% RTOR	4.3	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0.7	0	0	0	0.3	0.3



Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: Poplar St/ US 11
Date: Wednesday, June, 11, 2008
Tech. RZ

File Name : SM0611-3
Site Code : 00000000
Start Date : 6/11/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

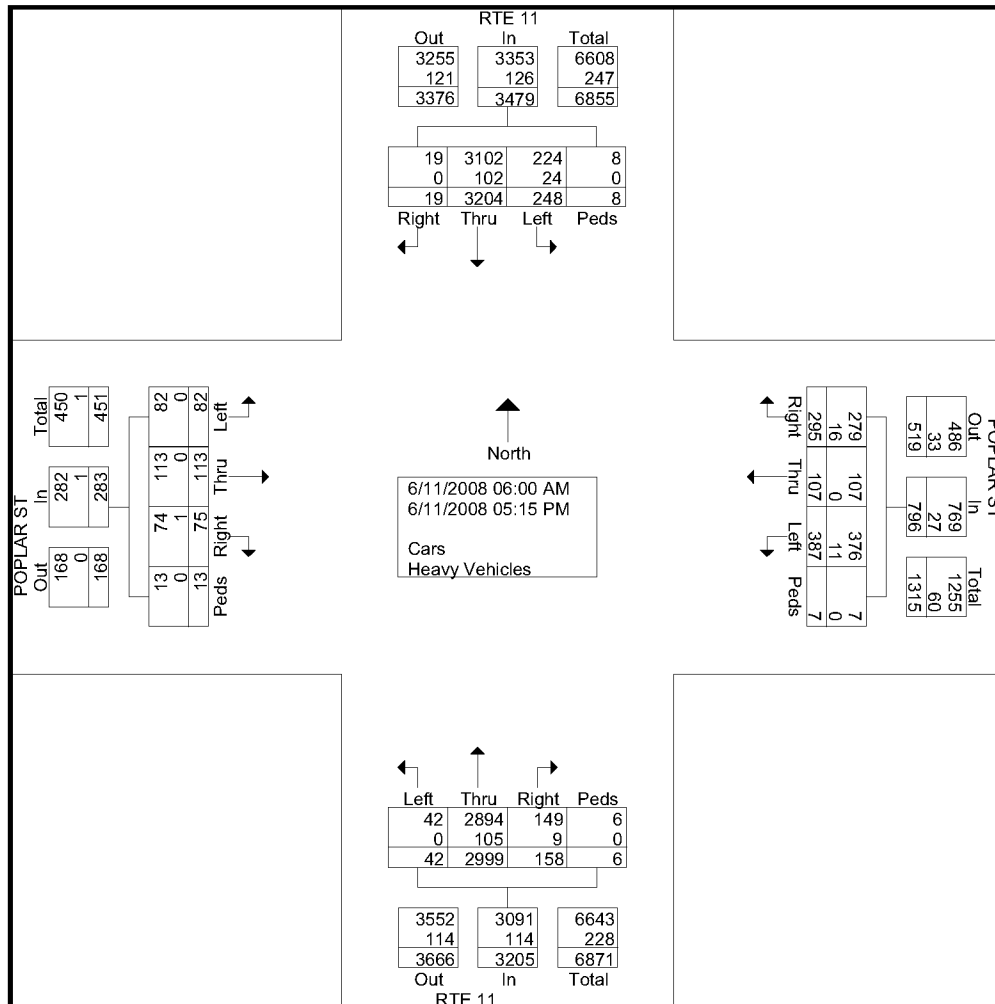
Start Time	RTE 11 Southbound					POPLAR ST Westbound					RTE 11 Northbound					POPLAR ST Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:00 AM	0	67	3	0	70	2	1	4	0	7	7	88	0	0	95	1	2	1	0	4	176
06:15 AM	0	98	3	0	101	3	1	2	0	6	2	98	0	0	100	4	1	1	1	7	214
06:30 AM	0	116	5	1	122	5	1	6	0	12	7	118	0	0	125	2	2	1	1	6	265
06:45 AM	0	107	9	0	116	1	2	5	0	8	8	69	0	0	77	5	5	0	1	11	212
Total	0	388	20	1	409	11	5	17	0	33	24	373	0	0	397	12	10	3	3	28	867
07:00 AM	0	100	5	2	107	9	0	9	0	18	8	75	0	0	83	0	0	0	0	0	208
07:15 AM	0	104	15	0	119	12	0	3	0	15	8	84	0	0	92	0	0	0	0	0	226
07:30 AM	0	146	9	0	155	6	0	3	1	10	9	107	0	0	116	0	0	0	0	0	281
07:45 AM	0	115	12	0	127	3	0	10	0	13	7	115	0	0	122	0	0	0	0	0	262
Total	0	465	41	2	508	30	0	25	1	56	32	381	0	0	413	0	0	0	0	0	977
08:00 AM	0	133	9	0	142	5	0	20	0	25	4	72	0	0	76	0	0	0	0	0	243
08:15 AM	0	118	4	0	122	9	0	13	0	22	3	97	0	0	100	0	0	0	0	0	244
08:30 AM	0	127	7	0	134	14	0	12	0	26	5	110	0	0	115	0	0	0	1	1	276
08:45 AM	0	130	13	0	143	11	0	6	2	19	4	95	0	1	100	0	0	0	2	2	264
Total	0	508	33	0	541	39	0	51	2	92	16	374	0	1	391	0	0	0	3	3	1027
*** BREAK ***																					
02:30 PM	1	137	17	0	155	16	5	13	0	34	8	146	1	1	156	6	3	1	0	10	355
02:45 PM	2	141	14	1	158	12	6	17	0	35	9	125	5	3	142	2	7	7	1	17	352
Total	3	278	31	1	313	28	11	30	0	69	17	271	6	4	298	8	10	8	1	27	707
03:00 PM	1	143	12	2	158	24	10	14	1	49	10	145	3	0	158	5	13	7	0	25	390
03:15 PM	3	146	16	1	166	14	4	19	0	37	7	158	1	0	166	5	6	8	0	19	388
03:30 PM	1	159	19	0	179	26	9	21	2	58	9	159	3	0	171	9	9	5	1	24	432
03:45 PM	0	169	15	0	184	17	7	23	1	48	9	176	2	0	187	9	11	8	3	31	450
Total	5	617	62	3	687	81	30	77	4	192	35	638	9	0	682	28	39	28	4	99	1660
04:00 PM	4	140	7	1	152	17	10	44	0	71	6	136	7	0	149	3	10	6	2	21	393
04:15 PM	2	153	15	0	170	24	9	27	0	60	7	155	2	0	164	4	11	8	0	23	417
04:30 PM	0	204	8	0	212	22	16	27	0	65	7	192	6	0	205	6	7	4	0	17	499
04:45 PM	2	149	19	0	170	14	8	27	0	49	8	142	6	0	156	2	11	11	0	24	399
Total	8	646	49	1	704	77	43	125	0	245	28	625	21	0	674	15	39	29	2	85	1708
05:00 PM	3	147	4	0	154	20	16	38	0	74	3	181	5	1	190	8	8	6	0	22	440
05:15 PM	0	155	8	0	163	9	2	24	0	35	3	156	1	0	160	4	7	8	0	19	377
Grand Total	19	3204	248	8	3479	295	107	387	7	796	158	2999	42	6	3205	75	113	82	13	283	7763
Apprch %	0.5	92.1	7.1	0.2		37.1	13.4	48.6	0.9		4.9	93.6	1.3	0.2		26.5	39.9	29	4.6		
Total %	0.2	41.3	3.2	0.1	44.8	3.8	1.4	5	0.1	10.3	2	38.6	0.5	0.1	41.3	1	1.5	1.1	0.2	3.6	
Cars	19	3102	224	8	3353	279	107	376	7	769	149	2894	42	6	3091	74	113	82	13	282	7495
% Cars	100	96.8	90.3	100	96.4	94.6	100	97.2	100	96.6	94.3	96.5	100	100	96.4	98.7	100	100	100	99.6	96.5
Heavy Vehicles	0	102	24	0	126	16	0	11	0	27	9	105	0	0	114	1	0	0	0	1	268
% Heavy Vehicles	0	3.2	9.7	0	3.6	5.4	0	2.8	0	3.4	5.7	3.5	0	0	3.6	1.3	0	0	0	0.4	3.5

Tri-State Traffic Data, Inc.

610-466-1469
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Location: Columbia County, PA
Intersection: Poplar St/ US 11
Date: Wednesday, June, 11, 2008
Tech. RZ

File Name : SM0611-3
Site Code : 00000000
Start Date : 6/11/2008
Page No : 2



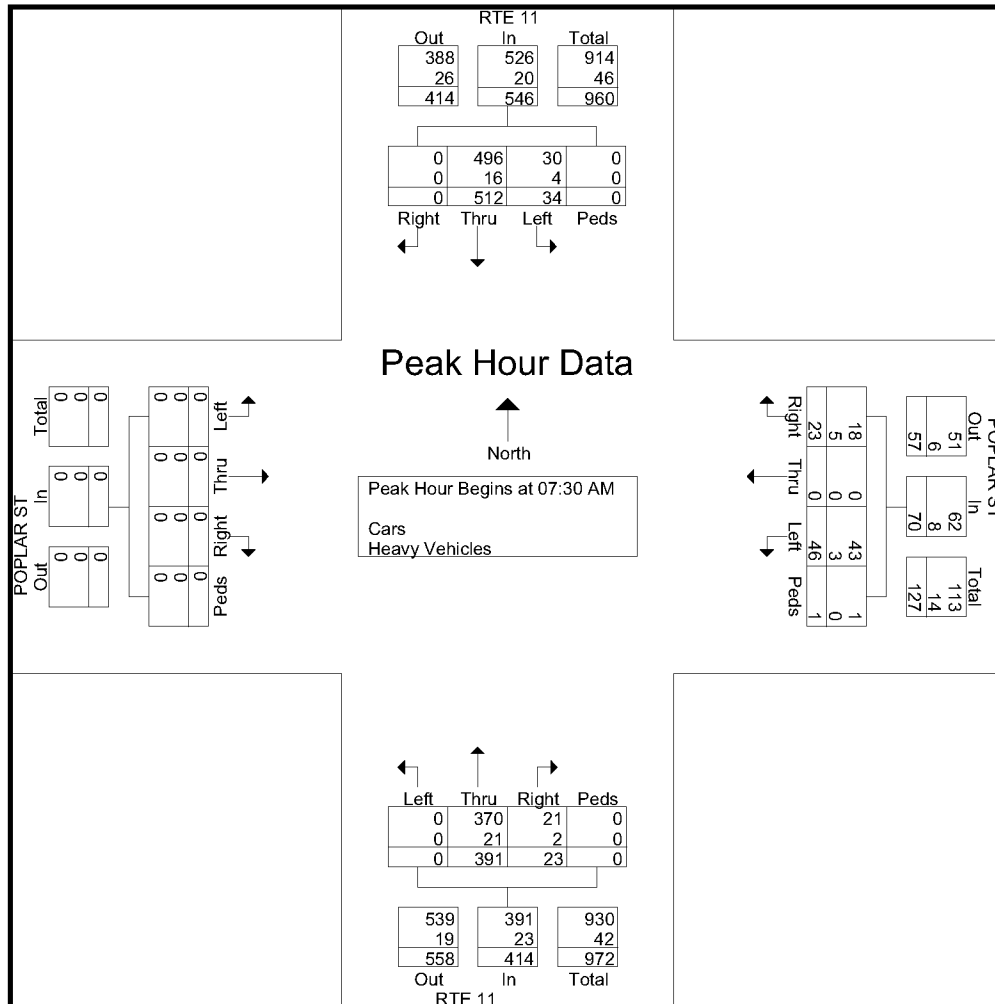
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File Name : SM0611-3
Site Code : 00000000
Start Date : 6/11/2008
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	RTE 11 Southbound					POPLAR ST Westbound					RTE 11 Northbound					POPLAR ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	146	9	0	155	6	0	3	1	10	9	107	0	0	116	0	0	0	0	0	281
07:45 AM	0	115	12	0	127	3	0	10	0	13	7	115	0	0	122	0	0	0	0	0	262
08:00 AM	0	133	9	0	142	5	0	20	0	25	4	72	0	0	76	0	0	0	0	0	243
08:15 AM	0	118	4	0	122	9	0	13	0	22	3	97	0	0	100	0	0	0	0	0	244
Total Volume	0	512	34	0	546	23	0	46	1	70	23	391	0	0	414	0	0	0	0	0	1030
% App. Total	0	93.8	6.2	0		32.9	0	65.7	1.4		5.6	94.4	0	0		0	0	0	0	0	
PHF	.000	.877	.708	.000	.881	.639	.000	.575	.250	.700	.639	.850	.000	.000	.848	.000	.000	.000	.000	.000	.916
Cars	0	496	30	0	526	18	0	43	1	62	21	370	0	0	391	0	0	0	0	0	979
% Cars	0	96.9	88.2	0	96.3	78.3	0	93.5	100	88.6	91.3	94.6	0	0	94.4	0	0	0	0	0	95.0
Heavy Vehicles																					
% Heavy Vehicles	0	3.1	11.8	0	3.7	21.7	0	6.5	0	11.4	8.7	5.4	0	0	5.6	0	0	0	0	0	5.0



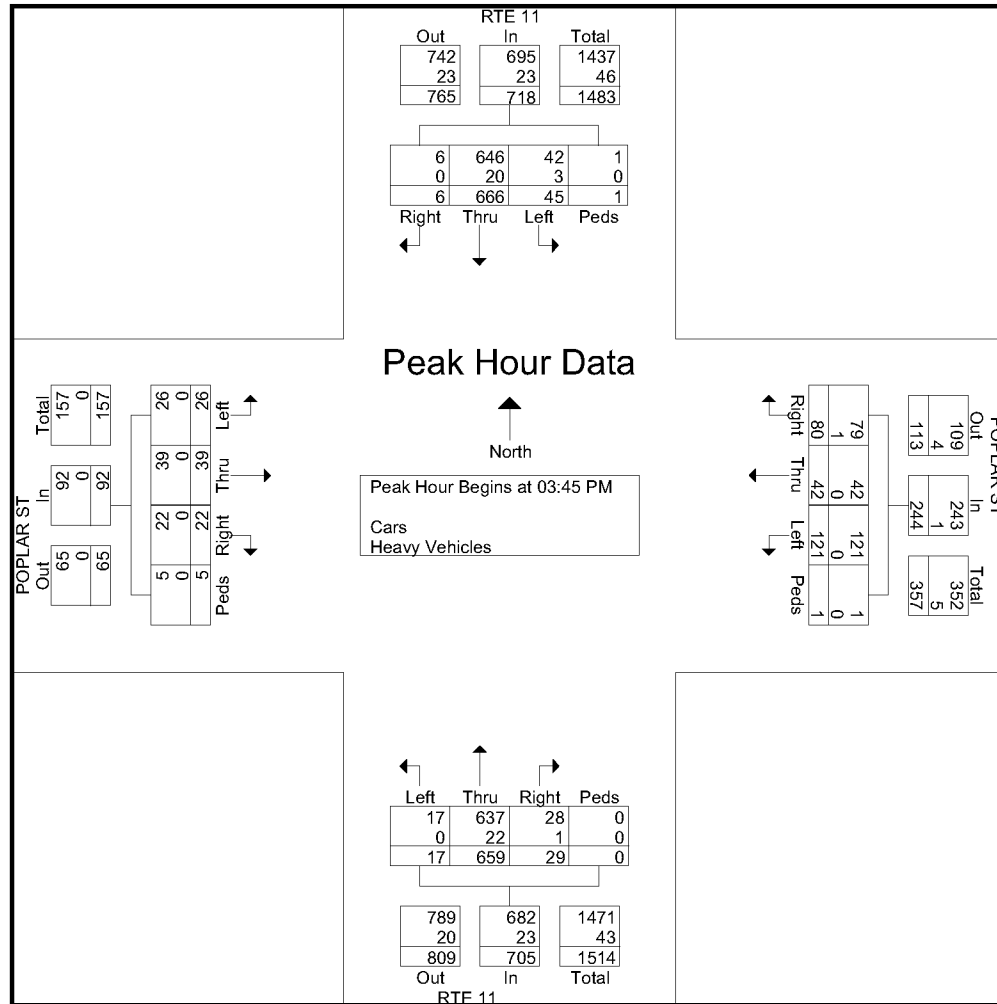
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Location: Columbia County, PA
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File Name : SM0611-3
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Page No : 4

	RTE 11 Southbound					POPLAR ST Westbound					RTE 11 Northbound					POPLAR ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	169	15	0	184	17	7	23	1	48	9	176	2	0	187	9	11	8	3	31	450
04:00 PM	4	140	7	1	152	17	10	44	0	71	6	136	7	0	149	3	10	6	2	21	393
04:15 PM	2	153	15	0	170	24	9	27	0	60	7	155	2	0	164	4	11	8	0	23	417
04:30 PM	0	204	8	0	212	22	16	27	0	65	7	192	6	0	205	6	7	4	0	17	499
Total Volume	6	666	45	1	718	80	42	121	1	244	29	659	17	0	705	22	39	26	5	92	1759
% App. Total	0.8	92.8	6.3	0.1		32.8	17.2	49.6	0.4		4.1	93.5	2.4	0		23.9	42.4	28.3	5.4		
PHF	.375	.816	.750	.250	.847	.833	.656	.688	.250	.859	.806	.858	.607	.000	.860	.611	.886	.813	.417	.742	.881
Cars	6	646	42	1	695	79	42	121	1	243	28	637	17	0	682	22	39	26	5	92	1712
% Cars	100	97.0	93.3	100	96.8	98.8	100	100	100	99.6	96.6	96.7	100	0	96.7	100	100	100	100	100	97.3
Heavy Vehicles																					
% Heavy Vehicles	0	3.0	6.7	0	3.2	1.3	0	0	0	0.4	3.4	3.3	0	0	3.3	0	0	0	0	0	2.7



Tri-State Traffic Data, Inc

Page 1

Street: PPL Driveway NB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 3521

610-466-1469
www.TSTData.com

Site Code: 0612082
Station ID: 0612082

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/12/08	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	0	7	1	0	3	2	0	0	1	0	0	0	0	0	14
14:00	0	18	5	0	1	0	0	1	0	0	0	0	0	0	25
15:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
16:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
17:00	1	21	2	0	1	0	0	0	0	0	0	0	0	0	25
18:00	1	23	9	0	2	0	0	0	0	0	0	0	0	0	35
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	1	3	0	0	1	0	0	0	0	0	0	0	0	0	5
21:00	0	9	7	0	0	0	0	0	0	0	0	0	0	0	16
22:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
23:00	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2
Total	3	89	27	0	8	2	0	1	2	0	0	0	0	0	132
Percent	2.3%	67.4%	20.5%	0.0%	6.1%	1.5%	0.0%	0.8%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	

AM Peak Vol.															
PM Peak Vol.	17:00	18:00	18:00		13:00	13:00		14:00	13:00						18:00
	1	23	9		3	2		1	1						35

Tri-State Traffic Data, Inc

Page 2

Street: PPL Driveway NB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 3521

610-466-1469
www.TSTData.com

Site Code: 0612082
Station ID: 0612082

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/13/08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
04:00	1	14	6	0	0	0	0	0	0	0	0	0	0	0	21
05:00	15	83	27	0	2	1	0	0	0	0	0	0	0	0	128
06:00	26	232	88	0	4	2	0	0	1	0	0	0	0	0	353
07:00	5	51	13	0	1	0	0	0	0	0	0	0	0	0	70
08:00	1	17	3	0	2	1	0	0	0	0	0	0	0	0	24
09:00	1	5	6	2	4	0	0	0	0	0	0	0	0	0	18
10:00	0	1	4	0	3	0	0	0	0	0	0	0	0	0	8
11:00	0	12	4	0	0	0	0	1	0	0	0	0	0	0	17
12 PM	1	6	4	1	3	0	0	0	0	0	0	0	0	0	15
13:00	0	12	8	0	3	0	0	0	0	0	0	0	0	0	23
14:00	0	14	2	0	0	1	0	1	0	0	0	0	0	0	18
15:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
16:00	2	2	3	0	0	0	0	0	0	0	0	0	1	0	8
17:00	0	20	2	0	0	0	0	0	0	0	0	0	0	0	22
18:00	1	9	3	0	0	0	0	0	0	0	0	0	0	0	13
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	53	486	178	3	23	5	0	2	1	0	0	0	1	0	752
Percent	7.0%	64.6%	23.7%	0.4%	3.1%	0.7%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	
AM Peak	06:00	06:00	06:00	09:00	06:00	06:00		11:00	06:00						06:00
Vol.	26	232	88	2	4	2		1	1						353
PM Peak	16:00	17:00	13:00	12:00	12:00	14:00		14:00					16:00		13:00
Vol.	2	20	8	1	3	1		1					1		23

Tri-State Traffic Data, Inc

Page 3

Street: PPL Driveway NB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 3521

610-466-1469
www.TSTData.com

Site Code: 0612082
Station ID: 0612082

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/14/08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	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	0	0	0	0	0	0
04:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	15	7	0	1	0	0	0	0	0	0	0	0	0	23
06:00	0	14	4	0	0	0	0	0	0	0	0	0	0	0	18
07:00	1	3	0	0	0	0	1	0	0	0	0	0	0	0	5
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
10:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
11:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
14:00	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	1	4	0	0	1	0	0	0	0	0	0	0	0	0	6
17:00	0	17	4	0	0	0	0	0	0	0	0	0	0	0	21
18:00	0	12	3	0	0	0	0	0	0	0	0	0	0	0	15
19:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	83	22	0	2	0	1	0	0	0	0	0	0	0	111
Percent	2.7%	74.8%	19.8%	0.0%	1.8%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	05:00	05:00		05:00		07:00								05:00
Vol.	1	15	7		1		1								23
PM Peak	14:00	17:00	17:00		16:00										17:00
Vol.	1	17	4		1										21

Tri-State Traffic Data, Inc

Page 4

Street: PPL Driveway NB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 3521

610-466-1469
www.TSTData.com

Site Code: 0612082
Station ID: 0612082

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/15/08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	11	7	0	0	0	0	0	0	0	0	0	0	0	18
06:00	0	13	0	0	2	0	0	0	0	0	0	0	0	0	15
07:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	1	4	0	0	0	0	0	0	0	0	0	0	0	0	5
17:00	2	17	2	0	0	0	0	0	0	0	0	0	0	0	21
18:00	2	10	3	0	0	0	0	0	0	0	0	0	0	0	15
19:00	0	6	1	0	1	0	0	0	0	0	0	0	0	0	8
20:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
21:00	2	11	4	0	1	0	0	0	0	0	0	0	0	0	18
22:00	0	7	1	0	1	0	0	0	0	0	0	0	0	0	9
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	7	94	20	0	5	0	0	0	0	0	0	0	0	0	126
Percent	5.6%	74.6%	15.9%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.		06:00	05:00		06:00										05:00
PM Peak Vol.	17:00	17:00	21:00		19:00										17:00
	2	17	4		1										21

Tri-State Traffic Data, Inc

Street: PPL Driveway NB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 3521

610-466-1469
www.TSTData.com

Site Code: 0612082
Station ID: 0612082

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/16/08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
04:00	2	10	6	0	0	1	0	0	0	0	0	0	0	0	19
05:00	8	97	29	0	2	0	0	0	0	0	0	0	0	0	136
06:00	20	261	99	1	7	0	0	1	2	0	0	0	1	0	392
07:00	3	51	16	0	0	0	0	0	1	0	0	0	0	0	71
08:00	2	23	7	0	1	0	0	1	0	0	0	0	0	0	34
09:00	2	8	5	0	2	0	0	0	0	0	0	0	0	0	17
10:00	1	4	2	1	3	0	0	0	0	0	0	0	0	0	11
11:00	1	8	5	0	1	0	0	0	0	0	0	0	0	0	15
12 PM	0	6	3	1	1	1	0	0	0	1	0	0	0	0	13
13:00	0	8	1	1	1	0	0	0	0	0	0	0	0	0	11
14:00	0	18	7	1	2	0	0	0	0	0	0	0	0	0	28
15:00	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3
16:00	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4
17:00	0	21	6	0	0	1	0	0	0	0	0	0	0	0	28
18:00	0	11	4	0	0	0	0	0	0	0	0	0	0	0	15
19:00	0	7	4	0	1	0	0	0	0	0	0	0	0	0	12
20:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
21:00	0	10	2	0	1	0	0	0	0	0	0	0	0	0	13
22:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	42	556	201	5	23	3	0	2	3	1	0	0	1	0	837
Percent	5.0%	66.4%	24.0%	0.6%	2.7%	0.4%	0.0%	0.2%	0.4%	0.1%	0.0%	0.0%	0.1%	0.0%	
AM Peak	06:00	06:00	06:00	06:00	06:00	04:00		06:00	06:00				06:00		06:00
Vol.	20	261	99	1	7	1		1	2				1		392
PM Peak	15:00	17:00	14:00	12:00	14:00	12:00				12:00					14:00
Vol.	1	21	7	1	2	1				1					28

Tri-State Traffic Data, Inc

Street: PPL Driveway NB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 3521

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Site Code: 0612082
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Latitude: 0' 0.000 Undefined
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NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/17/08	0	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	0	1
02:00	0	1	1	1	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	0	1
04:00	0	12	8	0	0	0	0	0	0	0	0	0	0	0	20
05:00	10	96	32	0	4	0	0	0	0	0	0	0	0	0	142
06:00	14	234	110	0	6	0	0	1	0	0	0	0	0	0	365
07:00	3	58	15	1	2	0	0	0	0	0	0	0	0	0	79
08:00	1	26	11	0	1	0	0	1	0	0	0	0	1	0	41
09:00	1	12	4	1	1	0	0	1	0	0	0	0	0	0	20
10:00	0	11	4	0	8	0	0	0	0	0	0	0	0	0	23
11:00	0	3	5	0	2	0	0	1	0	0	0	0	0	0	11
12 PM	0	13	4	2	2	0	0	0	0	0	0	0	0	0	21
13:00	1	8	2	1	2	0	0	0	0	0	0	0	0	0	14
14:00	0	14	5	0	4	1	0	0	0	0	0	0	0	0	24
15:00	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3
16:00	0	4	2	0	1	0	1	0	0	0	0	0	0	0	8
17:00	0	8	6	0	2	1	0	0	0	0	0	0	0	0	17
18:00	0	9	4	0	0	0	0	0	0	0	0	0	0	0	13
19:00	0	7	5	0	1	0	0	0	0	0	0	0	0	0	13
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	1	9	2	0	1	0	0	0	1	0	0	0	0	0	14
22:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	31	534	224	7	37	2	1	4	1	0	0	0	1	0	842
Percent	3.7%	63.4%	26.6%	0.8%	4.4%	0.2%	0.1%	0.5%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	
AM Peak	06:00	06:00	06:00	02:00	10:00			06:00					08:00		06:00
Vol.	14	234	110	1	8			1					1		365
PM Peak	13:00	14:00	17:00	12:00	14:00	14:00	16:00		21:00						14:00
Vol.	1	14	6	2	4	1	1		1						24

Tri-State Traffic Data, Inc

Page 7

Street: PPL Driveway NB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 3521

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www.TSTData.com

Site Code: 0612082
Station ID: 0612082

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/18/08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	1	11	5	0	0	0	0	0	0	0	0	0	0	0	17
05:00	11	85	31	1	4	0	0	0	0	0	0	0	0	0	132
06:00	10	271	105	0	5	0	0	2	1	0	0	0	1	0	395
07:00	5	56	16	0	1	0	0	0	0	0	0	0	0	0	78
08:00	3	23	4	1	5	0	0	1	0	0	0	0	0	0	37
09:00	0	12	4	1	1	0	0	0	0	0	0	0	0	0	18
10:00	2	7	7	0	3	0	0	0	0	0	0	0	0	0	19
11:00	0	5	1	1	0	1	0	0	0	0	0	0	0	0	8
12 PM	1	10	8	0	3	0	0	1	0	0	0	0	0	0	23
13:00	1	11	7	0	0	0	0	0	0	0	0	0	0	0	19
14:00	1	20	4	0	0	1	0	0	0	0	0	0	0	0	26
15:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
16:00	0	3	1	0	2	0	0	0	0	0	0	0	0	0	6
17:00	1	13	6	0	1	0	0	0	0	0	0	0	0	0	21
18:00	0	7	3	0	1	0	0	0	0	0	0	0	0	0	11
19:00	0	7	4	0	1	0	0	0	0	0	0	0	0	0	12
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	11	2	0	1	0	0	0	0	0	0	0	0	0	14
22:00	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	36	572	211	4	28	2	0	4	1	0	0	0	1	0	859
Percent	4.2%	66.6%	24.6%	0.5%	3.3%	0.2%	0.0%	0.5%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	
AM Peak	05:00	06:00	06:00	05:00	06:00	11:00		06:00	06:00				06:00		06:00
Vol.	11	271	105	1	5	1		2	1				1		395
PM Peak	12:00	14:00	12:00		12:00	14:00		12:00							14:00
Vol.	1	20	8		3	1		1							26

Tri-State Traffic Data, Inc

Street: PPL Driveway NB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 3521

610-466-1469
www.TSTData.com

Site Code: 0612082
Station ID: 0612082

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/19/08	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	2	13	7	0	0	0	0	0	0	0	0	0	0	0	22
05:00	15	89	28	0	3	0	0	0	0	0	0	0	0	0	135
06:00	10	256	110	0	5	0	0	1	0	0	0	0	0	0	382
07:00	1	62	14	0	2	1	0	0	0	0	0	0	0	0	80
08:00	3	31	4	0	3	2	0	0	0	0	0	0	0	0	43
09:00	1	10	6	1	6	2	0	0	0	0	0	0	0	0	26
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	32	464	171	1	19	5	0	1	1	0	0	0	0	0	694
Percent	4.6%	66.9%	24.6%	0.1%	2.7%	0.7%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	06:00	06:00	09:00	09:00	08:00		06:00	01:00						06:00
Vol.	15	256	110	1	6	2		1	1						382
PM Peak															
Vol.															
Grand Total	207	2878	1054	20	145	19	2	14	9	1	0	0	4	0	4353
Percent	4.8%	66.1%	24.2%	0.5%	3.3%	0.4%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	

Tri-State Traffic Data, Inc

Page 1

Street: PPL Driveway SB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 13360

610-466-1469
www.TSTData.com

Site Code: 0612081
Station ID: 0612081

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/12/08	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	2	19	3	0	3	0	0	0	1	0	0	0	0	0	28
14:00	3	72	16	0	5	1	0	0	0	0	0	0	0	0	97
15:00	19	171	55	0	19	0	0	1	0	0	0	0	0	0	265
16:00	7	64	29	0	5	0	0	0	0	0	0	0	0	0	105
17:00	1	32	11	0	2	0	0	0	0	0	0	0	0	0	46
18:00	8	33	14	0	3	0	0	0	0	0	0	0	0	0	58
19:00	2	9	1	0	0	0	0	0	0	0	0	0	0	0	12
20:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
21:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	5	1	0	1	0	0	0	0	0	0	0	0	0	7
23:00	0	13	2	0	1	0	0	0	0	0	0	0	0	0	16
Total	42	421	135	0	39	1	0	1	1	0	0	0	0	0	640
Percent	6.6%	65.8%	21.1%	0.0%	6.1%	0.2%	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	

AM Peak Vol.															
PM Peak Vol.	15:00	15:00	15:00		15:00	14:00		15:00	13:00						15:00
	19	171	55		19	1		1	1						265

Tri-State Traffic Data, Inc

Page 2

Street: PPL Driveway SB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 13360

610-466-1469
www.TSTData.com

Site Code: 0612081
Station ID: 0612081

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/13/08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
02:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3
05:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
06:00	2	31	13	0	4	0	0	0	0	0	0	0	0	0	50
07:00	0	14	2	0	3	0	0	0	0	0	0	0	0	0	19
08:00	0	4	1	0	5	0	0	0	0	0	0	0	0	0	10
09:00	1	8	2	1	2	0	0	0	1	0	0	0	0	0	15
10:00	0	11	4	1	4	0	0	0	0	0	0	0	0	0	20
11:00	3	20	6	0	3	0	0	1	0	0	0	0	0	0	33
12 PM	0	27	13	0	4	0	0	0	0	0	0	0	0	0	44
13:00	2	26	16	1	4	0	0	0	0	0	0	0	0	0	49
14:00	7	67	22	0	7	0	0	1	1	0	0	0	0	0	105
15:00	23	153	46	0	13	0	0	0	0	0	0	0	0	0	235
16:00	2	40	14	0	3	0	0	0	0	0	0	0	0	0	59
17:00	1	13	3	0	2	0	0	0	0	0	0	0	0	0	19
18:00	2	29	10	0	3	0	0	0	1	0	0	0	0	0	45
19:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	4	1	0	0	0	0	0	1	0	0	0	0	0	6
23:00	0	10	4	0	0	0	0	0	0	0	0	0	0	0	14
Total	46	465	159	3	60	0	0	2	5	0	0	0	0	0	740
Percent	6.2%	62.8%	21.5%	0.4%	8.1%	0.0%	0.0%	0.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	06:00	06:00	09:00	08:00			11:00	01:00						06:00
Vol.	3	31	13	1	5			1	1						50
PM Peak	15:00	15:00	15:00	13:00	15:00			14:00	14:00						15:00
Vol.	23	153	46	1	13			1	1						235

Tri-State Traffic Data, Inc

Page 3

Street: PPL Driveway SB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 13360

610-466-1469
www.TSTData.com

Site Code: 0612081
Station ID: 0612081

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/14/08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	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	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:00	3	26	3	0	2	0	0	0	0	0	0	0	0	0	34
07:00	0	6	0	0	1	0	0	0	0	0	0	0	0	0	7
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
11:00	0	4	0	0	1	0	0	1	0	0	0	0	0	0	6
12 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
15:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
16:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
17:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
18:00	0	15	5	0	4	0	0	0	0	0	0	0	0	0	24
19:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	8	1	0	0	0	0	0	0	0	0	0	0	0	9
Total	3	72	10	0	8	0	0	1	1	0	0	0	0	0	95
Percent	3.2%	75.8%	10.5%	0.0%	8.4%	0.0%	0.0%	1.1%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

AM Peak Vol.	06:00	06:00	06:00	06:00				11:00	10:00						06:00
	3	26	3	2				1	1						34
PM Peak Vol.		18:00	18:00	18:00											18:00
		15	5	4											24

Tri-State Traffic Data, Inc

Page 4

Street: PPL Driveway SB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 13360

610-466-1469
www.TSTData.com

Site Code: 0612081
Station ID: 0612081

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/15/08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	29	4	0	3	0	0	0	0	0	0	0	0	0	36
07:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
08:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
15:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
16:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	20	6	0	4	0	0	0	0	0	0	0	0	0	30
19:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	1	5	1	0	0	0	0	0	0	0	0	0	0	0	7
Total	1	77	11	0	7	0	0	0	0	0	0	0	0	0	96
Percent	1.0%	80.2%	11.5%	0.0%	7.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

AM Peak		06:00	06:00		06:00										06:00
Vol.		29	4		3										36
PM Peak	23:00	18:00	18:00		18:00										18:00
Vol.	1	20	6		4										30

Tri-State Traffic Data, Inc

Page 5

Street: PPL Driveway SB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 13360

610-466-1469
www.TSTData.com

Site Code: 0612081
Station ID: 0612081

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/16/08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	6	38	7	0	6	0	0	0	0	0	0	0	0	0	57
07:00	0	11	5	0	2	0	0	0	2	0	0	0	0	0	20
08:00	1	5	2	1	0	0	0	0	0	0	0	0	0	0	9
09:00	0	3	3	0	3	0	0	0	1	0	0	0	0	0	10
10:00	0	8	2	1	3	0	0	2	1	0	0	0	0	0	17
11:00	0	9	2	0	3	0	0	0	0	0	0	0	0	0	14
12 PM	0	13	3	0	2	0	0	0	0	0	0	0	0	0	18
13:00	0	12	7	1	1	1	0	1	0	0	0	0	0	0	23
14:00	4	65	16	0	4	0	0	0	0	0	0	0	0	0	89
15:00	7	209	69	1	19	0	0	1	0	0	0	0	0	0	306
16:00	2	66	22	0	3	0	0	0	0	0	0	0	0	0	93
17:00	2	29	13	0	3	0	0	0	0	0	0	0	0	0	47
18:00	2	30	9	0	3	0	0	0	0	0	0	0	0	0	44
19:00	0	6	2	0	1	0	0	0	0	0	0	0	0	0	9
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
23:00	1	11	4	0	1	0	0	0	0	0	0	0	0	0	17
Total	25	521	169	4	54	1	0	4	4	0	0	0	0	0	782
Percent	3.2%	66.6%	21.6%	0.5%	6.9%	0.1%	0.0%	0.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	06:00	06:00	08:00	06:00			10:00	07:00						06:00
Vol.	6	38	7	1	6			2	2						57
PM Peak	15:00	15:00	15:00	13:00	15:00	13:00		13:00							15:00
Vol.	7	209	69	1	19	1		1							306

Tri-State Traffic Data, Inc

Page 6

Street: PPL Driveway SB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 13360

610-466-1469
www.TSTData.com

Site Code: 0612081
Station ID: 0612081

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/17/08	0	1	0	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	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
06:00	2	32	10	0	3	0	0	0	0	0	0	0	0	0	47
07:00	1	10	3	0	1	0	0	0	0	0	0	0	0	0	15
08:00	0	7	2	0	1	0	0	0	0	0	0	0	0	0	10
09:00	1	9	3	0	1	0	0	0	0	0	0	0	0	0	14
10:00	1	9	3	0	1	0	0	0	0	0	0	0	0	0	14
11:00	1	11	3	0	1	0	0	0	0	0	0	0	0	0	16
12 PM	1	14	4	0	1	0	0	0	0	0	0	0	0	0	20
13:00	1	18	6	0	2	0	0	0	0	0	0	0	0	0	27
14:00	5	63	20	0	7	0	0	0	0	0	0	0	0	0	95
15:00	15	200	64	0	21	0	0	0	0	0	0	0	0	0	300
16:00	5	67	21	0	7	0	0	0	0	0	0	0	0	0	100
17:00	1	19	6	0	2	0	0	0	0	0	0	0	0	0	28
18:00	2	33	10	0	4	0	0	0	0	0	0	0	0	0	49
19:00	1	7	2	0	1	0	0	0	0	0	0	0	0	0	11
20:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
23:00	1	9	3	0	1	0	0	0	0	0	0	0	0	0	14
Total	38	523	163	0	54	0	0	0	0	0	0	0	0	0	778
Percent	4.9%	67.2%	21.0%	0.0%	6.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

AM Peak	06:00	06:00	06:00		06:00										06:00
Vol.	2	32	10		3										47
PM Peak	15:00	15:00	15:00		15:00										15:00
Vol.	15	200	64		21										300

Tri-State Traffic Data, Inc

Page 7

Street: PPL Driveway SB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 13360

610-466-1469
www.TSTData.com

Site Code: 0612081
Station ID: 0612081

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/18/08	0	1	0	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	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	2	29	9	0	3	0	0	0	0	0	0	0	0	0	43
07:00	1	13	4	0	1	0	0	0	0	0	0	0	0	0	19
08:00	1	11	3	0	1	0	0	0	0	0	0	0	0	0	16
09:00	1	9	3	0	1	0	0	0	0	0	0	0	0	0	14
10:00	1	9	3	0	1	0	0	0	0	0	0	0	0	0	14
11:00	1	10	3	0	1	0	0	0	0	0	0	0	0	0	15
12 PM	1	15	5	0	2	0	0	0	0	0	0	0	0	0	23
13:00	2	23	7	0	2	0	0	0	0	0	0	0	0	0	34
14:00	3	44	14	0	5	0	0	0	0	0	0	0	0	0	66
15:00	16	205	65	0	22	0	0	0	0	0	0	0	0	0	308
16:00	5	63	20	0	7	0	0	0	0	0	0	0	0	0	95
17:00	2	22	7	0	2	0	0	0	0	0	0	0	0	0	33
18:00	2	28	9	0	3	0	0	0	0	0	0	0	0	0	42
19:00	1	13	4	0	1	0	0	0	0	0	0	0	0	0	19
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
23:00	1	13	4	0	1	0	0	0	0	0	0	0	0	0	19
Total	40	515	161	0	53	0	0	0	0	0	0	0	0	0	769
Percent	5.2%	67.0%	20.9%	0.0%	6.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

AM Peak	06:00	06:00	06:00		06:00										06:00
Vol.	2	29	9		3										43
PM Peak	15:00	15:00	15:00		15:00										15:00
Vol.	16	205	65		22										308

Tri-State Traffic Data, Inc

Page 8

Street: PPL Driveway SB
Location: Between Lot and Rt 11
Weather: Clear
Counter: 13360

610-466-1469
www.TSTData.com

Site Code: 0612081
Station ID: 0612081

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/19/08	0	1	0	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	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	2	30	10	0	3	0	0	0	0	0	0	0	0	0	45
07:00	1	10	3	0	1	0	0	0	0	0	0	0	0	0	15
08:00	1	10	3	0	1	0	0	0	0	0	0	0	0	0	15
09:00	0	7	2	0	1	0	0	0	0	0	0	0	0	0	10
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	4	61	18	0	6	0	0	0	0	0	0	0	0	0	89
Percent	4.5%	68.5%	20.2%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.	06:00	06:00	06:00		06:00										06:00
PM Peak Vol.	2	30	10		3										45
Grand Total	199	2655	826	7	281	2	0	8	11	0	0	0	0	0	3989
Percent	5.0%	66.6%	20.7%	0.2%	7.0%	0.1%	0.0%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	

Tri-State Traffic Data, Inc

Page 1

Street: Rt 11 NB
Location: Bween Confers Ln and Cnty Ln
Weather: Clear
Counter: 10450

610-466-1469
www.TSTData.com

Site Code: 0611087
Station ID: 0611087

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/11/08	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	0	83	18	0	2	0	0	3	7	0	0	0	0	0	113
20:00	7	80	16	0	3	0	0	3	2	0	0	0	0	0	111
21:00	5	89	23	0	2	1	0	0	3	0	0	0	0	0	123
22:00	5	39	9	1	2	0	0	0	6	0	0	0	0	0	62
23:00	1	33	2	1	1	0	0	0	1	0	0	1	0	0	40
Total	18	324	68	2	10	1	0	6	19	0	0	1	0	0	449
Percent	4.0%	72.2%	15.1%	0.4%	2.2%	0.2%	0.0%	1.3%	4.2%	0.0%	0.0%	0.2%	0.0%	0.0%	

AM Peak Vol.															
PM Peak Vol.	20:00	21:00	21:00	22:00	20:00	21:00		19:00	19:00			23:00			21:00
	7	89	23	1	3	1		3	7			1			123

Tri-State Traffic Data, Inc

Page 2

Street: Rt 11 NB
Location: Bween Confers Ln and Cnty Ln
Weather: Clear
Counter: 10450

610-466-1469
www.TSTData.com

Site Code: 0611087
Station ID: 0611087

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/12/08	0	21	6	2	0	0	0	2	5	0	0	1	0	0	37
01:00	0	13	4	0	0	0	0	0	4	0	0	0	0	0	21
02:00	0	5	3	0	1	0	0	0	3	0	0	0	0	0	12
03:00	0	8	2	0	0	0	0	0	1	0	0	0	0	0	11
04:00	1	29	11	1	2	0	0	0	4	0	0	0	0	0	48
05:00	16	93	43	1	4	6	0	0	2	0	0	0	0	0	165
06:00	32	313	125	1	22	3	0	5	1	0	0	0	0	0	502
07:00	8	205	43	2	16	5	2	4	5	0	0	0	0	0	290
08:00	4	118	34	2	19	3	1	2	5	0	0	0	0	0	188
09:00	2	114	36	4	7	6	1	0	4	0	0	0	0	0	174
10:00	1	77	37	1	6	5	1	2	8	2	0	0	0	0	140
11:00	3	110	40	3	8	6	1	3	7	1	0	0	0	0	182
12 PM	3	119	34	2	15	3	2	4	5	0	0	0	0	0	187
13:00	13	122	40	6	7	5	0	3	2	0	0	0	0	0	198
14:00	3	146	53	1	9	5	0	5	4	0	0	0	0	0	226
15:00	3	169	45	5	6	4	0	2	5	0	0	0	0	0	239
16:00	11	195	44	6	8	2	0	2	6	0	0	0	0	0	274
17:00	12	172	51	1	11	0	0	1	1	0	0	0	0	0	249
18:00	7	120	40	2	5	0	0	2	6	0	0	0	0	0	182
19:00	0	106	26	0	3	0	0	1	4	0	0	0	0	0	140
20:00	1	82	21	0	1	1	0	0	3	0	0	0	0	0	109
21:00	1	94	17	0	3	1	0	0	7	0	0	0	0	0	123
22:00	2	40	10	1	2	0	0	1	1	0	0	0	0	0	57
23:00	2	30	3	0	0	0	0	0	4	0	0	0	0	0	39
Total	125	2501	768	41	155	55	8	39	97	3	0	1	0	0	3793
Percent	3.3%	65.9%	20.2%	1.1%	4.1%	1.5%	0.2%	1.0%	2.6%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.	06:00	06:00	06:00	09:00	06:00	05:00	07:00	06:00	10:00	10:00		00:00			06:00
PM Peak Vol.	13:00	16:00	14:00	13:00	12:00	13:00	12:00	14:00	21:00						16:00
	32	313	125	4	22	6	2	5	8	2		1			502
	13	195	53	6	15	5	2	5	7						274

Tri-State Traffic Data, Inc

Street: Rt 11 NB
Location: Bween Confers Ln and Cnty Ln
Weather: Clear
Counter: 10450

610-466-1469
www.TSTData.com

Site Code: 0611087
Station ID: 0611087

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/13/08	0	26	6	0	0	0	0	0	0	0	0	2	0	0	34
01:00	0	7	4	1	0	0	0	0	2	0	0	0	0	0	14
02:00	0	7	5	0	0	0	0	0	0	0	0	0	0	0	12
03:00	0	8	3	0	0	0	0	0	2	0	0	0	0	0	13
04:00	0	30	13	1	3	1	0	0	5	0	0	0	0	0	53
05:00	14	86	40	1	3	1	0	0	2	0	0	0	0	0	147
06:00	24	266	119	2	18	4	1	4	4	0	0	0	0	0	442
07:00	3	164	51	2	8	8	5	1	4	0	0	0	0	0	246
08:00	2	95	20	1	8	5	1	2	5	1	0	0	0	0	140
09:00	3	80	30	5	7	11	2	1	10	0	0	0	0	0	149
10:00	2	91	43	0	8	9	0	3	7	0	0	0	0	0	163
11:00	3	113	35	3	7	9	1	2	6	1	0	0	0	0	180
12 PM	2	120	35	5	12	5	1	3	8	0	0	0	0	0	191
13:00	9	135	45	1	15	4	2	2	8	1	0	0	0	0	222
14:00	8	147	40	3	9	0	0	8	6	0	0	0	1	0	222
15:00	9	180	67	3	9	3	3	0	7	0	0	0	0	0	281
16:00	7	193	59	3	5	1	0	4	3	0	0	0	0	0	275
17:00	8	199	48	1	6	0	0	2	2	0	0	0	0	0	266
18:00	8	171	44	2	9	3	0	2	2	0	0	0	0	0	241
19:00	2	132	40	0	1	0	0	0	5	0	0	0	0	0	180
20:00	4	140	37	0	6	0	0	0	2	0	0	0	0	0	189
21:00	1	108	30	0	2	1	0	0	5	0	0	0	0	0	147
22:00	1	72	13	1	1	0	0	0	2	0	0	0	0	0	90
23:00	1	71	18	1	1	0	0	0	1	0	0	2	0	0	95
Total	111	2641	845	36	138	65	16	34	98	3	0	4	1	0	3992
Percent	2.8%	66.2%	21.2%	0.9%	3.5%	1.6%	0.4%	0.9%	2.5%	0.1%	0.0%	0.1%	0.0%	0.0%	
AM Peak	06:00	06:00	06:00	09:00	06:00	09:00	07:00	06:00	09:00	08:00		00:00			06:00
Vol.	24	266	119	5	18	11	5	4	10	1		2			442
PM Peak	13:00	17:00	15:00	12:00	13:00	12:00	15:00	14:00	12:00	13:00		23:00	14:00		15:00
Vol.	9	199	67	5	15	5	3	8	8	1		2	1		281

Tri-State Traffic Data, Inc

Street: Rt 11 NB
Location: Bween Confers Ln and Cnty Ln
Weather: Clear
Counter: 10450

610-466-1469
www.TSTData.com

Site Code: 0611087
Station ID: 0611087

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/14/08	0	36	6	1	0	0	0	2	2	0	0	0	0	0	47
01:00	0	10	5	0	1	0	0	0	1	0	0	0	0	0	17
02:00	0	8	2	0	0	1	0	0	0	0	0	0	0	0	11
03:00	0	4	3	0	0	1	0	1	0	0	0	0	0	0	9
04:00	0	20	6	1	1	0	0	0	2	0	0	0	0	0	30
05:00	1	24	9	0	1	0	0	0	2	0	0	0	0	0	37
06:00	1	48	15	1	2	0	0	2	1	0	0	0	0	0	70
07:00	0	55	16	0	2	0	0	2	2	0	0	1	1	0	79
08:00	0	69	21	0	3	0	0	1	4	0	0	0	0	0	98
09:00	1	75	34	0	5	0	3	1	0	0	0	0	0	0	119
10:00	0	121	32	0	2	0	0	1	3	0	0	0	0	0	159
11:00	1	123	49	0	4	0	0	1	1	0	0	0	0	0	179
12 PM	5	147	35	0	6	0	0	0	1	0	0	0	0	0	194
13:00	1	140	33	0	2	0	0	0	1	0	0	0	0	0	177
14:00	2	124	24	0	5	0	0	1	0	0	0	0	0	0	156
15:00	2	136	36	3	6	0	0	2	1	0	0	0	0	0	186
16:00	2	137	34	2	4	0	0	1	1	0	0	0	0	0	181
17:00	3	117	30	1	0	1	0	1	0	0	0	0	0	0	153
18:00	2	103	27	2	5	0	0	1	1	0	0	0	0	0	141
19:00	0	91	34	0	2	1	0	0	0	0	0	0	0	0	128
20:00	2	79	18	0	4	1	0	0	0	0	0	0	0	0	104
21:00	0	82	13	0	0	0	0	1	0	0	0	0	0	0	96
22:00	0	47	6	0	0	0	0	0	1	0	0	0	0	0	54
23:00	0	34	8	1	0	0	0	0	0	0	0	0	0	0	43
Total	23	1830	496	12	55	5	3	18	24	0	0	1	1	0	2468
Percent	0.9%	74.1%	20.1%	0.5%	2.2%	0.2%	0.1%	0.7%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	11:00	11:00	00:00	09:00	02:00	09:00	00:00	08:00			07:00	07:00		11:00
Vol.	1	123	49	1	5	1	3	2	4			1	1		179
PM Peak	12:00	12:00	15:00	15:00	12:00	17:00		15:00	12:00						12:00
Vol.	5	147	36	3	6	1		2	1						194

Tri-State Traffic Data, Inc

Street: Rt 11 NB
Location: Bween Confers Ln and Cnty Ln
Weather: Clear
Counter: 10450

610-466-1469
www.TSTData.com

Site Code: 0611087
Station ID: 0611087

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/15/08	0	14	2	0	0	0	0	0	0	0	0	0	0	0	16
01:00	0	8	2	0	0	0	0	0	1	0	0	0	0	0	11
02:00	0	8	2	0	1	0	0	0	0	0	0	0	0	0	11
03:00	0	5	1	0	1	0	0	0	1	0	0	0	0	0	8
04:00	0	18	10	1	1	0	0	5	0	0	0	0	0	0	35
05:00	1	28	11	0	0	0	0	3	1	0	0	0	0	0	44
06:00	0	30	10	0	3	0	0	0	0	0	0	0	0	0	43
07:00	0	48	25	0	2	0	0	0	2	0	0	0	0	0	77
08:00	3	61	20	0	2	0	0	0	1	0	0	0	0	0	87
09:00	6	75	14	0	1	1	0	0	0	0	0	0	0	0	97
10:00	3	69	24	0	2	0	0	1	0	0	0	0	0	0	99
11:00	4	115	21	0	3	0	0	1	1	0	0	0	0	0	145
12 PM	3	137	31	0	5	0	0	4	1	0	0	0	0	0	181
13:00	10	130	31	0	1	1	0	0	1	0	0	0	0	0	174
14:00	6	135	26	1	1	0	0	2	2	0	0	0	0	0	173
15:00	12	148	21	0	3	0	0	0	2	0	0	0	0	0	186
16:00	19	115	19	2	2	1	0	1	1	0	0	0	0	0	160
17:00	20	141	28	1	2	0	0	1	5	0	0	0	0	0	198
18:00	9	127	29	1	2	0	0	2	3	0	1	0	0	0	174
19:00	8	126	44	2	2	0	0	3	4	0	0	0	0	0	189
20:00	2	106	24	2	1	0	0	2	8	0	0	0	0	0	145
21:00	2	90	23	1	3	1	0	0	0	0	0	0	0	0	120
22:00	1	61	14	1	0	0	0	0	2	0	0	0	0	0	79
23:00	1	20	2	0	0	0	0	0	1	0	0	0	0	0	24
Total	110	1815	434	12	38	4	0	25	37	0	1	0	0	0	2476
Percent	4.4%	73.3%	17.5%	0.5%	1.5%	0.2%	0.0%	1.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	07:00	04:00	06:00	09:00		04:00	07:00						11:00
Vol.	6	115	25	1	3	1		5	2						145
PM Peak	17:00	15:00	19:00	16:00	12:00	13:00		12:00	20:00		18:00				17:00
Vol.	20	148	44	2	5	1		4	8		1				198

Tri-State Traffic Data, Inc

Street: Rt 11 NB
Location: Bween Confers Ln and Cnty Ln
Weather: Clear
Counter: 10450

610-466-1469
www.TSTData.com

Site Code: 0611087
Station ID: 0611087

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/16/08	0	5	2	0	0	0	0	0	2	0	0	0	0	0	9
01:00	0	5	1	1	2	0	0	0	2	0	0	0	0	0	11
02:00	0	6	2	1	1	2	0	0	5	0	0	0	0	0	17
03:00	0	8	4	0	0	2	0	0	3	0	0	0	0	0	17
04:00	1	27	14	0	4	3	0	2	4	0	0	0	0	0	55
05:00	8	104	49	1	3	0	0	1	4	0	0	0	0	0	170
06:00	6	319	122	1	17	1	0	1	7	0	0	0	1	0	475
07:00	0	181	47	3	8	3	1	1	8	0	0	0	0	0	252
08:00	1	103	35	2	9	4	1	4	8	1	0	0	0	0	168
09:00	1	71	37	3	7	4	0	5	5	1	0	0	0	0	134
10:00	3	96	28	6	7	7	0	3	4	0	1	0	0	0	155
11:00	0	102	29	1	6	5	0	0	13	0	0	0	0	0	156
12 PM	4	118	33	7	14	4	1	1	4	0	0	0	0	0	186
13:00	2	99	41	5	4	3	0	2	8	0	0	0	0	0	164
14:00	1	119	45	3	8	5	0	6	9	0	0	0	0	0	196
15:00	1	165	44	1	10	2	1	2	4	1	0	0	0	0	231
16:00	1	195	58	2	10	1	0	0	8	1	0	0	0	0	276
17:00	4	160	37	0	11	0	0	3	4	0	0	0	0	0	219
18:00	0	96	26	0	7	0	0	0	1	0	0	0	0	0	130
19:00	0	70	26	1	1	0	0	1	3	0	0	0	0	0	102
20:00	0	33	13	0	3	0	0	1	5	0	0	0	0	0	55
21:00	0	46	12	0	3	1	0	0	1	0	0	0	0	0	63
22:00	0	33	8	0	0	0	0	1	3	0	0	3	0	0	48
23:00	2	25	0	0	3	0	0	0	5	0	0	0	0	0	35
Total	35	2186	713	38	138	47	4	34	120	4	1	3	1	0	3324
Percent	1.1%	65.8%	21.5%	1.1%	4.2%	1.4%	0.1%	1.0%	3.6%	0.1%	0.0%	0.1%	0.0%	0.0%	
AM Peak	05:00	06:00	06:00	10:00	06:00	10:00	07:00	09:00	11:00	08:00	10:00		06:00		06:00
Vol.	8	319	122	6	17	7	1	5	13	1	1		1		475
PM Peak	12:00	16:00	16:00	12:00	12:00	14:00	12:00	14:00	14:00	15:00		22:00			16:00
Vol.	4	195	58	7	14	5	1	6	9	1		3			276

Tri-State Traffic Data, Inc

Street: Rt 11 NB
Location: Bween Confers Ln and Cnty Ln
Weather: Clear
Counter: 10450

610-466-1469
www.TSTData.com

Site Code: 0611087
Station ID: 0611087

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/17/08	0	22	5	0	0	0	0	0	1	0	0	0	0	0	28
01:00	0	10	1	2	0	0	0	1	2	0	0	0	0	0	16
02:00	0	6	2	2	1	1	0	1	2	0	0	0	0	0	15
03:00	0	7	3	0	0	2	0	1	3	0	0	0	0	0	16
04:00	1	36	14	1	7	1	0	1	1	0	0	0	0	0	62
05:00	11	103	44	1	8	2	0	0	2	1	0	0	0	0	172
06:00	11	313	136	2	15	4	2	1	4	0	0	0	0	0	488
07:00	3	180	51	7	5	2	2	3	3	1	0	0	0	0	257
08:00	0	104	35	4	7	2	2	1	7	0	0	0	0	0	162
09:00	1	92	43	4	6	3	1	2	10	0	0	0	0	0	162
10:00	0	79	37	2	9	3	0	2	6	3	0	0	0	0	141
11:00	3	96	31	7	3	4	0	1	8	0	0	0	0	0	153
12 PM	3	122	35	9	9	0	0	3	4	0	0	0	0	0	185
13:00	0	114	37	3	6	0	0	3	8	0	0	0	0	0	171
14:00	3	130	46	4	9	2	0	3	9	0	0	0	0	0	206
15:00	2	171	38	5	4	2	0	3	4	0	0	0	0	0	229
16:00	1	177	60	1	15	3	0	3	7	0	0	0	0	0	267
17:00	3	185	37	1	15	0	0	1	9	0	0	0	0	0	251
18:00	4	126	31	0	7	0	0	2	7	0	0	0	0	0	177
19:00	1	102	23	1	4	1	0	1	7	1	0	0	0	0	141
20:00	1	55	25	0	1	0	0	2	4	0	0	0	0	0	88
21:00	1	59	24	1	2	1	0	0	3	0	0	0	0	0	91
22:00	0	39	10	0	0	0	0	0	5	0	0	0	0	0	54
23:00	2	17	3	0	0	0	0	0	2	0	0	1	0	0	25
Total	51	2345	771	57	133	33	7	35	118	6	0	1	0	0	3557
Percent	1.4%	65.9%	21.7%	1.6%	3.7%	0.9%	0.2%	1.0%	3.3%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	06:00	06:00	07:00	06:00	06:00	06:00	07:00	09:00	10:00					06:00
Vol.	11	313	136	7	15	4	2	3	10	3					488
PM Peak	18:00	17:00	16:00	12:00	16:00	16:00		12:00	14:00	19:00		23:00			16:00
Vol.	4	185	60	9	15	3		3	9	1		1			267

Tri-State Traffic Data, Inc

Page 8

Street: Rt 11 NB
Location: Bween Confers Ln and Cnty Ln
Weather: Clear
Counter: 10450

610-466-1469
www.TSTData.com

Site Code: 0611087
Station ID: 0611087

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/18/08	0	23	5	0	0	0	0	0	0	0	0	0	0	0	28
01:00	0	11	0	2	1	2	0	1	2	0	0	0	0	0	19
02:00	0	5	2	0	0	0	0	0	2	0	0	0	0	0	9
03:00	0	9	3	1	0	1	0	0	5	0	0	0	0	0	19
04:00	0	27	12	1	2	0	0	0	3	0	0	0	0	0	45
05:00	9	96	38	0	5	0	0	0	2	0	0	0	0	0	150
06:00	6	310	129	2	16	3	0	2	5	0	0	0	0	0	473
07:00	0	186	48	2	12	4	0	0	2	0	0	0	0	0	254
08:00	2	125	29	5	11	3	1	3	7	2	0	0	0	0	188
09:00	1	89	37	5	11	4	1	3	8	0	0	0	0	0	159
10:00	1	81	27	1	4	7	1	3	6	1	0	0	1	0	133
11:00	3	142	49	3	7	5	1	3	18	0	0	0	0	0	231
12 PM	23	778	240	11	34	11	0	11	34	0	0	0	0	0	1142
13:00	23	797	246	12	35	12	0	12	35	0	0	0	0	0	1172
14:00	22	763	235	11	34	11	0	11	34	0	0	0	0	0	1121
15:00	20	678	209	10	30	10	0	10	30	0	0	0	0	0	997
16:00	15	526	162	8	23	8	0	8	23	0	0	0	0	0	773
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	125	4646	1471	74	225	81	4	67	216	3	0	0	1	0	6913
Percent	1.8%	67.2%	21.3%	1.1%	3.3%	1.2%	0.1%	1.0%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	06:00	06:00	08:00	06:00	10:00	08:00	08:00	11:00	08:00			10:00		06:00
Vol.	9	310	129	5	16	7	1	3	18	2			1		473
PM Peak	12:00	13:00	13:00	13:00	13:00	13:00		13:00	13:00						13:00
Vol.	23	797	246	12	35	12		12	35						1172
Grand Total	598	18288	5566	272	892	291	42	258	729	19	2	11	4	0	26972
Percent	2.2%	67.8%	20.6%	1.0%	3.3%	1.1%	0.2%	1.0%	2.7%	0.1%	0.0%	0.0%	0.0%	0.0%	

Tri-State Traffic Data, Inc

Page 1

Street: Rt 11 SB
Location: Between Confers and Cnty Line
Weather: Clear
Counter: 20418

610-466-1469
www.TSTData.com

Site Code: 0611088
Station ID: 0611088

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/11/08	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	5	61	23	1	3	0	0	0	2	0	0	0	0	0	95
20:00	2	81	12	0	2	0	0	0	7	0	0	1	1	0	106
21:00	2	77	19	0	3	1	0	3	0	0	0	0	0	0	105
22:00	0	40	11	0	1	0	0	0	2	0	0	0	0	0	54
23:00	1	48	11	0	2	0	0	0	1	0	0	1	0	0	64
Total	10	307	76	1	11	1	0	3	12	0	0	2	1	0	424
Percent	2.4%	72.4%	17.9%	0.2%	2.6%	0.2%	0.0%	0.7%	2.8%	0.0%	0.0%	0.5%	0.2%	0.0%	

AM Peak Vol.															
PM Peak Vol.	19:00	20:00	19:00	19:00	19:00	21:00		21:00	20:00			20:00	20:00		20:00
	5	81	23	1	3	1		3	7			1	1		106

Tri-State Traffic Data, Inc

Street: Rt 11 SB
Location: Between Confers and Cnty Line
Weather: Clear
Counter: 20418

610-466-1469
www.TSTData.com

Site Code: 0611088
Station ID: 0611088

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/12/08	0	14	2	0	0	0	0	0	2	0	0	0	0	0	18
01:00	0	23	5	1	0	0	0	0	1	0	0	0	0	0	30
02:00	0	11	2	0	0	0	0	0	2	0	0	0	0	0	15
03:00	0	12	3	1	1	0	0	0	6	0	0	0	0	0	23
04:00	0	24	5	0	0	0	0	0	1	0	0	0	0	0	30
05:00	1	43	20	1	4	2	0	0	1	0	0	0	0	0	72
06:00	2	115	45	5	12	1	1	1	1	0	0	0	0	0	183
07:00	4	123	51	4	9	3	5	0	3	0	0	0	0	0	202
08:00	4	114	40	5	14	1	12	3	3	0	0	0	0	0	196
09:00	3	128	41	5	15	0	8	2	6	0	0	0	0	0	208
10:00	4	130	35	6	14	3	6	3	4	0	0	0	0	0	205
11:00	9	124	47	2	10	4	9	6	8	1	0	1	0	0	221
12 PM	9	159	43	5	9	5	9	2	6	0	0	1	0	0	248
13:00	7	138	48	1	9	2	6	2	8	0	0	0	0	0	221
14:00	12	195	64	5	8	3	5	3	2	2	0	0	0	0	299
15:00	24	293	103	1	15	2	4	3	5	0	0	0	0	0	450
16:00	10	242	71	2	21	1	2	1	8	0	0	0	0	0	358
17:00	11	160	43	1	4	2	0	1	3	0	0	0	0	0	225
18:00	5	112	36	0	2	0	0	0	3	0	0	0	0	0	158
19:00	4	96	20	0	4	2	0	0	2	0	0	0	0	0	128
20:00	2	79	33	0	5	0	0	0	1	0	0	0	0	0	120
21:00	2	59	14	1	0	1	0	0	2	0	0	0	0	0	79
22:00	2	50	10	0	1	0	0	0	4	0	0	0	0	0	67
23:00	2	48	14	0	2	0	0	1	1	0	0	0	0	0	68
Total	117	2492	795	46	159	32	67	28	83	3	0	2	0	0	3824
Percent	3.1%	65.2%	20.8%	1.2%	4.2%	0.8%	1.8%	0.7%	2.2%	0.1%	0.0%	0.1%	0.0%	0.0%	
AM Peak Vol.	11:00	10:00	07:00	10:00	09:00	11:00	08:00	11:00	11:00	11:00		11:00			11:00
PM Peak Vol.	15:00	15:00	15:00	12:00	16:00	12:00	12:00	14:00	13:00	14:00		12:00			15:00
	9	130	51	6	15	4	12	6	8	1		1			221
	24	293	103	5	21	5	9	3	8	2		1			450

Tri-State Traffic Data, Inc

Page 3

Street: Rt 11 SB
Location: Between Confers and Cnty Line
Weather: Clear
Counter: 20418

610-466-1469
www.TSTData.com

Site Code: 0611088
Station ID: 0611088

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/13/08	1	20	7	1	0	0	0	0	5	0	0	1	0	0	35
01:00	1	19	5	1	0	1	0	0	1	0	0	0	0	0	28
02:00	0	23	3	0	0	0	0	0	3	0	0	0	0	0	29
03:00	0	23	2	0	1	0	0	0	2	1	0	0	0	0	29
04:00	0	12	5	0	3	0	0	0	3	0	0	0	0	0	23
05:00	2	39	23	2	5	3	0	0	1	0	0	0	0	0	75
06:00	2	118	43	2	12	1	0	1	0	0	0	0	0	0	179
07:00	4	123	42	3	15	0	13	0	4	0	0	0	0	0	204
08:00	3	96	28	8	9	3	17	2	5	0	0	0	0	0	171
09:00	5	128	35	4	10	4	13	1	7	0	0	0	0	0	207
10:00	2	205	69	6	17	2	17	3	9	0	0	0	0	0	330
11:00	4	195	54	1	11	1	14	6	8	1	0	1	0	0	296
12 PM	9	168	54	3	7	1	12	3	6	0	0	1	0	0	264
13:00	14	151	64	2	13	2	4	7	9	0	0	0	0	0	266
14:00	17	208	60	2	8	3	2	4	10	0	0	0	0	0	314
15:00	16	294	87	2	12	1	0	1	2	0	0	0	0	0	415
16:00	5	225	65	4	8	0	0	2	1	0	0	0	0	0	310
17:00	8	160	49	0	6	2	0	1	9	0	0	1	0	0	236
18:00	6	144	34	1	2	0	0	0	2	0	0	0	0	0	189
19:00	4	102	25	3	0	2	0	2	4	0	0	0	0	0	142
20:00	2	86	23	0	2	0	0	0	0	0	0	0	0	0	113
21:00	2	74	12	0	5	0	0	2	1	0	0	0	0	0	96
22:00	1	73	12	0	3	0	0	0	3	0	0	0	0	0	92
23:00	2	72	19	0	4	0	0	1	3	0	0	0	0	0	101
Total	110	2758	820	45	153	26	92	36	98	2	0	4	0	0	4144
Percent	2.7%	66.6%	19.8%	1.1%	3.7%	0.6%	2.2%	0.9%	2.4%	0.0%	0.0%	0.1%	0.0%	0.0%	
AM Peak Vol.	09:00	10:00	10:00	08:00	10:00	09:00	08:00	11:00	10:00	03:00		00:00			10:00
	5	205	69	8	17	4	17	6	9	1		1			330
PM Peak Vol.	14:00	15:00	15:00	16:00	13:00	14:00	12:00	13:00	14:00			12:00			15:00
	17	294	87	4	13	3	12	7	10			1			415

Tri-State Traffic Data, Inc

Street: Rt 11 SB
Location: Between Confers and Cnty Line
Weather: Clear
Counter: 20418

610-466-1469
www.TSTData.com

Site Code: 0611088
Station ID: 0611088

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/14/08	1	24	5	0	1	0	0	0	0	0	0	2	0	0	33
01:00	0	41	10	1	1	0	0	0	0	0	0	0	0	0	53
02:00	0	17	5	0	0	0	0	0	1	0	0	0	0	0	23
03:00	0	5	3	0	1	0	0	0	0	0	0	0	0	0	9
04:00	0	5	3	0	0	0	0	0	1	0	0	0	0	0	9
05:00	0	17	3	1	0	1	0	0	0	0	0	0	0	0	22
06:00	3	61	12	0	2	1	2	0	1	0	0	0	0	0	82
07:00	1	84	22	0	3	1	1	1	1	0	0	0	0	0	114
08:00	0	70	34	1	6	0	0	0	3	0	0	0	0	0	114
09:00	7	94	28	0	5	0	0	0	1	0	0	0	0	0	135
10:00	0	109	35	0	2	1	0	1	4	0	0	0	0	0	152
11:00	0	123	40	0	5	0	0	1	2	1	0	0	0	0	172
12 PM	4	112	25	0	2	4	0	0	3	0	0	0	0	0	150
13:00	3	110	40	2	2	1	0	0	1	0	0	0	0	0	159
14:00	6	127	34	0	4	0	0	1	0	0	0	0	0	0	172
15:00	4	110	37	0	3	1	0	0	2	0	0	0	0	0	157
16:00	2	143	32	2	1	0	0	0	1	0	0	0	0	0	181
17:00	1	94	31	0	3	0	0	2	1	0	0	0	0	0	132
18:00	4	106	29	2	1	0	0	0	1	0	0	0	0	0	143
19:00	0	85	27	1	1	1	0	0	1	0	0	0	0	0	116
20:00	1	84	19	0	1	0	0	0	0	0	0	0	0	0	105
21:00	1	72	11	0	1	0	0	1	2	0	0	0	0	0	88
22:00	1	57	5	0	2	0	0	0	0	0	0	0	0	0	65
23:00	0	34	2	1	1	0	0	0	0	0	0	0	0	0	38
Total	39	1784	492	11	48	11	3	7	26	1	0	2	0	0	2424
Percent	1.6%	73.6%	20.3%	0.5%	2.0%	0.5%	0.1%	0.3%	1.1%	0.0%	0.0%	0.1%	0.0%	0.0%	
AM Peak Vol.	09:00	11:00	11:00	01:00	08:00	05:00	06:00	07:00	10:00	11:00		00:00			11:00
PM Peak Vol.	14:00	16:00	13:00	13:00	14:00	12:00		17:00	12:00						16:00
	6	143	40	2	4	4		2	3						181

Tri-State Traffic Data, Inc

Street: Rt 11 SB
Location: Between Confers and Cnty Line
Weather: Clear
Counter: 20418

610-466-1469
www.TSTData.com

Site Code: 0611088
Station ID: 0611088

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/15/08	0	21	9	0	0	0	0	2	0	0	0	0	0	0	32
01:00	0	26	9	1	0	0	0	1	0	0	0	0	0	0	37
02:00	0	14	1	0	1	0	0	0	0	0	0	0	0	0	16
03:00	0	12	2	0	1	0	0	0	0	0	0	0	0	0	15
04:00	0	6	1	0	0	0	0	0	1	0	0	0	0	0	8
05:00	0	12	2	0	0	1	0	0	1	0	0	0	0	0	16
06:00	1	40	12	0	0	0	0	0	0	0	0	0	0	0	53
07:00	0	35	9	1	2	0	0	0	0	0	0	0	0	0	47
08:00	1	51	14	0	5	1	0	1	1	0	0	0	0	0	74
09:00	5	106	27	1	1	1	0	4	2	0	0	0	0	0	147
10:00	0	122	28	1	1	0	0	1	1	0	0	0	0	0	154
11:00	12	137	29	0	3	1	0	3	1	0	0	0	0	0	186
12 PM	8	120	30	2	2	0	0	0	0	0	0	0	0	0	162
13:00	14	148	21	0	4	0	0	3	2	0	0	0	0	0	192
14:00	14	112	29	0	0	0	0	2	0	0	0	0	0	0	157
15:00	9	122	36	0	5	0	0	3	1	0	0	0	0	0	176
16:00	8	103	27	0	3	0	0	0	2	0	0	0	0	0	143
17:00	10	98	24	1	0	0	0	1	0	0	0	0	0	0	134
18:00	11	119	28	0	1	0	0	0	2	0	0	0	0	0	161
19:00	4	89	18	0	1	0	0	0	1	0	0	0	0	0	113
20:00	2	73	9	1	0	0	0	0	2	0	0	0	0	0	87
21:00	2	63	14	0	1	0	0	0	0	0	0	0	0	0	80
22:00	2	37	7	0	1	0	0	0	2	0	0	0	0	0	49
23:00	1	28	2	0	2	0	0	1	1	0	0	0	0	0	35
Total	104	1694	388	8	34	4	0	22	20	0	0	0	0	0	2274
Percent	4.6%	74.5%	17.1%	0.4%	1.5%	0.2%	0.0%	1.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	01:00	08:00	05:00		09:00	09:00						11:00
Vol.	12	137	29	1	5	1		4	2						186
PM Peak	13:00	13:00	15:00	12:00	15:00			13:00	13:00						13:00
Vol.	14	148	36	2	5			3	2						192

Tri-State Traffic Data, Inc

Street: Rt 11 SB
Location: Between Confers and Cnty Line
Weather: Clear
Counter: 20418

610-466-1469
www.TSTData.com

Site Code: 0611088
Station ID: 0611088

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/16/08	0	11	2	0	0	0	0	0	3	0	0	0	0	0	16
01:00	0	7	2	1	1	0	0	0	0	0	0	0	0	0	11
02:00	0	6	2	0	1	0	0	0	2	0	0	0	0	0	11
03:00	0	8	4	0	0	0	0	1	3	0	0	0	0	0	16
04:00	1	20	7	1	3	1	0	0	3	0	0	0	0	0	36
05:00	0	54	20	2	4	1	0	0	7	0	0	0	0	0	88
06:00	4	140	36	4	11	0	1	2	0	0	0	0	0	0	198
07:00	1	123	48	2	15	1	5	2	4	1	0	0	0	0	202
08:00	2	105	25	4	6	0	3	2	7	0	0	0	0	0	154
09:00	1	110	24	6	14	1	4	5	5	0	0	0	0	0	170
10:00	3	91	36	3	8	1	4	4	7	0	0	0	0	0	157
11:00	3	99	30	7	9	2	3	4	10	0	0	1	0	0	168
12 PM	1	116	31	0	13	1	3	3	11	0	0	1	0	0	180
13:00	1	136	39	4	4	2	2	2	7	0	0	0	1	0	198
14:00	4	151	49	1	11	1	4	3	7	0	0	0	0	0	231
15:00	7	339	110	2	14	0	4	1	8	0	1	0	0	0	486
16:00	1	218	71	4	18	6	1	1	7	0	0	0	0	0	327
17:00	2	161	36	0	5	3	0	1	1	0	0	0	0	0	209
18:00	1	103	31	0	4	2	0	1	2	0	0	0	0	0	144
19:00	0	58	17	0	1	1	0	1	2	0	0	0	0	0	80
20:00	0	51	12	0	0	2	0	1	1	0	0	0	0	0	67
21:00	0	51	10	1	1	0	0	0	5	0	0	1	0	0	69
22:00	0	27	12	0	0	0	0	0	2	0	0	1	0	0	42
23:00	0	46	8	0	0	0	0	0	1	0	0	0	0	0	55
Total	32	2231	662	42	143	25	34	34	105	1	1	4	1	0	3315
Percent	1.0%	67.3%	20.0%	1.3%	4.3%	0.8%	1.0%	1.0%	3.2%	0.0%	0.0%	0.1%	0.0%	0.0%	
AM Peak Vol.	06:00	06:00	07:00	11:00	07:00	11:00	07:00	09:00	11:00	07:00		11:00			07:00
	4	140	48	7	15	2	5	5	10	1		1			202
PM Peak Vol.	15:00	15:00	15:00	13:00	16:00	16:00	14:00	12:00	12:00		15:00	12:00	13:00		15:00
	7	339	110	4	18	6	4	3	11		1	1	1		486

Tri-State Traffic Data, Inc

Street: Rt 11 SB
Location: Between Confers and Cnty Line
Weather: Clear
Counter: 20418

610-466-1469
www.TSTData.com

Site Code: 0611088
Station ID: 0611088

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/17/08	0	15	2	0	4	0	0	1	4	0	0	1	0	0	27
01:00	0	25	4	1	0	0	0	0	1	0	0	0	0	0	31
02:00	0	21	2	0	0	0	0	0	4	0	0	0	0	0	27
03:00	0	10	2	0	1	0	0	0	3	0	0	0	0	0	16
04:00	0	13	5	2	0	0	0	0	4	1	0	0	0	0	25
05:00	1	53	23	2	4	2	0	0	3	0	0	0	0	0	88
06:00	0	126	42	1	8	1	0	0	4	0	0	0	0	0	182
07:00	1	133	43	3	12	1	1	2	7	0	0	0	0	0	203
08:00	1	118	40	2	10	3	1	3	4	0	0	0	0	0	182
09:00	1	89	34	7	7	3	0	2	4	0	0	0	0	0	147
10:00	1	128	32	3	14	3	4	7	9	1	0	0	0	0	202
11:00	2	104	44	6	6	5	0	5	10	0	0	1	0	0	183
12 PM	1	124	37	13	2	0	1	6	15	0	0	0	0	0	199
13:00	1	109	35	0	5	0	0	3	5	0	0	0	0	0	158
14:00	7	172	50	2	11	3	1	2	8	1	0	0	0	0	257
15:00	14	316	116	1	14	2	0	3	5	0	0	0	0	0	471
16:00	6	233	66	4	12	4	1	0	5	0	0	0	0	0	331
17:00	7	153	35	0	4	1	0	3	3	0	0	0	0	0	206
18:00	2	124	38	0	2	0	0	0	12	0	0	0	0	0	178
19:00	1	64	18	2	1	1	0	1	5	0	0	0	0	0	93
20:00	4	81	24	0	1	0	0	1	5	0	0	0	0	0	116
21:00	0	66	16	1	0	0	0	0	2	0	0	0	0	0	85
22:00	2	47	12	2	0	0	0	1	5	0	0	0	0	0	69
23:00	1	55	10	0	0	1	0	0	0	0	0	0	0	0	67
Total	53	2379	730	52	118	30	9	40	127	3	0	2	0	0	3543
Percent	1.5%	67.1%	20.6%	1.5%	3.3%	0.8%	0.3%	1.1%	3.6%	0.1%	0.0%	0.1%	0.0%	0.0%	
AM Peak Vol.	11:00	07:00	11:00	09:00	10:00	11:00	10:00	10:00	11:00	04:00		00:00			07:00
	2	133	44	7	14	5	4	7	10	1		1			203
PM Peak Vol.	15:00	15:00	15:00	12:00	15:00	16:00	12:00	12:00	12:00	14:00					15:00
	14	316	116	13	14	4	1	6	15	1					471

Tri-State Traffic Data, Inc

Street: Rt 11 SB
Location: Between Confers and Cnty Line
Weather: Clear
Counter: 20418

610-466-1469
www.TSTData.com

Site Code: 0611088
Station ID: 0611088

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/18/08	1	13	2	0	0	0	0	0	3	0	0	0	0	0	19
01:00	0	27	3	1	0	0	0	0	5	0	0	0	0	0	36
02:00	0	13	1	0	0	1	0	0	4	0	0	0	0	0	19
03:00	0	13	1	0	1	0	0	1	5	1	0	0	0	0	22
04:00	0	18	4	0	3	1	0	0	1	0	0	0	0	0	27
05:00	2	45	30	2	2	2	0	0	2	1	0	0	0	0	86
06:00	2	107	38	1	12	0	3	1	0	0	0	0	0	0	164
07:00	2	142	52	3	9	0	6	2	7	0	0	0	0	0	223
08:00	1	128	33	3	17	3	4	3	3	0	0	0	0	0	195
09:00	1	122	38	4	16	1	4	4	5	0	0	0	0	0	195
10:00	4	147	36	2	10	2	6	2	5	0	0	1	0	0	215
11:00	1	107	41	4	12	6	5	3	9	0	0	1	0	0	189
12 PM	3	123	39	3	6	1	4	5	10	0	0	0	0	0	194
13:00	0	139	37	5	9	1	5	8	3	0	0	0	0	0	207
14:00	7	149	46	0	9	3	3	2	7	0	0	0	0	0	226
15:00	7	355	126	3	19	3	1	1	10	0	0	0	0	0	525
16:00	0	237	64	1	10	2	0	1	9	0	0	0	0	0	324
17:00	4	153	34	0	5	1	0	0	3	0	0	0	0	0	200
18:00	0	111	42	0	2	0	0	4	3	0	0	0	0	0	162
19:00	0	78	17	2	2	0	0	0	4	0	0	0	0	0	103
20:00	0	74	19	0	2	1	0	2	4	0	0	0	0	0	102
21:00	0	54	7	2	3	0	0	1	2	0	0	0	0	0	69
22:00	0	43	9	0	2	1	0	0	5	0	0	0	0	0	60
23:00	0	47	9	0	2	0	0	1	3	0	0	1	0	0	63
Total	35	2445	728	36	153	29	41	41	112	2	0	3	0	0	3625
Percent	1.0%	67.4%	20.1%	1.0%	4.2%	0.8%	1.1%	1.1%	3.1%	0.1%	0.0%	0.1%	0.0%	0.0%	
AM Peak Vol.	10:00	10:00	07:00	09:00	08:00	11:00	07:00	09:00	11:00	03:00		10:00			07:00
	4	147	52	4	17	6	6	4	9	1		1			223
PM Peak Vol.	14:00	15:00	15:00	13:00	15:00	14:00	13:00	13:00	12:00			23:00			15:00
	7	355	126	5	19	3	5	8	10			1			525

Tri-State Traffic Data, Inc

Street: Rt 11 SB
Location: Between Confers and Cnty Line
Weather: Clear
Counter: 20418

610-466-1469
www.TSTData.com

Site Code: 0611088
Station ID: 0611088

Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
06/19/08	1	16	2	0	0	0	0	0	2	0	0	1	0	0	22
01:00	0	32	4	1	0	0	0	0	2	0	0	0	0	0	39
02:00	0	10	1	1	0	1	0	0	7	0	0	0	0	0	20
03:00	0	7	0	0	1	0	0	0	3	0	0	0	0	0	11
04:00	0	21	5	0	2	0	1	0	6	0	0	0	0	0	35
05:00	0	50	25	4	5	0	0	0	2	0	0	0	0	0	86
06:00	0	111	45	1	8	3	0	1	3	0	0	0	0	0	172
07:00	3	131	42	2	8	0	0	1	2	0	0	0	0	0	189
08:00	2	123	46	3	8	1	0	3	8	0	0	0	0	0	194
09:00	1	100	40	6	17	1	2	2	8	0	0	0	0	0	177
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	7	601	210	18	49	6	3	7	43	0	0	1	0	0	945
Percent	0.7%	63.6%	22.2%	1.9%	5.2%	0.6%	0.3%	0.7%	4.6%	0.0%	0.0%	0.1%	0.0%	0.0%	
AM Peak Vol.	07:00	07:00	08:00	09:00	09:00	06:00	09:00	08:00	08:00			00:00			08:00
PM Peak Vol.	3	131	46	6	17	3	2	3	8			1			194
Grand Total	507	16691	4901	259	868	164	249	218	626	12	1	20	2	0	24518
Percent	2.1%	68.1%	20.0%	1.1%	3.5%	0.7%	1.0%	0.9%	2.6%	0.0%	0.0%	0.1%	0.0%	0.0%	

Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11 / Orange St.
Date: Thursday, June 12, 2008
Counter: JI

File Name : SM0612-4A
Site Code : 00000000
Start Date : 6/12/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

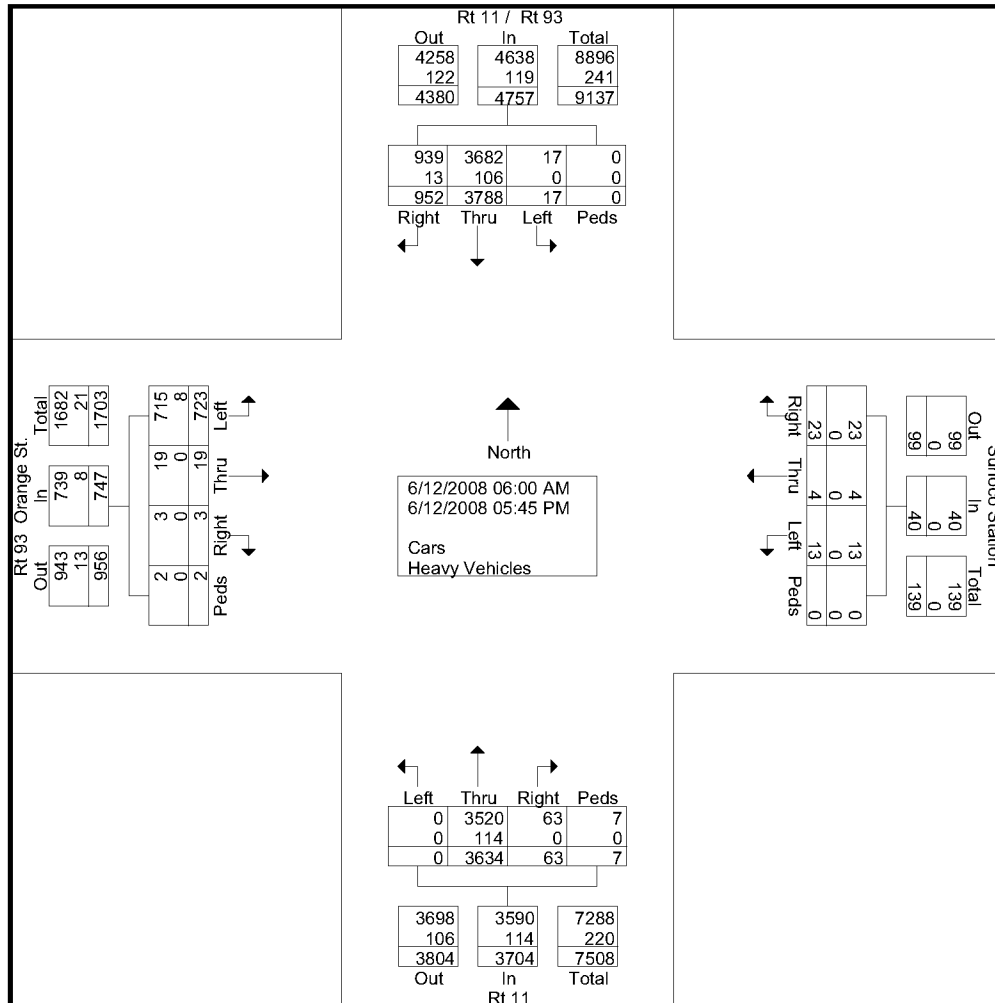
Start Time	Rt 11 / Rt 93 Southbound					Sunoco Station Westbound					Rt 11 Northbound					Rt 93 Orange St. Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:00 AM	8	70	0	0	78	0	0	0	0	0	2	89	0	0	91	0	0	11	0	11	180
06:15 AM	10	90	1	0	101	0	0	0	0	0	2	86	0	0	88	0	1	14	0	15	204
06:30 AM	9	117	0	0	126	1	0	0	0	1	4	109	0	0	113	0	0	18	0	18	258
06:45 AM	14	88	3	0	105	3	0	2	0	5	3	78	0	0	81	0	2	18	0	20	211
Total	41	365	4	0	410	4	0	2	0	6	11	362	0	0	373	0	3	61	0	64	853
07:00 AM	19	98	0	0	117	0	0	0	0	0	3	77	0	0	80	0	0	16	0	16	213
07:15 AM	15	103	0	0	118	1	0	1	0	2	1	98	0	0	99	0	2	28	0	30	249
07:30 AM	15	148	1	0	164	0	2	0	0	2	2	83	0	0	85	0	1	18	0	19	270
07:45 AM	27	164	0	0	191	0	0	2	0	2	1	91	0	0	92	0	0	12	0	12	297
Total	76	513	1	0	590	1	2	3	0	6	7	349	0	0	356	0	3	74	0	77	1029
08:00 AM	16	108	0	0	124	0	0	0	0	0	2	108	0	0	110	0	0	18	0	18	252
08:15 AM	20	131	2	0	153	1	0	1	0	2	1	111	0	0	112	0	1	28	0	29	296
08:30 AM	20	116	0	0	136	1	1	0	0	2	2	105	0	2	109	1	3	20	1	25	272
08:45 AM	31	109	2	0	142	2	0	1	0	3	3	121	0	0	124	0	2	20	0	22	291
Total	87	464	4	0	555	4	1	2	0	7	8	445	0	2	455	1	6	86	1	94	1111
02:30 PM	41	166	0	0	207	0	1	0	0	1	0	162	0	0	162	0	1	29	0	30	400
02:45 PM	43	137	2	0	182	1	0	1	0	2	3	151	0	0	154	1	1	28	0	30	368
Total	84	303	2	0	389	1	1	1	0	3	3	313	0	0	316	1	2	57	0	60	768
03:00 PM	52	204	3	0	259	1	0	2	0	3	4	178	0	0	182	0	0	22	0	22	466
03:15 PM	52	200	0	0	252	0	0	0	0	0	2	176	0	2	180	0	1	37	0	38	470
03:30 PM	73	180	0	0	253	0	0	0	0	0	1	185	0	0	186	0	1	34	0	35	474
03:45 PM	49	168	0	0	217	5	0	0	0	5	7	190	0	0	197	0	0	43	0	43	462
Total	226	752	3	0	981	6	0	2	0	8	14	729	0	2	745	0	2	136	0	138	1872
04:00 PM	67	173	1	0	241	3	0	0	0	3	7	183	0	0	190	1	1	29	0	31	465
04:15 PM	59	184	1	0	244	0	0	1	0	1	2	160	0	0	162	0	1	48	1	50	457
04:30 PM	66	214	0	0	280	0	0	0	0	0	1	214	0	3	218	0	0	40	0	40	538
04:45 PM	54	174	0	0	228	1	0	1	0	2	5	177	0	0	182	0	0	31	0	31	443
Total	246	745	2	0	993	4	0	2	0	6	15	734	0	3	752	1	2	148	1	152	1903
05:00 PM	64	166	1	0	231	0	0	0	0	0	5	215	0	0	220	0	0	33	0	33	484
05:15 PM	47	162	0	0	209	2	0	0	0	2	0	169	0	0	169	0	0	47	0	47	427
05:30 PM	42	164	0	0	206	0	0	0	0	0	0	163	0	0	163	0	0	42	0	42	411
05:45 PM	39	154	0	0	193	1	0	1	0	2	0	155	0	0	155	0	1	39	0	40	390
Total	192	646	1	0	839	3	0	1	0	4	5	702	0	0	707	0	1	161	0	162	1712
Grand Total	952	3788	17	0	4757	23	4	13	0	40	63	3634	0	7	3704	3	19	723	2	747	9248
Apprch %	20	79.6	0.4	0		57.5	10	32.5	0		1.7	98.1	0	0.2		0.4	2.5	96.8	0.3		
Total %	10.3	41	0.2	0	51.4	0.2	0	0.1	0	0.4	0.7	39.3	0	0.1	40.1	0	0.2	7.8	0	8.1	
Cars	939	3682										3520									
% Cars	98.6	97.2	100	0	97.5	100	100	100	0	100	100	96.9	0	100	96.9	100	100	98.9	100	98.9	97.4
Heavy Vehicles																					
% Heavy Vehicles	1.4	2.8	0	0	2.5	0	0	0	0	0	0	3.1	0	0	3.1	0	0	1.1	0	1.1	2.6

Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11 / Orange St.
Date: Thursday, June 12, 2008
Counter: JI

File Name : SM0612-4A
Site Code : 00000000
Start Date : 6/12/2008
Page No : 2



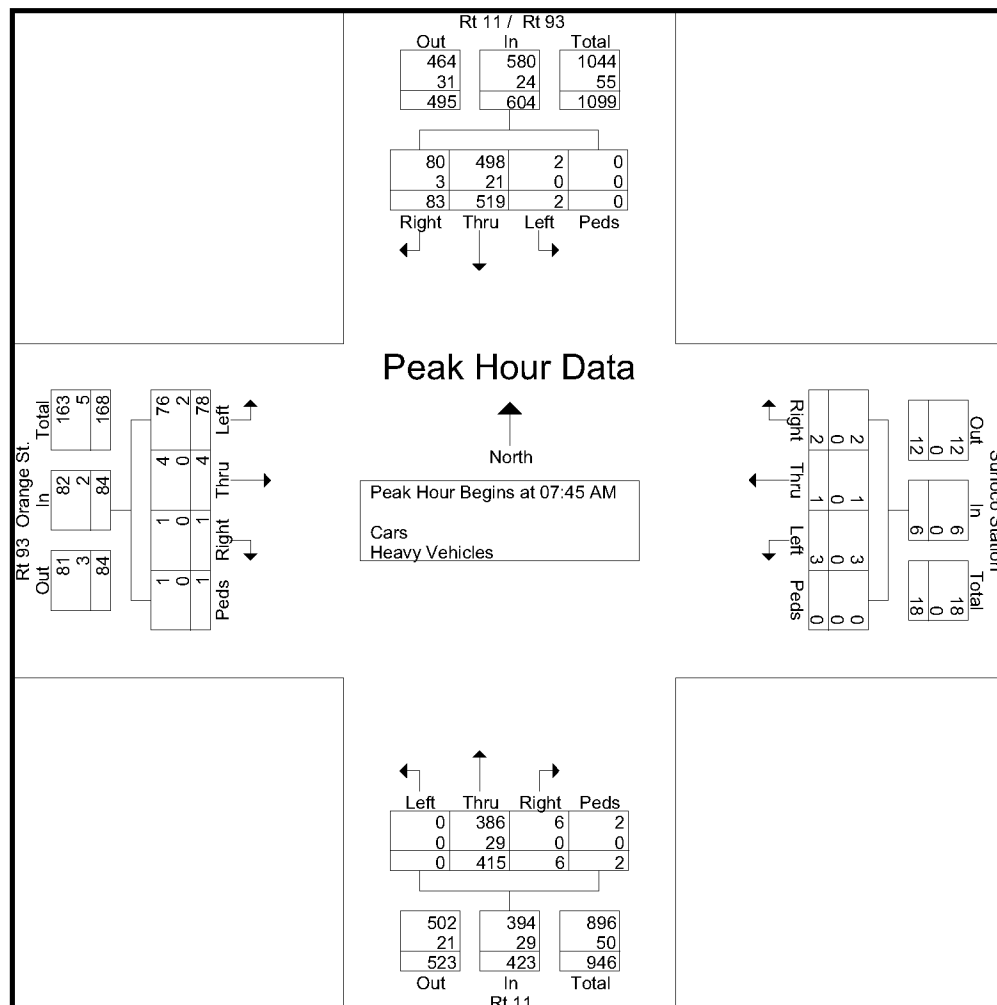
Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11 / Orange St.
Date: Thursday, June 12, 2008
Counter: JI

File Name : SM0612-4A
Site Code : 00000000
Start Date : 6/12/2008
Page No : 3

	Rt 11 / Rt 93 Southbound					Sunoco Station Westbound					Rt 11 Northbound					Rt 93 Orange St. Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	27	164	0	0	191	0	0	2	0	2	1	91	0	0	92	0	0	12	0	12	297
08:00 AM	16	108	0	0	124	0	0	0	0	0	2	108	0	0	110	0	0	18	0	18	252
08:15 AM	20	131	2	0	153	1	0	1	0	2	1	111	0	0	112	0	1	28	0	29	296
08:30 AM	20	116	0	0	136	1	1	0	0	2	2	105	0	2	109	1	3	20	1	25	272
Total Volume	83	519	2	0	604	2	1	3	0	6	6	415	0	2	423	1	4	78	1	84	1117
% App. Total	13.7	85.9	0.3	0		33.3	16.7	50	0		1.4	98.1	0	0.5		1.2	4.8	92.9	1.2		
PHF	.769	.791	.250	.000	.791	.500	.250	.375	.000	.750	.750	.935	.000	.250	.944	.250	.333	.696	.250	.724	.940
Cars	80	498	2	0	580	2	1	3	0	6	6	386	0	2	394	1	4	76	1	82	1062
% Cars	96.4	96.0	100	0	96.0	100	100	100	0	100	100	93.0	0	100	93.1	100	100	97.4	100	97.6	95.1
Heavy Vehicles																					
% Heavy Vehicles	3.6	4.0	0	0	4.0	0	0	0	0	0	0	7.0	0	0	6.9	0	0	2.6	0	2.4	4.9



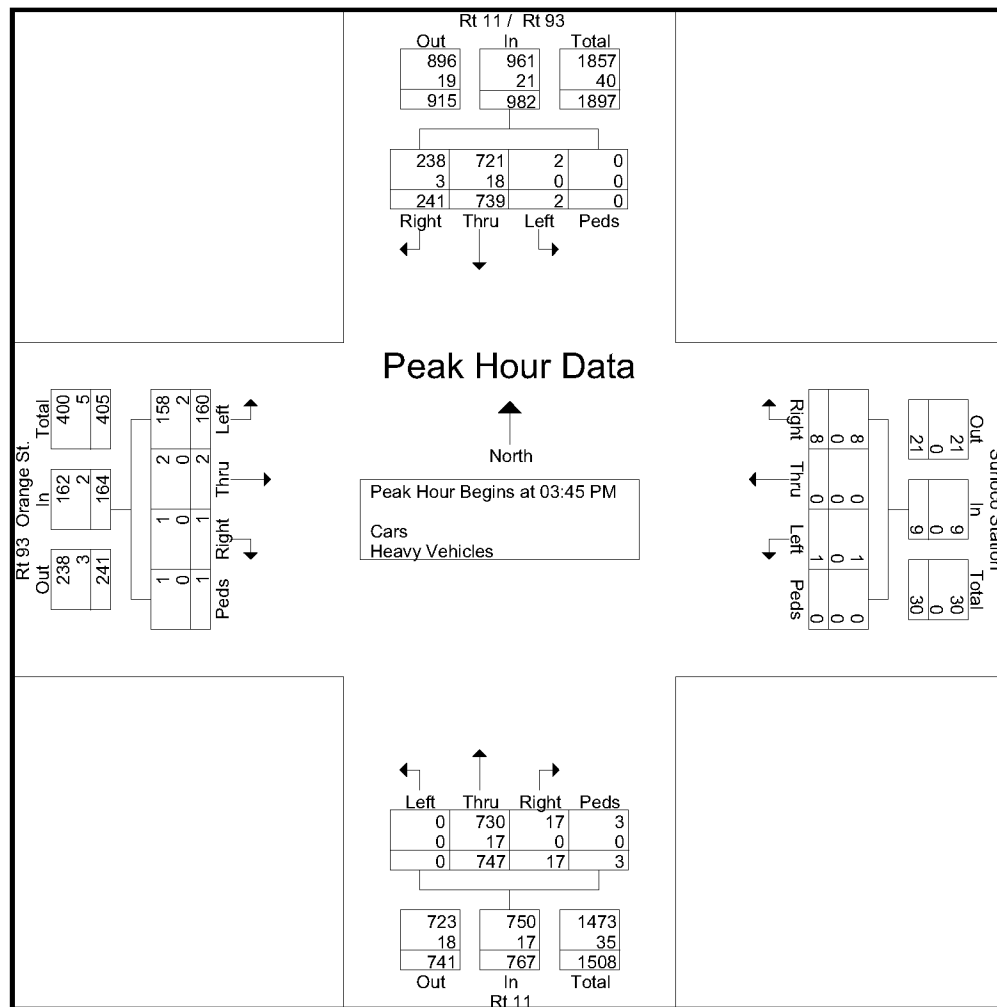
Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11 / Orange St.
Date: Thursday, June 12, 2008
Counter: JI

File Name : SM0612-4A
Site Code : 00000000
Start Date : 6/12/2008
Page No : 4

	Rt 11 / Rt 93 Southbound					Sunoco Station Westbound					Rt 11 Northbound					Rt 93 Orange St. Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	49	168	0	0	217	5	0	0	0	5	7	190	0	0	197	0	0	43	0	43	462
04:00 PM	67	173	1	0	241	3	0	0	0	3	7	183	0	0	190	1	1	29	0	31	465
04:15 PM	59	184	1	0	244	0	0	1	0	1	2	160	0	0	162	0	1	48	1	50	457
04:30 PM	66	214	0	0	280	0	0	0	0	0	1	214	0	3	218	0	0	40	0	40	538
Total Volume	241	739	2	0	982	8	0	1	0	9	17	747	0	3	767	1	2	160	1	164	1922
% App. Total	24.5	75.3	0.2	0		88.9	0	11.1	0		2.2	97.4	0	0.4		0.6	1.2	97.6	0.6		
PHF	.899	.863	.500	.000	.877	.400	.000	.250	.000	.450	.607	.873	.000	.250	.880	.250	.500	.833	.250	.820	.893
Cars	238	721	2	0	961	8	0	1	0	9	17	730	0	3	750	1	2	158	1	162	1882
% Cars	98.8	97.6	100	0	97.9	100	0	100	0	100	100	97.7	0	100	97.8	100	100	98.8	100	98.8	97.9
Heavy Vehicles																					
% Heavy Vehicles	1.2	2.4	0	0	2.1	0	0	0	0	0	0	2.3	0	0	2.2	0	0	1.3	0	1.2	2.1



Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County,PA
Intersection: Ida St/US 11
Date: Thursday, June 12,2008
Counter: CMK

File Name : SM0612-4B
Site Code : 00000000
Start Date : 6/12/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

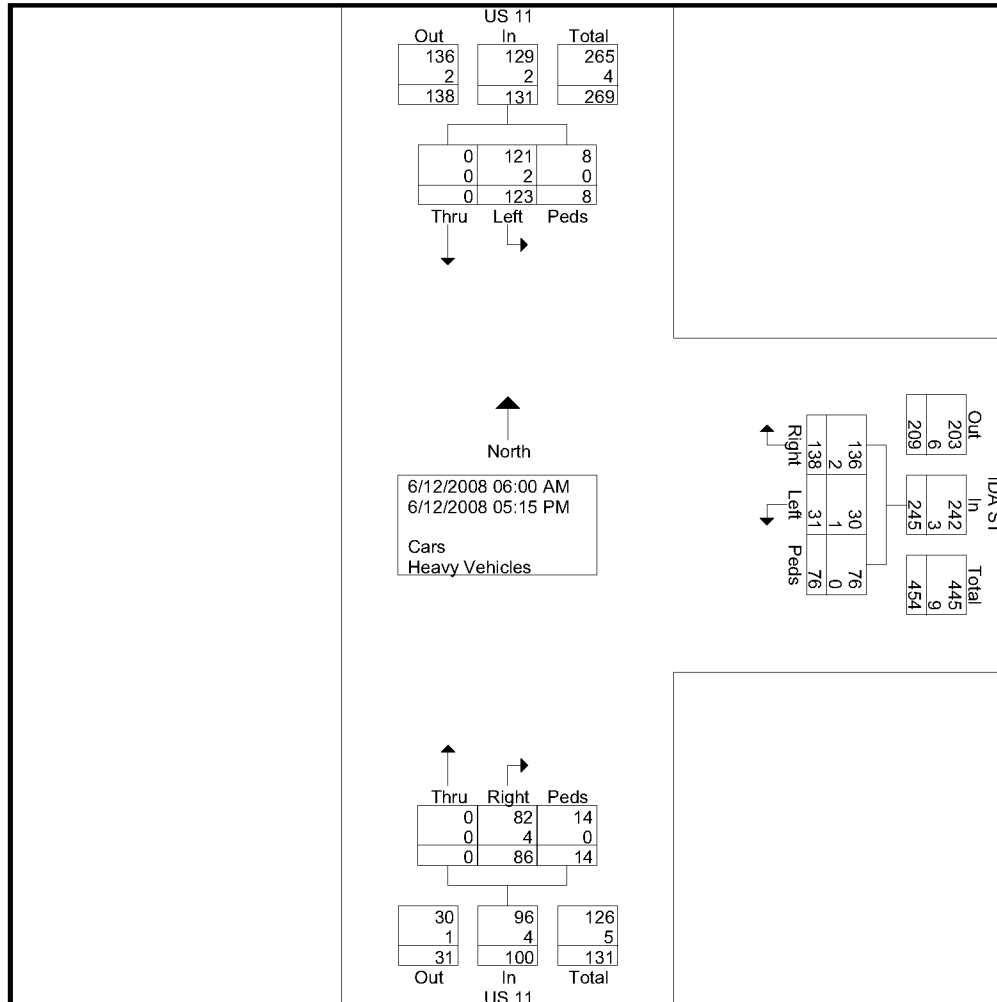
Start Time	US 11 Southbound				IDA ST Westbound				US 11 Northbound				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
06:00 AM	0	1	0	1	8	2	0	10	1	0	0	1	12
06:15 AM	0	0	0	0	8	2	2	12	0	0	0	0	12
06:30 AM	0	6	0	6	4	0	0	4	3	0	0	3	13
06:45 AM	0	1	0	1	5	3	1	9	0	0	0	0	10
Total	0	8	0	8	25	7	3	35	4	0	0	4	47
07:00 AM	0	2	0	2	1	1	0	2	3	0	0	3	7
07:15 AM	0	2	0	2	3	0	2	5	1	0	0	1	8
07:30 AM	0	6	0	6	7	1	2	10	3	0	0	3	19
07:45 AM	0	3	0	3	4	0	3	7	1	0	0	1	11
Total	0	13	0	13	15	2	7	24	8	0	0	8	45
08:00 AM	0	4	0	4	4	2	3	9	3	0	0	3	16
08:15 AM	0	4	0	4	4	0	4	8	2	0	0	2	14
08:30 AM	0	0	0	0	3	2	3	8	2	0	1	3	11
08:45 AM	0	7	0	7	7	1	2	10	4	0	0	4	21
Total	0	15	0	15	18	5	12	35	11	0	1	12	62
*** BREAK ***													
02:30 PM	0	3	0	3	3	0	8	11	3	0	0	3	17
02:45 PM	0	11	1	12	8	1	3	12	5	0	0	5	29
Total	0	14	1	15	11	1	11	23	8	0	0	8	46
03:00 PM	0	12	1	13	5	6	2	13	5	0	4	9	35
03:15 PM	0	6	0	6	11	0	4	15	8	0	1	9	30
03:30 PM	0	10	0	10	7	0	6	13	4	0	0	4	27
03:45 PM	0	6	0	6	8	1	2	11	5	0	0	5	22
Total	0	34	1	35	31	7	14	52	22	0	5	27	114
04:00 PM	0	9	0	9	12	4	4	20	6	0	2	8	37
04:15 PM	0	9	0	9	7	1	2	10	2	0	2	4	23
04:30 PM	0	7	3	10	3	1	5	9	9	0	0	9	28
04:45 PM	0	2	1	3	4	1	5	10	7	0	4	11	24
Total	0	27	4	31	26	7	16	49	24	0	8	32	112
05:00 PM	0	3	0	3	7	1	5	13	3	0	0	3	19
05:15 PM	0	9	2	11	5	1	8	14	6	0	0	6	31
Grand Total	0	123	8	131	138	31	76	245	86	0	14	100	476
Apprch %	0	93.9	6.1		56.3	12.7	31		86	0	14		
Total %	0	25.8	1.7	27.5	29	6.5	16	51.5	18.1	0	2.9	21	
Cars	0	121	8	129	136	30	76	242	82	0	14	96	467
% Cars	0	98.4	100	98.5	98.6	96.8	100	98.8	95.3	0	100	96	98.1
Heavy Vehicles	0	2	0	2	2	1	0	3	4	0	0	4	9
% Heavy Vehicles	0	1.6	0	1.5	1.4	3.2	0	1.2	4.7	0	0	4	1.9

Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County,PA
Intersection: Ida St/US 11
Date: Thursday, June 12,2008
Counter: CMK

File Name : SM0612-4B
Site Code : 00000000
Start Date : 6/12/2008
Page No : 2



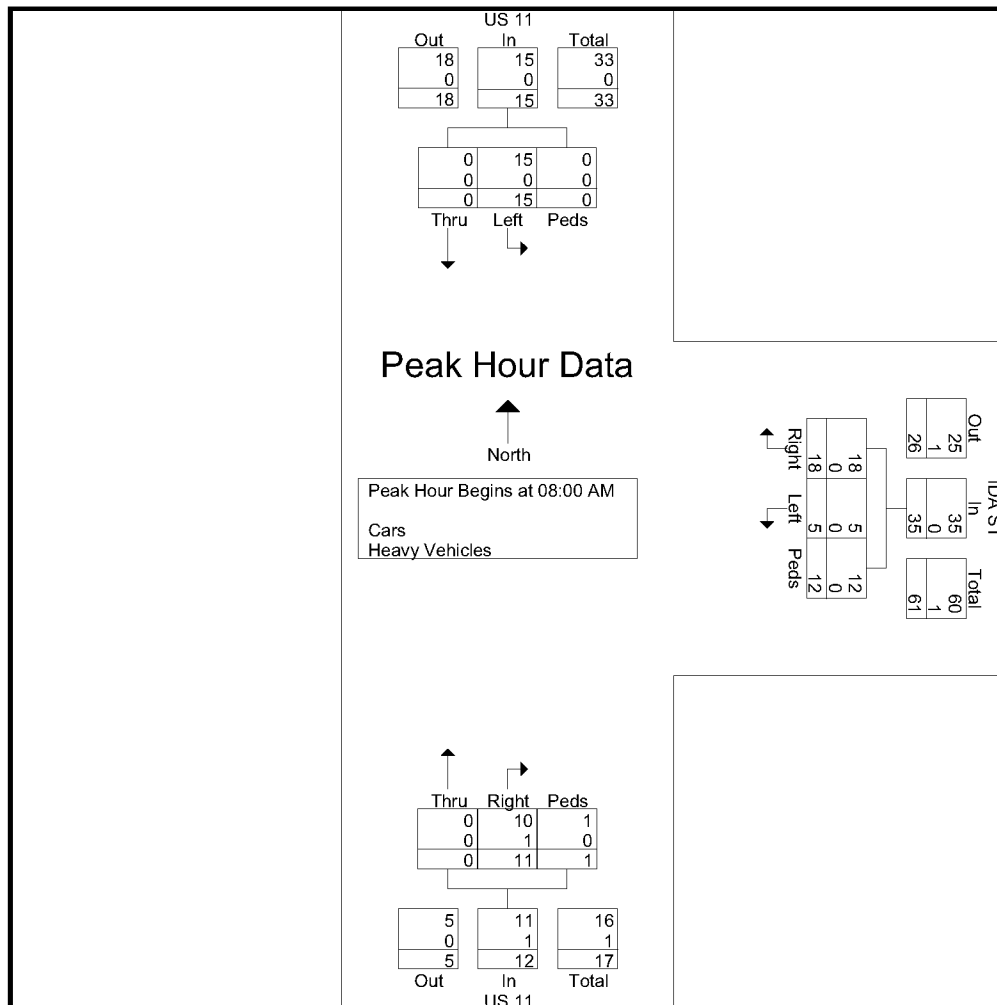
Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: Ida St/US 11
Date: Thursday, June 12, 2008
Counter: CMK

File Name : SM0612-4B
Site Code : 00000000
Start Date : 6/12/2008
Page No : 3

	US 11 Southbound				IDA ST Westbound				US 11 Northbound				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	4	0	4	4	2	3	9	3	0	0	3	16
08:15 AM	0	4	0	4	4	0	4	8	2	0	0	2	14
08:30 AM	0	0	0	0	3	2	3	8	2	0	1	3	11
08:45 AM	0	7	0	7	7	1	2	10	4	0	0	4	21
Total Volume	0	15	0	15	18	5	12	35	11	0	1	12	62
% App. Total	0	100	0		51.4	14.3	34.3		91.7	0	8.3		
PHF	.000	.536	.000	.536	.643	.625	.750	.875	.688	.000	.250	.750	.738
Cars	0	15	0	15	18	5	12	35	10	0	1	11	61
% Cars	0	100	0	100	100	100	100	100	90.9	0	100	91.7	98.4
Heavy Vehicles	0	0	0	0	0	0	0	0	1	0	0	1	1
% Heavy Vehicles	0	0	0	0	0	0	0	0	9.1	0	0	8.3	1.6



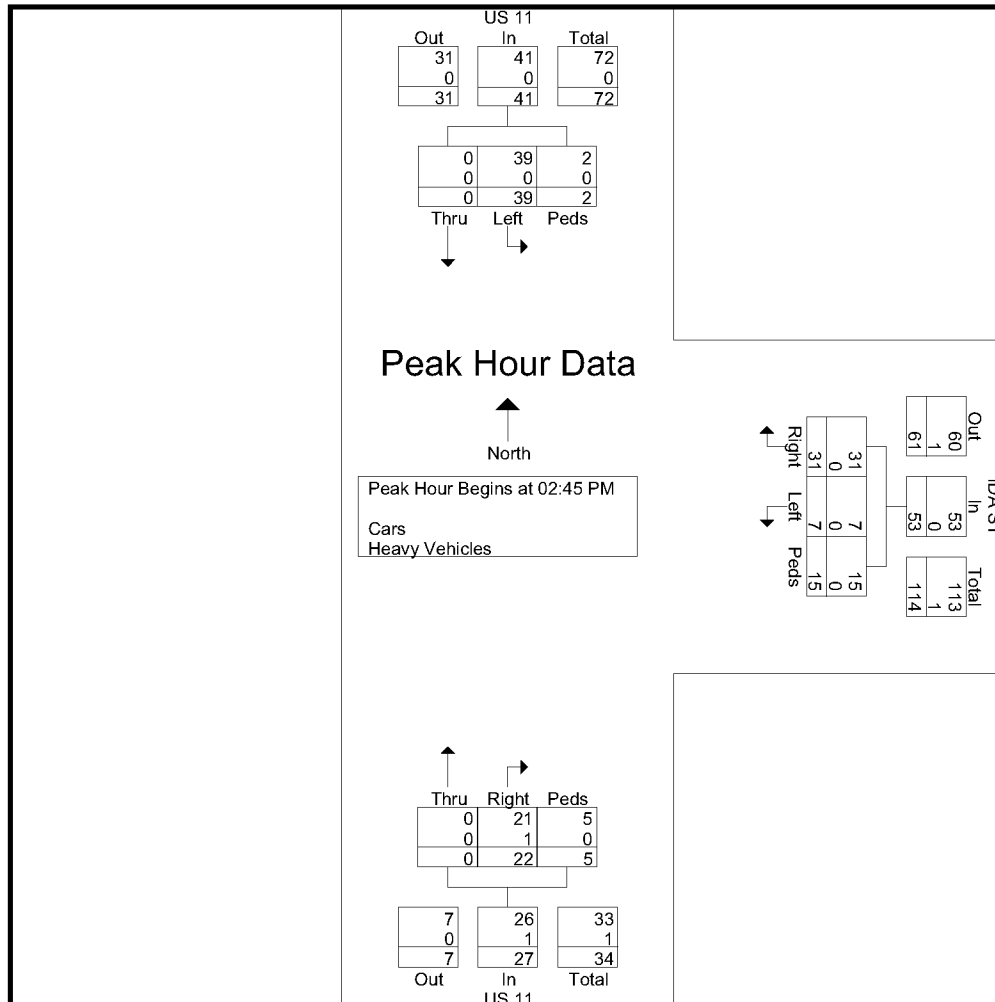
Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County,PA
Intersection: Ida St/US 11
Date: Thursday, June 12,2008
Counter: CMK

File Name : SM0612-4B
Site Code : 00000000
Start Date : 6/12/2008
Page No : 4

	US 11 Southbound				IDA ST Westbound				US 11 Northbound				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 02:45 PM													
02:45 PM	0	11	1	12	8	1	3	12	5	0	0	5	29
03:00 PM	0	12	1	13	5	6	2	13	5	0	4	9	35
03:15 PM	0	6	0	6	11	0	4	15	8	0	1	9	30
03:30 PM	0	10	0	10	7	0	6	13	4	0	0	4	27
Total Volume	0	39	2	41	31	7	15	53	22	0	5	27	121
% App. Total	0	95.1	4.9		58.5	13.2	28.3		81.5	0	18.5		
PHF	.000	.813	.500	.788	.705	.292	.625	.883	.688	.000	.313	.750	.864
Cars	0	39	2	41	31	7	15	53	21	0	5	26	120
% Cars	0	100	100	100	100	100	100	100	95.5	0	100	96.3	99.2
Heavy Vehicles	0	0	0	0	0	0	0	0	1	0	0	1	1
% Heavy Vehicles	0	0	0	0	0	0	0	0	4.5	0	0	3.7	0.8



Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11/Union St.
Date: Thursday, June 12, 2008
Counter: pb

File Name : SM0612-5
Site Code : 00000000
Start Date : 6/12/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

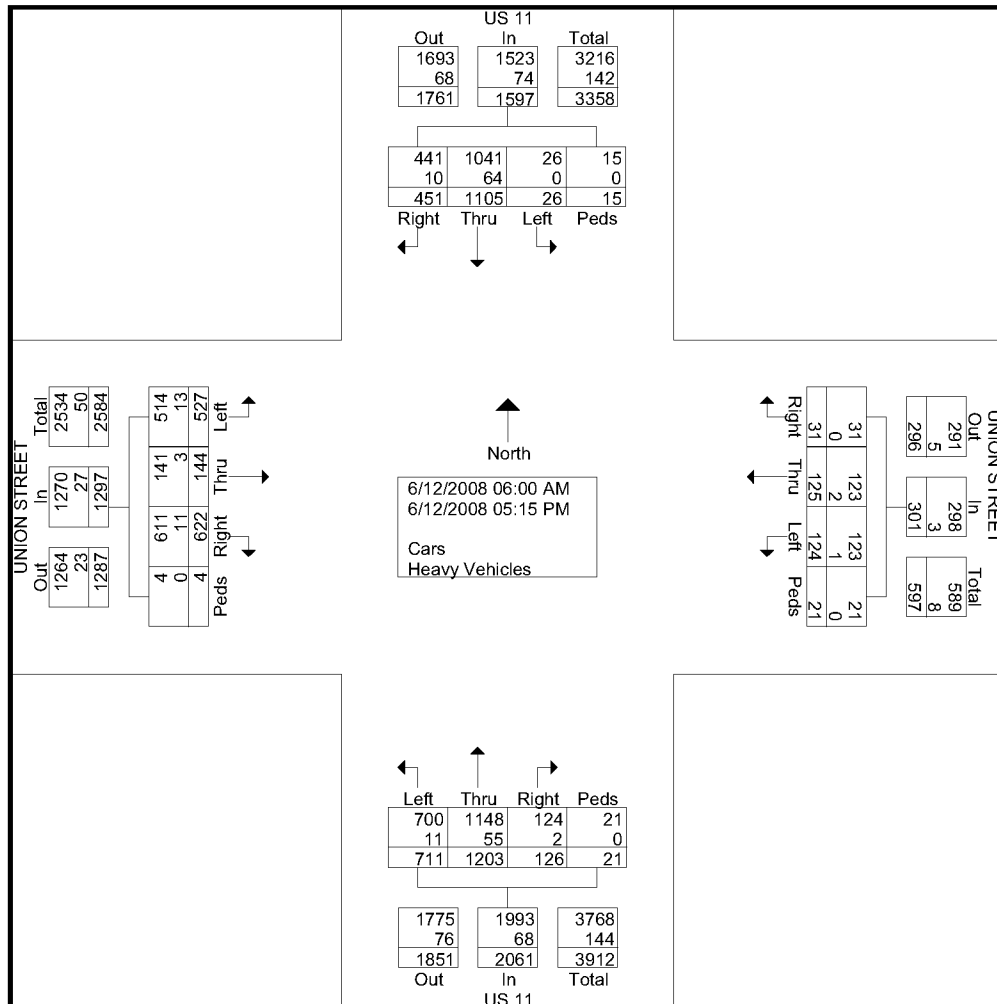
Start Time	US 11 Southbound					UNION STREET Westbound					US 11 Northbound					UNION STREET Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:00 AM	2	31	0	0	33	1	2	1	0	4	1	32	5	0	38	31	4	28	0	63	138
06:15 AM	12	53	0	0	65	2	1	2	0	5	5	58	7	0	70	41	2	28	0	71	211
06:30 AM	5	47	0	0	52	1	1	2	0	4	1	42	10	0	53	37	2	37	0	76	185
06:45 AM	8	27	0	1	36	0	0	1	0	1	3	40	9	0	52	21	4	26	0	51	140
Total	27	158	0	1	186	4	4	6	0	14	10	172	31	0	213	130	12	119	0	261	674
07:00 AM	7	43	0	0	50	0	3	2	0	5	1	56	11	0	68	23	4	38	0	65	188
07:15 AM	10	37	0	0	47	0	3	3	0	6	5	50	13	0	68	23	4	40	0	67	188
07:30 AM	23	41	0	1	65	0	4	4	0	8	3	52	25	0	80	25	9	32	0	66	219
07:45 AM	8	47	2	0	57	2	4	3	0	9	3	68	15	2	88	25	8	37	0	70	224
Total	48	168	2	1	219	2	14	12	0	28	12	226	64	2	304	96	25	147	0	268	819
08:00 AM	14	37	2	0	53	0	7	4	0	11	3	34	14	1	52	17	8	16	0	41	157
08:15 AM	9	36	1	0	46	1	4	6	0	11	5	43	20	1	69	8	3	7	0	18	144
08:30 AM	9	40	1	0	50	1	4	9	0	14	7	48	21	0	76	31	9	33	2	75	215
08:45 AM	8	32	2	2	44	0	3	8	1	12	3	31	20	0	54	28	10	24	1	63	173
Total	40	145	6	2	193	2	18	27	1	48	18	156	75	2	251	84	30	80	3	197	689
*** BREAK ***																					
02:30 PM	13	42	1	1	57	5	8	8	1	22	4	49	32	0	85	24	5	16	0	45	209
02:45 PM	16	36	2	3	57	3	7	2	2	14	7	49	35	1	92	25	8	10	0	43	206
Total	29	78	3	4	114	8	15	10	3	36	11	98	67	1	177	49	13	26	0	88	415
03:00 PM	17	45	2	0	64	3	8	9	0	20	8	44	45	0	97	24	8	11	0	43	224
03:15 PM	18	40	2	0	60	4	6	12	0	22	8	60	29	0	97	26	6	24	1	57	236
03:30 PM	18	48	2	1	69	0	11	6	2	19	10	77	48	6	141	27	13	26	0	66	295
03:45 PM	29	53	3	1	86	0	8	6	1	15	14	52	38	1	105	29	7	11	0	47	253
Total	82	186	9	2	279	7	33	33	3	76	40	233	160	7	440	106	34	72	1	213	1008
04:00 PM	30	57	0	0	87	1	8	3	3	15	6	39	45	0	90	21	2	14	0	37	229
04:15 PM	21	72	3	0	96	1	5	6	2	14	3	57	62	0	122	28	5	20	0	53	285
04:30 PM	29	61	0	1	91	3	6	7	2	18	8	56	39	1	104	15	11	13	0	39	252
04:45 PM	41	54	1	2	98	3	13	9	4	29	4	50	58	0	112	30	4	11	0	45	284
Total	121	244	4	3	372	8	32	25	11	76	21	202	204	1	428	94	22	58	0	174	1050
05:00 PM	48	61	1	1	111	0	6	5	2	13	6	55	47	4	112	20	4	12	0	36	272
05:15 PM	56	65	1	1	123	0	3	6	1	10	8	61	63	4	136	43	4	13	0	60	329
Grand Total	451	1105	26	15	1597	31	125	124	21	301	126	1203	711	21	2061	622	144	527	4	1297	5256
Apprch %	28.2	69.2	1.6	0.9		10.3	41.5	41.2	7		6.1	58.4	34.5	1		48	11.1	40.6	0.3		
Total %	8.6	21	0.5	0.3	30.4	0.6	2.4	2.4	0.4	5.7	2.4	22.9	13.5	0.4	39.2	11.8	2.7	10	0.1	24.7	
Cars	441	1041	26	15	1523	31	123	123	21	298	124	1148	700	21	1993	611	141	514	4	1270	5084
% Cars	97.8	94.2	100	100	95.4	100	98.4	99.2	100	99	98.4	95.4	98.5	100	96.7	98.2	97.9	97.5	100	97.9	96.7
Heavy Vehicles	10	64	0	0	74	0	2	1	0	3	2	55	11	0	68	11	3	13	0	27	172
% Heavy Vehicles	2.2	5.8	0	0	4.6	0	1.6	0.8	0	1	1.6	4.6	1.5	0	3.3	1.8	2.1	2.5	0	2.1	3.3

Tri-State Traffic Data, Inc.

610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11/Union St.
Date: Thursday, June 12, 2008
Counter: pb

File Name : SM0612-5
Site Code : 00000000
Start Date : 6/12/2008
Page No : 2



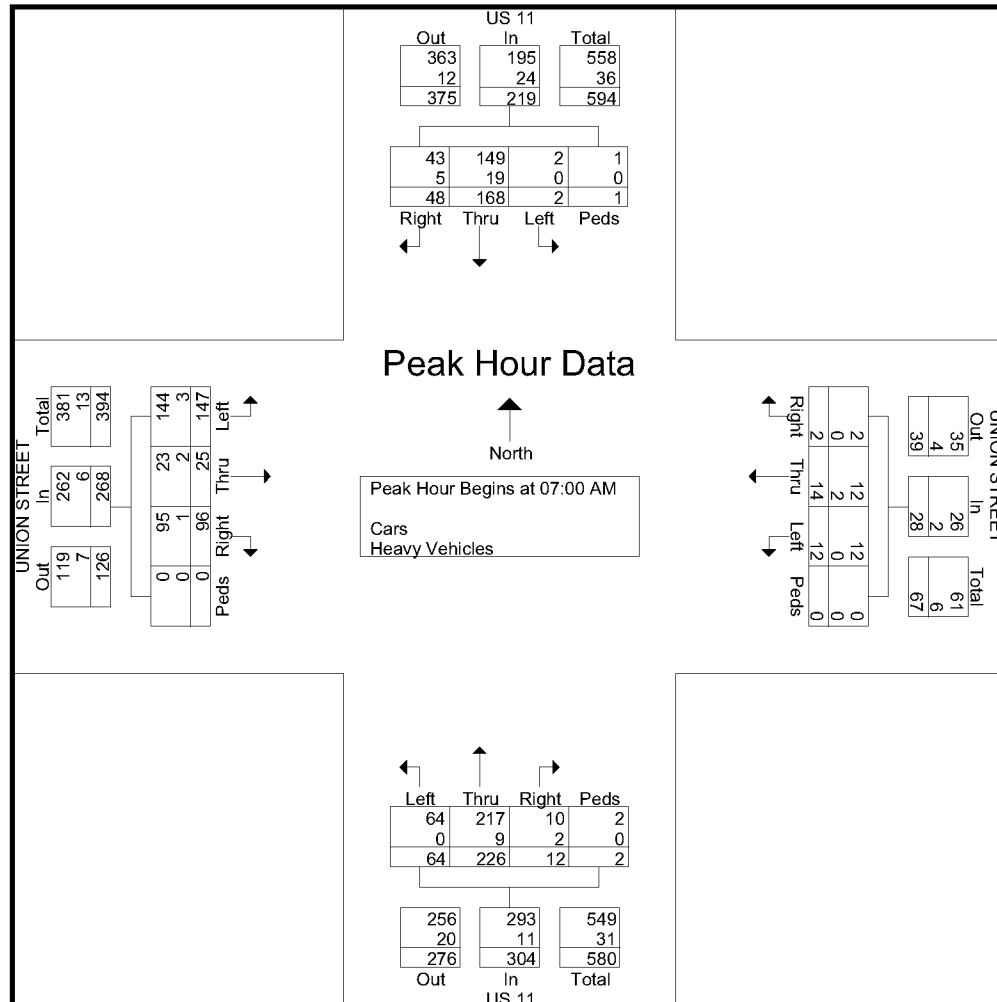
Tri-State Traffic Data, Inc.

610-466-1469
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Location: Columbia County, PA
Intersection: US 11/Union St.
Date: Thursday, June 12, 2008
Counter: pb

File Name : SM0612-5
Site Code : 00000000
Start Date : 6/12/2008
Page No : 3

	US 11 Southbound					UNION STREET Westbound					US 11 Northbound					UNION STREET Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	7	43	0	0	50	0	3	2	0	5	1	56	11	0	68	23	4	38	0	65	188
07:15 AM	10	37	0	0	47	0	3	3	0	6	5	50	13	0	68	23	4	40	0	67	188
07:30 AM	23	41	0	1	65	0	4	4	0	8	3	52	25	0	80	25	9	32	0	66	219
07:45 AM	8	47	2	0	57	2	4	3	0	9	3	68	15	2	88	25	8	37	0	70	224
Total Volume	48	168	2	1	219	2	14	12	0	28	12	226	64	2	304	96	25	147	0	268	819
% App. Total	21.9	76.7	0.9	0.5		7.1	50	42.9	0		3.9	74.3	21.1	0.7		35.8	9.3	54.9	0		
PHF	.522	.894	.250	.250	.842	.250	.875	.750	.000	.778	.600	.831	.640	.250	.864	.960	.694	.919	.000	.957	.914
Cars	43	149	2	1	195	2	12	12	0	26	10	217	64	2	293	95	23	144	0	262	776
% Cars	89.6	88.7	100	100	89.0	100	85.7	100	0	92.9	83.3	96.0	100	100	96.4	99.0	92.0	98.0	0	97.8	94.7
Heavy Vehicles																					
% Heavy Vehicles	10.4	11.3	0	0	11.0	0	14.3	0	0	7.1	16.7	4.0	0	0	3.6	1.0	8.0	2.0	0	2.2	5.3



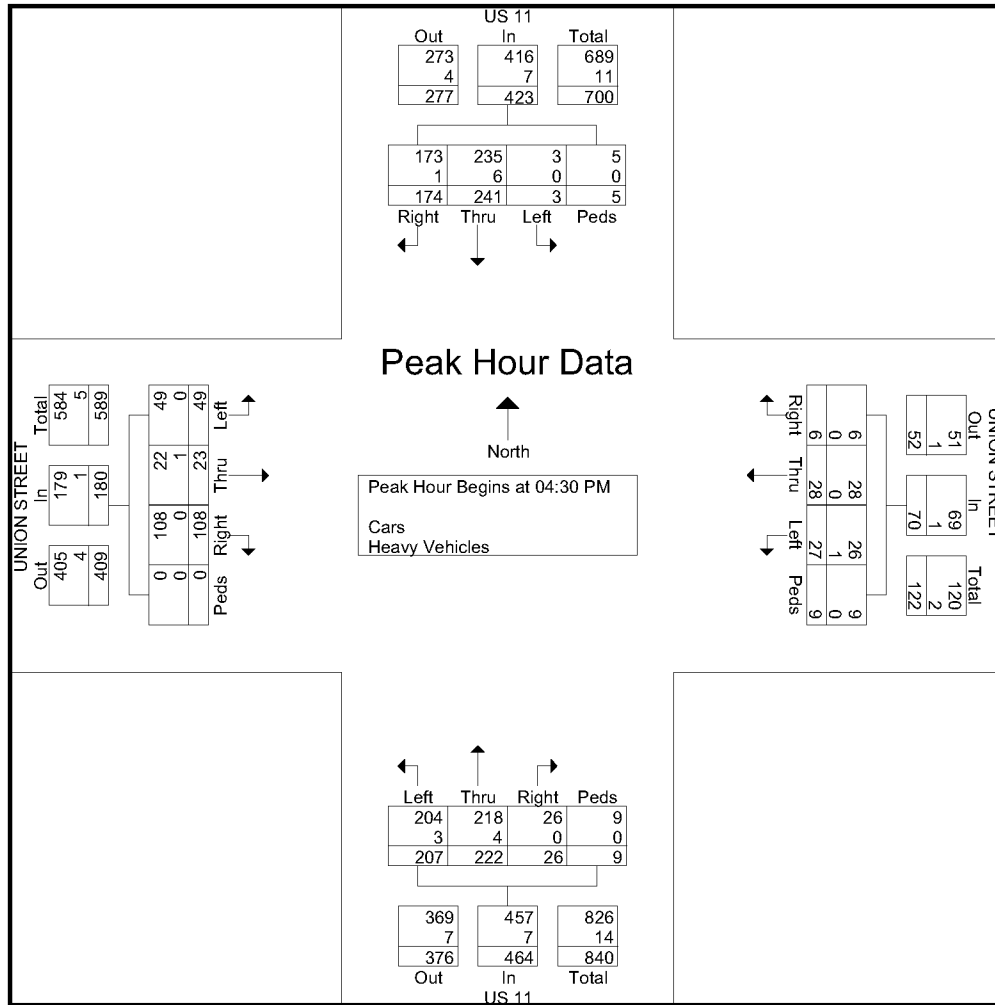
Tri-State Traffic Data, Inc.

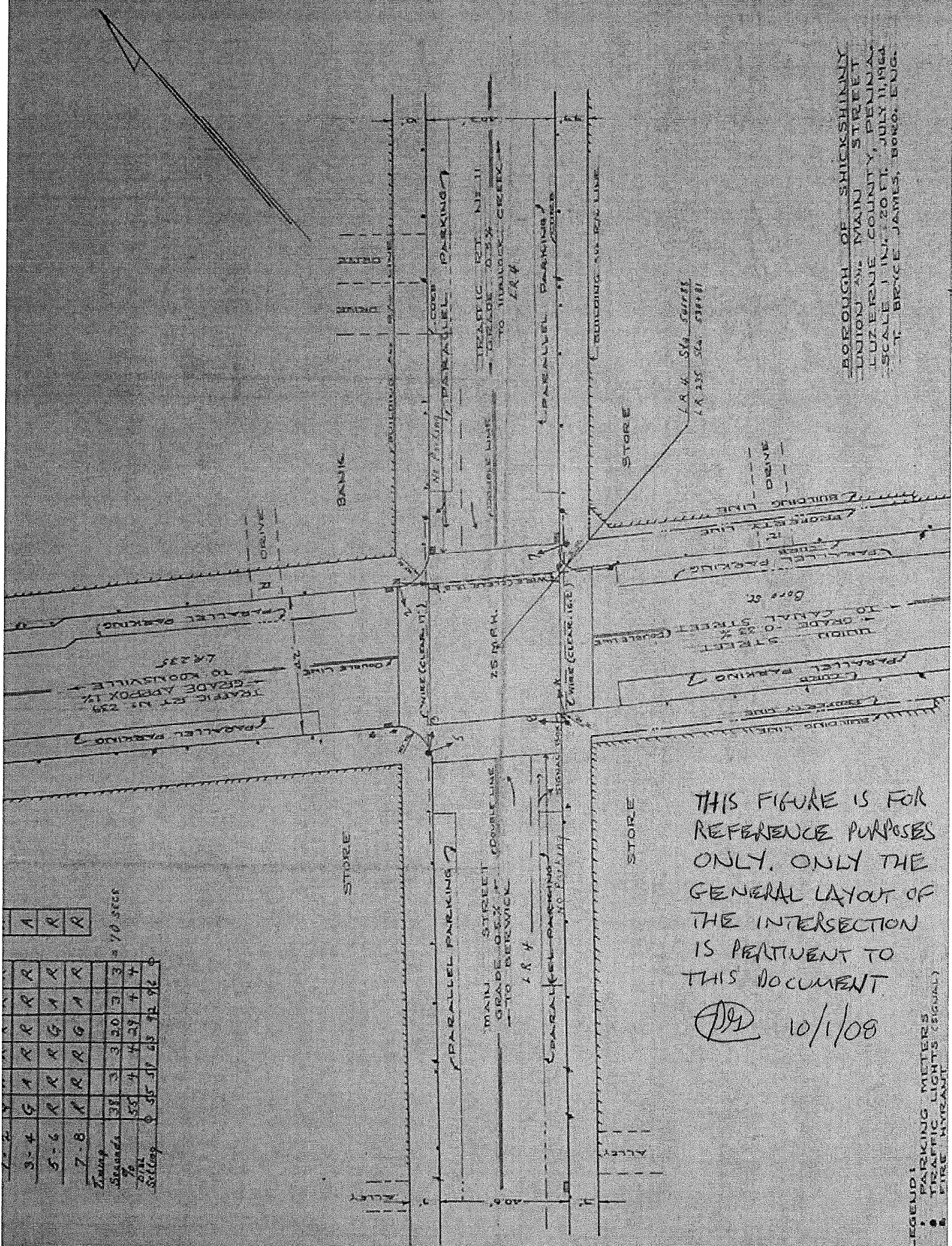
610-466-1469
www.TSTData.com

Location: Columbia County, PA
Intersection: US 11/Union St.
Date: Thursday, June 12, 2008
Counter: pb

File Name : SM0612-5
Site Code : 00000000
Start Date : 6/12/2008
Page No : 4

	US 11 Southbound					UNION STREET Westbound					US 11 Northbound					UNION STREET Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	29	61	0	1	91	3	6	7	2	18	8	56	39	1	104	15	11	13	0	39	252
04:45 PM	41	54	1	2	98	3	13	9	4	29	4	50	58	0	112	30	4	11	0	45	284
05:00 PM	48	61	1	1	111	0	6	5	2	13	6	55	47	4	112	20	4	12	0	36	272
05:15 PM	56	65	1	1	123	0	3	6	1	10	8	61	63	4	136	43	4	13	0	60	329
Total Volume	174	241	3	5	423	6	28	27	9	70	26	222	207	9	464	108	23	49	0	180	1137
% App. Total	41.1	57	0.7	1.2		8.6	40	38.6	12.9		5.6	47.8	44.6	1.9		60	12.8	27.2	0		
PHF	.777	.927	.750	.625	.860	.500	.538	.750	.563	.603	.813	.910	.821	.563	.853	.628	.523	.942	.000	.750	.864
Cars	173	235	3	5	416	6	28	26	9	69	26	218	204	9	457	108	22	49	0	179	1121
% Cars	99.4	97.5	100	100	98.3	100	100	96.3	100	98.6	100	98.2	98.6	100	98.5	100	95.7	100	0	99.4	98.6
Heavy Vehicles																					
% Heavy Vehicles	0.6	2.5	0	0	1.7	0	0	3.7	0	1.4	0	1.8	1.4	0	1.5	0	4.3	0	0	0.6	1.4



[illegible]
















THIS FIGURE IS FOR
REFERENCE PURPOSES
ONLY. ONLY THE
GENERAL LAYOUT OF
THE INTERSECTION
IS PERTINENT TO
THIS DOCUMENT

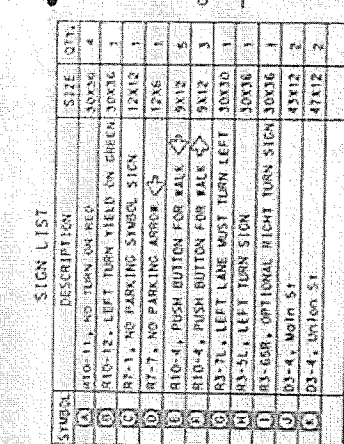
⑨ 10/1/08

BOROUGH OF SHICKSHINY
UNION AN. MAIN STREET
LUZERNE COUNTY, PENNA.
SCALE 1 IN. = 20 FT. JULY 11, 1961
T. BRUCE JAMES, BORO. ENG.

LEGEND:
 * PARKING METERS
 ● TRAFFIC LIGHTS (SIGNAL)
 & FIRE HYDRANT

THIS FIGURE IS FOR
REFERENCE PURPOSES
ONLY. ONLY THE
GENERAL LAYOUT OF
THE INTERSECTION IS
PERTINENT TO THIS
DOCUMENT (Pgs) 10/1/0

	MOST RARE
	VEHICULAR SIGNAL HEAD
	VEHICULAR SIGNAL HEAD
	SIGN TYPE B - TYPE F *
	TYPE F SPECIAL
	VEHICLE DETECTOR
	PEDESTRIAN PUSH BUTTON
	CONTROLLER ASSEMBLY
	JUNCTION BOX
	CONDUIT/SIZE
	SOLID WHITE LINE/WIDTH
	DOUBLE YELLOW LINE/WIDTH
	NEW CONCRETE CURB
	PARKING METER
	PARKING AREA



SIGNAL HEADS

N.T.S.

(ONE PRICE HOISTING)

90000
80000
70000
60000
50000
40000
30000
20000
10000
0

12' R Y G U

12' R Y G U

*TUNNEL VISIONS REQUIRED

CONTROLLER ASSEMBLY

- SIGNAL SUPPORT ○
- SIGNAL HEAD ○
- DETECTOR ○
- COIL ○

LEAD-IN

W. VINE ST.




















	PHASE 2				PHASE 3				PHASE 4				PHASE 8 *			
	INTERVAL				INTERVAL				INTERVAL				INTERVAL			
	1	2	3	4	5	6	7	8	9	10	11	12				
STOWAL																
①	C	Y	R	R	R	C	C	Y	R	R	R	R	Y			
②																
③	R	R	R	C	C	C	C	Y	R	R	R	R	R			
④	R	R	R	C	C	C	C	Y	R	R	R	R	R			
⑤	R	R	R	C	C	C	C	Y	R	R	R	R	R			
⑥	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
⑦	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
⑧	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
⑨	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
⑩	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
⑪	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
⑫	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
PROGRAM #1																
TIME	20	3.5	1.5	7	3	19	6.5	3.5	1.0	7	10	1				
TIME-PEDS *	12	3.5	1.5	7	3	9	6.5	3.5	1.0	7	10	1				
PROGRAM #2																
TIME	30	3.5	1.5	7	3	19	6.5	3.5	1.0	7	10	1				
TIME-PEDS *	19	3.5	1.5	7	3	12	6.5	3.5	1.0	7	10	1				
PROGRAM #3																
TIME	23	3.5	1.5	7	3	21	6.5	3.5	1.0	7	10	1				
TIME-PEDS *	16	3.5	1.5	7	3	10	6.5	3.5	1.0	7	10	1				
PROGRAM #4																
TIME	80	3.5	1.5	14	3	19	6.5	3.5	1.0	7	10	1				
TIME-PEDS *	19	3.5	1.5	14	3	10	6.5	3.5	1.5	7	10	1				

* UPON PEDESTRIAN PUSHBUTTON ACTUATION.

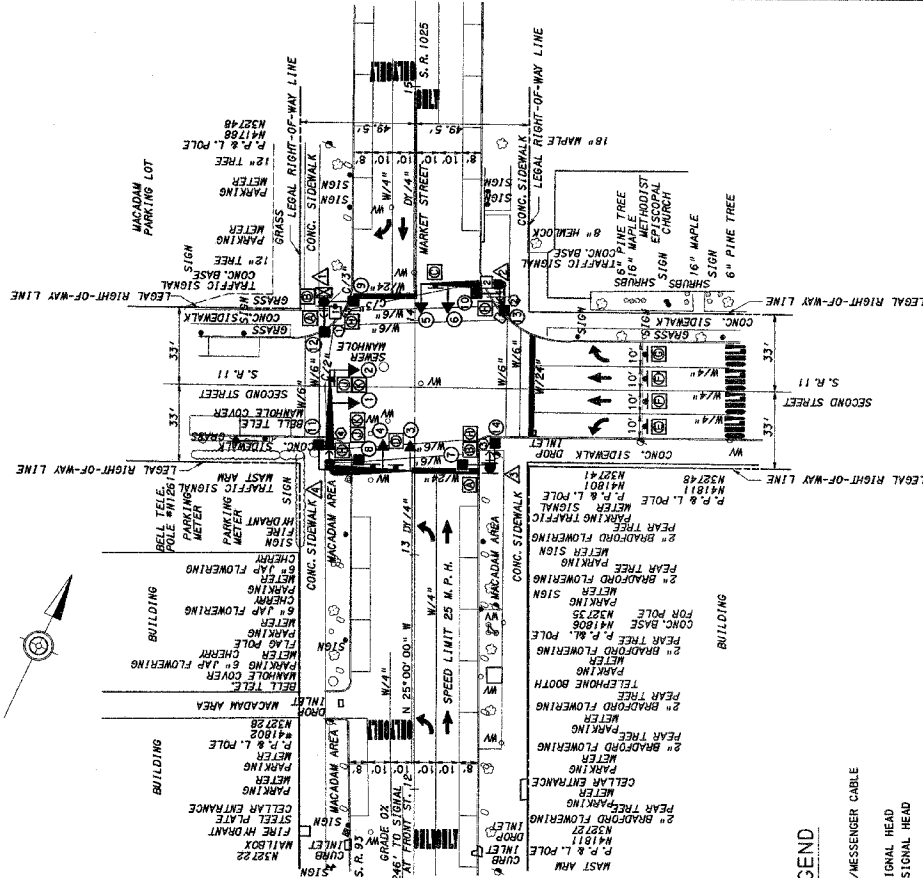
PROGRAMS									
PROGRAM NO.	CYCLE LENGTH	FRT/AMT	FRT/AMT SEC/0 SEC/	SEC/INSEC/AMT	SEC/AMT	OFFSET/YIELD	POINT	THD/AMT	
1	75 SEC 0 SEC/	9	12	24	33			39	
2	65 SEC 0 SEC/	9	21	65	28			55	
3	70 SEC 10 SEC/	21	24	27	33			53	
4	80 SEC 5 SEC/	4	8	18	27			54	
5	FLASH								

FRONT AND MULBERRY STREETS- MASTER OFFSET REFERENCE LOCATION
ALL OFFSETS ARE REFERENCED TO THE START OF INTERVAL NO. 1 AT THIS SIGNAL

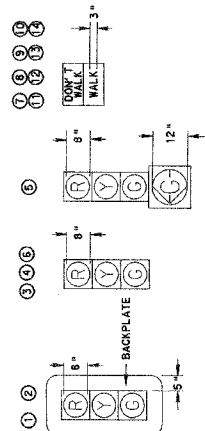
LEGEND

- | | | | |
|---|---------------------------------|-------|--|
|  | MAST ARM | | |
|  | STRAIN POLE/MESSENGER CABLE | | |
|  | PEDestal | | |
|  | VEHICULAR SIGNAL HEAD | | |
|  | PEDestrian SIGNAL HEAD | | |
|  | SIGN | | |
|  | VEHICLE DETECTOR | | |
|  | PEDestrian PUSH BUTTON/SIGN | | |
|  | CONTROLLER ASSEMBLY | | |
|  | JUNCTION BOX | | |
|  | CONDUIT/SIZE | | |
|  | SOLID WHITE LINE/4' | W/4' | |
|  | SOLID WHITE LINE/6' | W/6' | |
|  | SOLID WHITE LINE/24' | W/24' | |
|  | BROKEN WHITE LINE/4' | BW/4' | |
|  | SOLID YELLOW LINE/4' | Y/4' | |
|  | BROKEN YELLOW LINE/4' | BY/4' | |
|  | DOUBLE SOLID YELLOW LINE/4' | DY/4' | |
|  | LIGHTING LUMINAIRE WITH SUPPORT | | |

SIGNAL			DESCRIPTION	SIZE	QTY.
②	R6-1L		HORIZONTAL LEFT ONE WAY	36"x12" = 2	2
②	R6-1R		HORIZONTAL RIGHT ONE WAY	36"x12" = 2	2
②	R6-2L		VERTICAL LEFT ONE WAY	30"x36" = 1	1
②	R6-2R		VERTICAL RIGHT ONE WAY	30"x36" = 1	1
②	R3-5L		LEFT TURN SIGNAL	30"x36" = 2	2
②	R3-5R		STRAIGHT THROUGH SIGNAL	30"x36" = 2	2
②	R3-6R		RIGHT TURN SIGNAL	30"x36" = 1	1
②	R10-4		PUSH BUTTON FOR WALK SIGNAL	9"x12" = 4	4
②	R10-11		NO TURN ON RED	30"x36" = 2	2
②	R3-20		RESTRICTED TOURS PANEL	36"x90" = 2	2



SIGNALS



PERMIT NO. T256-031 SHEET 2 OF 2
DATE ISSUED 4-26-84 DATE REVISED

GENERAL NOTES

INSTALL, OPERATE AND MAINTAIN THIS TRAFFIC SIGNAL IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REGULATIONS ON OFFICIAL TRAFFIC CONTROL DEVICES.

NO MODIFICATION OF THIS INSTALLATION IS PERMITTED UNLESS PRIOR APPROVAL IS GRANTED, IN WRITING, BY THE DEPARTMENT.

ALL MAINTENANCE NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS, INCLUDING TRIMMING TREES, IS THE RESPONSIBILITY OF THE PERMITTEE.

THE PERMITTEE INSTALLS AND MAINTAINS ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING WHICH ARE CONSIDERED PART OF THE PERMIT. UNLESS OTHERWISE INDICATED, THE DEPARTMENT MAINTAINS THE LONGITUDINAL PAVEMENT MARKINGS ON STATE HIGHWAYS.

INSTALL POST MOUNTED SIGNALS WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF THE CURB OR EDGE OF THE SHOULDER. ALSO, INSTALL SUPPORT POLES FOR OVERHEAD SIGNALS WITH A MINIMUM HORIZONTAL CLEARANCE OF 2 FEET.

INSTALL SIGNAL HEADS AND SIGNS
THE ROADWAY WITH THE BOTTOMS NOT
FEET NOR MORE THAN 19 FEET ABOVE
ERECTED OVER
LESS THAN 15
THE ROADWAY.

INSTALL POST MOUNTED SIGNAL HEADS WITH BOTTOMS NOT LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE SIDEWALK OR PAVEMENT GRADE.

INSTALL SIGNAL HEADS WITH A MINIMUM HORIZONTAL DISTANCE OF 8 FEET BETWEEN THE HEADS AS MEASURED AT RIGHT ANGLES TO THE APPROACH.

IN ADDITION TO THIS SIGNAL PERMIT, THE PERMITTEE MUST OBTAIN A HIGHWAY OCCUPANCY PERMIT PRIOR TO ANY OPENINGS BEING MADE IN OR UNDER ANY PORTION OF A STATE HIGHWAY.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLES WITH THE PROVISIONS OF ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION CONSULT WITH UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

DRAWING REVISED: 2-13-95

COUNTY : COLUMBIA
MUNICIPALITY : BERWICK BOROUGH
INTERSECTION : MARKET ST. AND SECOND ST.

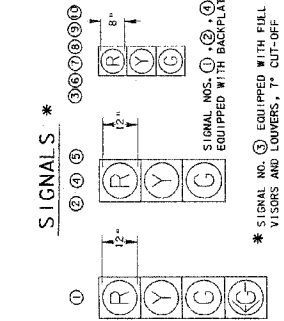
REVIEWED : *David L. Bufford* 10 May 1990
MUNICIPAL OFFICIAL DATE

RECOMMENDED : Cory R Williams May 11, 1990
DISTRICT TRAFFIC ENGINEER DATE

SCALE : 0' 25' 50' 75'

SIGNAL	PHASE 1			PHASE 2			PHASE 3			FLASHING
	INTERVAL	INTERVAL	INTERVAL	INTERVAL	INTERVAL	INTERVAL	INTERVAL	INTERVAL		
①	1	2	3	1	2	3	1	2	3	
②	1	2	3	1	2	3	1	2	3	
③	1	2	3	1	2	3	1	2	3	
④	1	2	3	1	2	3	1	2	3	
⑤	1	2	3	1	2	3	1	2	3	
⑥	1	2	3	1	2	3	1	2	3	
⑦	1	2	3	1	2	3	1	2	3	
⑧	1	2	3	1	2	3	1	2	3	
⑨	1	2	3	1	2	3	1	2	3	
⑩	1	2	3	1	2	3	1	2	3	
FIXED	1	2	3	1	2	3	1	2	3	
MINIMUM	1	2	3	1	2	3	1	2	3	
PASSAGE	1	2	3	1	2	3	1	2	3	
MAXIMUM	1	2	3	1	2	3	1	2	3	
PEDESTRIAN *	1	2	3	1	2	3	1	2	3	
MEMORY	1	2	3	1	2	3	1	2	3	
SPLIT %	25%	15%	35%	25%	15%	35%	25%	15%	35%	

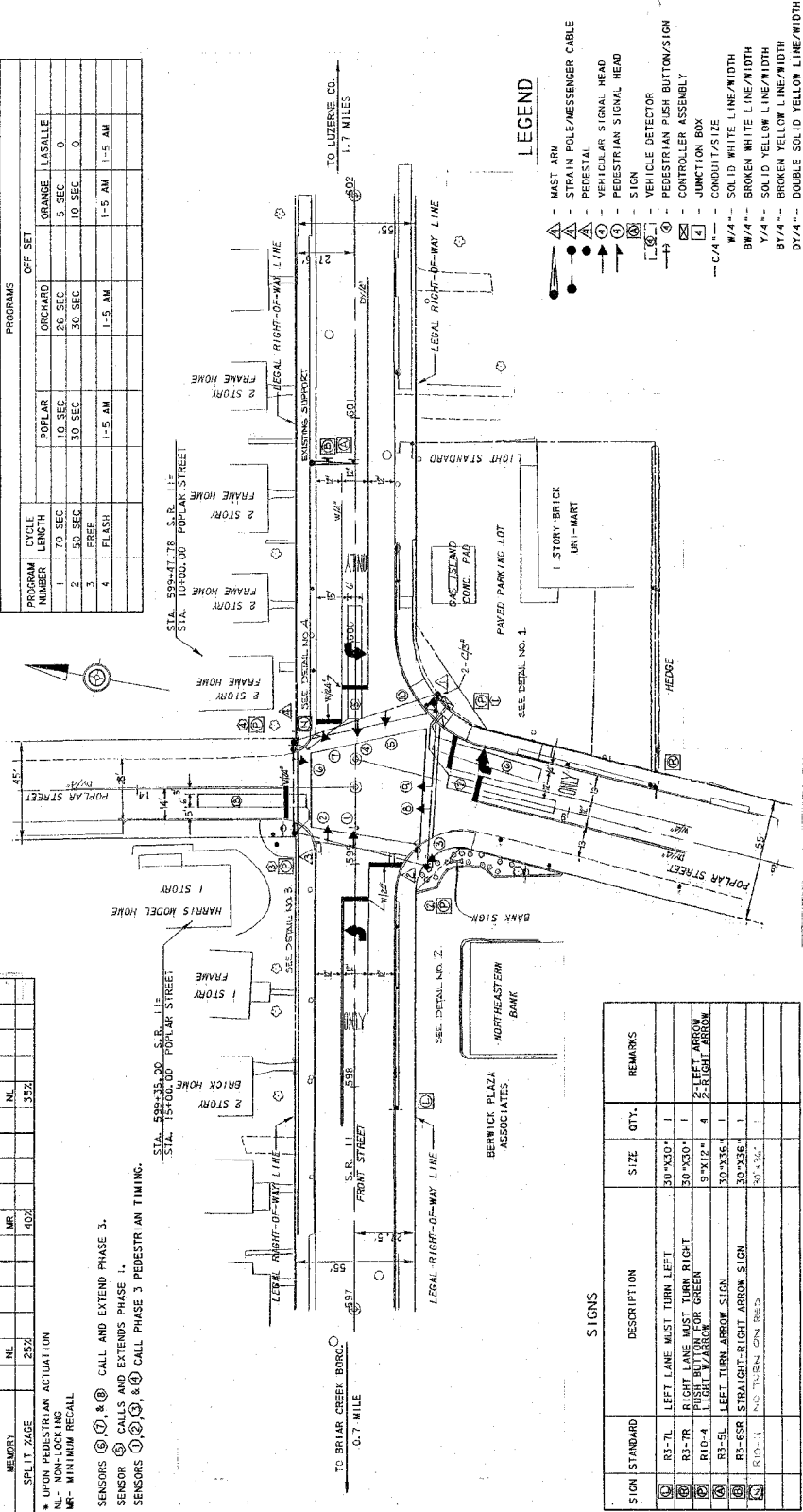
* UPON PEDESTRIAN ACTUATION
 NR - NON-LOOKING
 MR - MINIMUM RECALL
 SENSORS ①, ②, ③, ④ CALL AND EXTEND PHASE 3.
 SENSORS ⑤, ⑥ CALLS AND EXTENDS PHASE 1.
 SENSORS ⑦, ⑧, ⑨, ⑩ CALL PHASE 3 PEDESTRIAN TIMING.



WEEKLY PROGRAM CHART									
EVENT	WEEK	DAY	HOUR	MINUTE	SECOND	PROG. NO.	REMARKS		
1	1-52	1	01	00	00	4	FLASH		
2		2	01	00	00	3	FREE		
3		3	01	00	00	4	FLASH		
4		4	01	00	00	2	50 SEC.		
5		5	06	30	00	1	70 SEC.		
6		6	10	00	00	3	FREE		
7		7	14	00	00	1	70 SEC.		
8		8	18	00	00	2	50 SEC.		
9		9	21	30	00	3	FREE		
10		10	01	00	00	4	FLASH		
11		11	05	00	00	3	FREE		

DAY 1 IS SUNDAY

PROGRAMS				OFF SET			
PROGRAM NUMBER	CYCLE LENGTH	POPLAR	ORCHARD	ORANGE	LASALLE		
1	70 SEC	10 SEC	26 SEC	5 SEC	0		
2	50 SEC	30 SEC	30 SEC	10 SEC	0		
3	FREE	1-5 AM	1-5 AM	1-5 AM	1-5 AM		
4	FLASH	1-5 AM	1-5 AM	1-5 AM	1-5 AM		



SIGN STANDARD	DESCRIPTION	SIZE	QTY.	REMARKS
R3-TL	LEFT LANE MUST TURN LEFT	30"x30"	1	
R3-TR	RIGHT LANE MUST TURN RIGHT	30"x30"	1	
R10-4	PUSH BUTTON FOR GREEN LIGHT W/ARROW	9"x12"	4	LEFT ARROW
R3-5L	LEFT TURN ARROW SIGN	30"x36"	1	
R3-5R	RIGHT TURN ARROW SIGN	30"x36"	1	
R10-11	NO TURN ON RED	30"x36"	1	

- LEGEND**
- ▲ - MAST ARM
 - - STRAIN POLE/MESSENGER CABLE
 - - PEDESTAL
 - - VEHICULAR SIGNAL HEAD
 - - PEDESTRIAN SIGNAL HEAD
 - - SIGN
 - - VEHICLE DETECTOR
 - - PEDESTRIAN PUSH BUTTON/SIGN
 - - CONTROLLER ASSEMBLY
 - - CONDUIT/BOX
 - - SOLID WHITE LINE/WIDTH
 - - SOLID WHITE LINE/WIDTH
 - - SOLID YELLOW LINE/WIDTH
 - - SOLID YELLOW LINE/WIDTH
 - - DOUBLE SOLID YELLOW LINE/WIDTH

PERMIT NO. 13150-034 SHEET 2 OF 2 DATE ISSUED 12-10-87 DATE REVISED _____

GENERAL NOTES

INSTALL, OPERATE AND MAINTAIN THIS TRAFFIC SIGNAL IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REGULATIONS ON OFFICIAL TRAFFIC SIGNALS.

NO MODIFICATION OF THIS INSTALLATION IS PERMITTED UNLESS PRIOR APPROVAL IS GRANTED, IN WRITING, BY THE DEPARTMENT.

ALL MAINTENANCE NECESSARY FOR PROPER OPERATION OF THIS SIGNAL SHALL BE THE RESPONSIBILITY OF THE PERMITTEE.

THE PERMITTEE SHALL MAINTAIN ALL SIGNS AND "PAVEMENT MARKINGS" INDICATED ON THIS DRAWING WHICH ARE CONSIDERED PART OF THE PERMIT. UNLESS OTHERWISE NOTED, THE PERMITTEE SHALL MAINTAIN THE LONGITUDINAL PAVEMENT MARKINGS ON STATE HIGHWAYS.

INSTALL POST MOUNTED SIGNALS WITH THE SIGNAL HEADS TO OBTAIN MAXIMUM VISIBLE HEIGHT. THE CURB OR EDGE OF THE SHOULDER SHALL BE A MINIMUM OF 10 FEET CLEARANCE OF THE SIGNAL HEADS.

INSTALL SIGNAL HEADS AND SIGNS ERECTED OVER THE ROADWAY WITH THE BOTTOMS NOT LESS THAN 15 FEET NOR MORE THAN 19 FEET ABOVE THE ROADWAY.

INSTALL POST MOUNTED SIGNAL HEADS WITH THE BOTTOMS NOT LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE SIDEWALK OR PAVEMENT GRADE.

INSTALL SIGNAL HEADS WITH THE BOTTOMS NOT LESS THAN 15 FEET NOR MORE THAN 19 FEET ABOVE THE ROADWAY.

IN ADDITION TO THIS SIGNAL PERMIT, THE PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FROM THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION FOR THE CONSTRUCTION OF UNDERGROUND UTILITIES, PRIOR TO CONSTRUCTION. CONSULT WITH UTILITY COMPANIES TO RESOLVE ANY CONFLICTS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

COUNTY : COLUMBIA
 MUNICIPALITY : BERWICK BOROUGH
 INTERSECTION : FRONT STREET AND POPLAR STREET

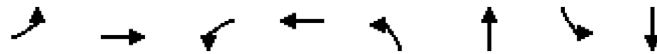
REVIEWED : William H. Brown - Engineer DATE 12/14/87
 MUNICIPAL OFFICIAL : [Signature]
 DISTRICT ENGINEER : [Signature] DATE 12/18/87

SCALE : 0' 25' 50' 75'

OPERATOR : FILE NAME

APPENDIX B

CAPACITY ANALYSIS EXISTING CONDITIONS



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↙	↗	↙	↗
Volume (vph)	147	25	12	14	64	226	2	168
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	8.0	8.0	8.0	8.0	14.0	14.0	14.0	14.0
Minimum Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0	44.0
Total Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0	44.0
Total Split (%)	37.1%	37.1%	37.1%	37.1%	62.9%	62.9%	62.9%	62.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)		22.0		22.0	40.0	40.0	40.0	40.0
Actuated g/C Ratio		0.31		0.31	0.57	0.57	0.57	0.57
v/c Ratio		0.60		0.07	0.12	0.26	0.00	0.25
Control Delay		23.4		16.4	7.6	8.2	6.5	7.2
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		23.4		16.4	7.6	8.2	6.5	7.2
LOS		C		B	A	A	A	A
Approach Delay		23.4		16.4		8.1		7.2
Approach LOS		C		B		A		A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 12.8

Intersection LOS: B











Intersection Capacity Utilization 56.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Rt 239/Union St & RT 11/Main St



					
Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	30	158	13	54	193
Turn Type	Perm pm+pt				
Protected Phases	4	6		5	2
Permitted Phases			6	2	
Detector Phases	4	6	6	5	2
Minimum Initial (s)	5.0	12.0	12.0	5.0	17.0
Minimum Split (s)	10.2	21.4	21.4	10.4	22.4
Total Split (s)	20.0	38.0	38.0	12.0	50.0
Total Split (%)	28.6%	54.3%	54.3%	17.1%	71.4%
Yellow Time (s)	4.1	4.2	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2	1.2
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	None	None	None
Act Effct Green (s)	11.5	17.1	17.1	18.3	24.0
Actuated g/C Ratio	0.26	0.37	0.37	0.40	0.49
v/c Ratio	0.24	0.26	0.02	0.11	0.24
Control Delay	7.7	9.6	6.5	5.7	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.7	9.6	6.5	5.7	4.6
LOS	A	A	A	A	A
Approach Delay	7.7	9.3			4.9
Approach LOS	A	A			A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 39.7

Natural Cycle: 45

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.26

Intersection Signal Delay: 6.9





Intersection LOS: A

Intersection Capacity Utilization 29.0%















ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

 ø2	 ø4
50 s	20 s
 ø5	 ø6
12 s	38 s

TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11			
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp			
Date Performed	7/3/2008			Analysis Year	2008			
Analysis Time Period	AM Peak							
Project Description 535 - Susquehanna/Bell Bend NPP								
East/West Street: PPL Entrance				North/South Street: US Rt 11				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	268	220			85	148		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	268	220	0	0	85	148		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	13		34					
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	13	0	34	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	1	0	1	0	0	0		
Configuration	L		R					
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	268					13		34
C (m) (veh/h)	1346					321		892
v/c	0.20					0.04		0.04
95% queue length	0.74					0.13		0.12
Control Delay (s/veh)	8.3					16.7		9.2
LOS	A					C		A
Approach Delay (s/veh)	--	--				11.3		
Approach LOS	--	--				B		

							
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Volume (vph)	98	385	25	169	114	131	57
Turn Type	Perm		Perm	pm+pt		Perm	
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phases	8	8	8	5	2	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	8.0	20.5	20.5	20.5
Total Split (s)	25.0	25.0	25.0	10.0	40.0	30.0	30.0
Total Split (%)	38.5%	38.5%	38.5%	15.4%	61.5%	46.2%	46.2%
Yellow Time (s)	3.5	3.5	3.5	3.0	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	0.0	1.0	1.0	1.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	21.0	21.0	21.0	36.0	36.0	26.0	26.0
Actuated g/C Ratio	0.32	0.32	0.32	0.55	0.55	0.40	0.40
v/c Ratio	0.24	0.48	0.07	0.39	0.17	0.20	0.10
Control Delay	17.6	19.3	6.4	3.9	1.3	13.6	4.2
Queue Delay	0.0	0.0	0.0	0.1	0.3	0.0	0.0
Total Delay	17.6	19.3	6.4	4.0	1.6	13.6	4.2
LOS	B	B	A	A	A	B	A
Approach Delay		18.3			3.1	10.8	
Approach LOS		B			A	B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 12.3

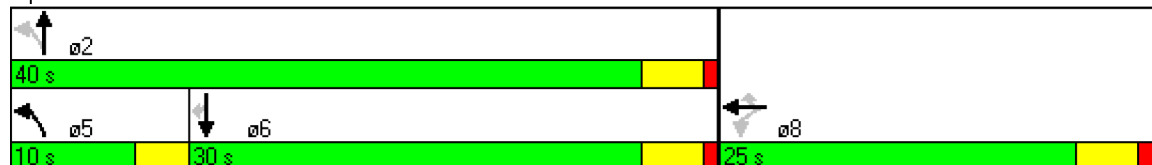
Intersection LOS: B

Intersection Capacity Utilization 38.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: 2nd Street & Market St



	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑	↗	↘	↑
Volume (vph)	289	273	72	58	162
Turn Type	Perm pm+pt				
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	29.0	26.0	26.0	10.0	36.0
Total Split (%)	44.6%	40.0%	40.0%	15.4%	55.4%
Yellow Time (s)	3.2	4.0	4.0	3.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effect Green (s)	25.0	22.0	22.0	32.0	32.0
Actuated g/C Ratio	0.38	0.34	0.34	0.49	0.49
v/c Ratio	0.32	0.65	0.18	0.18	0.20
Control Delay	12.5	24.1	4.6	10.7	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.6
Total Delay	12.5	24.1	4.6	10.7	11.5
LOS	B	C	A	B	B
Approach Delay	12.5	20.0			11.3
Approach LOS	B	C			B

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 15.5

Intersection LOS: B

Intersection Capacity Utilization 38.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 6: Front St & Market St

↙ ø1	↑ ø2	→ ø4
10 s	26 s	29 s
↘ ø6		
36 s		



Lane Group	EBL	WBL	WBT	SBR
Lane Configurations				
Volume (vph)	45	9	578	61
Turn Type	Prot	Perm		Free
Protected Phases	7		8	
Permitted Phases		8		Free
Detector Phases	7	8	8	
Minimum Initial (s)	1.0	4.0	4.0	
Minimum Split (s)	5.0	25.0	25.0	
Total Split (s)	25.0	45.0	45.0	0.0
Total Split (%)	35.7%	64.3%	64.3%	0.0%
Yellow Time (s)	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Recall Mode	None	None	None	
Act Effct Green (s)	7.0	5.9	5.9	13.4
Actuated g/C Ratio	0.32	0.44	0.44	1.00
v/c Ratio	0.09	0.01	0.46	0.05
Control Delay	5.7	2.4	3.0	0.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.7	2.4	3.0	0.1
LOS	A	A	A	A
Approach Delay			3.0	
Approach LOS			A	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 13.4

Natural Cycle: 40

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 2.9

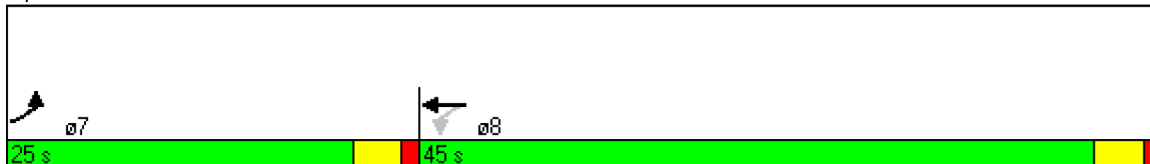
Intersection LOS: A

















Intersection Capacity Utilization 26.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: Int



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1859	0	0	1863	0	0	1645	0	0	1777	0
Flt Permitted								0.968			0.729	
Satd. Flow (perm)	0	1859	0	0	1863	0	0	1608	0	0	1358	0
Satd. Flow (RTOR)		2						4				
Volume (vph)	0	393	6	0	551	0	1	0	3	76	2	0
Peak Hour Factor	0.89	0.89	0.89	0.83	0.83	0.83	0.75	0.75	0.75	0.67	0.67	0.67
Adj. Flow (vph)	0	442	7	0	664	0	1	0	4	113	3	0
Lane Group Flow (vph)	0	449	0	0	664	0	0	5	0	0	116	0
Turn Type							Perm			custom		
Protected Phases		4			8			2				
Permitted Phases							2			6	6	
Total Split (s)	0.0	50.0	0.0	0.0	50.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Act Effct Green (s)		46.0			46.0			16.0			16.0	
Actuated g/C Ratio		0.66			0.66			0.23			0.23	
v/c Ratio		0.37			0.54			0.01			0.37	
Control Delay		6.4			8.5			15.2			27.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.4			8.5			15.2			27.0	
LOS		A			A			B			C	
Approach Delay		6.4			8.5			15.3			27.0	
Approach LOS		A			A			B			C	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 9.5





Intersection LOS: A

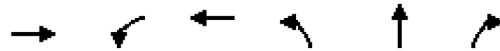
Intersection Capacity Utilization 46.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: RT 11 &

	
ø2	ø4
20 s	50 s
	
ø6	ø8
20 s	50 s



Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	ø6
Lane Configurations							
Volume (vph)	391	34	512	46	0	23	
Turn Type	pm+pt			Perm		Perm	
Protected Phases	4	3	8		2		6
Permitted Phases		8		2		2	
Detector Phases	4	3	8	2	2	2	
Minimum Initial (s)	1.0	4.0	20.0	2.0	2.0	2.0	1.0
Minimum Split (s)	25.0	8.0	25.0	6.0	6.0	6.0	5.0
Total Split (s)	28.0	17.5	45.5	24.5	24.5	24.5	24.5
Total Split (%)	40.0%	25.0%	65.0%	35.0%	35.0%	35.0%	35%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	0.0	2.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes					
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	24.0	41.5	41.5		20.5	20.5	
Actuated g/C Ratio	0.34	0.59	0.59		0.29	0.29	
v/c Ratio	0.79	0.08	0.54		0.17	0.07	
Control Delay	31.7	6.4	10.9		19.8	7.6	
Queue Delay	0.0	0.0	0.0		0.0	0.0	
Total Delay	31.7	6.4	10.9		19.8	7.6	
LOS	C	A	B		B	A	
Approach Delay	31.7		10.6		15.8		
Approach LOS	C		B		B		

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 40

Control Type: Pretimed

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 19.6

Intersection LOS: B

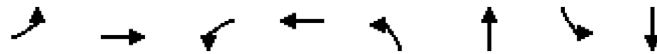
Intersection Capacity Utilization 38.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St

ø2	ø3	ø4
24.5 s	17.5 s	28 s
ø6	ø8	
24.5 s	45.5 s	



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔	↔	↔	↔	↔
Volume (vph)	71	27	21	32	193	225	8	230
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	8.0	8.0	8.0	8.0	14.0	14.0	14.0	14.0
Minimum Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0	44.0
Total Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0	44.0
Total Split (%)	37.1%	37.1%	37.1%	37.1%	62.9%	62.9%	62.9%	62.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)		22.0		22.0	40.0	40.0	40.0	40.0
Actuated g/C Ratio		0.31		0.31	0.57	0.57	0.57	0.57
v/c Ratio		0.50		0.14	0.44	0.29	0.02	0.36
Control Delay		17.2		17.8	12.0	8.2	6.6	8.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		17.2		17.8	12.0	8.2	6.6	8.0
LOS		B		B	B	A	A	A
Approach Delay		17.2		17.8		9.8		8.0
Approach LOS		B		B		A		A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 11.2











Intersection LOS: B

Intersection Capacity Utilization 54.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

					
Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	20	261	56	115	24
Turn Type	Perm pm+pt				
Protected Phases	4	6		5	2
Permitted Phases			6	2	
Detector Phases	4	6	6	5	2
Minimum Initial (s)	5.0	12.0	12.0	5.0	17.0
Minimum Split (s)	10.2	21.4	21.4	10.4	22.4
Total Split (s)	20.0	38.0	38.0	12.0	50.0
Total Split (%)	28.6%	54.3%	54.3%	17.1%	71.4%
Yellow Time (s)	4.1	4.2	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2	1.2
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	None	None	None
Act Effct Green (s)	10.2	17.1	17.1	24.8	27.9
Actuated g/C Ratio	0.22	0.36	0.36	0.53	0.57
v/c Ratio	0.31	0.48	0.11	0.21	0.03
Control Delay	7.4	12.3	3.6	4.9	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.4	12.3	3.6	4.9	3.9
LOS	A	B	A	A	A
Approach Delay	7.4	10.8			4.7
Approach LOS	A	B			A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 44.6

Natural Cycle: 45

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 8.7





Intersection LOS: A

Intersection Capacity Utilization 37.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

 ø2	 ø4
50 s	20 s
 ø5	 ø6
12 s	38 s

TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11			
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp			
Date Performed	7/3/2008			Analysis Year	2008			
Analysis Time Period	PM Peak							
Project Description 535 - Susquehanna/Bell Bend NPP								
East/West Street: PPL Entrance				North/South Street: US Rt 11				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	2	227			251	1		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	2	227	0	0	251	1		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	80		220					
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	80	0	220	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	1	0	1	0	0	0		
Configuration	L		R					
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	2					80		220
C (m) (veh/h)	1325					615		792
v/c	0.00					0.13		0.28
95% queue length	0.00					0.45		1.14
Control Delay (s/veh)	7.7					11.7		11.3
LOS	A					B		B
Approach Delay (s/veh)	--	--				11.4		
Approach LOS	--	--				B		

	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑	↗	↘	↑
Volume (vph)	580	276	134	87	332
Turn Type			Perm	pm+pt	
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	29.0	26.0	26.0	10.0	36.0
Total Split (%)	44.6%	40.0%	40.0%	15.4%	55.4%
Yellow Time (s)	3.2	4.0	4.0	3.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effect Green (s)	25.0	22.0	22.0	32.0	32.0
Actuated g/C Ratio	0.38	0.34	0.34	0.49	0.49
v/c Ratio	0.67	0.45	0.22	0.23	0.46
Control Delay	18.0	19.7	4.3	10.4	12.5
Queue Delay	0.0	0.0	0.0	0.0	1.4
Total Delay	18.0	19.7	4.3	10.4	13.9
LOS	B	B	A	B	B
Approach Delay	18.0	14.7			13.2
Approach LOS	B	B			B

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 15.9

Intersection LOS: B

Intersection Capacity Utilization 66.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Front St & Market St

↙ ø1	↑ ø2	→ ø4
10 s	26 s	29 s
↘ ø6		
36 s		



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑	↑	↱
Volume (vph)	201	484	57	144	106	223	105
Turn Type	Perm		Perm	pm+pt			Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phases	8	8	8	5	2	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	8.0	20.5	20.5	20.5
Total Split (s)	25.0	25.0	25.0	10.0	40.0	30.0	30.0
Total Split (%)	38.5%	38.5%	38.5%	15.4%	61.5%	46.2%	46.2%
Yellow Time (s)	3.5	3.5	3.5	3.0	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	0.0	1.0	1.0	1.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	21.0	21.0	21.0	36.0	36.0	26.0	26.0
Actuated g/C Ratio	0.32	0.32	0.32	0.55	0.55	0.40	0.40
v/c Ratio	0.40	0.48	0.12	0.31	0.13	0.35	0.17
Control Delay	19.6	19.3	5.4	3.8	1.5	15.3	3.5
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	19.6	19.3	5.4	3.9	1.5	15.3	3.5
LOS	B	B	A	A	A	B	A
Approach Delay		18.3			2.9	11.5	
Approach LOS		B			A	B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 13.5

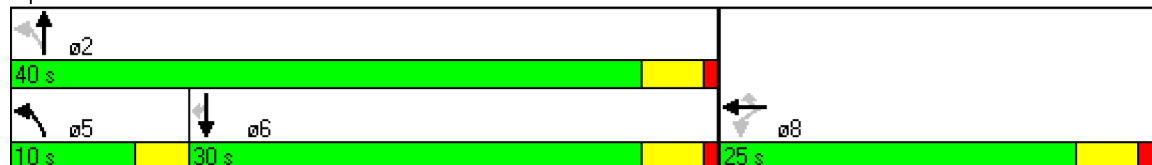
Intersection LOS: B

Intersection Capacity Utilization 66.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: 2nd Street & Market St





Lane Group	EBL	WBL	WBT	SBR
Lane Configurations				
Volume (vph)	76	15	879	136
Turn Type	Prot	Perm		Free
Protected Phases	7		8	
Permitted Phases		8		Free
Detector Phases	7	8	8	
Minimum Initial (s)	1.0	4.0	4.0	
Minimum Split (s)	5.0	25.0	25.0	
Total Split (s)	25.0	45.0	45.0	0.0
Total Split (%)	35.7%	64.3%	64.3%	0.0%
Yellow Time (s)	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Recall Mode	None	None	None	
Act Effct Green (s)	7.6	8.5	8.5	18.1
Actuated g/C Ratio	0.31	0.47	0.47	1.00
v/c Ratio	0.15	0.02	0.59	0.13
Control Delay	7.6	2.9	4.6	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.6	2.9	4.6	0.2
LOS	A	A	A	A
Approach Delay			4.6	
Approach LOS			A	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 18.1

Natural Cycle: 40

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 4.1

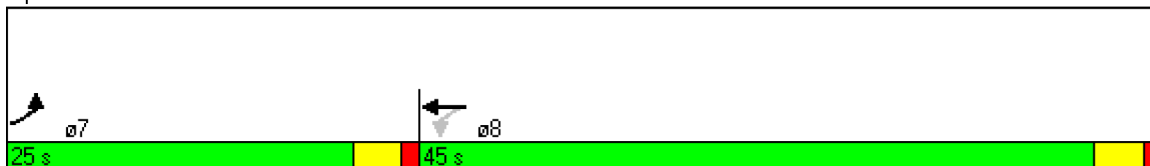
Intersection LOS: A

Intersection Capacity Utilization 36.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: Rt 11/93 & LaSalle St





Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↩	↩		↩		↩
Volume (vph)	734	745	4	0	148	2
Turn Type			Perm	custom		
Protected Phases	4	8		2		
Permitted Phases			2		6	6
Detector Phases	4	8	2	2	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	50.0	50.0	20.0	20.0	20.0	20.0
Total Split (%)	71.4%	71.4%	28.6%	28.6%	28.6%	28.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	46.0	46.0		16.0		16.0
Actuated g/C Ratio	0.66	0.66		0.23		0.23
v/c Ratio	0.71	0.68		0.03		0.64
Control Delay	11.7	11.1		18.3		35.6
Queue Delay	0.0	0.0		0.0		0.0
Total Delay	11.7	11.1		18.3		35.6
LOS	B	B		B		D
Approach Delay	11.7	11.1		18.3		35.6
Approach LOS	B	B		B		D

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 13.9

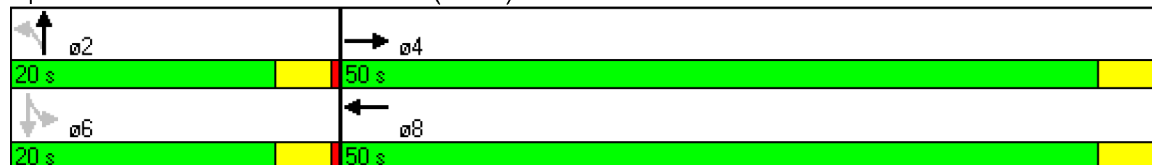
Intersection LOS: B

Intersection Capacity Utilization 57.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: W Front St (Rt 11) & Sunoco Station





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	21	625	49	646	125	43	77	29	39
Turn Type	Perm		pm+pt		Perm		Perm	Perm	
Protected Phases		4	3	8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phases	4	4	3	8	2	2	2	6	6
Minimum Initial (s)	1.0	1.0	4.0	20.0	2.0	2.0	2.0	1.0	1.0
Minimum Split (s)	25.0	25.0	8.0	25.0	6.0	6.0	6.0	5.0	5.0
Total Split (s)	28.0	28.0	17.5	45.5	24.5	24.5	24.5	24.5	24.5
Total Split (%)	40.0%	40.0%	25.0%	65.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	0.0	2.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	24.0	24.0	41.5	41.5		20.5	20.5		20.5
Actuated g/C Ratio	0.34	0.34	0.59	0.59		0.29	0.29		0.29
v/c Ratio	0.11	1.25	0.13	0.71		0.47	0.17		0.20
Control Delay	17.4	149.8	6.7	14.7		25.0	5.7		17.2
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	17.4	149.8	6.7	14.7		25.0	5.7		17.2
LOS	B	F	A	B		C	A		B
Approach Delay		145.6		14.1		18.9			17.2
Approach LOS		F		B		B			B

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 1.25

Intersection Signal Delay: 67.7

Intersection LOS: E

Intersection Capacity Utilization 63.2%

ICU Level of Service B

Analysis Period (min) 15





















Splits and Phases: 4: RT 11 & N Poplar St

ø2	ø3	ø4
24.5 s	17.5 s	28 s
ø6	ø8	
24.5 s	45.5 s	

APPENDIX C

Capacity Analysis

Future No Build Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1810	1795	0	1719	1810	0	0	1719	1538	0	1810	0
Flt Permitted				0.314				0.757				
Satd. Flow (perm)	1810	1795	0	568	1810	0	0	1370	1538	0	1810	0
Satd. Flow (RTOR)		6							33			
Volume (vph)	0	412	23	35	540	0	49	0	23	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	1.00	1.00	1.00
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Lane Group Flow (vph)	0	512	0	40	614	0	0	71	33	0	0	0
Turn Type	Perm			pm+pt			Perm		Perm	Perm		
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	25.0	25.0		8.0	25.0		6.0	6.0	6.0	5.0	5.0	
Total Split (s)	40.0	40.0	0.0	13.0	53.0	0.0	17.0	17.0	17.0	17.0	17.0	0.0
Total Split (%)	57.1%	57.1%	0.0%	18.6%	75.7%	0.0%	24.3%	24.3%	24.3%	24.3%	24.3%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Act Effct Green (s)		36.0		49.0	49.0			13.0	13.0			
Actuated g/C Ratio		0.51		0.70	0.70			0.19	0.19			
v/c Ratio		0.55		0.07	0.48			0.28	0.11			
Control Delay		14.2		3.5	6.3			27.9	10.3			
Queue Delay		0.0		0.0	0.0			0.0	0.0			
Total Delay		14.2		3.5	6.3			27.9	10.3			
LOS		B		A	A			C	B			
Approach Delay		14.2			6.2			22.4				
Approach LOS		B			A			C				

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 40

Control Type: Pretimed

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 10.7







Intersection LOS: B

Intersection Capacity Utilization 39.1%

ICU Level of Service A




















Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St

		
17 s	13 s	40 s
		
17 s	53 s	

Market St & 2nd St

AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	0	0	1787	3574	1599	1787	1881	0	0	1881	1599
Flt Permitted				0.950			0.569					
Satd. Flow (perm)	0	0	0	1787	3574	1599	1070	1881	0	0	1881	1599
Satd. Flow (RTOR)						37						69
Volume (vph)	0	0	0	103	405	26	179	119	0	0	138	60
Peak Hour Factor	1.00	1.00	1.00	0.70	0.70	0.70	0.65	0.65	0.65	0.87	0.87	0.87
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	0	0	147	579	37	275	183	0	0	159	69
Turn Type				Perm		Perm	pm+pt					Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Minimum Split (s)				21.0	21.0	21.0	8.0	20.5			20.5	20.5
Total Split (s)	0.0	0.0	0.0	25.0	25.0	25.0	10.0	40.0	0.0	0.0	30.0	30.0
Total Split (%)	0.0%	0.0%	0.0%	38.5%	38.5%	38.5%	15.4%	61.5%	0.0%	0.0%	46.2%	46.2%
Yellow Time (s)				3.5	3.5	3.5	3.0	3.5			3.5	3.5
All-Red Time (s)				1.5	1.5	1.5	0.0	1.0			1.0	1.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Act Effct Green (s)				21.0	21.0	21.0	36.0	36.0			26.0	26.0
Actuated g/C Ratio				0.32	0.32	0.32	0.55	0.55			0.40	0.40
v/c Ratio				0.25	0.50	0.07	0.42	0.18			0.21	0.10
Control Delay				17.7	19.6	6.3	4.5	1.6			13.8	4.1
Queue Delay				0.0	0.0	0.0	0.1	0.3			0.0	0.0
Total Delay				17.7	19.6	6.3	4.6	1.9			13.8	4.1
LOS				B	B	A	A	A			B	A
Approach Delay					18.6			3.6			10.8	
Approach LOS					B			A			B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 12.6

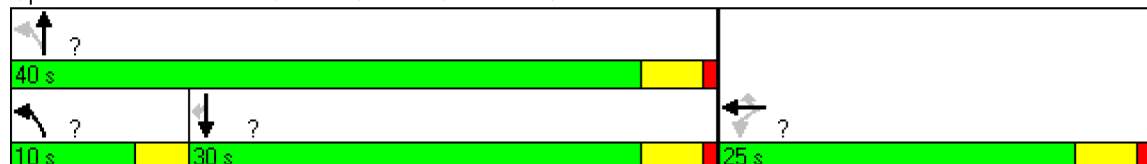
Intersection LOS: B

Intersection Capacity Utilization 40.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: 2nd Street & Market St



Market St & Front St

AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↑	↗	↘	↑	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	3353	0	0	0	0	0	1827	1553	1736	1827	0
Flt Permitted										0.252		
Satd. Flow (perm)	0	3353	0	0	0	0	0	1827	1553	460	1827	0
Satd. Flow (RTOR)		68							110			
Volume (vph)	1	306	90	0	0	0	0	289	75	62	171	0
Peak Hour Factor	0.87	0.87	0.87	1.00	1.00	1.00	0.68	0.68	0.68	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	0	456	0	0	0	0	0	425	110	69	190	0
Turn Type	Perm						Perm pm+pt					
Protected Phases		4						2		1	6	
Permitted Phases	4								2	6		
Minimum Split (s)	24.0	24.0						21.0	21.0	10.0	31.0	
Total Split (s)	29.0	29.0	0.0	0.0	0.0	0.0	0.0	26.0	26.0	10.0	36.0	0.0
Total Split (%)	44.6%	44.6%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	40.0%	15.4%	55.4%	0.0%
Yellow Time (s)	3.2	3.2						4.0	4.0	3.0	4.0	
All-Red Time (s)	1.8	1.8						1.0	1.0	0.0	1.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Act Effct Green (s)		25.0						22.0	22.0	32.0	32.0	
Actuated g/C Ratio		0.38						0.34	0.34	0.49	0.49	
v/c Ratio		0.34						0.69	0.18	0.20	0.21	
Control Delay		12.8						25.5	4.5	11.0	10.9	
Queue Delay		0.0						0.0	0.0	0.0	0.7	
Total Delay		12.8						25.5	4.5	11.0	11.6	
LOS		B						C	A	B	B	
Approach Delay		12.8						21.2			11.4	
Approach LOS		B						C			B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 16.1

Intersection LOS: B


















Intersection Capacity Utilization 40.0%

ICU Level of Service A

Analysis Period (min) 15












Splits and Phases: 6: Front St & Market St

10 s	26 s	29 s
36 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					 							
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1752	0	0	1752	3487	0	0	0	0	0	0	1596
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1752	0	0	1752	3487	0	0	0	0	0	0	1596
Satd. Flow (RTOR)				11	8							512
Volume (vph)	47	0	0	9	610	20	0	0	0	0	0	65
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	1.00	1.00	1.00	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Lane Group Flow (vph)	55	0	0	11	750	0	0	0	0	0	0	86
Turn Type	Prot			Perm								Free
Protected Phases	7				8							
Permitted Phases				8								Free
Detector Phases	7			8	8							
Minimum Initial (s)	1.0			4.0	4.0							
Minimum Split (s)	5.0			25.0	25.0							
Total Split (s)	25.0	0.0	0.0	45.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Split (%)	35.7%	0.0%	0.0%	64.3%	64.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)	3.0			3.0	3.0							
All-Red Time (s)	1.0			1.0	1.0							
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None			None	None							
Act Effct Green (s)	7.0			6.1	6.1							13.6
Actuated g/C Ratio	0.32			0.45	0.45							1.00
v/c Ratio	0.10			0.01	0.48							0.05
Control Delay	5.9			2.3	3.0							0.1
Queue Delay	0.0			0.0	0.0							0.0
Total Delay	5.9			2.3	3.0							0.1
LOS	A			A	A							A
Approach Delay					3.0							
Approach LOS					A							
Intersection Summary												
Cycle Length: 70												
Actuated Cycle Length: 13.6												
Natural Cycle: 40												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.48												
Intersection Signal Delay: 2.9						Intersection LOS: A						
Intersection Capacity Utilization 27.5%						ICU Level of Service A						
Analysis Period (min) 15												

















Splits and Phases: 7: Int







						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1592	0	1776	1509	1687	1776
Flt Permitted	0.982				0.535	
Satd. Flow (perm)	1592	0	1776	1509	950	1776
Satd. Flow (RTOR)	75			14		
Volume (vph)	30	54	164	13	55	201
Peak Hour Factor	0.72	0.72	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%
Lane Group Flow (vph)	117	0	178	14	60	218
Turn Type	Perm pm+pt					
Protected Phases	4		6		5	2
Permitted Phases				6	2	
Detector Phases	4		6	6	5	2
Minimum Initial (s)	5.0		12.0	12.0	5.0	17.0
Minimum Split (s)	10.2		21.4	21.4	10.4	22.4
Total Split (s)	22.6	0.0	29.0	29.0	18.4	47.4
Total Split (%)	32.3%	0.0%	41.4%	41.4%	26.3%	67.7%
Yellow Time (s)	4.1		4.2	4.2	4.2	4.2
All-Red Time (s)	1.1		1.2	1.2	1.2	1.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None		None	None	None	None
Act Effct Green (s)	11.3		16.9	16.9	18.3	24.0
Actuated g/C Ratio	0.26		0.37	0.37	0.40	0.50
v/c Ratio	0.25		0.27	0.02	0.11	0.24
Control Delay	7.9		10.2	6.8	5.5	4.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	7.9		10.2	6.8	5.5	4.6
LOS	A		B	A	A	A
Approach Delay	7.9		10.0			4.8
Approach LOS	A		A			A
Intersection Summary						
Cycle Length: 70						
Actuated Cycle Length: 38.7						
Natural Cycle: 45						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.27						
Intersection Signal Delay: 7.1				Intersection LOS: A		
Intersection Capacity Utilization 29.1%				ICU Level of Service A		
Analysis Period (min) 15						



















Splits and Phases: 3: Main St & RT 11



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1859	0	0	1863	0	0	1645	0	0	1775	0
Flt Permitted								0.967			0.732	
Satd. Flow (perm)	0	1859	0	0	1863	0	0	1607	0	0	1364	0
Satd. Flow (RTOR)		2						4				
Volume (vph)	0	415	6	0	581	0	1	0	3	81	2	0
Peak Hour Factor	0.89	0.89	0.89	0.83	0.83	0.83	0.75	0.75	0.75	0.67	0.67	0.67
Lane Group Flow (vph)	0	473	0	0	700	0	0	5	0	0	124	0
Turn Type							Perm			custom		
Protected Phases		4			8			2				
Permitted Phases							2			6	6	
Minimum Split (s)		20.0			20.0		20.0	20.0		20.0	20.0	
Total Split (s)	0.0	36.0	0.0	0.0	36.0	0.0	19.0	19.0	0.0	19.0	19.0	0.0
Total Split (%)	0.0%	65.5%	0.0%	0.0%	65.5%	0.0%	34.5%	34.5%	0.0%	34.5%	34.5%	0.0%
Yellow Time (s)		3.5			3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)		0.5			0.5		0.5	0.5		0.5	0.5	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		32.0			32.0			15.0			15.0	
Actuated g/C Ratio		0.58			0.58			0.27			0.27	
v/c Ratio		0.44			0.65			0.01			0.33	
Control Delay		8.0			11.2			11.0			19.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.0			11.2			11.0			19.1	
LOS		A			B			B			B	
Approach Delay		8.0			11.2			11.0			19.1	
Approach LOS		A			B			B			B	
Intersection Summary												
Cycle Length: 55												
Actuated Cycle Length: 55												
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 50												
Control Type: Pretimed												
Maximum v/c Ratio: 0.65												
Intersection Signal Delay: 10.8 Intersection LOS: B												
Intersection Capacity Utilization 48.5% ICU Level of Service A												
Analysis Period (min) 15												

Splits and Phases: 4: RT 11 &

	?		?
19 s		36 s	
	?		?
19 s		36 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1674	0	0	1754	0	1719	1797	0	1719	1750	0
Flt Permitted		0.809			0.850		0.579			0.564		
Satd. Flow (perm)	0	1392	0	0	1521	0	1048	1797	0	1021	1750	0
Satd. Flow (RTOR)		42			3			6			34	
Volume (vph)	152	25	100	12	14	2	66	235	12	2	175	49
Peak Hour Factor	0.96	0.96	0.96	0.78	0.78	0.78	0.88	0.88	0.88	0.85	0.85	0.85
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Lane Group Flow (vph)	0	288	0	0	36	0	75	281	0	2	264	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	26.0	26.0		26.0	26.0		44.0	44.0		44.0	44.0	
Total Split (s)	26.0	26.0	0.0	26.0	26.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0
Total Split (%)	37.1%	37.1%	0.0%	37.1%	37.1%	0.0%	62.9%	62.9%	0.0%	62.9%	62.9%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		22.0			22.0		40.0	40.0		40.0	40.0	
Actuated g/C Ratio		0.31			0.31		0.57	0.57		0.57	0.57	
v/c Ratio		0.62			0.08		0.13	0.27		0.00	0.26	
Control Delay		24.1			16.4		7.7	8.3		6.5	7.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		24.1			16.4		7.7	8.3		6.5	7.3	
LOS		C			B		A	A		A	A	
Approach Delay		24.1			16.4			8.2			7.3	
Approach LOS		C			B			A			A	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 13.1

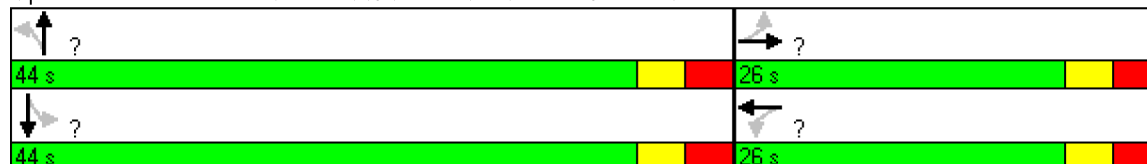
Intersection LOS: B

Intersection Capacity Utilization 57.3%

ICU Level of Service B





















Analysis Period (min) 15

Splits and Phases: 3: Rt 239/Union St & RT 11/Main St



TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11			
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp			
Date Performed	7/3/2008			Analysis Year	2008			
Analysis Time Period	AM Peak							
Project Description 535 - Susquehanna/Bell Bend NPP								
East/West Street: PPL Entrance				North/South Street: US Rt 11				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	268	228			154	97		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	268	228	0	0	154	97		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	13		34					
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	13	0	34	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	1	0	1	0	0	0		
Configuration	L		R					
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	268					13		34
C (m) (veh/h)	1326					312		844
v/c	0.20					0.04		0.04
95% queue length	0.76					0.13		0.13
Control Delay (s/veh)	8.4					17.0		9.4
LOS	A					C		A
Approach Delay (s/veh)	--	--				11.5		
Approach LOS	--	--				B		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1852	0	1770	1859	0	0	1796	1583	0	1789	0
Flt Permitted	0.274			0.117				0.742			0.853	
Satd. Flow (perm)	510	1852	0	218	1859	0	0	1382	1583	0	1552	0
Satd. Flow (RTOR)		5			2				95		14	
Volume (vph)	21	661	28	51	681	8	130	45	81	30	42	15
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.85	0.85	0.85	0.84	0.84	0.84
Lane Group Flow (vph)	26	840	0	61	830	0	0	206	95	0	104	0
Turn Type	Perm			pm+pt			Perm		Perm	Perm		
Protected Phases		4		3	8			2				6
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	25.0	25.0		8.0	25.0		6.0	6.0	6.0	5.0	5.0	
Total Split (s)	42.0	42.0	0.0	8.0	50.0	0.0	20.0	20.0	20.0	20.0	20.0	0.0
Total Split (%)	60.0%	60.0%	0.0%	11.4%	71.4%	0.0%	28.6%	28.6%	28.6%	28.6%	28.6%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Act Effct Green (s)	38.0	38.0		46.0	46.0		16.0	16.0		16.0		
Actuated g/C Ratio	0.54	0.54		0.66	0.66		0.23	0.23		0.23		
v/c Ratio	0.09	0.83		0.26	0.68		0.65	0.22		0.28		
Control Delay	8.9	22.8		7.1	11.0		36.0	7.0		21.9		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0		
Total Delay	8.9	22.8		7.1	11.0		36.0	7.0		21.9		
LOS	A	C		A	B		D	A		C		
Approach Delay		22.4			10.7		26.8			21.9		
Approach LOS		C			B		C			C		

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 18.2






Intersection LOS: B

Intersection Capacity Utilization 65.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St

	?		?		?
20 s		8 s		42 s	
	?		?		
20 s		50 s			

Market St & 2nd St

PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗	↗	↖	↗			↗	↖
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	0	0	1787	3574	1599	1787	1881	0	0	1881	1599
Flt Permitted				0.950			0.449					
Satd. Flow (perm)	0	0	0	1787	3574	1599	845	1881	0	0	1881	1599
Satd. Flow (RTOR)						67						129
Volume (vph)	0	0	0	212	511	59	151	112	0	0	236	110
Peak Hour Factor	1.00	1.00	1.00	0.88	0.88	0.88	0.81	0.81	0.81	0.85	0.85	0.85
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	0	0	241	581	67	186	138	0	0	278	129
Turn Type				Perm		Perm	pm+pt					Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Minimum Split (s)				21.0	21.0	21.0	8.0	20.5			20.5	20.5
Total Split (s)	0.0	0.0	0.0	25.0	25.0	25.0	10.0	40.0	0.0	0.0	30.0	30.0
Total Split (%)	0.0%	0.0%	0.0%	38.5%	38.5%	38.5%	15.4%	61.5%	0.0%	0.0%	46.2%	46.2%
Yellow Time (s)				3.5	3.5	3.5	3.0	3.5			3.5	3.5
All-Red Time (s)				1.5	1.5	1.5	0.0	1.0			1.0	1.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Act Effct Green (s)				21.0	21.0	21.0	36.0	36.0			26.0	26.0
Actuated g/C Ratio				0.32	0.32	0.32	0.55	0.55			0.40	0.40
v/c Ratio				0.42	0.50	0.12	0.34	0.13			0.37	0.18
Control Delay				20.0	19.6	5.4	4.9	1.5			15.5	3.5
Queue Delay				0.0	0.0	0.0	0.1	0.0			0.0	0.0
Total Delay				20.0	19.6	5.4	5.1	1.5			15.5	3.5
LOS				B	B	A	A	A			B	A
Approach Delay					18.7			3.5			11.7	
Approach LOS					B			A			B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 13.9

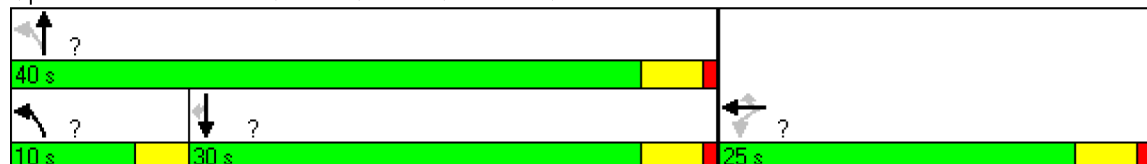
Intersection LOS: B

Intersection Capacity Utilization 69.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: 2nd Street & Market St



Market St & Front St

PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↑	↗	↘	↑	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	3446	0	0	0	0	0	1881	1599	1787	1881	0
Flt Permitted										0.392		
Satd. Flow (perm)	0	3446	0	0	0	0	0	1881	1599	737	1881	0
Satd. Flow (RTOR)		75							142			
Volume (vph)	6	613	195	0	0	0	0	292	141	92	351	0
Peak Hour Factor	0.87	0.87	0.87	1.00	1.00	1.00	0.99	0.99	0.99	0.81	0.81	0.81
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	936	0	0	0	0	0	295	142	114	433	0
Turn Type	Perm						Perm pm+pt					
Protected Phases		4						2		1	6	
Permitted Phases	4								2	6		
Minimum Split (s)	24.0	24.0						21.0	21.0	10.0	31.0	
Total Split (s)	29.0	29.0	0.0	0.0	0.0	0.0	0.0	26.0	26.0	10.0	36.0	0.0
Total Split (%)	44.6%	44.6%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	40.0%	15.4%	55.4%	0.0%
Yellow Time (s)	3.2	3.2						4.0	4.0	3.0	4.0	
All-Red Time (s)	1.8	1.8						1.0	1.0	0.0	1.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Act Effct Green (s)		25.0						22.0	22.0	32.0	32.0	
Actuated g/C Ratio		0.38						0.34	0.34	0.49	0.49	
v/c Ratio		0.68						0.46	0.22	0.25	0.47	
Control Delay		18.3						19.8	4.3	10.4	12.5	
Queue Delay		0.0						0.0	0.0	0.0	1.5	
Total Delay		18.3						19.8	4.3	10.4	14.0	
LOS		B						B	A	B	B	
Approach Delay		18.3						14.8			13.2	
Approach LOS		B						B			B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 16.1

Intersection LOS: B

















Intersection Capacity Utilization 69.8%

ICU Level of Service C

Analysis Period (min) 15












Splits and Phases: 6: Front St & Market St

10 s	26 s	29 s
36 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1752	0	0	1752	3487	0	0	0	0	0	0	1596
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1752	0	0	1752	3487	0	0	0	0	0	0	1596
Satd. Flow (RTOR)				16	8							447
Volume (vph)	80	0	0	15	927	30	0	0	0	0	0	143
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	1.00	1.00	1.00	0.65	0.65	0.65
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Lane Group Flow (vph)	89	0	0	16	1018	0	0	0	0	0	0	220
Turn Type	Prot			Perm								Free
Protected Phases	7				8							
Permitted Phases				8								Free
Detector Phases	7			8	8							
Minimum Initial (s)	1.0			4.0	4.0							
Minimum Split (s)	5.0			25.0	25.0							
Total Split (s)	25.0	0.0	0.0	45.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Split (%)	35.7%	0.0%	0.0%	64.3%	64.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)	3.0			3.0	3.0							
All-Red Time (s)	1.0			1.0	1.0							
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None			None	None							
Act Effct Green (s)	7.8			9.0	9.0							18.6
Actuated g/C Ratio	0.31			0.48	0.48							1.00
v/c Ratio	0.16			0.02	0.60							0.14
Control Delay	8.0			2.9	4.7							0.2
Queue Delay	0.0			0.0	0.0							0.0
Total Delay	8.0			2.9	4.7							0.2
LOS	A			A	A							A
Approach Delay					4.6							
Approach LOS					A							
Intersection Summary												
Cycle Length: 70												
Actuated Cycle Length: 18.6												
Natural Cycle: 40												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.60												
Intersection Signal Delay: 4.1												
Intersection LOS: A												
Intersection Capacity Utilization 37.7%												
ICU Level of Service A												
Analysis Period (min) 15												

















Splits and Phases: 7: Rt 11/93 & LaSalle St







						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1608	0	1827	1553	1736	1827
Flt Permitted	0.992				0.385	
Satd. Flow (perm)	1608	0	1827	1553	703	1827
Satd. Flow (RTOR)	117			69		
Volume (vph)	20	103	271	58	119	232
Peak Hour Factor	0.88	0.88	0.84	0.84	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	140	0	323	69	132	258
Turn Type	Perm pm+pt					
Protected Phases	4		6		5	2
Permitted Phases				6	2	
Detector Phases	4		6	6	5	2
Minimum Initial (s)	5.0		12.0	12.0	5.0	17.0
Minimum Split (s)	10.2		21.4	21.4	10.4	22.4
Total Split (s)	22.0	0.0	30.1	30.1	17.9	48.0
Total Split (%)	31.4%	0.0%	43.0%	43.0%	25.6%	68.6%
Yellow Time (s)	4.1		4.2	4.2	4.2	4.2
All-Red Time (s)	1.1		1.2	1.2	1.2	1.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None		None	None	None	None
Act Effct Green (s)	10.7		17.9	17.9	26.7	30.2
Actuated g/C Ratio	0.22		0.37	0.37	0.56	0.61
v/c Ratio	0.31		0.48	0.11	0.22	0.23
Control Delay	7.9		14.4	4.2	4.5	4.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	7.9		14.4	4.2	4.5	4.4
LOS	A		B	A	A	A
Approach Delay	7.9		12.6			4.4
Approach LOS	A		B			A
Intersection Summary						
Cycle Length: 70						
Actuated Cycle Length: 45.4						
Natural Cycle: 45						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.48						
Intersection Signal Delay: 8.4				Intersection LOS: A		
Intersection Capacity Utilization 38.3%				ICU Level of Service A		
Analysis Period (min) 15						



















Splits and Phases: 3: Main St & RT 11



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1857	0	0	1863	0	0	1722	0	0	1773	0
Flt Permitted								0.855			0.722	
Satd. Flow (perm)	0	1857	0	0	1863	0	0	1521	0	0	1344	0
Satd. Flow (RTOR)		3						4				
Volume (vph)	0	775	15	0	787	0	4	0	2	157	2	1
Peak Hour Factor	0.87	0.87	0.87	0.89	0.89	0.89	0.50	0.50	0.50	0.77	0.77	0.77
Lane Group Flow (vph)	0	908	0	0	884	0	0	12	0	0	208	0
Turn Type	Perm						custom					
Protected Phases	4				8		2					
Permitted Phases							2				6 6	
Minimum Split (s)	20.0				20.0		20.0 20.0				20.0 20.0	
Total Split (s)	0.0	39.0	0.0	0.0	39.0	0.0	21.0	21.0	0.0	21.0	21.0	0.0
Total Split (%)	0.0%	65.0%	0.0%	0.0%	65.0%	0.0%	35.0%	35.0%	0.0%	35.0%	35.0%	0.0%
Yellow Time (s)	3.5				3.5		3.5 3.5				3.5 3.5	
All-Red Time (s)	0.5				0.5		0.5 0.5				0.5 0.5	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)	35.0				35.0		17.0				17.0	
Actuated g/C Ratio	0.58				0.58		0.28				0.28	
v/c Ratio	0.84				0.81		0.03				0.55	
Control Delay	19.6				18.1		13.7				24.6	
Queue Delay	0.0				0.0		0.0				0.0	
Total Delay	19.6				18.1		13.7				24.6	
LOS	B				B		B				C	
Approach Delay	19.6				18.1		13.7				24.6	
Approach LOS	B				B		B				C	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 60												
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 60												
Control Type: Pretimed												
Maximum v/c Ratio: 0.84												
Intersection Signal Delay: 19.4						Intersection LOS: B						
Intersection Capacity Utilization 60.4%						ICU Level of Service B						
Analysis Period (min) 15												

Splits and Phases: 4: W Front St (Rt 11) & Sunoco Station

	?		?
21 s		39 s	
	?		?
21 s		39 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1703	0	0	1820	0	1770	1827	0	1770	1779	0
Flt Permitted		0.866			0.852		0.476			0.534		
Satd. Flow (perm)	0	1500	0	0	1581	0	887	1827	0	995	1779	0
Satd. Flow (RTOR)		81			2			17			51	
Volume (vph)	74	27	109	21	32	2	200	233	34	8	239	102
Peak Hour Factor	0.77	0.77	0.77	0.81	0.81	0.81	0.84	0.84	0.84	0.88	0.88	0.88
Lane Group Flow (vph)	0	273	0	0	68	0	238	317	0	9	388	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	26.0	26.0		26.0	26.0		44.0	44.0		44.0	44.0	
Total Split (s)	26.0	26.0	0.0	26.0	26.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0
Total Split (%)	37.1%	37.1%	0.0%	37.1%	37.1%	0.0%	62.9%	62.9%	0.0%	62.9%	62.9%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		22.0			22.0		40.0	40.0		40.0	40.0	
Actuated g/C Ratio		0.31			0.31		0.57	0.57		0.57	0.57	
v/c Ratio		0.52			0.14		0.47	0.30		0.02	0.37	
Control Delay		17.7			17.8		12.6	8.3		6.6	8.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		17.7			17.8		12.6	8.3		6.6	8.2	
LOS		B			B		B	A		A	A	
Approach Delay		17.7			17.8			10.1			8.2	
Approach LOS		B			B			B			A	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 11.5

Intersection LOS: B

Intersection Capacity Utilization 55.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

	?				?
44 s				26 s	
	?				?
44 s				26 s	

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11			
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp			
Date Performed	7/3/2008			Analysis Year	2008			
Analysis Time Period	PM Peak							
Project Description 535 - Susquehanna/Bell Bend NPP								
East/West Street: PPL Entrance				North/South Street: US Rt 11				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	2	236			260	1		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	2	236	0	0	260	1		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	80		220					
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	80	0	220	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	1	0	1	0	0	0		
Configuration	L		R					
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	2					80		220
C (m) (veh/h)	1315					606		784
v/c	0.00					0.13		0.28
95% queue length	0.00					0.45		1.15
Control Delay (s/veh)	7.7					11.8		11.4
LOS	A					B		B
Approach Delay (s/veh)	--	--				11.5		
Approach LOS	--	--				B		

APPENDIX D

TRAFFIC ASSIGNMENT

APPENDIX D – TRAFFIC ASSIGNMENT

The traffic expected to arrive/depart on site is assigned to the study area intersections based on the spatial location of the trip origins/destinations. The region surrounding the site is divided into 8 directional sectors relative to the site: (North, North East, East, South East, South, South West, West and North West). For each of these directions, potential routes are identified and traffic is then assigned to the study area intersections based on their locations along these potential routes. The following section defines these routes and the resulting assignment.

Site Location and Access Routes

Based on the site location the major access routes to the site from different directions would be the following:

Table D-1 Direction and Potential Routes

<i>From</i>	<i>Path 1</i>	<i>Path 2</i>	<i>Comments</i>
North (N), North-West (NW)	Route 239, Route 11		
North-East (NE)	Route 11		
East (E)	I-80, Route 93, Route 11	I-81, Route 29, Route 11	Each of the 2 paths is equally likely
South-East (SE), South (S) , South-West (SW)	I-80, Route 93, Route 11	I-80, Route 11	Path 2 is twice as likely as Path 1
West (W)	I-80, Route 11		

These routes are shown in Figure 1. Using these routes traffic from each direction (relative to the new site at Bell Bend) is assigned as follows:

North and North West

The traffic related to this direction is assigned through the following intersections

- RT 11 and RT 239 (Union Street)
 - Traffic heading to the site will make a *right* from EB RT 239 onto SB RT 11
 - Traffic coming from the site will make a *left* from NB RT 11 onto WB RT 239
- RT 11 and Main Street
 - Traffic heading to the site will continue *through* along SB RT 11
 - Traffic coming from the site will continue *through* along NB RT 11
- RT 11 and SSES Entrance
 - Traffic heading to the site will continue *through* along SB RT 11

- Traffic coming from the site will continue *through* along NB RT 11
- RT 11 and Bell Bend Entrance
 - Traffic heading to the site will make a *right* from SB RT 11
 - Traffic coming from the site will make a *left* onto NB RT 11

North East

This direction related traffic is assigned through the following intersections

- RT 11 and RT 239 (Union Street)
 - Traffic heading to the site will continue *through* along SB RT 11
 - Traffic coming from the site will continue *through* along NB RT 11
- RT 11 and Main Street
 - Traffic heading to the site will continue *through* along SB RT 11
 - Traffic coming from the site will continue *through* along NB RT 11
- RT 11 and SSES Entrance
 - Traffic heading to the site will continue *through* along SB RT 11
 - Traffic coming from the site will continue *through* along NB RT 11
- RT 11 and Bell Bend Entrance
 - Traffic heading to the site will make a *right* from SB RT 11
 - Traffic coming from the site will make a *left* onto NB RT 11

East

Half (50%) of the traffic related to this direction is assigned through the following intersections assuming they took I-81 to RT 29 to RT 11

- RT 11 and RT 239 (Union Street)
 - Traffic heading to the site will continue *through* along SB RT 11
 - Traffic coming from the site will continue *through* along NB RT 11
- RT 11 and Main Street
 - Traffic heading to the site will continue *through* along SB RT 11
 - Traffic coming from the site will continue *through* along NB RT 11
- RT 11 and SSES Entrance
 - Traffic heading to the site will continue *through* along SB RT 11
 - Traffic coming from the site will continue *through* along NB RT 11
- RT 11 and Bell Bend Entrance
 - Traffic heading to the site will make a *right* from SB RT 11
 - Traffic coming from the site will make a *left* onto NB RT 11

The other half is of the traffic related to this direction is assigned to through the following intersections assuming they took I-80 to RT 93 onto RT 11:

- RT 11 (2nd Street, Front Street) and RT 93 (Market Street)
 - Traffic heading to the site will make a *right* from RT 93 onto RT 11 going NB
 - Traffic coming from the site will make a *left* from RT 11 SB onto RT 93
- RT 11 and Bell Bend Entrance
 - Traffic heading to the site will make a *left* from NB RT 11
 - Traffic coming from the site will make a *right* onto SB RT 11

South-East

Two-third (66%) of the traffic related to this direction is assigned to through the following intersections assuming they took I-80 onto RT 11:

- RT 11 and Poplar Street
 - Traffic heading to the site will continue *through* along NB RT 11
 - Traffic coming from the site will continue *through* along SB RT 11
- RT 11 and RT 93 (Orange Street)
 - Traffic heading to the site will continue *through* along NB RT 11
 - Traffic coming from the site will continue *through* along SB RT 11
- RT 11 (2nd Street, Front Street) and RT 93 (Market Street)
 - Traffic heading to the site will continue *through* along NB RT 11
 - Traffic coming from the site will continue *through* along SB RT 11
- RT 11 and Bell Bend Entrance
 - Traffic heading to the site will make a *left* from NB RT 11
 - Traffic coming from the site will make a *right* onto SB RT 11

The remaining one-third of the traffic related to this direction is assigned to through the following intersections assuming they took I-80 to RT 93 onto RT 11:

- RT 11 (2nd Street, Front Street) and RT 93 (Market Street)
 - Traffic heading to the site will make a *right* turn from RT 93 onto RT 11 going NB
 - Traffic coming from the site will make a *left* turn from RT 11 SB onto RT 93
- RT 11 and Bell Bend Entrance
 - Traffic heading to the site will make a *left* from NB RT 11
 - Traffic coming from the site will make a *right* onto SB RT 11

South

All traffic related to this direction is assumed to use RT 93 onto RT 11 through these intersections:

- RT 11 (2nd Street, Front Street) and RT 93 (Market Street)
 - Traffic heading to the site will make a *right* turn from RT 93 onto RT 11 going NB
 - Traffic coming from the site will make a *left* turn from RT 11 SB onto RT 93

- RT 11 and Bell Bend Entrance
 - Traffic heading to the site will make a *left* from NB RT 11
 - Traffic coming from the site will make a *right* onto SB RT 11

South-West & West

All traffic related to this direction is assumed to use I80 onto RT 11 through these intersections:

- RT 11 and Poplar Street
 - Traffic heading to the site will continue *through* along NB RT 11
 - Traffic coming from the site will continue *through* along SB RT 11
- RT 11 and RT 93 (Orange Street)
 - Traffic heading to the site will continue *through* along NB RT 11
 - Traffic coming from the site will continue *through* along SB RT 11
- RT 11 (2nd Street, Front Street) and RT 93 (Market Street)
 - Traffic heading to the site will continue *through* along NB RT 11
 - Traffic coming from the site will continue *through* along SB RT 11
- RT 11 and Bell Bend Entrance
 - Traffic heading to the site will make a *left* from NB RT 11
 - Traffic coming from the site will make a *right* onto SB RT 11

Using these as a guide, the traffic from each direction is individually assigned to each intersection and the sum total of all directions by intersection is summarized in the next section.

Spatial Distribution of the Construction Work Force

The construction workforce is estimated to be drawn from the major population centers around the site. Using the census data within 40 miles as a starting point, the spatial distribution of the population into 8 directions was identified as shown in Table D-2.

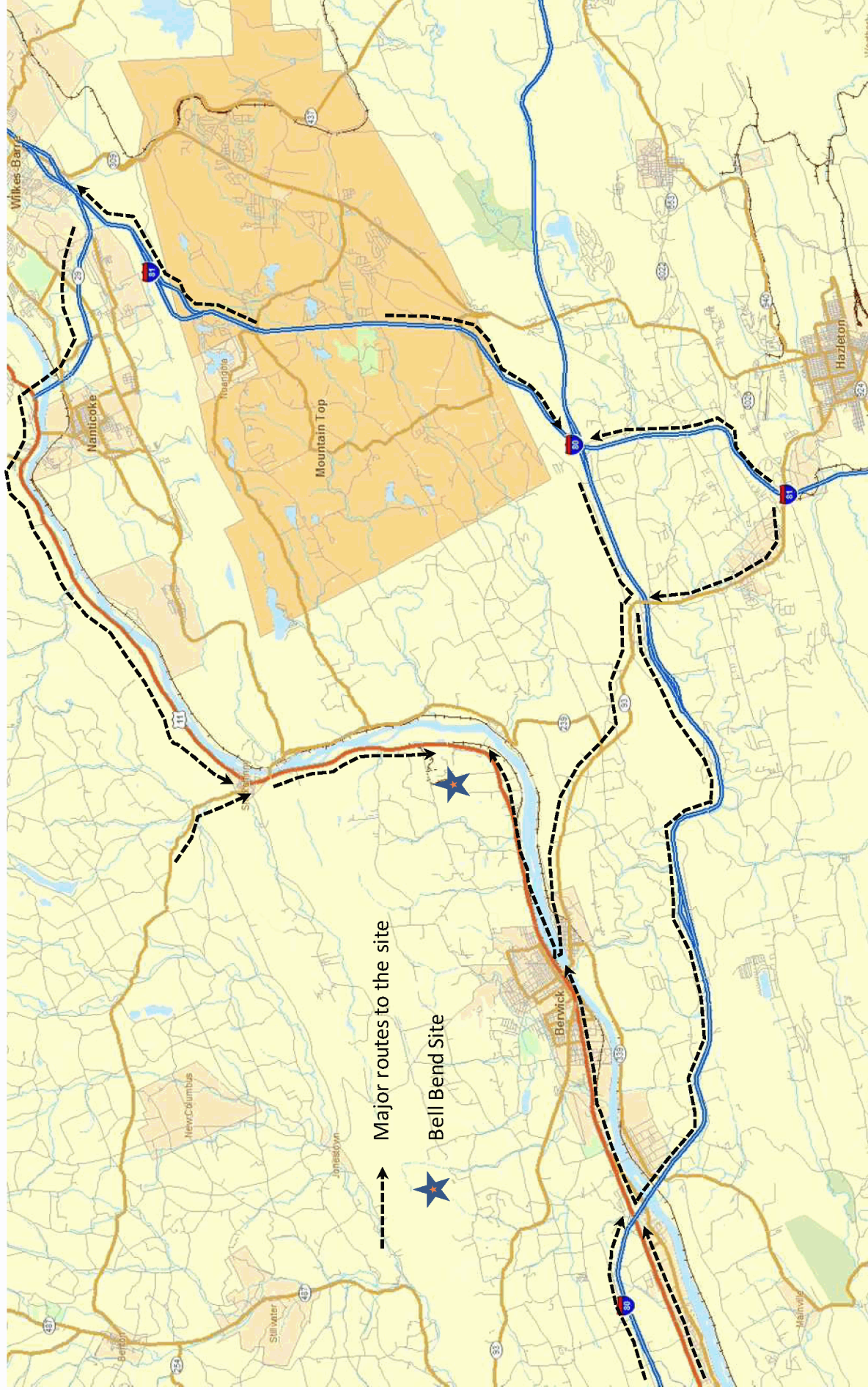


Figure D-1 – Site Location and Access Routes

Table D-2 Spatial Distribution of Census Block Population

Direction	2000 Census Block Population[*]	Distribution (%)
N	38,458	3.8
NW	19,451	1.9
W	117,235	11.5
SW	87,884	8.6
S	121,621	11.9
<i>SE</i>	<i>158,518</i>	<i>15.5</i>
E	96,586	9.8
<i>NE</i>	<i>380,169</i>	<i>37.3</i>

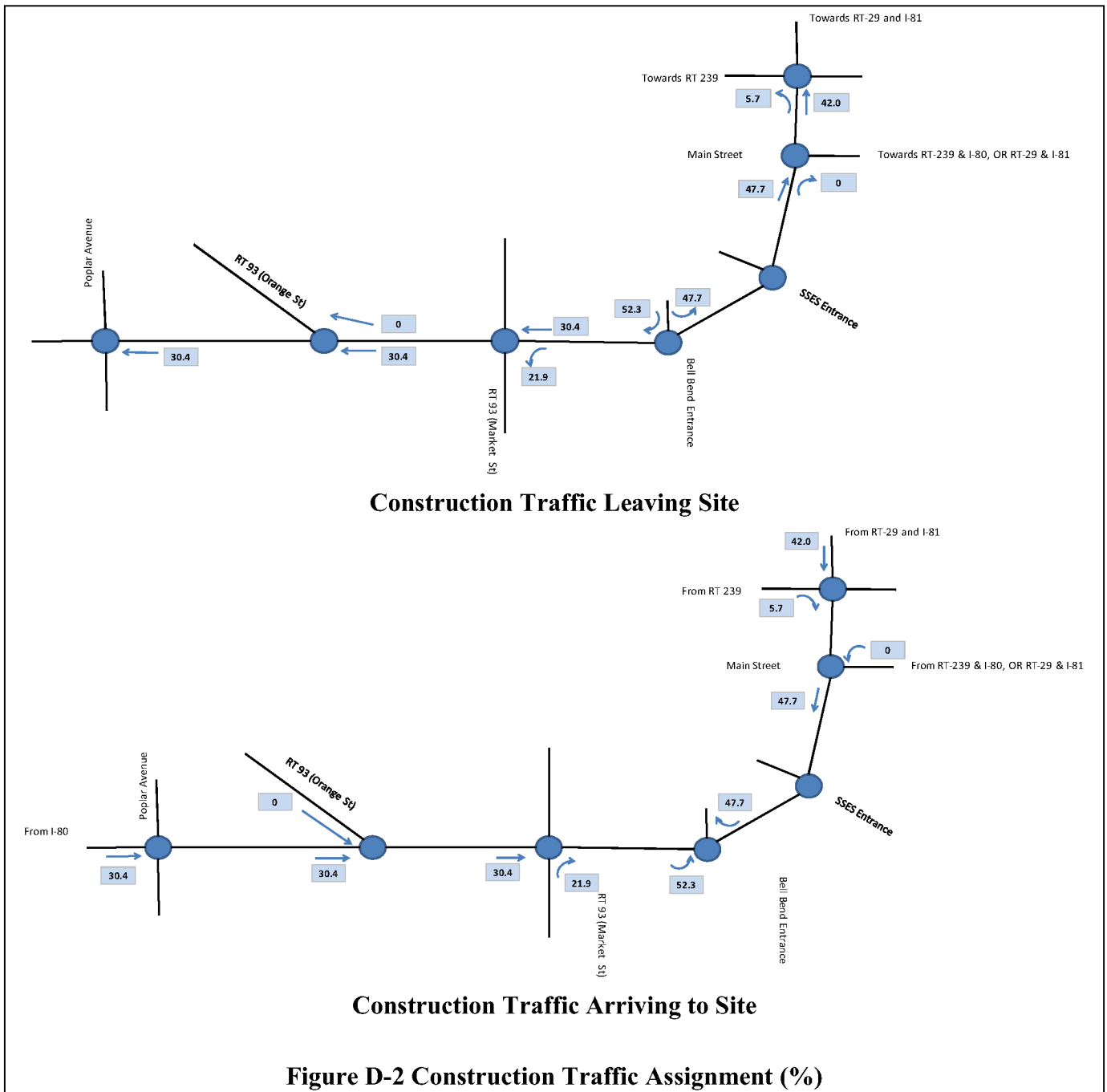
It appears from Table D-2 that most of the traffic will come from the North East (NE) and South East (SE) directions. These correspond to the Wilkes-Barre/Scranton region and Hazelton areas respectively. Using Table D-2 and the available routes, the construction and heavy vehicle traffic leaving the site and arriving on site, is assigned as shown in Figure D-2.

Spatial Distribution of the Operations Work Force

Using the employee zip codes the spatial distribution of the workers on site is shown in Table 5. As shown in Table D-3, most of the current operations workforce is drawn from the west (Berwick). Using this distribution and the available routes, the operations traffic leaving the site is assigned as shown in Figure D-3.

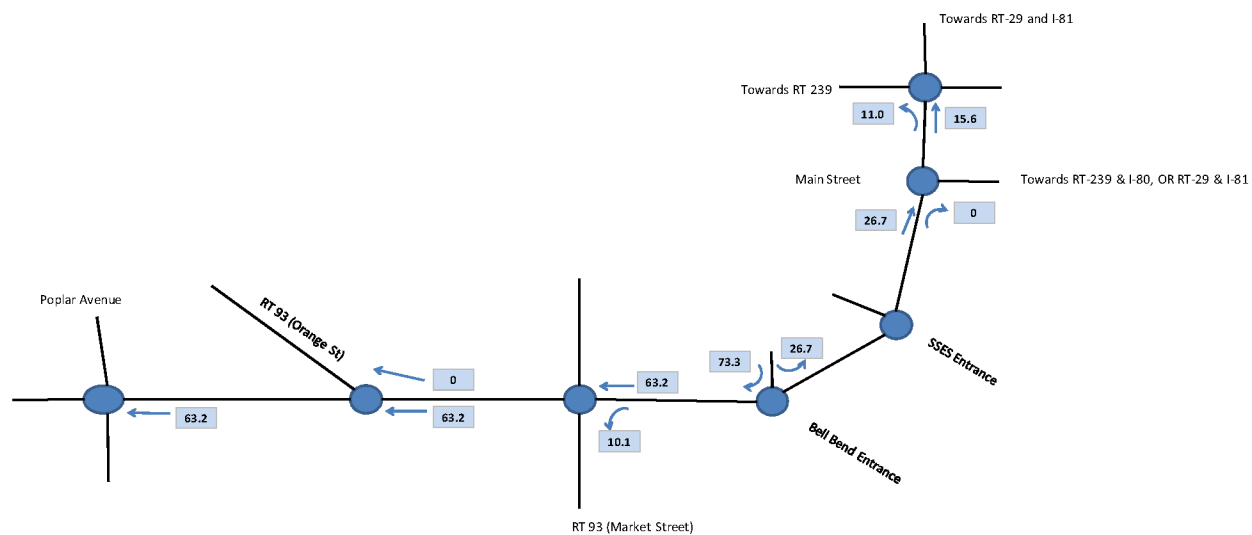
Table D-3: Spatial Distribution of Current Employment on Site

Direction	No. of Workers	Distribution (%)
N	77	6.19
NW	60	4.83
<i>W</i>	<i>582</i>	<i>46.82</i>
SW	134	10.78
S	31	2.49
SE	105	8.45
E	119	9.57
NE	135	10.86

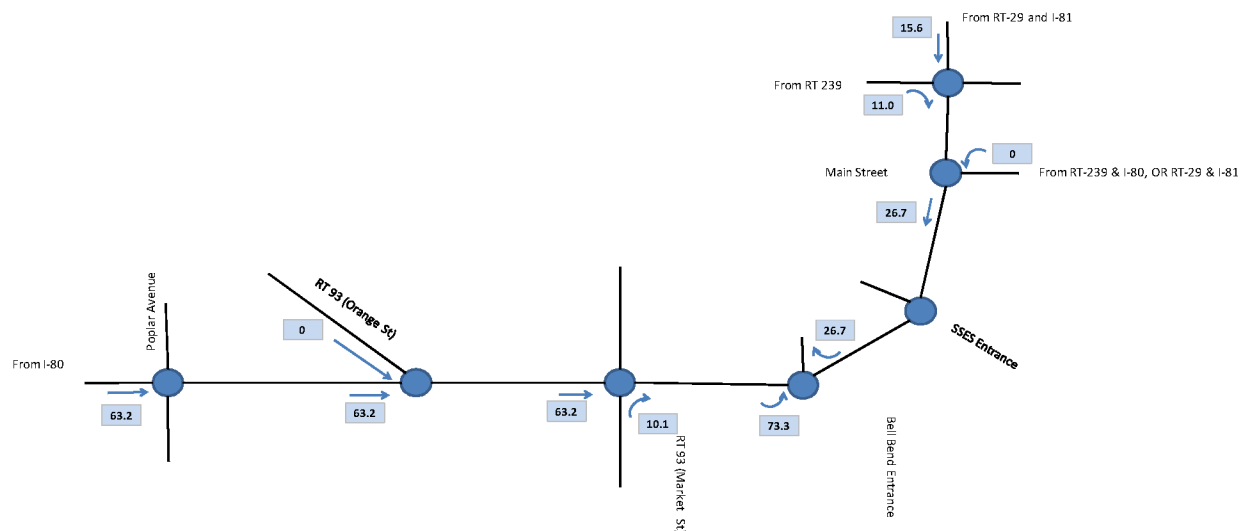


Spatial Distribution of the Outage Work Force

The distribution of the outage workforce is assumed to be similar to the operations work force. The traffic assignment is shown in Figure D-4.

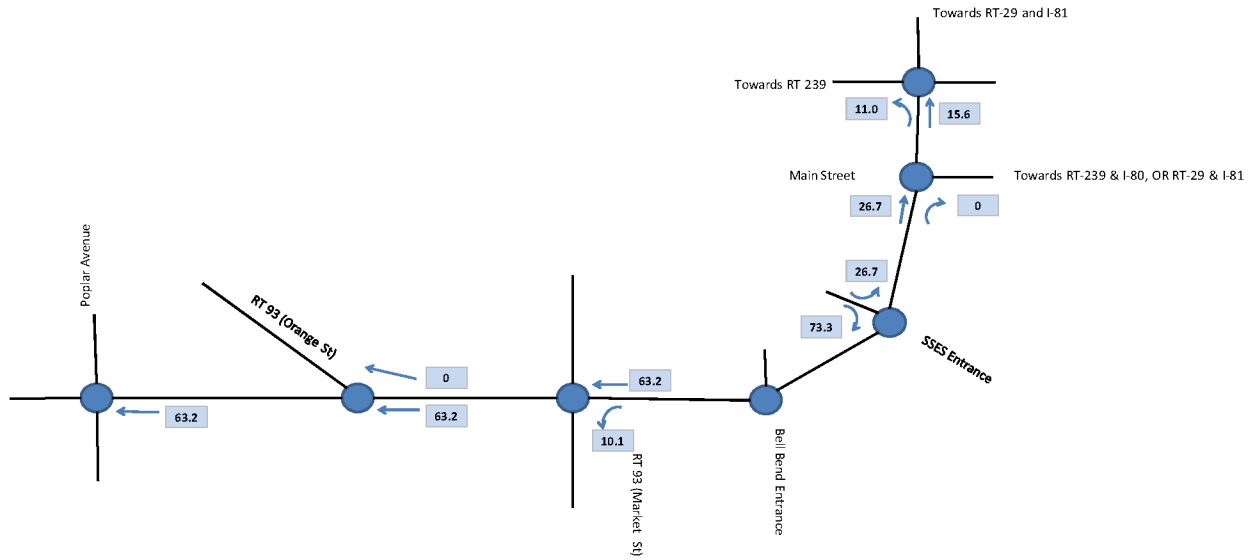


Operations Traffic Leaving Site

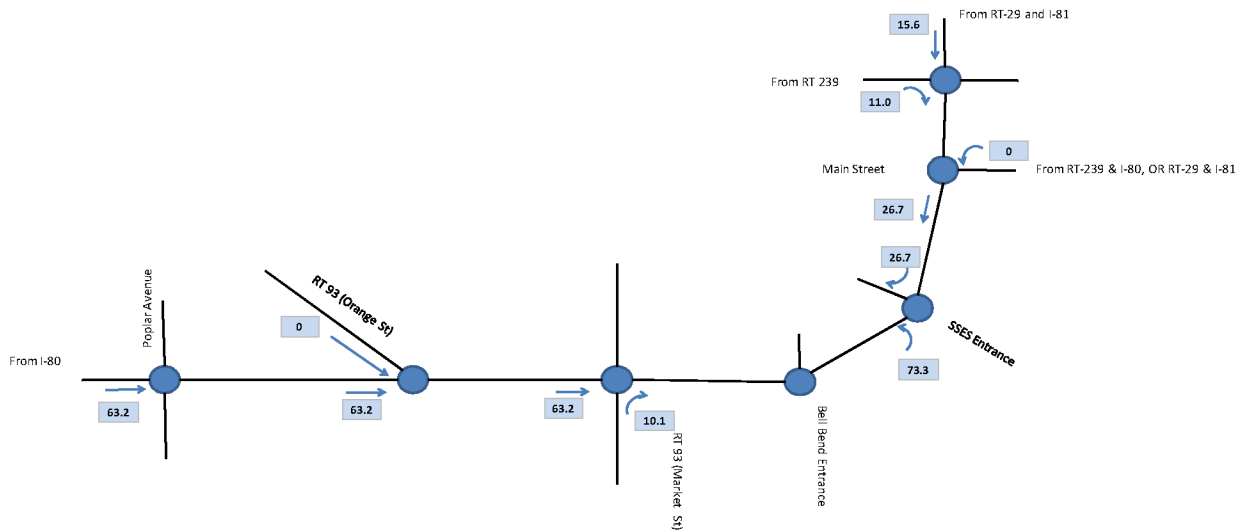


Operations Traffic Arriving on Site

Figure D-3 Operations Traffic Assignment (%)



Outage Traffic Leaving SSES























Outage Traffic Arriving at SSES

Figure D-4 Outage Traffic Assignment (%)

APPENDIX E

Capacity Analysis Future Build Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1810	1795	0	1719	1810	0	0	1719	1538	0	1810	0
Flt Permitted				0.302				0.757				
Satd. Flow (perm)	1810	1795	0	546	1810	0	0	1370	1538	0	1810	0
Satd. Flow (RTOR)		6							33			
Volume (vph)	0	427	23	35	544	0	49	0	23	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	1.00	1.00	1.00
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Lane Group Flow (vph)	0	529	0	40	618	0	0	71	33	0	0	0
Turn Type	Perm			pm+pt			Perm		Perm	Perm		
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	25.0	25.0		8.0	25.0		6.0	6.0	6.0	5.0	5.0	
Total Split (s)	40.0	40.0	0.0	13.0	53.0	0.0	17.0	17.0	17.0	17.0	17.0	0.0
Total Split (%)	57.1%	57.1%	0.0%	18.6%	75.7%	0.0%	24.3%	24.3%	24.3%	24.3%	24.3%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Act Effct Green (s)		36.0		49.0	49.0			13.0	13.0			
Actuated g/C Ratio		0.51		0.70	0.70			0.19	0.19			
v/c Ratio		0.57		0.08	0.49			0.28	0.11			
Control Delay		14.6		3.5	6.4			27.9	10.3			
Queue Delay		0.0		0.0	0.0			0.0	0.0			
Total Delay		14.6		3.5	6.4			27.9	10.3			
LOS		B		A	A			C	B			
Approach Delay		14.6			6.2			22.4				
Approach LOS		B			A			C				

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 40

Control Type: Pretimed

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 10.9






Intersection LOS: B

Intersection Capacity Utilization 39.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St

		
17 s	13 s	40 s
		
17 s	53 s	

Market St & 2nd St

AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	0	0	1787	3574	1599	1787	1881	0	0	1881	1599
Flt Permitted				0.950			0.569					
Satd. Flow (perm)	0	0	0	1787	3574	1599	1070	1881	0	0	1881	1599
Satd. Flow (RTOR)						37						69
Volume (vph)	0	0	0	104	409	26	179	119	0	0	138	60
Peak Hour Factor	1.00	1.00	1.00	0.70	0.70	0.70	0.65	0.65	0.65	0.87	0.87	0.87
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	0	0	149	584	37	275	183	0	0	159	69
Turn Type				Perm		Perm	pm+pt					Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Minimum Split (s)				21.0	21.0	21.0	8.0	20.5			20.5	20.5
Total Split (s)	0.0	0.0	0.0	25.0	25.0	25.0	10.0	40.0	0.0	0.0	30.0	30.0
Total Split (%)	0.0%	0.0%	0.0%	38.5%	38.5%	38.5%	15.4%	61.5%	0.0%	0.0%	46.2%	46.2%
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	3.5
All-Red Time (s)				1.5	1.5	1.5	0.0	1.0			1.0	1.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Act Effct Green (s)				21.0	21.0	21.0	36.0	36.0			26.0	26.0
Actuated g/C Ratio				0.32	0.32	0.32	0.55	0.55			0.40	0.40
v/c Ratio				0.26	0.51	0.07	0.42	0.18			0.21	0.10
Control Delay				17.8	19.7	6.3	4.5	1.6			13.8	4.1
Queue Delay				0.0	0.0	0.0	0.1	0.3			0.0	0.0
Total Delay				17.8	19.7	6.3	4.6	1.9			13.8	4.1
LOS				B	B	A	A	A			B	A
Approach Delay					18.7			3.6			10.8	
Approach LOS					B			A			B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 12.7

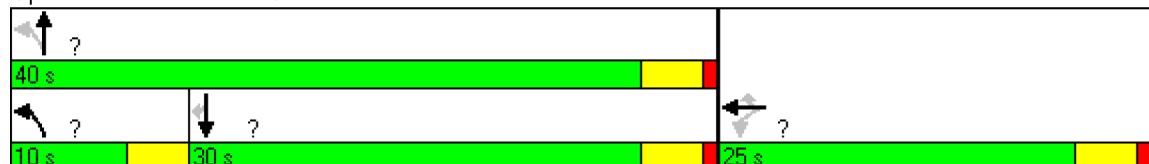
Intersection LOS: B

Intersection Capacity Utilization 40.4%

ICU Level of Service A


















Analysis Period (min) 15

Splits and Phases: 3: Int



Market St & Front St

AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	3357	0	0	0	0	0	1827	1553	1736	1827	0
Flt Permitted										0.252		
Satd. Flow (perm)	0	3357	0	0	0	0	0	1827	1553	460	1827	0
Satd. Flow (RTOR)		64							113			
Volume (vph)	1	321	90	0	0	0	0	289	77	62	172	0
Peak Hour Factor	0.88	0.88	0.88	1.00	1.00	1.00	0.68	0.68	0.68	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	0	468	0	0	0	0	0	425	113	69	191	0
Turn Type	Perm				Perm pm+pt							
Protected Phases		4						2		1	6	
Permitted Phases	4								2	6		
Minimum Split (s)	24.0	24.0						21.0	21.0	10.0	31.0	
Total Split (s)	29.0	29.0	0.0	0.0	0.0	0.0	0.0	26.0	26.0	10.0	36.0	0.0
Total Split (%)	44.6%	44.6%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	40.0%	15.4%	55.4%	0.0%
Yellow Time (s)	3.2	3.2						4.0	4.0	2.0	4.0	
All-Red Time (s)	1.8	1.8						1.0	1.0	0.0	1.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Act Effct Green (s)		25.0						22.0	22.0	32.0	32.0	
Actuated g/C Ratio		0.38						0.34	0.34	0.49	0.49	
v/c Ratio		0.35						0.69	0.19	0.20	0.21	
Control Delay		13.1						25.5	4.5	11.0	11.0	
Queue Delay		0.0						0.0	0.0	0.0	0.7	
Total Delay		13.1						25.5	4.5	11.0	11.6	
LOS		B						C	A	B	B	
Approach Delay		13.1						21.1			11.5	
Approach LOS		B						C			B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 16.1

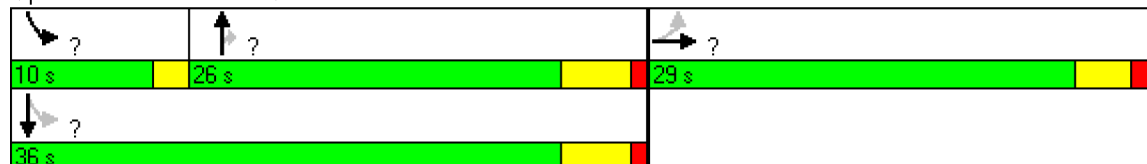
Intersection LOS: B


















Intersection Capacity Utilization 40.4%

ICU Level of Service A

Analysis Period (min) 15












Splits and Phases: 6: Int



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					 							
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1752	0	0	1752	3487	0	0	0	0	0	0	1596
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1752	0	0	1752	3487	0	0	0	0	0	0	1596
Satd. Flow (RTOR)				11	8							511
Volume (vph)	47	0	0	9	614	20	0	0	0	0	0	65
Peak Hour Factor	0.86	0.86	0.86	0.84	0.84	0.84	1.00	1.00	1.00	0.77	0.77	0.77
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Lane Group Flow (vph)	55	0	0	11	755	0	0	0	0	0	0	84
Turn Type	Prot			Perm								Free
Protected Phases	7				8							
Permitted Phases				8								Free
Detector Phases	7			8	8							
Minimum Initial (s)	1.0			4.0	4.0							
Minimum Split (s)	5.0			25.0	25.0							
Total Split (s)	25.0	0.0	0.0	45.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Split (%)	35.7%	0.0%	0.0%	64.3%	64.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)	3.0			3.0	3.0							
All-Red Time (s)	1.0			1.0	1.0							
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None			None	None							
Act Effct Green (s)	7.0			6.1	6.1							13.6
Actuated g/C Ratio	0.32			0.45	0.45							1.00
v/c Ratio	0.10			0.01	0.48							0.05
Control Delay	5.9			2.3	3.0							0.1
Queue Delay	0.0			0.0	0.0							0.0
Total Delay	5.9			2.3	3.0							0.1
LOS	A			A	A							A
Approach Delay					3.0							
Approach LOS					A							
Intersection Summary												
Cycle Length: 70												
Actuated Cycle Length: 13.6												
Natural Cycle: 40												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.48												
Intersection Signal Delay: 2.9						Intersection LOS: A						
Intersection Capacity Utilization 27.6%						ICU Level of Service A						
Analysis Period (min) 15												

















Splits and Phases: 7: Int



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1592	0	1776	1509	1687	1776
Flt Permitted	0.982				0.539	
Satd. Flow (perm)	1592	0	1776	1509	957	1776
Satd. Flow (RTOR)	75			14		
Volume (vph)	30	54	166	13	55	210
Peak Hour Factor	0.72	0.72	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%
Lane Group Flow (vph)	117	0	180	14	60	228
Turn Type	Perm pm+pt					
Protected Phases	4		6		5	2
Permitted Phases				6	2	
Detector Phases	4		6	6	5	2
Minimum Initial (s)	5.0		12.0	12.0	5.0	17.0
Minimum Split (s)	10.2		21.4	21.4	10.4	22.4
Total Split (s)	22.0	0.0	30.0	30.0	18.0	48.0
Total Split (%)	31.4%	0.0%	42.9%	42.9%	25.7%	68.6%
Yellow Time (s)	4.1		4.2	4.2	4.2	4.2
All-Red Time (s)	1.1		1.2	1.2	1.2	1.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None		None	None	None	None
Act Effct Green (s)	11.1		16.7	16.7	18.0	23.7
Actuated g/C Ratio	0.26		0.37	0.37	0.41	0.51
v/c Ratio	0.25		0.27	0.02	0.11	0.25
Control Delay	8.0		10.3	6.8	5.5	4.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	8.0		10.3	6.8	5.5	4.7
LOS	A		B	A	A	A
Approach Delay	8.0		10.0			4.8
Approach LOS	A		B			A
Intersection Summary						
Cycle Length: 70						
Actuated Cycle Length: 37.6						
Natural Cycle: 45						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.27						
Intersection Signal Delay: 7.1				Intersection LOS: A		
Intersection Capacity Utilization 29.1%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 3: Main St & RT 11



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1859	0	0	1863	0	0	1863	0	0	1775	0
Flt Permitted											0.735	
Satd. Flow (perm)	0	1859	0	0	1863	0	0	1863	0	0	1369	0
Satd. Flow (RTOR)		2										
Volume (vph)	0	430	6	0	585	0	0	0	0	81	2	0
Peak Hour Factor	0.91	0.91	0.91	0.83	0.83	0.83	1.00	1.00	1.00	0.67	0.67	0.67
Lane Group Flow (vph)	0	480	0	0	705	0	0	0	0	0	124	0
Turn Type							Perm			custom		
Protected Phases		4			8			2				
Permitted Phases							2			6	6	
Minimum Split (s)		20.0			20.0		20.0	20.0		20.0	20.0	
Total Split (s)	0.0	36.0	0.0	0.0	36.0	0.0	19.0	19.0	0.0	19.0	19.0	0.0
Total Split (%)	0.0%	65.5%	0.0%	0.0%	65.5%	0.0%	34.5%	34.5%	0.0%	34.5%	34.5%	0.0%
Yellow Time (s)		3.5			3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)		0.5			0.5		0.5	0.5		0.5	0.5	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		32.0			32.0						15.0	
Actuated g/C Ratio		0.58			0.58						0.27	
v/c Ratio		0.44			0.65						0.33	
Control Delay		8.1			11.3						19.1	
Queue Delay		0.0			0.0						0.0	
Total Delay		8.1			11.3						19.1	
LOS		A			B						B	
Approach Delay		8.1			11.3						19.1	
Approach LOS		A			B						B	

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 10.9





Intersection LOS: B



















Intersection Capacity Utilization 42.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: RT 11 &

	?		?
19 s		36 s	
	?		?
19 s		36 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1674	0	0	1754	0	1719	1797	0	1719	1752	0
Flt Permitted		0.812			0.849		0.574			0.561		
Satd. Flow (perm)	0	1396	0	0	1519	0	1039	1797	0	1015	1752	0
Satd. Flow (RTOR)		44			3			6			33	
Volume (vph)	152	25	104	12	14	2	67	236	12	2	180	49
Peak Hour Factor	0.96	0.96	0.96	0.78	0.78	0.78	0.87	0.87	0.87	0.85	0.85	0.85
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Lane Group Flow (vph)	0	292	0	0	36	0	77	285	0	2	270	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	26.0	26.0		26.0	26.0		44.0	44.0		44.0	44.0	
Total Split (s)	26.0	26.0	0.0	26.0	26.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0
Total Split (%)	37.1%	37.1%	0.0%	37.1%	37.1%	0.0%	62.9%	62.9%	0.0%	62.9%	62.9%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		22.0			22.0		40.0	40.0		40.0	40.0	
Actuated g/C Ratio		0.31			0.31		0.57	0.57		0.57	0.57	
v/c Ratio		0.62			0.08		0.13	0.28		0.00	0.27	
Control Delay		24.1			16.4		7.7	8.4		6.5	7.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		24.1			16.4		7.7	8.4		6.5	7.4	
LOS		C			B		A	A		A	A	
Approach Delay		24.1			16.4			8.2			7.4	
Approach LOS		C			B			A			A	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 13.1

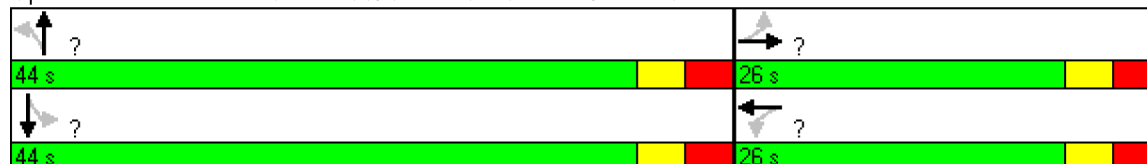
Intersection LOS: B

Intersection Capacity Utilization 57.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Rt 239/Union St & RT 11/Main St























TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11			
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp			
Date Performed	7/3/2008			Analysis Year	2008			
Analysis Time Period	AM Peak							
Project Description 535 - Susquehanna/Bell Bend NPP								
East/West Street: PPL Entrance				North/South Street: US Rt 11				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	268	234			198	97		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	268	234	0	0	198	97		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	13		34					
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	13	0	34	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	1	0	1	0	0	0		
Configuration	L		R					
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	268					13		34
C (m) (veh/h)	1278					303		798
v/c	0.21					0.04		0.04
95% queue length	0.79					0.13		0.13
Control Delay (s/veh)	8.6					17.4		9.7
LOS	A					C		A
Approach Delay (s/veh)	--	--				11.8		
Approach LOS	--	--				B		

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11			
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp			
Date Performed	7/3/2008			Analysis Year	2008			
Analysis Time Period	AM Peak							
Project Description 535 - Susquehanna/Bell Bend NPP								
East/West Street: Bell Bend Entrance				North/South Street: US Rt 11				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	121	506			189	44		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	121	506	0	0	189	44		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	6		17					
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	6	0	17	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	1	0	1	0	0	0		
Configuration	L		R					
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	121					6		17
C (m) (veh/h)	1346					357		834
v/c	0.09					0.02		0.02
95% queue length	0.30					0.05		0.06
Control Delay (s/veh)	7.9					15.3		9.4
LOS	A					C		A
Approach Delay (s/veh)	--	--				10.9		
Approach LOS	--	--				B		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1852	0	1770	1859	0	0	1796	1583	0	1789	0
Flt Permitted	0.251			0.115				0.742			0.853	
Satd. Flow (perm)	468	1852	0	214	1859	0	0	1382	1583	0	1552	0
Satd. Flow (RTOR)		5			2				95		14	
Volume (vph)	21	663	28	51	709	8	130	45	81	30	42	15
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.85	0.85	0.85	0.84	0.84	0.84
Lane Group Flow (vph)	26	843	0	61	864	0	0	206	95	0	104	0
Turn Type	Perm			pm+pt			Perm		Perm	Perm		
Protected Phases		4		3	8			2				6
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	25.0	25.0		8.0	25.0		6.0	6.0	6.0	5.0	5.0	
Total Split (s)	42.0	42.0	0.0	8.0	50.0	0.0	20.0	20.0	20.0	20.0	20.0	0.0
Total Split (%)	60.0%	60.0%	0.0%	11.4%	71.4%	0.0%	28.6%	28.6%	28.6%	28.6%	28.6%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Act Effct Green (s)	38.0	38.0		46.0	46.0		16.0	16.0		16.0		
Actuated g/C Ratio	0.54	0.54		0.66	0.66		0.23	0.23		0.23		
v/c Ratio	0.10	0.84		0.27	0.71		0.65	0.22		0.28		
Control Delay	9.1	23.0		7.1	11.7		36.0	7.0		21.9		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0		
Total Delay	9.1	23.0		7.1	11.7		36.0	7.0		21.9		
LOS	A	C		A	B		D	A		C		
Approach Delay		22.6			11.4		26.8			21.9		
Approach LOS		C			B		C			C		

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 18.4






Intersection LOS: B

Intersection Capacity Utilization 65.3%

ICU Level of Service C




















Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St

	?		?		?
20 s		8 s		42 s	
	?		?		
20 s		50 s			

Market St & 2nd St

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	0	0	1787	3574	1599	1787	1881	0	0	1881	1599
Flt Permitted				0.950			0.453					
Satd. Flow (perm)	0	0	0	1787	3574	1599	852	1881	0	0	1881	1599
Satd. Flow (RTOR)						67						128
Volume (vph)	0	0	0	217	539	59	151	112	0	0	236	110
Peak Hour Factor	1.00	1.00	1.00	0.88	0.88	0.88	0.81	0.81	0.81	0.86	0.86	0.86
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	0	0	247	612	67	186	138	0	0	274	128
Turn Type				Perm		Perm	pm+pt					Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Minimum Split (s)				21.0	21.0	21.0	8.0	20.5			20.5	20.5
Total Split (s)	0.0	0.0	0.0	25.0	25.0	25.0	10.0	40.0	0.0	0.0	30.0	30.0
Total Split (%)	0.0%	0.0%	0.0%	38.5%	38.5%	38.5%	15.4%	61.5%	0.0%	0.0%	46.2%	46.2%
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	3.5
All-Red Time (s)				1.5	1.5	1.5	0.0	1.0			1.0	1.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Act Effct Green (s)				21.0	21.0	21.0	36.0	36.0			26.0	26.0
Actuated g/C Ratio				0.32	0.32	0.32	0.55	0.55			0.40	0.40
v/c Ratio				0.43	0.53	0.12	0.33	0.13			0.36	0.18
Control Delay				20.1	20.0	5.4	4.8	1.5			15.5	3.5
Queue Delay				0.0	0.0	0.0	0.1	0.0			0.0	0.0
Total Delay				20.2	20.0	5.4	4.9	1.5			15.5	3.5
LOS				C	B	A	A	A			B	A
Approach Delay					19.0			3.5			11.7	
Approach LOS					B			A			B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 14.2

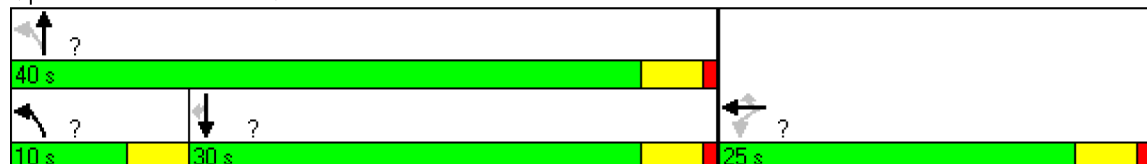
Intersection LOS: B

Intersection Capacity Utilization 70.6%

ICU Level of Service C


















Analysis Period (min) 15

Splits and Phases: 3: Int



Market St & Front St

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	3446	0	0	0	0	0	1881	1599	1787	1881	0
Flt Permitted										0.392		
Satd. Flow (perm)	0	3446	0	0	0	0	0	1881	1599	737	1881	0
Satd. Flow (RTOR)		75							142			
Volume (vph)	6	615	195	0	0	0	0	292	141	92	356	0
Peak Hour Factor	0.87	0.87	0.87	1.00	1.00	1.00	0.99	0.99	0.99	0.82	0.82	0.82
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	938	0	0	0	0	0	295	142	112	434	0
Turn Type	Perm						Perm pm+pt					
Protected Phases		4						2		1	6	
Permitted Phases	4								2	6		
Minimum Split (s)	24.0	24.0						21.0	21.0	10.0	31.0	
Total Split (s)	29.0	29.0	0.0	0.0	0.0	0.0	0.0	26.0	26.0	10.0	36.0	0.0
Total Split (%)	44.6%	44.6%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	40.0%	15.4%	55.4%	0.0%
Yellow Time (s)	3.2	3.2						4.0	4.0	2.0	4.0	
All-Red Time (s)	1.8	1.8						1.0	1.0	0.0	1.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Act Effct Green (s)		25.0						22.0	22.0	32.0	32.0	
Actuated g/C Ratio		0.38						0.34	0.34	0.49	0.49	
v/c Ratio		0.68						0.46	0.22	0.24	0.47	
Control Delay		18.4						19.8	4.3	10.4	12.6	
Queue Delay		0.0						0.0	0.0	0.0	1.6	
Total Delay		18.4						19.8	4.3	10.4	14.2	
LOS		B						B	A	B	B	
Approach Delay		18.4						14.8			13.4	
Approach LOS		B						B			B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 16.1

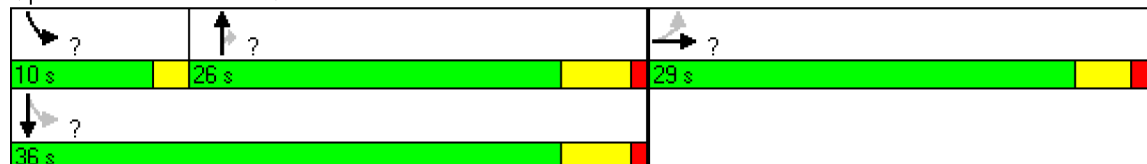
Intersection LOS: B


















Intersection Capacity Utilization 70.6%

ICU Level of Service C

Analysis Period (min) 15












Splits and Phases: 6: Int



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					 							
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1752	0	0	1752	3487	0	0	0	0	0	0	1596
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1752	0	0	1752	3487	0	0	0	0	0	0	1596
Satd. Flow (RTOR)				16	8							442
Volume (vph)	80	0	0	15	955	30	0	0	0	0	0	143
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	1.00	1.00	1.00	0.65	0.65	0.65
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Lane Group Flow (vph)	89	0	0	16	1048	0	0	0	0	0	0	220
Turn Type	Prot			Perm								Free
Protected Phases	7				8							
Permitted Phases				8								Free
Detector Phases	7			8	8							
Minimum Initial (s)	1.0			4.0	4.0							
Minimum Split (s)	5.0			25.0	25.0							
Total Split (s)	25.0	0.0	0.0	45.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Split (%)	35.7%	0.0%	0.0%	64.3%	64.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)	3.0			3.0	3.0							
All-Red Time (s)	1.0			1.0	1.0							
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None			None	None							
Act Effct Green (s)	7.8			9.4	9.4							18.9
Actuated g/C Ratio	0.31			0.50	0.50							1.00
v/c Ratio	0.16			0.02	0.61							0.14
Control Delay	8.2			2.8	4.7							0.2
Queue Delay	0.0			0.0	0.0							0.0
Total Delay	8.2			2.8	4.7							0.2
LOS	A			A	A							A
Approach Delay					4.7							
Approach LOS					A							
Intersection Summary												
Cycle Length: 70												
Actuated Cycle Length: 18.9												
Natural Cycle: 40												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.61												
Intersection Signal Delay: 4.2						Intersection LOS: A						
Intersection Capacity Utilization 38.5%						ICU Level of Service A						
Analysis Period (min) 15												

Splits and Phases: 7: Rt 11/93 & LaSalle St



















						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1608	0	1827	1553	1736	1827
Flt Permitted	0.992				0.371	
Satd. Flow (perm)	1608	0	1827	1553	678	1827
Satd. Flow (RTOR)	117			67		
Volume (vph)	20	103	295	59	119	233
Peak Hour Factor	0.88	0.88	0.88	0.88	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	140	0	335	67	132	259
Turn Type				Perm	pm+pt	
Protected Phases	4		6		5	2
Permitted Phases				6	2	
Detector Phases	4		6	6	5	2
Minimum Initial (s)	5.0		12.0	12.0	5.0	17.0
Minimum Split (s)	10.2		21.4	21.4	10.4	22.4
Total Split (s)	22.0	0.0	30.0	30.0	18.0	48.0
Total Split (%)	31.4%	0.0%	42.9%	42.9%	25.7%	68.6%
Yellow Time (s)	4.1		4.2	4.2	4.2	4.2
All-Red Time (s)	1.1		1.2	1.2	1.2	1.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None		None	None	None	None
Act Effct Green (s)	10.8		18.2	18.2	26.9	30.4
Actuated g/C Ratio	0.22		0.37	0.37	0.56	0.61
v/c Ratio	0.31		0.49	0.11	0.22	0.23
Control Delay	8.0		14.5	4.3	4.5	4.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	8.0		14.5	4.3	4.5	4.4
LOS	A		B	A	A	A
Approach Delay	8.0		12.8			4.4
Approach LOS	A		B			A
Intersection Summary						
Cycle Length: 70						
Actuated Cycle Length: 45.5						
Natural Cycle: 45						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.49						
Intersection Signal Delay: 8.5				Intersection LOS: A		
Intersection Capacity Utilization 39.6%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 3: Main St & RT 11























RT 11 & Orange Street

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1857	0	0	1863	0	0	1863	0	0	1773	0
Flt Permitted											0.730	
Satd. Flow (perm)	0	1857	0	0	1863	0	0	1863	0	0	1358	0
Satd. Flow (RTOR)		3										
Volume (vph)	0	777	15	0	815	0	0	0	0	157	2	1
Adj. Flow (vph)	0	893	17	0	916	0	0	0	0	204	3	1
Lane Group Flow (vph)	0	910	0	0	916	0	0	0	0	0	208	0
Turn Type							Perm			custom		
Protected Phases		4			8			2				
Permitted Phases							2			6	6	
Minimum Split (s)		20.0			20.0		20.0	20.0		20.0	20.0	
Total Split (s)	0.0	39.0	0.0	0.0	39.0	0.0	21.0	21.0	0.0	21.0	21.0	0.0
Total Split (%)	0.0%	65.0%	0.0%	0.0%	65.0%	0.0%	35.0%	35.0%	0.0%	35.0%	35.0%	0.0%
Yellow Time (s)		3.5			3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)		0.5			0.5		0.5	0.5		0.5	0.5	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		35.0			35.0						17.0	
Actuated g/C Ratio		0.58			0.58						0.28	
v/c Ratio		0.84			0.84						0.54	
Control Delay		19.7			20.0						24.4	
Queue Delay		0.0			0.0						0.0	
Total Delay		19.7			20.0						24.4	
LOS		B			B						C	
Approach Delay		19.7			20.0						24.4	
Approach LOS		B			B						C	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 60												
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 60												
Control Type: Pretimed												
Maximum v/c Ratio: 0.84												
Intersection Signal Delay: 20.3						Intersection LOS: C						
Intersection Capacity Utilization 58.4%						ICU Level of Service B						
Analysis Period (min) 15												

Splits and Phases: 4: W Front St (Rt 11) & Sunoco Station

	
ø2	ø4
21 s	39 s
	
ø6	ø8
21 s	39 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1703	0	0	1820	0	0	1807	0	0	1788	0
Flt Permitted		0.866			0.852			0.668			0.987	
Satd. Flow (perm)	0	1500	0	0	1581	0	0	1233	0	0	1767	0
Satd. Flow (RTOR)		81			2			9			49	
Volume (vph)	74	27	109	21	32	2	210	248	34	8	239	102
Peak Hour Factor	0.77	0.77	0.77	0.81	0.81	0.81	0.82	0.82	0.82	0.87	0.87	0.87
Lane Group Flow (vph)	0	273	0	0	68	0	0	599	0	0	401	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	26.0	26.0		26.0	26.0		44.0	44.0		44.0	44.0	
Total Split (s)	26.0	26.0	0.0	26.0	26.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0
Total Split (%)	37.1%	37.1%	0.0%	37.1%	37.1%	0.0%	62.9%	62.9%	0.0%	62.9%	62.9%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		22.0			22.0			40.0			40.0	
Actuated g/C Ratio		0.31			0.31			0.57			0.57	
v/c Ratio		0.52			0.14			0.85			0.39	
Control Delay		17.7			17.8			26.4			8.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.7			17.8			26.4			8.5	
LOS		B			B			C			A	
Approach Delay		17.7			17.8			26.4			8.5	
Approach LOS		B			B			C			A	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 18.8





Intersection LOS: B

Intersection Capacity Utilization 71.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

	?				?		
44 s				26 s			
	?				?		
44 s				26 s			

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11			
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp			
Date Performed	7/3/2008			Analysis Year	2008			
Analysis Time Period	PM Peak							
Project Description 535 - Susquehanna/Bell Bend NPP								
East/West Street: PPL Entrance				North/South Street: US Rt 11				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	2	274			260	1		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	2	274	0	0	260	1		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	80		220					
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	80	0	220	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	1	0	1	0	0	0		
Configuration	L		R					
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	2					80		220
C (m) (veh/h)	1315					588		784
v/c	0.00					0.14		0.28
95% queue length	0.00					0.47		1.15
Control Delay (s/veh)	7.7					12.1		11.4
LOS	A					B		B
Approach Delay (s/veh)	--	--				11.6		
Approach LOS	--	--				B		

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11			
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp			
Date Performed	7/3/2008			Analysis Year	2008			
Analysis Time Period	PM Peak							
Project Description 535 - Susquehanna/Bell Bend NPP								
East/West Street: Bell Bend Entrance				North/South Street: US Rt 11				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	1	238			489	0		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	1	238	0	0	489	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0				0	
Lanes	1	1	0	0	1		0	
Configuration	L	T					TR	
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	38		104					
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	38	0	104	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0				0	
Lanes	1	0	1	0	0		0	
Configuration	L		R					
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	1					38		104
C (m) (veh/h)	1085					493		583
v/c	0.00					0.08		0.18
95% queue length	0.00					0.25		0.64
Control Delay (s/veh)	8.3					12.9		12.5
LOS	A					B		B
Approach Delay (s/veh)	--	--				12.6		
Approach LOS	--	--				B		

Appendix F

Material Arrival Breakdown



















Civil Material			
Construction Equipment	500 on+500 off	1,000	shipments
Concrete Material	848,355 tons / 15 tons per shipment	56,557	shipments
Formwork	2393 tons/15 tons per shipment	160	shipments
Rebar	55,331 tons/15 tons per shipment	3,689	shipments
Structural Steel	6,261 tons/15 tons per shipment	418	shipments
Misc. Steel	1,016 tons/15 tons per shipment	68	shipments
Mod Steel	225 tons/15 tons per shipment	15	shipments
Steel Liner	1,412 tons/15 tons per shipment	94	shipments
Embedded Steel	1903 tons/15 tons per shipment	127	shipments
Siding & Roofing	2056 tons/15 tons per shipment	137	shipments
Pre engineered building	60 tons/15 tons per shipment	4	shipments
Construction Debris	12,000 tons/15 tons per shipment	800	shipments
Piping and Mechanical Material			
Large and Small bore pipe	7500 tons/15 tons per shipment	500	shipments
Large bore hangers	2788 tons/15 tons per shipment	186	shipments
Nuclear Island EM package Equipment	15,377 tons/15 tons per shipment	1,025	shipments
Turbine Island and BOP Mechanical Equipment		1,000	shipments
Consumables		1,000	shipments
Electrical Equipment			
Conduit	1,356 tons/15 tons per shipment	90	shipments
Cable Tray	73 tons/15 tons per shipment	49	shipments
Power & Control wire	4,406 tons/15 tons per shipment	294	shipments
NI Electrical Equipment	5,000 ton/15 tons per shipment	333	shipments
TI Electrical Equipment	5,000 ton/15 tons per shipment	333	shipments
Grand Total		67,879	shipments

APPENDIX G

CAPACITY ANALYSIS CONSTRUCTION PEAK CONDITIONS

RT 11 & Union Street

AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1635	0	0	1754	0	1719	1797	0	1810	1800	0
Flt Permitted		0.865			0.830		0.100					
Satd. Flow (perm)	0	1442	0	0	1493	0	181	1797	0	1810	1800	0
Satd. Flow (RTOR)		105			1			6			4	
Volume (vph)	145	14	223	8	7	1	45	197	10	0	940	30
Lane Group Flow (vph)	0	434	0	0	23	0	51	232	0	0	1000	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	8.0	8.0		8.0	8.0		14.0	14.0		14.0	14.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		44.0	44.0		44.0	44.0	
Total Split (s)	26.0	26.0	0.0	26.0	26.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0
Total Split (%)	37.1%	37.1%	0.0%	37.1%	37.1%	0.0%	62.9%	62.9%	0.0%	62.9%	62.9%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effct Green (s)		22.0			22.0		40.0	40.0			40.0	
Actuated g/C Ratio		0.31			0.31		0.57	0.57			0.57	
v/c Ratio		0.83			0.05		0.50	0.23			0.97	
Control Delay		32.5			16.7		30.4	7.9			38.8	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		32.5			16.7		30.4	7.9			38.8	
LOS		C			B		C	A			D	
Approach Delay		32.5			16.7			11.9			38.8	
Approach LOS		C			B			B			D	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Pretimed

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 32.6

Intersection LOS: C

Intersection Capacity Utilization 83.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

							
ø2	ø6	ø4	ø8	ø2	ø6	ø4	ø8
44 s	44 s	26 s	26 s	44 s	44 s	26 s	26 s

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1617	0	1776	1509	1687	1776
Flt Permitted	0.975				0.542	
Satd. Flow (perm)	1617	0	1776	1509	962	1776
Satd. Flow (RTOR)	62			13		
Volume (vph)	43	41	154	11	58	1137
Lane Group Flow (vph)	127	0	179	13	64	1263
Turn Type	Perm pm+pt					
Protected Phases	4		6		5	2
Permitted Phases				6	2	
Detector Phases	4		6	6	5	2
Minimum Initial (s)	5.0		12.0	12.0	5.0	17.0
Minimum Split (s)	10.2		21.4	21.4	10.4	22.4
Total Split (s)	22.6	0.0	30.4	30.4	17.0	47.4
Total Split (%)	32.3%	0.0%	43.4%	43.4%	24.3%	67.7%
Yellow Time (s)	4.1		4.2	4.2	4.2	4.2
All-Red Time (s)	1.1		1.2	1.2	1.2	1.2
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None		None	None	None	None
Act Effct Green (s)	11.4		38.2	38.2	43.6	45.1
Actuated g/C Ratio	0.18		0.63	0.63	0.67	0.75
v/c Ratio	0.37		0.16	0.01	0.09	0.95
Control Delay	14.2		9.2	5.4	4.3	29.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	14.2		9.2	5.4	4.3	29.4
LOS	B		A	A	A	C
Approach Delay	14.2		8.9			28.2
Approach LOS	B		A			C

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 60.4

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 24.9

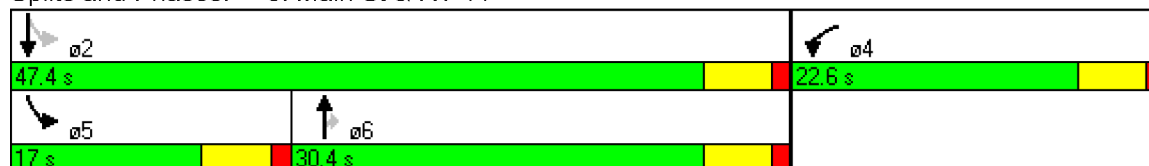
Intersection LOS: C

Intersection Capacity Utilization 71.4%

ICU Level of Service C




















Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11



2nd St & Market Street

AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	0	0	1787	3574	1599	1787	1881	0	0	1881	1599
Flt Permitted				0.950			0.549					
Satd. Flow (perm)	0	0	0	1787	3574	1599	1033	1881	0	0	1881	1599
Satd. Flow (RTOR)						25						70
Volume (vph)	0	0	0	72	330	20	108	86	0	0	162	62
Lane Group Flow (vph)	0	0	0	91	418	25	132	105	0	0	182	70
Turn Type				Perm		Perm	pm+pt					Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Detector Phases				8	8	8	5	2			6	6
Minimum Initial (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Minimum Split (s)				21.0	21.0	21.0	8.0	20.5			20.5	20.5
Total Split (s)	0.0	0.0	0.0	25.0	25.0	25.0	10.0	40.0	0.0	0.0	30.0	30.0
Total Split (%)	0.0%	0.0%	0.0%	38.5%	38.5%	38.5%	15.4%	61.5%	0.0%	0.0%	46.2%	46.2%
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	3.5
All-Red Time (s)				1.5	1.5	1.5	0.0	1.0			1.0	1.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode				Max	Max	Max	Max	Max			Max	Max
Act Effct Green (s)				21.0	21.0	21.0	36.0	36.0			26.0	26.0
Actuated g/C Ratio				0.32	0.32	0.32	0.55	0.55			0.40	0.40
v/c Ratio				0.16	0.36	0.05	0.21	0.10			0.24	0.10
Control Delay				16.7	18.0	7.2	2.3	1.6			14.1	4.1
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				16.7	18.0	7.2	2.3	1.6			14.1	4.1
LOS				B	B	A	A	A			B	A
Approach Delay					17.3			2.0			11.3	
Approach LOS					B			A			B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 12.3

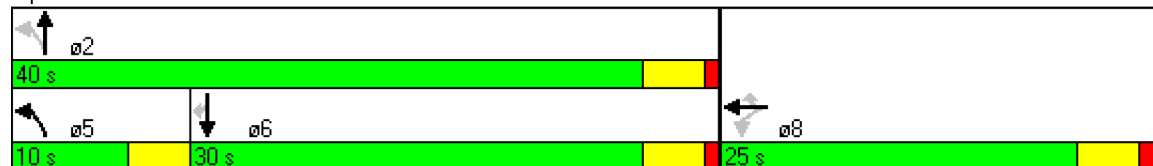
Intersection LOS: B

Intersection Capacity Utilization 75.6%

ICU Level of Service D


















Analysis Period (min) 15

Splits and Phases: 3: Int



Front St & Market Street

AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	3426	0	0	0	0	0	1827	1553	1736	1827	0
Flt Permitted										0.493		
Satd. Flow (perm)	0	3426	0	0	0	0	0	1827	1553	901	1827	0
Satd. Flow (RTOR)		17							224			
Volume (vph)	2	953	87	0	0	0	0	182	527	68	142	0
Lane Group Flow (vph)	0	1121	0	0	0	0	0	207	599	71	148	0
Turn Type	Perm						Perm pm+pt					
Protected Phases		4						2		1	6	
Permitted Phases	4								2	6		
Detector Phases	4	4						2	2	1	6	
Minimum Initial (s)	4.0	4.0						3.0	3.0	3.0	3.0	
Minimum Split (s)	24.0	24.0						21.0	21.0	10.0	31.0	
Total Split (s)	29.0	29.0	0.0	0.0	0.0	0.0	0.0	26.0	26.0	10.0	36.0	0.0
Total Split (%)	44.6%	44.6%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	40.0%	15.4%	55.4%	0.0%
Yellow Time (s)	3.2	3.2						4.0	4.0	2.0	4.0	
All-Red Time (s)	1.8	1.8						1.0	1.0	0.0	1.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	Max	Max						Max	Max	Max	Max	
Act Effct Green (s)		25.0						22.0	22.0	32.0	32.0	
Actuated g/C Ratio		0.38						0.34	0.34	0.49	0.49	
v/c Ratio		0.84						0.33	0.89	0.14	0.16	
Control Delay		25.6						18.0	31.1	8.7	8.7	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		25.6						18.0	31.1	8.7	8.7	
LOS		C						B	C	A	A	
Approach Delay		25.6						27.7			8.7	
Approach LOS		C						C			A	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 24.7





Intersection LOS: C

















Intersection Capacity Utilization 75.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Int

		
10 s	26 s	29 s
		
36 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1752	0	0	1752	3498	0	0	0	0	0	0	1596
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1752	0	0	1752	3498	0	0	0	0	0	0	1596
Satd. Flow (RTOR)				5	4							588
Volume (vph)	55	0	0	4	458	7	0	0	0	0	0	31
Lane Group Flow (vph)	63	0	0	5	547	0	0	0	0	0	0	41
Turn Type	Prot			Perm								Free
Protected Phases	7				8							
Permitted Phases				8								Free
Detector Phases	7			8	8							
Minimum Initial (s)	1.0			4.0	4.0							
Minimum Split (s)	5.0			25.0	25.0							
Total Split (s)	25.0	0.0	0.0	45.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Split (%)	35.7%	0.0%	0.0%	64.3%	64.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)	3.0			3.0	3.0							
All-Red Time (s)	1.0			1.0	1.0							
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None			None	None							
Act Effct Green (s)	7.0			5.4	5.4							13.3
Actuated g/C Ratio	0.32			0.36	0.36							1.00
v/c Ratio	0.11			0.01	0.43							0.03
Control Delay	5.1			3.0	3.2							0.0
Queue Delay	0.0			0.0	0.0							0.0
Total Delay	5.1			3.0	3.2							0.0
LOS	A			A	A							A
Approach Delay					3.2							
Approach LOS					A							

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 13.3

Natural Cycle: 40

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 3.2

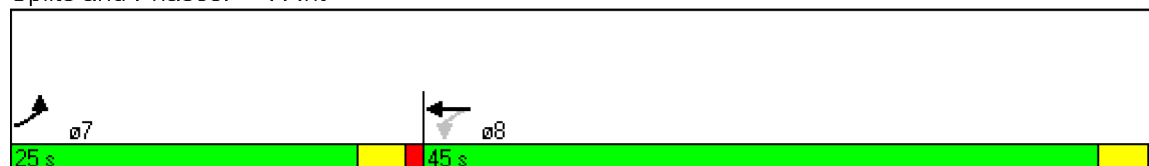
Intersection LOS: A

Intersection Capacity Utilization 22.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: Int



RT 11 & Orange St

AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1861	0	0	1863	0	0	1863	0	0	1777	0
Flt Permitted					0.737						0.738	
Satd. Flow (perm)	0	1861	0	0	1373	0	0	1863	0	0	1375	0
Satd. Flow (RTOR)		2										
Volume (vph)	0	994	11	3	434	0	0	0	0	84	4	0
Lane Group Flow (vph)	0	1116	0	0	521	0	0	0	0	0	130	0
Turn Type				Perm			Perm			custom		
Protected Phases		4			8			2				
Permitted Phases				8			2			6	6	
Detector Phases		4		8	8		2	2		6	6	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	0.0	36.0	0.0	36.0	36.0	0.0	19.0	19.0	0.0	19.0	19.0	0.0
Total Split (%)	0.0%	65.5%	0.0%	65.5%	65.5%	0.0%	34.5%	34.5%	0.0%	34.5%	34.5%	0.0%
Yellow Time (s)		3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)		0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		Max		Max	Max		Max	Max		Max	Max	
Act Effct Green (s)		32.0			32.0						15.0	
Actuated g/C Ratio		0.58			0.58						0.27	
v/c Ratio		1.03			0.65						0.35	
Control Delay		50.6			12.6						19.3	
Queue Delay		0.0			0.0						0.0	
Total Delay		50.6			12.6						19.3	
LOS		D			B						B	
Approach Delay		50.6			12.6						19.3	
Approach LOS		D			B						B	

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 37.1

Intersection LOS: D

Intersection Capacity Utilization 64.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: RT 11 &





Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↩	↩	↩		↩	↩		↩
Volume (vph)	978	35	456	23	3	28	1	7
Turn Type	pm+pt			Perm		Perm	Perm	
Protected Phases	4	3	8		2			6
Permitted Phases		8		2		2	6	
Detector Phases	4	3	8	2	2	2	6	6
Minimum Initial (s)	1.0	4.0	20.0	2.0	2.0	2.0	1.0	1.0
Minimum Split (s)	25.0	8.0	25.0	6.0	6.0	6.0	5.0	5.0
Total Split (s)	40.0	13.0	53.0	17.0	17.0	17.0	17.0	17.0
Total Split (%)	57.1%	18.6%	75.7%	24.3%	24.3%	24.3%	24.3%	24.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	0.0	2.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes						
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	36.0	49.0	49.0		13.0	13.0		13.0
Actuated g/C Ratio	0.51	0.70	0.70		0.19	0.19		0.19
v/c Ratio	1.27	0.11	0.38		0.13	0.12		0.12
Control Delay	148.8	4.0	5.3		25.3	10.0		17.0
Queue Delay	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	148.8	4.0	5.3		25.3	10.0		17.0
LOS	F	A	A		C	B		B
Approach Delay	148.8		5.2		17.5			17.0
Approach LOS	F		A		B			B

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 1.27

Intersection Signal Delay: 99.5

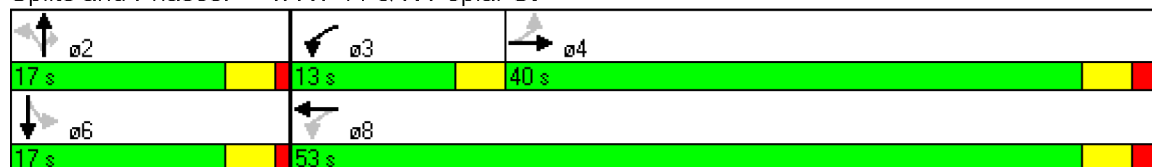
Intersection LOS: F

Intersection Capacity Utilization 70.0%

ICU Level of Service C

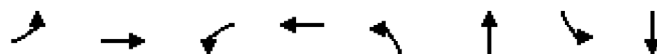
Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St



TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11			
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp			
Date Performed	7/3/2008			Analysis Year	2008			
Analysis Time Period	AM Peak							
Project Description 535 - Susquehanna/Bell Bend NPP								
East/West Street: PPL Entrance				North/South Street: US Rt 11				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	58	210			1095	21		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	58	210	0	0	1095	21		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	4		11					
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	4	0	11	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	1	0	1	0	0	0		
Configuration	L		R					
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	58					4		11
C (m) (veh/h)	633					249		258
v/c	0.09					0.02		0.04
95% queue length	0.30					0.05		0.13
Control Delay (s/veh)	11.3					19.7		19.6
LOS	B					C		C
Approach Delay (s/veh)	--	--				19.6		
Approach LOS	--	--				C		

TWO-WAY STOP CONTROL SUMMARY								
General Information					Site Information			
Analyst	Christopher Puglisi				Intersection	PPL & Rt 11		
Agency/Co.	KLD Associates				Jurisdiction	Salem Twp		
Date Performed	7/3/2008				Analysis Year	2008		
Analysis Time Period	AM Peak							
Project Description 535 - Susquehanna/Bell Bend NPP								
East/West Street: Bell Bend Entrance					North/South Street: US Rt 11			
Intersection Orientation: North-South					Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	1027	265			209	897		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	1027	265	0	0	209	897		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	5		12					
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	5	0	12	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	1	0	1	0	0	0		
Configuration	L		R					
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	1027					5		12
C (m) (veh/h)	639							468
v/c	1.61							0.03
95% queue length	55.45							0.08
Control Delay (s/veh)	298.0							12.9
LOS	F							B
Approach Delay (s/veh)	--	--						
Approach LOS	--	--						



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↖	↗	↖	↗
Volume (vph)	59	22	25	32	319	983	4	253
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	8.0	8.0	8.0	8.0	14.0	14.0	14.0	14.0
Minimum Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0	44.0
Total Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0	44.0
Total Split (%)	37.1%	37.1%	37.1%	37.1%	62.9%	62.9%	62.9%	62.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

Lead/Lag

Lead-Lag Optimize?

Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)		22.0		22.0	40.0	40.0	40.0	40.0
Actuated g/C Ratio		0.31		0.31	0.57	0.57	0.57	0.57
v/c Ratio		0.41		0.20	0.67	1.00	0.04	0.38
Control Delay		13.8		17.2	18.8	44.0	7.8	8.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		13.8		17.2	18.8	44.0	7.8	8.1
LOS		B		B	B	D	A	A
Approach Delay		13.8		17.2		37.9		8.1
Approach LOS		B		B		D		A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 28.8

Intersection LOS: C











Intersection Capacity Utilization 87.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

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Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	12	1170	42	138	216
Turn Type	Perm pm+pt				
Protected Phases	4	6		5	2
Permitted Phases			6	2	
Detector Phases	4	6	6	5	2
Minimum Initial (s)	5.0	12.0	12.0	5.0	17.0
Minimum Split (s)	10.2	21.4	21.4	10.4	22.4
Total Split (s)	22.0	30.0	30.0	18.0	48.0
Total Split (%)	31.4%	42.9%	42.9%	25.7%	68.6%
Yellow Time (s)	4.1	4.2	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2	1.2
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	None	None	None
Act Effct Green (s)	10.2	29.6	29.6	38.3	40.8
Actuated g/C Ratio	0.18	0.55	0.55	0.68	0.75
v/c Ratio	0.33	1.22	0.05	0.34	0.17
Control Delay	8.1	132.0	6.2	5.6	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	132.0	6.2	5.6	3.7
LOS	A	F	A	A	A
Approach Delay	8.1	127.7			4.4
Approach LOS	A	F			A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 54.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.22

Intersection Signal Delay: 92.3





Intersection LOS: F

Intersection Capacity Utilization 85.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

 ø2	 ø4
48 s	22 s
 ø5	 ø6
18 s	30 s



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↗↗	↰	↰	↗	↗	↰
Volume (vph)	615	1088	59	151	111	233	109
Turn Type	Perm		Perm	pm+pt			Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phases	8	8	8	5	2	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	8.0	20.5	20.5	20.5
Total Split (s)	25.0	25.0	25.0	10.0	40.0	30.0	30.0
Total Split (%)	38.5%	38.5%	38.5%	15.4%	61.5%	46.2%	46.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	0.0	1.0	1.0	1.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	21.0	21.0	21.0	36.0	36.0	26.0	26.0
Actuated g/C Ratio	0.32	0.32	0.32	0.55	0.55	0.40	0.40
v/c Ratio	1.13	1.00	0.11	0.33	0.13	0.36	0.18
Control Delay	104.9	51.3	5.5	4.7	1.6	15.4	3.5
Queue Delay	190.4	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	295.3	51.3	5.5	4.8	1.6	15.4	3.5
LOS	F	D	A	A	A	B	A
Approach Delay		134.9			3.4	11.6	
Approach LOS		F			A	B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 99.7

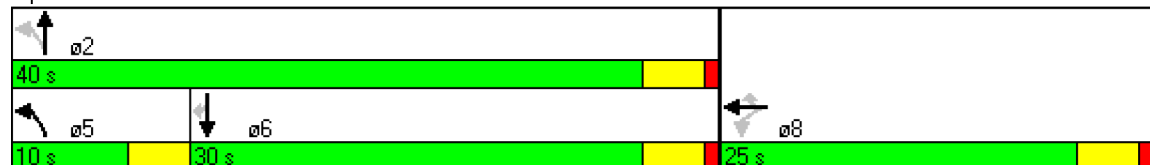
Intersection LOS: F

Intersection Capacity Utilization 89.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Int



	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑	↗	↘	↑
Volume (vph)	607	288	141	91	752
Turn Type	Perm pm+pt				
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	29.0	26.0	26.0	10.0	36.0
Total Split (%)	44.6%	40.0%	40.0%	15.4%	55.4%
Yellow Time (s)	3.2	4.0	4.0	2.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effect Green (s)	25.0	22.0	22.0	32.0	32.0
Actuated g/C Ratio	0.38	0.34	0.34	0.49	0.49
v/c Ratio	0.67	0.46	0.22	0.22	0.91
Control Delay	18.0	19.7	4.3	9.7	27.0
Queue Delay	0.0	0.0	0.0	0.0	147.7
Total Delay	18.0	19.7	4.3	9.7	174.7
LOS	B	B	A	A	F
Approach Delay	18.0	14.6			157.0
Approach LOS	B	B			F

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 74.7

Intersection LOS: E

Intersection Capacity Utilization 89.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Int

↙ ø1	↑ ø2	→ ø4
10 s	26 s	29 s
↘ ø6		
36 s		



Lane Group	EBL	WBL	WBT	SBR
Lane Configurations				
Volume (vph)	80	15	1502	142
Turn Type	Prot	Perm		Free
Protected Phases	7		8	
Permitted Phases		8		Free
Detector Phases	7	8	8	
Minimum Initial (s)	1.0	4.0	4.0	
Minimum Split (s)	5.0	25.0	25.0	
Total Split (s)	25.0	45.0	45.0	0.0
Total Split (%)	35.7%	64.3%	64.3%	0.0%
Yellow Time (s)	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Recall Mode	None	None	None	
Act Effct Green (s)	8.8	22.0	22.0	26.1
Actuated g/C Ratio	0.27	0.84	0.84	1.00
v/c Ratio	0.19	0.01	0.54	0.13
Control Delay	13.7	2.1	4.4	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.7	2.1	4.4	0.2
LOS	B	A	A	A
Approach Delay			4.4	
Approach LOS			A	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 26.1

Natural Cycle: 40

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 4.4

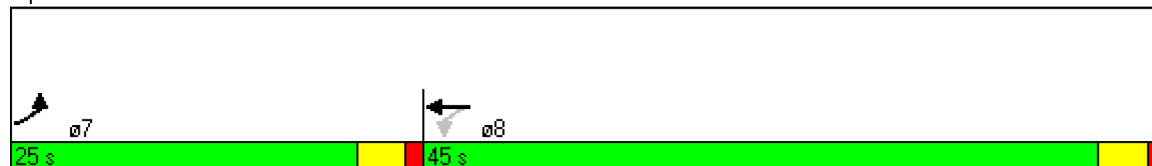
Intersection LOS: A

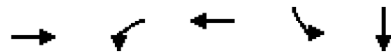
Intersection Capacity Utilization 53.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: Rt 11/93 & LaSalle St





Lane Group	EBT	WBL	WBT	SBL	SBT	ø2
Lane Configurations	↔		↔		↔	
Volume (vph)	768	2	1361	154	2	
Turn Type		Perm		custom		
Protected Phases	4		8			2
Permitted Phases		8		6	6	
Detector Phases	4	8	8	6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	39.0	39.0	39.0	21.0	21.0	21.0
Total Split (%)	65.0%	65.0%	65.0%	35.0%	35.0%	35%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5

Lead/Lag

Lead-Lag Optimize?

















Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	35.0		35.0		17.0	
Actuated g/C Ratio	0.58		0.58		0.28	
v/c Ratio	0.83		1.35		0.53	
Control Delay	19.1		181.6		24.1	
Queue Delay	0.0		0.0		0.0	
Total Delay	19.1		181.6		24.1	
LOS	B		F		C	
Approach Delay	19.1		181.6		24.1	
Approach LOS	B		F		C	

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 130
Control Type: Pretimed
Maximum v/c Ratio: 1.35
Intersection Signal Delay: 112.1
Intersection LOS: F
Intersection Capacity Utilization 88.6%
ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 4: W Front St (Rt 11) & Sunoco Station

↕ ø2	→ ø4
21 s	39 s
↙ ø6	← ø8
21 s	39 s

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	21	655	51	1258	29	39	15	130	44
Turn Type	Perm		pm+pt		Perm		Perm	Perm	
Protected Phases		4	3	8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phases	4	4	3	8	2	2	2	6	6
Minimum Initial (s)	1.0	1.0	4.0	20.0	2.0	2.0	2.0	1.0	1.0
Minimum Split (s)	25.0	25.0	8.0	25.0	6.0	6.0	6.0	5.0	5.0
Total Split (s)	42.0	42.0	8.0	50.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	60.0%	60.0%	11.4%	71.4%	28.6%	28.6%	28.6%	28.6%	28.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	0.0	2.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	38.0	38.0	46.0	46.0		16.0	16.0		16.0
Actuated g/C Ratio	0.54	0.54	0.66	0.66		0.23	0.23		0.23
v/c Ratio	0.25	0.83	0.24	1.14		0.23	0.05		0.85
Control Delay	15.7	22.3	6.7	88.6		24.1	11.1		47.7
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	15.7	22.3	6.7	88.6		24.1	11.1		47.7
LOS	B	C	A	F		C	B		D
Approach Delay		22.1		85.4		21.8			47.7
Approach LOS		C		F		C			D

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 110

Control Type: Pretimed

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 58.9

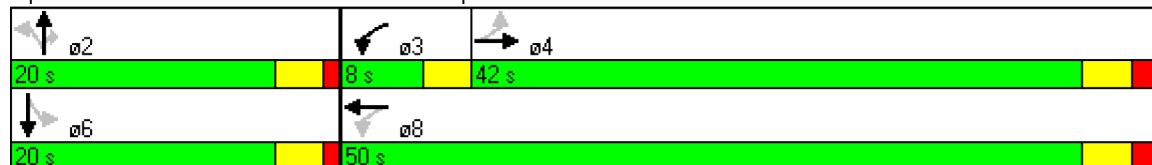
Intersection LOS: E

Intersection Capacity Utilization 94.5%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St



TWO-WAY STOP CONTROL SUMMARY

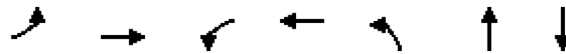
General Information							Site Information		
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11				
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp				
Date Performed	7/3/2008			Analysis Year	2008				
Analysis Time Period									
Project Description 535 - Susquehanna/Bell Bend NPP									
East/West Street: PPL Entrance				North/South Street: US Rt 11					
Intersection Orientation: North-South				Study Period (hrs): 0.25					
Vehicle Volumes and Adjustments									
Major Street	Northbound			Southbound					
Movement	1	2	3	4	5	6			
	L	T	R	L	T	R			
Volume (veh/h)	6	1152			267	2			
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00			
Hourly Flow Rate, HFR (veh/h)	6	1152	0	0	267	2			
Percent Heavy Vehicles	0	--	--	0	--	--			
Median Type	Two Way Left Turn Lane								
RT Channelized			0			0			
Lanes	1	1	0	0	1	0			
Configuration	L	T				TR			
Upstream Signal		0			0				
Minor Street	Eastbound			Westbound					
Movement	7	8	9	10	11	12			
	L	T	R	L	T	R			
Volume (veh/h)	27		73						
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00			
Hourly Flow Rate, HFR (veh/h)	27	0	73	0	0	0			
Percent Heavy Vehicles	0	0	0	0	0	0			
Percent Grade (%)	0			0					
Flared Approach		N			N				
Storage		0			0				
RT Channelized			0			0			
Lanes	1	0	1	0	0	0			
Configuration	L		R						
Delay, Queue Length, and Level of Service									
Approach	Northbound	Southbound	Westbound			Eastbound			
Movement	1	4	7	8	9	10	11	12	
Lane Configuration	L					L		R	
v (veh/h)	6					27		73	
C (m) (veh/h)	1306					246		776	
v/c	0.00					0.11		0.09	
95% queue length	0.01					0.36		0.31	
Control Delay (s/veh)	7.8					21.4		10.1	
LOS	A					C		B	
Approach Delay (s/veh)	--	--				13.2			
Approach LOS	--	--				B			

TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11			
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp			
Date Performed	7/3/2008			Analysis Year	2008			
Analysis Time Period								
Project Description 535 - Susquehanna/Bell Bend NPP								
East/West Street: Bell Bend Entrance				North/South Street: US Rt 11				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	3	275			341	1		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	3	275	0	0	341	1		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	883		988					
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	883	0	988	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	1	0	1	0	0	0		
Configuration	L		R					
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	3					883		988
C (m) (veh/h)	1228					546		705
v/c	0.00					1.62		1.40
95% queue length	0.01					48.90		43.83
Control Delay (s/veh)	7.9					305.7		207.1
LOS	A					F		F
Approach Delay (s/veh)	--	--				253.6		
Approach LOS	--	--				F		

APPENDIX H

CAPACITY ANALYSIS

CONSTRUCTION PEAK WITH OUTAGE CONDITIONS



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Configurations		↕		↕	↗	↗	↗
Volume (vph)	145	14	8	7	51	206	1000
Turn Type	Perm		Perm		Perm		
Protected Phases		4		8		2	6
Permitted Phases	4		8		2		
Detector Phases	4	4	8	8	2	2	6
Minimum Initial (s)	8.0	8.0	8.0	8.0	14.0	14.0	14.0
Minimum Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0
Total Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0
Total Split (%)	37.1%	37.1%	37.1%	37.1%	62.9%	62.9%	62.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0

Lead/Lag

Lead-Lag Optimize?

Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)		22.0		22.0	40.0	40.0	40.0
Actuated g/C Ratio		0.31		0.31	0.57	0.57	0.57
v/c Ratio		0.97		0.05	0.53	0.23	1.07
Control Delay		56.1		16.7	33.8	7.9	68.3
Queue Delay		0.0		0.0	0.0	0.0	0.0
Total Delay		56.1		16.7	33.8	7.9	68.3
LOS		E		B	C	A	E
Approach Delay		56.1		16.7		12.8	68.3
Approach LOS		E		B		B	E

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 56.1

Intersection LOS: E











Intersection Capacity Utilization 89.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

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Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	43	170	11	57	1236
Turn Type	Perm pm+pt				
Protected Phases	4	6		5	2
Permitted Phases			6	2	
Detector Phases	4	6	6	5	2
Minimum Initial (s)	5.0	12.0	12.0	5.0	17.0
Minimum Split (s)	10.2	21.4	21.4	10.4	22.4
Total Split (s)	21.6	30.4	30.4	18.0	48.4
Total Split (%)	30.9%	43.4%	43.4%	25.7%	69.1%
Yellow Time (s)	4.1	4.2	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2	1.2
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	None	None	Max
Act Effct Green (s)	12.8	49.2	49.2	57.5	57.7
Actuated g/C Ratio	0.16	0.64	0.64	0.71	0.75
v/c Ratio	0.40	0.16	0.01	0.09	1.06
Control Delay	14.4	8.5	5.4	4.1	58.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	8.5	5.4	4.1	58.1
LOS	B	A	A	A	E
Approach Delay	14.4	8.3			55.7
Approach LOS	B	A			E

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 76.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 47.6





Intersection LOS: D

Intersection Capacity Utilization 76.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

 ø2	 ø4
48.4 s	21.6 s
 ø5	 ø6
18 s	30.4 s



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↗↗	↰	↰	↗	↗	↰
Volume (vph)	78	369	20	108	86	160	62
Turn Type	Perm		Perm	pm+pt			Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phases	8	8	8	5	2	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	8.0	20.5	20.5	20.5
Total Split (s)	25.0	25.0	25.0	10.0	40.0	30.0	30.0
Total Split (%)	38.5%	38.5%	38.5%	15.4%	61.5%	46.2%	46.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	0.0	1.0	1.0	1.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	21.0	21.0	21.0	36.0	36.0	26.0	26.0
Actuated g/C Ratio	0.32	0.32	0.32	0.55	0.55	0.40	0.40
v/c Ratio	0.16	0.38	0.05	0.20	0.10	0.24	0.10
Control Delay	16.7	18.2	7.2	2.6	1.9	14.0	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	18.2	7.2	2.6	1.9	14.0	4.1
LOS	B	B	A	A	A	B	A
Approach Delay		17.5			2.3	11.3	
Approach LOS		B			A	B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 12.5

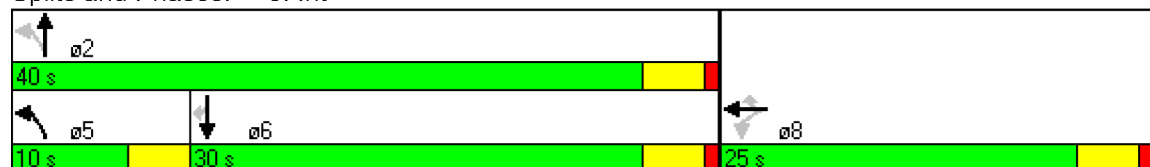
Intersection LOS: B

Intersection Capacity Utilization 88.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Int



	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑	↗	↘	↑
Volume (vph)	1193	182	565	147	68
Turn Type	Perm pm+pt				
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	29.0	26.0	26.0	10.0	36.0
Total Split (%)	44.6%	40.0%	40.0%	15.4%	55.4%
Yellow Time (s)	3.2	4.0	4.0	2.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effect Green (s)	25.0	22.0	22.0	32.0	32.0
Actuated g/C Ratio	0.38	0.34	0.34	0.49	0.49
v/c Ratio	1.15	0.31	0.97	0.32	0.09
Control Delay	97.3	17.7	50.1	10.4	8.4
Queue Delay	0.0	0.0	0.0	0.5	0.0
Total Delay	97.3	17.7	50.1	10.9	8.4
LOS	F	B	D	B	A
Approach Delay	97.3	42.2			10.1
Approach LOS	F	D			B

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 71.8

Intersection LOS: E

Intersection Capacity Utilization 88.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Int

↙ ø1	↑ ø2	→ ø4
10 s	26 s	29 s
↘ ø6		
36 s		



Lane Group	EBL	WBL	WBT	SBR
Lane Configurations				
Volume (vph)	55	4	495	31
Turn Type	Prot	Perm		Free
Protected Phases	7		8	
Permitted Phases		8		Free
Detector Phases	7	8	8	
Minimum Initial (s)	1.0	4.0	4.0	
Minimum Split (s)	5.0	25.0	25.0	
Total Split (s)	25.0	45.0	45.0	0.0
Total Split (%)	35.7%	64.3%	64.3%	0.0%
Yellow Time (s)	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Recall Mode	None	None	None	
Act Effct Green (s)	7.0	5.5	5.5	13.2
Actuated g/C Ratio	0.32	0.37	0.37	1.00
v/c Ratio	0.11	0.01	0.45	0.03
Control Delay	5.3	3.0	3.2	0.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.3	3.0	3.2	0.0
LOS	A	A	A	A
Approach Delay			3.2	
Approach LOS			A	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 13.2

Natural Cycle: 40

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 3.2

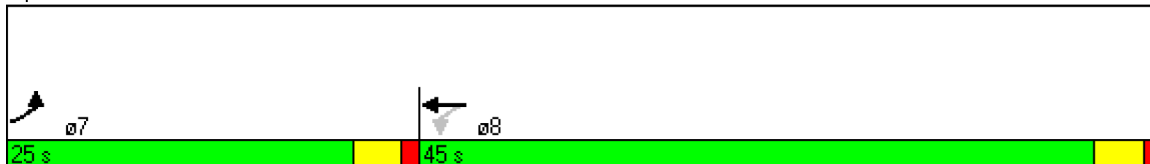
Intersection LOS: A

Intersection Capacity Utilization 23.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: Int



	→	↖	←	↙	↓	
Lane Group	EBT	WBL	WBT	SBL	SBT	ø2
Lane Configurations	↕		↕		↕	
Volume (vph)	1233	3	472	84	4	
Turn Type		Perm		custom		
Protected Phases	4		8			2
Permitted Phases		8		6	6	
Detector Phases	4	8	8	6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	36.0	36.0	36.0	19.0	19.0	19.0
Total Split (%)	65.5%	65.5%	65.5%	34.5%	34.5%	35%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	32.0		32.0		15.0	
Actuated g/C Ratio	0.58		0.58		0.27	
v/c Ratio	1.21		0.80		0.35	
Control Delay	120.2		19.2		19.3	
Queue Delay	0.0		0.0		0.0	
Total Delay	120.2		19.2		19.3	
LOS	F		B		B	
Approach Delay	120.2		19.2		19.3	
Approach LOS	F		B		B	
Intersection Summary						
Cycle Length: 55						
Actuated Cycle Length: 55						
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green						
Natural Cycle: 90						
Control Type: Pretimed						
Maximum v/c Ratio: 1.21						
Intersection Signal Delay: 82.9				Intersection LOS: F		
Intersection Capacity Utilization 77.1%				ICU Level of Service D		
Analysis Period (min) 15						

Splits and Phases: 4: RT 11 &

↑ ø2	→ ø4
19 s	36 s
↙ ø6	← ø8
19 s	36 s



Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	→	↖	↖	↖	↖	↖	↖	↖
Volume (vph)	1217	35	493	23	3	27	1	7
Turn Type	pm+pt		Perm		Perm		Perm	
Protected Phases	4	3	8		2			6
Permitted Phases		8		2		2	6	
Detector Phases	4	3	8	2	2	2	6	6
Minimum Initial (s)	1.0	4.0	20.0	2.0	2.0	2.0	1.0	1.0
Minimum Split (s)	25.0	8.0	25.0	6.0	6.0	6.0	5.0	5.0
Total Split (s)	40.0	13.0	53.0	17.0	17.0	17.0	17.0	17.0
Total Split (%)	57.1%	18.6%	75.7%	24.3%	24.3%	24.3%	24.3%	24.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	0.0	2.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes						
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	36.0	49.0	49.0		13.0	13.0		13.0
Actuated g/C Ratio	0.51	0.70	0.70		0.19	0.19		0.19
v/c Ratio	1.70	0.12	0.42		0.13	0.11		0.12
Control Delay	341.2	4.0	5.7		25.3	10.1		17.0
Queue Delay	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	341.2	4.0	5.7		25.3	10.1		17.0
LOS	F	A	A		C	B		B
Approach Delay	341.2		5.6		17.6			17.0
Approach LOS	F		A		B			B

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 150

Control Type: Pretimed

Maximum v/c Ratio: 1.70

Intersection Signal Delay: 240.4

Intersection LOS: F

Intersection Capacity Utilization 82.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St

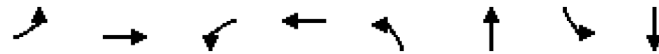
↖ ø2	↖ ø3	↖ ø4
17 s	13 s	40 s
↖ ø6	↖ ø8	
17 s	53 s	

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information			
Analyst	Christopher Puglisi	Intersection	PPL & Rt 11				
Agency/Co.	KLD Associates	Jurisdiction	Salem Twp				
Date Performed	7/3/2008	Analysis Year	2008				
Analysis Time Period	AM Peak						
Project Description 535 - Susquehanna/Bell Bend NPP							
East/West Street: PPL Entrance		North/South Street: US Rt 11					
Intersection Orientation: North-South		Study Period (hrs): 0.25					
Vehicle Volumes and Adjustments							
Major Street	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)	337	210			1094	122	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	337	210	0	0	1094	122	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Two Way Left Turn Lane						
RT Channelized			0			0	
Lanes	1	1	0	0	1	0	
Configuration	L	T				TR	
Upstream Signal		0			0		
Minor Street	Eastbound			Westbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)	20		55				
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	20	0	55	0	0	0	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	1	0	1	0	0	0	
Configuration	L		R				
Delay, Queue Length, and Level of Service							
Approach	Northbound	Southbound	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration	L					L	R
v (veh/h)	337					20	55
C (m) (veh/h)	581					111	242
v/c	0.58					0.18	0.23
95% queue length	3.70					0.63	0.85
Control Delay (s/veh)	19.4					44.4	24.2
LOS	C					E	C
Approach Delay (s/veh)	--	--				29.6	
Approach LOS	--	--				D	

TWO-WAY STOP CONTROL SUMMARY

General Information							Site Information		
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11				
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp				
Date Performed	7/3/2008			Analysis Year	2008				
Analysis Time Period	AM Peak								
Project Description 535 - Susquehanna/Bell Bend NPP									
East/West Street: Bell Bend Entrance					North/South Street: US Rt 11				
Intersection Orientation: North-South					Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments									
Major Street	Northbound			Southbound					
Movement	1	2	3	4	5	6			
	L	T	R	L	T	R			
Volume (veh/h)	1027	543			253	897			
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00			
Hourly Flow Rate, HFR (veh/h)	1027	543	0	0	253	897			
Percent Heavy Vehicles	0	--	--	0	--	--			
Median Type	Two Way Left Turn Lane								
RT Channelized			0			0			
Lanes	1	1	0	0	1	0			
Configuration	L	T				TR			
Upstream Signal		0			0				
Minor Street	Eastbound			Westbound					
Movement	7	8	9	10	11	12			
	L	T	R	L	T	R			
Volume (veh/h)	5		12						
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00			
Hourly Flow Rate, HFR (veh/h)	5	0	12	0	0	0			
Percent Heavy Vehicles	0	0	0	0	0	0			
Percent Grade (%)	0			0					
Flared Approach		N			N				
Storage		0			0				
RT Channelized			0			0			
Lanes	1	0	1	0	0	0			
Configuration	L		R						
Delay, Queue Length, and Level of Service									
Approach	Northbound	Southbound	Westbound			Eastbound			
Movement	1	4	7	8	9	10	11	12	
Lane Configuration	L					L		R	
v (veh/h)	1027					5		12	
C (m) (veh/h)	615							442	
v/c	1.67							0.03	
95% queue length	58.13							0.08	
Control Delay (s/veh)	326.3							13.4	
LOS	F							B	
Approach Delay (s/veh)	--	--							
Approach LOS	--	--							



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔	↔	↔	↔	↔
Volume (vph)	59	22	25	32	338	1009	4	255
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	8.0	8.0	8.0	8.0	14.0	14.0	14.0	14.0
Minimum Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0	44.0
Total Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0	44.0
Total Split (%)	37.1%	37.1%	37.1%	37.1%	62.9%	62.9%	62.9%	62.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

Lead/Lag

Lead-Lag Optimize?

Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)		22.0		22.0	40.0	40.0	40.0	40.0
Actuated g/C Ratio		0.31		0.31	0.57	0.57	0.57	0.57
v/c Ratio		0.41		0.20	0.71	1.02	0.04	0.38
Control Delay		13.7		17.2	21.2	50.8	7.8	8.2
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		13.7		17.2	21.2	50.8	7.8	8.2
LOS		B		B	C	D	A	A
Approach Delay		13.7		17.2		43.5		8.2
Approach LOS		B		B		D		A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 32.7











Intersection LOS: C

Intersection Capacity Utilization 88.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

					
Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	12	1216	42	138	218
Turn Type	Perm pm+pt				
Protected Phases	4	6		5	2
Permitted Phases			6	2	
Detector Phases	4	6	6	5	2
Minimum Initial (s)	1.8	12.0	12.0	5.0	17.0
Minimum Split (s)	7.0	21.4	21.4	10.4	22.4
Total Split (s)	22.6	29.4	29.4	18.0	47.4
Total Split (%)	32.3%	42.0%	42.0%	25.7%	67.7%
Yellow Time (s)	4.1	4.2	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2	1.2
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	None	None	Max
Act Effct Green (s)	10.5	38.1	38.1	48.5	49.1
Actuated g/C Ratio	0.16	0.59	0.59	0.72	0.76
v/c Ratio	0.36	1.18	0.05	0.40	0.17
Control Delay	8.0	111.1	5.4	5.7	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	111.1	5.4	5.7	3.5
LOS	A	F	A	A	A
Approach Delay	8.0	107.5			4.4
Approach LOS	A	F			A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 64.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 78.6





Intersection LOS: E















Intersection Capacity Utilization 87.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

 ø2	 ø4
47.4 s	22.6 s
 ø5	 ø6
18 s	29.4 s

							
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Volume (vph)	632	1197	59	151	110	232	109
Turn Type	Perm		Perm	pm+pt			Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phases	8	8	8	5	2	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	8.0	20.5	20.5	20.5
Total Split (s)	25.0	25.0	25.0	10.0	40.0	30.0	30.0
Total Split (%)	38.5%	38.5%	38.5%	15.4%	61.5%	46.2%	46.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	0.0	1.0	1.0	1.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	21.0	21.0	21.0	36.0	36.0	26.0	26.0
Actuated g/C Ratio	0.32	0.32	0.32	0.55	0.55	0.40	0.40
v/c Ratio	1.16	1.10	0.11	0.33	0.13	0.36	0.19
Control Delay	116.6	83.3	5.5	4.7	1.5	15.5	3.7
Queue Delay	200.1	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	316.7	83.3	5.5	4.8	1.5	15.5	3.7
LOS	F	F	A	A	A	B	A
Approach Delay		158.9			3.4	11.6	
Approach LOS		F			A	B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 118.9

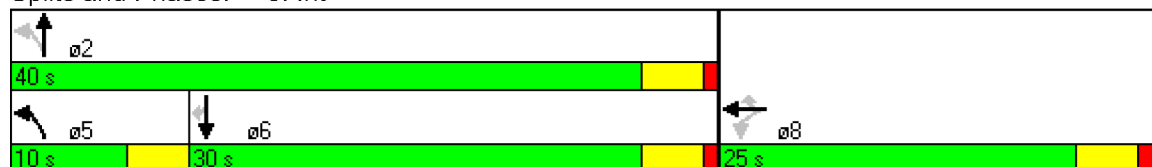
Intersection LOS: F

Intersection Capacity Utilization 90.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Int



	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑	↗	↘	↑
Volume (vph)	613	288	141	91	769
Turn Type	Perm pm+pt				
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	29.0	26.0	26.0	10.0	36.0
Total Split (%)	44.6%	40.0%	40.0%	15.4%	55.4%
Yellow Time (s)	3.2	4.0	4.0	2.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	25.0	22.0	22.0	32.0	32.0
Actuated g/C Ratio	0.38	0.34	0.34	0.49	0.49
v/c Ratio	0.68	0.46	0.22	0.22	0.92
Control Delay	18.3	19.7	4.3	9.7	26.9
Queue Delay	0.0	0.0	0.0	0.0	153.5
Total Delay	18.3	19.7	4.3	9.7	180.4
LOS	B	B	A	A	F
Approach Delay	18.3	14.6			162.4
Approach LOS	B	B			F

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 76.9

Intersection LOS: E

Intersection Capacity Utilization 90.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Int

↙ ø1	↑ ø2	→ ø4
10 s	26 s	29 s
↘ ø6		
36 s		



Lane Group	EBL	WBL	WBT	SBR
Lane Configurations				
Volume (vph)	80	15	1607	142
Turn Type	Prot	Perm		Free
Protected Phases	7		8	
Permitted Phases		8		Free
Detector Phases	7	8	8	
Minimum Initial (s)	1.0	4.0	4.0	
Minimum Split (s)	5.0	25.0	25.0	
Total Split (s)	25.0	45.0	45.0	0.0
Total Split (%)	35.7%	64.3%	64.3%	0.0%
Yellow Time (s)	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Recall Mode	None	None	None	
Act Effct Green (s)	9.2	25.5	25.5	33.2
Actuated g/C Ratio	0.25	0.77	0.77	1.00
v/c Ratio	0.21	0.01	0.63	0.13
Control Delay	16.4	1.9	6.1	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.4	1.9	6.1	0.2
LOS	B	A	A	A
Approach Delay			6.1	
Approach LOS			A	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 33.2

Natural Cycle: 40

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 5.9

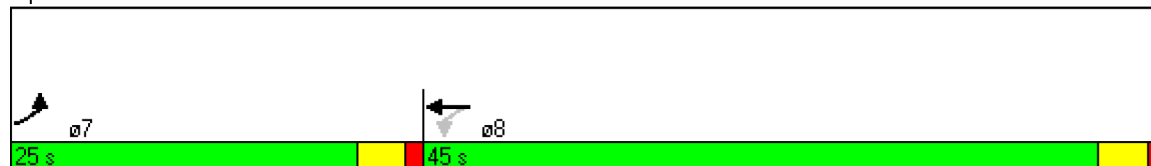
Intersection LOS: A

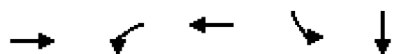
Intersection Capacity Utilization 56.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 7: Rt 11/93 & LaSalle St





Lane Group	EBT	WBL	WBT	SBL	SBT	ø2
Lane Configurations	↗		↖		↕	
Volume (vph)	773	2	1468	154	2	
Turn Type		Perm	custom			
Protected Phases	4		8			2
Permitted Phases		8		6	6	
Detector Phases	4	8	8	6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	39.0	39.0	39.0	21.0	21.0	21.0
Total Split (%)	65.0%	65.0%	65.0%	35.0%	35.0%	35%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	35.0		35.0		17.0	
Actuated g/C Ratio	0.58		0.58		0.28	
v/c Ratio	0.84		1.45		0.53	
Control Delay	19.4		228.7		24.1	
Queue Delay	0.0		0.0		0.0	
Total Delay	19.4		228.7		24.1	
LOS	B		F		C	
Approach Delay	19.4		228.7		24.1	
Approach LOS	B		F		C	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 150

Control Type: Pretimed

Maximum v/c Ratio: 1.45

Intersection Signal Delay: 142.7

Intersection LOS: F

Intersection Capacity Utilization 94.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 4: W Front St (Rt 11) & Sunoco Station

↖ ø2	↗ ø4
21 s	39 s
↖ ø6	↗ ø8
21 s	39 s



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	21	659	51	1364	130	44	81	29	39
Turn Type	Perm		pm+pt		Perm		Perm	Perm	
Protected Phases		4	3	8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phases	4	4	3	8	2	2	2	6	6
Minimum Initial (s)	1.0	1.0	4.0	20.0	2.0	2.0	2.0	1.0	1.0
Minimum Split (s)	25.0	25.0	8.0	25.0	6.0	6.0	6.0	5.0	5.0
Total Split (s)	42.0	42.0	8.0	50.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	60.0%	60.0%	11.4%	71.4%	28.6%	28.6%	28.6%	28.6%	28.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	0.0	2.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	38.0	38.0	46.0	46.0		16.0	16.0		16.0
Actuated g/C Ratio	0.54	0.54	0.66	0.66		0.23	0.23		0.23
v/c Ratio	0.25	0.83	0.24	1.23		0.63	0.22		0.26
Control Delay	15.7	22.7	6.7	129.4		34.6	7.0		21.5
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	15.7	22.7	6.7	129.4		34.6	7.0		21.5
LOS	B	C	A	F		C	A		C
Approach Delay		22.5		125.0		25.8			21.5
Approach LOS		C		F		C			C

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 120

Control Type: Pretimed

Maximum v/c Ratio: 1.23

Intersection Signal Delay: 79.7

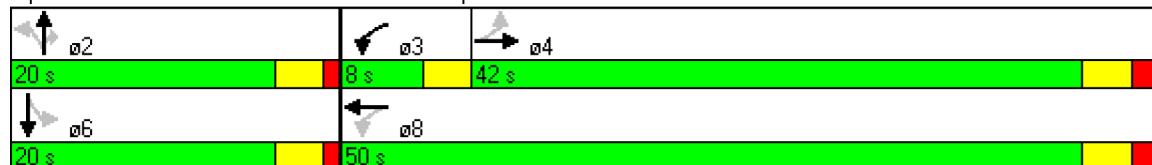
Intersection LOS: E

Intersection Capacity Utilization 95.1%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St



TWO-WAY STOP CONTROL SUMMARY

General Information							Site Information		
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11				
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp				
Date Performed	7/3/2008			Analysis Year	2008				
Analysis Time Period	AM Peak								
Project Description 535 - Susquehanna/Bell Bend NPP									
East/West Street: PPL Entrance					North/South Street: US Rt 11				
Intersection Orientation: North-South					Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments									
Major Street	Northbound			Southbound					
Movement	1	2	3	4	5	6			
	L	T	R	L	T	R			
Volume (veh/h)	13	1151			266	5			
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00			
Hourly Flow Rate, HFR (veh/h)	13	1151	0	0	266	5			
Percent Heavy Vehicles	0	--	--	0	--	--			
Median Type	Two Way Left Turn Lane								
RT Channelized			0			0			
Lanes	1	1	0	0	1	0			
Configuration	L	T				TR			
Upstream Signal		0			0				
Minor Street	Eastbound			Westbound					
Movement	7	8	9	10	11	12			
	L	T	R	L	T	R			
Volume (veh/h)	73		200						
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00			
Hourly Flow Rate, HFR (veh/h)	73	0	200	0	0	0			
Percent Heavy Vehicles	0	0	0	0	0	0			
Percent Grade (%)	0			0					
Flared Approach		N			N				
Storage		0			0				
RT Channelized			0			0			
Lanes	1	0	1	0	0	0			
Configuration	L		R						
Delay, Queue Length, and Level of Service									
Approach	Northbound	Southbound	Westbound			Eastbound			
Movement	1	4	7	8	9	10	11	12	
Lane Configuration	L					L		R	
v (veh/h)	13					73		200	
C (m) (veh/h)	1304					242		776	
v/c	0.01					0.30		0.26	
95% queue length	0.03					1.22		1.03	
Control Delay (s/veh)	7.8					26.2		11.2	
LOS	A					D		B	
Approach Delay (s/veh)	--	--				15.2			
Approach LOS	--	--				C			

TWO-WAY STOP CONTROL SUMMARY

General Information							Site Information		
Analyst	Christopher Puglisi			Intersection	PPL & Rt 11				
Agency/Co.	KLD Associates			Jurisdiction	Salem Twp				
Date Performed	7/3/2008			Analysis Year	2008				
Analysis Time Period	PM Peak								
Project Description 535 - Susquehanna/Bell Bend NPP									
East/West Street: BellBend Entrance					North/South Street: US Rt 11				
Intersection Orientation: North-South					Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments									
Major Street	Northbound			Southbound					
Movement	1	2	3	4	5	6			
	L	T	R	L	T	R			
Volume (veh/h)	3	281			467	1			
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00			
Hourly Flow Rate, HFR (veh/h)	3	281	0	0	467	1			
Percent Heavy Vehicles	0	--	--	0	--	--			
Median Type	Two Way Left Turn Lane								
RT Channelized			0			0			
Lanes	1	1	0	0	1	0			
Configuration	L	T				TR			
Upstream Signal		0			0				
Minor Street	Eastbound			Westbound					
Movement	7	8	9	10	11	12			
	L	T	R	L	T	R			
Volume (veh/h)	883		988						
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00			
Hourly Flow Rate, HFR (veh/h)	883	0	988	0	0	0			
Percent Heavy Vehicles	0	0	0	0	0	0			
Percent Grade (%)	0			0					
Flared Approach		N			N				
Storage		0			0				
RT Channelized			0			0			
Lanes	1	0	1	0	0	0			
Configuration	L		R						
Delay, Queue Length, and Level of Service									
Approach	Northbound	Southbound	Westbound			Eastbound			
Movement	1	4	7	8	9	10	11	12	
Lane Configuration	L					L		R	
v (veh/h)	3					883		988	
C (m) (veh/h)	1104					486		599	
v/c	0.00					1.82		1.65	
95% queue length	0.01					55.58		55.32	
Control Delay (s/veh)	8.3					395.8		317.8	
LOS	A					F		F	
Approach Delay (s/veh)	--	--				354.6			
Approach LOS	--	--				F			

APPENDIX I

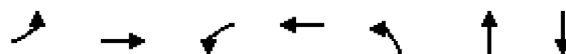
MITIGATION MEASURES

Appendix I – Mitigation Measures

Table I-1 summarizes the mitigation measures applied and the resulting LOS.

Table I-1 Mitigation Measures

<i>Case</i>	<i>Future Build</i>	<i>Construction</i>		<i>Construction and Outage</i>		<i>Notes</i>
<i>Intersection</i>	<i>PM</i>	<i>AM</i>	<i>PM</i>	<i>AM</i>	<i>PM</i>	
Main St		Signal Retiming, Restriping SB RT 11	Signal Retiming, Restriping NB RT 11	Signal Retiming, Restriping SB RT 11	Signal Retiming, Restriping NB RT 11	-
Union St		Signal Retiming, Restriping SB RT 11	Signal Retiming	Signal Retiming, Restriping EB Union, and RT 11 SB	Signal Retiming	-
Bell Bend		Temporary signal during Construction	Temporary signal during Construction	Temporary signal during Construction	Temporary signal during Construction	-
2nd St		Signal Retiming	Signal Retiming	Signal Retiming	Signal Retiming	-
Front St		Signal Retiming, Restriping SB RT 11	Signal Retiming, Restriping EB RT 93	Signal Retiming, Restriping SB RT 11	Signal Retiming, Restriping EB RT 93	Mitigation attains LOS values shown and not the Future No Build level of service, LOS B.
		LOS B	LOS B	LOS C	LOS B	
Poplar		Signal Retiming	Signal Retiming	Signal Retiming	Signal Retiming	
		LOS B	LOS D	LOS E	LOS D	
Orange St	Signal Retiming	Signal Retiming	Signal Retiming	Signal Retiming	Signal Retiming	Any additional mitigation needs discussion
	LOS B	LOS B	LOS C	LOS B	LOS D	



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Configurations		↕		↕	↙	↗	↗
Volume (vph)	145	14	8	7	45	197	940
Turn Type	Perm		Perm		Perm		
Protected Phases		4		8		2	6
Permitted Phases	4		8		2		
Detector Phases	4	4	8	8	2	2	6
Minimum Initial (s)	8.0	8.0	8.0	8.0	14.0	14.0	14.0
Minimum Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0
Total Split (s)	25.0	25.0	25.0	25.0	50.0	50.0	50.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0

Lead/Lag

Lead-Lag Optimize?

Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		21.0		21.0	46.0	46.0	46.0
Actuated g/C Ratio		0.28		0.28	0.61	0.61	0.61
v/c Ratio		0.92		0.06	0.51	0.21	0.90
Control Delay		49.1		19.7	31.2	6.8	26.4
Queue Delay		0.0		0.0	0.0	0.0	0.0
Total Delay		49.1		19.7	31.2	6.8	26.4
LOS		D		B	C	A	C
Approach Delay		49.1		19.7		11.2	26.4
Approach LOS		D		B		B	C

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Pretimed

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 29.5

Intersection LOS: C













Intersection Capacity Utilization 83.8%

ICU Level of Service E





Analysis Period (min) 15















Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

50 s	25 s
50 s	25 s





							
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Configurations							
Volume (vph)	145	14	8	7	45	197	940
Turn Type	Perm		Perm		Perm		
Protected Phases		4		8		2	6
Permitted Phases	4		8		2		
Detector Phases	4	4	8	8	2	2	6
Minimum Initial (s)	8.0	8.0	8.0	8.0	14.0	14.0	14.0
Minimum Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0
Total Split (s)	25.0	25.0	25.0	25.0	50.0	50.0	50.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		21.0		21.0	46.0	46.0	46.0
Actuated g/C Ratio		0.28		0.28	0.61	0.61	0.61
v/c Ratio		0.92		0.06	0.19	0.21	0.48
Control Delay		49.1		19.7	8.6	6.8	8.8
Queue Delay		0.0		0.0	0.0	0.0	0.0
Total Delay		49.1		19.7	8.6	6.8	8.8
LOS		D		B	A	A	A
Approach Delay		49.1		19.7		7.2	8.8
Approach LOS		D		B		A	A
Intersection Summary							
Cycle Length: 75							
Actuated Cycle Length: 75							
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green							
Natural Cycle: 70							
Control Type: Pretimed							
Maximum v/c Ratio: 0.92							
Intersection Signal Delay: 18.7				Intersection LOS: B			
Intersection Capacity Utilization 69.9%				ICU Level of Service C			
Analysis Period (min) 15							















Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

	
ø2	ø4
50 s	25 s
	
ø6	ø8
50 s	25 s





								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	59	22	25	32	319	983	4	253
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	8.0	8.0	8.0	8.0	14.0	14.0	14.0	14.0
Minimum Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0	44.0
Total Split (s)	25.0	25.0	25.0	25.0	55.0	55.0	55.0	55.0
Total Split (%)	31.3%	31.3%	31.3%	31.3%	68.8%	68.8%	68.8%	68.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		21.0		21.0	51.0	51.0	51.0	51.0
Actuated g/C Ratio		0.26		0.26	0.64	0.64	0.64	0.64
v/c Ratio		0.49		0.24	0.58	0.89	0.04	0.34
Control Delay		20.7		23.2	13.4	24.1	6.8	6.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		20.7		23.2	13.4	24.1	6.8	6.5
LOS		C		C	B	C	A	A
Approach Delay		20.7		23.2		21.5		6.5
Approach LOS		C		C		C		A
Intersection Summary								
Cycle Length: 80								
Actuated Cycle Length: 80								
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green								
Natural Cycle: 80								
Control Type: Pretimed								
Maximum v/c Ratio: 0.89								
Intersection Signal Delay: 18.7					Intersection LOS: B			
Intersection Capacity Utilization 87.5%					ICU Level of Service E			
Analysis Period (min) 15								















Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

 ø2	 ø4
55 s	25 s
 ø6	 ø8
55 s	25 s







								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	145	14	265	8	7	51	206	1000
Turn Type	Perm		Perm	Perm		Perm		
Protected Phases		4			8		2	6
Permitted Phases	4		4	8		2		
Detector Phases	4	4	4	8	8	2	2	6
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	14.0	14.0	14.0
Minimum Split (s)	26.0	26.0	26.0	26.0	26.0	44.0	44.0	44.0
Total Split (s)	26.0	26.0	26.0	26.0	26.0	64.0	64.0	64.0
Total Split (%)	28.9%	28.9%	28.9%	28.9%	28.9%	71.1%	71.1%	71.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		22.0	22.0		22.0	60.0	60.0	60.0
Actuated g/C Ratio		0.24	0.24		0.24	0.67	0.67	0.67
v/c Ratio		0.59	0.66		0.06	0.62	0.20	0.92
Control Delay		38.7	25.4		26.0	45.6	6.1	27.3
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0
Total Delay		38.7	25.4		26.0	45.6	6.1	27.3
LOS		D	C		C	D	A	C
Approach Delay		30.4			26.0		13.6	27.3
Approach LOS		C			C		B	C
Intersection Summary								
Cycle Length: 90								
Actuated Cycle Length: 90								
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green								
Natural Cycle: 90								
Control Type: Pretimed								
Maximum v/c Ratio: 0.92								
Intersection Signal Delay: 26.0					Intersection LOS: C			
Intersection Capacity Utilization 87.5%					ICU Level of Service E			
Analysis Period (min) 15								















Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

	ø2			ø4
64 s			26 s	
	ø6			ø8
64 s			26 s	





								
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	145	14	265	8	7	51	206	1000
Turn Type	Perm		Perm	Perm		Perm		
Protected Phases		4			8		2	6
Permitted Phases	4		4	8		2		
Detector Phases	4	4	4	8	8	2	2	6
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	14.0	14.0	14.0
Minimum Split (s)	26.0	26.0	26.0	26.0	26.0	44.0	44.0	44.0
Total Split (s)	26.0	26.0	26.0	26.0	26.0	64.0	64.0	64.0
Total Split (%)	28.9%	28.9%	28.9%	28.9%	28.9%	71.1%	71.1%	71.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		22.0	22.0		22.0	60.0	60.0	60.0
Actuated g/C Ratio		0.24	0.24		0.24	0.67	0.67	0.67
v/c Ratio		0.59	0.66		0.06	0.21	0.20	0.48
Control Delay		38.7	25.4		26.0	8.4	6.1	8.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0
Total Delay		38.7	25.4		26.0	8.4	6.1	8.2
LOS		D	C		C	A	A	A
Approach Delay		30.4			26.0		6.5	8.2
Approach LOS		C			C		A	A
Intersection Summary								
Cycle Length: 90								
Actuated Cycle Length: 90								
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green								
Natural Cycle: 70								
Control Type: Pretimed								
Maximum v/c Ratio: 0.66								
Intersection Signal Delay: 14.0					Intersection LOS: B			
Intersection Capacity Utilization 63.7%					ICU Level of Service B			
Analysis Period (min) 15								











Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

					
ø2	ø4	ø6	ø4	ø6	ø8
64 s	26 s	64 s	26 s	26 s	26 s
64 s	26 s	64 s	26 s	26 s	26 s

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	59	22	25	32	338	1009	4	255
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phases	4	4	8	8	2	2	6	6
Minimum Initial (s)	8.0	8.0	8.0	8.0	14.0	14.0	14.0	14.0
Minimum Split (s)	26.0	26.0	26.0	26.0	44.0	44.0	44.0	44.0
Total Split (s)	24.0	24.0	24.0	24.0	56.0	56.0	56.0	56.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	70.0%	70.0%	70.0%	70.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		20.0		20.0	52.0	52.0	52.0	52.0
Actuated g/C Ratio		0.25		0.25	0.65	0.65	0.65	0.65
v/c Ratio		0.51		0.26	0.60	0.90	0.04	0.34
Control Delay		21.7		24.2	13.4	23.9	6.5	6.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		21.7		24.2	13.4	23.9	6.5	6.1
LOS		C		C	B	C	A	A
Approach Delay		21.7		24.2		21.3		6.1
Approach LOS		C		C		C		A
Intersection Summary								
Cycle Length: 80								
Actuated Cycle Length: 80								
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green								
Natural Cycle: 80								
Control Type: Pretimed								
Maximum v/c Ratio: 0.90								
Intersection Signal Delay: 18.7					Intersection LOS: B			
Intersection Capacity Utilization 88.9%					ICU Level of Service E			
Analysis Period (min) 15								

Splits and Phases: 3: Rt 239/Union St & RT 11/Main St

 ø2	 ø4
56 s	24 s
 ø6	 ø8
56 s	24 s

					
Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	43	154	11	58	1137
Turn Type	Perm pm+pt				
Protected Phases	4	6		5	2
Permitted Phases			6	2	
Detector Phases	4	6	6	5	2
Minimum Initial (s)	5.0	12.0	12.0	5.0	17.0
Minimum Split (s)	10.2	21.4	21.4	10.4	22.4
Total Split (s)	11.0	58.6	58.6	10.4	69.0
Total Split (%)	13.8%	73.3%	73.3%	13.0%	86.3%
Yellow Time (s)	4.1	4.2	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2	1.2
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	None	None	None
Act Effct Green (s)	7.6	51.7	51.7	53.5	56.9
Actuated g/C Ratio	0.11	0.77	0.77	0.75	0.84
v/c Ratio	0.58	0.13	0.01	0.07	0.84
Control Delay	36.8	4.3	2.2	1.9	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.8	4.3	2.2	1.9	11.9
LOS	D	A	A	A	B
Approach Delay	36.8	4.2			11.4
Approach LOS	D	A			B

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 67.4

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 12.5





Intersection LOS: B










Intersection Capacity Utilization 71.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

	ø2					ø4
69 s					11 s	
	ø5		ø6			
10.4 s		58.6 s				

					
Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	43	154	11	58	1137
Turn Type	Perm pm+pt				
Protected Phases	4	6		5	2
Permitted Phases			6	2	
Detector Phases	4	6	6	5	2
Minimum Initial (s)	5.0	12.0	12.0	5.0	17.0
Minimum Split (s)	10.2	21.4	21.4	10.4	22.4
Total Split (s)	11.0	58.6	58.6	10.4	69.0
Total Split (%)	13.8%	73.3%	73.3%	13.0%	86.3%
Yellow Time (s)	4.1	4.2	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2	1.2
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	None	None	None
Act Effct Green (s)	7.5	38.1	38.1		38.1
Actuated g/C Ratio	0.15	0.78	0.78		0.78
v/c Ratio	0.46	0.13	0.01		0.54
Control Delay	24.6	2.4	1.0		3.9
Queue Delay	0.0	0.0	0.0		0.0
Total Delay	24.6	2.4	1.0		3.9
LOS	C	A	A		A
Approach Delay	24.6	2.3			3.9
Approach LOS	C	A			A

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 49

Natural Cycle: 45

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 5.3





Intersection LOS: A











Intersection Capacity Utilization 58.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

	ø2			ø4
69 s			11 s	
	ø5		ø6	
10.4 s		58.6 s		

					
Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	12	1170	42	138	216
Turn Type	Perm pm+pt				
Protected Phases	4	6		5	2
Permitted Phases			6	2	
Detector Phases	4	6	6	5	2
Minimum Initial (s)	5.0	12.0	12.0	5.0	17.0
Minimum Split (s)	10.2	21.4	21.4	10.4	22.4
Total Split (s)	10.2	69.4	69.4	10.4	79.8
Total Split (%)	11.3%	77.1%	77.1%	11.6%	88.7%
Yellow Time (s)	4.1	4.2	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2	1.2
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	None	None	None
Act Effct Green (s)	6.9	60.8	60.8	64.0	68.0
Actuated g/C Ratio	0.09	0.78	0.78	0.80	0.87
v/c Ratio	0.52	0.85	0.04	0.64	0.15
Control Delay	19.7	17.6	1.2	29.2	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	17.6	1.2	29.2	1.5
LOS	B	B	A	C	A
Approach Delay	19.7	17.1			12.3
Approach LOS	B	B			B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 77.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 16.2





Intersection LOS: B









Intersection Capacity Utilization 85.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

	ø2					ø4
79.8 s					10.2 s	
	ø5		ø6			
10.4 s		69.4 s				

				
Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Volume (vph)	12	1170	138	216
Turn Type		pm+pt		
Protected Phases	4	6	5	2
Permitted Phases			2	
Detector Phases	4	6	5	2
Minimum Initial (s)	5.0	12.0	5.0	17.0
Minimum Split (s)	10.2	21.4	10.4	22.4
Total Split (s)	10.2	69.4	10.4	79.8
Total Split (%)	11.3%	77.1%	11.6%	88.7%
Yellow Time (s)	4.1	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	None	None	None
Act Effct Green (s)	6.8	39.4	43.3	46.8
Actuated g/C Ratio	0.12	0.69	0.74	0.82
v/c Ratio	0.44	0.53	0.38	0.16
Control Delay	15.1	7.1	4.4	1.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.1	7.1	4.4	1.9
LOS	B	A	A	A
Approach Delay	15.1	7.1		2.9
Approach LOS	B	A		A

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 56.8

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 6.7





Intersection LOS: A











Intersection Capacity Utilization 57.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

 ø2		 ø4
79.8 s		10.2 s
 ø5	 ø6	
10.4 s	69.4 s	

					
Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	43	170	11	57	1236
Turn Type	Perm pm+pt				
Protected Phases	4	6		5	2
Permitted Phases			6	2	
Detector Phases	4	6	6	5	2
Minimum Initial (s)	5.0	12.0	12.0	5.0	17.0
Minimum Split (s)	10.2	21.4	21.4	10.4	22.4
Total Split (s)	10.2	69.4	69.4	10.4	79.8
Total Split (%)	11.3%	77.1%	77.1%	11.6%	88.7%
Yellow Time (s)	4.1	4.2	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2	1.2
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	6.2	65.4	65.4	75.8	75.8
Actuated g/C Ratio	0.07	0.73	0.73	0.84	0.84
v/c Ratio	0.85	0.14	0.01	0.07	0.95
Control Delay	72.2	4.1	1.8	1.3	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	72.2	4.1	1.8	1.3	21.8
LOS	E	A	A	A	C
Approach Delay	72.2	3.9			20.9
Approach LOS	E	A			C

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 22.6





Intersection LOS: C










Intersection Capacity Utilization 76.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

	
ø2	ø4
79.8 s	10.2 s
	
ø5	ø6
10.4 s	69.4 s

					
Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	43	170	11	57	1236
Turn Type	Perm pm+pt				
Protected Phases	4	6		5	2
Permitted Phases			6	2	
Detector Phases	4	6	6	5	2
Minimum Initial (s)	5.0	12.0	12.0	5.0	17.0
Minimum Split (s)	10.2	21.4	21.4	10.4	22.4
Total Split (s)	10.2	69.4	69.4	10.4	79.8
Total Split (%)	11.3%	77.1%	77.1%	11.6%	88.7%
Yellow Time (s)	4.1	4.2	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2	1.2
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	6.2	65.4	65.4		75.8
Actuated g/C Ratio	0.07	0.73	0.73		0.84
v/c Ratio	0.85	0.14	0.01		0.56
Control Delay	72.2	4.1	1.8		3.0
Queue Delay	0.0	0.0	0.0		0.0
Total Delay	72.2	4.1	1.8		3.0
LOS	E	A	A		A
Approach Delay	72.2	3.9			3.0
Approach LOS	E	A			A

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green

Natural Cycle: 45

Control Type: Pretimed

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 7.9





Intersection LOS: A











Intersection Capacity Utilization 60.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

	
ø2	ø4
79.8 s	10.2 s
	
ø5	ø6
10.4 s	69.4 s

					
Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	12	1216	42	138	218
Turn Type	Perm pm+pt				
Protected Phases	4	6		5	2
Permitted Phases			6	2	
Detector Phases	4	6	6	5	2
Minimum Initial (s)	1.8	12.0	12.0	5.0	17.0
Minimum Split (s)	7.0	21.4	21.4	10.4	22.4
Total Split (s)	8.0	73.0	73.0	9.0	82.0
Total Split (%)	8.9%	81.1%	81.1%	10.0%	91.1%
Yellow Time (s)	4.1	4.2	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2	1.2
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	4.0	69.0	69.0	78.0	78.0
Actuated g/C Ratio	0.04	0.77	0.77	0.87	0.87
v/c Ratio	0.70	0.90	0.04	0.74	0.15
Control Delay	33.7	19.5	0.9	33.4	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	19.5	0.9	33.4	1.1
LOS	C	B	A	C	A
Approach Delay	33.7	18.9			13.6
Approach LOS	C	B			B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 18.8




Intersection LOS: B









Intersection Capacity Utilization 87.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

	
ø2	ø4
82 s	8 s
	
ø5	ø6
9 s	73 s

				
Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Volume (vph)	12	1216	138	218
Turn Type		pm+pt		
Protected Phases	4	6	5	2
Permitted Phases			2	
Detector Phases	4	6	5	2
Minimum Initial (s)	1.8	12.0	5.0	17.0
Minimum Split (s)	7.0	21.4	10.4	22.4
Total Split (s)	8.0	73.0	9.0	82.0
Total Split (%)	8.9%	81.1%	10.0%	91.1%
Yellow Time (s)	4.1	4.2	4.2	4.2
All-Red Time (s)	1.1	1.2	1.2	1.2
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	Max	Max	Max	Max
Act Effct Green (s)	4.0	69.0	78.0	78.0
Actuated g/C Ratio	0.04	0.77	0.87	0.87
v/c Ratio	0.70	0.49	0.43	0.15
Control Delay	33.7	4.6	4.8	1.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.7	4.6	4.8	1.1
LOS	C	A	A	A
Approach Delay	33.7	4.6		2.5
Approach LOS	C	A		A

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 6.2






Intersection LOS: A















Intersection Capacity Utilization 58.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Main St & RT 11

		
ø2		ø4
82 s		8 s
		
ø5	ø6	
9 s	73 s	

							
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Volume (vph)	72	330	20	108	86	162	62
Turn Type	Perm		Perm	pm+pt			Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phases	8	8	8	5	2	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	8.0	20.5	20.5	20.5
Total Split (s)	26.0	26.0	26.0	15.0	39.0	24.0	24.0
Total Split (%)	40.0%	40.0%	40.0%	23.1%	60.0%	36.9%	36.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	0.0	1.0	1.0	1.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	22.0	22.0	22.0	35.0	35.0	20.0	20.0
Actuated g/C Ratio	0.34	0.34	0.34	0.54	0.54	0.31	0.31
v/c Ratio	0.15	0.35	0.04	0.20	0.10	0.31	0.13
Control Delay	15.9	17.1	6.8	5.2	4.3	19.1	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	17.1	6.8	5.2	4.3	19.1	5.6
LOS	B	B	A	A	A	B	A
Approach Delay		16.4			4.8	15.4	
Approach LOS		B			A	B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 13.5

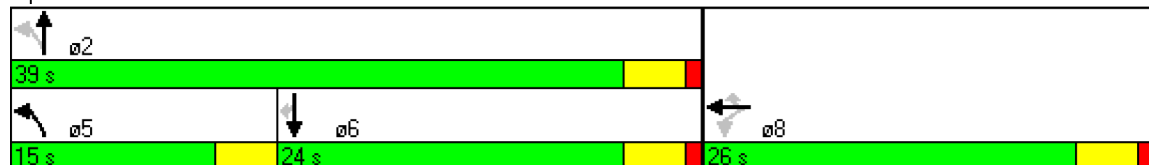
Intersection LOS: B















Intersection Capacity Utilization 75.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Int



							
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Volume (vph)	615	1088	59	151	111	233	109
Turn Type	Perm		Perm	pm+pt			Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phases	8	8	8	5	2	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	8.0	20.5	20.5	20.5
Total Split (s)	36.0	36.0	36.0	8.0	29.0	21.0	21.0
Total Split (%)	55.4%	55.4%	55.4%	12.3%	44.6%	32.3%	32.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	0.0	1.0	1.0	1.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	32.0	32.0	32.0	25.0	25.0	17.0	17.0
Actuated g/C Ratio	0.49	0.49	0.49	0.38	0.38	0.26	0.26
v/c Ratio	0.74	0.66	0.08	0.57	0.19	0.55	0.27
Control Delay	19.8	14.6	3.0	24.5	9.9	25.7	10.7
Queue Delay	11.0	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay	30.8	14.6	3.0	24.8	9.9	25.7	10.7
LOS	C	B	A	C	A	C	B
Approach Delay		19.9			18.5	20.9	
Approach LOS		B			B	C	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 19.9

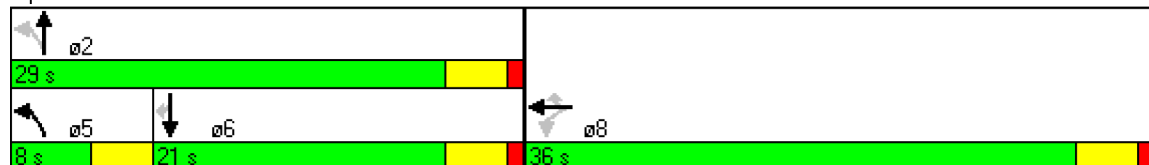
Intersection LOS: B















Intersection Capacity Utilization 89.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Int



							
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Volume (vph)	78	369	20	108	86	160	62
Turn Type	Perm		Perm	pm+pt			Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phases	8	8	8	5	2	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	8.0	20.5	20.5	20.5
Total Split (s)	26.0	26.0	26.0	15.0	39.0	24.0	24.0
Total Split (%)	40.0%	40.0%	40.0%	23.1%	60.0%	36.9%	36.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	0.0	1.0	1.0	1.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	22.0	22.0	22.0	35.0	35.0	20.0	20.0
Actuated g/C Ratio	0.34	0.34	0.34	0.54	0.54	0.31	0.31
v/c Ratio	0.15	0.36	0.04	0.20	0.10	0.31	0.13
Control Delay	15.9	17.3	6.8	4.6	3.7	19.1	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	17.3	6.8	4.6	3.7	19.1	5.6
LOS	B	B	A	A	A	B	A
Approach Delay		16.6			4.2	15.3	
Approach LOS		B			A	B	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 13.5

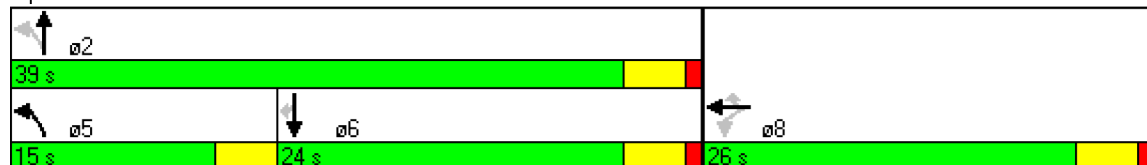
Intersection LOS: B















Intersection Capacity Utilization 88.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Int



							
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Volume (vph)	632	1197	59	151	110	232	109
Turn Type	Perm		Perm	pm+pt			Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phases	8	8	8	5	2	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	8.0	20.5	20.5	20.5
Total Split (s)	39.0	39.0	39.0	8.0	26.0	18.0	18.0
Total Split (%)	60.0%	60.0%	60.0%	12.3%	40.0%	27.7%	27.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	0.0	1.0	1.0	1.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	35.0	35.0	35.0	22.0	22.0	14.0	14.0
Actuated g/C Ratio	0.54	0.54	0.54	0.34	0.34	0.22	0.22
v/c Ratio	0.70	0.66	0.07	0.70	0.21	0.67	0.34
Control Delay	16.0	12.9	2.5	40.4	13.8	33.3	14.9
Queue Delay	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	12.9	2.5	40.4	13.8	33.3	14.9
LOS	B	B	A	D	B	C	B
Approach Delay		14.1			29.2	27.3	
Approach LOS		B			C	C	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 17.8

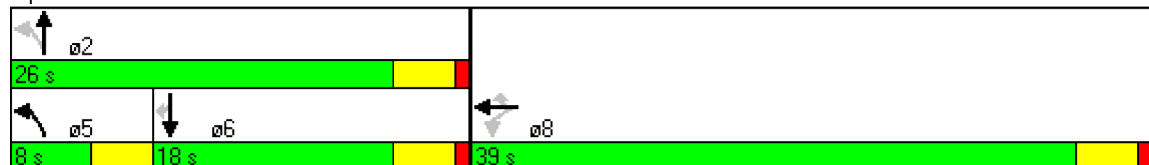
Intersection LOS: B

Intersection Capacity Utilization 90.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Int



	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑	↗	↘	↑
Volume (vph)	953	182	527	68	142
Turn Type			Perm	pm+pt	
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	27.0	28.0	28.0	10.0	38.0
Total Split (%)	41.5%	43.1%	43.1%	15.4%	58.5%
Yellow Time (s)	3.2	4.0	4.0	2.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	23.0	24.0	24.0	34.0	34.0
Actuated g/C Ratio	0.35	0.37	0.37	0.52	0.52
v/c Ratio	0.92	0.31	0.83	0.13	0.15
Control Delay	33.6	16.2	23.5	8.0	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.6	16.2	23.5	8.0	7.9
LOS	C	B	C	A	A
Approach Delay	33.6	21.6			7.9
Approach LOS	C	C			A

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 26.5

Intersection LOS: C

Intersection Capacity Utilization 75.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Int

↙ ø1	↑ ø2	↗ ø4
10 s	28 s	27 s
↘ ø6		
38 s		

	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔↔	↑	↗	↘	↑
Volume (vph)	953	182	527	68	142
Turn Type	Perm pm+pt				
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	27.0	28.0	28.0	10.0	38.0
Total Split (%)	41.5%	43.1%	43.1%	15.4%	58.5%
Yellow Time (s)	3.2	4.0	4.0	2.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	23.0	24.0	24.0	34.0	34.0
Actuated g/C Ratio	0.35	0.37	0.37	0.52	0.52
v/c Ratio	0.64	0.31	0.83	0.13	0.15
Control Delay	19.1	16.2	23.5	8.0	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	16.2	23.5	8.0	7.9
LOS	B	B	C	A	A
Approach Delay	19.1	21.6			7.9
Approach LOS	B	C			A

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 18.9

Intersection LOS: B

Intersection Capacity Utilization 66.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Int

↘ ø1	↑ ø2	↗ ø4
10 s	28 s	27 s
↘ ø6		
38 s		

	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑	↗	↘	↑
Volume (vph)	607	288	141	91	752
Turn Type	Perm pm+pt				
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	21.0	34.0	34.0	10.0	44.0
Total Split (%)	32.3%	52.3%	52.3%	15.4%	67.7%
Yellow Time (s)	3.2	4.0	4.0	2.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	17.0	30.0	30.0	40.0	40.0
Actuated g/C Ratio	0.26	0.46	0.46	0.62	0.62
v/c Ratio	0.97	0.34	0.17	0.16	0.73
Control Delay	46.8	12.5	2.8	8.9	17.2
Queue Delay	0.0	0.0	0.0	0.0	14.6
Total Delay	46.8	12.5	2.8	8.9	31.8
LOS	D	B	A	A	C
Approach Delay	46.8	9.3			29.4
Approach LOS	D	A			C

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 32.5

Intersection LOS: C

Intersection Capacity Utilization 89.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Int

↙ ø1	↑ ø2	→ ø4
10 s	34 s	21 s
↘ ø6		
44 s		

	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑	↗		↔↔
Volume (vph)	607	288	141	91	752
Turn Type			Perm	pm+pt	
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	26.0	29.0	29.0	10.0	39.0
Total Split (%)	40.0%	44.6%	44.6%	15.4%	60.0%
Yellow Time (s)	3.2	4.0	4.0	2.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	22.0	25.0	25.0		35.0
Actuated g/C Ratio	0.34	0.38	0.38		0.54
v/c Ratio	0.76	0.40	0.20		0.57
Control Delay	22.3	16.7	3.6		16.6
Queue Delay	0.0	0.0	0.0		2.9
Total Delay	22.3	16.7	3.6		19.5
LOS	C	B	A		B
Approach Delay	22.3	12.4			19.5
Approach LOS	C	B			B

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 19.3

Intersection LOS: B

Intersection Capacity Utilization 71.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Int

↘ ø1	↑ ø2	↗ ø4
10 s	29 s	26 s
↘ ø6		
39 s		

	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑	↗	↘	↑
Volume (vph)	1193	182	565	147	68
Turn Type	Perm pm+pt				
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	30.0	25.0	25.0	10.0	35.0
Total Split (%)	46.2%	38.5%	38.5%	15.4%	53.8%
Yellow Time (s)	3.2	4.0	4.0	2.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	26.0	21.0	21.0	31.0	31.0
Actuated g/C Ratio	0.40	0.32	0.32	0.48	0.48
v/c Ratio	1.10	0.33	1.02	0.33	0.09
Control Delay	79.3	18.6	62.1	11.1	9.0
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay	79.3	18.6	62.1	11.4	9.0
LOS	E	B	E	B	A
Approach Delay	79.3	51.5			10.6
Approach LOS	E	D			B

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 64.0

Intersection LOS: E

Intersection Capacity Utilization 88.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Int

↙ ø1	↑ ø2	↗ ø4
10 s	25 s	30 s
↘ ø6		
35 s		

	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔↔	↑	↗	↘	↑
Volume (vph)	1193	182	565	147	68
Turn Type	Perm pm+pt				
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	30.0	26.0	26.0	9.0	35.0
Total Split (%)	46.2%	40.0%	40.0%	13.8%	53.8%
Yellow Time (s)	3.2	4.0	4.0	2.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	26.0	22.0	22.0	31.0	31.0
Actuated g/C Ratio	0.40	0.34	0.34	0.48	0.48
v/c Ratio	0.77	0.31	1.00	0.34	0.09
Control Delay	19.8	17.7	56.2	11.1	9.0
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay	19.8	17.7	56.2	11.4	9.0
LOS	B	B	E	B	A
Approach Delay	19.8	46.8			10.6
Approach LOS	B	D			B

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 27.3

Intersection LOS: C

Intersection Capacity Utilization 78.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Int

↙ ø1	↑ ø2	↗ ø4
9 s	26 s	30 s
↘ ø6		
35 s		

	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑	↗	↘	↑
Volume (vph)	613	288	141	91	769
Turn Type	Perm pm+pt				
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	24.0	35.0	35.0	6.0	41.0
Total Split (%)	36.9%	53.8%	53.8%	9.2%	63.1%
Yellow Time (s)	3.2	4.0	4.0	2.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	20.0	31.0	31.0	37.0	37.0
Actuated g/C Ratio	0.31	0.48	0.48	0.57	0.57
v/c Ratio	0.84	0.32	0.17	0.19	0.80
Control Delay	28.6	11.8	2.6	9.8	18.1
Queue Delay	0.0	0.0	0.0	0.0	12.6
Total Delay	28.6	11.8	2.6	9.8	30.7
LOS	C	B	A	A	C
Approach Delay	28.6	8.8			28.5
Approach LOS	C	A			C

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 24.8

Intersection LOS: C

Intersection Capacity Utilization 90.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Int

↘ ø1	↑ ø2	→ ø4
6 s	35 s	24 s
↓ ø6		
41 s		

	→	↑	↗	↘	↓
Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑	↗		↔↔
Volume (vph)	613	288	141	91	769
Turn Type	Perm pm+pt				
Protected Phases	4	2		1	6
Permitted Phases			2	6	
Detector Phases	4	2	2	1	6
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0
Minimum Split (s)	24.0	21.0	21.0	10.0	31.0
Total Split (s)	24.0	35.0	35.0	6.0	41.0
Total Split (%)	36.9%	53.8%	53.8%	9.2%	63.1%
Yellow Time (s)	3.2	4.0	4.0	2.0	4.0
All-Red Time (s)	1.8	1.0	1.0	0.0	1.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	20.0	31.0	31.0		37.0
Actuated g/C Ratio	0.31	0.48	0.48		0.57
v/c Ratio	0.84	0.32	0.17		0.54
Control Delay	28.6	11.8	2.6		11.4
Queue Delay	0.0	0.0	0.0		1.7
Total Delay	28.6	11.8	2.6		13.1
LOS	C	B	A		B
Approach Delay	28.6	8.8			13.1
Approach LOS	C	A			B

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 18.5

Intersection LOS: B

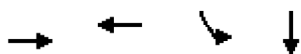
Intersection Capacity Utilization 72.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Int

↙ ø1	↑ ø2	→ ø4
6 s	35 s	24 s
↘ ø6		
41 s		



Lane Group	EBT	WBT	SBL	SBT	ø2
Lane Configurations	↔	↕		↕	
Volume (vph)	777	815	157	2	
Turn Type	custom				
Protected Phases	4	8			2
Permitted Phases			6	6	
Detector Phases	4	8	6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	40.0	40.0	20.0	20.0	20.0
Total Split (%)	66.7%	66.7%	33.3%	33.3%	33%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	36.0	36.0		16.0	
Actuated g/C Ratio	0.60	0.60		0.27	
v/c Ratio	0.82	0.82		0.57	
Control Delay	17.5	17.7		26.4	
Queue Delay	0.0	0.0		0.0	
Total Delay	17.5	17.7		26.4	
LOS	B	B		C	
Approach Delay	17.5	17.7		26.4	
Approach LOS	B	B		C	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 18.5

Intersection LOS: B

Intersection Capacity Utilization 58.4%

ICU Level of Service B

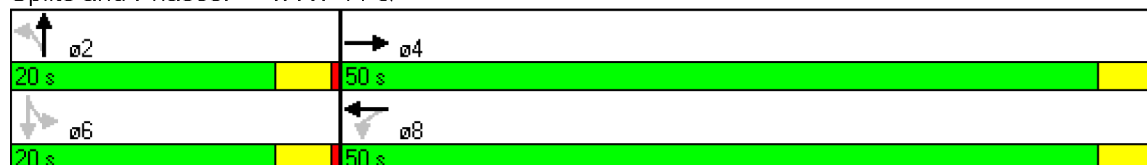
Analysis Period (min) 15

Splits and Phases: 4: W Front St (Rt 11) & Sunoco Station

↕ ø2	→ ø4
20 s	40 s
↙ ø6	← ø8
20 s	40 s

	→	↖	←	↙	↓	
Lane Group	EBT	WBL	WBT	SBL	SBT	ø2
Lane Configurations	↶		↷		↷	
Volume (vph)	994	3	434	84	4	
Turn Type		Perm		custom		
Protected Phases	4		8			2
Permitted Phases		8		6	6	
Detector Phases	4	8	8	6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	50.0	50.0	50.0	20.0	20.0	20.0
Total Split (%)	71.4%	71.4%	71.4%	28.6%	28.6%	29%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	46.0		46.0		16.0	
Actuated g/C Ratio	0.66		0.66		0.23	
v/c Ratio	0.91		0.43		0.42	
Control Delay	24.0		7.1		27.8	
Queue Delay	0.0		0.0		0.0	
Total Delay	24.0		7.1		27.8	
LOS	C		A		C	
Approach Delay	24.0		7.1		27.8	
Approach LOS	C		A		C	
Intersection Summary						
Cycle Length: 70						
Actuated Cycle Length: 70						
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green						
Natural Cycle: 70						
Control Type: Pretimed						
Maximum v/c Ratio: 0.91						
Intersection Signal Delay: 19.3				Intersection LOS: B		
Intersection Capacity Utilization 64.5%				ICU Level of Service C		
Analysis Period (min) 15						

Splits and Phases: 4: RT 11 &



	→	↖	←	↘	↓	
Lane Group	EBT	WBL	WBT	SBL	SBT	ø2
Lane Configurations	↕		↕		↕	
Volume (vph)	768	2	1361	154	2	
Turn Type		Perm		custom		
Protected Phases	4		8			2
Permitted Phases		8		6	6	
Detector Phases	4	8	8	6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	106.0	106.0	106.0	24.0	24.0	24.0
Total Split (%)	81.5%	81.5%	81.5%	18.5%	18.5%	18%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	102.0		102.0		20.0	
Actuated g/C Ratio	0.78		0.78		0.15	
v/c Ratio	0.62		1.00		0.98	
Control Delay	8.1		39.3		111.1	
Queue Delay	0.0		0.0		0.0	
Total Delay	8.1		39.3		111.1	
LOS	A		D		F	
Approach Delay	8.1		39.3		111.1	
Approach LOS	A		D		F	
Intersection Summary						
Cycle Length: 130						
Actuated Cycle Length: 130						
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green						
Natural Cycle: 130						
Control Type: Pretimed						
Maximum v/c Ratio: 1.00						
Intersection Signal Delay: 34.0				Intersection LOS: C		
Intersection Capacity Utilization 88.6%				ICU Level of Service E		
Analysis Period (min) 15						

Splits and Phases: 4: W Front St (Rt 11) & Sunoco Station

↖ ø2	→ ø4
24 s	106 s
↖ ø6	← ø8
24 s	106 s

	→	↖	←	↙	↓	
Lane Group	EBT	WBL	WBT	SBL	SBT	ø2
Lane Configurations	↖		↖		↕	
Volume (vph)	1233	3	472	84	4	
Turn Type		Perm		custom		
Protected Phases	4		8			2
Permitted Phases		8		6	6	
Detector Phases	4	8	8	6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	72.0	72.0	72.0	18.0	18.0	18.0
Total Split (%)	80.0%	80.0%	80.0%	20.0%	20.0%	20%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5

Lead/Lag

Lead-Lag Optimize?

Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	68.0		68.0		14.0	
Actuated g/C Ratio	0.76		0.76		0.16	
v/c Ratio	0.93		0.48		0.61	
Control Delay	23.2		5.5		49.0	
Queue Delay	0.0		0.0		0.0	
Total Delay	23.2		5.5		49.0	
LOS	C		A		D	
Approach Delay	23.2		5.5		49.0	
Approach LOS	C		A		D	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 19.4	Intersection LOS: B
Intersection Capacity Utilization 77.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: RT 11 &

↖ ø2	→ ø4
18 s	72 s
↙ ø6	← ø8
18 s	72 s

	→	↖	←	↗	↓	
Lane Group	EBT	WBL	WBT	SBL	SBT	ø2
Lane Configurations	↖		↖		↔	
Volume (vph)	773	2	1468	154	2	
Turn Type		Perm		custom		
Protected Phases	4		8			2
Permitted Phases		8		6	6	
Detector Phases	4	8	8	6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	126.0	126.0	126.0	24.0	24.0	24.0
Total Split (%)	84.0%	84.0%	84.0%	16.0%	16.0%	16%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5

Lead/Lag

Lead-Lag Optimize?

Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	122.0		122.0		20.0	
Actuated g/C Ratio	0.81		0.81		0.13	
v/c Ratio	0.60		1.04		1.13	
Control Delay	7.0		50.9		161.5	
Queue Delay	0.0		0.0		0.0	
Total Delay	7.0		50.9		161.5	
LOS	A		D		F	
Approach Delay	7.0		50.9		161.5	
Approach LOS	A		D		F	

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Pretimed
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 44.5
Intersection LOS: D
Intersection Capacity Utilization 94.2%
ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 4: W Front St (Rt 11) & Sunoco Station

↖ ø2	→ ø4
24 s	126 s
↖ ø6	↖ ø8
24 s	126 s

	→	↖	←	↙	↑	↗	↘	↓
Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↖		↖	↖		↖
Volume (vph)	978	35	456	23	3	28	1	7
Turn Type	pm+pt			Perm		Perm	Perm	
Protected Phases	4	3	8		2			6
Permitted Phases		8		2		2	6	
Detector Phases	4	3	8	2	2	2	6	6
Minimum Initial (s)	1.0	4.0	20.0	2.0	2.0	2.0	1.0	1.0
Minimum Split (s)	25.0	8.0	25.0	6.0	6.0	6.0	5.0	5.0
Total Split (s)	55.0	8.0	63.0	7.0	7.0	7.0	7.0	7.0
Total Split (%)	78.6%	11.4%	90.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	0.0	2.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes						
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	51.0	59.0	59.0		3.0	3.0		3.0
Actuated g/C Ratio	0.73	0.84	0.84		0.04	0.04		0.04
v/c Ratio	0.89	0.16	0.31		0.45	0.37		0.44
Control Delay	18.8	2.5	1.8		52.2	22.8		38.8
Queue Delay	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	18.8	2.5	1.8		52.2	22.8		38.8
LOS	B	A	A		D	C		D
Approach Delay	18.8		1.8		37.1			38.8
Approach LOS	B		A		D			D

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 15.1

Intersection LOS: B

















Intersection Capacity Utilization 70.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St

↖	↖	↖
7 s	8 s	55 s
↖	↖	↖
7 s	63 s	

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	21	655	51	1258	29	39	15	130	44
Turn Type	Perm		pm+pt		Perm		Perm	Perm	
Protected Phases		4	3	8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phases	4	4	3	8	2	2	2	6	6
Minimum Initial (s)	1.0	1.0	4.0	20.0	2.0	2.0	2.0	1.0	1.0
Minimum Split (s)	25.0	25.0	8.0	25.0	6.0	6.0	6.0	5.0	5.0
Total Split (s)	45.0	45.0	8.0	53.0	17.0	17.0	17.0	17.0	17.0
Total Split (%)	64.3%	64.3%	11.4%	75.7%	24.3%	24.3%	24.3%	24.3%	24.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	0.0	2.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	41.0	41.0	49.0	49.0		13.0	13.0		13.0
Actuated g/C Ratio	0.59	0.59	0.70	0.70		0.19	0.19		0.19
v/c Ratio	0.24	0.77	0.19	1.07		0.29	0.06		1.03
Control Delay	14.0	16.9	4.8	59.3		27.9	12.4		90.1
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	14.0	16.9	4.8	59.3		27.9	12.4		90.1
LOS	B	B	A	E		C	B		F
Approach Delay		16.8		57.2		25.2			90.1
Approach LOS		B		E		C			F

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 110

Control Type: Pretimed

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 46.8













Intersection LOS: D

Intersection Capacity Utilization 94.5%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St

					
ø2	ø3	ø4	ø5	ø6	ø7
17 s	8 s	45 s	17 s	53 s	17 s
					
ø8	ø9	ø10	ø11	ø12	ø13
17 s	8 s	45 s	17 s	53 s	17 s

	→	↖	←	↙	↑	↗	↘	↓
Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↖		↖	↖		↖
Volume (vph)	1217	35	493	23	3	27	1	7
Turn Type	pm+pt			Perm		Perm	Perm	
Protected Phases	4	3	8		2			6
Permitted Phases		8		2		2	6	
Detector Phases	4	3	8	2	2	2	6	6
Minimum Initial (s)	1.0	4.0	20.0	2.0	2.0	2.0	1.0	1.0
Minimum Split (s)	25.0	8.0	25.0	6.0	6.0	6.0	5.0	5.0
Total Split (s)	56.0	8.0	64.0	6.0	6.0	6.0	6.0	6.0
Total Split (%)	80.0%	11.4%	91.4%	8.6%	8.6%	8.6%	8.6%	8.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	0.0	2.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes						
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	52.0	60.0	60.0		2.0	2.0		2.0
Actuated g/C Ratio	0.74	0.86	0.86		0.03	0.03		0.03
v/c Ratio	1.18	0.19	0.35		0.67	0.46		0.59
Control Delay	103.3	2.8	1.7		92.0	32.6		59.9
Queue Delay	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	103.3	2.8	1.7		92.0	32.6		59.9
LOS	F	A	A		F	C		E
Approach Delay	103.3		1.7		61.9			59.9
Approach LOS	F		A		E			E

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 150

Control Type: Pretimed

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 75.5

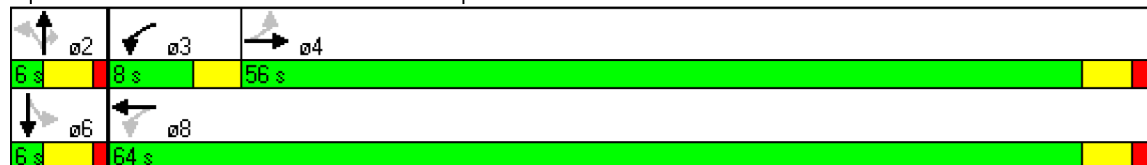
Intersection LOS: E

















Intersection Capacity Utilization 82.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St



									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	21	659	51	1364	130	44	81	29	39
Turn Type	Perm		pm+pt		Perm		Perm	Perm	
Protected Phases		4	3	8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phases	4	4	3	8	2	2	2	6	6
Minimum Initial (s)	1.0	1.0	4.0	20.0	2.0	2.0	2.0	1.0	1.0
Minimum Split (s)	25.0	25.0	8.0	25.0	6.0	6.0	6.0	5.0	5.0
Total Split (s)	48.0	48.0	8.0	56.0	14.0	14.0	14.0	14.0	14.0
Total Split (%)	68.6%	68.6%	11.4%	80.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	0.0	2.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lag	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes						
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	44.0	44.0	52.0	52.0		10.0	10.0		10.0
Actuated g/C Ratio	0.63	0.63	0.74	0.74		0.14	0.14		0.14
v/c Ratio	0.24	0.72	0.17	1.09		1.02	0.31		0.55
Control Delay	12.6	13.2	3.5	66.0		102.6	9.8		37.9
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	12.6	13.2	3.5	66.0		102.6	9.8		37.9
LOS	B	B	A	E		F	A		D
Approach Delay		13.2		63.8		73.1			37.9
Approach LOS		B		E		E			D

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 120

Control Type: Pretimed

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 48.4













Intersection LOS: D







Intersection Capacity Utilization 95.1%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 4: RT 11 & N Poplar St

					
ø2	ø3	ø4	ø5	ø6	ø7
14 s	8 s	48 s	14 s	56 s	8 s
					
ø8	ø9	ø10	ø11	ø12	ø13
14 s	8 s	48 s	14 s	56 s	8 s

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1662	0	3433	1863	1863	1583
Flt Permitted	0.986		0.409			
Satd. Flow (perm)	1662	0	1478	1863	1863	1583
Satd. Flow (RTOR)	12					403
Volume (vph)	5	12	1027	265	209	897
Adj. Flow (vph)	5	12	1027	265	209	897
Lane Group Flow (vph)	17	0	1027	265	209	897
Turn Type			pm+pt			Free
Protected Phases	4		5	2	6	
Permitted Phases			2			Free
Minimum Split (s)	20.0		8.0	20.0	20.0	
Total Split (s)	20.0	0.0	37.0	60.0	23.0	0.0
Total Split (%)	25.0%	0.0%	46.3%	75.0%	28.8%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5	0.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Act Effct Green (s)	16.0		56.0	56.0	19.0	80.0
Actuated g/C Ratio	0.20		0.70	0.70	0.24	1.00
v/c Ratio	0.05		0.56	0.20	0.47	0.57
Control Delay	16.7		6.5	4.6	30.4	1.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	16.7		6.5	4.6	30.4	1.5
LOS	B		A	A	C	A
Approach Delay	16.7			6.1	6.9	
Approach LOS	B			A	A	

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 6.6

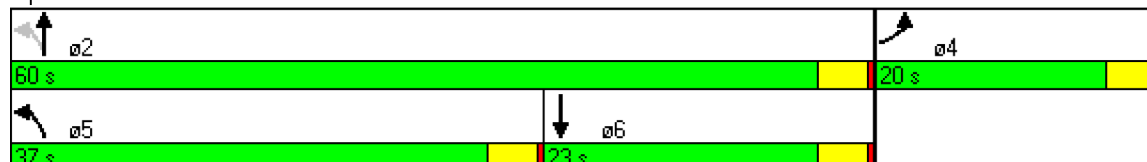
Intersection LOS: A







Intersection Capacity Utilization 53.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Int



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1662	0	3433	1863	1863	1583
Flt Permitted	0.986		0.347			
Satd. Flow (perm)	1662	0	1254	1863	1863	1583
Satd. Flow (RTOR)	12					425
Volume (vph)	5	12	1027	543	253	897
Adj. Flow (vph)	5	12	1027	543	253	897
Lane Group Flow (vph)	17	0	1027	543	253	897
Turn Type			pm+pt			Free
Protected Phases	4		5	2	6	
Permitted Phases			2			Free
Minimum Split (s)	20.0		8.0	20.0	20.0	
Total Split (s)	20.0	0.0	33.0	55.0	22.0	0.0
Total Split (%)	26.7%	0.0%	44.0%	73.3%	29.3%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5	0.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Act Effct Green (s)	16.0		51.0	51.0	18.0	75.0
Actuated g/C Ratio	0.21		0.68	0.68	0.24	1.00
v/c Ratio	0.05		0.61	0.43	0.57	0.57
Control Delay	15.4		7.4	6.7	30.8	1.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	15.4		7.4	6.7	30.8	1.5
LOS	B		A	A	C	A
Approach Delay	15.4			7.1	7.9	
Approach LOS	B			A	A	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 7.5

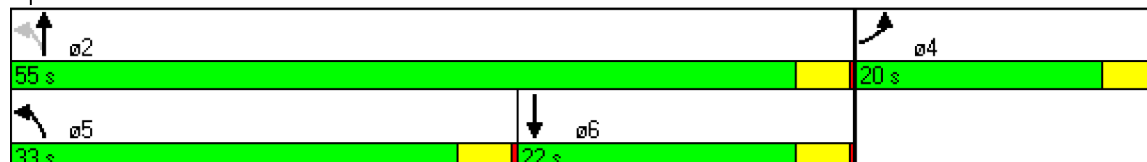
Intersection LOS: A








Intersection Capacity Utilization 55.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Int



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.334			
Satd. Flow (perm)	1770	1583	622	1863	1863	1583
Satd. Flow (RTOR)		806				1
Volume (vph)	883	988	3	275	341	1
Adj. Flow (vph)	883	988	3	275	341	1
Lane Group Flow (vph)	883	988	3	275	341	1
Turn Type		Free	Perm			Free
Protected Phases	4			2	6	
Permitted Phases		Free	2			Free
Minimum Split (s)	5.0		5.0	5.0	5.0	
Total Split (s)	37.0	0.0	18.0	18.0	18.0	0.0
Total Split (%)	67.3%	0.0%	32.7%	32.7%	32.7%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5	0.5	
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	33.0	55.0	14.0	14.0	14.0	55.0
Actuated g/C Ratio	0.60	1.00	0.25	0.25	0.25	1.00
v/c Ratio	0.83	0.62	0.02	0.58	0.72	0.00
Control Delay	18.3	1.9	16.0	23.7	29.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	1.9	16.0	23.7	29.6	0.0
LOS	B	A	B	C	C	A
Approach Delay	9.6			23.6	29.5	
Approach LOS	A			C	C	

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 13.9

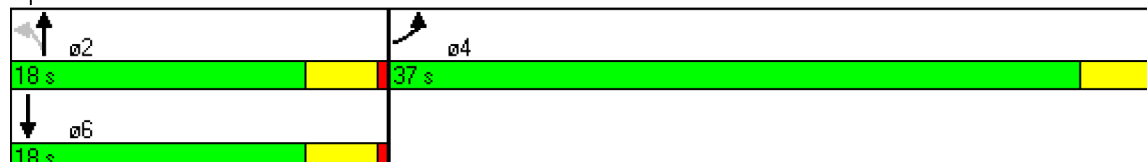
Intersection LOS: B













Intersection Capacity Utilization 73.5%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Int



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.204			
Satd. Flow (perm)	1770	1583	380	1863	1863	1583
Satd. Flow (RTOR)		682				1
Volume (vph)	883	988	3	281	467	1
Adj. Flow (vph)	883	988	3	281	467	1
Lane Group Flow (vph)	883	988	3	281	467	1
Turn Type		Free	Perm			Free
Protected Phases	4			2	6	
Permitted Phases		Free	2			Free
Minimum Split (s)	20.0		20.0	20.0	20.0	
Total Split (s)	41.0	0.0	24.0	24.0	24.0	0.0
Total Split (%)	63.1%	0.0%	36.9%	36.9%	36.9%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5	0.5	
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	37.0	65.0	20.0	20.0	20.0	65.0
Actuated g/C Ratio	0.57	1.00	0.31	0.31	0.31	1.00
v/c Ratio	0.88	0.62	0.03	0.49	0.82	0.00
Control Delay	24.6	1.9	16.7	21.9	34.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	1.9	16.7	21.9	34.8	0.0
LOS	C	A	B	C	C	A
Approach Delay	12.6			21.8	34.7	
Approach LOS	B			C	C	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 17.5

Intersection LOS: B

Intersection Capacity Utilization 80.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Int

