

**D Traffic Assessment Study: Naval Air Station Joint Reserve Base
(NAS JRB) Willow Grove**

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TRAFFIC ASSESSMENT STUDY

Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove

TOWNSHIP OF HORSHAM

MONTGOMERY COUNTY, PENNSYLVANIA

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Final

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Introduction

The U.S. Department of the Navy (Navy) has declared approximately 910 acres of property at the former Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove, in Horsham, Pennsylvania, to be surplus to the needs of the federal government, in accordance with Public Law 101-510, the Defense Base Closure and Realignment Act of 1990, as amended in 2005 (BRAC Law). As such, the Navy prepared a Draft Environmental Impact Statement (DEIS), released in December 2013, to analyze the potential impacts of the redevelopment of the surplus property. A Traffic Assessment Study (TAS) was prepared in Fall 2013 that presented the existing conditions in the study area surrounding the former NAS-JRB Willow Grove property and estimated the potential transportation-related impacts associated with the redevelopment under the three action alternatives evaluated. Following the release of the DEIS, there was a public comment period where agencies and individuals could provide comments on the DEIS. As a result of comments received on the DEIS, some revisions to the original TAS were identified to specifically address public concerns. This included suggestions from the Pennsylvania Department of Transportation (PennDOT) to add both an additional intersection at Maryland Road and State Route (SR) 611/Easton Road and adding in a “phased” development with two, 10-year increments. This revised TAS is a supporting document of the Final Environmental Impact Statement (FEIS) and provides information to be incorporated into the FEIS’s overall analysis.

Background

The former NAS-JRB Willow Grove occupied approximately 910 acres in Horsham Township, Montgomery County, Pennsylvania. The former installation property is located approximately 18 miles north of Philadelphia. The main gate is located on Easton Road, approximately 2.5 miles north of the Pennsylvania Turnpike.

The BRAC (Base Realignment and Closure) Commission recommended closure of NAS-JRB Willow Grove on September 8, 2005. The recommendation to close the installation was approved by President Bush and accepted by Congress on November 9, 2005. By law, the installation had to be closed before September 15, 2011. The installation ceased operations and was officially closed on September 15, 2011.

The Navy established the BRAC PMO (Program Management Office) to oversee and manage the implementation of BRAC actions throughout the Navy. Under BRAC, the Navy acts as the disposal agency and employs the following procedures: disposal planning and federal transfers (Phase 1), surplus property notice and designation (Phase 2) and property disposal (Phase 3). Transfer and redevelopment planning is a multi-phase process, most of which is specified by law.

For NAS-JRB Willow Grove, Phase 1 began on November 9, 2005, when the recommendation to close the installation became law. The first step in the planning involved offering the properties to federal agencies for reuse through a federal transfer process. As a result of the federal transfer process, approximately 48 acres have been or are planned to be transferred from the Navy to the U.S. Department of Transportation, Federal Aviation Administration (FAA) (3 acres) and U.S. Air Force (45 acres, added to their existing 162 acres for a total of 207 acres and was named the Horsham Air Guard Station).

Following the federal transfers, the remaining 862 acres of installation property was declared surplus and made available for reuse. Phase 2 includes the Local Redevelopment Authority's (LRA's) redevelopment planning. The Horsham Township Authority's (HLRA's) Redevelopment Plan (RKG March 2012) is a critical component of the Navy's environmental analysis required by the National Environmental Policy Act (NEPA). HLRA is used to describe two different organizations depending on the time period being discussed. Prior to 2012, the HLRA was the Horsham Township Authority and after 2012, it was the Horsham Land Redevelopment Authority.

After the DOD officially designated the property as surplus, the HRLA began preparation of the Redevelopment Plan. The NAS-JRB Willow Grove Redevelopment Plan (Redevelopment Plan) (by RKG) was completed in March 2012 and was officially adopted on March 21, 2012. The Navy's EIS evaluates the potential redevelopment of the property in a manner consistent with the Redevelopment Plan.

Navy Environmental Impact Statement

The Navy's EIS evaluates three redevelopment alternatives and the No-Action Alternative (No Build). Alternative 1, the preferred alternative, is the reuse of the property in accordance with the Redevelopment Plan including mixed land use types and densities, as well as open space and natural areas. The airfield and most installation facilities would be demolished. Alternative 2 consists of a higher density of residential development than under Alternative 1, a similar level of mixed-use development, and demolition of the airfield and most installation facilities. Alternative 3 includes commercial and mixed-use development, minimal residential development, and conversion of the military airfield to a general aviation airfield. The No-Action Alternative is the retention of the former NAS-JRB Willow Grove property by the U.S. government in caretaker status.

Existing Conditions

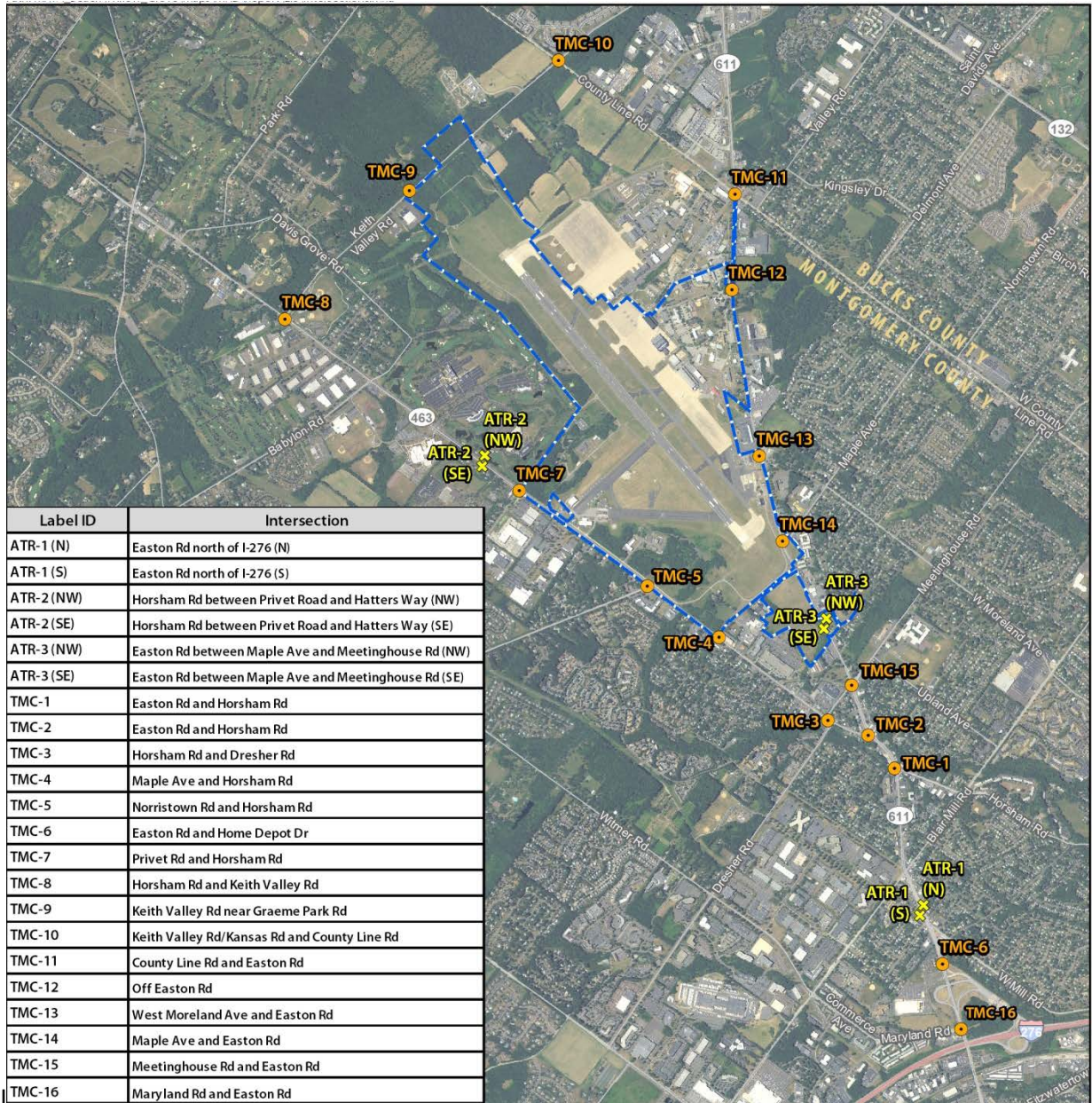
This section describes the local road network and traffic conditions surrounding the NAS-JRB Willow Grove. The information presented in this section is based on field investigations, as well as the NAS-JRB Willow Grove Redevelopment Plan dated March 2012 prepared by RKG. Transit information was compiled from Southeast Pennsylvania Transit Authority (SEPTA).

Road Network and Access

NAS-JRB Willow Grove is located between Horsham Road (SR (State Route) 463), Easton Road (SR 611), County Line Road and Keith Valley Road in Horsham Township. A description of the principal roadways and intersections in the vicinity of the former Base are included below.

The Label ID “TMC” represents the location of a Turning Movement Count.

The Label ID “ATR” represents the location of an Automatic Traffic Recorder.



Pennsylvania Turnpike (Interstate 276). The primary regional highway serving the area is the Pennsylvania Turnpike (Interstate 276), with Exit 343 approximately 2.5 miles south of the Base. The Turnpike serves Horsham Township by providing connections to I-95 to the east and I-76 and I-476 in the west.

Easton Road (SR 611). This predominantly four-lane undivided major arterial highway traverses the area in a generally north-south direction, connecting the area to Philadelphia, where the roadway becomes

Broad Street. There are two-way center left turn lanes throughout the length of Easton Road in the area of the Base. The traffic movements at the major intersections are controlled by traffic signals. There is a mix of commercial and non-commercial uses along Easton Road.

Horsham Road (Route 463). This multi-lane major arterial undivided highway connects to areas in the north such as Allentown. Horsham Road traverses the study area in a northwesterly-southeasterly direction. There are two-way center left turn lanes along the length of Horsham Road in the area of the Base. Traffic movements are controlled by traffic signals at the major intersections. The area has mixed land uses such as Hatboro-Horsham High School, Commonwealth Corporate Center and National Country Club and the Horsham Township Municipal Complex.

County Line Road. County Line Road is a multi-lane major arterial undivided highway that connects Keith Valley Road with Easton Road (SR 611). There are turn lanes and shoulders in this area. There are commercial uses along this portion of the corridor.

Keith Valley Road. Keith Valley Road is an undivided single lane in each direction roadway connecting County Line Road with Horsham Road. There are minimal shoulders and very sparse land uses.

Existing Traffic Volumes

Turning movement counts (TMCs) were performed on Tuesday, May 7, 2013 through Thursday, May 9, 2013 at the following locations during the peak periods of 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM:

1. Easton Rd (SR 611) with Horsham Rd
2. Horsham Rd (SR 463) with Easton Rd (SR 611)
3. Horsham Rd (SR 463) with Dresher Rd
4. Horsham Rd (SR 463) with Maple Ave
5. Horsham Rd (SR 463) with Norristown Rd
6. Horsham Rd (SR 463) with Precision Rd
7. Horsham Rd (SR 463) with Privet Rd
8. Horsham Rd (SR 463) with Keith Valley Rd
9. Keith Valley Rd with New Access Road *
10. Keith Valley Rd with County Line Rd
11. Easton Rd (SR 611) with County Line Rd / Privet Rd
12. Easton Rd (SR 611) with Gate 1
13. Easton Rd (SR 611) with W Moreland Ave (Gate 2)
14. Easton Rd (SR 611) with Maple Ave
15. Easton Rd (SR 611) with Dresher Rd
16. Easton Rd (SR 611) with Maryland Rd **

* Note: Intersection 9 does not currently exist. It is a proposed intersection that would provide access to the former installation property under Alternatives 1 and 2 only. Therefore, information pertaining to Intersection 9 is not presented for existing conditions or under Alternative 3.

** Note: Subsequent to PennDOT comments on the DEIS, Intersection 16 was added to the study. TMCs were performed June 3, 2014.

Traffic volumes were summarized to determine the AM and PM peak hours. The system AM peak hour was determined to be 7:15 AM to 8:15 AM. The PM peak hour was 5:00 PM and 6:00 PM. The existing AM and PM peak hour traffic volumes are illustrated in Figure 1 and Figure 2, respectively. May is a typical month for traffic with schools in session. Schools were also in session on June 3, 2014, when the TMCs were performed at the intersection of Maryland Rd with Easton Rd (SR 611).

Automatic Traffic Recorders (ATRs) were placed at the following locations to collect 24-hour traffic volumes from Monday, May 6 through Monday, May 13, 2013:

- ATR-1 (S):** Easton Road (SR 611) – (southbound) north of the I-276 interchange
- ATR-1 (N):** Easton Road (SR 611) – (northbound) north of the I-276 interchange
- ATR-2 (SE):** Horsham Road (SR 611) – (eastbound) between Privet Road and the High School
- ATR-2 (NW):** Horsham Road (SR 463) – (westbound) between Privet Road and the High School
- ATR-3 (SE):** Easton Road (SR 611) – (southbound) between Maple Avenue and Meetinghouse Road
- ATR-3 (NW):** Easton Road (SR 611) – (northbound) between Maple Avenue and Meetinghouse Road

The ATR data confirmed that the peak traffic hours vary from location to location. The daily traffic volumes from the ATR data are provided in the appendix.

Automatic Traffic Recorder Counts and Averages per Day

Intersection	Date	DAY TOTAL
Easton Road (SR 611) – (southbound) north of the I-276 interchange [ATR-1 (S)]	Monday May 6, 2013	14,245
	Tuesday May 7, 2013	22,306
	Wednesday May 8, 2013	21,628
	Thursday May 9, 2013	22,693
	Friday May 10, 2013	24,718
	Saturday May 11, 2013	18,701
	Sunday May 12, 2013	2,483
	Monday May 13, 2013	NA
	Adjusted Daily Average (2)	18,304
Easton Road (SR 611) – (northbound) north of the I-276 interchange [ATR-1 (N)]	Monday May 6, 2013	15,704
	Tuesday May 7, 2013	24,622
	Wednesday May 8, 2013	24,027
	Thursday May 9, 2013	24,758
	Friday May 10, 2013	26,273
	Saturday May 11, 2013	22,233
	Sunday May 12, 2013	19,089
	Monday May 13, 2013	NA
	Adjusted Daily Average (2)	23,454
Horsham Road (SR 611) – (eastbound) between Privet Road and the High School [ATR-2 (SE)]	Monday May 6, 2013	NA
	Tuesday May 7, 2013	7,114
	Wednesday May 8, 2013	8,549
	Thursday May 9, 2013	11,181
	Friday May 10, 2013	12,216
	Saturday May 11, 2013	7,679
	Sunday May 12, 2013	6,274
	Monday May 13, 2013	NA
	Adjusted Daily Average (2)	8,947
Horsham Road (SR 463) – (westbound) between Privet Road and the High School [ATR-2 (NW)]	Monday May 6, 2013	6,758
	Tuesday May 7, 2013	11,285
	Wednesday May 8, 2013	1,647
	Thursday May 9, 2013	7,875
	Friday May 10, 2013	11,600
	Saturday May 11, 2013	7,188
	Sunday May 12, 2013	5,991
	Monday May 13, 2013	NA
	Adjusted Daily Average (2)	8,044
Easton Road (SR 611) – (southbound) between Maple Avenue and Meetinghouse Road [ATR-3 (SE)]	Monday May 6, 2013	9,340
	Tuesday May 7, 2013	15,986
	Wednesday May 8, 2013	16,942
	Thursday May 9, 2013	16,496
	Friday May 10, 2013	17,263
	Saturday May 11, 2013	274
	Sunday May 12, 2013	46
	Monday May 13, 2013	NA
	Adjusted Daily Average (2)	11,047
Easton Road (SR 611) – (northbound) between Maple Avenue and Meetinghouse Road [ATR-3 (NW)]	Monday May 6, 2013	10,452
	Tuesday May 7, 2013	16,339
	Wednesday May 8, 2013	4,201
	Thursday May 9, 2013	13,027
	Friday May 10, 2013	17,936
	Saturday May 11, 2013	15,420
	Sunday May 12, 2013	12,617
	Monday May 13, 2013	NA
	Adjusted Daily Average (2)	13,531
Notes: (1) On Monday May 6, 2013 and Monday May 13, 2013 were partial days for traffic data. (2) The average day is an average of each 15-minute period during the week and not an average of total number of trips per day.		

Intersection Level of Service

Capacity analyses were conducted for the study intersections to determine the ability of these intersections to accommodate traffic volumes. Level of Service (LOS) is characterized as a qualitative measure based on the calculated sum of average vehicle delay for each lane group of an intersection. The Levels of Service range from A (short delay) to F (extreme delay). This study analyzed the AM and PM peak hour operations for 15 of the intersections listed above under existing conditions. The analyses are based on the Transportation Research Board's (TRB) fifth edition of the Highway Capacity Manual (HCM 2010), Chapter 18: Signalized Intersections and Chapter 19: Two-Way Stop-Controlled Intersections for the unsignalized intersections.

The Existing conditions LOS, Average Vehicle Delay and Volume to Capacity ratio are summarized in Table 1 along with a side-by-side comparison of the Future No-Action conditions (see "No-Action Condition" on page 9 for more details).

Intersection	2013 Existing Condition					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road and Horsham Road (#1)	Intersection	Signalized	36.7	D	58.9	E
Easton Road and Horsham Road (#2)	Intersection	Signalized	25.5	C	32.2	C
Horsham Road and Dresher Road (#3)	Intersection	Signalized	86.9	F	180.6	F
Horsham Road and Maple Road (#4)	Intersection	Signalized	74.3	E	148.4	F
Horsham Road and Norristown Road (#5)	Intersection	Signalized	83.6	F	134.9	F
Easton Road and Home Depot Dr/I-276 (#6)	Intersection	Signalized	35.2	D	92.8	F
Horsham Road and Privet Road (#7)	Intersection	Signalized	17.8	B	33.3	C
Horsham Road and Keith Valley Road (#8)	Intersection	Signalized	51.6	D	24.8	C
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	29.8	C	26.4	C
County Line Road and Easton Road (#11)	Intersection	Signalized	55.7	E	60.8	E
Easton Road and Gate 1 (#12)	Intersection	Signalized	71.2	E	23.6	C
Easton Road and West Moreland Ave (#13)	SB-L	Unsignalized	12.7	B	17.8	C
	WB-LTR	Unsignalized	14.3	B	16.9	C
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	28.0	C	129.6	F
Easton Road and Dresher/Meetinghouse Road (#15)	Intersection	Signalized	45.0	D	92.9	F
Easton Road and Maryland Road (#16)	Intersection	Signalized	34.7	C	47.0	D

Safety Conditions

A summary of vehicle accidents was requested from the Horsham Police Department from the period of January 1, 2009, to December 1, 2013, for the following roadways near the former NAS JRB Willow Grove property and their associated intersections:

- Horsham Road
- Keith Valley Road
- Easton Road
- County Line Road

There were 587 accidents reported near NAS JRB Willow Grove during this time period. A majority of accidents reported (470) took place at an intersection. A total of 355 accidents were recorded on Horsham Road for this time period. Eighty-seven occurred in 2009, 63 occurred in 2010, 71 occurred in 2011, 65 occurred in 2012, and 69 were recorded in 2013. Of the 355 accidents on Horsham Road, 141 accidents involved an injury or vehicle towing and were reported to PennDOT. The intersection of Horsham Road and Norristown Road experienced the greatest number of accidents (56) accidents. The intersection of Horsham Road and Maple Avenue had 49 accidents, and the intersection of Horsham Road and Dresher Road had 44 accidents during this time period (Horsham Township Police Department 2013, 2014a, 2014b).

Easton Road experienced 187 accidents during this time period. Of these, 132 involved injury or vehicle towing and were reportable to PennDOT. One-hundred-thirty-four accidents occurred in 2009, three accidents occurred in 2010, one in 2011, four in 2012 and 45 in 2013. The intersection of Easton Road and Maple Avenue had 39 accidents during this period and the intersection of Easton Road and Horsham Road had 28 accidents during this period.

Keith Valley Road experienced 18 accidents; seven of these involved injury or vehicle towing and were reported to PennDOT. Two accidents occurred in 2009, three accidents occurred in 2010, two occurred in 2011, nine occurred in 2012, and two occurred in 2013. The intersection of Keith Valley Road and Graeme Park Road had six reported accidents.

A total of 27 accidents were recorded on County Line Road, 13 of which involved injury or vehicle towing and were reported to PennDOT. Twelve accidents occurred in 2009, three accidents occurred in 2010, two in 2012, and 10 in 2013. The intersection of County Line Road and Easton Road experienced the highest number of accidents on this roadway (11) (Horsham Township Police Department 2013, 2014a, 2014b).

Public Transportation

The Southeastern Pennsylvania Transportation Authority provides bus, trolley, subway and commuter rail service in and around Philadelphia (SEPTA 2013a). Fixed route bus and commuter rail service are available near the property and are described below.

Warminster Line – Warminster line provides regional rail service between the Philadelphia city center and Warminster, PA. The Hatboro Station is approximately 1.7 miles southeast of the property and includes a total of 268 SEPTA and non-SEPTA parking spaces (SEPTA 2013b). The Warminster Station is located approximately 2 miles east of the property and includes 800 daily and monthly parking spaces (SEPTA 2013c). The Willow Grove Station is located approximately 3 miles southeast of the property and includes 190 daily and monthly parking spaces (SEPTA 2013d).

Route 55 – Route 55 provides bus service between Philadelphia and Doylestown, north of the property. The route runs along Easton Road adjacent to the property (SEPTA 2013e).

Route 80 – Route 80 provides express bus service between Philadelphia and Horsham. Bus stops are located approximately one half mile south of the property (SEPTA 2013f).

Route 310 – Route 310 provides bus service between the Willow Grove Regional Rail Station and Horsham. Bus stops are located approximately one half mile south of the property (SEPTA 2013g).

Phased Development

Based upon comments received (specifically from PennDOT) during the public comment period on the DEIS, a phased development has been incorporated into this traffic analysis. The overall 20-year full build-out was divided into two, 10-year phases. Phase I is the first ten years of development and Phase II is the second ten years of development. Detailed information used in preparing the HLRA's Redevelopment Plan (Alternative 1) provided the annualized breakdown of the development for all of the various land use types. Therefore, by totaling the different land use types for years 1 through 10, the total for Phase I was obtained. The same level of annualized detail was not available for Alternatives 2 or 3; therefore, the same proportion of development used under Alternative 1 was utilized and applied (i.e., if Phase I of Alternative 1 included 50% office space development, the same percentage was used for Alternatives 2 and 3).

By providing a LOS analysis at the 10-year point of redevelopment (Phase I), it provides the developer, municipalities, stakeholders and agencies additional information to use in order to evaluate mitigation measures to address anticipated traffic congestion.

Future Conditions

No-Action Alternative

Analysis of the No-Action Alternative is required by NEPA and includes the former NAS-JRB Willow Grove property remaining in caretaker status and no redevelopment would take place. However, for the purposes of the traffic assessment study, there would still be regional population growth. Therefore, the No-Action Alternative is covered under the Future No-Action Condition.

Despite there not being any development that is phased under the No-Action Alternative, it is necessary to calculate traffic conditions at the 10-year phase in order to provide a point of comparison for the other redevelopment alternatives. Therefore, the Future No-Action traffic volume conditions were calculated based on an annually compounded growth rate of approximately 0.75% per year for 10 years.

No-Action Condition – Phase I – 10 Year Projections

It was assumed that Phase I of the project would be completed in 10 years or the year 2023. Population growth projections, developed by the Delaware Valley Regional Planning Commission (DVRPC) for Montgomery County and Horsham Township, were used to extrapolate traffic growth to the year 2023. The total projected population growth between the year 2010 and 2035 is 20%. Assuming an equal growth rate per year, a conservative growth rate of 8% over the 10-year period from 2013 to 2023. The annual rate of 0.735% was compounded annually from the year 2013 to the year 2023. The Growth Factors for September 2012 to July 2013 provided by PennDOT shows an annual growth factor for Urban Non-Interstates in Montgomery County of 0.73%, which is similar to the growth factor developed by DVRPC. This annually compounded growth factor of 1.08 was applied to the existing 2013 traffic volumes to develop the future year 2023 (Phase I) No-Action traffic volumes. This background growth factor accounts for other known and unknown developments in the area that would generate additional traffic along the study area roadways. No specific developments in the area were identified. Figures 3

and 4 – Phase I (Year 10) illustrate the AM and PM peak period future No-Action traffic volumes, respectively.

Intersection	Future No-Action Condition Phase I (Year 10)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road and Horsham Road (#1)	Intersection	Signalized	51.9	D	77.8	E
Easton Road and Horsham Road (#2)	Intersection	Signalized	30.8	C	49.8	D
Horsham Road and Dresher Road (#3)	Intersection	Signalized	112.5	F	215.8	F
Horsham Road and Maple Road (#4)	Intersection	Signalized	102.8	F	202.8	F
Horsham Road and Norristown Road (#5)	Intersection	Signalized	105.3	F	164.1	F
Easton Road and Home Depot Dr/I-276 (#6)	Intersection	Signalized	38.1	D	117.8	F
Horsham Road and Privet Road (#7)	Intersection	Signalized	21.0	C	33.6	C
Horsham Road and Keith Valley Road (#8)	Intersection	Signalized	72.3	E	51.5	D
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	41.3	D	29.3	C
County Line Road and Easton Road (#11)	Intersection	Signalized	74.2	E	79.3	E
Easton Road and Gate 1 (#12)	Intersection	Signalized	96.2	F	27.3	C
Easton Road and West Moreland Ave (#13)	SB-L	Unsignalized	13.6	B	20.8	C
	WB-LTR	Unsignalized	15.2	C	18.5	C
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	32.9	C	161.7	F
Easton Road and Dresher/Meetinghouse Road (#15)	Intersection	Signalized	63.4	E	142.0	F
Easton Road and Maryland Road (#16)	Intersection	Signalized	45.7	D	63.6	E

No-Action Condition – 20 Year Projections

The annual background growth rate was applied to the existing traffic volumes for a 20-year period (Phase II) to create Year 20 – No-Action Conditions traffic volumes. Figures 3 and 4 – Year 20 illustrate the AM and PM 20-year projected No-Action traffic volumes, respectively.

Intersection	Future No-Action Condition Phase II (Year 20)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road and Horsham Road (#1)	Intersection	Signalized	73.6	E	103.9	F
Easton Road and Horsham Road (#2)	Intersection	Signalized	41.0	D	72.5	E
Horsham Road and Dresher Road (#3)	Intersection	Signalized	149.1	F	265.2	F
Horsham Road and Maple Road (#4)	Intersection	Signalized	145.9	F	283.0	F
Horsham Road and Norristown Road (#5)	Intersection	Signalized	131.7	F	201.5	F
Easton Road and Home Depot Dr/I-276 (#6)	Intersection	Signalized	45.8	D	150.8	F
Horsham Road and Privet Road (#7)	Intersection	Signalized	14.0	B	45.2	D
Horsham Road and Keith Valley Road (#8)	Intersection	Signalized	98.5	F	73.7	E
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	61.4	E	35.6	D
County Line Road and Easton Road (#11)	Intersection	Signalized	98.9	F	111.5	F
Easton Road and Gate 1 (#12)	Intersection	Signalized	124.6	F	56.6	E
Easton Road and West Moreland Ave (#13)	SB-L	Unsignalized	15.0	C	26.4	D
	WB-LTR	Unsignalized	16.7	C	21.2	C
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	48.5	D	195.6	F

Easton Road and Dresher/Meetinghouse Road (#15)	Intersection	Signalized	88.3	F	159.5	F
Easton Road and Maryland Road (#16)	Intersection	Signalized	64.0	E	88.5	F

Transportation Future Build Conditions

This section summarizes the potential transportation impacts resulting from implementing Alternative 1, Alternative 2 or Alternative 3 compared to the 20-year projected No-Action condition, as well as with the 10-year projected No-Action – Phase I condition. The projected traffic volumes and subsequent LOS results are summarized in figures and tables. Mitigation measures are described.

Redevelopment Alternatives

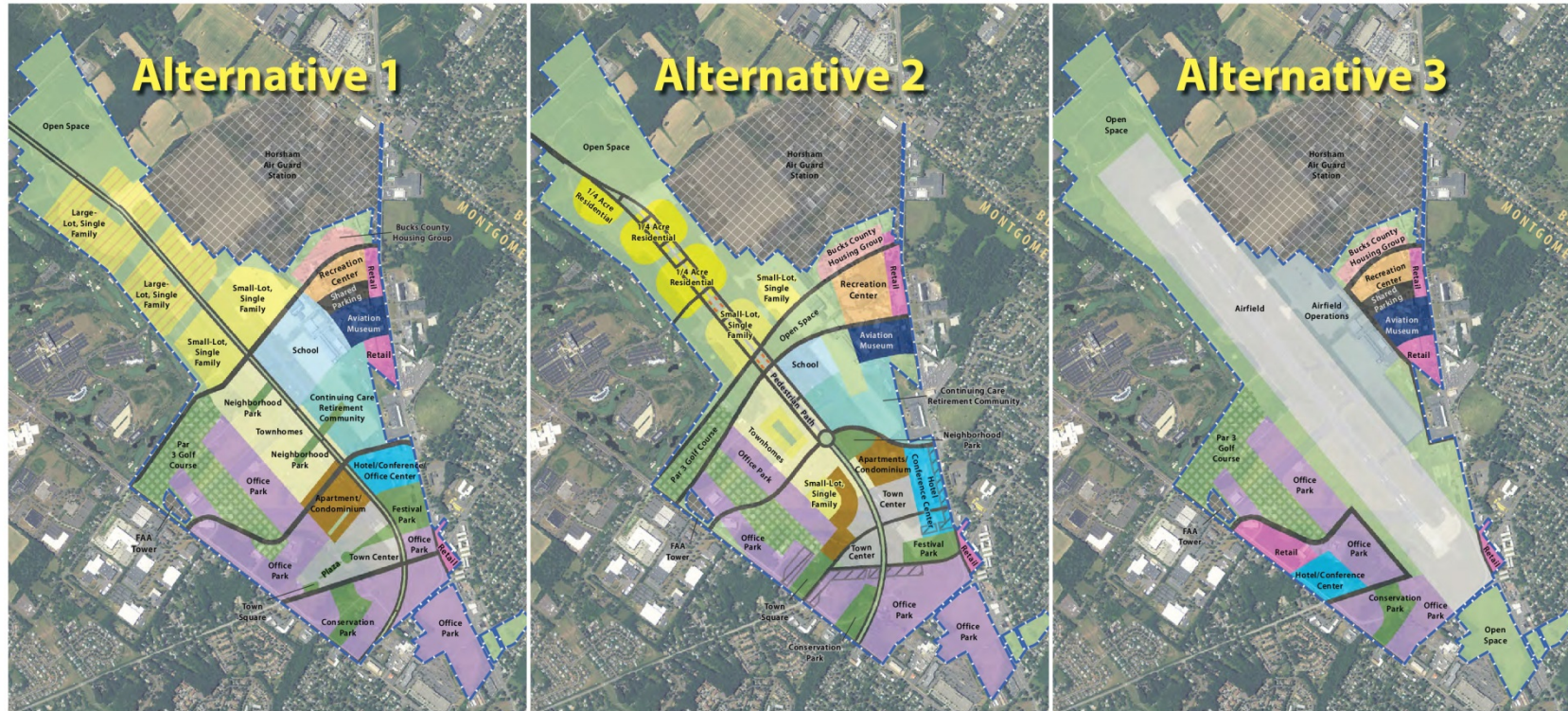
The three redevelopment alternatives considered in this analysis provide for a mix of land uses. Alternatives 1 and 2 are versions of the HLRA’s Redevelopment Plan, which do not include reuse of the existing airfield. Alternative 3 includes reuse of the airfield along with a mix of commercial, retail and recreation/open space. The table below and subsequent figure shows the general location of land uses and build environment being proposed under the three redevelopment alternatives.

Phase I (Year 10)

For each of the three redevelopment alternatives, Phase I tends to be more concentrated on residential development, with some office park and retail development. It is assumed that the BCHG Housing for the Homeless would be constructed and the Aviation Museum would be open to the public. Specific to Alternative 3, it is assumed that the general aviation airfield would be operational.

Phase II (Year 20) - Full Build Out

For each of the three redevelopment alternatives, Phase II encompasses the balance of the residential development, but is more concentrated on expanding the office space and retail spaces, as well as construction of the Town Center and Hotel/Conference complex (for Alternatives 1 and 2). In addition, in Phase II, the school and regional recreation center would be constructed.



Redevelopment Alternatives (at Full Build-Out [Phase II])

NAS-JRB Willow Grove

Build-Out Conditions by Redevelopment Alternative for Phase I and Phase II (Full Build-out)

Land Use	Alternative 1 ¹ (Units or Building SF)		Alternative 2 ² (Units or Building SF)		Alternative 3 ³ (Units or Building SF)	
	Phase I	Phase II (Full Build-out)	Phase I	Phase II (Full Build-out)	Phase I	Phase II (Full Build-out)
Residential						
Large Lot Single Family	90	90	-	-	-	-
¼ Acre Lot Single Family	-	-	169	169	-	-
Small Lot Single Family	250	250	227	227	-	-
Townhomes	350	350	396	396	-	-
Apartments/Condos	180	300	387	645	-	-
Town Center Apartment/Condos	-	100	-	114	-	-
BCHG Housing for Homeless	70	70	70	70	70	70
CCRC Independent Living	141	141	126	126	-	-
CCRC Assisted Living/Nursing	185	185	252	252	-	-
Total Residential	1,266	1,486	1,627	1,999	70	70
Commercial and Mixed Use						
CCRC Med Office/Amenities	25,000	25,000	58,500	58,500	-	-
Hotel/Conference	-	137,000	-	163,400	-	120,882
Town Center Office/Retail/Service	-	359,370	-	342,154	-	-
Office Park	276,000	1,163,052	268,351	1,130,818	158,217	666,718
Retail	200,200	200,200	139,100	139,100	427,093	427,093
Total Commercial and Mixed Use	501,200	1,884,622	465,951	1,833,972	585,310	1,214,693
Community Services and Recreation						
Regional Recreation Center	-	100,000	-	96,522	-	100,000
School	-	152,727	-	152,727	-	-
Aviation Museum	200,000	200,000	55,000	55,000	200,000	200,000
Park/Open Space	-	-	-	-	-	-
Airfield	-	-	-	-	-	-
Airfield Operations	-	-	-	-	176 employees	176 employees
Total Community Services and Recreation	200,000	452,727	55,000	304,249	200,000	300,000
TOTAL	1,266 Res. Units 701,200 SF	1,486 Res. Units 2.3 Million SF	1,627 Res. Units 520,951 SF	1,999 Res. Units 2.1 Million SF	70 Res. Units 785,310 SF	70 Res. Units 1.5 Million SF

Notes:

¹ Build-out for Alternative 1 was adapted from the HLRA's Preferred Redevelopment Plan (Option F).

² Build-out for Alternative 2 was adapted from the HLRA's Option D, which was an earlier version of the HLRA's proposed redevelopment.

³ Build-out for Alternative 3 was developed by identifying those areas that would be necessary for potential reuse of the airfield (i.e., Airfield and Airfield Operations).

Trip Distribution – Future Conditions

The trip distribution was based on best professional judgment combined with the land uses in the area, existing traffic volumes, roadway network configuration, as well as the layout of the proposed development of the site, the proximity to each access driveway and proximity to major roadways.

Trip Generation – Future Conditions

Trip generation values were calculated for each proposed land use based on the Institute of Transportation Engineers (ITE), 8th Edition of Trip Generation. This is an industry standard for calculating traffic generation associated with development based on nationwide statistics for each land use (i.e., number of housing units by type, non-residential square footage by type, etc.). A comparison of the 8th Edition of the Trip Generation was made with the 9th Edition. The result was that only the Retail trip generation calculations changed in the 9th Edition. The AM peak hour trips were 4% less than the 8th Edition and the PM peak hour retail trips were 6% greater than the 8th Edition. Distributing these additional trips over the various study intersections would result in an insignificant difference in traffic volumes. Therefore, the 8th Edition Trip Generation values were used in the study.

Internal Trip Capture Rate Calculation

Internal trip capture is a situation where each land use with a multi-use development would attract trips from other complementary land uses within the entire development. That is to say that a certain predictable percentage of residents who would live in the proposed development, would also shop at the retail uses and the reverse would also apply. Based on the guidelines of the Trip Generation Handbook, the internal trip capture percentages were calculated for the PM peak hour. Tables 4.1, 4.2 and 4.3 in the appendix provide the calculations for each of the alternative development scenarios. The overall internal capture percentage was applied to the total new trips to reduce the PM peak hour new trips to the roadway network and better reflect the future traffic conditions.

The internal trip capture rates for the Phase I (Year 10) were calculated and summarized for Alternatives 1, 2 and 3 – Phase I (Year 10) in Tables 4.1-1, 4.2-1, 4.3-1 – Phase I, respectively.

Alternative 1 – Phase I (Year 10) Preferred Alternative – HLRA Plan

To be conservative, the PM peak hour internal capture rate of 31% was applied to both the AM and PM peak hour trips. At full build-out, Alternative 1 is projected to result in 967 new vehicle trips in the AM peak hour and 1,386 new vehicle trips in the PM peak hour. Traffic volumes increase throughout the study network. Figures 5 and 6 – Phase I (Year 10) illustrate the new trips for the AM peak hour and the PM peak hour for Alternative 1, respectively.

Roadway Network and Access – Alternative 1 – Phase I (Year 10)

For analysis purposes, it was assumed that Alternative 1 provides 7 access points to connect the new development with the existing roadway network; 3 on Horsham Road (SR 463) (at approximately Intersections 4, 5, 7), 3 on Easton Road (SR 611) (approximately Intersections 12, 13, 14) and 1 on Keith Valley Road (Intersection 9). The major access points connect to existing signalized intersections, form a T-intersection or form the fourth leg of an existing T-intersection.

Projected Traffic Volumes – Alternative 1 – Phase I (Year 10)

Table 2.1 – Phase I – 10 Year Build Out summarizes the trip generation for each of the various land uses of Alternative 1, which are made up of residential units, commercial space and other land uses. The Institute of Transportation, Engineers (ITE), Trip Generation, 8th Edition was used to calculate the new trips associated with each land use. Alternative 1 has a combination of 1,196 units of various housing types, including single family homes, townhomes/condominiums, and congregate-care retirement community independent living and assisted living nursing units. The commercial land uses include 501,200 SF of a mix of office, office park and medical office, hotel/conference center, town center retail/services/restaurants, movies/entertainment. The trips generated by the proposed retail space would have a component called “pass-by,” which means that traffic already driving along the existing roadway network would be drawn into the retail uses. The proposed school was not included in Phase I. It was assumed that the trips associated with the proposed Aviation Museum would not be generated within the AM or PM peak hour of the adjacent street, but rather would occur during the off-peak hours.

Projected Level of Service – Alternative 1 – Phase I (Year 10)

The LOS, Average Vehicle Delay and Volume to Capacity ratios are summarized in Table 3.1 – Phase I – 10 Year Build Out for each lane group of each intersection in the study area. Table 3.1 – Phase I – 10 Year Build Out shows a side-by-side comparison of the Future No-Action and Alternative 1 – 10 Year Build Out conditions. In many cases, the background growth applied to the existing traffic volumes creates a LOS F. The increase in traffic from the proposed development makes these LOS F worse and creates additional movements at already unacceptable LOS.

Intersection	Alternative 1 – Phase I (Year 10) Build Condition (without Mitigation)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road and Horsham Road (#1)	Intersection	Signalized	105.5	F	140.7	F
Easton Road and Horsham Road (#2)	Intersection	Signalized	46.3	D	85.6	F

Horsham Road and Dresher Road (#3)	Intersection	Signalized	128.1	F	236.7	F
Horsham Road and Maple Road (#4)	Intersection	Signalized	150.2	F	286.0	F
Horsham Road and Norristown Road (#5)	Intersection	Signalized	105.0	F	165.2	F
Easton Road and Home Depot Dr/I-276 (#6)	Intersection	Signalized	40.5	D	135.8	F
Horsham Road and Privet Road (#7)	Intersection	Signalized	13.2	B	39.1	D
Horsham Road and Keith Valley Road (#8)	Intersection	Signalized	103.7	F	88.5	F
Keith Valley Road and New Access Road (#9)	SB-LT	Unsignalized	7.3	A	7.3	A
	WB-LR	Unsignalized	10.4	B	8.9	A
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	43.7	D	30.4	C
County Line Road and Easton Road (#11)	Intersection	Signalized	86.4	D	111.7	F
Easton Road and Gate 1 (#12)	Intersection	Signalized	99.6	F	51.0	D
Easton Road and West Moreland Ave (#13)	SB-L	Unsignalized	14.5	B	24.2	C
	WB-LTR	Unsignalized	16.1	C	30.3	D
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	50.7	D	181.0	F
Easton Road and Dresher/Meetinghouse Road (#15)	Intersection	Signalized	76.2	E	135.1	F
Easton Road and Maryland Road (#16)	Intersection	Signalized	49.9	D	77.4	E

Alternative 1 – Phase II (Year 20) Preferred Alternative – HLRA Plan

To be conservative, the PM peak hour internal capture rate of 23% was applied to both the AM and PM peak hour trips. At full build-out, Alternative 1 is projected to result in 2,820 new vehicle trips in the AM peak hour and 3,719 new vehicle trips in the PM peak hour. Traffic volumes increase throughout the study network. Figures 5 and 6 illustrate the new trips for the AM peak hour and the PM peak hour for Alternative 1, respectively.

Roadway Network and Access – Alternative 1 – Phase II (Year 20)

For analysis purposes, it was assumed that Alternative 1 provides 7 access points to connect the new development with the existing roadway network; 3 on Horsham Road (SR 463) (at approximately Intersections 4, 5, 7), 3 on Easton Road (SR 611) (approximately Intersections 12, 13, 14) and 1 on Keith Valley Road (Intersection 9). The major access points connect to existing signalized intersections, form a T-intersection or form the fourth leg of an existing T-intersection.

Projected Traffic Volumes – Alternative 1 – Phase II (Year 20)

Table 2.1 summarizes the trip generation for each of the various land uses of Alternative 1, which are made up of residential units, commercial space and other land uses. The Institute of Transportation Engineers (ITE), Trip Generation, 8th Edition was used to calculate the new trips associated with each land use. Alternative 1 has a combination of 1,486 units of various housing types, including single family homes, townhomes/condominiums, and congregate-care retirement community independent living and assisted living nursing units. The commercial land uses include 1,830,182 SF of a mix of office, office park and medical office, hotel/conference center, town center retail/services/restaurants, movies/entertainment. The trips generated by the proposed retail space would have a component called “pass-by,” which means that traffic already driving along the existing roadway network would be drawn into the retail uses. The new trips of the proposed school of 1,200 students were also calculated. It was assumed that the trips associated with the proposed Aviation Museum would not be generated within the AM or PM peak hour of the adjacent street, but rather would occur during the off-peak hours.

Projected Level of Service – Alternative 1 – Phase II (Year 20)

The LOS, Average Vehicle Delay and Volume to Capacity ratios are summarized in Table 3.1 for each lane group of each intersection in the study area. Table 3.1 shows a side-by-side comparison of the Future No-Action and Alternative 1 Build conditions. In many cases, the background growth applied to the existing traffic volumes creates a LOS F. The increase in traffic from the proposed development makes these LOS F worse and creates additional movements at already unacceptable LOS.

Intersection	Alternative 1 – Phase II (Year 20) Build Condition (without Mitigation)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road and Horsham Road (#1)	Intersection	Signalized	275.6	F	282.7	F
Easton Road and Horsham Road (#2)	Intersection	Signalized	112.8	F	190.8	F
Horsham Road and Dresher Road (#3)	Intersection	Signalized	204.9	F	343.2	F
Horsham Road and Maple Road (#4)	Intersection	Signalized	128.9	F	209.0	F
Horsham Road and Norristown Road (#5)	Intersection	Signalized	140.4	F	218.3	F
Easton Road and Home Depot Dr/I-276 (#6)	Intersection	Signalized	34.8	C	140.9	F
Horsham Road and Privet Road (#7)	Intersection	Signalized	30.2	C	87.2	F
Horsham Road and Keith Valley Road (#8)	Intersection	Signalized	220.2	F	208.0	F
Keith Valley Road and New Access Road (#9)	SB-LT	Unsignalized	7.4	A	7.5	A
	WB-LR	Unsignalized	10.2	B	9.2	A
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	74.3	E	41.4	D
County Line Road and Easton Road (#11)	Intersection	Signalized	161.7	F	228.9	F
Easton Road and Gate 1 (#12)	Intersection	Signalized	158.1	F	185.5	F
Easton Road and West Moreland Ave (#13)	SB-L	Unsignalized	19.5	C	44.2	E
	WB-LTR	Unsignalized	20.8	C	27.4	D
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	147.7	F	287.6	F
Easton Road and Dresher/Meetinghouse Road (#15)	Intersection	Signalized	143.4	F	233.4	F
Easton Road and Maryland Road (#16)	Intersection	Signalized	78.8	E	140.0	F

Alternative 2 – Phase I (Year 10) HLRA Plan with Increased Residential Development

To be conservative, the PM peak hour internal capture rate of 39% was applied to both the AM and PM peak hour trips. At full build-out, Alternative 1 is projected to result in 964 new vehicle trips in the AM peak hour and 1,301 new vehicle trips in the PM peak hour. Traffic volumes increase throughout the study network. Figures 9 and 10 – Phase I – 10 Year Build Out illustrate the new trips for the AM peak hour and the PM peak hour for Alternative 2, respectively.

Roadway Network and Access – Alternative 2 – Phase I (Year 10)

For analysis purposes, it was assumed that Alternative 2 provides 7 access points to connect the new development with the existing roadway network; 3 on Horsham Road, 3 on Easton Road and 1 on Keith Valley Road. The major access points connect to existing signalized intersections or form the fourth leg of an existing T-intersection.

Projected Traffic Volumes – Alternative 2 – Phase I (Year 10)

Table 2.2 – Phase I – 10 Year Build Out summarizes the trip generation for each of the various land uses of Alternative 2, which are made up of residential units, commercial space and other land uses. The Institute of Transportation, Engineers (ITE), Trip Generation, 8th Edition was used to calculate the new trips associated with each land use. Alternative 2 has a combination of 1,557 units of various housing types, including single family homes, townhomes/condominiums, and congregate-care retirement community independent living and assisted living nursing units. The commercial land uses include 465,951 SF of a mix of office, office park and medical office, hotel/conference center, town center retail/services/restaurants, movies/entertainment. The trips generated by the proposed retail space would have a component called “pass-by,” which means that traffic already driving along the existing roadway network would be drawn into the retail uses. The proposed school was not included in Phase I. It was assumed that the trips associated with the proposed Aviation Museum would not be generated within the AM or PM peak hour of the adjacent street, but rather would occur during the off-peak hours.

Projected Level of Service – Alternative 2 – Phase I (Year 10)

The LOS, Average Vehicle Delay and Volume to Capacity ratios are summarized in Table 3.2 – Phase I – 10 Year Build Out for each lane group of each intersection in the study area. Table 3.2 – Phase I – 10 Year Build Out shows a side-by-side comparison of the Future No-Action and Alternative 2 – 10 Year Build Out conditions. In many cases, the background growth applied to the existing traffic volumes creates a LOS F. The increase in traffic from the proposed development makes these LOS F worse and creates additional movements at already unacceptable LOS.

Intersection	Alternative 2 – Phase I (Year 10) Build Condition (without Mitigation)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road and Horsham Road (#1)	Intersection	Signalized	104.6	F	137.2	F
Easton Road and Horsham Road (#2)	Intersection	Signalized	45.5	D	82.9	F
Horsham Road and Dresher Road (#3)	Intersection	Signalized	142.7	F	235.2	F
Horsham Road and Maple Road (#4)	Intersection	Signalized	146.4	F	282.1	F
Horsham Road and Norristown Road (#5)	Intersection	Signalized	104.2	F	167.2	F
Easton Road and Home Depot Dr/I-276 (#6)	Intersection	Signalized	41.3	D	139.5	F
Horsham Road and Privet Road (#7)	Intersection	Signalized	13.1	B	38.7	D
Horsham Road and Keith Valley Road (#8)	Intersection	Signalized	101.6	F	86.3	F
Keith Valley Road and New Access Road (#9)	SB-LT	Unsignalized	7.3	A	7.3	A
	WB-LR	Unsignalized	10.3	B	8.9	A
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	43.7	D	30.4	C
County Line Road and Easton Road (#11)	Intersection	Signalized	85.8	F	108.9	F
Easton Road and Gate 1 (#12)	Intersection	Signalized	115.0	F	56.2	E
Easton Road and West Moreland Ave (#13)	SB-L	Unsignalized	14.5	B	23.9	C
	WB-LTR	Unsignalized	16.1	C	20.1	C
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	50.9	D	179.7	F
Easton Road and Dresher/Meetinghouse Road (#15)	Intersection	Signalized	77.1	E	133.5	F
Easton Road and Maryland Road (#16)	Intersection	Signalized	50.3	D	76.2	E

Alternative 2 – – Phase II (Year 20) - HLRA Plan with Increased Residential Development

To be conservative, the PM peak hour internal capture rate of 28% was applied to both the AM and PM peak hour trip generation. At full build-out, Alternative 2 is projected to result in 2,817 new vehicle trips in the AM peak hour and 3,592 new vehicle trips in the PM peak hour. Traffic volumes increase throughout the study network. Figures 9 and 10 illustrate the new trips for the AM peak hour and the PM peak hour for Alternative 2, respectively.

Roadway Network and Access – Alternative 2 – Phase II (Year 20)

Alternative 2 provides 7 access points to connect the new development with the existing roadway network; 3 on Horsham Road, 3 on Easton Road and 1 on Keith Valley Road. The major access points connect to existing signalized intersections or form the fourth leg of an existing T-intersection.

Projected Traffic Volumes – Alternative 2 – Phase II (Year 20)

Table 2.2 summarizes the trip generation for each of the various land uses of Alternative 2, which are made up of residential units, commercial space and other land uses. The Institute of Transportation Engineers (ITE), Trip Generation, 8th Edition was used to calculate the new trips associated with each land use. Alternative 2 has a combination of 1,999 units of various housing types, including single family homes, townhomes/condominiums, and congregate care retirement community independent living and assisted living nursing units. The commercial land uses include 1,798,750 SF of a mix of office, office

park and medical office, hotel/conference center, town center retail/services/restaurants, movies/entertainment. A school with 1,200 students is also proposed in Alternative 2. Once again, the Aviation Museum trips were assumed to occur during the off-peak hours.

Projected Level of Service – Alternative 2 – Phase II (Year 20)

The LOS, Average Vehicle Delay and Volume to Capacity ratios are summarized in Table 3.2 for each lane group of each intersection in the study area. Table 3.2 shows a side-by-side comparison of the No-Action and Build conditions.

Intersection	Alternative 2 – Phase II (Year 20) Build Condition (without Mitigation)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road and Horsham Road (#1)	Intersection	Signalized	271.2	F	276.9	F
Easton Road and Horsham Road (#2)	Intersection	Signalized	110.4	F	184.4	F
Horsham Road and Dresher Road (#3)	Intersection	Signalized	203.6	F	339.5	F
Horsham Road and Maple Road (#4)	Intersection	Signalized	288.2	F	653.5	F
Horsham Road and Norristown Road (#5)	Intersection	Signalized	148.6	F	219.8	F
Easton Road and Home Depot Dr/I-276 (#6)	Intersection	Signalized	181.5	F	331.0	F
Horsham Road and Privet Road (#7)	Intersection	Signalized	29.5	C	84.6	F
Horsham Road and Keith Valley Road (#8)	Intersection	Signalized	213.8	F	202.0	F
Keith Valley Road and New Access Road (#9)	SB-LT	Unsignalized	7.4	A	7.5	A
	WB-LR	Unsignalized	10.2	B	9.2	A
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	74.3	E	41.1	D
County Line Road and Easton Road (#11)	Intersection	Signalized	158.9	F	224.7	F
Easton Road and Gate 1 (#12)	Intersection	Signalized	168.7	F	162.1	F
Easton Road and West Moreland Ave (#13)	SB-L	Unsignalized	15.6	C	43.4	E
	WB-LTR	Unsignalized	20.6	C	27.1	D
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	147.4	F	285.4	F
Easton Road and Dresher/Meetinghouse Road (#15)	Intersection	Signalized	144.0	F	230.1	F
Easton Road and Maryland Road (#16)	Intersection	Signalized	78.8	E	184.4	F

Alternative 3 – Phase I (Year 10) – Airfield Reuse

To be conservative, the PM peak hour internal capture rate of 6% was applied to the AM and PM peak hour trip generation. At the 10 Year Build Out, Alternative 3 is projected to result in 816 new vehicle trips in the AM peak hour and 1,640 new vehicle trips in the PM peak hour. Traffic volumes increase throughout the study network. Figures 13 and 14 – Phase I – 10 Year Build Out illustrate the new trips for the AM peak hour and the PM peak hour, respectively.

Roadway Network and Access – Alternative 3 – Phase I (Year 10)

Alternative 3 provides 6 access points to connect the new development with the existing roadway network; 3 on Horsham Road, 3 on Easton Road and none on Keith Valley Road. The major access points connect to existing signalized intersections or form the fourth leg of an existing T-intersection.

Projected Traffic Volumes – Alternative 3 – Phase I (Year 10)

Table 2.3 summarizes the trip generation for each of the various land uses of Alternative 3, which are made up of residential units, commercial space and other land uses. The Institute of Transportation Engineers (ITE), Trip Generation, 8th Edition was used to calculate the new trips associated with each land use. Alternative 3 – Phase I has no residential units other than the 70 units of housing for the homeless. The commercial land uses include a mix of 585,310 SF of office park, hotel/conference center, and retail space. There is no school contemplated for this alternative development scenario. Once again, the Aviation Museum traffic would occur outside of the AM and PM peak hours of the adjacent streets. The Airfield Operations was used treated as an office use with 351 employees (of which it is assumed 176 employees [or 50%] would commute during peak hours).

Projected Level of Service – Alternative 3 – Phase I (Year 10)

The LOS, Average Vehicle Delay and Volume to Capacity ratios are summarized in Table 3.3 – Phase I – 10 Year Build Out for each lane group of each intersection in the study area. Table 3.3 – Phase I – 10 Year Build Out shows a side-by-side comparison of the No-Action and Phase I – 10 Year Build Out conditions.

Intersection	Alternative 3 – Phase I (Year 10) Build Condition (without Mitigation)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road and Horsham Road (#1)	Intersection	Signalized	103.9	F	153.1	F
Easton Road and Horsham Road (#2)	Intersection	Signalized	50.0	D	96.6	F
Horsham Road and Dresher Road (#3)	Intersection	Signalized	126.8	F	243.1	F
Horsham Road and Maple Road (#4)	Intersection	Signalized	156.5	F	304.4	F
Horsham Road and Norristown Road (#5)	Intersection	Signalized	102.7	F	164.7	F
Easton Road and Home Depot Dr/I-276 (#6)	Intersection	Signalized	38.7	D	147.9	F
Horsham Road and Privet Road (#7)	Intersection	Signalized	13.0	B	37.3	D
Horsham Road and Keith Valley Road (#8)	Intersection	Signalized	114.3	F	94.6	F
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	41.2	D	29.9	C
County Line Road and Easton Road (#11)	Intersection	Signalized	87.7	F	117.8	F
Easton Road and Gate 1 (#12)	Intersection	Signalized	118.0	F	59.1	E
Easton Road and West Moreland Ave (#13)	SB-L	Unsignalized	14.5	B	24.5	C
	WB-LTR	Unsignalized	16.1	C	20.5	C
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	47.7	D	185.7	F
Easton Road and Dresher/Meetinghouse Road (#15)	Intersection	Signalized	69.9	E	139.5	F
Easton Road and Maryland Road (#16)	Intersection	Signalized	47.6	D	122.6	F

Alternative 3 – Phase II (Year 20) - Airfield Reuse

To be conservative, the PM peak hour internal capture rate of 12% was applied to the AM and PM peak hour trip generation. At full build-out, Alternative 3 is projected to result in 1,763 new vehicle trips in the AM peak hour and 2,502 new vehicle trips in the PM peak hour. Traffic volumes increase throughout the study network. Figures 13 and 14 illustrate the new trips for the AM peak hour and the PM peak hour, respectively.

Roadway Network and Access – Alternative 3 – Phase II (Year 20)

Alternative 3 provides 6 access points to connect the new development with the existing roadway network; 3 on Horsham Road, 3 on Easton Road and none on Keith Valley Road. The major access points connect to existing signalized intersections or form the fourth leg of an existing T-intersection.

Projected Traffic Volumes – Alternative 3 – Phase II (Year 20)

Table 2.3 summarizes the trip generation for each of the various land uses of Alternative 3, which are made up of residential units, commercial space and other land uses. The Institute of Transportation, Trip Generation, 8th Edition was used to calculate the new trips associated with each land use. Alternative 3 has no residential units other than the 70 units of housing for the homeless. The commercial land uses include a mix of 1,214,693 SF of office park, hotel/conference center, and retail space. There is no school contemplated for this alternative development scenario. Once again, the Aviation Museum traffic would occur outside of the AM and PM peak hours of the adjacent streets. The

Airfield Operations was used treated as an office use with 351 employees (of which it is assumed 176 employees [or 50%] would commute during peak hours).

Projected Level of Service – Alternative 3 – Phase II (Year 20)

The LOS, Average Vehicle Delay and Volume to Capacity ratios are summarized in Table 3.3 for each lane group of each intersection in the study area. Table 3.3 shows a side-by-side comparison of the No-Action and Build conditions.

Intersection	Alternative 3 – Phase II (Year 20) Build Condition (without Mitigation)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road and Horsham Road (#1)	Intersection	Signalized	211.3	F	220.7	F
Easton Road and Horsham Road (#2)	Intersection	Signalized	96.7	F	157.7	F
Horsham Road and Dresher Road (#3)	Intersection	Signalized	184.7	F	314.4	F
Horsham Road and Maple Road (#4)	Intersection	Signalized	257.1	F	493.8	F
Horsham Road and Norristown Road (#5)	Intersection	Signalized	136.5	F	203.6	F
Easton Road and Home Depot Dr/I-276 (#6)	Intersection	Signalized	154.9	F	312.9	F
Horsham Road and Privet Road (#7)	Intersection	Signalized	22.7	C	60.4	F
Horsham Road and Keith Valley Road (#8)	Intersection	Signalized	204.7	F	159.5	F
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	73.0	E	40.8	D
County Line Road and Easton Road (#11)	Intersection	Signalized	141.6	F	180.9	F
Easton Road and Gate 1 (#12)	Intersection	Signalized	141.0	F	106.5	F
Easton Road and West Moreland Ave (#13)	SB-L	Unsignalized	17.9	C	35.8	E
	WB-LTR	Unsignalized	19.3	C	24.8	D
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	99.4	F	248.1	F
Easton Road and Dresher/Meetinghouse Road (#15)	Intersection	Signalized	112.3	F	204.5	F
Easton Road and Maryland Road (#16)	Intersection	Signalized	69.2	E	167.2	F

Traffic Impact Mitigation Measures – Phase I (Year 10) - Alternatives 1, 2 and 3

All traffic impact mitigation measures require appropriate traffic signal timing and phasing modifications to accommodate the lane configuration modifications.

Easton Rd (611) with Horsham Rd (#1):

An additional northbound through lane, an additional southbound through lane and a double left for the southbound approach would result in a slight improvement; however, these approaches would still operate at LOS F. The Horsham Rd leg of the intersection must be widened by one lane to accept the southbound double left turn traffic.

Easton Rd (SR 611) with Horsham Rd (SR 463) (#2):

The traffic signal timing is proposed to be optimized to accommodate the additional traffic associated with the 10-year Build redevelopment.

Horsham Rd (SR 463) with Dresher Rd (#3):

In order to improve the traffic operational impacts of the development traffic, an additional through lane is recommended for the eastbound, westbound, and northbound approaches. The northbound left turn should be widened to accommodate a double left turn lane. The departure lanes of the east, west and south legs of the intersection must be widened to accept the additional through lanes. The LOS is improved with these mitigation measures, comparable to those of the No-Action LOS.

Horsham Rd (SR 463) with Maple Ave (#4):

The eastbound left turn lane should be a double left turn lane. The northbound approach should be a separate left turn and a shared through-right lane. To improve the capacity of the southbound approach, the southbound right turn should be reconfigured so that the right turn lane traffic can turn right on red.

Horsham Rd (SR 463) and Norristown Rd (#5):

The new access roadway would form the fourth leg of the intersection. The configuration of this southbound leg of the intersection would be one exclusive left turn lane, one through lane and one right turn lane with two lanes entering the site. The westbound approach would require a second left turn lane, resulting in the need to widen the southbound departure lanes of Norristown Rd to two lanes. The westbound approach would also benefit from an exclusive right turn lane to enter the site. The eastbound approach would require a double left turn to enter the site and an exclusive right turn lane for traffic turning to Norristown Rd. The northbound approach would require one exclusive left turn lane, one through lane and one right turn lane.

Easton Rd (SR 611) with Home Depot Dr/I-276 Ramps (#6):

The traffic signal timing would be optimized to accommodate the additional site generated traffic.

Horsham Rd (SR 463) with Privet Rd (#7):

The proposed site driveway would consist of three lanes; an exclusive left turn lane, a through lane and an exclusive right turn lane. The recommended improvement to this intersection is to develop a northbound right turn lane that allows traffic to flow freely onto eastbound Horsham Rd. This improves the capacity of that movement.

Horsham Rd (SR 463) with Keith Valley Rd (#8):

An additional through lane for the eastbound and westbound approaches of Horsham Rd is recommended. The eastbound approach should provide an exclusive right turn lane to accommodate the second eastbound through lane. The eastbound and westbound departure legs should be widened to accommodate the additional through lane.

Keith Valley Road and New Access Road (#9):

Based on the results of the traffic analyses, the proposed intersection of Graeme Park Road with Keith Valley Road would consist of one lane in each direction along Keith Valley Road and one single entering and one single lane exiting the proposed site access on Graeme Park Road. New Access Road would be STOP controlled.

County Line Rd with Keith Valley Rd (#10):

A northbound through lane is recommended on Keith Valley Rd. The northern leg of Kansas Rd would need to be widened to two northbound lanes to accommodate the additional through lane.

County Line Rd with Easton Rd (SR 611) (#11):

A northbound Easton Rd double left turn lane configuration is recommended to mitigation poor LOS. An additional exclusive through lane for all four approaches is also recommended to mitigate some of the traffic impacts. Additionally, the westbound approach should have a double left turn.

Easton Rd (SR 611) with Gate 1 (#12):

Improvements to the Gate 1 exiting movements would include double left turn lanes and an exclusive right turn lane with two lanes entering the site. The northbound approach should have a double left turn lane. The southbound approach of Easton Rd should be widened to accommodate an additional through lane. The southbound departure of Easton Rd should also be widened to accommodate the additional southbound through lane.

Easton Rd (SR 611) with W Moreland Rd (unsignalized) (#13):

A traffic signal will be required to accommodate the traffic demand at this intersection. The fourth leg of the intersection is the driveway accessing the redevelopment. A northbound left turn lane on Easton Rd would be proposed.

Easton Rd (SR 611) with Maple Ave (Lower) (#14):

An additional northbound left turn lane and an additional northbound through lane are recommended as well as double left lanes and one shared through-right lane for Maple Ave approach. The northbound departure must be widened to accommodate the additional northbound through lane. One lane entering the site and one lane exiting the site is proposed. The Maple Ave (Lower) roadway would be two lanes entering the site and three lanes exiting the site. Upper Maple Ave is just north of Lower Maple Ave intersection and is the east leg of the “T” intersection.

Easton Rd (SR 611) with Dresher Rd/Meetinghouse Rd (#15):

An additional through lane on Easton Rd northbound and south bound is recommended to accommodate the additional site generated traffic. The departure lanes of southbound and northbound Easton Rd also would be widened to accommodate the additional through lane.

Easton Rd (SR 611) with Maryland Rd (#16):

The traffic signal timing would need to be optimized.

Intersection	Alternative 1 – Phase I (Year 10) Build Condition (with Mitigation)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road (611) and Horsham Road (#1)	Intersection	Signalized	34.5	C	26.3	C
Easton Road (611) and Horsham Road (463) (#2)	Intersection	Signalized	32.3	C	19.0	B
Horsham Road (463) and Dresher Road (#3)	Intersection	Signalized	89.2	F	82.9	F
Horsham Road (463) and Maple Avenue (#4)	Intersection	Signalized	32.5	C	62.5	E
Horsham Road (463) and Norristown Road (#5)	Intersection	Signalized	75.2	E	115.8	F
Easton Road (611) and Home Depot Dr/I-276 (#6)	Intersection	Signalized	18.0	B	30.0	C
Horsham Road (463) and Privet Road (#7)	Intersection	Signalized	10.8	B	28.5	C
Horsham Road (463) and Keith Valley Road (#8)	Intersection	Signalized	20.0	C	15.5	B
Keith Valley Rd and New Access Road (#9)	SB-LT	Unsignalized	n/a	n/a	n/a	n/a
	WB-LR	Unsignalized	n/a	n/a	n/a	n/a
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	52.0	D	29.8	C
County Line Road and Easton Road (611) (#11)	Intersection	Signalized	69.0	E	93.4	F
Easton Road (611) and Gate 1 (#12)	Intersection	Signalized	9.8	A	24.8	C
Easton Road (611) and West Moreland Ave (#13)	Intersection	Signalized	17.8	B	19.6	B
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	15.5	B	147.7	F
Easton Rd and Dresher/Meetinghouse Rd (#15)	Intersection	Signalized	41.1	D	62.8	E
Maryland Rd and Easton Rd (611) (#16)	Intersection	Signalized	42.0	D	65.5	E

Intersection	Alternative 2 – Phase I (Year 10) Build Condition (with Mitigation)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road (611) and Horsham Road (#1)	Intersection	Signalized	32.1	C	23.2	C
Easton Road (611) and Horsham Road (463) (#2)	Intersection	Signalized	32.4	C	18.8	B
Horsham Road (463) and Dresher Road (#3)	Intersection	Signalized	121.5	F	82.4	F
Horsham Road (463) and Maple Avenue (#4)	Intersection	Signalized	31.6	C	62.3	E
Horsham Road (463) and Norristown Road (#5)	Intersection	Signalized	75.3	E	114.3	F
Easton Road (611) and Home Depot Dr/I-276 (#6)	Intersection	Signalized	18.2	B	31.2	C
Horsham Road (463) and Privet Road (#7)	Intersection	Signalized	10.9	B	28.4	C
Horsham Road (463) and Keith Valley Road (#8)	Intersection	Signalized	19.9	B	15.2	B
Keith Valley Rd and New Access Road (#9)	SB-LT	Unsignalized	n/a	n/a	n/a	n/a
	WB-LR	Unsignalized	n/a	n/a	n/a	n/a
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	52.0	D	29.8	C
County Line Road and Easton Road (611) (#11)	Intersection	Signalized	69.0	E	93.1	F
Easton Road (611) and Gate 1 (#12)	Intersection	Signalized	10.4	B	25.6	C
Easton Road (611) and West Moreland Ave (#13)	Intersection	Signalized	17.8	B	19.4	B
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	15.6	B	146.0	F
Easton Rd and Dresher/Meetinghouse Rd (#15)	Intersection	Signalized	31.9	C	62.8	E
Maryland Rd and Easton Rd (611) (#16)	Intersection	Signalized	38.8	D	67.2	E

Intersection	Alternative 3 – Phase I (Year 10) Build Condition (with Mitigation)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road (611) and Horsham Road (#1)	Intersection	Signalized	32.4	C	23.7	C
Easton Road (611) and Horsham Road (463) (#2)	Intersection	Signalized	31.8	C	22.2	C
Horsham Road (463) and Dresher Road (#3)	Intersection	Signalized	90.1	F	84.9	F
Horsham Road (463) and Maple Avenue (#4)	Intersection	Signalized	30.3	C	62.9	E
Horsham Road (463) and Norristown Road (#5)	Intersection	Signalized	72.9	E	116.7	F
Easton Road (611) and Home Depot Dr/I-276 (#6)	Intersection	Signalized	17.9	B	31.4	C
Horsham Road (463) and Privet Road (#7)	Intersection	Signalized	10.6	B	29.1	C
Horsham Road (463) and Keith Valley Road (#8)	Intersection	Signalized	20.3	C	15.6	B
Keith Valley Rd and New Access Road (#9)	SB-LT	Unsignalized	n/a	n/a	n/a	n/a
	WB-LR	Unsignalized	n/a	n/a	n/a	n/a
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	38.9	D	29.2	C
County Line Road and Easton Road (611) (#11)	Intersection	Signalized	68.2	E	94.3	F
Easton Road (611) and Gate 1 (#12)	Intersection	Signalized	0.0	A	26.4	C
Easton Road (611) and West Moreland Ave (#13)	Intersection	Signalized	17.3	B	20.3	C
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	15.4	B	152.8	F
Easton Rd and Dresher/Meetinghouse Rd (#15)	Intersection	Signalized	31.6	C	62.9	E
Maryland Rd and Easton Rd (611) (#16)	Intersection	Signalized	36.3	D	104.5	F

Traffic Impact Mitigation Measures – Phase II (Year 20 - Full Build Out) - Alternatives 1, 2 and 3

All traffic impact mitigation measures require appropriate traffic signal timing and phasing modifications to accommodate the lane configuration modifications.

Easton Rd (611) with Horsham Rd (#1):

An additional northbound through lane, an additional southbound through lane and a double left for the southbound approach would result in a slight improvement; however, these approaches would still operate at LOS F. The Horsham Rd leg of the intersection must be widened by one lane to accept the southbound double left turn traffic.

Easton Rd (SR 611) with Horsham Rd (SR 463) (#2):

A third right turn lane for the eastbound approach and an additional through lane for the southbound approach are recommended to improve the operations of this intersection. Southbound Easton Rd (SR 611) must be widened to three lanes to accept the traffic from the three right turn lanes from eastbound Horsham Rd (SR 463). These improvements provide enough capacity to bring the LOS back to the No-Action conditions.

Horsham Rd (SR 463) with Dresher Rd (#3):

In order to improve the traffic operational impacts of the development traffic, an additional through lane is recommended for the eastbound, westbound, and southbound approaches. The northbound left turn should be widened to accommodate a double left turn lane. The departure lanes of the east, west and south legs of the intersection must be widened to accept the additional through lanes. The LOS is improved with these mitigation measures, comparable to those of the No-Action LOS.

Horsham Rd (SR 463) with Maple Ave (#4):

The eastbound left turn lane should be a double left turn lane. The northbound approach should be a separate left turn and a shared through-right lane. To improve the capacity of the southbound approach, the southbound right turn should be reconfigured so that the right turn lane traffic can turn right on red.

Horsham Rd (SR 463) and Norristown Rd (#5):

The new access roadway would form the fourth leg of the intersection. The configuration of this southbound leg of the intersection would be one exclusive left turn lane, one through lane and one right turn lane with two lanes entering the site. The westbound approach would require a second left turn lane, resulting in the need to widen the southbound departure lanes of Norristown Rd to two lanes. The westbound approach would also benefit from an exclusive right turn lane to enter the site. The eastbound approach would require a double left turn to enter the site and an exclusive right turn lane

for traffic turning to Norristown Rd. The northbound approach would require one exclusive left turn lane, one through lane and one right turn lane.

Easton Rd (SR 611) with Home Depot Dr/I-276 Ramps (#6):

The southbound approach and departure would require an additional through lane to accommodate the additional site generated traffic.

Horsham Rd (SR 463) with Privet Rd (#7):

The proposed site driveway would consist of three lanes; an exclusive left turn lane, a through lane and an exclusive right turn lane. The recommended improvement to this intersection is to develop a northbound right turn lane that allows traffic to flow freely onto eastbound Horsham Rd. This improves the capacity of that movement.

Horsham Rd (SR 463) with Keith Valley Rd (#8):

An additional through lane for the eastbound and westbound approaches of Horsham Rd is recommended. The eastbound approach should provide an exclusive right turn lane to accommodate the second eastbound through lane. The eastbound and westbound departure legs should be widened to accommodate the additional through lane.

Keith Valley Road and New Access Road (#9):

Based on the results of the traffic analyses, the proposed intersection of Graeme Park Road with Keith Valley Road would consist of one lane in each direction along Keith Valley Road and one single entering and one single lane exiting the proposed site access on Graeme Park Road.

County Line Rd with Keith Valley Rd (#10):

A northbound through lane is recommended on Keith Valley Rd. The northern leg of Kansas Rd would need to be widened to two northbound lanes to accommodate the additional through lane.

County Line Rd with Easton Rd (SR 611) (#11):

A northbound Easton Rd double left turn lane configuration is recommended to mitigation poor LOS. An additional exclusive through lane for all four approaches is also recommended to mitigate some of the traffic impacts.

Easton Rd (SR 611) with Gate 1 (#12):

Improvements to the Gate 1 exiting movements would include double left turn lanes and an exclusive right turn lane with two lanes entering the site. The southbound approach of Easton Rd should be widened to accommodate an additional through lane. The southbound departure of Easton Rd should also be widened to accommodate the additional southbound through lane.

Easton Rd (SR 611) with W Moreland Rd (unsignalized) (#13):

A traffic signal will be required to accommodate the traffic demand at this intersection. The fourth leg of the intersection is the driveway accessing the redevelopment. A northbound left turn lane on Easton Rd would be proposed.

Easton Rd (SR 611) with Maple Ave (Lower) (#14):

An additional northbound left turn lane and an additional northbound through lane are recommended as well as double left lanes and one shared through-right lane for Maple Ave approach. The northbound departure must be widened to accommodate the additional northbound through lane. One lane entering the site and one lane exiting the site is proposed. The Maple Ave (Lower) roadway would be two lanes entering the site and three lanes exiting the site. Upper Maple Ave is just north of Lower Maple Ave intersection and is the east leg of the “T” intersection.

Easton Rd (SR 611) with Dresher Rd/Meetinghouse Rd (#15):

An additional through lane on Easton Rd northbound and south bound is recommended to accommodate the additional site generated traffic. The departure lanes of southbound and northbound Easton Rd also would be widened to accommodate the additional through lane.

Easton Rd (SR 611) with Maryland Rd (#16):

The traffic signal timing would need to be optimized.

Intersection	Alternative 1 – Full Build Condition (with Mitigation)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road (611) and Horsham Road (#1)	Intersection	Signalized	98.9	F	99.2	F
Easton Road (611) and Horsham Road (463) (#2)	Intersection	Signalized	47.3	D	55.7	E
Horsham Road (463) and Dresher Road (#3)	Intersection	Signalized	121.8	F	135.1	F
Horsham Road (463) and Maple Avenue (#4)	Intersection	Signalized	50.6	D	97	F
Horsham Road (463) and Norristown Road (#5)	Intersection	Signalized	114.2	F	189.4	F
Easton Road (611) and Home Depot Dr/I-276 (#6)	Intersection	Signalized	19.3	B	42.5	D
Horsham Road (463) and Privet Road (#7)	Intersection	Signalized	14.4	B	37.1	D
Horsham Road (463) and Keith Valley Road (#8)	Intersection	Signalized	38.5	D	40.4	D
Keith Valley Rd and New Access Road (#9)	SB-LT	Unsignalized	n/a		n/a	
	WB-LR	Unsignalized	n/a		n/a	
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	74.2	E	42.4	D
County Line Road and Easton Road (611) (#11)	Intersection	Signalized	100.2	F	134.1	F
Easton Road (611) and Gate 1 (#12)	Intersection	Signalized	13.1	B	44.2	D
Easton Road (611) and West Moreland Ave (#13)	Intersection	Signalized	24.5	C	33.4	C
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	20.9	C	243.0	F
Easton Rd and Dresher/Meetinghouse Rd (#15)	Intersection	Signalized	41.1	D	83.2	F
Maryland Rd and Easton Rd (611) (#16)	Intersection	Signalized	60.8	E	112.0	F

Intersection	Alternative 2 – Full Build Condition (with Mitigation)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road and Horsham Road (#1)	Intersection	Signalized	55.9	E	46.5	D
Easton Road and Horsham Road (#2)	Intersection	Signalized	46.7	D	42.4	D
Horsham Road and Dresher Road (#3)	Intersection	Signalized	121.5	F	132.8	F
Horsham Road and Maple Road (#4)	Intersection	Signalized	60.6	E	96.5	F
Horsham Road and Norristown Road (#5)	Intersection	Signalized	114.0	F	187.0	F
Easton Road and Home Depot Dr/I-276 (#6)	Intersection	Signalized	19.4	B	41.6	D
Horsham Road and Privet Road (#7)	Intersection	Signalized	14.9	B	29.9	C
Horsham Road and Keith Valley Road (#8)	Intersection	Signalized	36.5	D	32.5	C
Keith Valley Road and New Access Road (#9)	SB-LT	Unsignalized	n/a		n/a	
	WB-LR	Unsignalized	n/a		n/a	
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	74.0	E	39.4	D
County Line Road and Easton Road (#11)	Intersection	Signalized	105.6	F	147.0	F
Easton Road and Gate 1 (#12)	Intersection	Signalized	41.5	D	48.4	D
Easton Road and West Moreland Ave (#13)	Intersection	Signalized	24.3	C	31.9	C
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	19.2	B	253.5	F
Easton Road and Dresher/Meetinghouse Road (#15)	Intersection	Signalized	47.2	D	109.7	F
Easton Road and Maryland Road (#16)	Intersection	Signalized	61.2	E	146.2	F

Intersection	Alternative 3 – Full Build Condition (with Mitigation)					
	Lane Group	Traffic Control	AM PEAK		PM PEAK	
			Delay (sec)	Level of Service	Delay (sec)	Level of Service
Easton Road and Horsham Road (#1)	Intersection	Signalized	52.7	D	27.5	C
Easton Road and Horsham Road (#2)	Intersection	Signalized	32.8	C	32.2	C
Horsham Road and Dresher Road (#3)	Intersection	Signalized	85.0	F	83.3	F
Horsham Road and Maple Road (#4)	Intersection	Signalized	42.2	D	83.6	F
Horsham Road and Norristown Road (#5)	Intersection	Signalized	64.1	E	85	F
Easton Road and Home Depot Dr/I-276 (#6)	Intersection	Signalized	21.6	C	37.6	D
Horsham Road and Privet Road (#7)	Intersection	Signalized	9.8	A	28.7	C
Horsham Road and Keith Valley Road (#8)	Intersection	Signalized	22.1	C	17.6	B
County Line Road and Keith Valley Road (#10)	Intersection	Signalized	61.4	E	34.5	C
County Line Road and Easton Road (#11)	Intersection	Signalized	33.5	C	42.1	D
Easton Road and Gate 1 (#12)	Intersection	Signalized	7.0	A	31.5	C
Easton Road and West Moreland Ave (#13)	Intersection	Signalized	21.1	C	31.5	C
Easton Road and Maple Avenue (Lower) (#14)	Intersection	Signalized	17.1	B	43.0	D
Easton Road and Dresher/Meetinghouse Road (#15)	Intersection	Signalized	80.9	F	103.6	F
Easton Road and Maryland Road (#16)	Intersection	Signalized	50.9	D	134.5	F

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11. Southeastern Pennsylvania Transportation Authority (SEPTA). 2013g. 310 Horsham Breeze. Available online at: <http://www.septa.org/schedules/bus/pdf/310.pdf>. Accessed on March 11, 2013.
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TRAFFIC ASSESSMENT STUDY

Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove

TOWNSHIP OF HORSHAM

MONTGOMERY COUNTY, PENNSYLVANIA

TABLES

TABLE 2.1 - Trip Generation by Alternative

ALTERNATIVE 1

CODE	LAND USE	AMOUNT	WEEKDAY						ADT
			AM PEAK HOUR			PM PEAK HOUR			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
ALTERNATIVE 1 - RESIDENTIAL									
210	Large Lot Single Family	90 units	17	51	68	57	34	91	861
210	¼ Acre Lot Single Family	0 units	-	-	-	-	-	-	-
210	Small Lot Single Family	250 units	47	141	188	159	93	253	2,393
230	Townhomes	350 units	26	128	154	122	60	182	2,034
230	Apartments/Condos	300 units	22	110	132	105	51	156	1,743
230	Town Center Apartment/Condos	100 units	7	37	44	35	17	52	581
255	CCRC Independent Living	141 units	16	9	25	20	21	41	396
255	CCRC Assisted Living/Nursing	185 units	21	12	33	26	28	54	520
Total Residential - Alternative 1		1,416 units							
ALTERNATIVE 1 - COMMERCIAL									
720	CCRC Med Office/Amenities	25,000 SF	45	12	58	23	63	87	903
312	Hotel/Conference	137,000 SF	47	33	79	51	34	85	996
820	Town Center Retail/Service/Restaurants	239,580 SF	157	101	258	560	583	1,142	11,983
	Pass-By Percentage (PM)	-30%				(169)	(176)	(345)	(300)
715	Town Center Office	65,340 SF	44	5	50	9	53	62	923
444	Movies/Entertainment (54,450 SF)	10 screens	7	2	9	232	214	445	1,533
750	Office Park	1,163,052 SF	1,529	189	1,718	212	1,303	1,515	12,528
820	Retail	200,200 SF	142	90	232	496	517	1,013	10,663
	Pass-By Percentage (PM)	-32%				(158)	(164)	(322)	(3,982)
Total Commercial - Alternative 1		1,830,182 SF							
ALTERNATIVE 1 - OTHER USES									
435	Regional Recreation Center (100,000 SF)	12 acres	14	9	23	28	42	69	1,085
210	Housing for Homeless	70 units	13	39	53	45	26	71	670
520	School (152,727 SF)	1,200 stud.	297	243	540	88	92	180	1,548
	Aviation Museum	200,000 SF							
	Shared Lot	0							
	Park/Open Space	0							
	Roads, Sidewalks, Paths, Etc.	0							
	Airfield	0							
710	Airfield Operations	0							
Total Other Uses - Alternative 1		300,000							
TOTAL TRIPS - ALTERNATIVE 1			2,452	1,210	3,662	1,940	2,890	4,830	47,078
PM Peak Hour Internal Capture Rate		23%							
TOTAL NEW TRIPS - ALTERNATIVE 1			1,888	931	2,820	1,494	2,225	3,719	36,250

TABLE 2.1-1 Trip Generation - Alternative 1 - Phase 1 - 10 Year Build Out

ALTERNATIVE 1 - FIRST 10 YEARS ONLY

CODE	LAND USE	AMOUNT	WEEKDAY						ADT
			AM PEAK HOUR			PM PEAK HOUR			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
ALTERNATIVE 1 - RESIDENTIAL									
210	Large Lot Single Family	90 units	17	51	68	57	34	91	861
210	¼ Acre Lot Single Family	0 units	-	-	-	-	-	-	-
210	Small Lot Single Family	250 units	47	141	188	159	93	253	2,393
230	Townhomes	350 units	26	128	154	122	60	182	2,034
230	Apartments/Condos	180 units	13	66	79	63	31	94	1,046
230	Town Center Apartment/Condos	0 units	-	-	-	-	-	-	-
255	CCRC Independent Living	141 units	16	9	25	20	21	41	396
255	CCRC Assisted Living/Nursing	185 units	21	12	33	26	28	54	520
Total Residential - Alternative 1		1,196 units							
ALTERNATIVE 1 - COMMERCIAL									
720	CCRC Med Office/Amenities	25,000 SF	45	12	58	23	63	87	903
312	Hotel/Conference	0 SF	-	-	-	-	-	-	-
820	Town Center Retail/Service/Restaurants	0 SF	-	-	-	-	-	-	-
	Pass-By Percentage (PM)								
715	Town Center Office	0 SF	-	-	-	-	-	-	-
444	Movies/Entertainment (54,450 SF)	0 screens	-	-	-	-	-	-	-
750	Office Park	276,000 SF	447	55	502	61	372	433	3,285
820	Retail	200,200 SF	142	90	232	496	517	1,013	10,663
	Pass-By Percentage (PM)	-32%				(158)	(164)	(322)	(1,044)
Total Commercial - Alternative 1		501,200 SF							
ALTERNATIVE 1 - OTHER USES									
435	Regional Recreation Center (100,000 SF)	0 acres	-	-	-	-	-	-	-
210	Housing for Homeless	70 units	13	39	53	45	26	71	670
520	School (152,727 SF)	0 stud.	-	-	-	-	-	-	-
	Aviation Museum	200,000 SF							
	Shared Lot	0							
	Park/Open Space	0							
	Roads, Sidewalks, Paths, Etc.	0							
	Airfield	0							
710	Airfield Operations	0							
Total Other Uses - Alternative 1		200,000							
TOTAL TRIPS - ALTERNATIVE 1			788	603	1,391	913	1,081	1,994	21,726
PM Peak Hour Internal Capture Rate		31%							
TOTAL NEW TRIPS - ALTERNATIVE 1			548	419	967	635	751	1,386	15,096

TABLE 2.2 - Trip Generation by Alternative

ALTERNATIVE 2

CODE	LAND USE	AMOUNT	WEEKDAY						ADT
			AM PEAK HOUR			PM PEAK HOUR			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
ALTERNATIVE 2 - RESIDENTIAL									
210	Large Lot Single Family	0 units	-	-	-	-	-	-	-
210	¼ Acre Lot Single Family	169 units	32	95	127	108	63	171	1,617
210	Small Lot Single Family	227 units	43	128	170	144	85	229	2,172
230	Townhomes	396 units	30	145	174	138	68	206	2,301
230	Apartments/Condos	645 units	48	236	284	225	111	335	3,747
230	Town Center Apartment/Condos	114 units	9	42	50	40	20	59	662
255	CCRC Independent Living	126 units	15	8	23	18	19	37	354
255	CCRC Assisted Living/Nursing	252 units	29	16	45	35	38	73	708
Total Residential - Alternative 2		1,929 units							
ALTERNATIVE 2 - COMMERCIAL									
720	CCRC Med Office/Amenities	58,500 SF	106	28	135	55	148	202	2,114
312	Hotel/Conference	163,400 SF	56	39	95	61	41	101	1,188
820	Town Center Retail/Service/Restaurants	236,095 SF	156	100	256	554	577	1,131	11,870
	Pass-By Percentage (PM)	-30%				(168)	(175)	(343)	(360)
715	Town Center Office	70,829 SF	47	6	52	10	55	64	969
444	Movies/Entertainment (35,230 SF)	8 screens	6	1	7	185	171	356	1,227
750	Office Park	1,130,818 SF	1,489	184	1,674	207	1,269	1,475	12,192
820	Retail	139,100 SF	114	73	187	389	405	794	8,416
	Pass-By Percentage (PM)	-35%				(137)	(143)	(280)	(4,308)
Total Commercial - Alternative 2		1,798,750 SF							
ALTERNATIVE 2 - OTHER USES									
435	Regional Recreation Center (96,522 SF)	22 acres	25	17	42	51	76	127	1,988
210	Housing for Homeless	70 units	13	39	53	45	26	71	670
520	School (152,727 SF)	1,200 stud.	297	243	540	88	92	180	1,548
	Aviation Museum	200,000 SF							
	Shared Lot	0							
	Park/Open Space	0							
	Roads, Sidewalks, Paths, Etc.	0							
	Airfield	0							
710	Airfield Operations	0							
Total Other Uses - Alternative 2		296,522							
TOTAL TRIPS - ALTERNATIVE 2			2,514	1,399	3,913	2,045	2,944	4,989	49,076
PM Peak Hour Internal Capture Rate		28%							
TOTAL NEW TRIPS - ALTERNATIVE 2			1,810	1,008	2,817	1,473	2,120	3,592	35,335

TABLE 2.2-1 Trip Generation - Alternative 2 - Phase 1 - 10 Year Build Out

ALTERNATIVE 2 - FIRST 10 YEARS ONLY

CODE	LAND USE	AMOUNT	WEEKDAY						ADT
			AM PEAK HOUR			PM PEAK HOUR			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
ALTERNATIVE 2 - RESIDENTIAL									
210	Large Lot Single Family	0 units	-	-	-	-	-	-	-
210	¼ Acre Lot Single Family	169 units	32	95	127	108	63	171	1,617
210	Small Lot Single Family	227 units	43	128	170	144	85	229	2,172
230	Townhomes	396 units	30	145	174	138	68	206	2,301
230	Apartments/Condos	387 units	29	141	170	135	66	201	2,248
230	Town Center Apartment/Condos	0 units	-	-	-	-	-	-	-
255	CCRC Independent Living	126 units	15	8	23	18	19	37	354
255	CCRC Assisted Living/Nursing	252 units	29	16	45	35	38	73	708
Total Residential - Alternative 2		1,557 units							
ALTERNATIVE 2 - COMMERCIAL									
720	CCRC Med Office/Amenities	58,500 SF	106	28	135	55	148	202	2,114
312	Hotel/Conference	0 SF	-	-	-	-	-	-	-
820	Town Center Retail/Service/Restaurants	0 SF	-	-	-	-	-	-	-
	Pass-By Percentage (PM)	0%	-	-	-	-	-	-	-
715	Town Center Office	0 SF	-	-	-	-	-	-	-
444	Movies/Entertainment (35,230 SF)	0 screens	-	-	-	-	-	-	-
750	Office Park	268,351 SF	438	54	492	59	364	423	3,205
820	Retail	139,100 SF	114	73	187	389	405	794	8,416
	Pass-By Percentage (PM)	-35%				(137)	(143)	(280)	(1,133)
Total Commercial - Alternative 2		465,951 SF							
ALTERNATIVE 2 - OTHER USES									
435	Regional Recreation Center (96,522 SF)	0 acres	-	-	-	-	-	-	-
210	Housing for Homeless	70 units	13	39	53	45	26	71	670
520	School (152,727 SF)	0 stud.	-	-	-	-	-	-	-
	Aviation Museum	55,000 SF							
	Shared Lot	0							
	Park/Open Space	0							
	Roads, Sidewalks, Paths, Etc.	0							
	Airfield	0							
710	Airfield Operations	0							
Total Other Uses - Alternative 2		55,000							
TOTAL TRIPS - ALTERNATIVE 2			848	728	1,576	987	1,139	2,126	22,673
PM Peak Hour Internal Capture Rate		39%							
TOTAL NEW TRIPS - ALTERNATIVE 2			519	445	964	604	697	1,301	13,870

TABLE 2.3 - Trip Generation by Alternative

ALTERNATIVE 3

CODE	LAND USE	AMOUNT	WEEKDAY						ADT
			AM PEAK HOUR			PM PEAK HOUR			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
ALTERNATIVE 3 - RESIDENTIAL									
210	Large Lot Single Family	0 units	-	-	-	-	-	-	-
210	¼ Acre Lot Single Family	0 units	-	-	-	-	-	-	-
210	Small Lot Single Family	0 units	-	-	-	-	-	-	-
230	Townhomes	0 units	-	-	-	-	-	-	-
230	Apartments/Condos	0 units	-	-	-	-	-	-	-
230	Town Center Apartment/Condos	0 units	-	-	-	-	-	-	-
255	CCRC Independent Living	0 units	-	-	-	-	-	-	-
255	CCRC Assisted Living/Nursing	0 units	-	-	-	-	-	-	-
Total Residential - Alternative 3		0 units							
ALTERNATIVE 3 - COMMERCIAL									
720	CCRC Med Office/Amenities	0 SF	-	-	-	-	-	-	-
312	Hotel/Conference	120,882 SF	41	29	70	45	30	75	879
820	Town Center Retail/Service/Restaurants	0 SF							
	Pass-By Percentage (PM)								
715	Town Center Office	0 SF	-	-	-	-	-	-	-
444	Movies/Entertainment	0 screens	-	-	-	-	-	-	-
750	Office Park	666,718 SF	924	114	1,038	127	782	909	7,356
820	Retail	427,093 SF	221	141	363	825	858	1,683	17,449
	Pass-By Percentage (PM)	-25%				(210)	(219)	(429)	(1,875)
Total Commercial - Alternative 3		1,214,693 SF							
ALTERNATIVE 3 - OTHER USES									
435	Regional Recreation Center (100,000 SF)	12 acres	14	9	23	28	42	69	1,085
210	Housing for Homeless	70 units	13	39	53	45	26	71	670
520	School	0 stud.	-	-	-	-	-	-	-
	Aviation Museum	200,000 SF							
	Shared Lot	0							
	Park/Open Space	0							
	Roads, Sidewalks, Paths, Etc.	0							
	Airfield	0							
710	Airfield Operations (Assumes 176 Workers)	176 emp.	95	13	108	21	104	125	716
Total Other Uses - Alternative 3		300,000							
TOTAL TRIPS - ALTERNATIVE 3			1,213	333	1,546	859	1,519	2,378	25,563
PM Peak Hour Internal Capture Rate		12%							
TOTAL NEW TRIPS - ALTERNATIVE 3			1,152	304	1,456	775	1,428	2,203	23,126

TABLE 2.3-1 Trip Generation - Alternative 3 - Phase 1 - 10 Year Build Out

ALTERNATIVE 3 - FIRST 10 YEARS ONLY

CODE	LAND USE	AMOUNT	WEEKDAY						ADT
			AM PEAK HOUR			PM PEAK HOUR			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
ALTERNATIVE 3 - RESIDENTIAL									
210	Large Lot Single Family	0 units	-	-	-	-	-	-	-
210	¼ Acre Lot Single Family	0 units	-	-	-	-	-	-	-
210	Small Lot Single Family	0 units	-	-	-	-	-	-	-
230	Townhomes	0 units	-	-	-	-	-	-	-
230	Apartments/Condos	0 units	-	-	-	-	-	-	-
230	Town Center Apartment/Condos	0 units	-	-	-	-	-	-	-
255	CCRC Independent Living	0 units	-	-	-	-	-	-	-
255	CCRC Assisted Living/Nursing	0 units	-	-	-	-	-	-	-
Total Residential - Alternative 3		0 units							
ALTERNATIVE 3 - COMMERCIAL									
720	CCRC Med Office/Amenities	0 SF	-	-	-	-	-	-	-
312	Hotel/Conference	0 SF	-	-	-	-	-	-	-
820	Town Center Retail/Service/Restaurants	0 SF							
	Pass-By Percentage (PM)								
715	Town Center Office	0 SF	-	-	-	-	-	-	-
444	Movies/Entertainment	0 screens	-	-	-	-	-	-	-
750	Office Park	158,217 SF	304	38	341	40	248	289	2,058
820	Retail	427,093 SF	221	141	363	825	858	1,683	17,449
	Pass-By Percentage (PM)	-25%				(210)	(219)	(429)	(525)
Total Commercial - Alternative 3		585,310 SF							
ALTERNATIVE 3 - OTHER USES									
435	Regional Recreation Center (100,000 SF)	0 acres	-	-	-	-	-	-	-
210	Housing for Homeless	70 units	13	39	53	45	26	71	670
520	School	0 stud.	-	-	-	-	-	-	-
	Aviation Museum	200,000 SF							
	Shared Lot	0							
	Park/Open Space	0							
	Roads, Sidewalks, Paths, Etc.	0							
	Airfield	0							
710	Airfield Operations (Assumes 176 Workers)	176 emp.	95	13	108	21	104	125	716
Total Other Uses - Alternative 3		200,000							
TOTAL TRIPS - ALTERNATIVE 3			633	231	865	721	1,018	1,739	20,368
PM Peak Hour Internal Capture Rate		6%							
TOTAL NEW TRIPS - ALTERNATIVE 3			598	218	816	680	961	1,640	19,219

Table 4.1 - INTERNAL CAPTURE RATE CALCULATIONS WITHIN MULTI-USE DEVELOPMENT

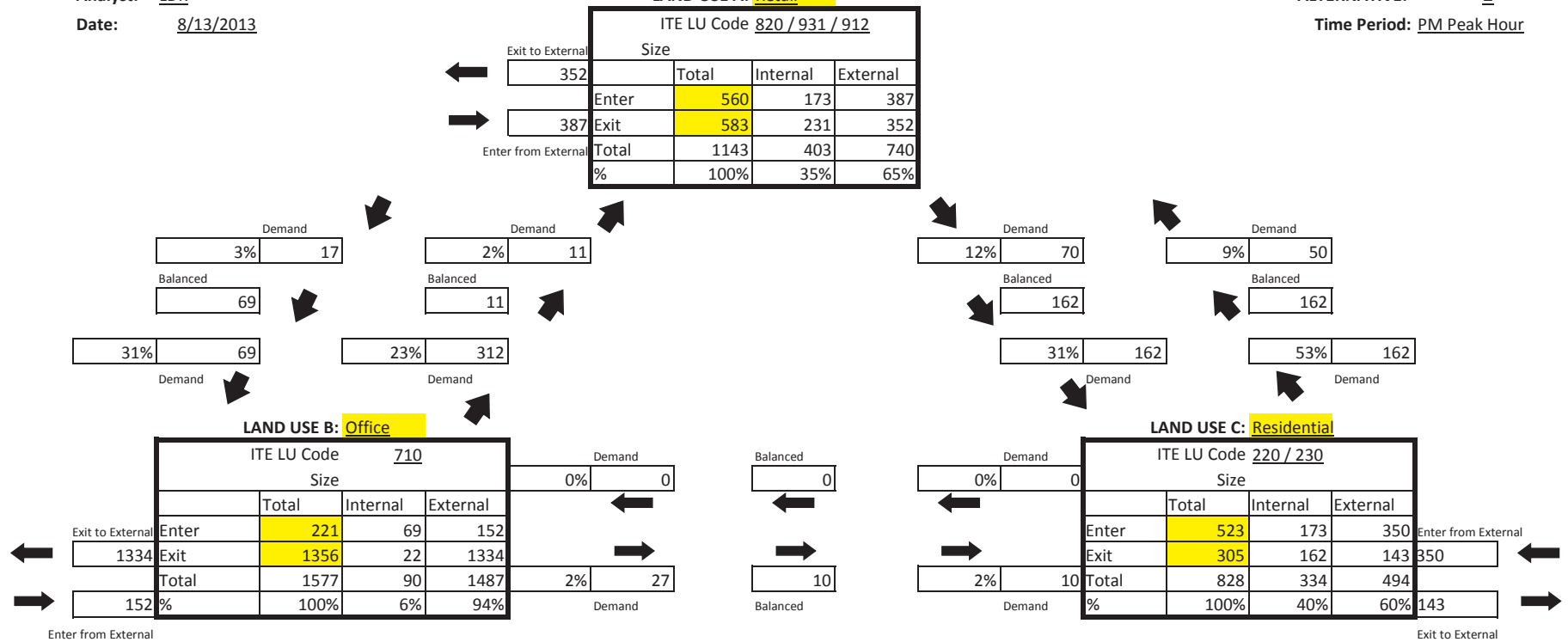
Analyst: LDK

Date: 8/13/2013

LAND USE A: Retail

ALTERNATIVE: 1

Time Period: PM Peak Hour

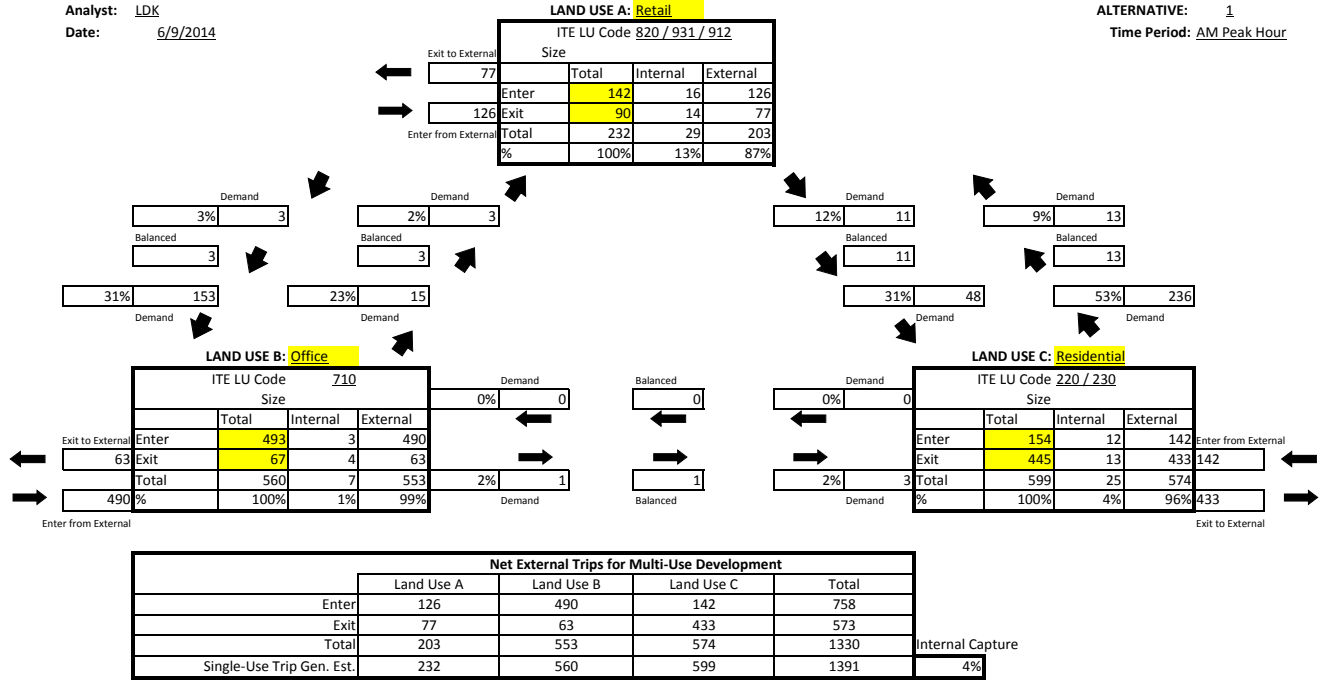


Net External Trips for Multi-Use Development				
	Land Use A	Land Use B	Land Use C	Total
Enter	387	152	350	890
Exit	352	1334	143	1830
Total	740	1487	494	2720
Single-Use Trip Gen. Est.	1143	1577	828	3548
				Internal Capture
				23%

TABLE 4.1-1 INTERNAL CAPTURE RATE CALCULATIONS - ALTERNATIVE 1 - PHASE 1

Analyst: LDK
Date: 6/9/2014

ALTERNATIVE: 1
Time Period: AM Peak Hour



Analyst: LDK
Date: 6/9/2014

ALTERNATIVE: 1
Time Period: PM Peak Hour

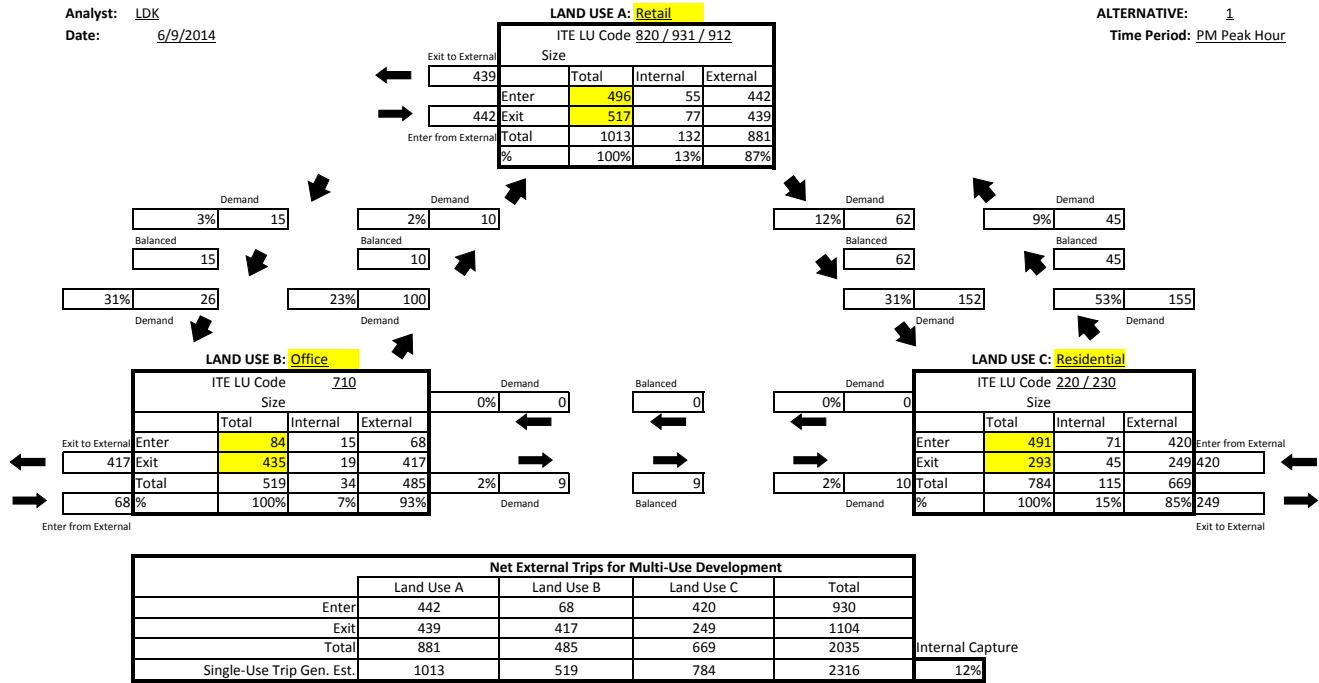
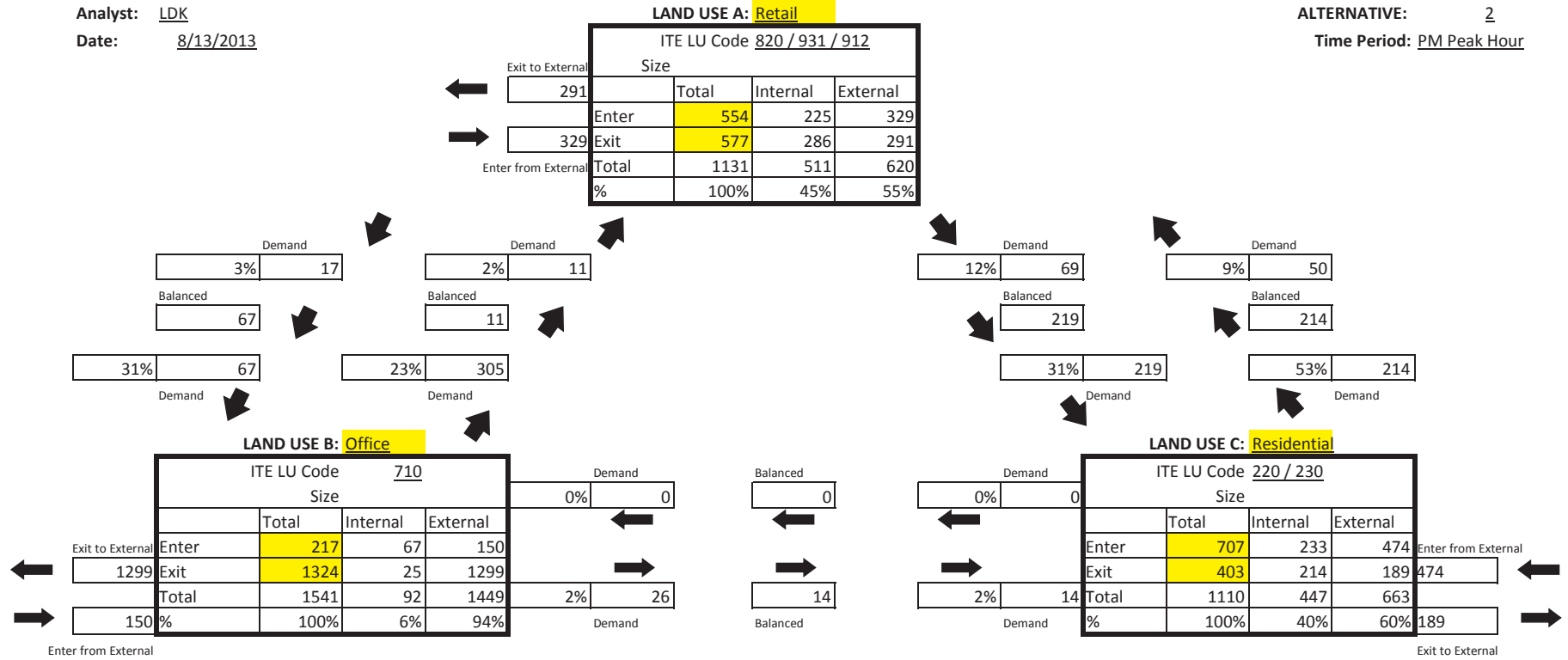


Table 4.2 - INTERNAL CAPTURE RATE CALCULATIONS WITHIN MULTI-USE DEVELOPMENT

Analyst: LDK
 Date: 8/13/2013

ALTERNATIVE: 2
 Time Period: PM Peak Hour

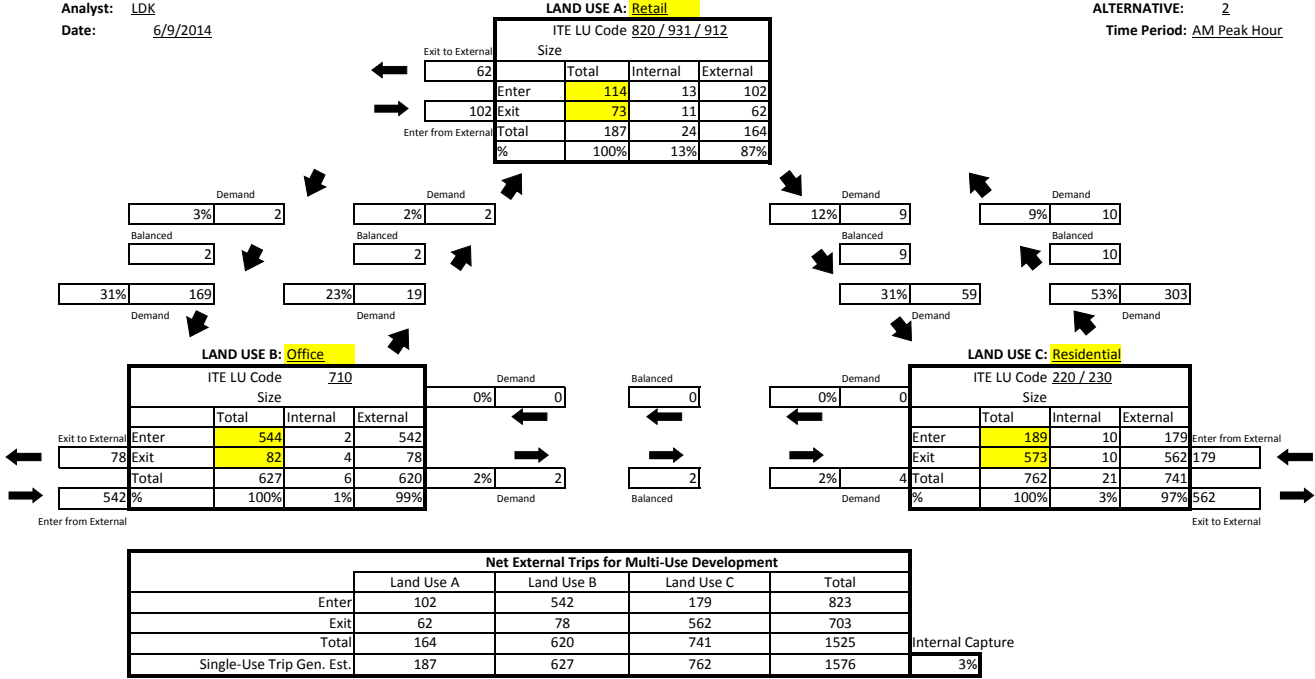


Net External Trips for Multi-Use Development				
	Land Use A	Land Use B	Land Use C	Total
Enter	329	150	474	953
Exit	291	1299	189	1779
Total	620	1449	663	2732
Single-Use Trip Gen. Est.	1131	1541	1110	3782
				Internal Capture
				28%

TABLE 4.2-1 INTERNAL CAPTURE RATE CALCULATIONS - ALTERNATIVE 2 - PHASE 1

Analyst: LDK
Date: 6/9/2014

ALTERNATIVE: 2
Time Period: AM Peak Hour



Analyst: LDK
Date: 8/13/2013

ALTERNATIVE: 2
Time Period: PM Peak Hour

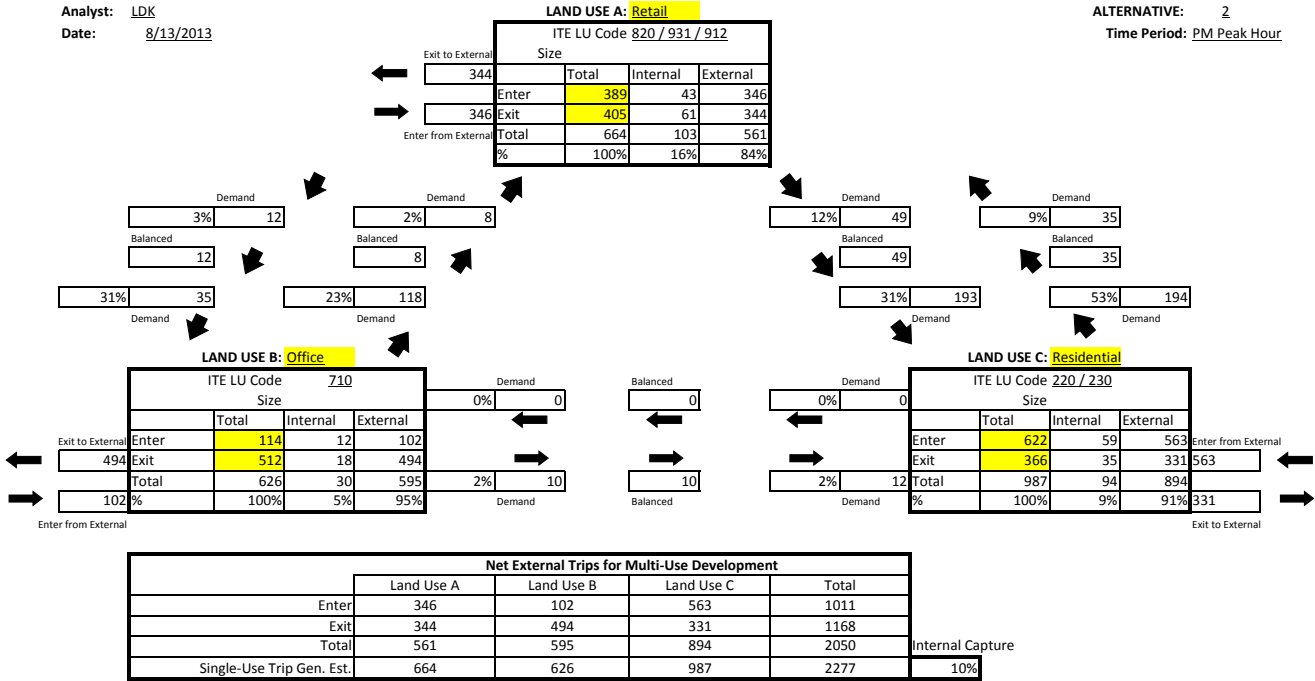
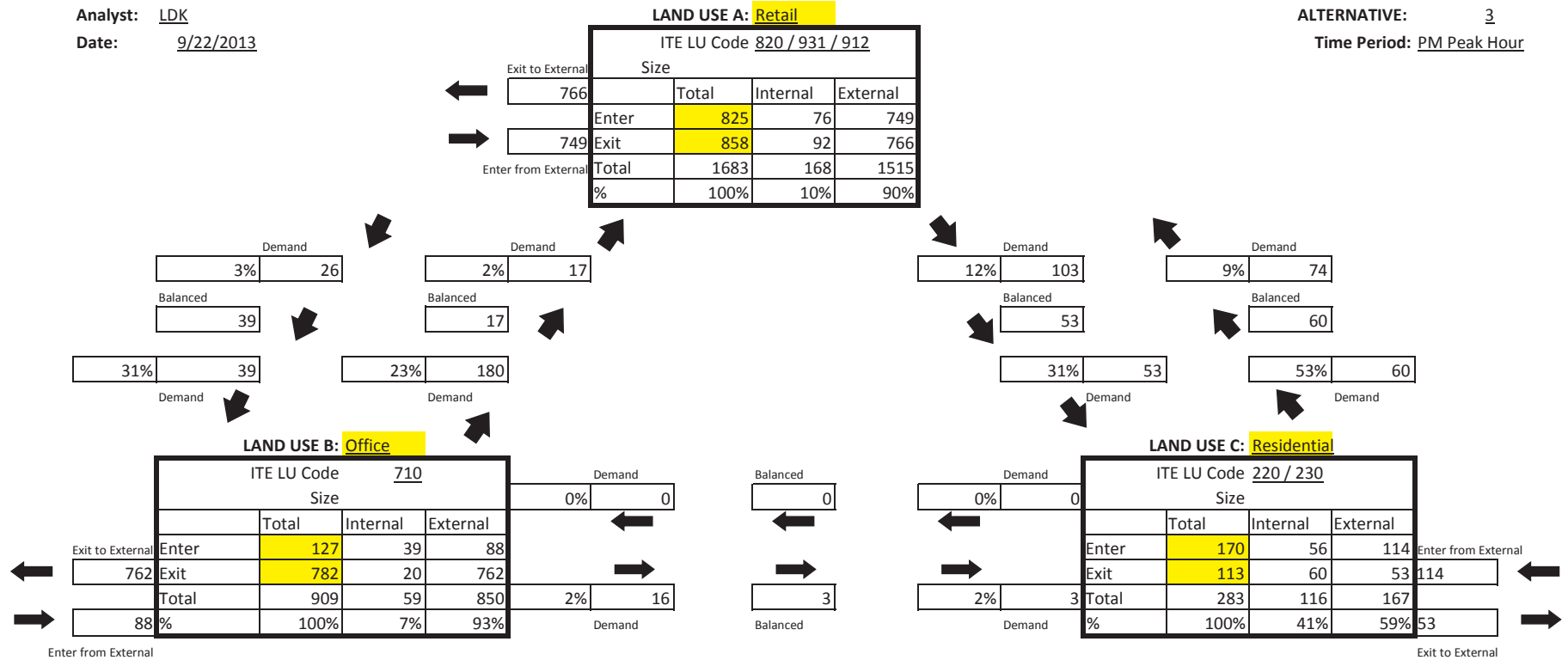


Table 4.3 - INTERNAL CAPTURE RATE CALCULATIONS WITHIN MULTI-USE DEVELOPMENT

Analyst: LDK
 Date: 9/22/2013

ALTERNATIVE: 3
 Time Period: PM Peak Hour

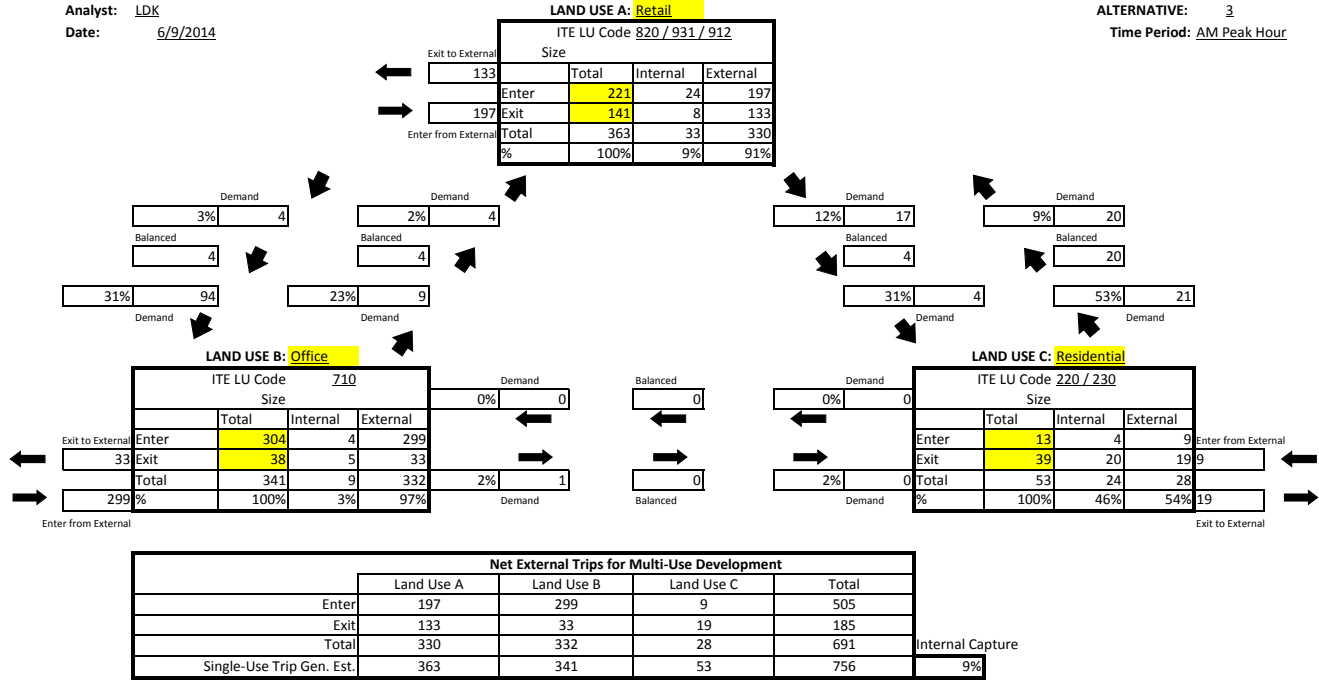


Net External Trips for Multi-Use Development				
	Land Use A	Land Use B	Land Use C	Total
Enter	749	88	114	950
Exit	766	762	53	1581
Total	1515	850	167	2531
Single-Use Trip Gen. Est.	1683	909	283	2875
				Internal Capture
				12%

TABLE 4.3-1 INTERNAL CAPTURE RATE CALCULATIONS - ALTERNATIVE 3 - PHASE 1

Analyst: LDK
Date: 6/9/2014

ALTERNATIVE: 3
Time Period: AM Peak Hour



Analyst: LDK
Date: 6/9/2014

ALTERNATIVE: 3
Time Period: PM Peak Hour

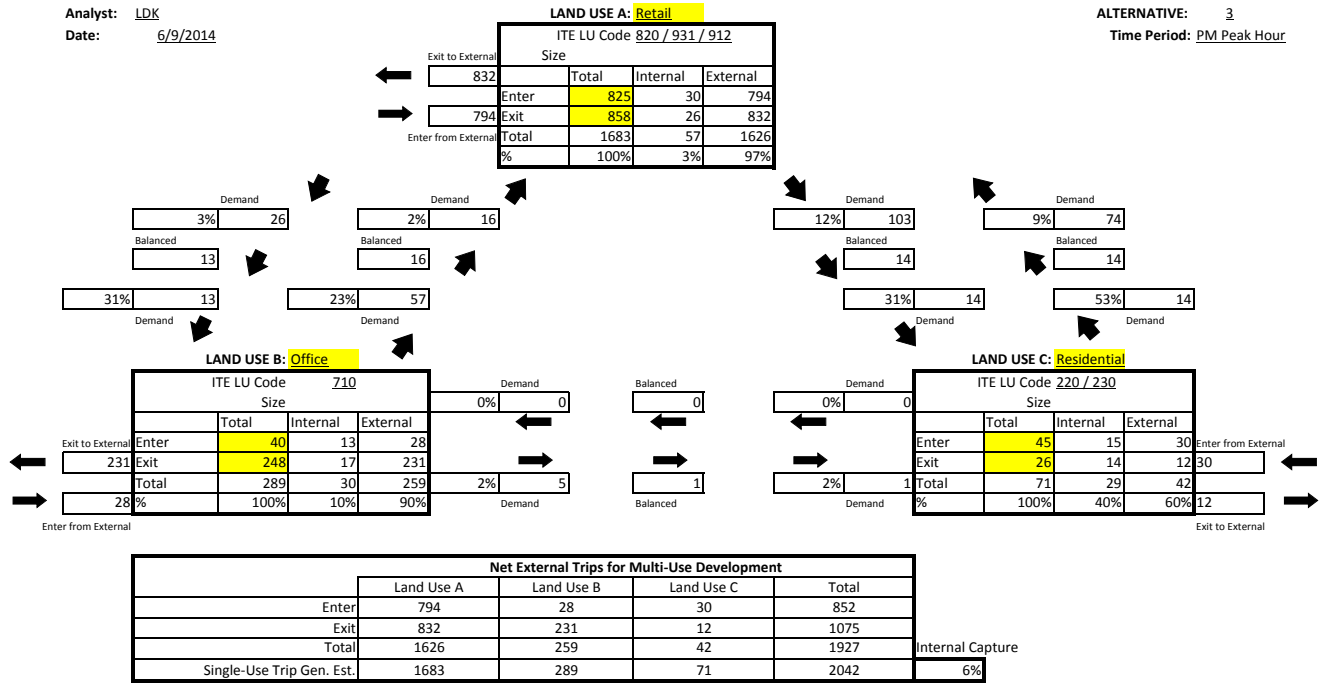


Table 5 – Acronyms and Abbreviations

ATR	automatic traffic recorder
BRAC Law	Defense Base Closure and Realignment Act
BRAC	Base Realignment and Closure
DOD	U.S. Department of Defense
DVRPC	Delaware Valley Regional Planning Commission
EIS	Environmental Impact Statement
FAA	Federal Aviation Administration
HLRA ¹	Horsham Township Authority, or Horsham Land Redevelopment Authority
ITE	Institute of Transportation Engineers
LOS	level of service
LRA	Local Redevelopment Authority
LUC	land use code
NAS JRB	Naval Air Station Joint Reserve Base
Navy	U.S. Department of the Navy
NEPA	National Environmental Policy Act
PennDOT	Pennsylvania Department of Transportation
PMO	(BRAC) Program Management Office
Redevelopment Plan	NAS JRB Willow Grove Redevelopment Plan
SEPTA	Southeastern Pennsylvania Transportation Authority
SR	State Route
TAS	Traffic Assessment Study
TMC	turning movement count
TNM	Traffic Noise Model
TRB	Transportation Research Board
VMT	vehicle miles travelled

¹ HLRA is used to describe two different organizations depending on the time period being discussed. Prior to 2012, the HLRA was the Horsham Township Authority and after 2012, it was the Horsham Land Redevelopment Authority.

TRAFFIC ASSESSMENT STUDY

Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove

TOWNSHIP OF HORSHAM

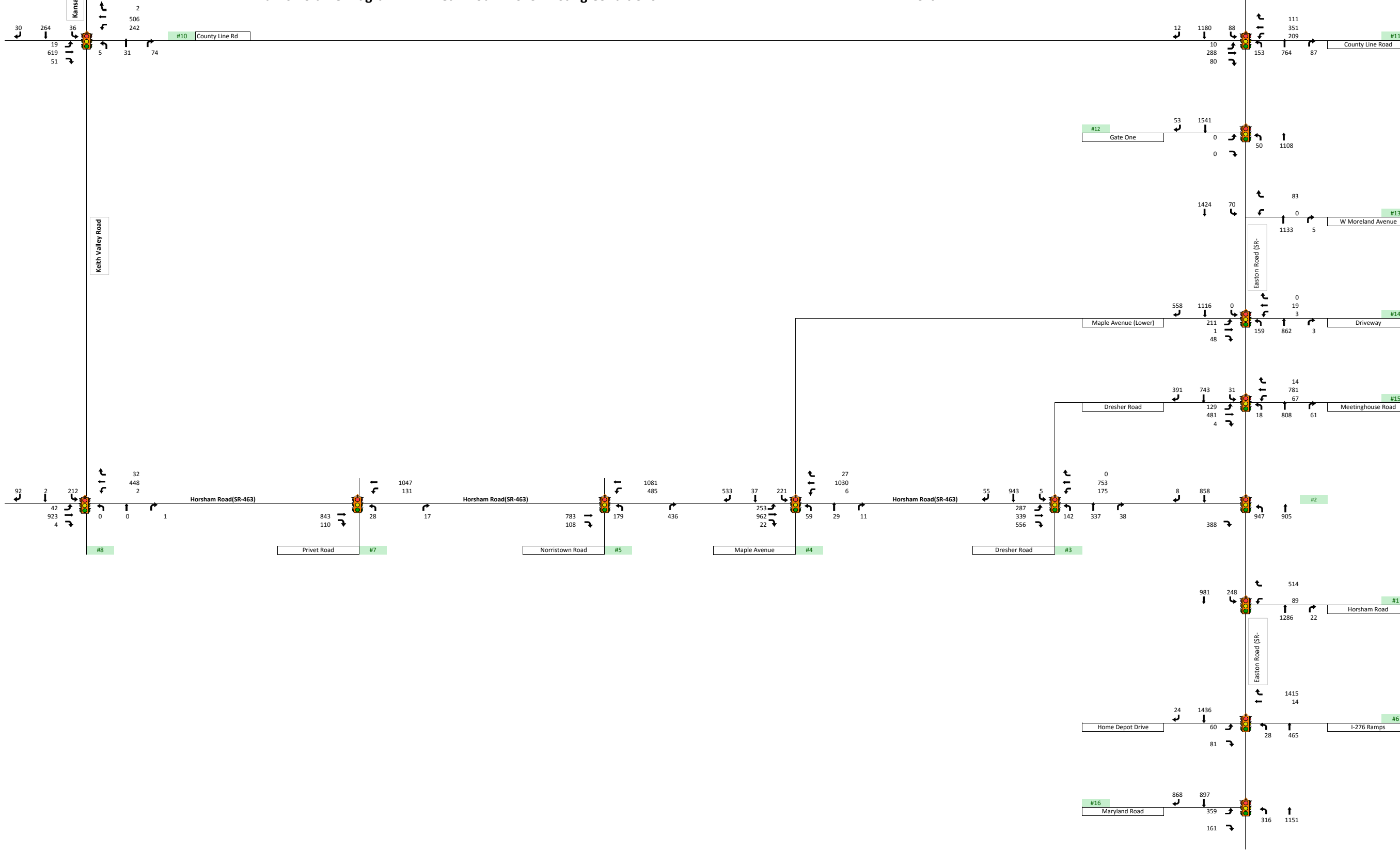
MONTGOMERY COUNTY, PENNSYLVANIA

FIGURES

Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - 2013 Existing Conditions



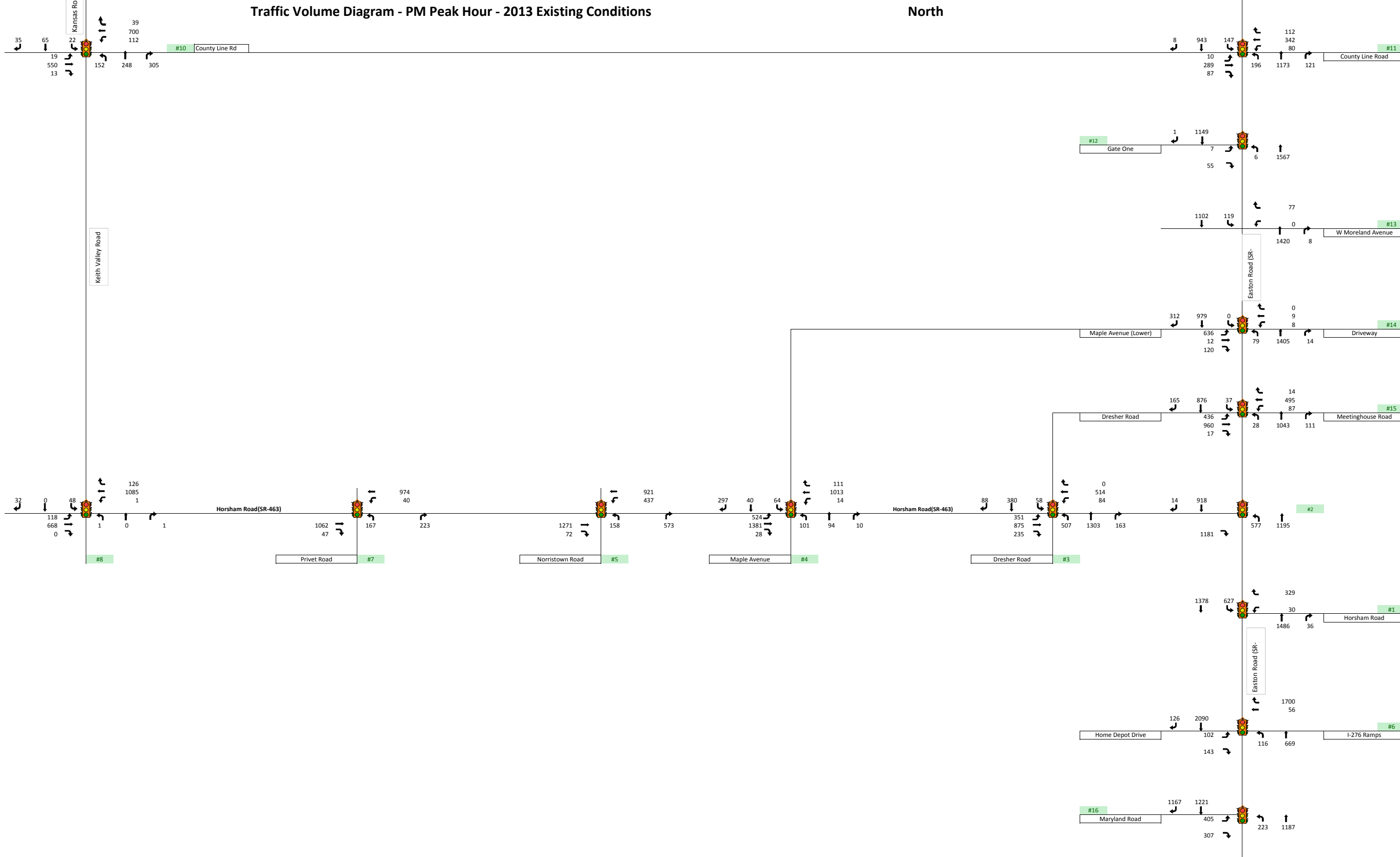
FIGURE 1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - 2013 Existing Conditions



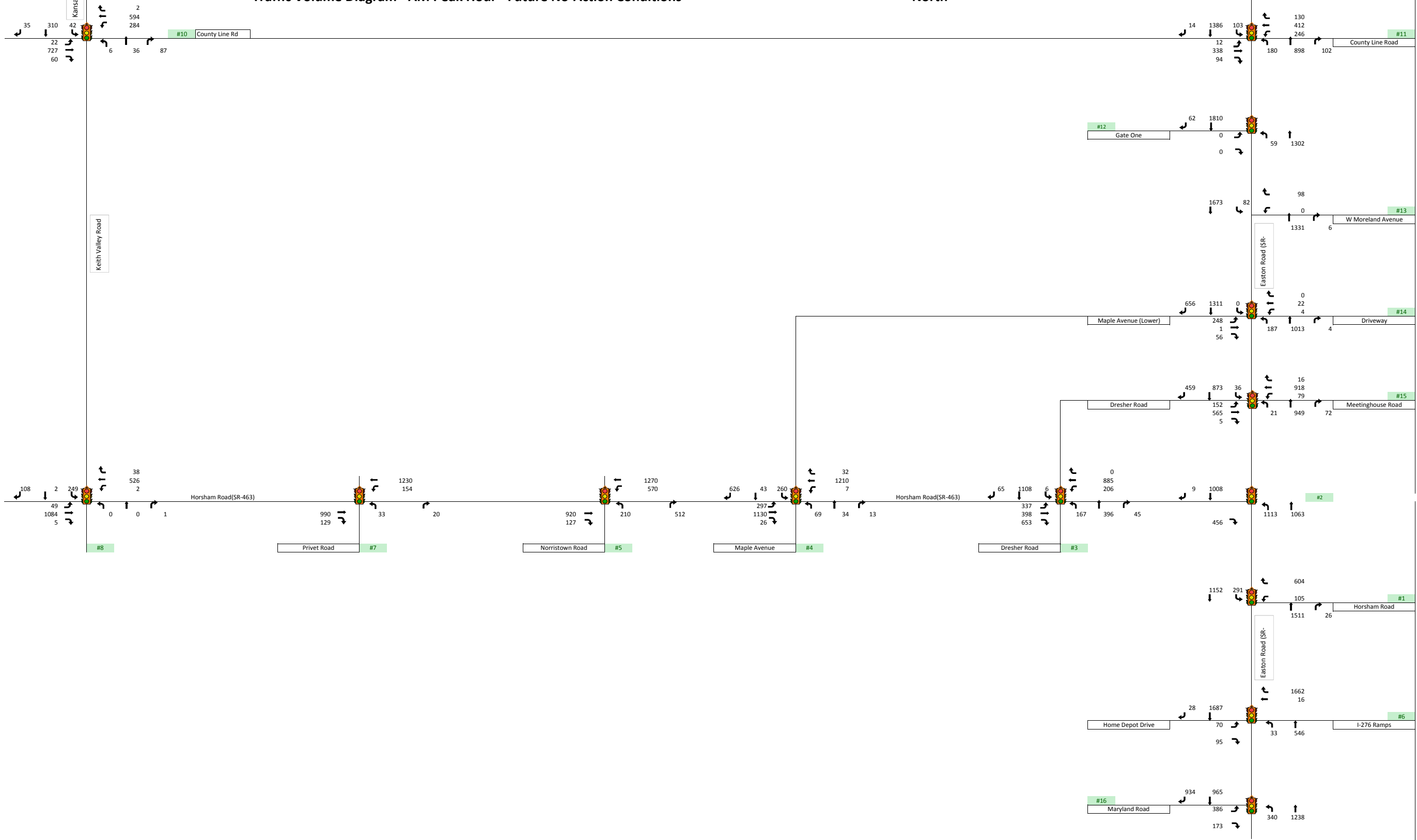
FIGURE 2



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Future No-Action Conditions



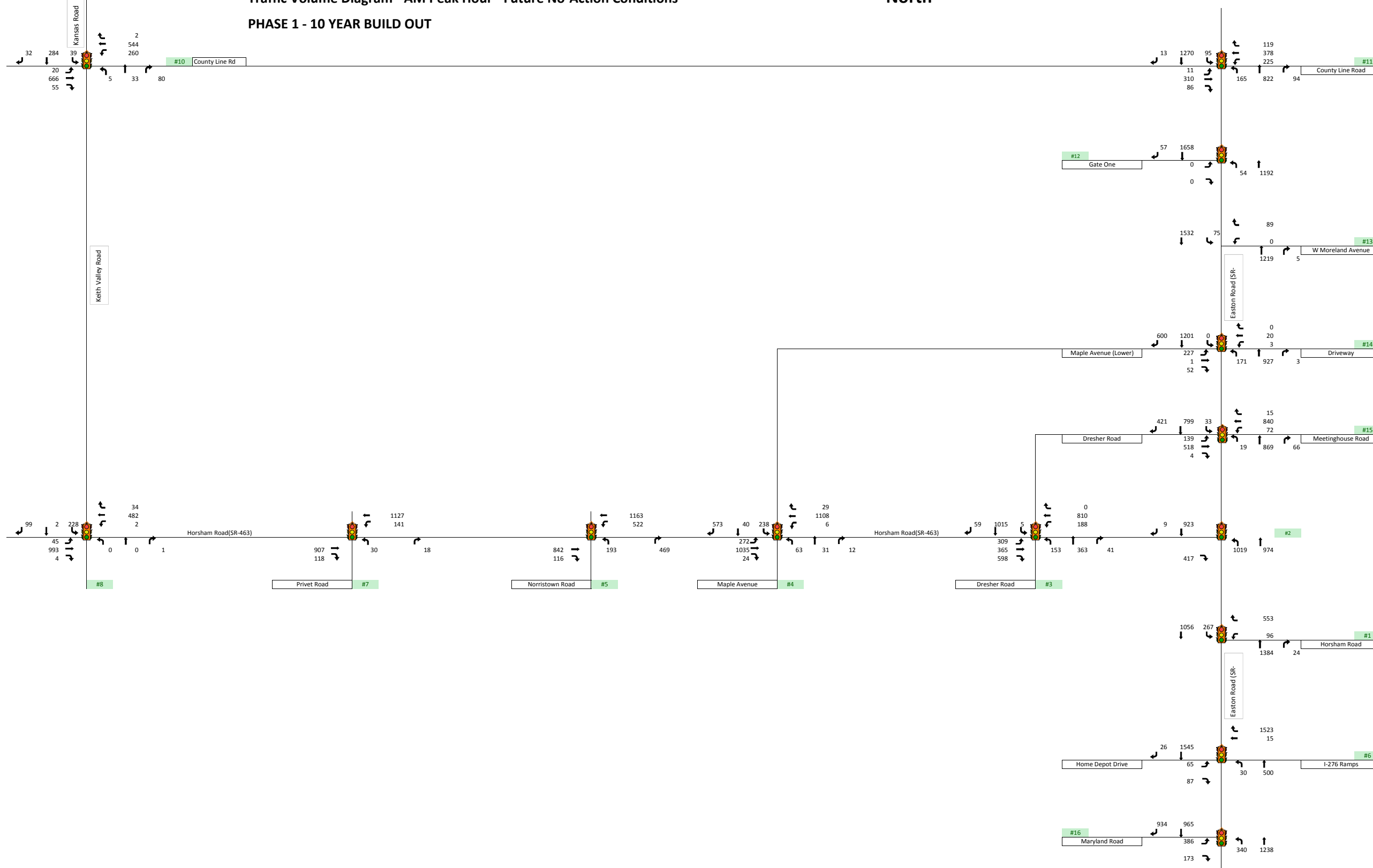
FIGURE 3



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Future No-Action Conditions
 PHASE 1 - 10 YEAR BUILD OUT



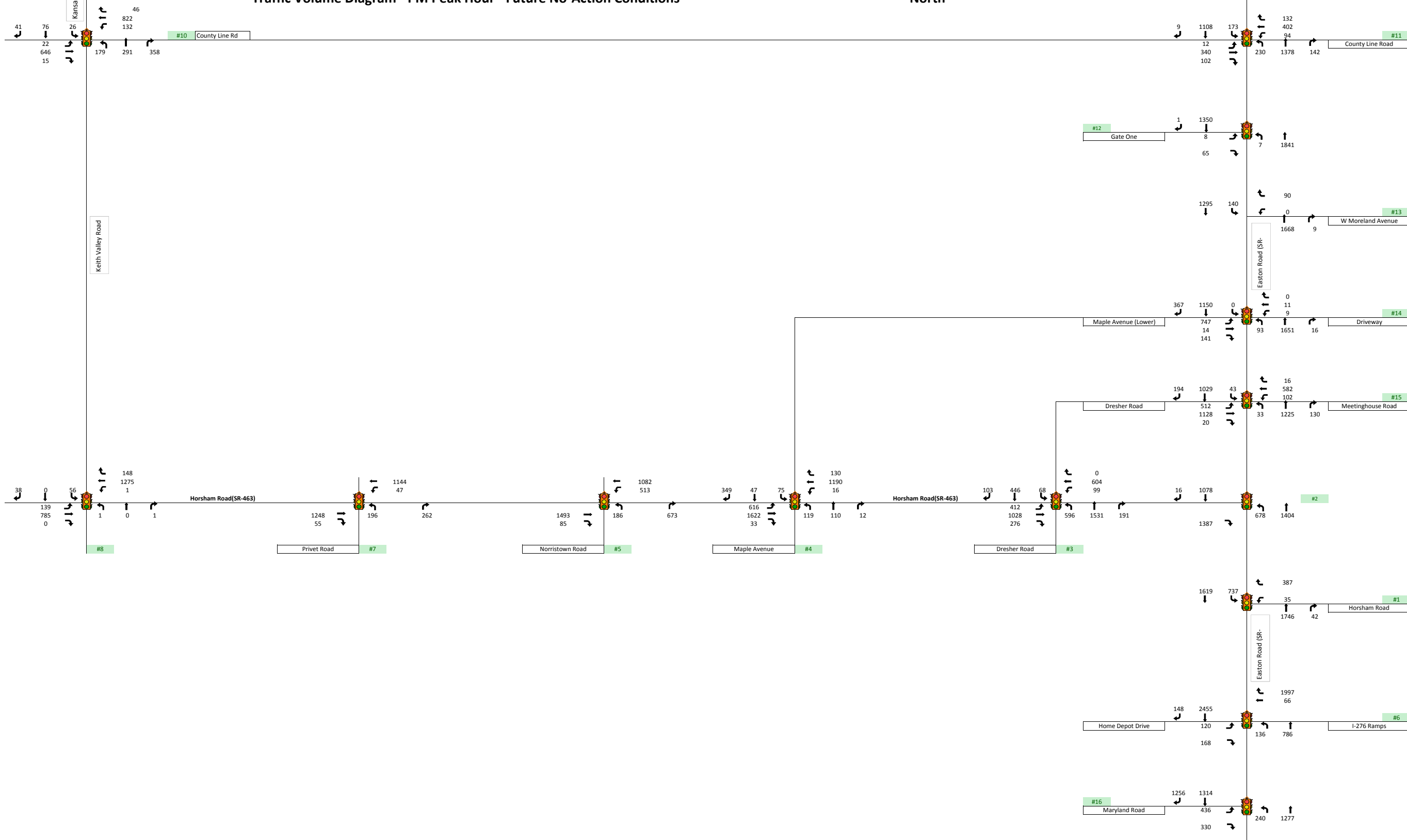
FIGURE 3-1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Future No-Action Conditions



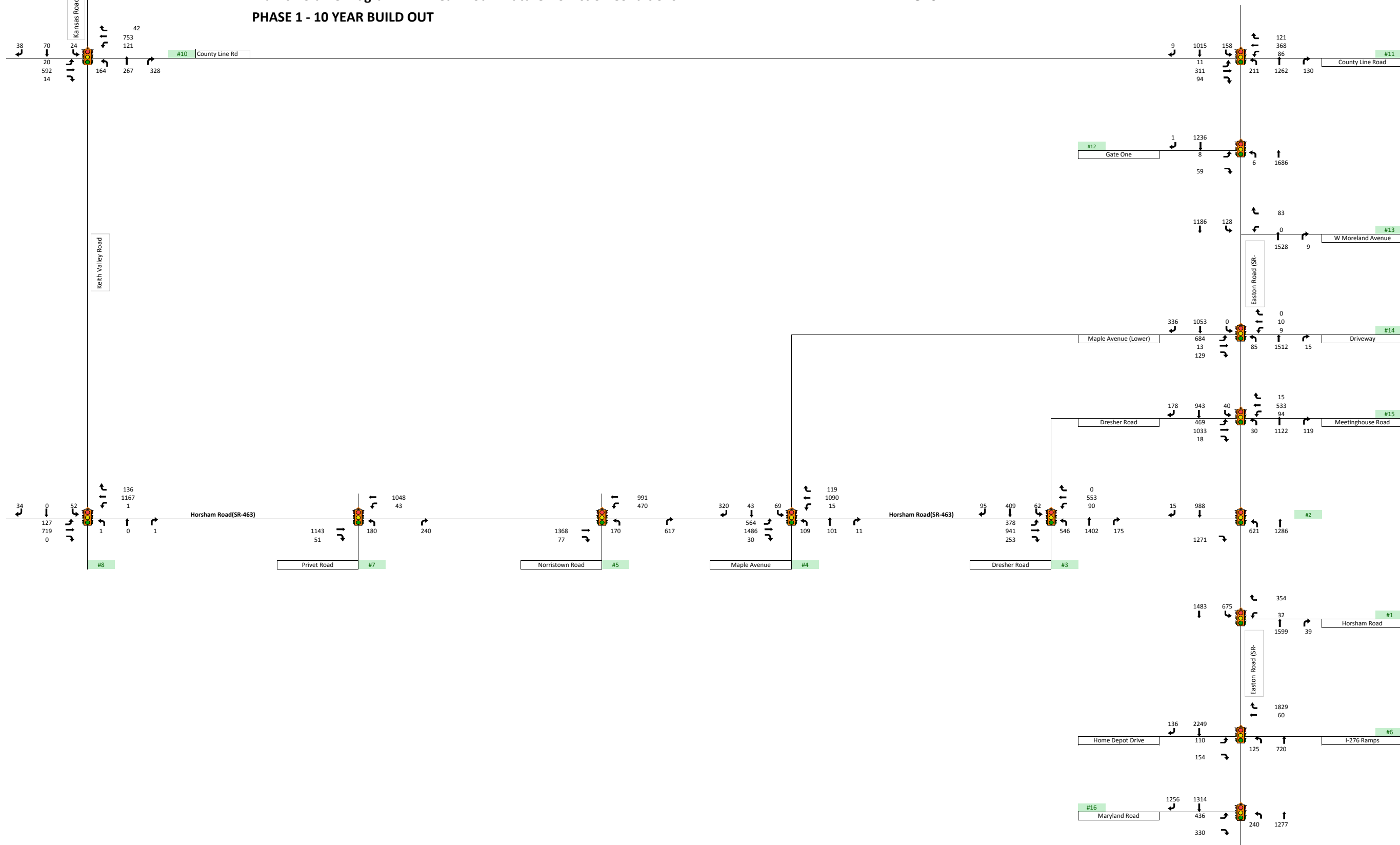
FIGURE 4



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Future No-Action Conditions
 PHASE 1 - 10 YEAR BUILD OUT



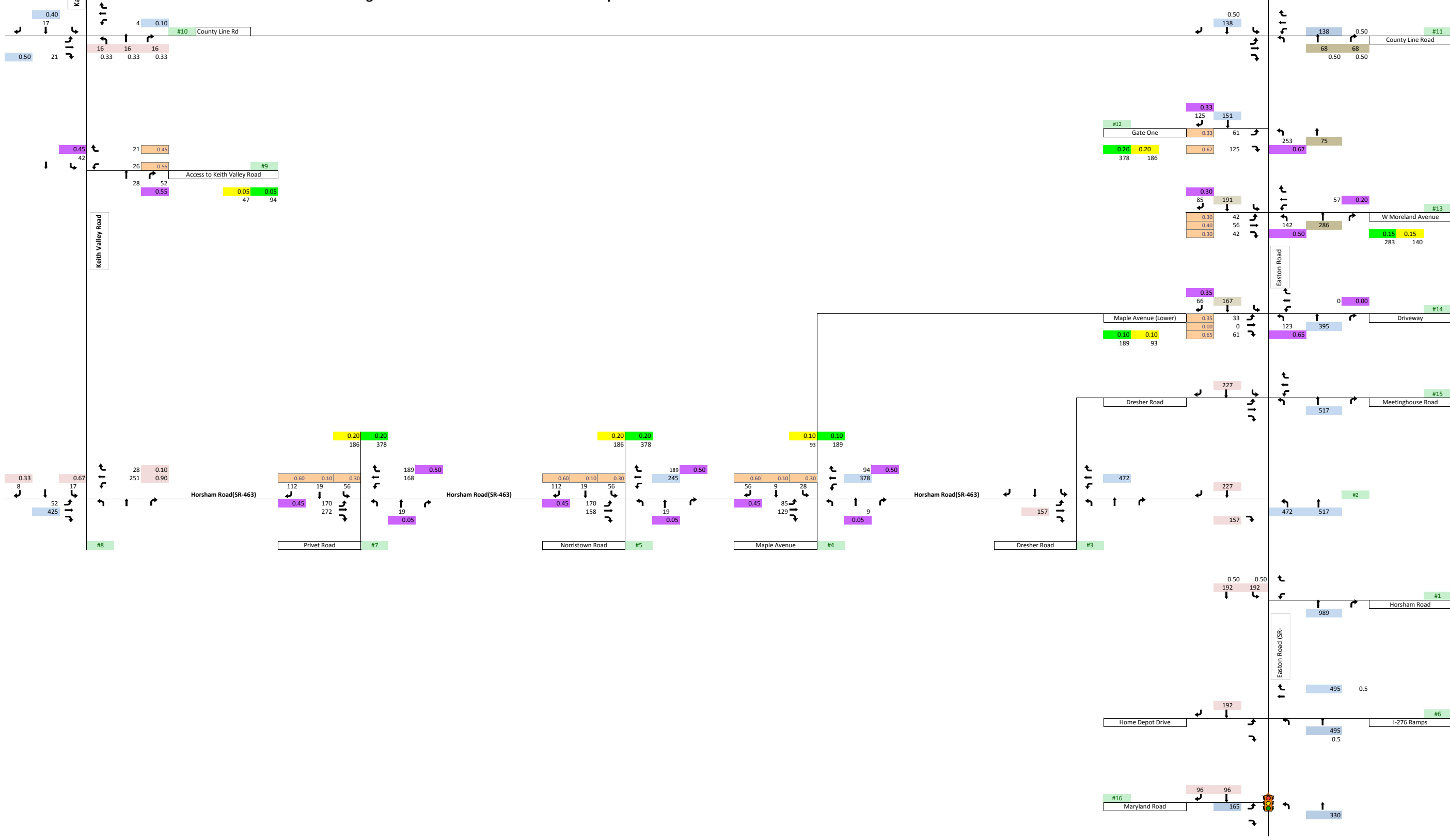
FIGURE 4-1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Alternative 1 Trip Generations



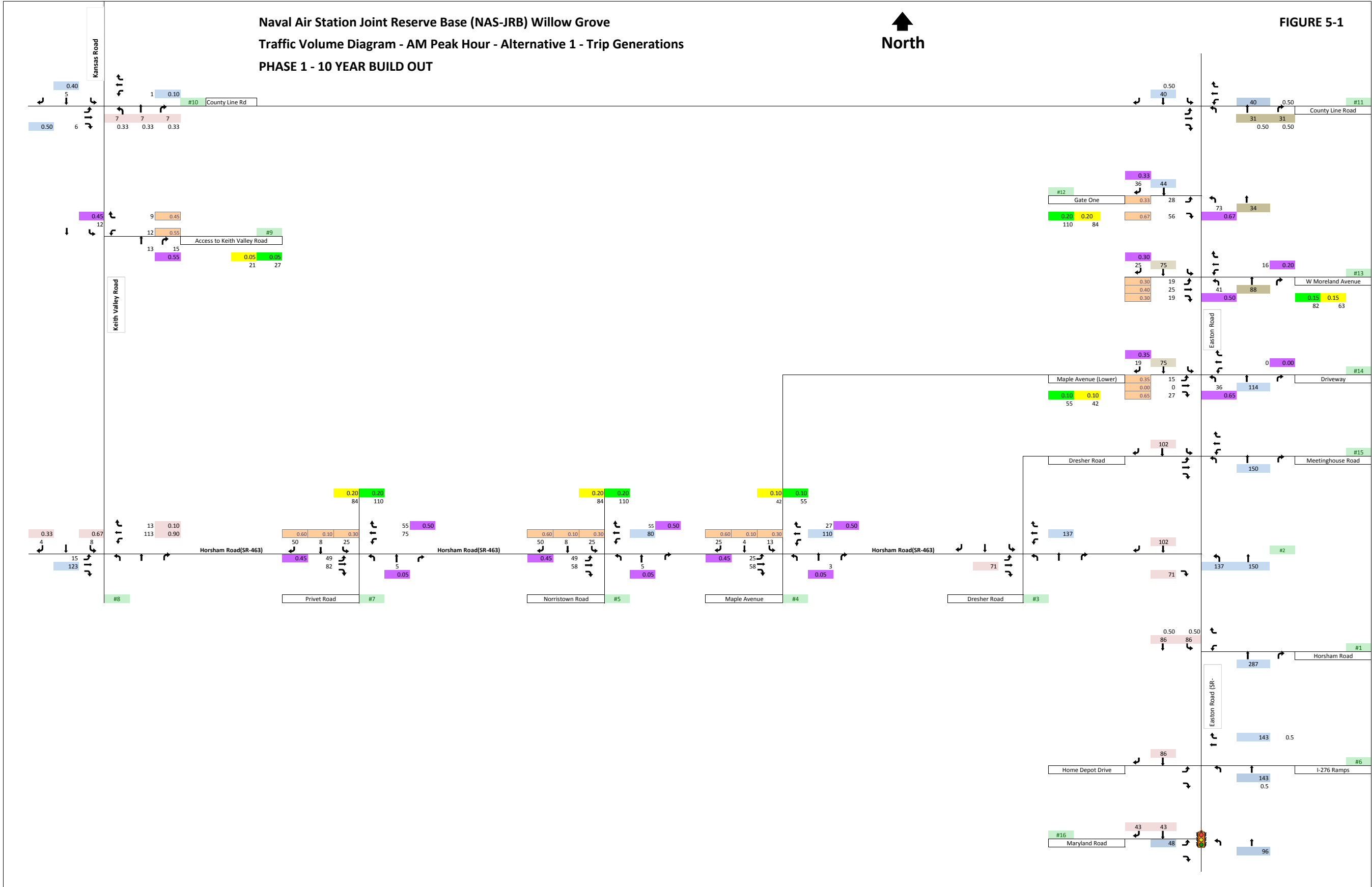
FIGURE 5



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Alternative 1 - Trip Generations
 PHASE 1 - 10 YEAR BUILD OUT



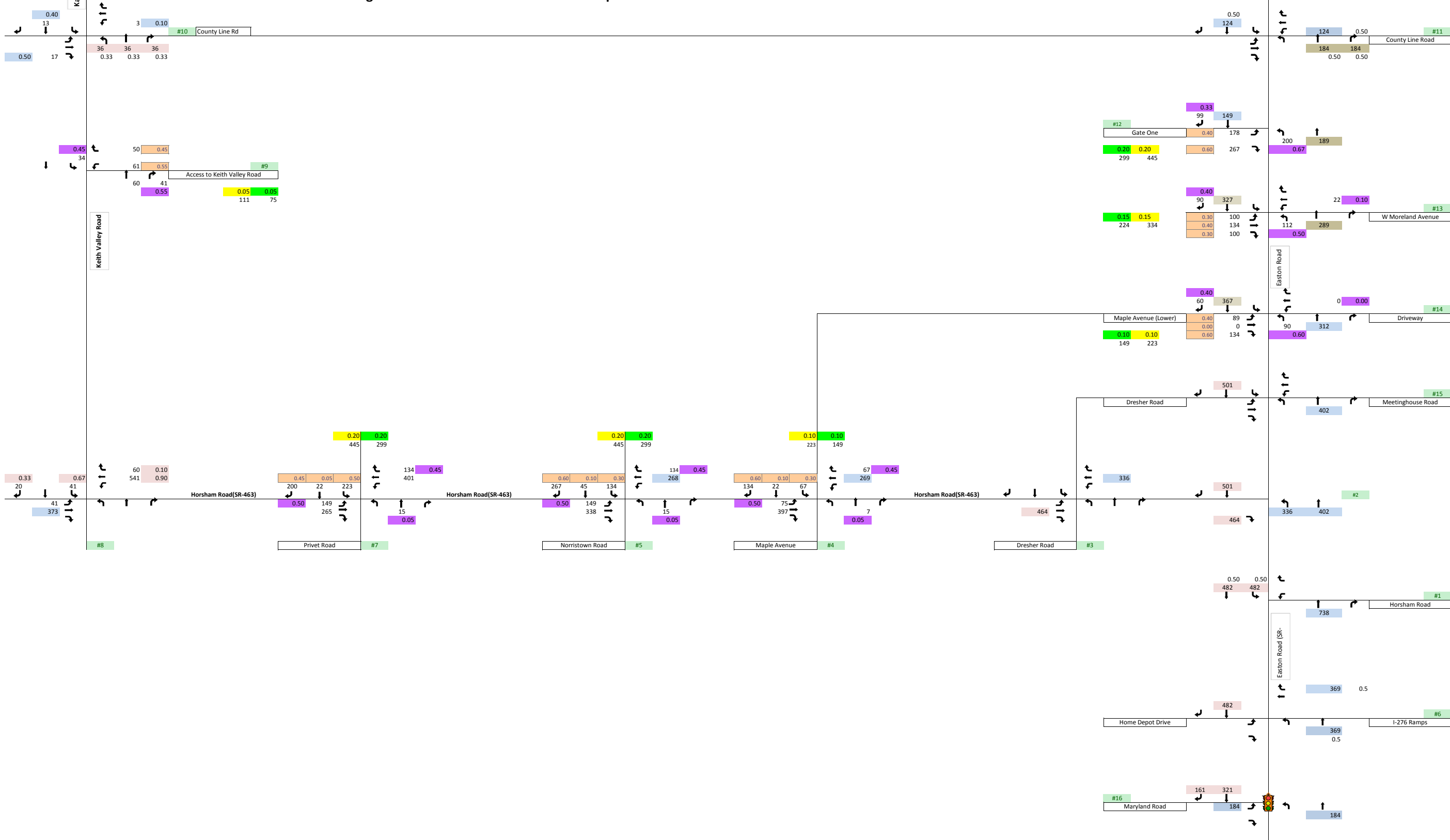
FIGURE 5-1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Alternative 1 Trip Generations



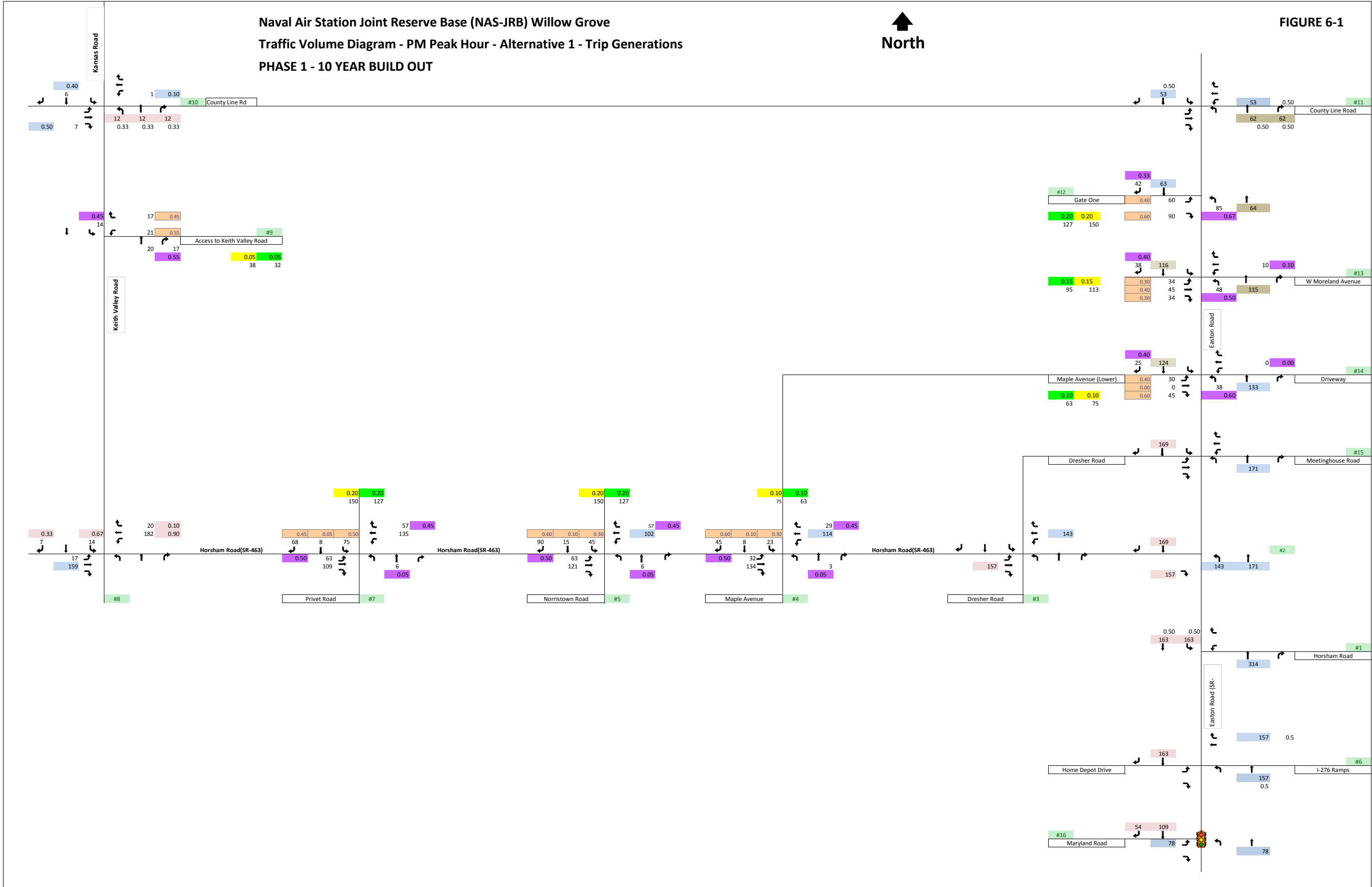
FIGURE 6



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Alternative 1 - Trip Generations
 PHASE 1 - 10 YEAR BUILD OUT



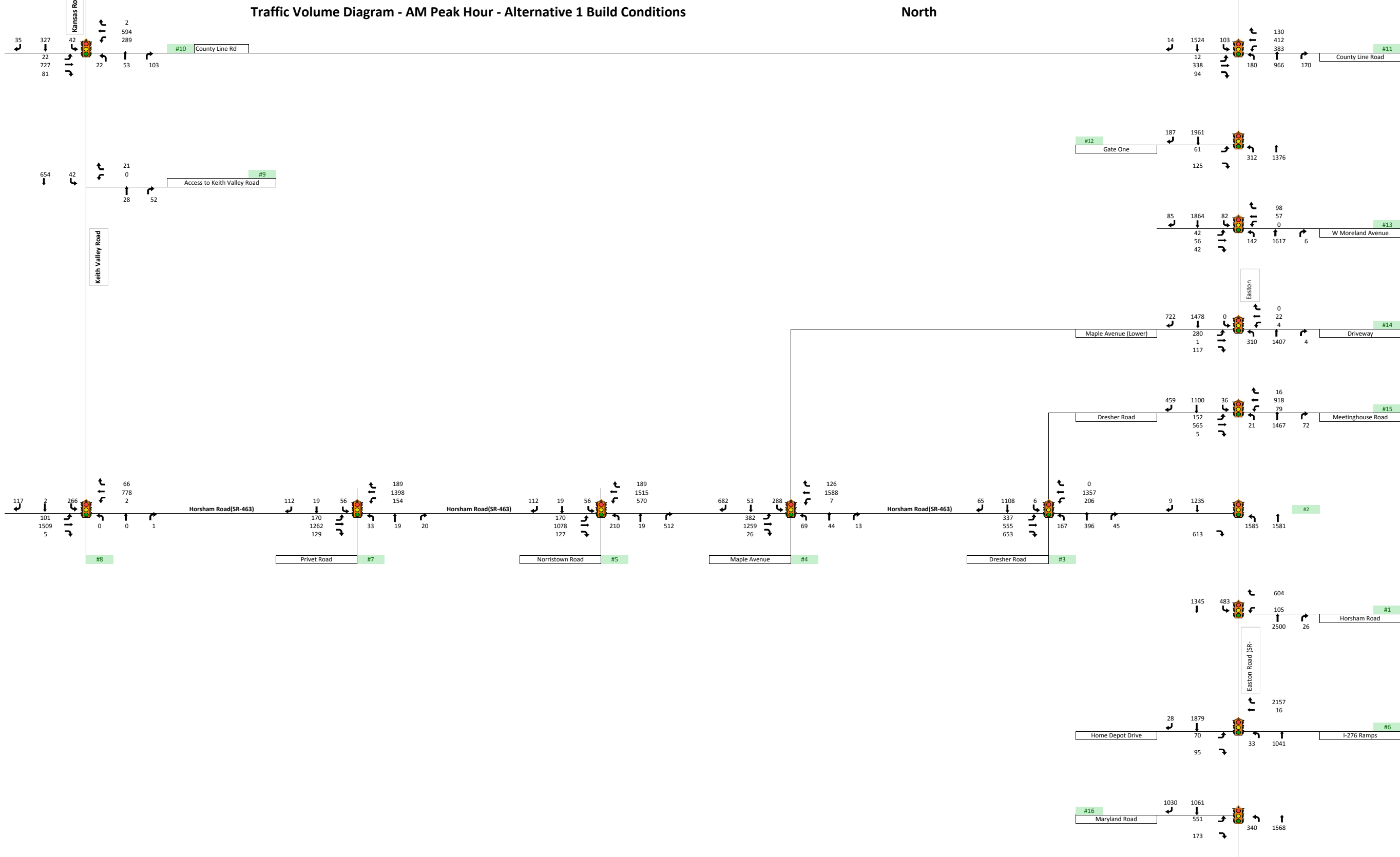
FIGURE 6-1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Alternative 1 Build Conditions



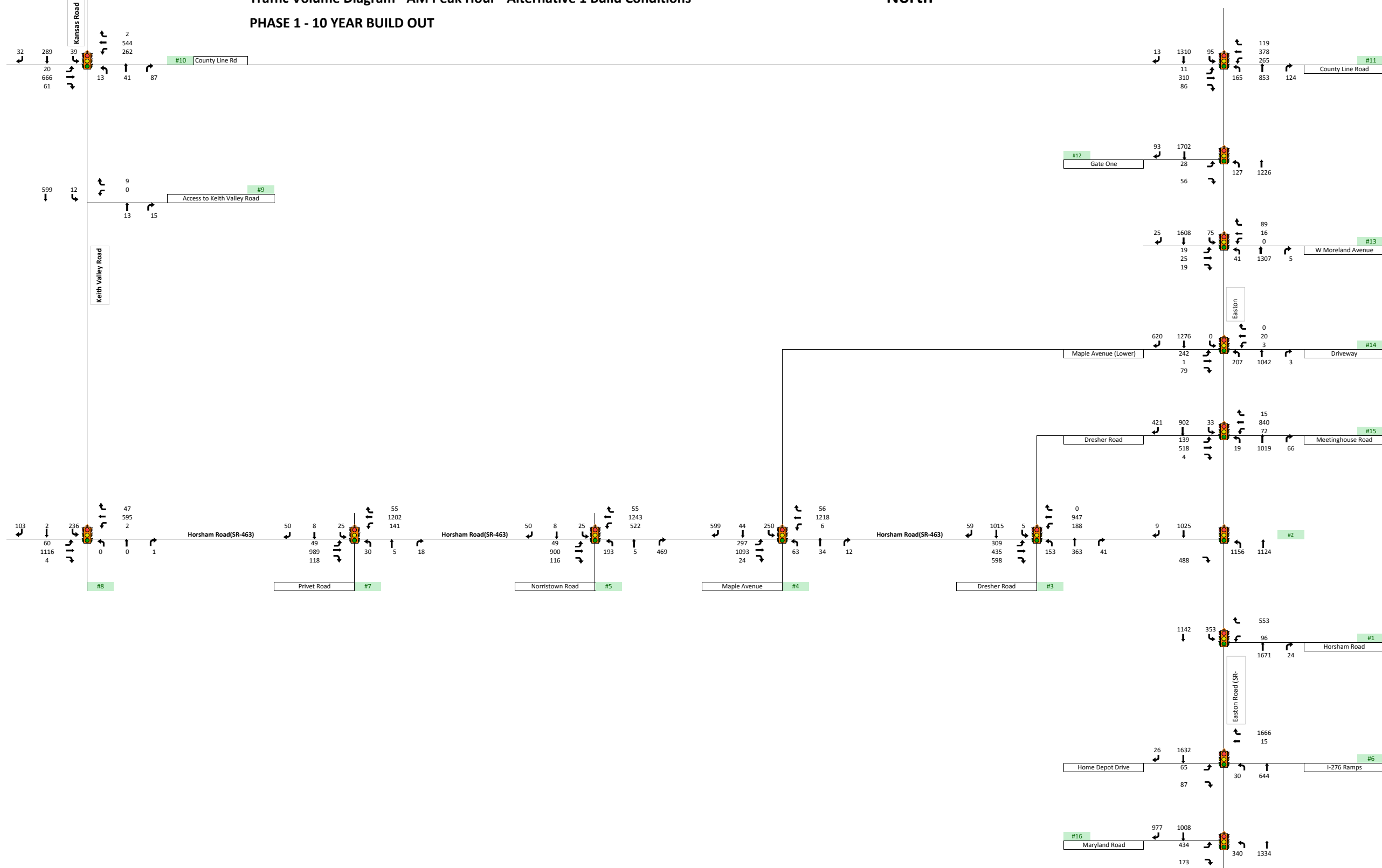
FIGURE 7



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Alternative 1 Build Conditions
 PHASE 1 - 10 YEAR BUILD OUT



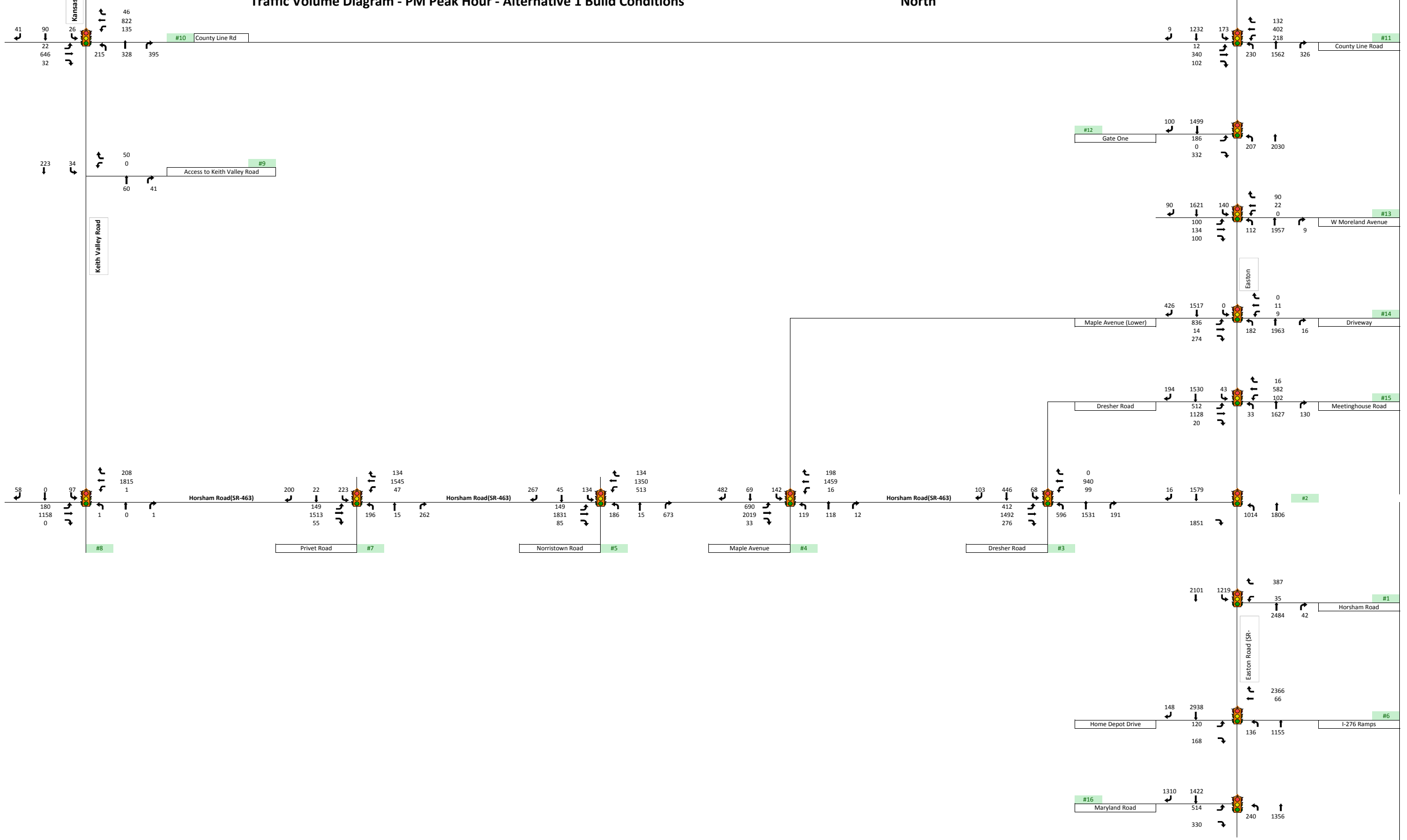
FIGURE 7-1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Alternative 1 Build Conditions



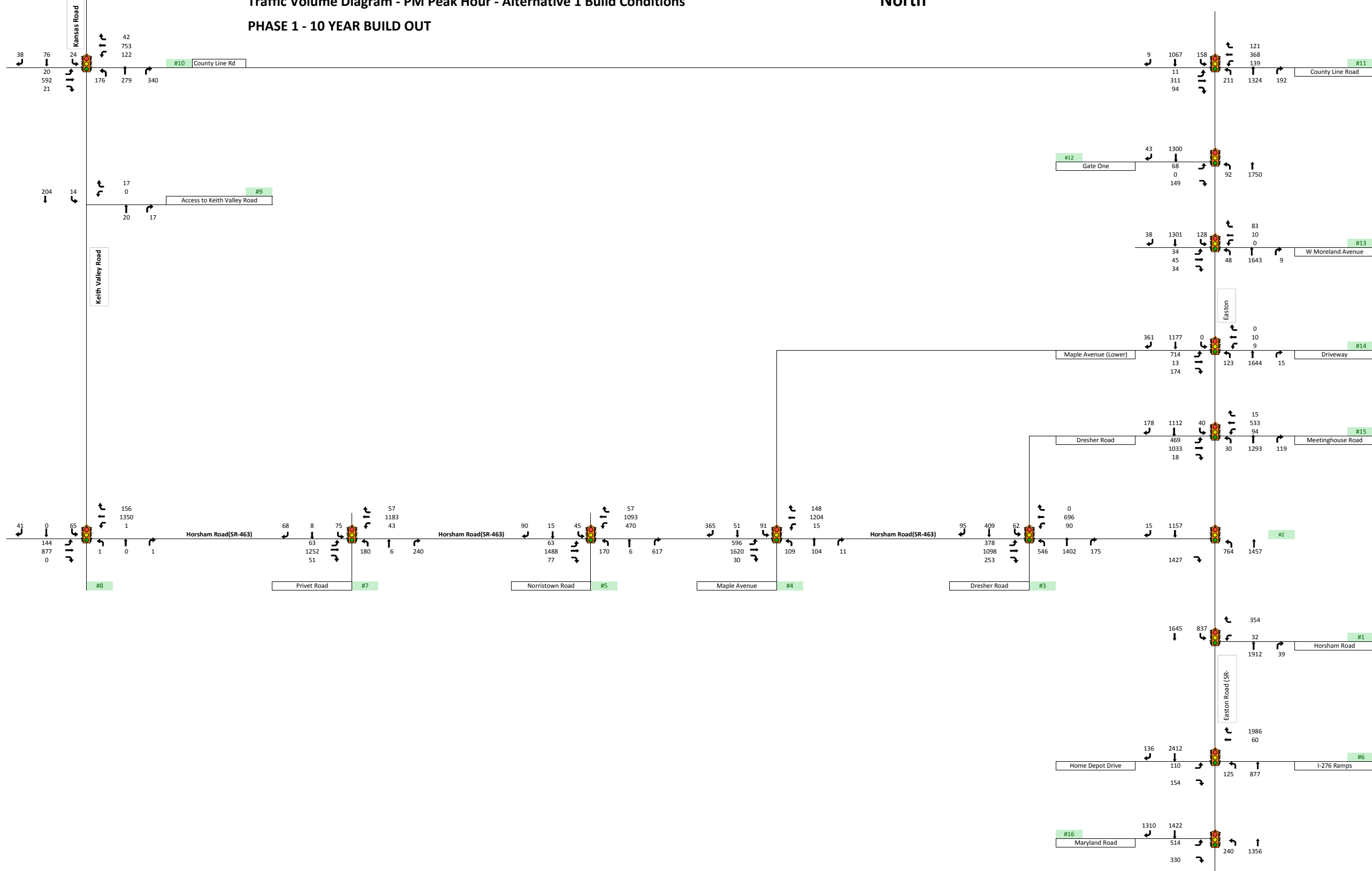
FIGURE 8



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Alternative 1 Build Conditions
 PHASE 1 - 10 YEAR BUILD OUT



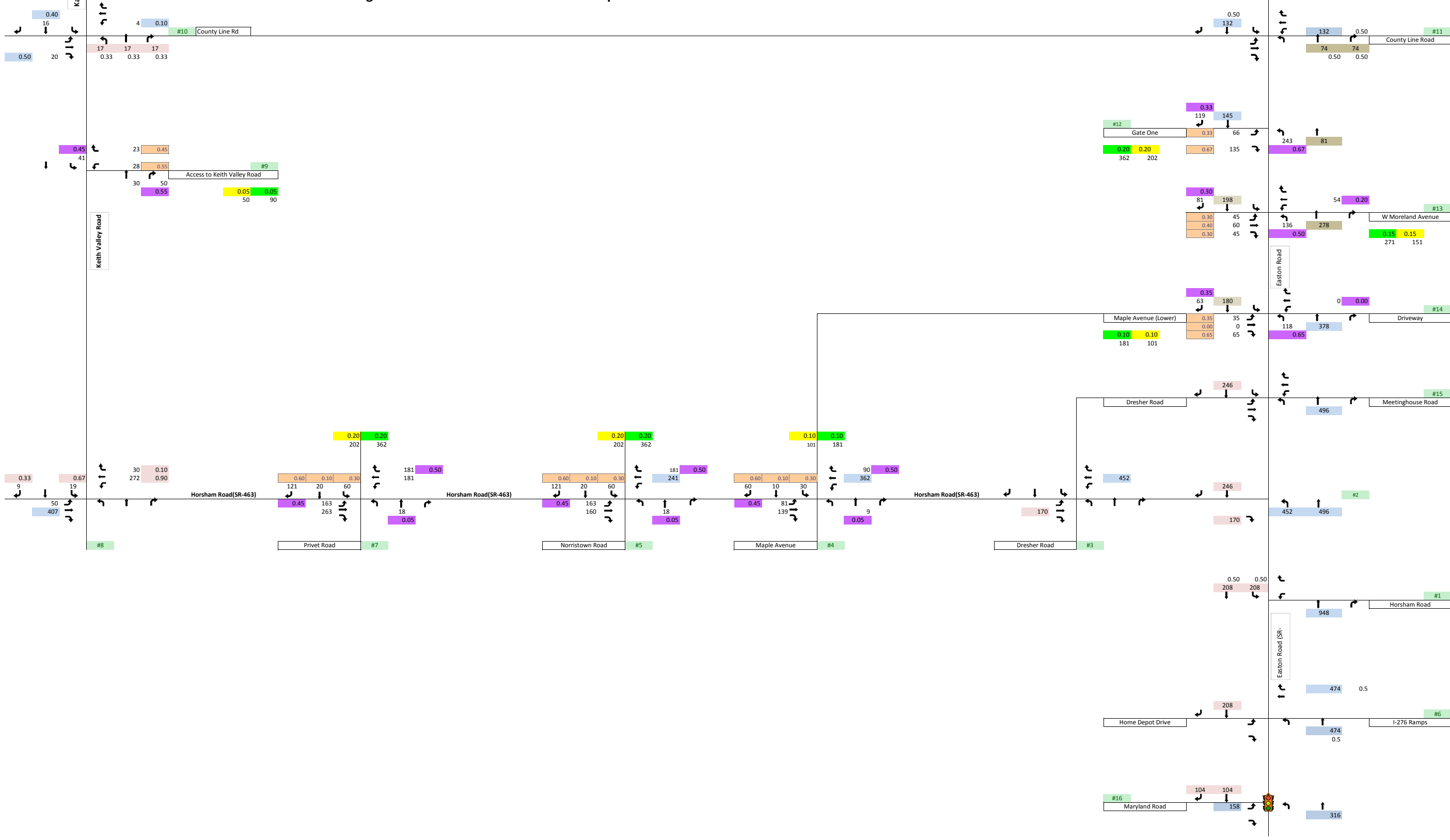
FIGURE 8-1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Alternative 2 Trip Generations



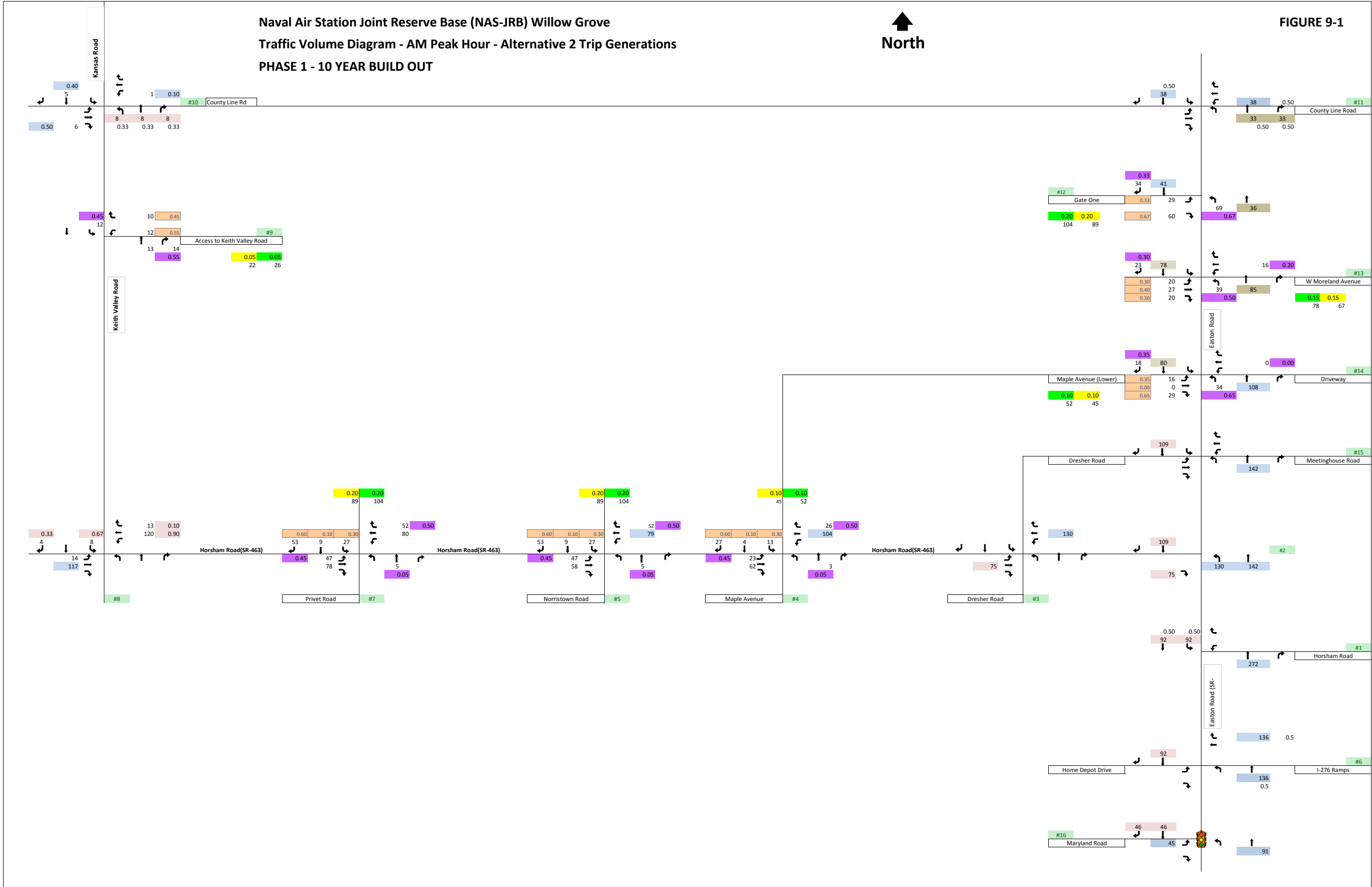
FIGURE 9



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Alternative 2 Trip Generations
 PHASE 1 - 10 YEAR BUILD OUT



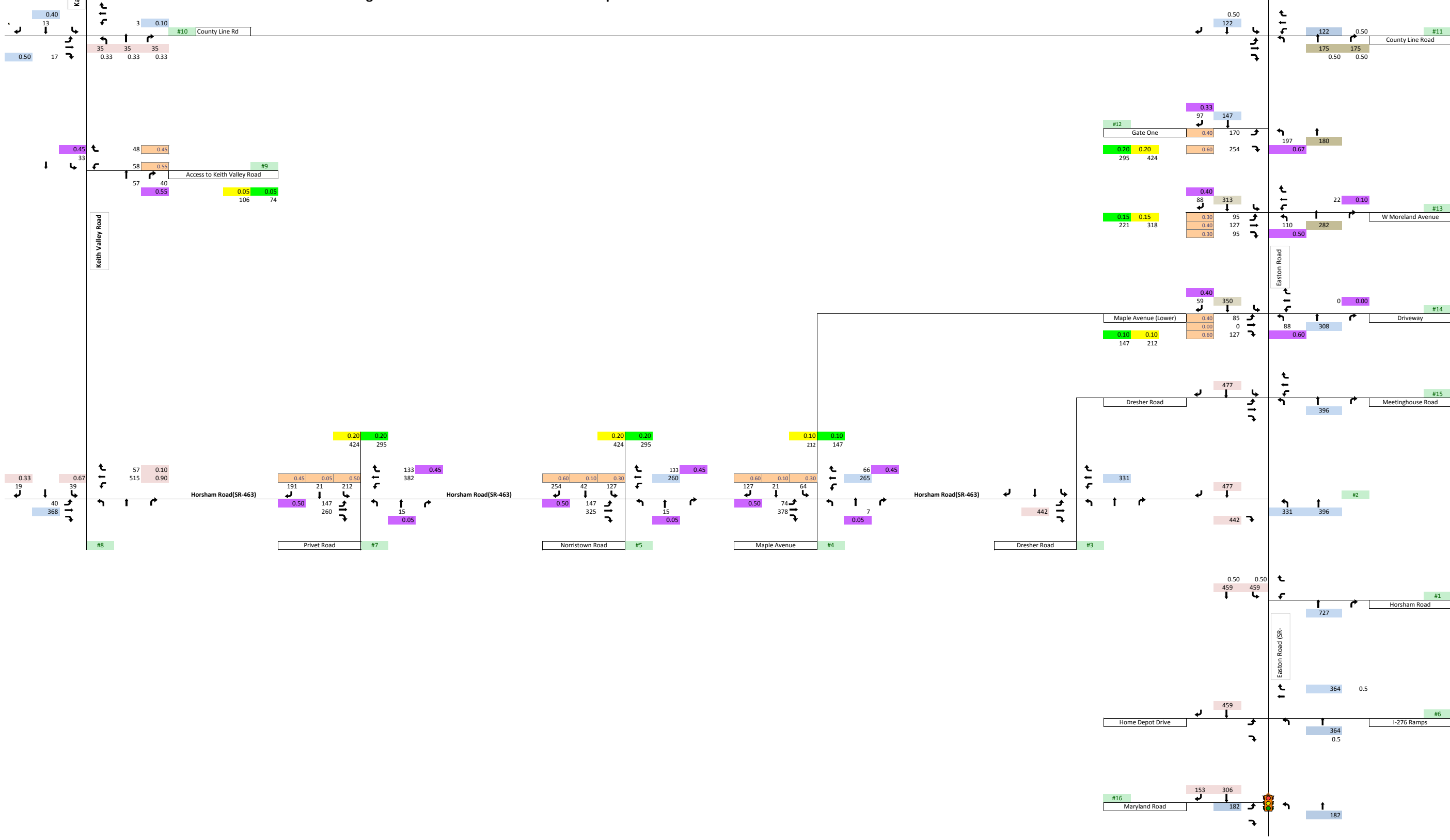
FIGURE 9-1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Alternative 2 Trip Generations



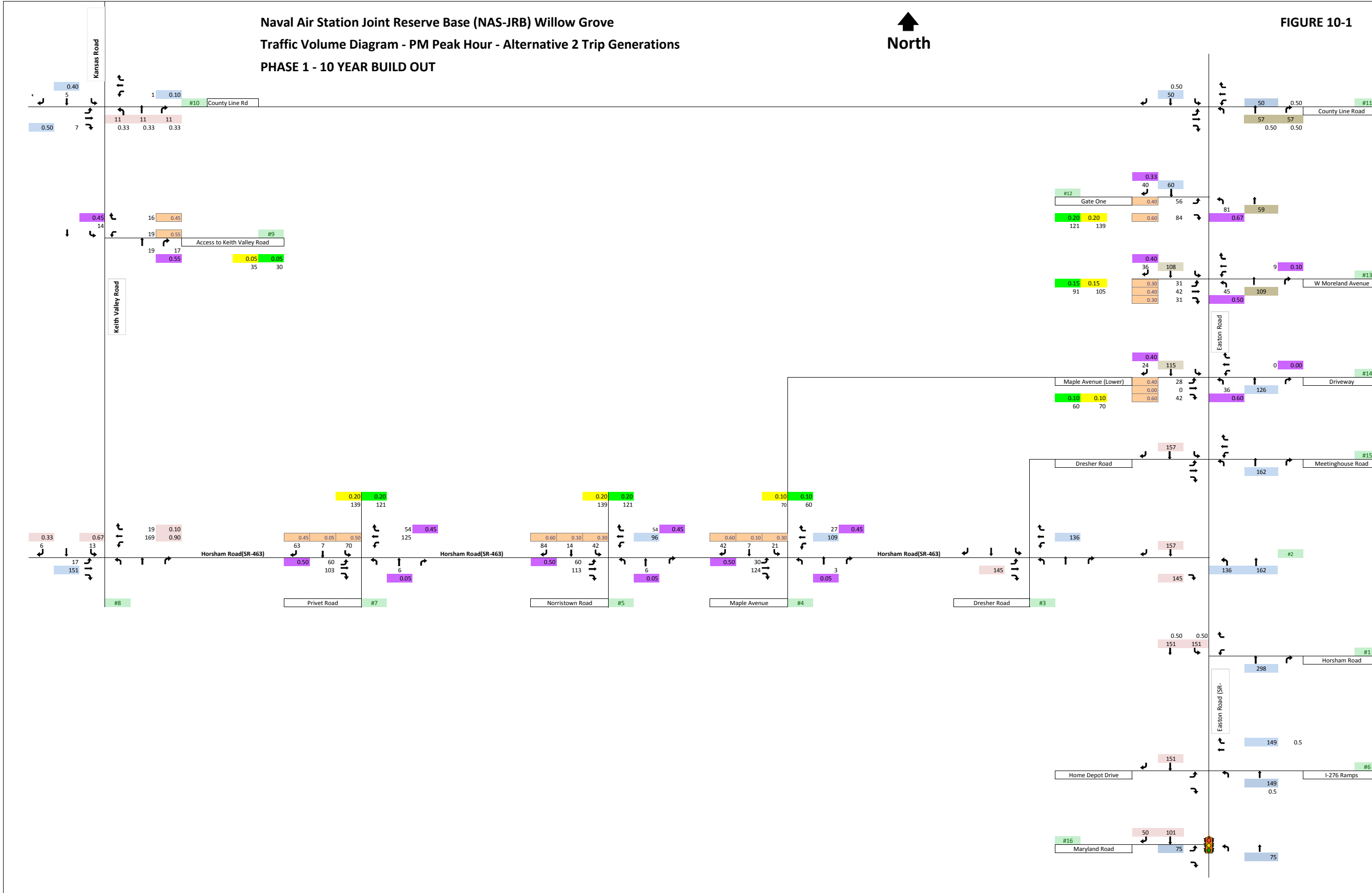
FIGURE 10



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Alternative 2 Trip Generations
 PHASE 1 - 10 YEAR BUILD OUT



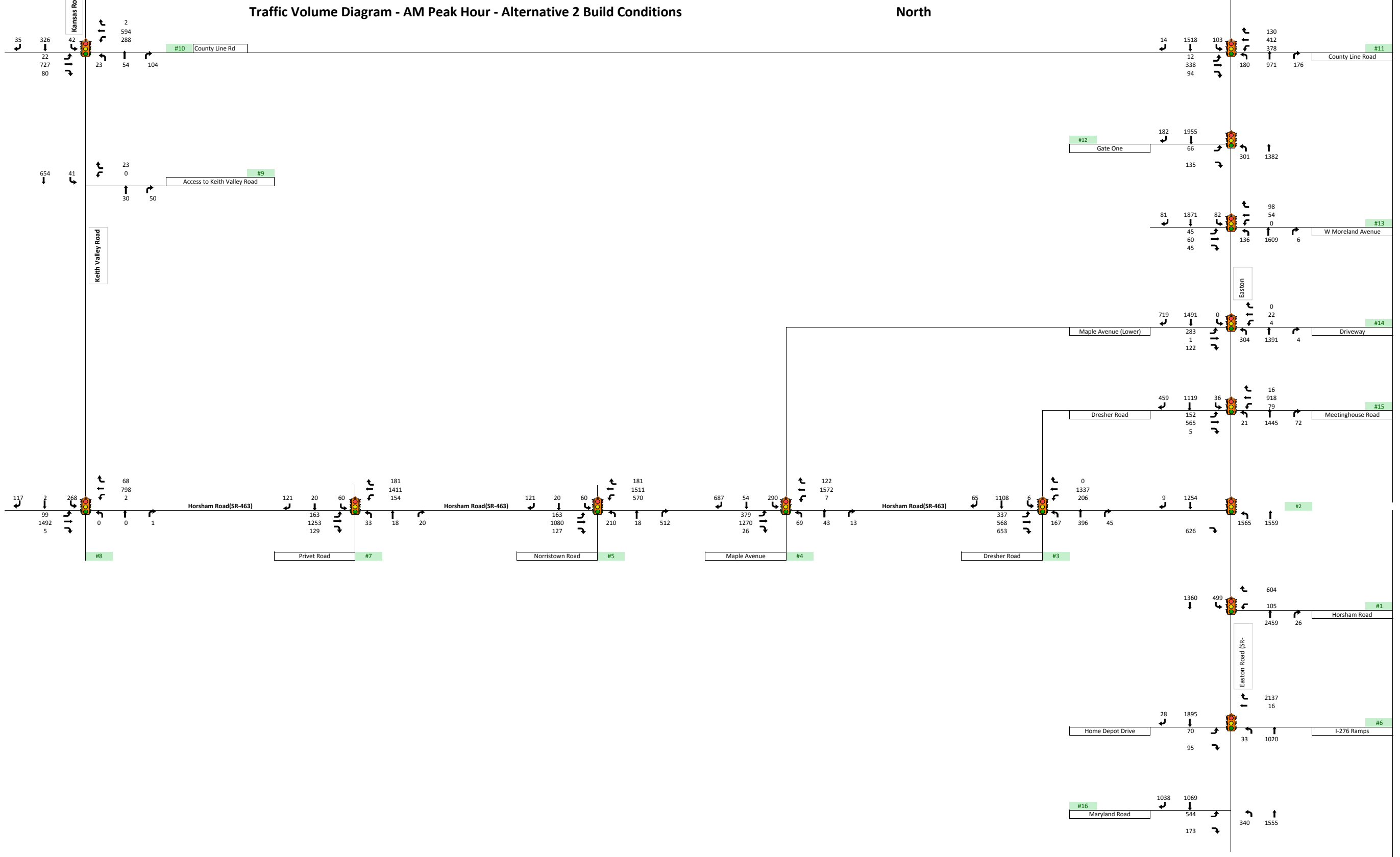
FIGURE 10-1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Alternative 2 Build Conditions



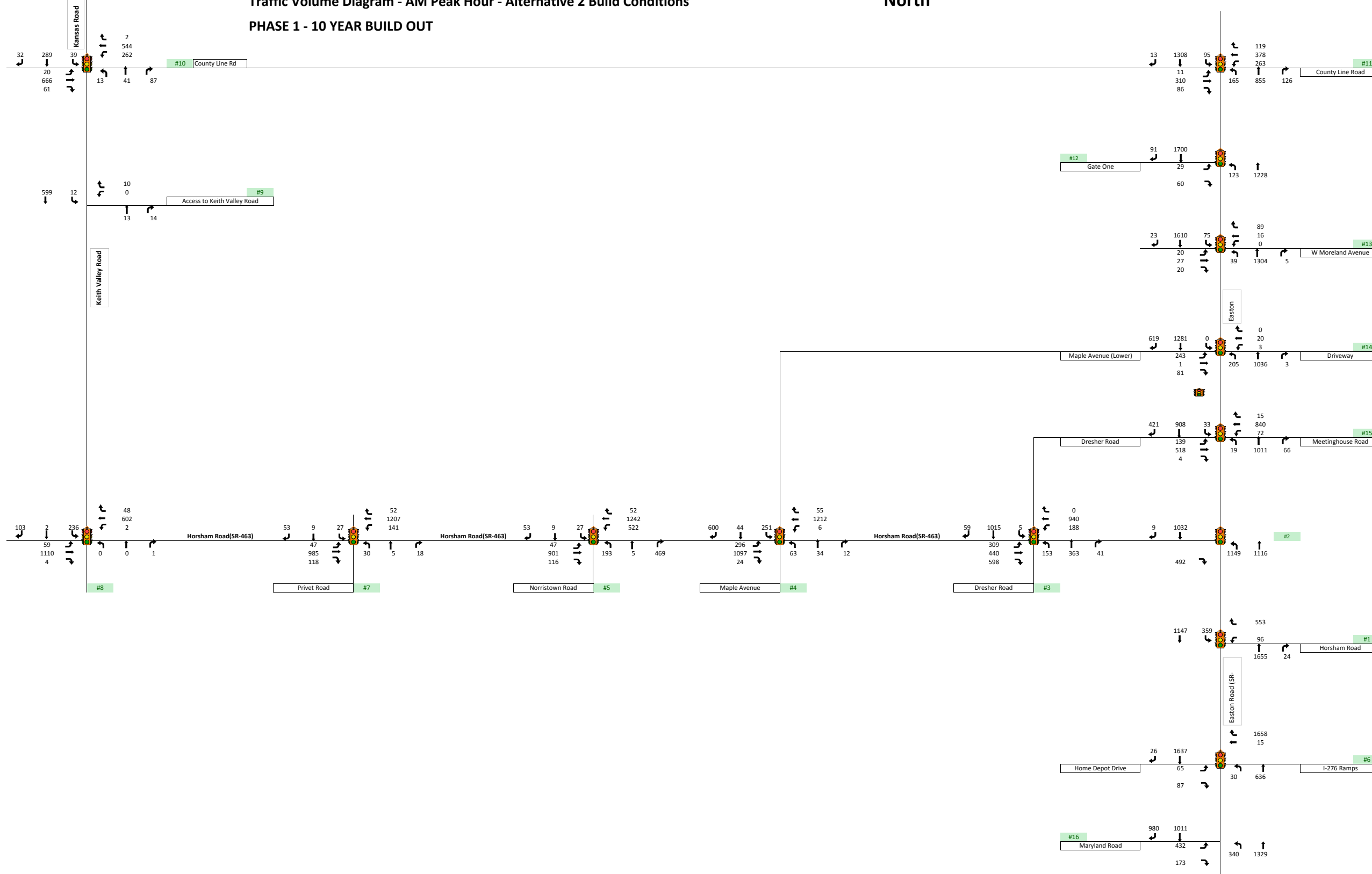
FIGURE 11



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Alternative 2 Build Conditions
 PHASE 1 - 10 YEAR BUILD OUT



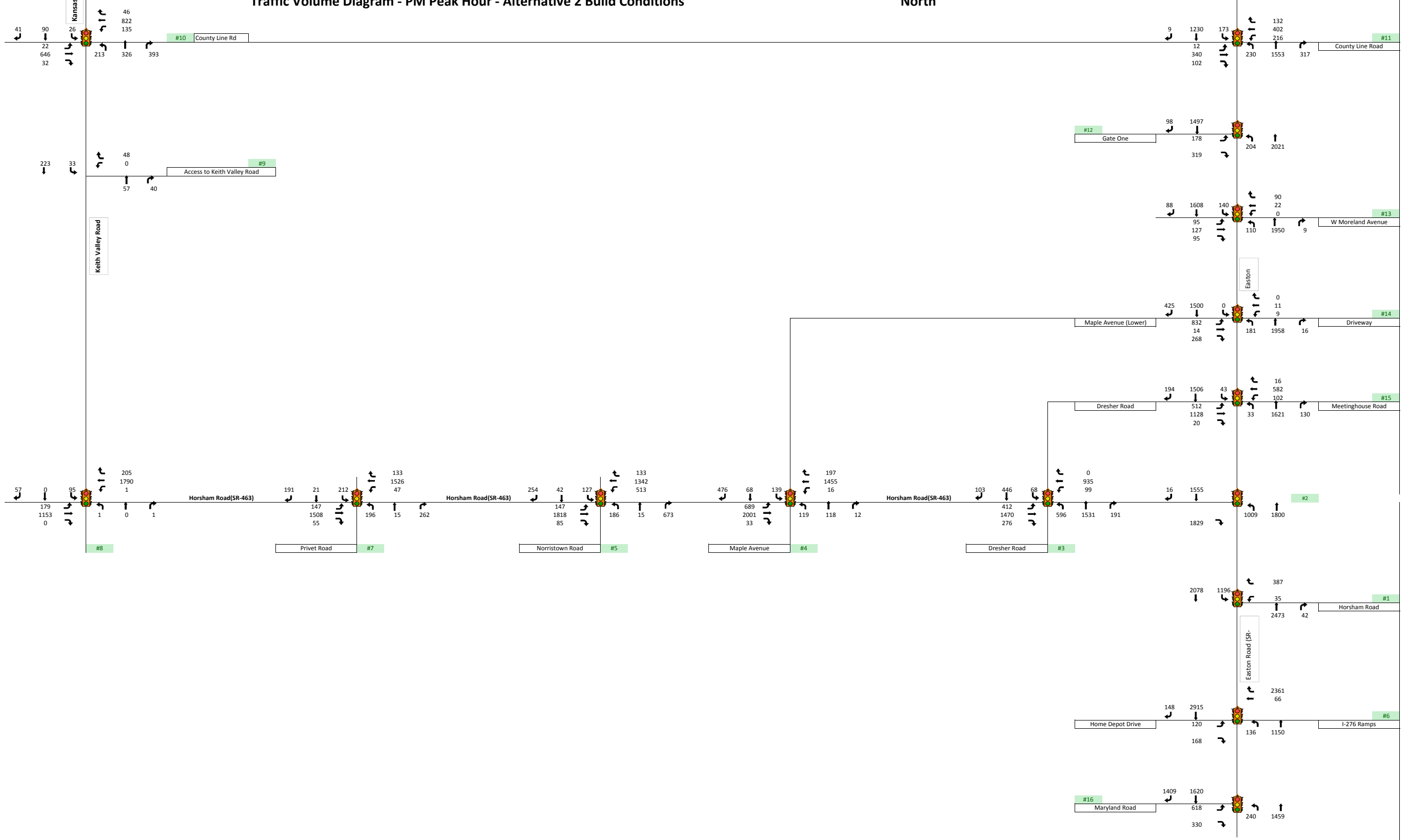
FIGURE 11-1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Alternative 2 Build Conditions



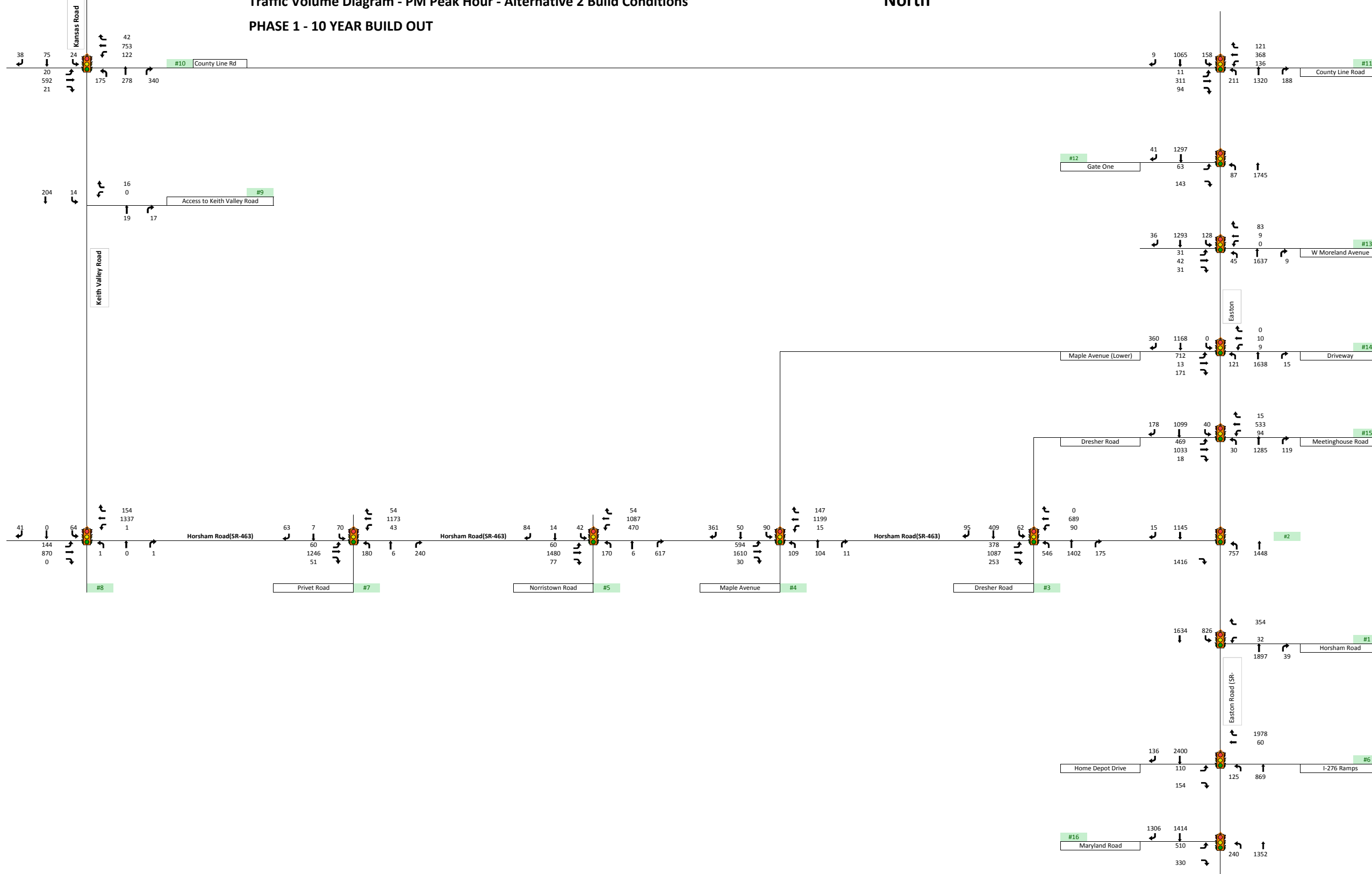
FIGURE 12



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Alternative 2 Build Conditions
 PHASE 1 - 10 YEAR BUILD OUT



FIGURE 12-1

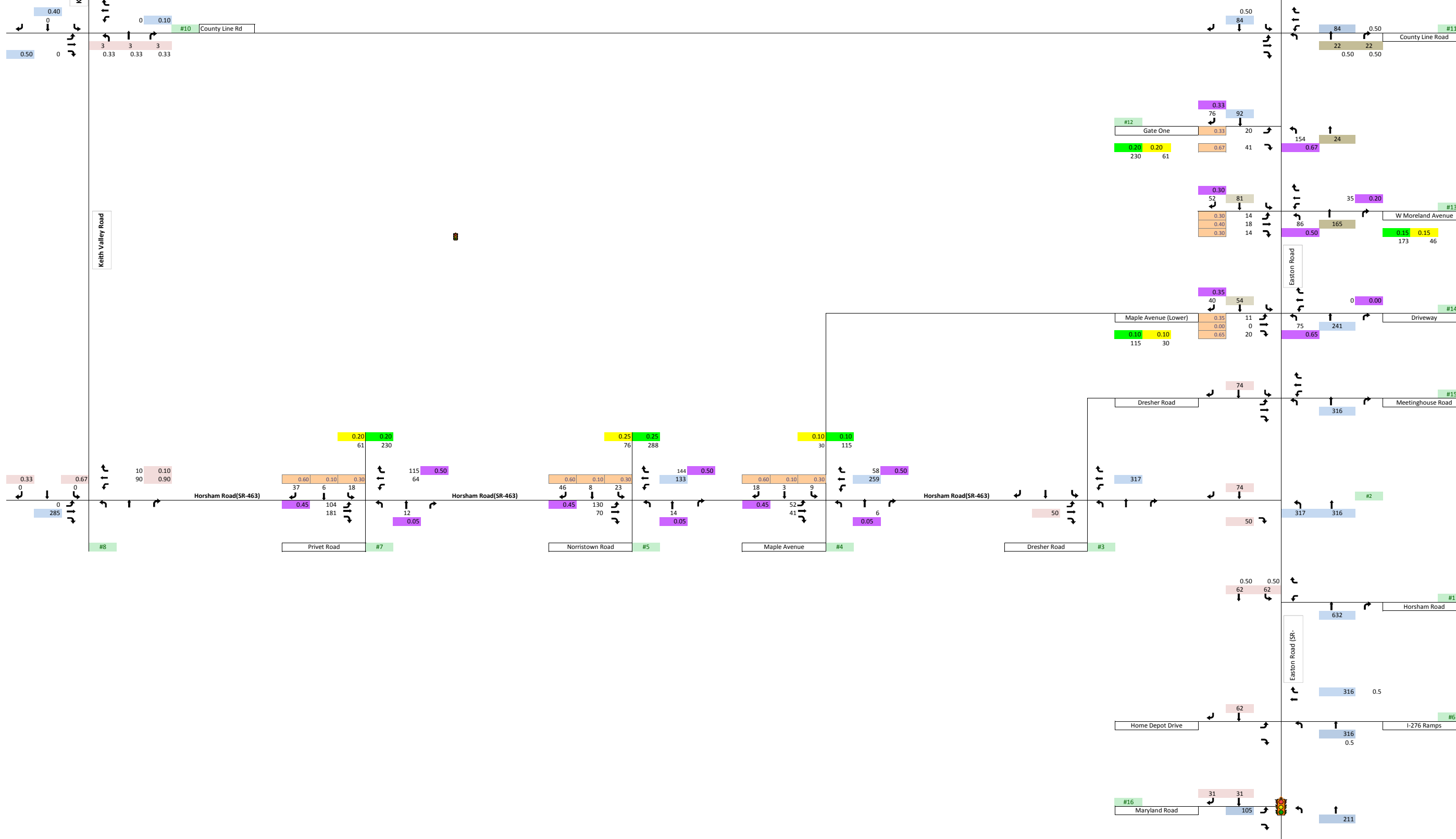


Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove

Traffic Volume Diagram - AM Peak Hour - Alternative 3 Trip Generations



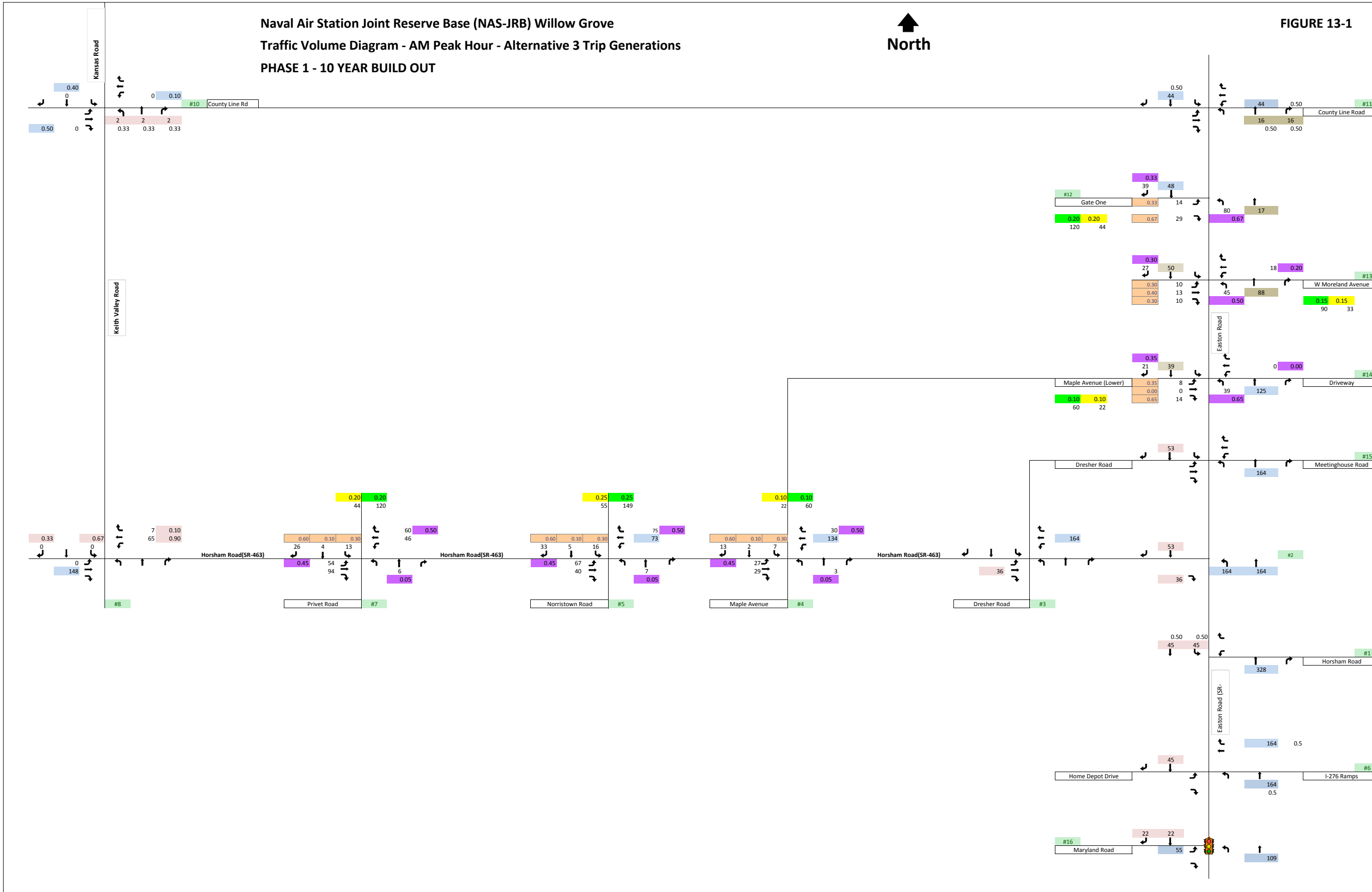
FIGURE 13



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Alternative 3 Trip Generations
 PHASE 1 - 10 YEAR BUILD OUT



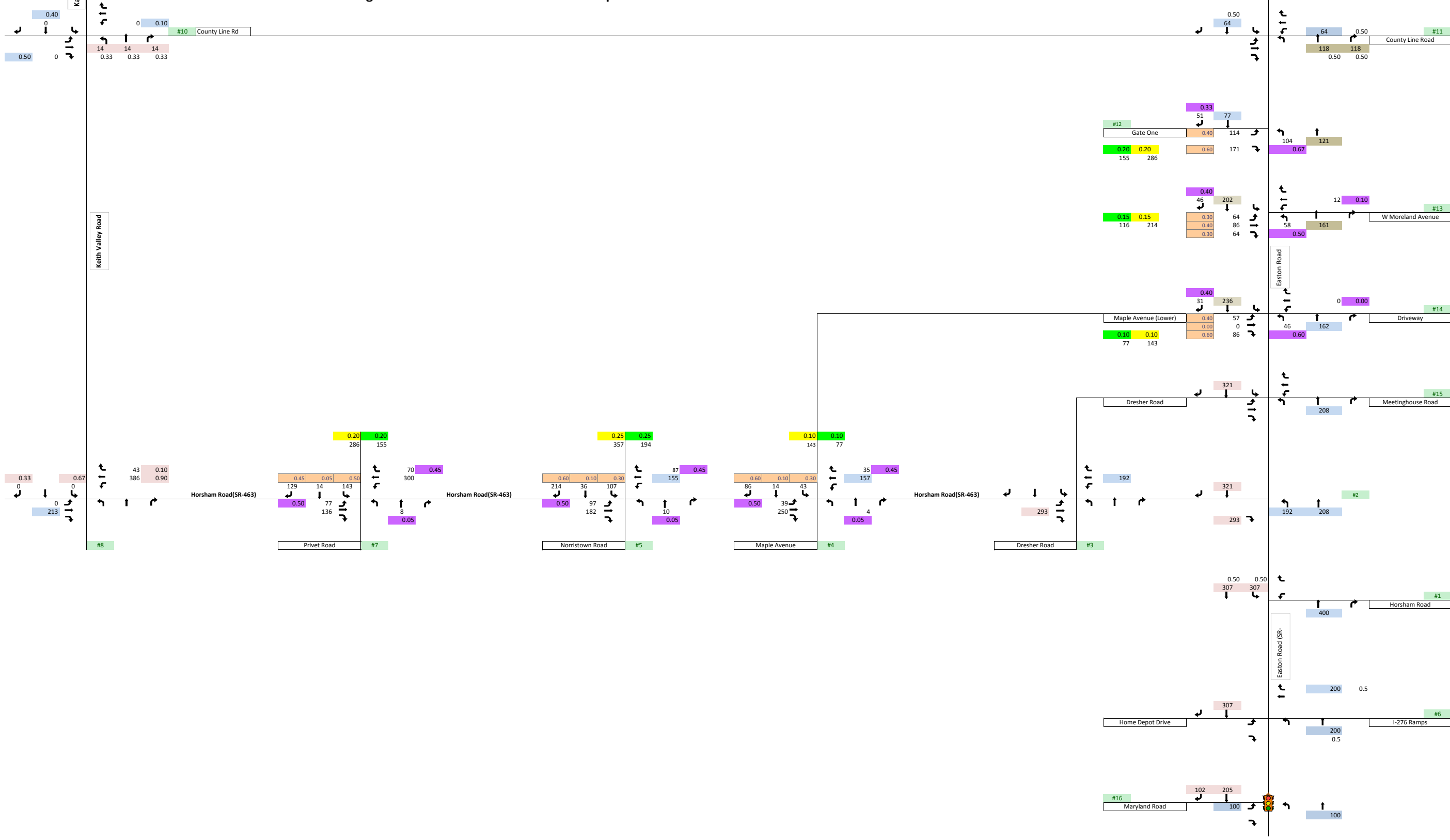
FIGURE 13-1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove Traffic Volume Diagram - PM Peak Hour - Alternative 3 Trip Generations



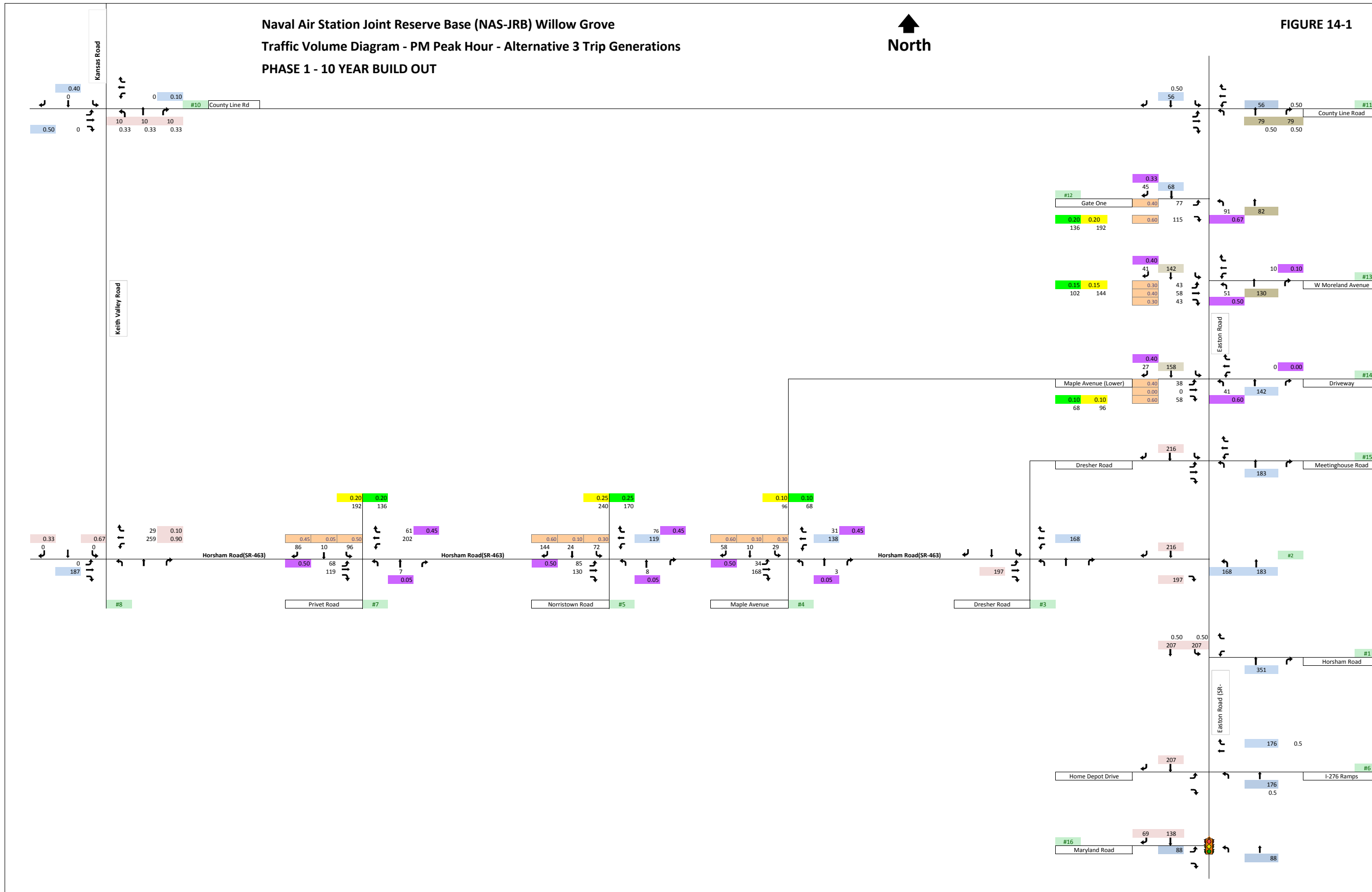
FIGURE 14



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Alternative 3 Trip Generations
 PHASE 1 - 10 YEAR BUILD OUT



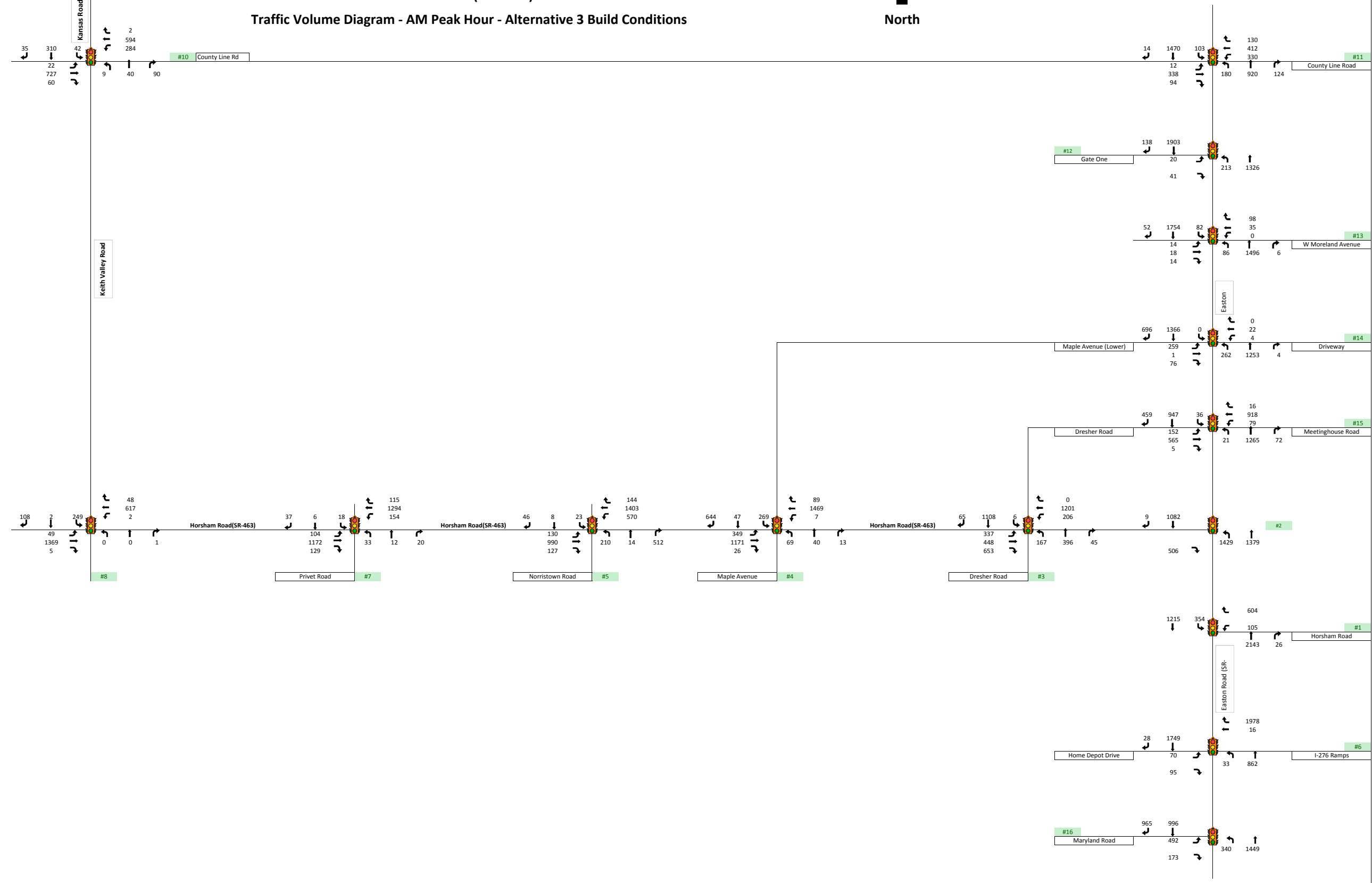
FIGURE 14-1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Alternative 3 Build Conditions



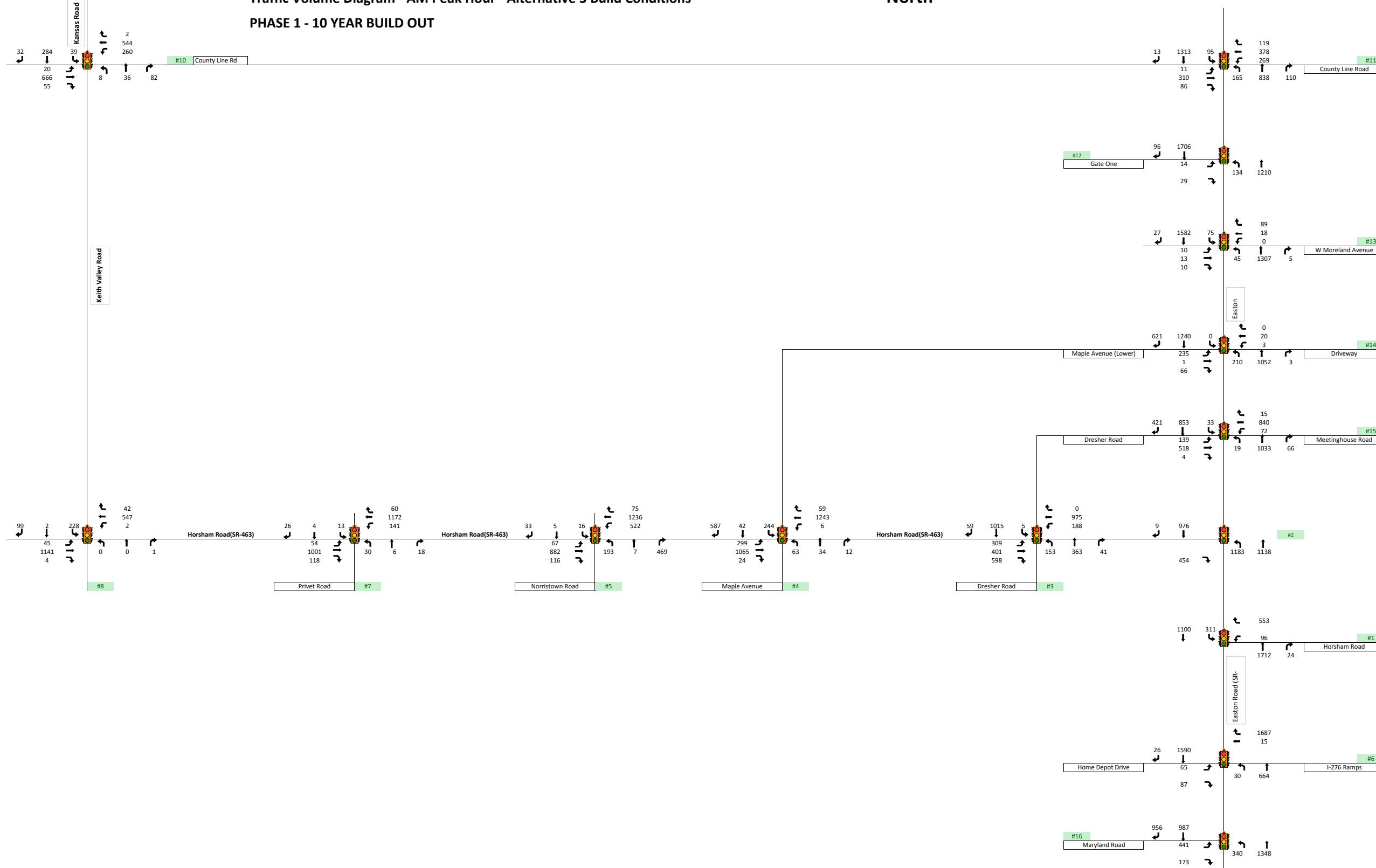
FIGURE 15



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - AM Peak Hour - Alternative 3 Build Conditions
 PHASE 1 - 10 YEAR BUILD OUT



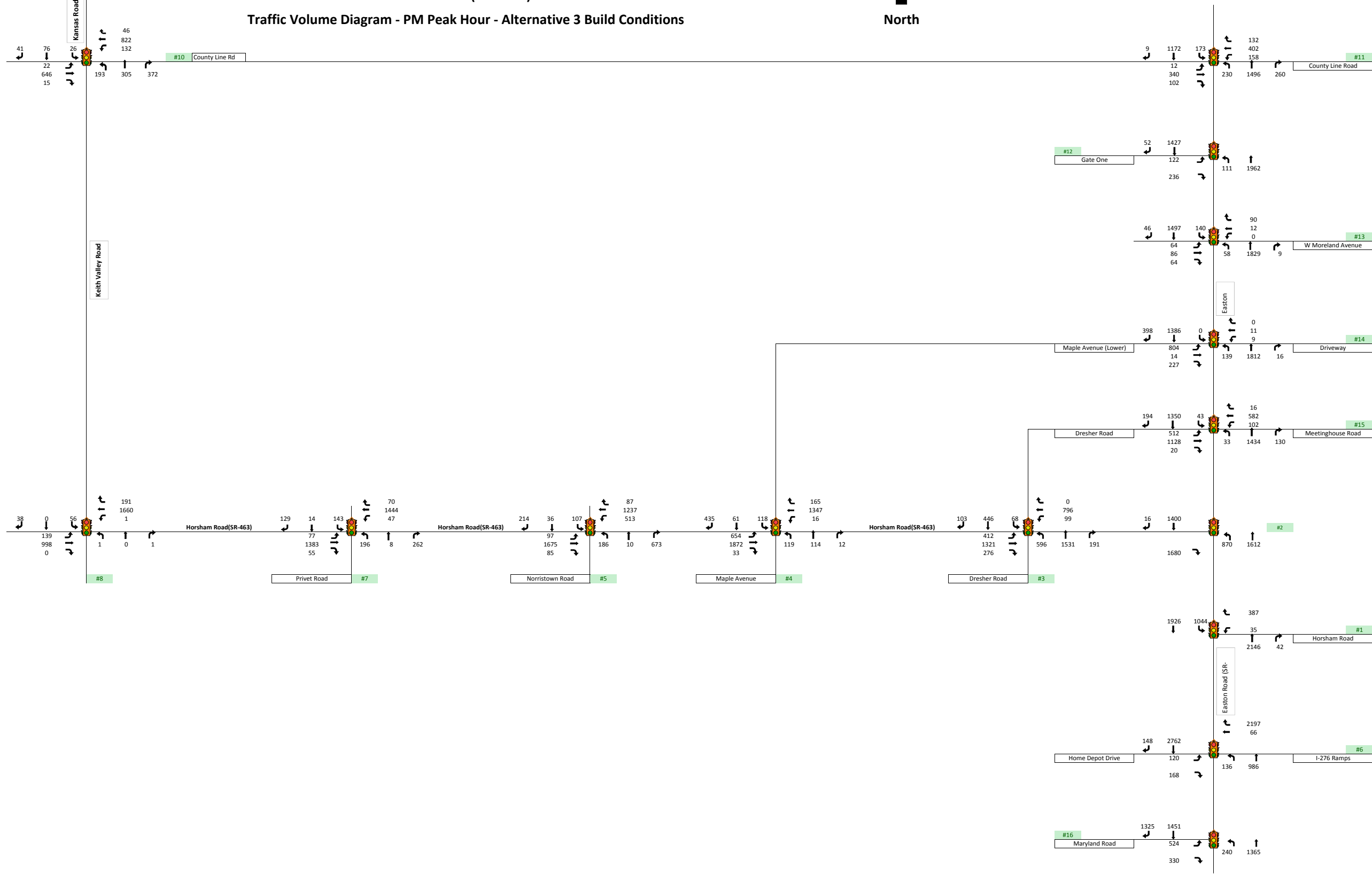
FIGURE 15-1



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Alternative 3 Build Conditions



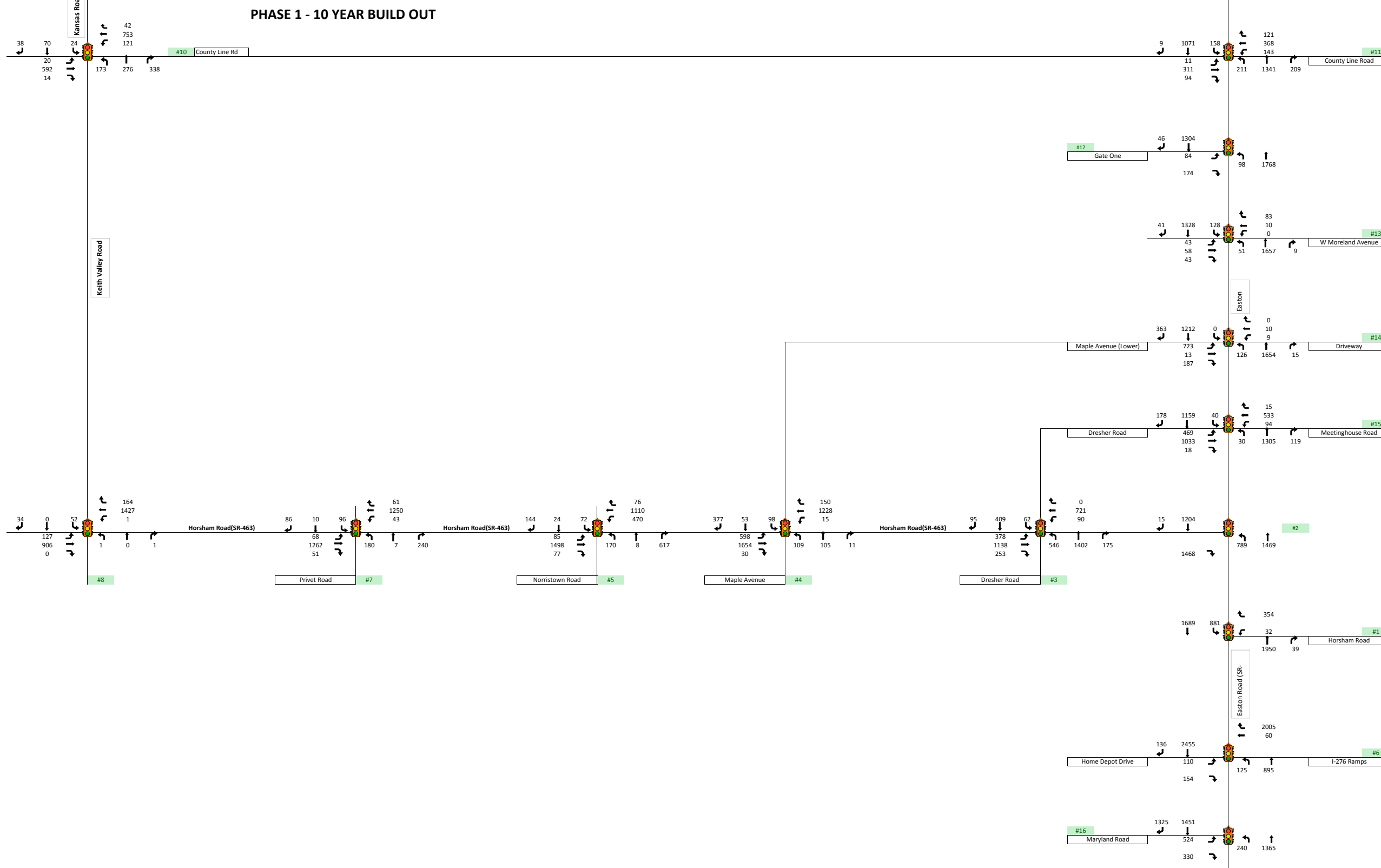
FIGURE 16



Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove
 Traffic Volume Diagram - PM Peak Hour - Alternative 3 Build Conditions
 PHASE 1 - 10 YEAR BUILD OUT



FIGURE 16-1



TRAFFIC ASSESSMENT STUDY

Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove

TOWNSHIP OF HORSHAM

MONTGOMERY COUNTY, PENNSYLVANIA

Traffic Turning Movement Counts

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd and Horsham Rd (E)

Description:

Machine:

Person: Mike W / Tom S

File Name : 027-01

Site Code : 1

Start Date : 5/7/2013

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Easton Road Southbound					Horsham Road Westbound					Easton Road Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	49	234	0	0	283	28	0	92	0	120	0	287	2	0	289	0	0	0	0	0	692
07:15 AM	48	268	0	0	316	22	0	112	0	134	0	323	5	0	328	0	0	0	0	0	778
07:30 AM	75	263	0	0	338	27	0	134	1	162	0	304	5	0	309	0	0	0	0	0	809
07:45 AM	64	220	0	0	284	25	0	134	0	159	0	321	5	0	326	0	0	0	0	0	769
Total	236	985	0	0	1221	102	0	472	1	575	0	1235	17	0	1252	0	0	0	0	0	3048
08:00 AM	61	230	0	0	291	15	0	134	0	149	0	338	7	0	345	0	0	0	0	0	785
08:15 AM	65	230	0	0	295	20	0	150	0	170	0	422	4	0	426	0	0	0	0	0	891
08:30 AM	48	246	0	0	294	14	0	137	0	151	0	345	8	0	353	0	0	0	0	0	798
08:45 AM	60	258	0	0	318	12	0	97	0	109	0	356	2	0	358	0	0	0	0	0	785
Total	234	964	0	0	1198	61	0	518	0	579	0	1461	21	0	1482	0	0	0	0	0	3259
*** BREAK ***																					
04:00 PM	98	296	0	0	394	10	0	78	0	88	0	314	9	0	323	0	0	0	0	0	805
04:15 PM	119	352	0	0	471	10	0	64	0	74	0	363	4	0	367	0	0	0	0	0	912
04:30 PM	102	313	0	0	415	2	0	91	0	93	0	356	10	0	366	0	0	0	0	0	874
04:45 PM	138	352	0	0	490	3	0	79	0	82	0	366	18	0	384	0	0	0	0	0	956
Total	457	1313	0	0	1770	25	0	312	0	337	0	1399	41	0	1440	0	0	0	0	0	3547
05:00 PM	132	348	0	0	480	3	0	99	0	102	0	336	5	0	341	0	0	0	0	0	923
05:15 PM	170	363	0	0	533	13	0	96	1	110	0	343	10	0	353	0	0	0	0	0	996
05:30 PM	170	353	0	0	523	10	0	80	0	90	0	395	9	0	404	0	0	0	0	0	1017
05:45 PM	155	314	0	0	469	4	0	54	1	59	0	412	12	0	424	0	0	0	0	0	952
Total	627	1378	0	0	2005	30	0	329	2	361	0	1486	36	0	1522	0	0	0	0	0	3888
Grand Total	1554	4640	0	0	6194	218	0	1631	3	1852	0	5581	115	0	5696	0	0	0	0	0	13742
Apprch %	25.1	74.9	0	0		11.8	0	88.1	0.2		0	98	2	0		0	0	0	0		
Total %	11.3	33.8	0	0	45.1	1.6	0	11.9	0	13.5	0	40.6	0.8	0	41.4	0	0	0	0	0	
Cars	1518	4365	0	0	5883	209	0	1625	3	1837	0	5400	108	0	5508	0	0	0	0	0	13228
% Cars	97.7	94.1	0	0	95	95.9	0	99.6	100	99.2	0	96.8	93.9	0	96.7	0	0	0	0	0	96.3
Light Trucks	27	127	0	0	154	6	0	3	0	9	0	72	5	0	77	0	0	0	0	0	240
% Light Trucks	1.7	2.7	0	0	2.5	2.8	0	0.2	0	0.5	0	1.3	4.3	0	1.4	0	0	0	0	0	1.7
Heavy Trucks	9	148	0	0	157	3	0	3	0	6	0	109	2	0	111	0	0	0	0	0	274
% Heavy Trucks	0.6	3.2	0	0	2.5	1.4	0	0.2	0	0.3	0	2	1.7	0	1.9	0	0	0	0	0	2

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd and Horsham Rd (W)

Description:

Machine:

Person: Alex Henderson / Pat Hoffman

File Name : 027-02

Site Code : 2

Start Date : 5/7/2013

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Easton Road Southbound					Westbound					Easton Road Northbound					Horsham Rd Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	232	9	0	241	0	0	0	0	0	177	211	0	0	388	0	0	75	0	75	704
07:15 AM	0	268	0	0	268	0	0	0	0	0	196	223	0	0	419	0	0	80	0	80	767
07:30 AM	0	228	6	0	234	0	0	0	0	0	226	236	0	0	462	0	0	104	0	104	800
07:45 AM	0	200	2	0	202	0	0	0	0	0	248	228	0	0	476	0	0	98	0	98	776
Total	0	928	17	0	945	0	0	0	0	0	847	898	0	0	1745	0	0	357	0	357	3047
08:00 AM	0	162	0	0	162	0	0	0	0	0	277	218	0	0	495	0	0	106	0	106	763
08:15 AM	0	258	2	0	260	0	0	0	0	0	311	249	0	0	560	0	0	52	0	52	872
08:30 AM	0	202	2	0	204	0	0	0	0	0	262	239	0	0	501	0	0	105	0	105	810
08:45 AM	0	255	2	0	257	0	0	0	0	0	226	225	0	0	451	0	0	99	0	99	807
Total	0	877	6	0	883	0	0	0	0	0	1076	931	0	0	2007	0	0	362	0	362	3252
*** BREAK ***																					
04:00 PM	0	247	0	0	247	0	0	0	0	0	125	248	0	0	373	0	0	172	0	172	792
04:15 PM	0	254	4	0	258	0	0	0	0	0	115	328	0	0	443	0	0	234	0	234	935
04:30 PM	0	256	0	0	256	0	0	0	0	0	166	266	0	0	432	0	0	223	0	223	911
04:45 PM	0	291	0	0	291	0	0	0	0	0	146	284	0	0	430	0	0	245	0	245	966
Total	0	1048	4	0	1052	0	0	0	0	0	552	1126	0	0	1678	0	0	874	0	874	3604
05:00 PM	0	254	4	2	260	0	0	0	0	0	139	291	0	0	430	0	0	258	0	258	948
05:15 PM	0	234	2	3	239	0	0	0	0	0	140	280	0	0	420	0	0	339	3	342	1001
05:30 PM	0	227	4	0	231	0	0	0	0	0	157	314	0	0	471	0	0	272	0	272	974
05:45 PM	0	203	4	0	207	0	0	0	0	0	141	310	0	0	451	0	0	312	0	312	970
Total	0	918	14	5	937	0	0	0	0	0	577	1195	0	0	1772	0	0	1181	3	1184	3893
Grand Total	0	3771	41	5	3817	0	0	0	0	0	3052	4150	0	0	7202	0	0	2774	3	2777	13796
Apprch %	0	98.8	1.1	0.1		0	0	0	0		42.4	57.6	0	0		0	0	99.9	0.1		
Total %	0	27.3	0.3	0	27.7	0	0	0	0	0	22.1	30.1	0	0	52.2	0	0	20.1	0	20.1	
Cars	0	3579	41	5	3625	0	0	0	0	0	2966	3941	0	0	6907	0	0	2716	3	2719	13251
% Cars	0	94.9	100	100	95	0	0	0	0	0	97.2	95	0	0	95.9	0	0	97.9	100	97.9	96
Light Trucks	0	67	0	0	67	0	0	0	0	0	64	118	0	0	182	0	0	43	0	43	292
% Light Trucks	0	1.8	0	0	1.8	0	0	0	0	0	2.1	2.8	0	0	2.5	0	0	1.6	0	1.5	2.1
Heavy Trucks	0	125	0	0	125	0	0	0	0	0	22	91	0	0	113	0	0	15	0	15	253
% Heavy Trucks	0	3.3	0	0	3.3	0	0	0	0	0	0.7	2.2	0	0	1.6	0	0	0.5	0	0.5	1.8

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd and Horsham Rd (W)

Description:

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Person: Alex Henderson / Pat Hoffman

File Name : 027-02

Site Code : 2

Start Date : 5/7/2013

Page No : 2

Start Time	Easton Road Southbound					Westbound					Easton Road Northbound					Horsham Rd Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	162	0	0	162	0	0	0	0	0	277	218	0	0	495	0	0	106	0	106	763
08:15 AM	0	258	2	0	260	0	0	0	0	0	311	249	0	0	560	0	0	52	0	52	872
08:30 AM	0	202	2	0	204	0	0	0	0	0	262	239	0	0	501	0	0	105	0	105	810
08:45 AM	0	255	2	0	257	0	0	0	0	0	226	225	0	0	451	0	0	99	0	99	807
Total Volume	0	877	6	0	883	0	0	0	0	0	1076	931	0	0	2007	0	0	362	0	362	3252
% App. Total	0	99.3	0.7	0		0	0	0	0	0	53.6	46.4	0	0		0	0	100	0		
PHF	.000	.850	.750	.000	.849	.000	.000	.000	.000	.000	.865	.935	.000	.000	.896	.000	.000	.854	.000	.854	.932

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	0	254	4	2	260	0	0	0	0	0	139	291	0	0	430	0	0	258	0	258	948
05:15 PM	0	234	2	3	239	0	0	0	0	0	140	280	0	0	420	0	0	339	3	342	1001
05:30 PM	0	227	4	0	231	0	0	0	0	0	157	314	0	0	471	0	0	272	0	272	974
05:45 PM	0	203	4	0	207	0	0	0	0	0	141	310	0	0	451	0	0	312	0	312	970
Total Volume	0	918	14	5	937	0	0	0	0	0	577	1195	0	0	1772	0	0	1181	3	1184	3893
% App. Total	0	98	1.5	0.5		0	0	0	0	0	32.6	67.4	0	0		0	0	99.7	0.3		
PHF	.000	.904	.875	.417	.901	.000	.000	.000	.000	.000	.919	.951	.000	.000	.941	.000	.000	.871	.250	.865	.972

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Dresher Rd

Description:

Machine:

Person: George Ferrio / Rafiq

File Name : 027-03

Site Code : 3

Start Date : 5/7/2013

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Dresher Road Southbound					Horsham Road Westbound					Dresher Road Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	221	11	0	232	20	169	0	0	189	35	56	6	1	98	68	62	119	0	249	768
07:15 AM	1	220	9	0	230	23	163	0	0	186	28	78	12	1	119	74	73	133	0	280	815
07:30 AM	1	228	15	0	244	47	192	0	0	239	34	75	8	0	117	88	93	129	0	310	910
07:45 AM	2	265	14	0	281	51	187	0	0	238	37	103	8	0	148	68	89	147	0	304	971
Total	4	934	49	0	987	141	711	0	0	852	134	312	34	2	482	298	317	528	0	1143	3464
08:00 AM	1	230	17	1	249	54	211	0	0	265	43	81	10	0	134	57	84	147	1	289	937
08:15 AM	7	246	16	0	269	59	254	0	0	313	35	75	5	0	115	49	48	142	0	239	936
08:30 AM	4	239	24	0	267	59	217	2	0	278	40	90	8	0	138	45	82	126	0	253	936
08:45 AM	5	209	21	0	235	29	217	1	0	247	71	73	6	0	150	60	95	137	0	292	924
Total	17	924	78	1	1020	201	899	3	0	1103	189	319	29	0	537	211	309	552	1	1073	3733
*** BREAK ***																					
04:00 PM	10	78	37	0	125	14	98	4	0	116	109	203	22	0	334	81	132	55	0	268	843
04:15 PM	14	95	22	0	131	19	111	1	0	131	90	156	26	0	272	77	176	57	0	310	844
04:30 PM	17	98	24	0	139	11	166	3	0	180	76	209	27	0	312	71	148	54	0	273	904
04:45 PM	11	105	24	0	140	9	143	0	0	152	76	231	18	1	326	68	191	62	0	321	939
Total	52	376	107	0	535	53	518	8	0	579	351	799	93	1	1244	297	647	228	0	1172	3530
05:00 PM	17	104	22	2	145	24	123	3	0	150	124	318	42	0	484	82	187	54	2	325	1104
05:15 PM	16	89	19	0	124	19	136	0	0	155	140	296	36	0	472	96	258	72	0	426	1177
05:30 PM	15	102	20	0	137	18	143	0	0	161	146	362	40	0	548	88	198	58	0	344	1190
05:45 PM	10	85	27	1	123	23	112	3	0	138	97	327	45	0	469	85	232	51	0	368	1098
Total	58	380	88	3	529	84	514	6	0	604	507	1303	163	0	1973	351	875	235	2	1463	4569
Grand Total	131	2614	322	4	3071	479	2642	17	0	3138	1181	2733	319	3	4236	1157	2148	1543	3	4851	15296
Apprch %	4.3	85.1	10.5	0.1		15.3	84.2	0.5	0		27.9	64.5	7.5	0.1		23.9	44.3	31.8	0.1		
Total %	0.9	17.1	2.1	0	20.1	3.1	17.3	0.1	0	20.5	7.7	17.9	2.1	0	27.7	7.6	14	10.1	0	31.7	
Cars	130	2574	311	4	3019	478	2596	16	0	3090	1174	2701	319	3	4197	1117	2085	1520	3	4725	15031
% Cars	99.2	98.5	96.6	100	98.3	99.8	98.3	94.1	0	98.5	99.4	98.8	100	100	99.1	96.5	97.1	98.5	100	97.4	98.3
Light Trucks	1	37	6	0	44	1	23	0	0	24	4	28	0	0	32	36	39	21	0	96	196
% Light Trucks	0.8	1.4	1.9	0	1.4	0.2	0.9	0	0	0.8	0.3	1	0	0	0.8	3.1	1.8	1.4	0	2	1.3
Heavy Trucks	0	3	5	0	8	0	23	1	0	24	3	4	0	0	7	4	24	2	0	30	69
% Heavy Trucks	0	0.1	1.6	0	0.3	0	0.9	5.9	0	0.8	0.3	0.1	0	0	0.2	0.3	1.1	0.1	0	0.6	0.5

Start Time	Dresher Road Southbound					Horsham Road Westbound					Dresher Road Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	2	265	14	0	281	51	187	0	0	238	37	103	8	0	148	68	89	147	0	304	971
08:00 AM	1	230	17	1	249	54	211	0	0	265	43	81	10	0	134	57	84	147	1	289	937
08:15 AM	7	246	16	0	269	59	254	0	0	313	35	75	5	0	115	49	48	142	0	239	936
08:30 AM	4	239	24	0	267	59	217	2	0	278	40	90	8	0	138	45	82	126	0	253	936
Total Volume	14	980	71	1	1066	223	869	2	0	1094	155	349	31	0	535	219	303	562	1	1085	3780
% App. Total	1.3	91.9	6.7	0.1		20.4	79.4	0.2	0		29	65.2	5.8	0		20.2	27.9	51.8	0.1		
PHF	.500	.925	.740	.250	.948	.945	.855	.250	.000	.874	.901	.847	.775	.000	.904	.805	.851	.956	.250	.892	.973

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Dresher Rd

Description:

Machine:

Person: George Ferrio / Rafiq

File Name : 027-03

Site Code : 3

Start Date : 5/7/2013

Page No : 2

Start Time	Dresher Road Southbound					Horsham Road Westbound					Dresher Road Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	17	104	22	2	145	24	123	3	0	150	124	318	42	0	484	82	187	54	2	325	1104
05:15 PM	16	89	19	0	124	19	136	0	0	155	140	296	36	0	472	96	258	72	0	426	1177
05:30 PM	15	102	20	0	137	18	143	0	0	161	146	362	40	0	548	88	198	58	0	344	1190
05:45 PM	10	85	27	1	123	23	112	3	0	138	97	327	45	0	469	85	232	51	0	368	1098
Total Volume	58	380	88	3	529	84	514	6	0	604	507	1303	163	0	1973	351	875	235	2	1463	4569
% App. Total	11	71.8	16.6	0.6		13.9	85.1	1	0		25.7	66	8.3	0		24	59.8	16.1	0.1		
PHF	.853	.913	.815	.375	.912	.875	.899	.500	.000	.938	.868	.900	.906	.000	.900	.914	.848	.816	.250	.859	.960

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Maple Ave

Description:

Machine:

Person: TT / Andrew Klinek

File Name : 027-04

Site Code : 4

Start Date : 5/7/2013

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Maple Avenue Southbound					Horsham Road Westbound					Maple Avenue Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	22	2	128	0	152	2	239	3	1	245	10	2	1	0	13	51	221	4	0	276	686
07:15 AM	41	2	152	0	195	0	231	6	0	237	13	5	4	0	22	61	238	4	0	303	757
07:30 AM	56	14	123	0	193	1	271	6	0	278	18	6	2	0	26	63	269	4	0	336	833
07:45 AM	59	8	116	1	184	1	255	6	0	262	10	5	3	0	18	70	244	6	0	320	784
Total	178	26	519	1	724	4	996	21	1	1022	51	18	10	0	79	245	972	18	0	1235	3060
08:00 AM	65	13	142	0	220	4	273	9	1	287	18	13	2	1	34	59	211	8	2	280	821
08:15 AM	44	15	126	0	185	1	314	9	0	324	15	8	0	0	23	68	230	7	1	306	838
08:30 AM	51	11	95	0	157	1	306	9	0	316	7	5	2	0	14	68	217	5	0	290	777
08:45 AM	61	9	113	0	183	1	254	8	0	263	9	7	2	0	18	66	267	7	0	340	804
Total	221	48	476	0	745	7	1147	35	1	1190	49	33	6	1	89	261	925	27	3	1216	3240
*** BREAK ***																					
04:00 PM	12	8	72	0	92	4	190	18	0	212	13	9	2	0	24	78	298	2	1	379	707
04:15 PM	15	3	73	0	91	2	229	31	0	262	13	9	3	0	25	96	267	6	0	369	747
04:30 PM	19	7	80	0	106	2	236	27	3	268	8	9	1	0	18	103	255	8	0	366	758
04:45 PM	20	5	73	0	98	3	260	23	0	286	13	15	4	0	32	112	300	12	0	424	840
Total	66	23	298	0	387	11	915	99	3	1028	47	42	10	0	99	389	1120	28	1	1538	3052
05:00 PM	13	12	69	0	94	5	248	29	0	282	14	21	4	0	39	142	350	6	1	499	914
05:15 PM	22	12	80	0	114	1	264	29	0	294	27	35	2	0	64	123	353	9	0	485	957
05:30 PM	13	7	81	0	101	5	269	17	0	291	37	23	3	0	63	138	356	4	0	498	953
05:45 PM	16	9	67	0	92	3	232	36	1	272	23	15	1	0	39	121	322	9	1	453	856
Total	64	40	297	0	401	14	1013	111	1	1139	101	94	10	0	205	524	1381	28	2	1935	3680
Grand Total	529	137	1590	1	2257	36	4071	266	6	4379	248	187	36	1	472	1419	4398	101	6	5924	13032
Apprch %	23.4	6.1	70.4	0		0.8	93	6.1	0.1		52.5	39.6	7.6	0.2		24	74.2	1.7	0.1		
Total %	4.1	1.1	12.2	0	17.3	0.3	31.2	2	0	33.6	1.9	1.4	0.3	0	3.6	10.9	33.7	0.8	0	45.5	
Cars	524	137	1558	1	2220	36	3991	260	6	4293	244	185	36	1	466	1344	4272	99	6	5721	12700
% Cars	99.1	100	98	100	98.4	100	98	97.7	100	98	98.4	98.9	100	100	98.7	94.7	97.1	98	100	96.6	97.5
Light Trucks	3	0	23	0	26	0	54	6	0	60	3	2	0	0	5	63	94	0	0	157	248
% Light Trucks	0.6	0	1.4	0	1.2	0	1.3	2.3	0	1.4	1.2	1.1	0	0	1.1	4.4	2.1	0	0	2.7	1.9
Heavy Trucks	2	0	9	0	11	0	26	0	0	26	1	0	0	0	1	12	32	2	0	46	84
% Heavy Trucks	0.4	0	0.6	0	0.5	0	0.6	0	0	0.6	0.4	0	0	0	0.2	0.8	0.7	2	0	0.8	0.6

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Maple Ave

Description:

Machine:

Person: TT / Andrew Klinek

File Name : 027-04

Site Code : 4

Start Date : 5/7/2013

Page No : 2

Start Time	Maple Avenue Southbound					Horsham Road Westbound					Maple Avenue Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	56	14	123	0	193	1	271	6	0	278	18	6	2	0	26	63	269	4	0	336	833
07:45 AM	59	8	116	1	184	1	255	6	0	262	10	5	3	0	18	70	244	6	0	320	784
08:00 AM	65	13	142	0	220	4	273	9	1	287	18	13	2	1	34	59	211	8	2	280	821
08:15 AM	44	15	126	0	185	1	314	9	0	324	15	8	0	0	23	68	230	7	1	306	838
Total Volume	224	50	507	1	782	7	1113	30	1	1151	61	32	7	1	101	260	954	25	3	1242	3276
% App. Total	28.6	6.4	64.8	0.1		0.6	96.7	2.6	0.1		60.4	31.7	6.9	1		20.9	76.8	2	0.2		
PHF	.862	.833	.893	.250	.889	.438	.886	.833	.250	.888	.847	.615	.583	.250	.743	.929	.887	.781	.375	.924	.977

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	13	12	69	0	94	5	248	29	0	282	14	21	4	0	39	142	350	6	1	499	914
05:15 PM	22	12	80	0	114	1	264	29	0	294	27	35	2	0	64	123	353	9	0	485	957
05:30 PM	13	7	81	0	101	5	269	17	0	291	37	23	3	0	63	138	356	4	0	498	953
05:45 PM	16	9	67	0	92	3	232	36	1	272	23	15	1	0	39	121	322	9	1	453	856
Total Volume	64	40	297	0	401	14	1013	111	1	1139	101	94	10	0	205	524	1381	28	2	1935	3680
% App. Total	16	10	74.1	0		1.2	88.9	9.7	0.1		49.3	45.9	4.9	0		27.1	71.4	1.4	0.1		
PHF	.727	.833	.917	.000	.879	.700	.941	.771	.250	.969	.682	.671	.625	.000	.801	.923	.970	.778	.500	.969	.961

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Norristown Rd

Description:

Machine:

Person: Josh K/ Robert Vera

File Name : 027-05

Site Code : 5

Start Date : 5/7/2013

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Southbound					Horsham Road Westbound					Norristown Road Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	0	0	110	241	0	0	351	53	0	94	1	148	0	167	26	0	193	692
07:15 AM	0	0	0	0	0	114	285	0	0	399	64	0	94	3	161	0	221	38	0	259	819
07:30 AM	0	0	0	0	0	139	251	0	0	390	43	1	129	0	173	0	201	26	0	227	790
07:45 AM	0	0	0	0	0	109	256	0	0	365	38	0	109	0	147	0	179	23	0	202	714
Total	0	0	0	0	0	472	1033	0	0	1505	198	1	426	4	629	0	768	113	0	881	3015
08:00 AM	0	0	0	0	0	123	289	0	0	412	34	0	104	0	138	0	182	21	0	203	753
08:15 AM	0	0	0	0	0	108	316	0	0	424	47	0	119	2	168	0	160	11	0	171	763
08:30 AM	0	0	0	0	0	103	273	0	0	376	26	0	105	0	131	0	173	31	0	204	711
08:45 AM	0	0	0	0	0	111	236	0	0	347	26	0	98	0	124	0	216	18	0	234	705
Total	0	0	0	0	0	445	1114	0	0	1559	133	0	426	2	561	0	731	81	0	812	2932
*** BREAK ***																					
04:00 PM	0	0	0	0	0	104	154	0	0	258	27	0	100	0	127	0	259	22	0	281	666
04:15 PM	0	0	0	0	0	111	187	0	0	298	36	0	132	0	168	0	218	15	0	233	699
04:30 PM	0	0	0	0	0	120	196	0	0	316	38	0	126	0	164	0	216	28	0	244	724
04:45 PM	0	0	0	0	0	107	222	0	0	329	35	0	137	0	172	0	256	17	0	273	774
Total	0	0	0	0	0	442	759	0	0	1201	136	0	495	0	631	0	949	82	0	1031	2863
05:00 PM	0	0	0	0	0	99	222	0	0	321	40	0	158	1	199	0	333	20	0	353	873
05:15 PM	0	0	0	0	0	117	225	0	0	342	35	0	141	2	178	0	304	16	0	320	840
05:30 PM	0	0	0	0	0	102	258	0	0	360	36	0	135	1	172	0	331	20	0	351	883
05:45 PM	0	0	0	0	0	119	216	0	0	335	47	0	139	1	187	0	303	16	0	319	841
Total	0	0	0	0	0	437	921	0	0	1358	158	0	573	5	736	0	1271	72	0	1343	3437
Grand Total	0	0	0	0	0	1796	3827	0	0	5623	625	1	1920	11	2557	0	3719	348	0	4067	12247
Apprch %	0	0	0	0	0	31.9	68.1	0	0		24.4	0	75.1	0.4		0	91.4	8.6	0		
Total %	0	0	0	0	0	14.7	31.2	0	0	45.9	5.1	0	15.7	0.1	20.9	0	30.4	2.8	0	33.2	
Cars	0	0	0	0	0	1776	3754	0	0	5530	618	0	1895	11	2524	0	3644	344	0	3988	12042
% Cars	0	0	0	0	0	98.9	98.1	0	0	98.3	98.9	0	98.7	100	98.7	0	98	98.9	0	98.1	98.3
Light Trucks	0	0	0	0	0	5	29	0	0	34	2	1	16	0	19	0	45	1	0	46	99
% Light Trucks	0	0	0	0	0	0.3	0.8	0	0	0.6	0.3	100	0.8	0	0.7	0	1.2	0.3	0	1.1	0.8
Heavy Trucks	0	0	0	0	0	15	44	0	0	59	5	0	9	0	14	0	30	3	0	33	106
% Heavy Trucks	0	0	0	0	0	0.8	1.1	0	0	1	0.8	0	0.5	0	0.5	0	0.8	0.9	0	0.8	0.9

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Norristown Rd

Description:

Machine:

Person: Josh K/ Robert Vera

File Name : 027-05

Site Code : 5

Start Date : 5/7/2013

Page No : 2

Start Time	Southbound					Horsham Road Westbound					Norristown Road Northbound					Horsham Road Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:15 AM																						
07:15 AM	0	0	0	0	0	114	285	0	0	399	64	0	94	3	161	0	221	38	0	259	819	
07:30 AM	0	0	0	0	0	139	251	0	0	390	43	1	129	0	173	0	201	26	0	227	790	
07:45 AM	0	0	0	0	0	109	256	0	0	365	38	0	109	0	147	0	179	23	0	202	714	
08:00 AM	0	0	0	0	0	123	289	0	0	412	34	0	104	0	138	0	182	21	0	203	753	
Total Volume	0	0	0	0	0	485	1081	0	0	1566	179	1	436	3	619	0	783	108	0	891	3076	
% App. Total	0	0	0	0	0	31	69	0	0	28.9	0.2	70.4	0.5	0	87.9	12.1	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.872	.935	.000	.000	.950	.699	.250	.845	.250	.895	.000	.886	.711	.000	.860	.939	

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	0	0	0	0	0	99	222	0	0	321	40	0	158	1	199	0	333	20	0	353	873	
05:15 PM	0	0	0	0	0	117	225	0	0	342	35	0	141	2	178	0	304	16	0	320	840	
05:30 PM	0	0	0	0	0	102	258	0	0	360	36	0	135	1	172	0	331	20	0	351	883	
05:45 PM	0	0	0	0	0	119	216	0	0	335	47	0	139	1	187	0	303	16	0	319	841	
Total Volume	0	0	0	0	0	437	921	0	0	1358	158	0	573	5	736	0	1271	72	0	1343	3437	
% App. Total	0	0	0	0	0	32.2	67.8	0	0	21.5	0	77.9	0.7	0	94.6	5.4	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.918	.892	.000	.000	.943	.840	.000	.907	.625	.925	.000	.954	.900	.000	.951	.973	

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Home Depot Dr
 Description:
 Machine:
 Person: Alex Henderson / Pat Hoffman

File Name : 027-06
 Site Code : 6
 Start Date : 5/8/2013
 Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Easton Road Southbound					Ramp from Pen Turnpike Westbound					Easton Road Northbound					Home Depot Drive Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	355	3	0	358	2	2	294	0	298	5	82	0	0	87	16	0	23	0	39	782
07:15 AM	0	360	8	7	375	0	2	345	0	347	2	107	0	0	109	8	0	19	0	27	858
07:30 AM	0	381	8	0	389	0	4	347	0	351	8	114	0	0	122	24	0	26	0	50	912
07:45 AM	0	313	2	0	315	0	0	349	2	351	8	106	0	0	114	10	0	20	0	30	810
Total	0	1409	21	7	1437	2	8	1335	2	1347	23	409	0	0	432	58	0	88	0	146	3362
08:00 AM	0	382	6	0	388	0	8	374	2	384	10	138	0	0	148	18	0	16	0	34	954
08:15 AM	0	341	6	0	347	0	0	294	0	294	8	132	0	0	140	12	0	12	0	24	805
08:30 AM	0	455	6	0	461	8	6	312	0	326	24	118	0	0	142	20	0	19	0	39	968
08:45 AM	0	435	8	0	443	0	10	306	0	316	12	126	2	0	140	13	0	30	0	43	942
Total	0	1613	26	0	1639	8	24	1286	2	1320	54	514	2	0	570	63	0	77	0	140	3669
*** BREAK ***																					
04:00 PM	0	433	14	0	447	4	12	362	2	380	16	122	0	0	138	22	0	40	0	62	1027
04:15 PM	0	497	28	0	525	0	16	409	0	425	24	139	0	0	163	18	0	48	0	66	1179
04:30 PM	0	461	24	0	485	0	2	372	0	374	14	151	0	0	165	29	0	26	0	55	1079
04:45 PM	0	494	10	0	504	2	10	376	0	388	18	164	0	0	182	18	0	24	0	42	1116
Total	0	1885	76	0	1961	6	40	1519	2	1567	72	576	0	0	648	87	0	138	0	225	4401
05:00 PM	0	519	16	0	535	0	4	411	2	417	30	167	0	0	197	26	0	40	0	66	1215
05:15 PM	0	549	36	0	585	0	24	435	6	465	24	198	0	0	222	30	0	34	0	64	1336
05:30 PM	0	509	26	0	535	0	10	412	0	422	36	136	0	0	172	24	0	37	0	61	1190
05:45 PM	0	513	48	0	561	0	18	442	0	460	26	168	0	0	194	22	0	32	0	54	1269
Total	0	2090	126	0	2216	0	56	1700	8	1764	116	669	0	0	785	102	0	143	0	245	5010
Grand Total	0	6997	249	7	7253	16	128	5840	14	5998	265	2168	2	0	2435	310	0	446	0	756	16442
Apprch %	0	96.5	3.4	0.1		0.3	2.1	97.4	0.2		10.9	89	0.1	0		41	0	59	0		
Total %	0	42.6	1.5	0	44.1	0.1	0.8	35.5	0.1	36.5	1.6	13.2	0	0	14.8	1.9	0	2.7	0	4.6	
Cars	0	6704	235	7	6946	16	122	5548	8	5694	257	2113	0	0	2370	294	0	433	0	727	15737
% Cars	0	95.8	94.4	100	95.8	100	95.3	95	57.1	94.9	97	97.5	0	0	97.3	94.8	0	97.1	0	96.2	95.7
Light Trucks	0	113	10	0	123	0	4	147	4	155	8	41	2	0	51	12	0	9	0	21	350
% Light Trucks	0	1.6	4	0	1.7	0	3.1	2.5	28.6	2.6	3	1.9	100	0	2.1	3.9	0	2	0	2.8	2.1
Heavy Trucks	0	180	4	0	184	0	2	145	2	149	0	14	0	0	14	4	0	4	0	8	355
% Heavy Trucks	0	2.6	1.6	0	2.5	0	1.6	2.5	14.3	2.5	0	0.6	0	0	0.6	1.3	0	0.9	0	1.1	2.2

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Home Depot Dr
 Description:
 Machine:
 Person: Alex Henderson / Pat Hoffman

File Name : 027-06
 Site Code : 6
 Start Date : 5/8/2013
 Page No : 2

Start Time	Easton Road Southbound					Ramp from Pen Turnpike Westbound					Easton Road Northbound					Home Depot Drive Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	382	6	0	388	0	8	374	2	384	10	138	0	0	148	18	0	16	0	34	954
08:15 AM	0	341	6	0	347	0	0	294	0	294	8	132	0	0	140	12	0	12	0	24	805
08:30 AM	0	455	6	0	461	8	6	312	0	326	24	118	0	0	142	20	0	19	0	39	968
08:45 AM	0	435	8	0	443	0	10	306	0	316	12	126	2	0	140	13	0	30	0	43	942
Total Volume	0	1613	26	0	1639	8	24	1286	2	1320	54	514	2	0	570	63	0	77	0	140	3669
% App. Total	0	98.4	1.6	0		0.6	1.8	97.4	0.2		9.5	90.2	0.4	0		4.5	0	5.5	0		
PHF	.000	.886	.813	.000	.889	.250	.600	.860	.250	.859	.563	.931	.250	.000	.963	.788	.000	.642	.000	.814	.948

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	519	16	0	535	0	4	411	2	417	30	167	0	0	197	26	0	40	0	66	1215
05:15 PM	0	549	36	0	585	0	24	435	6	465	24	198	0	0	222	30	0	34	0	64	1336
05:30 PM	0	509	26	0	535	0	10	412	0	422	36	136	0	0	172	24	0	37	0	61	1190
05:45 PM	0	513	48	0	561	0	18	442	0	460	26	168	0	0	194	22	0	32	0	54	1269
Total Volume	0	2090	126	0	2216	0	56	1700	8	1764	116	669	0	0	785	102	0	143	0	245	5010
% App. Total	0	94.3	5.7	0		0	3.2	96.4	0.5		14.8	85.2	0	0		41.6	0	58.4	0		
PHF	.000	.952	.656	.000	.947	.000	.583	.962	.333	.948	.806	.845	.000	.000	.884	.850	.000	.894	.000	.928	.938

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Privet Rd

Description:

Machine:

Person: George Ferrio / David Lee

File Name : 027-07

Site Code : 7

Start Date : 5/8/2013

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Southbound					Horsham Road Westbound					Privet Road Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	0	0	22	290	0	0	312	6	0	10	1	17	0	198	19	0	217	546
07:15 AM	0	0	0	0	0	24	298	0	0	322	8	0	3	1	12	0	248	24	0	272	606
07:30 AM	0	0	0	0	0	25	248	0	0	273	9	0	7	1	17	0	219	24	0	243	533
07:45 AM	0	0	0	0	0	34	246	0	0	280	5	0	5	0	10	0	189	30	0	219	509
Total	0	0	0	0	0	105	1082	0	0	1187	28	0	25	3	56	0	854	97	0	951	2194
08:00 AM	0	0	0	0	0	48	255	0	0	303	6	0	2	0	8	0	187	32	0	219	530
08:15 AM	0	0	0	0	0	81	256	0	0	337	9	0	4	0	13	0	180	36	0	216	566
08:30 AM	0	0	0	0	0	63	237	0	0	300	7	0	6	1	14	0	192	35	0	227	541
08:45 AM	0	0	0	0	0	61	225	0	0	286	9	0	9	0	18	0	216	27	0	243	547
Total	0	0	0	0	0	253	973	0	0	1226	31	0	21	1	53	0	775	130	0	905	2184
*** BREAK ***																					
04:00 PM	0	0	0	0	0	7	187	0	0	194	32	0	18	1	51	0	267	12	0	279	524
04:15 PM	0	0	0	0	0	11	199	0	0	210	35	0	18	0	53	0	229	10	0	239	502
04:30 PM	0	0	0	0	0	9	206	0	0	215	30	0	21	0	51	0	231	23	0	254	520
04:45 PM	0	0	0	0	0	7	233	0	0	240	24	0	20	0	44	0	241	14	0	255	539
Total	0	0	0	0	0	34	825	0	0	859	121	0	77	1	199	0	968	59	0	1027	2085
05:00 PM	0	0	0	0	0	13	238	0	0	251	47	0	43	0	90	0	298	12	0	310	651
05:15 PM	0	0	0	0	0	12	237	0	0	249	34	0	44	1	79	0	265	16	0	281	609
05:30 PM	0	0	0	0	0	10	262	0	0	272	48	0	90	1	139	0	242	7	0	249	660
05:45 PM	0	0	0	0	0	5	237	0	0	242	38	0	46	2	86	0	257	12	0	269	597
Total	0	0	0	0	0	40	974	0	0	1014	167	0	223	4	394	0	1062	47	0	1109	2517
Grand Total	0	0	0	0	0	432	3854	0	0	4286	347	0	346	9	702	0	3659	333	0	3992	8980
Apprch %	0	0	0	0	0	10.1	89.9	0	0	49.4	49.4	0	49.3	1.3	0	0	91.7	8.3	0	0	
Total %	0	0	0	0	0	4.8	42.9	0	0	47.7	3.9	0	3.9	0.1	7.8	0	40.7	3.7	0	44.5	
Cars	0	0	0	0	0	428	3779	0	0	4207	342	0	334	9	685	0	3522	324	0	3846	8738
% Cars	0	0	0	0	0	99.1	98.1	0	0	98.2	98.6	0	96.5	100	97.6	0	96.3	97.3	0	96.3	97.3
Light Trucks	0	0	0	0	0	1	26	0	0	27	1	0	6	0	7	0	111	4	0	115	149
% Light Trucks	0	0	0	0	0	0.2	0.7	0	0	0.6	0.3	0	1.7	0	1	0	3	1.2	0	2.9	1.7
Heavy Trucks	0	0	0	0	0	3	49	0	0	52	4	0	6	0	10	0	26	5	0	31	93
% Heavy Trucks	0	0	0	0	0	0.7	1.3	0	0	1.2	1.2	0	1.7	0	1.4	0	0.7	1.5	0	0.8	1

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Privet Rd

Description:

Machine:

Person: George Ferrio / David Lee

File Name : 027-07

Site Code : 7

Start Date : 5/8/2013

Page No : 2

Start Time	Southbound					Horsham Road Westbound					Privet Road Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	22	290	0	0	312	6	0	10	1	17	0	198	19	0	217	546
07:15 AM	0	0	0	0	0	24	298	0	0	322	8	0	3	1	12	0	248	24	0	272	606
07:30 AM	0	0	0	0	0	25	248	0	0	273	9	0	7	1	17	0	219	24	0	243	533
07:45 AM	0	0	0	0	0	34	246	0	0	280	5	0	5	0	10	0	189	30	0	219	509
Total Volume	0	0	0	0	0	105	1082	0	0	1187	28	0	25	3	56	0	854	97	0	951	2194
% App. Total	0	0	0	0	0	8.8	91.2	0	0		50	0	44.6	5.4		0	89.8	10.2	0		
PHF	.000	.000	.000	.000	.000	.772	.908	.000	.000	.922	.778	.000	.625	.750	.824	.000	.861	.808	.000	.874	.905

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	0	0	0	0	0	13	238	0	0	251	47	0	43	0	90	0	298	12	0	310	651
05:15 PM	0	0	0	0	0	12	237	0	0	249	34	0	44	1	79	0	265	16	0	281	609
05:30 PM	0	0	0	0	0	10	262	0	0	272	48	0	90	1	139	0	242	7	0	249	660
05:45 PM	0	0	0	0	0	5	237	0	0	242	38	0	46	2	86	0	257	12	0	269	597
Total Volume	0	0	0	0	0	40	974	0	0	1014	167	0	223	4	394	0	1062	47	0	1109	2517
% App. Total	0	0	0	0	0	3.9	96.1	0	0		42.4	0	56.6	1		0	95.8	4.2	0		
PHF	.000	.000	.000	.000	.000	.769	.929	.000	.000	.932	.870	.000	.619	.500	.709	.000	.891	.734	.000	.894	.953

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Keith Valley Rd

Description:

Machine:

Person: Mike Wang / Tom S

File Name : 027-08

Site Code : 8

Start Date : 5/8/2013

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Keith Valley Rd Southbound					Horsham Road Westbound					Driveway Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	30	0	22	0	52	0	102	8	0	110	0	0	0	0	0	26	211	0	0	237	399
07:15 AM	39	0	29	0	68	0	108	7	0	115	0	0	1	0	1	8	268	1	0	277	461
07:30 AM	49	0	30	0	79	0	112	20	0	132	0	0	0	0	0	13	209	2	0	224	435
07:45 AM	66	0	12	0	78	1	113	2	0	116	0	0	0	0	0	6	235	0	0	241	435
Total	184	0	93	0	277	1	435	37	0	473	0	0	1	0	1	53	923	3	0	979	1730
08:00 AM	59	2	21	0	82	1	115	3	0	119	0	0	0	0	0	15	211	1	0	227	428
08:15 AM	59	0	24	0	83	0	133	9	0	142	0	0	0	0	0	16	246	1	0	263	488
08:30 AM	57	0	22	0	79	0	120	3	0	123	0	0	0	0	0	20	223	1	0	244	446
08:45 AM	45	0	15	0	60	5	88	6	0	99	0	0	1	0	1	10	252	0	0	262	422
Total	220	2	82	0	304	6	456	21	0	483	0	0	1	0	1	61	932	3	0	996	1784
*** BREAK ***																					
04:00 PM	18	0	16	0	34	0	221	25	0	246	0	0	0	0	0	18	119	0	0	137	417
04:15 PM	7	0	21	0	28	0	253	32	0	285	0	0	0	0	0	28	159	0	0	187	500
04:30 PM	7	0	8	0	15	0	292	30	1	323	1	0	0	0	1	29	162	0	0	191	530
04:45 PM	3	0	11	0	14	0	296	22	0	318	3	0	1	0	4	23	151	1	0	175	511
Total	35	0	56	0	91	0	1062	109	1	1172	4	0	1	0	5	98	591	1	0	690	1958
05:00 PM	11	0	4	0	15	0	292	32	0	324	0	0	0	0	0	23	141	0	1	165	504
05:15 PM	7	0	11	0	18	0	258	43	0	301	1	0	0	0	1	40	188	0	0	228	548
05:30 PM	16	0	9	0	25	1	268	23	0	292	0	0	1	0	1	22	173	0	0	195	513
05:45 PM	14	0	8	0	22	0	267	28	0	295	0	0	0	0	0	33	166	0	0	199	516
Total	48	0	32	0	80	1	1085	126	0	1212	1	0	1	0	2	118	668	0	1	787	2081
Grand Total	487	2	263	0	752	8	3038	293	1	3340	5	0	4	0	9	330	3114	7	1	3452	7553
Apprch %	64.8	0.3	35	0		0.2	91	8.8	0		55.6	0	44.4	0		9.6	90.2	0.2	0		
Total %	6.4	0	3.5	0	10	0.1	40.2	3.9	0	44.2	0.1	0	0.1	0	0.1	4.4	41.2	0.1	0	45.7	
Cars	474	2	251	0	727	8	2993	289	1	3291	5	0	4	0	9	312	3023	7	1	3343	7370
% Cars	97.3	100	95.4	0	96.7	100	98.5	98.6	100	98.5	100	0	100	0	100	94.5	97.1	100	100	96.8	97.6
Light Trucks	11	0	11	0	22	0	21	3	0	24	0	0	0	0	0	12	62	0	0	74	120
% Light Trucks	2.3	0	4.2	0	2.9	0	0.7	1	0	0.7	0	0	0	0	0	3.6	2	0	0	2.1	1.6
Heavy Trucks	2	0	1	0	3	0	24	1	0	25	0	0	0	0	0	6	29	0	0	35	63
% Heavy Trucks	0.4	0	0.4	0	0.4	0	0.8	0.3	0	0.7	0	0	0	0	0	1.8	0.9	0	0	1	0.8

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Keith Valley Rd

Description:

Machine:

Person: Mike Wang / Tom S

File Name : 027-08

Site Code : 8

Start Date : 5/8/2013

Page No : 2

Start Time	Keith Valley Rd Southbound					Horsham Road Westbound					Driveway Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	66	0	12	0	78	1	113	2	0	116	0	0	0	0	0	6	235	0	0	241	435
08:00 AM	59	2	21	0	82	1	115	3	0	119	0	0	0	0	0	15	211	1	0	227	428
08:15 AM	59	0	24	0	83	0	133	9	0	142	0	0	0	0	0	16	246	1	0	263	488
08:30 AM	57	0	22	0	79	0	120	3	0	123	0	0	0	0	0	20	223	1	0	244	446
Total Volume	241	2	79	0	322	2	481	17	0	500	0	0	0	0	0	57	915	3	0	975	1797
% App. Total	74.8	0.6	24.5	0		0.4	96.2	3.4	0		0	0	0	0		5.8	93.8	0.3	0		
PHF	.913	.250	.823	.000	.970	.500	.904	.472	.000	.880	.000	.000	.000	.000	.000	.713	.930	.750	.000	.927	.921

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	7	0	8	0	15	0	292	30	1	323	1	0	0	0	1	29	162	0	0	191	530
04:45 PM	3	0	11	0	14	0	296	22	0	318	3	0	1	0	4	23	151	1	0	175	511
05:00 PM	11	0	4	0	15	0	292	32	0	324	0	0	0	0	0	23	141	0	1	165	504
05:15 PM	7	0	11	0	18	0	258	43	0	301	1	0	0	0	1	40	188	0	0	228	548
Total Volume	28	0	34	0	62	0	1138	127	1	1266	5	0	1	0	6	115	642	1	1	759	2093
% App. Total	45.2	0	54.8	0		0	89.9	10	0.1		83.3	0	16.7	0		15.2	84.6	0.1	0.1		
PHF	.636	.000	.773	.000	.861	.000	.961	.738	.250	.977	.417	.000	.250	.000	.375	.719	.854	.250	.250	.832	.955

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: County Line Rd & Keith Valley

Description:

Machine:

Person: Andrew Klinek / TT

File Name : 027-10

Site Code : 10

Start Date : 5/8/2013

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Kansas Road Southbound					County Line Road Westbound					Keith Valley Road Northbound					County Line Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	12	57	6	0	75	42	122	2	0	166	1	11	23	0	35	5	140	9	0	154	430
07:15 AM	5	45	6	0	56	61	141	1	0	203	0	7	16	0	23	4	161	7	0	172	454
07:30 AM	4	81	10	0	95	54	121	0	0	175	4	9	18	0	31	3	168	15	0	186	487
07:45 AM	20	69	11	0	100	65	130	1	0	196	1	4	15	0	20	6	145	13	0	164	480
Total	41	252	33	0	326	222	514	4	0	740	6	31	72	0	109	18	614	44	0	676	1851
08:00 AM	7	69	3	0	79	62	114	0	0	176	0	11	25	0	36	6	145	16	0	167	458
08:15 AM	10	70	8	0	88	62	113	1	0	176	0	9	24	0	33	6	150	13	0	169	466
08:30 AM	5	60	17	0	82	52	127	6	0	185	2	9	29	0	40	4	155	15	0	174	481
08:45 AM	4	40	5	0	49	42	106	3	0	151	2	11	15	0	28	6	138	9	0	153	381
Total	26	239	33	0	298	218	460	10	0	688	4	40	93	0	137	22	588	53	0	663	1786
*** BREAK ***																					
04:00 PM	4	9	14	0	27	32	178	9	0	219	18	29	53	0	100	8	131	1	0	140	486
04:15 PM	2	19	9	0	30	25	157	9	0	191	20	36	47	0	103	8	125	4	0	137	461
04:30 PM	2	21	9	0	32	31	179	8	0	218	19	46	92	0	157	10	138	4	0	152	559
04:45 PM	6	24	10	0	40	33	173	10	0	216	28	31	63	0	122	6	132	4	0	142	520
Total	14	73	42	0	129	121	687	36	0	844	85	142	255	0	482	32	526	13	0	571	2026
05:00 PM	8	15	4	0	27	30	194	9	0	233	39	53	75	0	167	2	149	3	0	154	581
05:15 PM	5	14	9	0	28	31	196	12	0	239	48	65	93	0	206	7	135	3	0	145	618
05:30 PM	3	19	10	0	32	27	168	9	0	204	39	70	69	0	178	6	130	0	0	136	550
05:45 PM	6	17	12	0	35	24	142	9	0	175	26	60	68	0	154	4	136	7	0	147	511
Total	22	65	35	0	122	112	700	39	0	851	152	248	305	0	705	19	550	13	0	582	2260
Grand Total	103	629	143	0	875	673	2361	89	0	3123	247	461	725	0	1433	91	2278	123	0	2492	7923
Apprch %	11.8	71.9	16.3	0		21.5	75.6	2.8	0		17.2	32.2	50.6	0		3.7	91.4	4.9	0		
Total %	1.3	7.9	1.8	0	11	8.5	29.8	1.1	0	39.4	3.1	5.8	9.2	0	18.1	1.1	28.8	1.6	0	31.5	
Cars	101	624	139	0	864	646	2274	89	0	3009	246	458	716	0	1420	90	2233	119	0	2442	7735
% Cars	98.1	99.2	97.2	0	98.7	96	96.3	100	0	96.3	99.6	99.3	98.8	0	99.1	98.9	98	96.7	0	98	97.6
Light Trucks	2	5	4	0	11	22	67	0	0	89	1	3	5	0	9	1	22	3	0	26	135
% Light Trucks	1.9	0.8	2.8	0	1.3	3.3	2.8	0	0	2.8	0.4	0.7	0.7	0	0.6	1.1	1	2.4	0	1	1.7
Heavy Trucks	0	0	0	0	0	5	20	0	0	25	0	0	4	0	4	0	23	1	0	24	53
% Heavy Trucks	0	0	0	0	0	0.7	0.8	0	0	0.8	0	0	0.6	0	0.3	0	1	0.8	0	1	0.7

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: County Line Rd & Keith Valley

Description:

Machine:

Person: Andrew Klinek / TT

File Name : 027-10

Site Code : 10

Start Date : 5/8/2013

Page No : 2

Start Time	Kansas Road Southbound					County Line Road Westbound					Keith Valley Road Northbound					County Line Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	4	81	10	0	95	54	121	0	0	175	4	9	18	0	31	3	168	15	0	186	487
07:45 AM	20	69	11	0	100	65	130	1	0	196	1	4	15	0	20	6	145	13	0	164	480
08:00 AM	7	69	3	0	79	62	114	0	0	176	0	11	25	0	36	6	145	16	0	167	458
08:15 AM	10	70	8	0	88	62	113	1	0	176	0	9	24	0	33	6	150	13	0	169	466
Total Volume	41	289	32	0	362	243	478	2	0	723	5	33	82	0	120	21	608	57	0	686	1891
% App. Total	11.3	79.8	8.8	0		33.6	66.1	0.3	0		4.2	27.5	68.3	0		3.1	88.6	8.3	0		
PHF	.513	.892	.727	.000	.905	.935	.919	.500	.000	.922	.313	.750	.820	.000	.833	.875	.905	.891	.000	.922	.971

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	2	21	9	0	32	31	179	8	0	218	19	46	92	0	157	10	138	4	0	152	559
04:45 PM	6	24	10	0	40	33	173	10	0	216	28	31	63	0	122	6	132	4	0	142	520
05:00 PM	8	15	4	0	27	30	194	9	0	233	39	53	75	0	167	2	149	3	0	154	581
05:15 PM	5	14	9	0	28	31	196	12	0	239	48	65	93	0	206	7	135	3	0	145	618
Total Volume	21	74	32	0	127	125	742	39	0	906	134	195	323	0	652	25	554	14	0	593	2278
% App. Total	16.5	58.3	25.2	0		13.8	81.9	4.3	0		20.6	29.9	49.5	0		4.2	93.4	2.4	0		
PHF	.656	.771	.800	.000	.794	.947	.946	.813	.000	.948	.698	.750	.868	.000	.791	.625	.930	.875	.000	.963	.922

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: County Line Rd & Easton Rd

Description:

Machine:

Person: Erica E/Dan W/Brandon T

File Name : 027-11a

Site Code : 11a

Start Date : 5/9/2013

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Easton Road Southbound					County Line Road Westbound					Easton Road Northbound					County Line Road Eastbound					Int. Total
	Left to County	Thru to	Right to Privet	Right to County	App. Total	Left to Easton	Left to Privet	Thru to County	Right to Easton	App. Total	Left Privet Rd	Left to County	Thru to Easton	Right to County	App. Total	Left to Easton	Thru County	Right to Easton	Right to Privet	App. Total	
	Line Rd EB	Easton Rd SB	Rd	Line Rd WB		Rd SB	Rd	Line Rd WB	Rd NB		Line Rd WB	Rd NB	Line Rd EB	Rd NB		Line Rd EB	Rd SB	Rd			
07:00 AM	26	271	0	2	299	42	3	67	12	124	1	50	119	10	180	0	51	12	0	63	666
07:15 AM	33	306	0	1	340	47	5	83	18	153	6	37	173	18	234	2	68	18	0	88	815
07:30 AM	20	280	0	3	303	47	2	114	34	197	2	29	223	19	273	5	83	19	0	107	880
07:45 AM	16	293	0	7	316	71	4	61	28	164	0	43	203	23	269	2	64	18	0	84	833
Total	95	1150	0	13	1258	207	14	325	92	638	9	159	718	70	956	9	266	67	0	342	3194
08:00 AM	19	301	0	1	321	44	0	93	31	168	1	44	165	27	237	1	73	25	0	99	825
08:15 AM	5	317	0	1	323	45	3	62	18	128	3	40	137	9	189	3	94	9	0	106	746
08:30 AM	16	280	0	1	297	45	2	79	24	150	0	43	203	6	252	2	69	47	1	119	818
08:45 AM	12	321	0	1	334	37	7	25	26	95	0	28	173	11	212	3	25	10	0	38	679
Total	52	1219	0	4	1275	171	12	259	99	541	4	155	678	53	890	9	261	91	1	362	3068
*** BREAK ***																					
04:00 PM	33	226	1	4	264	19	2	61	14	96	0	45	243	25	313	0	44	11	0	55	728
04:15 PM	55	214	2	1	272	17	4	95	26	142	0	46	221	13	280	0	42	5	0	47	741
04:30 PM	41	235	3	1	280	23	2	95	32	152	0	99	257	31	387	2	74	25	0	101	920
04:45 PM	46	202	0	0	248	30	1	111	40	182	0	84	301	37	422	0	81	39	0	120	972
Total	175	877	6	6	1064	89	9	362	112	572	0	274	1022	106	1402	2	241	80	0	323	3361
05:00 PM	24	204	1	0	229	21	0	108	23	152	0	71	260	34	365	6	51	16	0	73	819
05:15 PM	49	242	0	6	297	37	9	95	26	167	0	34	293	28	355	3	100	31	0	134	953
05:30 PM	28	239	0	1	268	11	0	75	28	114	0	44	292	36	372	0	62	17	0	79	833
05:45 PM	46	258	0	1	305	11	3	64	35	113	0	47	328	23	398	1	76	23	0	100	916
Total	147	943	1	8	1099	80	12	342	112	546	0	196	1173	121	1490	10	289	87	0	386	3521
Grand Total	469	4189	7	31	4696	547	47	1288	415	2297	13	784	3591	350	4738	30	1057	325	1	1413	13144
Apprch %	10	89.2	0.1	0.7		23.8	2	56.1	18.1		0.3	16.5	75.8	7.4		2.1	74.8	23	0.1		
Total %	3.6	31.9	0.1	0.2	35.7	4.2	0.4	9.8	3.2	17.5	0.1	6	27.3	2.7	36	0.2	8	2.5	0	10.8	
Cars	464	4087	7	31	4589	538	45	1268	409	2260	13	769	3553	350	4685	28	1022	305	1	1356	12890
% Cars	98.9	97.6	100	100	97.7	98.4	95.7	98.4	98.6	98.4	100	98.1	98.9	100	98.9	93.3	96.7	93.8	100	96	98.1
Light Trucks	0	10	0	0	10	1	0	3	3	7	0	7	14	0	21	0	6	5	0	11	49
% Light Trucks	0	0.2	0	0	0.2	0.2	0	0.2	0.7	0.3	0	0.9	0.4	0	0.4	0	0.6	1.5	0	0.8	0.4
Heavy Trucks	5	92	0	0	97	8	2	17	3	30	0	8	24	0	32	2	29	15	0	46	205
% Heavy Trucks	1.1	2.2	0	0	2.1	1.5	4.3	1.3	0.7	1.3	0	1	0.7	0	0.7	6.7	2.7	4.6	0	3.3	1.6

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: County Line Rd & Easton Rd

Description:

Machine:

Person: Erica E/Dan W/Brandon T

File Name : 027-11a

Site Code : 11a

Start Date : 5/9/2013

Page No : 2

Start Time	Easton Road Southbound					County Line Road Westbound					Easton Road Northbound					County Line Road Eastbound					Int. Total
	Left to County Line Rd EB	Thru to Easton Rd SB	Right to Privet Rd	Right to County Line Rd WB	App. Total	Left to Easton Rd SB	Left to Privet Rd	Thru to County Line Rd WB	Right to Easton Rd NB	App. Total	Left Privet Rd	Left to County Line Rd WB	Thru to Easton Rd NB	Right to County Line Rd EB	App. Total	Left to Easton Road NB	Thru County Line Rd EB	Right to Easton Rd SB	Right to Privet Rd	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	33	306	0	1	340	47	5	83	18	153	6	37	173	18	234	2	68	18	0	88	815
07:30 AM	20	280	0	3	303	47	2	114	34	197	2	29	223	19	273	5	83	19	0	107	880
07:45 AM	16	293	0	7	316	71	4	61	28	164	0	43	203	23	269	2	64	18	0	84	833
08:00 AM	19	301	0	1	321	44	0	93	31	168	1	44	165	27	237	1	73	25	0	99	825
Total Volume	88	1180	0	12	1280	209	11	351	111	682	9	153	764	87	1013	10	288	80	0	378	3353
% App. Total	6.9	92.2	0	0.9		30.6	1.6	51.5	16.3		0.9	15.1	75.4	8.6		2.6	76.2	21.2	0		
PHF	.667	.964	.000	.429	.941	.736	.550	.770	.816	.865	.375	.869	.857	.806	.928	.500	.867	.800	.000	.883	.953

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	41	235	3	1	280	23	2	95	32	152	0	99	257	31	387	2	74	25	0	101	920
04:45 PM	46	202	0	0	248	30	1	111	40	182	0	84	301	37	422	0	81	39	0	120	972
05:00 PM	24	204	1	0	229	21	0	108	23	152	0	71	260	34	365	6	51	16	0	73	819
05:15 PM	49	242	0	6	297	37	9	95	26	167	0	34	293	28	355	3	100	31	0	134	953
Total Volume	160	883	4	7	1054	111	12	409	121	653	0	288	1111	130	1529	11	306	111	0	428	3664
% App. Total	15.2	83.8	0.4	0.7		17	1.8	62.6	18.5		0	18.8	72.7	8.5		2.6	71.5	25.9	0		
PHF	.816	.912	.333	.292	.887	.750	.333	.921	.756	.897	.000	.727	.923	.878	.906	.458	.765	.712	.000	.799	.942

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Entrance

Description:

Machine:

Person: Mike Wang / Tom S

File Name : 027-12

Site Code : 12

Start Date : 5/9/2013

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Easton Road Southbound					Westbound					Easton Road Northbound					Entrance Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	345	4	0	349	0	0	0	0	0	10	197	0	0	207	0	0	0	0	0	556
07:15 AM	0	386	4	0	390	0	0	0	0	0	12	249	0	0	261	0	0	0	0	0	651
07:30 AM	0	377	16	0	393	0	0	0	0	0	19	301	0	0	320	0	0	0	0	0	713
07:45 AM	0	400	16	0	416	0	0	0	0	0	13	303	0	0	316	0	0	0	0	0	732
Total	0	1508	40	0	1548	0	0	0	0	0	54	1050	0	0	1104	0	0	0	0	0	2652
08:00 AM	0	378	17	0	395	0	0	0	0	0	6	255	0	0	261	0	0	0	0	0	656
08:15 AM	0	385	10	0	395	0	0	0	0	0	18	216	0	0	234	0	0	3	0	3	632
08:30 AM	0	378	14	0	392	0	0	0	0	0	2	276	0	0	278	1	0	1	0	2	672
08:45 AM	0	389	4	0	393	0	0	0	0	0	5	235	0	0	240	0	0	2	0	2	635
Total	0	1530	45	0	1575	0	0	0	0	0	31	982	0	0	1013	1	0	6	0	7	2595
*** BREAK ***																					
04:00 PM	0	265	0	0	265	0	0	0	0	0	1	345	0	0	346	6	0	6	0	12	623
04:15 PM	0	259	0	0	259	0	0	0	0	0	0	302	0	0	302	3	0	15	0	18	579
04:30 PM	0	297	0	0	297	0	0	0	0	0	0	399	0	0	399	29	0	40	0	69	765
04:45 PM	0	293	0	0	293	0	0	0	0	0	0	416	0	0	416	16	0	20	0	36	745
Total	0	1114	0	0	1114	0	0	0	0	0	1	1462	0	0	1463	54	0	81	0	135	2712
05:00 PM	0	264	0	0	264	0	0	0	0	0	1	376	0	0	377	3	0	16	0	19	660
05:15 PM	0	320	1	0	321	0	0	0	0	0	5	362	0	0	367	2	0	21	0	23	711
05:30 PM	0	259	0	0	259	0	0	0	0	0	0	404	0	0	404	2	0	11	0	13	676
05:45 PM	0	306	0	0	306	0	0	0	0	0	0	425	0	0	425	0	0	7	0	7	738
Total	0	1149	1	0	1150	0	0	0	0	0	6	1567	0	0	1573	7	0	55	0	62	2785
Grand Total	0	5301	86	0	5387	0	0	0	0	0	92	5061	0	0	5153	62	0	142	0	204	10744
Apprch %	0	98.4	1.6	0		0	0	0	0		1.8	98.2	0	0		30.4	0	69.6	0		
Total %	0	49.3	0.8	0	50.1	0	0	0	0	0	0.9	47.1	0	0	48	0.6	0	1.3	0	1.9	
Cars	0	5052	86	0	5138	0	0	0	0	0	92	4890	0	0	4982	62	0	142	0	204	10324
% Cars	0	95.3	100	0	95.4	0	0	0	0	0	100	96.6	0	0	96.7	100	0	100	0	100	96.1
Light Trucks	0	138	0	0	138	0	0	0	0	0	0	73	0	0	73	0	0	0	0	0	211
% Light Trucks	0	2.6	0	0	2.6	0	0	0	0	0	0	1.4	0	0	1.4	0	0	0	0	0	2
Heavy Trucks	0	111	0	0	111	0	0	0	0	0	0	98	0	0	98	0	0	0	0	0	209
% Heavy Trucks	0	2.1	0	0	2.1	0	0	0	0	0	0	1.9	0	0	1.9	0	0	0	0	0	1.9

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Entrance

Description:

Machine:

Person: Mike Wang / Tom S

File Name : 027-12

Site Code : 12

Start Date : 5/9/2013

Page No : 2

Start Time	Easton Road Southbound					Westbound					Easton Road Northbound					Entrance Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	386	4	0	390	0	0	0	0	0	12	249	0	0	261	0	0	0	0	0	651
07:30 AM	0	377	16	0	393	0	0	0	0	0	19	301	0	0	320	0	0	0	0	0	713
07:45 AM	0	400	16	0	416	0	0	0	0	0	13	303	0	0	316	0	0	0	0	0	732
08:00 AM	0	378	17	0	395	0	0	0	0	0	6	255	0	0	261	0	0	0	0	0	656
Total Volume	0	1541	53	0	1594	0	0	0	0	0	50	1108	0	0	1158	0	0	0	0	0	2752
% App. Total	0	96.7	3.3	0		0	0	0	0	0	4.3	95.7	0	0		0	0	0	0	0	
PHF	.000	.963	.779	.000	.958	.000	.000	.000	.000	.000	.658	.914	.000	.000	.905	.000	.000	.000	.000	.000	.940

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	0	297	0	0	297	0	0	0	0	0	0	399	0	0	399	29	0	40	0	69	765
04:45 PM	0	293	0	0	293	0	0	0	0	0	0	416	0	0	416	16	0	20	0	36	745
05:00 PM	0	264	0	0	264	0	0	0	0	0	1	376	0	0	377	3	0	16	0	19	660
05:15 PM	0	320	1	0	321	0	0	0	0	0	5	362	0	0	367	2	0	21	0	23	711
Total Volume	0	1174	1	0	1175	0	0	0	0	0	6	1553	0	0	1559	50	0	97	0	147	2881
% App. Total	0	99.9	0.1	0		0	0	0	0	0	0.4	99.6	0	0		34	0	66	0		
PHF	.000	.917	.250	.000	.915	.000	.000	.000	.000	.000	.300	.933	.000	.000	.937	.431	.000	.606	.000	.533	.942

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Moreland Ave

Description:

Machine:

Person: George Ferrio / Rafiq

File Name : 027-13

Site Code : 13

Start Date : 5/9/2013

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Easton Road Southbound					W Moreland Ave Westbound					Easton Road Northbound					Entrance Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
07:00 AM	11	309	0	0	320	0	0	13	0	13	0	217	1	0	218	0	0	0	0	0	0	551
07:15 AM	18	360	1	0	379	0	0	23	0	23	0	262	2	0	264	0	0	0	0	0	0	666
07:30 AM	13	344	0	0	357	0	0	27	0	27	0	276	2	0	278	0	0	0	0	0	0	662
07:45 AM	16	385	0	0	401	0	0	26	0	26	0	320	0	0	320	0	0	0	0	0	0	747
Total	58	1398	1	0	1457	0	0	89	0	89	0	1075	5	0	1080	0	0	0	0	0	0	2626
08:00 AM	23	335	0	0	358	0	0	7	0	7	0	275	1	0	276	0	0	0	0	0	0	641
08:15 AM	15	376	0	0	391	0	0	18	0	18	0	230	2	0	232	0	0	0	0	0	0	641
08:30 AM	7	360	0	0	367	2	0	27	0	29	0	269	2	0	271	0	0	0	0	0	0	667
08:45 AM	12	371	0	0	383	0	0	20	0	20	0	246	0	0	246	0	0	0	0	0	0	649
Total	57	1442	0	0	1499	2	0	72	0	74	0	1020	5	0	1025	0	0	0	0	0	0	2598
*** BREAK ***																						
04:00 PM	25	282	0	0	307	0	0	20	0	20	0	294	1	0	295	0	0	0	0	0	0	622
04:15 PM	24	242	0	0	266	0	0	9	0	9	0	315	3	1	319	0	0	0	0	0	0	594
04:30 PM	43	336	0	0	379	1	0	23	0	24	0	351	2	0	353	0	0	0	0	0	0	756
04:45 PM	38	272	0	0	310	0	0	7	0	7	0	351	3	0	354	0	0	0	0	0	0	671
Total	130	1132	0	0	1262	1	0	59	0	60	0	1311	9	1	1321	0	0	0	0	0	0	2643
05:00 PM	33	274	0	0	307	0	0	42	0	42	0	329	2	0	331	0	0	0	0	0	0	680
05:15 PM	32	314	0	0	346	0	0	12	0	12	0	369	2	0	371	0	0	0	0	0	0	729
05:30 PM	26	254	0	0	280	0	0	10	0	10	0	351	1	0	352	0	0	0	0	0	0	642
05:45 PM	28	260	0	0	288	0	0	13	0	13	0	371	3	0	374	0	0	0	0	0	0	675
Total	119	1102	0	0	1221	0	0	77	0	77	0	1420	8	0	1428	0	0	0	0	0	0	2726
Grand Total	364	5074	1	0	5439	3	0	297	0	300	0	4826	27	1	4854	0	0	0	0	0	0	10593
Apprch %	6.7	93.3	0	0		1	0	99	0		0	99.4	0.6	0		0	0	0	0	0		
Total %	3.4	47.9	0	0	51.3	0	0	2.8	0	2.8	0	45.6	0.3	0	45.8	0	0	0	0	0	0	
Cars	353	4853	1	0	5207	3	0	291	0	294	0	4716	27	1	4744	0	0	0	0	0	0	10245
% Cars	97	95.6	100	0	95.7	100	0	98	0	98	0	97.7	100	100	97.7	0	0	0	0	0	0	96.7
Light Trucks	9	135	0	0	144	0	0	5	0	5	0	41	0	0	41	0	0	0	0	0	0	190
% Light Trucks	2.5	2.7	0	0	2.6	0	0	1.7	0	1.7	0	0.8	0	0	0.8	0	0	0	0	0	0	1.8
Heavy Trucks	2	86	0	0	88	0	0	1	0	1	0	69	0	0	69	0	0	0	0	0	0	158
% Heavy Trucks	0.5	1.7	0	0	1.6	0	0	0.3	0	0.3	0	1.4	0	0	1.4	0	0	0	0	0	0	1.5

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Maple Ave
 Description:
 Machine:
 Person: Pat Hoffman / Ghulam Shah

File Name : 027-14
 Site Code : 14
 Start Date : 5/9/2013
 Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Easton Road Southbound					Entrance Westbound					Easton Road Northbound					Maple Avenue Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	308	108	0	416	0	4	0	0	4	61	194	3	0	258	50	0	7	0	57	735
07:15 AM	0	307	120	0	427	0	2	0	0	2	51	172	0	0	223	54	1	15	0	70	722
07:30 AM	0	240	129	0	369	3	9	0	0	12	39	252	0	0	291	67	0	10	0	77	749
07:45 AM	0	310	162	0	472	0	3	0	0	3	24	243	0	0	267	38	0	10	0	48	790
Total	0	1165	519	0	1684	3	18	0	0	21	175	861	3	0	1039	209	1	42	0	252	2996
08:00 AM	0	259	147	0	406	0	5	0	0	5	45	195	3	6	249	52	0	13	0	65	725
08:15 AM	0	290	154	0	444	2	2	2	0	6	24	229	0	0	253	60	0	0	0	60	763
08:30 AM	2	354	132	0	488	1	2	0	0	3	24	265	0	0	289	53	0	6	0	59	839
08:45 AM	0	286	164	0	450	0	0	0	0	0	12	138	0	0	150	60	0	6	0	66	666
Total	2	1189	597	0	1788	3	9	2	0	14	105	827	3	6	941	225	0	25	0	250	2993
*** BREAK ***																					
04:00 PM	2	252	56	0	310	0	1	0	0	1	9	382	0	3	394	84	2	18	0	104	809
04:15 PM	0	250	72	0	322	2	2	0	0	4	16	342	0	0	358	96	0	26	0	122	806
04:30 PM	0	228	60	0	288	2	1	0	0	3	30	335	4	0	369	113	0	41	0	154	814
04:45 PM	0	259	69	0	328	1	2	0	0	3	18	328	3	0	349	135	2	44	0	181	861
Total	2	989	257	0	1248	5	6	0	0	11	73	1387	7	3	1470	428	4	129	0	561	3290
05:00 PM	0	218	74	0	292	0	4	0	0	4	9	367	3	0	379	176	2	36	0	214	889
05:15 PM	2	295	98	0	395	2	0	0	0	2	24	315	6	0	345	162	4	30	0	196	938
05:30 PM	0	196	62	0	258	3	2	0	0	5	28	401	2	0	431	148	6	28	0	182	876
05:45 PM	0	270	78	0	348	3	3	0	0	6	18	322	3	0	343	150	0	26	0	176	873
Total	2	979	312	0	1293	8	9	0	0	17	79	1405	14	0	1498	636	12	120	0	768	3576
Grand Total	6	4322	1685	0	6013	19	42	2	0	63	432	4480	27	9	4948	1498	17	316	0	1831	12855
Apprch %	0.1	71.9	28	0		30.2	66.7	3.2	0		8.7	90.5	0.5	0.2		81.8	0.9	17.3	0		
Total %	0	33.6	13.1	0	46.8	0.1	0.3	0	0	0.5	3.4	34.9	0.2	0.1	38.5	11.7	0.1	2.5	0	14.2	
Cars	6	4118	1622	0	5746	19	42	2	0	63	422	4235	27	9	4693	1426	17	304	0	1747	12249
% Cars	100	95.3	96.3	0	95.6	100	100	100	0	100	97.7	94.5	100	100	94.8	95.2	100	96.2	0	95.4	95.3
Light Trucks	0	133	59	0	192	0	0	0	0	0	5	137	0	0	142	68	0	11	0	79	413
% Light Trucks	0	3.1	3.5	0	3.2	0	0	0	0	0	1.2	3.1	0	0	2.9	4.5	0	3.5	0	4.3	3.2
Heavy Trucks	0	71	4	0	75	0	0	0	0	0	5	108	0	0	113	4	0	1	0	5	193
% Heavy Trucks	0	1.6	0.2	0	1.2	0	0	0	0	0	1.2	2.4	0	0	2.3	0.3	0	0.3	0	0.3	1.5

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Maple Ave
 Description:
 Machine:
 Person: Pat Hoffman / Ghulam Shah

File Name : 027-14
 Site Code : 14
 Start Date : 5/9/2013
 Page No : 2

Start Time	Easton Road Southbound					Entrance Westbound					Easton Road Northbound					Maple Avenue Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	310	162	0	472	0	3	0	0	3	24	243	0	0	267	38	0	10	0	48	790
08:00 AM	0	259	147	0	406	0	5	0	0	5	45	195	3	6	249	52	0	13	0	65	725
08:15 AM	0	290	154	0	444	2	2	2	0	6	24	229	0	0	253	60	0	0	0	60	763
08:30 AM	2	354	132	0	488	1	2	0	0	3	24	265	0	0	289	53	0	6	0	59	839
Total Volume	2	1213	595	0	1810	3	12	2	0	17	117	932	3	6	1058	203	0	29	0	232	3117
% App. Total	0.1	67	32.9	0		17.6	70.6	11.8	0		11.1	88.1	0.3	0.6		87.5	0	12.5	0		
PHF	.250	.857	.918	.000	.927	.375	.600	.250	.000	.708	.650	.879	.250	.250	.915	.846	.000	.558	.000	.892	.929
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	218	74	0	292	0	4	0	0	4	9	367	3	0	379	176	2	36	0	214	889
05:15 PM	2	295	98	0	395	2	0	0	0	2	24	315	6	0	345	162	4	30	0	196	938
05:30 PM	0	196	62	0	258	3	2	0	0	5	28	401	2	0	431	148	6	28	0	182	876
05:45 PM	0	270	78	0	348	3	3	0	0	6	18	322	3	0	343	150	0	26	0	176	873
Total Volume	2	979	312	0	1293	8	9	0	0	17	79	1405	14	0	1498	636	12	120	0	768	3576
% App. Total	0.2	75.7	24.1	0		47.1	52.9	0	0		5.3	93.8	0.9	0		82.8	1.6	15.6	0		
PHF	.250	.830	.796	.000	.818	.667	.563	.000	.000	.708	.705	.876	.583	.000	.869	.903	.500	.833	.000	.897	.953

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Dresher Rd

Description:

Machine:

Person: TT / Andrew Klinek

File Name : 027-15

Site Code : 15

Start Date : 5/9/2013

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Easton Road Southbound					Meetinghouse Road Westbound					Easton Road Northbound					Dresher Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	4	239	78	0	321	27	187	0	0	214	4	223	18	0	245	26	76	0	0	102	882
07:15 AM	6	217	91	0	314	22	181	6	0	209	1	195	16	0	212	21	121	0	0	142	877
07:30 AM	4	171	91	0	266	21	173	3	0	197	4	229	16	0	249	40	138	0	0	178	890
07:45 AM	8	186	122	0	316	10	218	3	0	231	5	209	16	0	230	39	128	3	0	170	947
Total	22	813	382	0	1217	80	759	12	0	851	14	856	66	0	936	126	463	3	0	592	3596
08:00 AM	13	169	87	0	269	14	209	2	0	225	8	175	13	0	196	29	94	1	0	124	814
08:15 AM	3	193	115	0	311	20	193	4	0	217	8	192	16	0	216	35	83	1	0	119	863
08:30 AM	3	220	94	1	318	16	190	4	1	211	5	211	15	1	232	39	92	6	2	139	900
08:45 AM	3	170	91	0	264	32	166	4	0	202	4	138	14	0	156	40	98	4	0	142	764
Total	22	752	387	1	1162	82	758	14	1	855	25	716	58	1	800	143	367	12	2	524	3341
*** BREAK ***																					
04:00 PM	11	219	32	1	263	20	113	5	1	139	4	253	17	0	274	91	181	6	0	278	954
04:15 PM	2	212	38	0	252	20	106	5	0	131	4	285	27	0	316	61	162	2	0	225	924
04:30 PM	7	237	53	0	297	23	123	6	0	152	9	238	21	0	268	89	230	5	0	324	1041
04:45 PM	9	216	55	0	280	15	121	5	0	141	6	286	31	0	323	90	205	5	0	300	1044
Total	29	884	178	1	1092	78	463	21	1	563	23	1062	96	0	1181	331	778	18	0	1127	3963
05:00 PM	9	218	40	0	267	30	133	2	1	166	5	245	27	0	277	113	281	3	0	397	1107
05:15 PM	6	244	43	0	293	23	138	2	0	163	6	249	23	0	278	125	231	5	1	362	1096
05:30 PM	11	198	37	0	246	12	124	6	0	142	11	289	34	0	334	108	262	7	0	377	1099
05:45 PM	11	216	45	0	272	22	100	4	0	126	6	260	27	0	293	90	186	2	0	278	969
Total	37	876	165	0	1078	87	495	14	1	597	28	1043	111	0	1182	436	960	17	1	1414	4271
Grand Total	110	3325	1112	2	4549	327	2475	61	3	2866	90	3677	331	1	4099	1036	2568	50	3	3657	15171
Apprch %	2.4	73.1	24.4	0		11.4	86.4	2.1	0.1		2.2	89.7	8.1	0		28.3	70.2	1.4	0.1		
Total %	0.7	21.9	7.3	0	30	2.2	16.3	0.4	0	18.9	0.6	24.2	2.2	0	27	6.8	16.9	0.3	0	24.1	
Cars	107	3180	1104	2	4393	318	2437	55	3	2813	86	3479	314	1	3880	1001	2478	49	3	3531	14617
% Cars	97.3	95.6	99.3	100	96.6	97.2	98.5	90.2	100	98.2	95.6	94.6	94.9	100	94.7	96.6	96.5	98	100	96.6	96.3
Light Trucks	3	70	7	0	80	3	32	5	0	40	2	89	7	0	98	30	81	1	0	112	330
% Light Trucks	2.7	2.1	0.6	0	1.8	0.9	1.3	8.2	0	1.4	2.2	2.4	2.1	0	2.4	2.9	3.2	2	0	3.1	2.2
Heavy Trucks	0	75	1	0	76	6	6	1	0	13	2	109	10	0	121	5	9	0	0	14	224
% Heavy Trucks	0	2.3	0.1	0	1.7	1.8	0.2	1.6	0	0.5	2.2	3	3	0	3	0.5	0.4	0	0	0.4	1.5

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Dresher Rd

Description:

Machine:

Person: TT / Andrew Klinek

File Name : 027-15

Site Code : 15

Start Date : 5/9/2013

Page No : 2

Start Time	Easton Road Southbound					Meetinghouse Road Westbound					Easton Road Northbound					Dresher Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	4	239	78	0	321	27	187	0	0	214	4	223	18	0	245	26	76	0	0	102	882
07:15 AM	6	217	91	0	314	22	181	6	0	209	1	195	16	0	212	21	121	0	0	142	877
07:30 AM	4	171	91	0	266	21	173	3	0	197	4	229	16	0	249	40	138	0	0	178	890
07:45 AM	8	186	122	0	316	10	218	3	0	231	5	209	16	0	230	39	128	3	0	170	947
Total Volume	22	813	382	0	1217	80	759	12	0	851	14	856	66	0	936	126	463	3	0	592	3596
% App. Total	1.8	66.8	31.4	0		9.4	89.2	1.4	0		1.5	91.5	7.1	0		21.3	78.2	0.5	0		
PHF	.688	.850	.783	.000	.948	.741	.870	.500	.000	.921	.700	.934	.917	.000	.940	.788	.839	.250	.000	.831	.949

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	9	216	55	0	280	15	121	5	0	141	6	286	31	0	323	90	205	5	0	300	1044
05:00 PM	9	218	40	0	267	30	133	2	1	166	5	245	27	0	277	113	281	3	0	397	1107
05:15 PM	6	244	43	0	293	23	138	2	0	163	6	249	23	0	278	125	231	5	1	362	1096
05:30 PM	11	198	37	0	246	12	124	6	0	142	11	289	34	0	334	108	262	7	0	377	1099
Total Volume	35	876	175	0	1086	80	516	15	1	612	28	1069	115	0	1212	436	979	20	1	1436	4346
% App. Total	3.2	80.7	16.1	0		13.1	84.3	2.5	0.2		2.3	88.2	9.5	0		30.4	68.2	1.4	0.1		
PHF	.795	.898	.795	.000	.927	.667	.935	.625	.250	.922	.636	.925	.846	.000	.907	.872	.871	.714	.250	.904	.981

TechniQuest Corporation

4105 US Route 1, Suite # 10
 Monmouth Junction, NJ 08852
 732.274.9500, Fax 732.274.9510

Site: 027-01

Location: Easton Road & Maryland Road

Machine #:

Surveyor:

File Name : 027-01

Site Code : 01

Start Date : 6/3/2014

Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

Start Time	Easton Road Southbound					Westbound					Easton Road Northbound					Maryland Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	215	165	0	380	0	0	0	0	0	48	266	0	0	314	58	0	25	1	84	778
07:15 AM	0	229	203	0	432	0	0	0	0	0	61	250	0	0	311	93	0	24	2	119	862
07:30 AM	0	230	226	0	456	0	0	0	0	0	72	296	0	0	368	90	0	26	0	116	940
07:45 AM	0	222	203	0	425	0	0	0	0	0	93	300	0	0	393	91	0	42	2	135	953
Total	0	896	797	0	1693	0	0	0	0	0	274	1112	0	0	1386	332	0	117	5	454	3533
08:00 AM	0	242	234	0	476	0	0	0	0	0	78	227	0	0	305	81	0	66	1	148	929
08:15 AM	0	203	205	0	408	0	0	0	0	0	73	328	0	0	401	97	0	27	1	125	934
08:30 AM	0	232	219	0	451	0	0	0	0	0	94	263	0	0	357	65	0	31	0	96	904
08:45 AM	0	194	244	0	438	0	0	0	0	0	75	178	0	0	253	76	0	37	0	113	804
Total	0	871	902	0	1773	0	0	0	0	0	320	996	0	0	1316	319	0	161	2	482	3571
*** BREAK ***																					
04:00 PM	0	263	68	0	331	0	0	0	0	0	60	280	0	0	340	147	0	65	1	213	884
04:15 PM	0	265	94	0	359	0	0	0	0	0	52	314	0	0	366	173	0	71	0	244	969
04:30 PM	0	286	89	0	375	0	0	0	0	0	51	315	0	0	366	206	0	93	1	300	1041
04:45 PM	0	286	115	0	401	0	0	0	0	0	43	284	0	0	327	263	0	93	0	356	1084
Total	0	1100	366	0	1466	0	0	0	0	0	206	1193	0	0	1399	789	0	322	2	1113	3978
05:00 PM	0	284	84	0	368	0	0	0	0	0	53	269	0	0	322	297	0	83	1	381	1071
05:15 PM	0	285	85	0	370	0	0	0	0	0	52	327	0	0	379	297	0	81	0	378	1127
05:30 PM	0	329	133	0	462	0	0	0	0	0	60	324	0	0	384	315	0	68	0	383	1229
05:45 PM	0	323	103	0	426	0	0	0	0	0	58	267	0	0	325	258	0	75	2	335	1086
Total	0	1221	405	0	1626	0	0	0	0	0	223	1187	0	0	1410	1167	0	307	3	1477	4513
Grand Total	0	4088	2470	0	6558	0	0	0	0	0	1023	4488	0	0	5511	2607	0	907	12	3526	15595
Apprch %	0	62.3	37.7	0		0	0	0	0		18.6	81.4	0	0		73.9	0	25.7	0.3		
Total %	0	26.2	15.8	0	42.1	0	0	0	0	0	6.6	28.8	0	0	35.3	16.7	0	5.8	0.1	22.6	
Cars	0	3942	2366	0	6308	0	0	0	0	0	1009	4336	0	0	5345	2494	0	887	12	3393	15046
% Cars	0	96.4	95.8	0	96.2	0	0	0	0	0	98.6	96.6	0	0	97	95.7	0	97.8	100	96.2	96.5
Light Trucks	0	88	52	0	140	0	0	0	0	0	14	96	0	0	110	57	0	17	0	74	324
% Light Trucks	0	2.2	2.1	0	2.1	0	0	0	0	0	1.4	2.1	0	0	2	2.2	0	1.9	0	2.1	2.1
Heavy Trucks	0	58	52	0	110	0	0	0	0	0	0	56	0	0	56	56	0	3	0	59	225
% Heavy Trucks	0	1.4	2.1	0	1.7	0	0	0	0	0	0	1.2	0	0	1	2.1	0	0.3	0	1.7	1.4

TechniQuest Corporation

4105 US Route 1, Suite # 10
 Monmouth Junction, NJ 08852
 732.274.9500, Fax 732.274.9510

Site: 027-01

Location: Easton Road & Maryland Road

Machine #:

Surveyor:

File Name : 027-01

Site Code : 01

Start Date : 6/3/2014

Page No : 2

Start Time	Easton Road Southbound					Westbound					Easton Road Northbound					Maryland Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	230	226	0	456	0	0	0	0	0	72	296	0	0	368	90	0	26	0	116	940
07:45 AM	0	222	203	0	425	0	0	0	0	0	93	300	0	0	393	91	0	42	2	135	953
08:00 AM	0	242	234	0	476	0	0	0	0	0	78	227	0	0	305	81	0	66	1	148	929
08:15 AM	0	203	205	0	408	0	0	0	0	0	73	328	0	0	401	97	0	27	1	125	934
Total Volume	0	897	868	0	1765	0	0	0	0	0	316	1151	0	0	1467	359	0	161	4	524	3756
% App. Total	0	50.8	49.2	0		0	0	0	0	0	21.5	78.5	0	0		68.5	0	30.7	0.8		
PHF	.000	.927	.927	.000	.927	.000	.000	.000	.000	.000	.849	.877	.000	.000	.915	.925	.000	.610	.500	.885	.985

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	0	284	84	0	368	0	0	0	0	0	53	269	0	0	322	297	0	83	1	381	1071
05:15 PM	0	285	85	0	370	0	0	0	0	0	52	327	0	0	379	297	0	81	0	378	1127
05:30 PM	0	329	133	0	462	0	0	0	0	0	60	324	0	0	384	315	0	68	0	383	1229
05:45 PM	0	323	103	0	426	0	0	0	0	0	58	267	0	0	325	258	0	75	2	335	1086
Total Volume	0	1221	405	0	1626	0	0	0	0	0	223	1187	0	0	1410	1167	0	307	3	1477	4513
% App. Total	0	75.1	24.9	0		0	0	0	0	0	15.8	84.2	0	0		79	0	20.8	0.2		
PHF	.000	.928	.761	.000	.880	.000	.000	.000	.000	.000	.929	.907	.000	.000	.918	.926	.000	.925	.375	.964	.918

TRAFFIC ASSESSMENT STUDY

Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove

TOWNSHIP OF HORSHAM

MONTGOMERY COUNTY, PENNSYLVANIA

Automatic Traffic Recorder Data



TechniQuest Corporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732.274.9500, Fax 732.274.9510

Site Code: 27-01
Station ID: 24951
Horsham Road - SB
South of the Southern Horsham Intersect.
Latitude: 0' 0.000 Undefined

Start Time	06-May-13		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	316	40	303	42	324	43	346	55	337	99	360	19	120	50	301
12:15	*	327	36	296	27	314	53	350	41	361	85	393	7	118	42	308
12:30	*	295	21	344	28	305	32	331	39	370	63	376	8	124	32	306
12:45	*	282	23	311	30	288	29	309	51	379	76	358	7	86	36	288
01:00	*	317	23	299	18	324	28	343	51	341	69	364	7	96	33	298
01:15	*	269	23	305	25	322	32	333	21	370	41	376	5	13	24	284
01:30	*	334	23	313	15	304	17	382	29	399	49	383	2	19	22	305
01:45	*	315	14	350	20	303	13	321	24	364	30	342	6	27	18	289
02:00	*	317	14	324	20	343	24	326	24	350	29	352	1	17	19	290
02:15	*	338	17	357	20	336	20	340	19	360	26	346	4	5	18	297
02:30	*	337	11	330	18	322	16	363	20	375	28	381	5	2	16	301
02:45	*	315	12	344	11	340	17	317	16	373	29	374	1	3	14	295
03:00	*	329	18	351	11	354	22	396	17	432	26	358	2	0	16	317
03:15	*	366	21	378	28	390	25	373	24	378	23	381	2	2	20	324
03:30	*	346	29	362	27	341	17	364	34	406	32	353	2	0	24	310
03:45	*	373	35	361	42	402	27	392	28	411	29	385	1	0	27	332
04:00	*	379	45	367	35	368	24	362	60	402	31	349	5	0	33	318
04:15	*	384	65	431	34	388	37	426	46	405	28	360	1	0	35	342
04:30	*	350	50	408	64	386	68	402	66	439	35	397	2	0	48	340
04:45	*	407	77	421	47	441	66	422	56	440	34	308	8	0	48	348
05:00	*	427	108	470	106	456	95	463	101	463	43	412	8	0	77	384
05:15	*	406	141	433	112	430	115	428	117	435	51	341	7	0	90	353
05:30	*	407	210	423	173	427	188	423	190	445	74	392	15	0	142	360
05:45	*	374	231	435	243	413	222	441	241	446	56	361	19	0	169	353
06:00	*	367	350	348	307	341	298	394	296	425	99	315	20	0	228	313
06:15	*	332	371	366	360	368	341	375	375	373	156	344	34	0	273	308
06:30	*	295	392	313	364	353	411	289	374	363	135	340	31	0	284	279
06:45	*	287	417	309	379	294	409	294	398	322	146	303	13	0	294	258
07:00	*	252	414	270	407	263	373	294	406	341	167	304	26	0	299	246
07:15	*	261	325	269	321	230	315	275	340	304	180	291	44	0	254	233
07:30	*	257	277	253	308	224	250	277	324	302	193	112	42	0	232	204
07:45	*	255	348	229	224	205	281	221	349	263	235	56	46	1	247	176
08:00	*	236	295	247	270	246	270	285	282	313	229	70	40	0	231	200
08:15	*	200	313	186	196	221	220	223	322	258	245	56	72	0	228	163
08:30	*	215	341	183	287	216	277	253	338	273	258	50	57	0	260	170
08:45	*	207	339	196	315	169	339	192	312	228	274	44	65	0	274	148
09:00	*	195	314	202	330	182	347	215	309	236	293	43	81	0	279	153
09:15	*	151	275	196	332	173	329	197	313	216	275	42	78	0	267	139
09:30	*	122	319	166	275	144	320	179	344	210	324	35	87	0	278	122
09:45	*	135	277	130	268	140	312	178	303	192	303	42	84	0	258	117
10:00	*	111	281	127	273	123	277	137	319	202	315	29	107	0	262	104
10:15	*	76	296	96	318	113	324	140	332	186	340	22	98	0	285	90
10:30	76	84	300	89	306	105	281	100	337	164	293	29	113	0	244	82
10:45	273	78	293	96	297	95	293	83	338	145	306	23	115	0	274	74
11:00	311	86	312	84	306	82	299	87	298	162	361	17	102	0	284	74
11:15	294	66	286	64	284	60	297	76	327	114	347	21	124	0	280	57
11:30	312	49	304	72	327	66	393	82	358	127	343	13	123	0	309	58
11:45	300	52	309	64	289	55	348	60	348	106	386	9	104	0	298	49
Total	1566	12679	9035	13271	8539	13089	8834	13859	9412	15306	7289	11412	1850	633	7475	11460
Day Total	14245		22306		21628		22693		24718		18701		2483		18935	
% Splits	11.0%	89.0%	40.5%	59.5%	39.5%	60.5%	38.9%	61.1%	38.1%	61.9%	39.0%	61.0%	74.5%	25.5%	39.5%	60.5%
Peak	11:00	04:45	06:15	05:00	06:15	04:45	06:15	05:00	06:15	05:00	11:00	05:00	10:45	12:00	11:00	05:00
Vol.	1217	1647	1594	1761	1510	1754	1534	1755	1553	1789	1437	1506	464	448	1171	1450
P.H.F.	0.975	0.964	0.956	0.937	0.928	0.962	0.933	0.948	0.956	0.966	0.931	0.914	0.935	0.903	0.947	0.944



TechniQuest Corporation

4105 US Route 1, Suite # 10
 Monmouth Junction, NJ 08852
 732.274.9500, Fax 732.274.9510

Site Code: 27-01
 Station ID: 24951
 Horsham Road - SB
 South of the Southern Horsham Intersect.
 Latitude: 0' 0.000 Undefined

Start Time	13-May-13		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
12:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
12:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
12:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
01:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
01:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
01:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
01:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
02:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
02:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
02:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
02:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
03:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
03:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
03:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
03:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
04:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
04:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
04:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
04:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
05:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
05:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
05:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
05:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
06:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
06:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
06:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
06:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
07:00	2	*	*	*	*	*	*	*	*	*	*	*	*	*	2	*
07:15	2	*	*	*	*	*	*	*	*	*	*	*	*	*	2	*
07:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
07:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
08:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
08:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
08:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
08:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
09:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
09:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total Day	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
Day Total	4		0		0		0		0		0		0		4	
% Splits	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0 %	0.0%
Peak Vol.	06:30	4													06:30	4
P.H.F.	0.500														0.500	

ADT ADT 18,304 AADT 18,304



TechniQuest Corporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732.274.9500, Fax 732.274.9510

Site Code: 27-02
Station ID: 12362
Horsham Road - NB
South of the Southern Horsham Intersect.
Latitude: 0' 0.000 Undefined

Start Time	06-May-13		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	324	39	299	52	298	64	305	60	360	91	398	103	391	68	339
12:15	*	335	54	346	69	328	46	349	84	350	94	375	87	356	72	348
12:30	*	331	39	348	33	353	44	345	59	363	89	341	67	377	55	351
12:45	*	290	27	310	27	359	36	365	50	401	96	390	65	390	50	358
01:00	*	316	25	317	41	317	30	348	38	392	69	376	70	416	46	355
01:15	*	329	27	314	20	353	20	325	47	379	65	365	54	370	39	348
01:30	*	319	18	350	21	334	30	357	27	357	62	368	50	364	35	350
01:45	*	316	23	348	23	333	18	309	27	403	51	390	37	395	30	356
02:00	*	353	26	351	32	347	34	351	29	390	45	396	47	389	36	368
02:15	*	334	25	343	23	341	22	389	30	380	43	383	33	373	29	363
02:30	*	381	24	383	23	368	24	364	21	427	36	418	36	404	27	392
02:45	*	335	17	380	25	363	19	353	23	416	54	367	24	388	27	372
03:00	*	352	33	383	17	386	11	433	35	410	20	383	33	378	25	389
03:15	*	376	20	390	28	391	24	444	33	417	24	415	16	378	24	402
03:30	*	401	33	472	25	414	24	421	31	441	36	403	16	401	28	422
03:45	*	414	38	414	17	423	23	402	21	490	27	408	20	407	24	423
04:00	*	473	28	460	14	448	17	434	27	434	29	412	13	355	21	431
04:15	*	436	35	450	32	427	33	413	35	456	15	378	14	383	27	420
04:30	*	474	63	454	51	454	55	434	62	474	46	346	12	330	48	424
04:45	*	440	55	479	66	466	56	429	73	460	37	389	11	370	50	433
05:00	*	473	76	454	84	457	79	483	68	469	38	377	27	349	62	437
05:15	*	445	107	439	100	456	94	475	97	442	45	383	25	330	78	424
05:30	*	454	106	480	127	481	116	476	145	482	69	369	29	310	99	436
05:45	*	432	201	441	150	442	152	475	186	420	73	383	33	309	132	415
06:00	*	413	218	506	173	428	198	441	193	435	66	390	38	291	148	415
06:15	*	415	309	446	271	399	225	458	252	418	121	343	80	329	210	401
06:30	*	364	372	433	310	410	322	428	370	431	118	382	63	288	259	391
06:45	*	360	384	373	333	354	368	379	363	404	123	349	80	231	275	350
07:00	*	331	336	320	347	374	380	320	305	377	125	362	56	284	258	338
07:15	*	253	449	284	388	309	379	298	441	333	152	348	71	261	313	298
07:30	*	260	426	251	407	252	422	307	442	331	216	321	96	282	335	286
07:45	*	215	504	239	425	241	440	265	434	327	163	296	127	319	349	272
08:00	*	216	455	234	426	250	388	284	386	300	210	268	123	243	331	256
08:15	*	204	513	269	396	280	418	216	448	278	205	251	125	230	351	247
08:30	*	206	455	203	397	251	416	272	400	281	211	244	138	240	336	242
08:45	*	183	423	226	379	222	423	250	385	261	265	266	148	230	337	234
09:00	*	153	375	208	390	212	371	198	336	264	221	287	190	213	314	219
09:15	*	200	337	189	399	215	421	230	345	235	257	263	198	189	326	217
09:30	*	190	379	204	380	182	399	220	353	235	273	237	251	180	339	207
09:45	*	138	332	177	328	179	334	198	365	231	316	200	244	176	320	186
10:00	*	127	313	155	314	159	257	174	321	231	273	219	239	124	286	170
10:15	*	122	289	123	321	132	329	140	266	187	284	217	262	106	292	147
10:30		232	109	284	103	289	105	342	142	338	215	330	187	317	100	305
10:45		299	96	302	101	281	129	354	114	302	167	339	202	312	100	313
11:00		288	74	325	79	259	87	294	132	343	150	341	128	299	79	307
11:15		305	65	328	79	330	83	313	107	337	161	346	115	339	88	328
11:30		306	68	314	95	325	80	318	104	366	134	344	137	354	71	332
11:45		317	62	301	58	302	85	333	87	360	115	355	100	383	67	336
Total	1747	13957	9862	14760	9270	14757	9515	15243	9759	16514	6908	15325	5455	13634	8432	14883
Day Total	15704		24622		24027		24758		26273		22233		19089		23315	
% Splits	11.1%	88.9%	40.1%	59.9%	38.6%	61.4%	38.4%	61.6%	37.1%	62.9%	31.1%	68.9%	28.6%	71.4%	36.2%	63.8%
Peak	11:00	04:30	07:45	05:30	07:30	04:45	07:30	05:00	07:30	04:15	11:00	03:15	11:00	03:00	07:45	04:45
Vol.	1216	1832	1927	1873	1654	1860	1668	1909	1710	1859	1386	1638	1375	1564	1367	1730
P.H.F.	0.959	0.966	0.939	0.925	0.971	0.967	0.948	0.988	0.954	0.980	0.976	0.987	0.898	0.961	0.974	0.990



TechniQuest Corporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732.274.9500, Fax 732.274.9510

Site Code: 27-02
Station ID: 12362
Horsham Road - NB
South of the Southern Horsham Intersect.
Latitude: 0' 0.000 Undefined

Start Time	13-May-13		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	40	*	*	*	*	*	*	*	*	*	*	*	*	*	40	*
12:15	54	*	*	*	*	*	*	*	*	*	*	*	*	*	54	*
12:30	34	*	*	*	*	*	*	*	*	*	*	*	*	*	34	*
12:45	31	*	*	*	*	*	*	*	*	*	*	*	*	*	31	*
01:00	20	*	*	*	*	*	*	*	*	*	*	*	*	*	20	*
01:15	15	*	*	*	*	*	*	*	*	*	*	*	*	*	15	*
01:30	16	*	*	*	*	*	*	*	*	*	*	*	*	*	16	*
01:45	11	*	*	*	*	*	*	*	*	*	*	*	*	*	11	*
02:00	23	*	*	*	*	*	*	*	*	*	*	*	*	*	23	*
02:15	16	*	*	*	*	*	*	*	*	*	*	*	*	*	16	*
02:30	21	*	*	*	*	*	*	*	*	*	*	*	*	*	21	*
02:45	20	*	*	*	*	*	*	*	*	*	*	*	*	*	20	*
03:00	27	*	*	*	*	*	*	*	*	*	*	*	*	*	27	*
03:15	12	*	*	*	*	*	*	*	*	*	*	*	*	*	12	*
03:30	19	*	*	*	*	*	*	*	*	*	*	*	*	*	19	*
03:45	25	*	*	*	*	*	*	*	*	*	*	*	*	*	25	*
04:00	30	*	*	*	*	*	*	*	*	*	*	*	*	*	30	*
04:15	40	*	*	*	*	*	*	*	*	*	*	*	*	*	40	*
04:30	58	*	*	*	*	*	*	*	*	*	*	*	*	*	58	*
04:45	57	*	*	*	*	*	*	*	*	*	*	*	*	*	57	*
05:00	70	*	*	*	*	*	*	*	*	*	*	*	*	*	70	*
05:15	87	*	*	*	*	*	*	*	*	*	*	*	*	*	87	*
05:30	114	*	*	*	*	*	*	*	*	*	*	*	*	*	114	*
05:45	173	*	*	*	*	*	*	*	*	*	*	*	*	*	173	*
06:00	183	*	*	*	*	*	*	*	*	*	*	*	*	*	183	*
06:15	260	*	*	*	*	*	*	*	*	*	*	*	*	*	260	*
06:30	348	*	*	*	*	*	*	*	*	*	*	*	*	*	348	*
06:45	388	*	*	*	*	*	*	*	*	*	*	*	*	*	388	*
07:00	319	*	*	*	*	*	*	*	*	*	*	*	*	*	319	*
07:15	413	*	*	*	*	*	*	*	*	*	*	*	*	*	413	*
07:30	424	*	*	*	*	*	*	*	*	*	*	*	*	*	424	*
07:45	456	*	*	*	*	*	*	*	*	*	*	*	*	*	456	*
08:00	416	*	*	*	*	*	*	*	*	*	*	*	*	*	416	*
08:15	457	*	*	*	*	*	*	*	*	*	*	*	*	*	457	*
08:30	373	*	*	*	*	*	*	*	*	*	*	*	*	*	373	*
08:45	456	*	*	*	*	*	*	*	*	*	*	*	*	*	456	*
09:00	412	*	*	*	*	*	*	*	*	*	*	*	*	*	412	*
09:15	323	*	*	*	*	*	*	*	*	*	*	*	*	*	323	*
09:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total Day	6241	0	0	0	0	0	0	0	0	0	0	0	0	0	6241	0
Day Total	6241		0		0		0		0		0		0		6241	
% Splits	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0 %	0.0%
Peak	07:30														07:30	
Vol.	1753														1753	
P.H.F.	0.959														0.959	

ADT ADT 23,454 AADT 23,454



TechniQuest Corporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732.274.9500, Fax 732.274.9510

Site Code: 27-03
Station ID: 24958
Horsham Road
B/w Privet & The High School - EB
Latitude: 0' 0.000 Undefined

Start Time	13-May-13		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	9	*	*	*	*	*	*	*	*	*	*	*	*	*	9	*
12:15	11	*	*	*	*	*	*	*	*	*	*	*	*	*	11	*
12:30	6	*	*	*	*	*	*	*	*	*	*	*	*	*	6	*
12:45	6	*	*	*	*	*	*	*	*	*	*	*	*	*	6	*
01:00	5	*	*	*	*	*	*	*	*	*	*	*	*	*	5	*
01:15	3	*	*	*	*	*	*	*	*	*	*	*	*	*	3	*
01:30	4	*	*	*	*	*	*	*	*	*	*	*	*	*	4	*
01:45	2	*	*	*	*	*	*	*	*	*	*	*	*	*	2	*
02:00	4	*	*	*	*	*	*	*	*	*	*	*	*	*	4	*
02:15	6	*	*	*	*	*	*	*	*	*	*	*	*	*	6	*
02:30	8	*	*	*	*	*	*	*	*	*	*	*	*	*	8	*
02:45	4	*	*	*	*	*	*	*	*	*	*	*	*	*	4	*
03:00	6	*	*	*	*	*	*	*	*	*	*	*	*	*	6	*
03:15	2	*	*	*	*	*	*	*	*	*	*	*	*	*	2	*
03:30	5	*	*	*	*	*	*	*	*	*	*	*	*	*	5	*
03:45	10	*	*	*	*	*	*	*	*	*	*	*	*	*	10	*
04:00	8	*	*	*	*	*	*	*	*	*	*	*	*	*	8	*
04:15	7	*	*	*	*	*	*	*	*	*	*	*	*	*	7	*
04:30	16	*	*	*	*	*	*	*	*	*	*	*	*	*	16	*
04:45	21	*	*	*	*	*	*	*	*	*	*	*	*	*	21	*
05:00	22	*	*	*	*	*	*	*	*	*	*	*	*	*	22	*
05:15	23	*	*	*	*	*	*	*	*	*	*	*	*	*	23	*
05:30	43	*	*	*	*	*	*	*	*	*	*	*	*	*	43	*
05:45	66	*	*	*	*	*	*	*	*	*	*	*	*	*	66	*
06:00	88	*	*	*	*	*	*	*	*	*	*	*	*	*	88	*
06:15	118	*	*	*	*	*	*	*	*	*	*	*	*	*	118	*
06:30	117	*	*	*	*	*	*	*	*	*	*	*	*	*	117	*
06:45	158	*	*	*	*	*	*	*	*	*	*	*	*	*	158	*
07:00	198	*	*	*	*	*	*	*	*	*	*	*	*	*	198	*
07:15	251	*	*	*	*	*	*	*	*	*	*	*	*	*	251	*
07:30	241	*	*	*	*	*	*	*	*	*	*	*	*	*	241	*
07:45	206	*	*	*	*	*	*	*	*	*	*	*	*	*	206	*
08:00	251	*	*	*	*	*	*	*	*	*	*	*	*	*	251	*
08:15	221	*	*	*	*	*	*	*	*	*	*	*	*	*	221	*
08:30	258	*	*	*	*	*	*	*	*	*	*	*	*	*	258	*
08:45	267	*	*	*	*	*	*	*	*	*	*	*	*	*	267	*
09:00	256	*	*	*	*	*	*	*	*	*	*	*	*	*	256	*
09:15	169	*	*	*	*	*	*	*	*	*	*	*	*	*	169	*
09:30	123	*	*	*	*	*	*	*	*	*	*	*	*	*	123	*
09:45	131	*	*	*	*	*	*	*	*	*	*	*	*	*	131	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total Day	3350	0	0	0	0	0	0	0	0	0	0	0	0	0	3350	0
Day Total	3350		0		0		0		0		0		0		3350	
% Splits	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0 %	0.0%
Peak	08:15														08:15	
Vol.	1002														1002	
P.H.F.	0.938														0.938	

ADT ADT 8,947 AADT 8,947



TechniQuest Corporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732.274.9500, Fax 732.274.9510

Site Code: 27-04
Station ID: 12143
Horsham Road - WB
B/w Privet & The High School
Latitude: 0' 0.000 Undefined

Start Time	06-May-13		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	135	11	156	15	0	0	140	15	155	32	130	31	142	17	123
12:15	*	175	12	160	18	0	0	147	13	182	18	123	24	124	14	130
12:30	*	147	9	170	9	0	0	162	21	185	15	140	20	111	12	131
12:45	*	168	8	167	8	0	0	163	12	192	31	128	16	118	12	134
01:00	*	161	8	192	3	0	0	164	6	170	4	129	16	133	6	136
01:15	*	142	7	139	5	0	0	148	8	173	14	116	9	121	7	120
01:30	*	138	3	165	0	0	0	143	8	169	9	153	8	125	5	128
01:45	*	137	1	152	3	0	0	136	3	188	15	115	6	139	5	124
02:00	*	136	3	158	7	0	0	129	10	205	10	130	10	135	7	128
02:15	*	144	6	159	6	1	0	160	4	185	10	143	6	151	5	135
02:30	*	149	2	163	4	0	0	208	8	195	2	144	2	156	3	145
02:45	*	143	4	187	5	1	0	166	3	177	10	136	6	136	5	135
03:00	*	161	6	168	4	0	0	170	8	204	4	142	3	128	4	139
03:15	*	174	3	187	3	0	0	162	7	203	3	113	4	128	3	138
03:30	*	190	10	198	7	0	0	217	11	232	4	143	3	117	6	157
03:45	*	147	6	218	5	0	0	176	6	213	3	118	2	112	4	141
04:00	*	225	3	207	4	0	0	222	2	240	6	142	2	116	3	165
04:15	*	208	8	225	4	0	0	213	12	255	6	144	1	119	5	166
04:30	*	250	16	233	18	0	0	232	13	230	10	99	4	120	10	166
04:45	*	232	22	249	17	0	0	252	16	234	13	112	6	98	12	168
05:00	*	294	23	294	22	0	0	280	17	291	10	124	5	101	13	198
05:15	*	259	41	280	33	0	0	259	26	261	13	92	3	72	19	175
05:30	*	293	39	344	46	0	0	323	47	259	14	117	10	79	26	202
05:45	*	279	63	287	59	0	0	292	75	249	16	115	15	89	38	187
06:00	*	206	85	218	68	0	0	258	56	202	14	107	9	90	39	154
06:15	*	249	113	236	90	0	0	225	93	191	37	114	21	89	59	158
06:30	*	291	144	181	152	0	0	197	152	158	32	85	17	74	83	141
06:45	*	215	201	168	184	0	0	183	207	146	39	86	27	65	110	123
07:00	*	132	270	137	258	0	0	136	273	137	35	101	17	73	142	102
07:15	*	122	276	121	242	0	3	123	251	126	44	97	30	100	141	98
07:30	*	100	252	110	218	0	0	105	240	96	80	85	36	90	138	84
07:45	*	76	222	87	118	0	1	98	255	99	83	80	48	71	121	73
08:00	*	102	264	84	5	0	2	103	228	89	96	81	49	96	107	79
08:15	*	93	219	94	0	0	2	98	194	80	74	65	46	53	89	69
08:30	*	68	228	85	0	0	0	86	208	77	84	54	57	74	96	63
08:45	*	52	215	77	0	0	1	94	215	79	93	63	86	63	102	61
09:00	*	70	199	73	0	0	1	75	160	70	113	59	93	52	94	57
09:15	*	70	148	56	0	0	0	81	146	70	106	63	76	48	79	55
09:30	*	45	139	50	0	1	1	50	151	57	107	69	88	38	81	44
09:45	*	49	116	50	0	0	75	61	142	64	145	56	85	37	94	45
10:00	*	34	128	39	0	0	130	43	135	60	105	67	80	26	96	38
10:15	*	17	107	29	1	0	96	36	116	75	124	48	87	31	88	34
10:30	*	22	102	24	0	0	117	31	125	57	116	48	97	30	93	30
10:45	*	22	130	24	1	0	112	24	137	41	139	49	131	14	108	25
11:00	*	22	117	14	0	0	118	23	127	38	133	48	103	20	100	24
11:15	*	19	123	15	0	0	106	23	163	33	165	33	125	13	114	19
11:30	29	11	147	18	1	0	136	25	144	39	135	44	114	22	101	23
11:45	139	16	164	14	1	0	121	11	156	44	133	34	111	7	118	18
Total	168	6590	4423	6862	1644	3	1022	6853	4425	7175	2504	4684	1845	4146	2634	5188
Day Total	6758		11285		1647		7875		11600		7188		5991		7822	
% Splits	2.5%	97.5%	39.2%	60.8%	99.8%	0.2%	13.0%	87.0%	38.1%	61.9%	34.8%	65.2%	30.8%	69.2%	33.7%	66.3%
Peak Vol.		05:00	07:00	05:00	06:45	02:00	11:00	05:00	07:00	05:00	10:45	02:15	10:45	01:45	07:00	05:00
P.H.F.		0.957	0.924	0.876	0.874	0.500	0.884	0.893	0.933	0.911	0.867	0.981	0.903	0.931	0.954	0.943



TechniQuest Corporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732.274.9500, Fax 732.274.9510

Site Code: 27-04
Station ID: 12143
Horsham Road - WB
Latitude: 0' 0.000 Undefined

Start Time	13-May-13		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	13	*	*	*	*	*	*	*	*	*	*	*	*	*	13	*
12:15	7	*	*	*	*	*	*	*	*	*	*	*	*	*	7	*
12:30	4	*	*	*	*	*	*	*	*	*	*	*	*	*	4	*
12:45	2	*	*	*	*	*	*	*	*	*	*	*	*	*	2	*
01:00	8	*	*	*	*	*	*	*	*	*	*	*	*	*	8	*
01:15	3	*	*	*	*	*	*	*	*	*	*	*	*	*	3	*
01:30	4	*	*	*	*	*	*	*	*	*	*	*	*	*	4	*
01:45	6	*	*	*	*	*	*	*	*	*	*	*	*	*	6	*
02:00	4	*	*	*	*	*	*	*	*	*	*	*	*	*	4	*
02:15	4	*	*	*	*	*	*	*	*	*	*	*	*	*	4	*
02:30	4	*	*	*	*	*	*	*	*	*	*	*	*	*	4	*
02:45	4	*	*	*	*	*	*	*	*	*	*	*	*	*	4	*
03:00	7	*	*	*	*	*	*	*	*	*	*	*	*	*	7	*
03:15	2	*	*	*	*	*	*	*	*	*	*	*	*	*	2	*
03:30	4	*	*	*	*	*	*	*	*	*	*	*	*	*	4	*
03:45	4	*	*	*	*	*	*	*	*	*	*	*	*	*	4	*
04:00	6	*	*	*	*	*	*	*	*	*	*	*	*	*	6	*
04:15	11	*	*	*	*	*	*	*	*	*	*	*	*	*	11	*
04:30	17	*	*	*	*	*	*	*	*	*	*	*	*	*	17	*
04:45	20	*	*	*	*	*	*	*	*	*	*	*	*	*	20	*
05:00	22	*	*	*	*	*	*	*	*	*	*	*	*	*	22	*
05:15	27	*	*	*	*	*	*	*	*	*	*	*	*	*	27	*
05:30	39	*	*	*	*	*	*	*	*	*	*	*	*	*	39	*
05:45	52	*	*	*	*	*	*	*	*	*	*	*	*	*	52	*
06:00	73	*	*	*	*	*	*	*	*	*	*	*	*	*	73	*
06:15	105	*	*	*	*	*	*	*	*	*	*	*	*	*	105	*
06:30	143	*	*	*	*	*	*	*	*	*	*	*	*	*	143	*
06:45	186	*	*	*	*	*	*	*	*	*	*	*	*	*	186	*
07:00	244	*	*	*	*	*	*	*	*	*	*	*	*	*	244	*
07:15	194	*	*	*	*	*	*	*	*	*	*	*	*	*	194	*
07:30	242	*	*	*	*	*	*	*	*	*	*	*	*	*	242	*
07:45	252	*	*	*	*	*	*	*	*	*	*	*	*	*	252	*
08:00	268	*	*	*	*	*	*	*	*	*	*	*	*	*	268	*
08:15	201	*	*	*	*	*	*	*	*	*	*	*	*	*	201	*
08:30	231	*	*	*	*	*	*	*	*	*	*	*	*	*	231	*
08:45	299	*	*	*	*	*	*	*	*	*	*	*	*	*	299	*
09:00	256	*	*	*	*	*	*	*	*	*	*	*	*	*	256	*
09:15	158	*	*	*	*	*	*	*	*	*	*	*	*	*	158	*
09:30	144	*	*	*	*	*	*	*	*	*	*	*	*	*	144	*
09:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total Day	3270	0	0	0	0	0	0	0	0	0	0	0	0	0	3270	0
Day Total	3270		0		0		0		0		0		0		3270	
% Splits	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0 %	0.0%
Peak	08:00														08:00	
Vol.	999														999	
P.H.F.	0.835														0.835	

ADT ADT 8,044 AADT 8,044



TechniQuest Corporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732.274.9500, Fax 732.274.9510

Site Code: 27-05
Station ID: 12365
Easton Road - SB
B/W Maple & Meeting House Road
Latitude: 0' 0.000 Undefined

Start Time	06-May-13		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	219	26	209	34	206	32	241	42	247	1	5	0	0	22	161
12:15	*	215	34	228	18	211	27	244	23	261	0	2	0	0	17	166
12:30	*	217	21	221	34	234	26	238	36	274	0	0	0	0	20	169
12:45	*	219	20	229	30	229	23	231	50	250	0	0	0	0	20	165
01:00	*	215	19	210	16	229	19	238	36	297	1	5	0	0	15	171
01:15	*	241	16	220	12	252	17	288	18	308	0	3	0	0	10	187
01:30	*	268	14	233	11	244	5	257	17	270	0	0	0	0	8	182
01:45	*	232	13	246	20	223	16	226	19	282	1	0	0	0	12	173
02:00	*	222	12	253	12	231	12	249	17	229	1	0	0	0	9	169
02:15	*	229	8	264	17	243	15	254	19	276	2	2	0	0	10	181
02:30	*	194	15	237	7	322	8	256	17	250	0	1	0	0	8	180
02:45	*	230	14	290	7	331	12	239	11	278	0	1	0	0	7	196
03:00	*	250	3	246	8	369	4	259	10	272	0	2	0	0	4	200
03:15	*	257	7	250	9	333	17	230	20	251	0	0	1	0	9	189
03:30	*	273	21	250	16	316	13	258	16	293	0	5	0	0	11	199
03:45	*	244	19	267	25	332	18	258	27	249	1	7	0	0	15	194
04:00	*	281	23	279	16	364	18	273	25	309	0	4	0	0	14	216
04:15	*	229	32	263	25	329	22	244	21	285	5	8	0	0	18	194
04:30	*	286	36	311	30	398	32	308	28	324	0	4	0	0	21	233
04:45	*	232	47	240	34	330	47	259	40	284	2	5	0	0	28	193
05:00	*	256	59	282	53	372	46	276	58	277	1	1	0	0	36	209
05:15	*	249	92	266	65	327	65	274	79	277	5	0	0	0	51	199
05:30	*	252	131	241	113	328	116	258	119	257	6	2	3	0	81	191
05:45	*	229	169	202	171	308	137	225	159	254	4	3	0	0	107	174
06:00	*	241	211	253	204	224	186	271	184	275	10	4	0	0	132	181
06:15	*	195	242	215	251	217	237	201	262	239	10	0	1	0	167	152
06:30	*	197	315	196	289	205	304	196	281	243	19	1	1	0	202	148
06:45	*	188	316	166	330	188	309	189	317	215	16	1	1	0	215	135
07:00	*	161	324	194	311	179	317	194	329	249	9	2	1	0	215	140
07:15	*	167	321	178	327	173	321	186	312	214	11	3	2	0	216	132
07:30	*	167	354	152	339	163	302	164	305	198	10	3	0	0	218	121
07:45	*	154	325	159	329	151	320	187	320	215	17	0	3	0	219	124
08:00	*	169	290	184	272	151	288	196	296	198	8	1	3	0	193	128
08:15	*	158	324	149	314	159	312	190	284	186	15	1	3	0	209	120
08:30	*	142	319	115	292	132	316	151	270	209	3	2	6	0	201	107
08:45	*	153	334	129	280	134	311	138	282	175	4	1	8	0	203	104
09:00	*	123	246	126	236	113	243	156	251	178	3	0	4	0	164	99
09:15	*	100	226	130	224	125	238	160	241	168	3	0	4	0	156	98
09:30	*	77	206	97	206	115	250	128	229	196	4	0	0	0	149	88
09:45	*	103	189	103	203	97	226	139	220	166	2	0	1	0	140	87
10:00	*	88	196	97	207	106	187	95	242	137	3	0	2	0	140	75
10:15	*	60	220	71	241	63	208	79	202	130	6	1	0	0	146	58
10:30	*	66	186	64	196	71	211	83	209	22	2	0	0	0	134	44
10:45	*	57	194	67	165	72	204	78	228	1	2	0	1	0	132	39
11:00	*	66	199	64	231	59	221	73	196	0	0	0	1	0	141	37
11:15	230	40	195	48	186	53	229	65	240	0	3	0	0	0	155	29
11:30	206	34	229	47	220	35	270	51	254	0	1	0	0	0	169	24
11:45	216	43	189	44	213	47	245	41	234	0	3	0	0	0	157	25
Total	652	8688	7001	8985	6849	10093	7002	9494	7095	10168	194	80	46	0	4726	6786
Day Total	9340		15986		16942		16496		17263		274		46		11512	
% Splits	7.0%	93.0%	43.8%	56.2%	40.4%	59.6%	42.4%	57.6%	41.1%	58.9%	70.8%	29.2%	100.0%	0.0%	41.1%	58.9%
Peak		03:15	07:00	03:45	06:45	04:15	07:00	04:30	07:00	04:00	06:00	03:30	08:30		07:00	03:45
Vol.		1055	1324	1120	1307	1429	1260	1117	1266	1202	55	24	22		868	837
P.H.F.		0.939	0.935	0.900	0.964	0.898	0.981	0.907	0.962	0.927	0.724	0.750	0.688		0.991	0.898



TechniQuest Corporation

4105 US Route 1, Suite # 10
 Monmouth Junction, NJ 08852
 732.274.9500, Fax 732.274.9510

Site Code: 27-05
 Station ID: 12365
 Easton Road - SB
 B/W Maple & Meeting House Road
 Latitude: 0' 0.000 Undefined

Start Time	13-May-13		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
12:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
12:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
12:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
01:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
01:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
01:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
01:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
02:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
02:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
02:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
02:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
03:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
03:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
03:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
03:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
04:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
04:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
04:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
04:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
05:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
05:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
05:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
05:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
06:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
06:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
06:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
06:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
07:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
07:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
07:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
07:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
08:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
08:15	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
08:30	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
08:45	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
09:00	0	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*
09:15	1	*	*	*	*	*	*	*	*	*	*	*	*	*	1	*
09:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total Day	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Day Total	1		0		0		0		0		0		0		1	
% Splits	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
Peak Vol.	08:30	1													08:30	1
P.H.F.	0.250														0.250	

ADT ADT 11,047 AADT 11,047



TechniQuest Corporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732.274.9500, Fax 732.274.9510

Site Code: 27-06
Station ID: 23211
Easton Road - NB
B/W Maple & Meeting House Road
Latitude: 0' 0.000 Undefined

Start Time	06-May-13		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	222	26	240	34	0	0	217	41	275	60	280	66	264	38	214
12:15	*	250	38	217	28	0	0	244	43	253	52	261	38	256	33	212
12:30	*	273	31	235	18	0	0	218	30	249	46	274	42	251	28	214
12:45	*	199	20	194	19	0	0	229	25	265	38	260	33	279	22	204
01:00	*	215	20	230	25	0	0	258	25	279	35	249	42	300	24	219
01:15	*	237	20	203	14	0	0	246	23	239	24	264	33	277	19	209
01:30	*	221	11	222	13	2	0	229	17	231	36	237	19	272	16	202
01:45	*	218	15	227	16	9	0	230	12	241	28	275	20	270	15	210
02:00	*	228	16	205	18	1	0	243	16	262	28	279	21	255	16	210
02:15	*	226	21	237	14	7	1	253	25	279	23	254	21	303	18	223
02:30	*	268	11	238	15	7	0	244	13	283	31	291	22	271	15	229
02:45	*	231	11	262	12	11	0	234	21	282	29	273	13	286	14	226
03:00	*	241	13	275	12	8	0	273	21	293	15	300	14	277	12	238
03:15	*	262	9	314	12	8	0	296	22	313	19	297	12	258	12	250
03:30	*	299	18	336	7	13	0	286	14	335	25	277	13	283	13	261
03:45	*	284	22	276	11	21	1	301	8	325	9	311	6	295	10	259
04:00	*	303	15	338	7	15	2	313	11	327	17	285	2	268	9	264
04:15	*	316	15	352	21	22	0	338	16	337	11	291	9	253	12	273
04:30	*	341	33	329	32	11	1	320	22	333	21	262	9	249	20	264
04:45	*	328	40	337	45	4	3	372	47	348	16	249	10	243	27	269
05:00	*	343	48	353	54	3	0	333	41	376	22	295	16	231	30	276
05:15	*	335	59	324	63	1	4	354	62	376	33	266	23	213	41	267
05:30	*	313	81	372	84	0	2	382	85	348	53	268	23	232	55	274
05:45	*	330	119	332	116	1	10	339	109	339	57	279	22	206	72	261
06:00	*	306	117	350	105	0	6	318	113	344	39	286	16	205	66	258
06:15	*	311	208	348	167	1	15	328	142	339	70	267	49	212	108	258
06:30	*	258	218	288	214	0	7	294	228	321	93	284	36	221	133	238
06:45	*	238	250	257	182	0	22	283	229	309	75	259	39	172	133	217
07:00	*	233	252	256	236	0	29	245	218	306	90	266	35	187	143	213
07:15	*	213	244	208	266	0	40	206	247	262	104	242	42	144	157	182
07:30	*	160	268	177	206	0	31	203	252	235	116	222	55	171	155	167
07:45	*	135	243	156	233	0	38	152	226	236	118	199	63	180	154	151
08:00	*	170	250	183	235	0	16	206	220	197	143	184	61	155	154	156
08:15	*	156	275	167	212	0	23	166	216	208	135	146	88	132	158	139
08:30	*	138	248	135	242	0	19	141	257	207	144	144	87	145	166	130
08:45	*	107	253	128	251	0	11	155	239	156	150	171	93	142	166	123
09:00	*	98	225	138	245	0	7	148	181	212	181	207	101	130	157	133
09:15	*	112	184	128	231	0	93	149	235	202	170	199	129	111	174	129
09:30	*	124	210	130	228	0	223	150	192	169	202	188	133	93	198	122
09:45	*	97	233	102	113	0	208	137	254	150	196	140	174	98	196	103
10:00	*	77	197	100	0	0	173	113	186	162	201	128	151	82	151	95
10:15	*	88	188	87	0	0	195	91	197	148	236	136	191	62	168	87
10:30	*	63	187	60	0	0	209	88	216	124	220	131	227	58	176	75
10:45	*	60	208	61	0	0	189	80	204	130	230	115	198	57	172	72
11:00	*	49	210	48	0	0	224	64	208	90	235	83	187	46	177	54
11:15	199	44	212	47	0	0	193	69	240	121	233	79	203	40	183	57
11:30	201	45	219	47	0	0	186	65	259	76	256	72	252	38	196	49
11:45	251	36	233	46	0	0	202	41	275	61	267	63	261	44	213	42
Total	651	9801	6044	10295	4056	145	2383	10644	5983	11953	4632	10788	3400	9217	4425	8978
Day Total	10452		16339		4201		13027		17936		15420		12617		13403	
% Splits	6.2%	93.8%	37.0%	63.0%	96.5%	3.5%	18.3%	81.7%	33.4%	66.6%	30.0%	70.0%	26.9%	73.1%	33.0%	67.0%
Peak Vol.		04:30	07:30	05:30	08:30	03:30	10:15	04:45	11:00	04:45	11:00	03:00	11:00	02:15	11:00	04:45
P.H.F.		0.982	0.942	0.942	0.965	0.807	0.912	0.943	0.893	0.963	0.928	0.953	0.865	0.938	0.903	0.984



TechniQuest Corporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732.274.9500, Fax 732.274.9510

Site Code: 27-06
Station ID: 23211
Easton Road - NB
B/W Maple & Meeting House Road
Latitude: 0' 0.000 Undefined

Start Time	13-May-13		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	29	*	*	*	*	*	*	*	*	*	*	*	*	*	29	*
12:15	25	*	*	*	*	*	*	*	*	*	*	*	*	*	25	*
12:30	16	*	*	*	*	*	*	*	*	*	*	*	*	*	16	*
12:45	18	*	*	*	*	*	*	*	*	*	*	*	*	*	18	*
01:00	10	*	*	*	*	*	*	*	*	*	*	*	*	*	10	*
01:15	16	*	*	*	*	*	*	*	*	*	*	*	*	*	16	*
01:30	8	*	*	*	*	*	*	*	*	*	*	*	*	*	8	*
01:45	2	*	*	*	*	*	*	*	*	*	*	*	*	*	2	*
02:00	15	*	*	*	*	*	*	*	*	*	*	*	*	*	15	*
02:15	14	*	*	*	*	*	*	*	*	*	*	*	*	*	14	*
02:30	11	*	*	*	*	*	*	*	*	*	*	*	*	*	11	*
02:45	9	*	*	*	*	*	*	*	*	*	*	*	*	*	9	*
03:00	10	*	*	*	*	*	*	*	*	*	*	*	*	*	10	*
03:15	11	*	*	*	*	*	*	*	*	*	*	*	*	*	11	*
03:30	11	*	*	*	*	*	*	*	*	*	*	*	*	*	11	*
03:45	13	*	*	*	*	*	*	*	*	*	*	*	*	*	13	*
04:00	16	*	*	*	*	*	*	*	*	*	*	*	*	*	16	*
04:15	19	*	*	*	*	*	*	*	*	*	*	*	*	*	19	*
04:30	30	*	*	*	*	*	*	*	*	*	*	*	*	*	30	*
04:45	32	*	*	*	*	*	*	*	*	*	*	*	*	*	32	*
05:00	41	*	*	*	*	*	*	*	*	*	*	*	*	*	41	*
05:15	44	*	*	*	*	*	*	*	*	*	*	*	*	*	44	*
05:30	71	*	*	*	*	*	*	*	*	*	*	*	*	*	71	*
05:45	97	*	*	*	*	*	*	*	*	*	*	*	*	*	97	*
06:00	109	*	*	*	*	*	*	*	*	*	*	*	*	*	109	*
06:15	163	*	*	*	*	*	*	*	*	*	*	*	*	*	163	*
06:30	191	*	*	*	*	*	*	*	*	*	*	*	*	*	191	*
06:45	187	*	*	*	*	*	*	*	*	*	*	*	*	*	187	*
07:00	201	*	*	*	*	*	*	*	*	*	*	*	*	*	201	*
07:15	240	*	*	*	*	*	*	*	*	*	*	*	*	*	240	*
07:30	255	*	*	*	*	*	*	*	*	*	*	*	*	*	255	*
07:45	230	*	*	*	*	*	*	*	*	*	*	*	*	*	230	*
08:00	218	*	*	*	*	*	*	*	*	*	*	*	*	*	218	*
08:15	240	*	*	*	*	*	*	*	*	*	*	*	*	*	240	*
08:30	241	*	*	*	*	*	*	*	*	*	*	*	*	*	241	*
08:45	239	*	*	*	*	*	*	*	*	*	*	*	*	*	239	*
09:00	201	*	*	*	*	*	*	*	*	*	*	*	*	*	201	*
09:15	205	*	*	*	*	*	*	*	*	*	*	*	*	*	205	*
09:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:45	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total Day	3488	0	0	0	0	0	0	0	0	0	0	0	0	0	3488	0
Day Total	3488		0		0		0		0		0		0		3488	
% Splits	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0 %	0.0%
Peak	07:15														07:15	
Vol.	943														943	
P.H.F.	0.925														0.925	

ADT ADT 13,531 AADT 13,531

TRAFFIC ASSESSMENT STUDY

Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove

TOWNSHIP OF HORSHAM

MONTGOMERY COUNTY, PENNSYLVANIA

System Peak Hour Calculations

Willow Grove- Traffic Study
Peak Hours by Intersection

<i>Location</i>	<i>AM Peak Hour</i>	<i>PM Peak Hour</i>
1	7:30 AM - 8:30 AM	5:00 PM - 6:00 PM
2	8:00 AM - 9:00 AM	5:00 PM - 6:00 PM
3	7:45 AM - 8:45 AM	5:00 PM - 6:00 PM
4	7:30 AM - 8:30 AM	5:00 PM - 6:00 PM
5	7:15 AM - 8:15 AM	5:00 PM - 6:00 PM
6	8:00 AM - 9:00 AM	5:00 PM - 6:00 PM
7	7:00 AM - 8:00 AM	5:00 PM - 6:00 PM
8	7:45 AM - 8:45 AM	4:30 PM - 5:30 PM
9	N/A	N/A
10	7:30 AM - 8:30 AM	4:30 PM - 5:30 PM
11	7:15 AM - 8:15 AM	4:30 PM - 5:30 PM
12	7:15 AM - 8:15 AM	4:30 PM - 5:30 PM
13	7:15 AM - 8:15 AM	4:30 PM - 5:30 PM
14	7:45 AM - 8:45 AM	5:00 PM - 6:00 PM
15	7:00 AM - 8:00 AM	4:45 PM - 5:45 PM
System Peak	7:15 AM - 8:15 AM	5:00 PM - 6:00 PM

TRAFFIC ASSESSMENT STUDY

Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove

TOWNSHIP OF HORSHAM

MONTGOMERY COUNTY, PENNSYLVANIA

System Peak Hour Volumes

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd and Horsham Rd (W)

Description:

Machine:

Person: Alex Henderson / Pat Hoffman

File Name : 027-02

Site Code : 2

Start Date : 5/7/2013

Page No : 2

Start Time	Easton Road Southbound					Westbound					Easton Road Northbound					Horsham Rd Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	268	0	0	268	0	0	0	0	0	196	223	0	0	419	0	0	80	0	80	767
07:30 AM	0	228	6	0	234	0	0	0	0	0	226	236	0	0	462	0	0	104	0	104	800
07:45 AM	0	200	2	0	202	0	0	0	0	0	248	228	0	0	476	0	0	98	0	98	776
08:00 AM	0	162	0	0	162	0	0	0	0	0	277	218	0	0	495	0	0	106	0	106	763
Total Volume	0	858	8	0	866	0	0	0	0	0	947	905	0	0	1852	0	0	388	0	388	3106
% App. Total	0	99.1	0.9	0		0	0	0	0		51.1	48.9	0	0		0	0	100	0		
PHF	.000	.800	.333	.000	.808	.000	.000	.000	.000	.000	.855	.959	.000	.000	.935	.000	.000	.915	.000	.915	.971

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	254	4	2	260	0	0	0	0	0	139	291	0	0	430	0	0	258	0	258	948
05:15 PM	0	234	2	3	239	0	0	0	0	0	140	280	0	0	420	0	0	339	3	342	1001
05:30 PM	0	227	4	0	231	0	0	0	0	0	157	314	0	0	471	0	0	272	0	272	974
05:45 PM	0	203	4	0	207	0	0	0	0	0	141	310	0	0	451	0	0	312	0	312	970
Total Volume	0	918	14	5	937	0	0	0	0	0	577	1195	0	0	1772	0	0	1181	3	1184	3893
% App. Total	0	98	1.5	0.5		0	0	0	0		32.6	67.4	0	0		0	0	99.7	0.3		
PHF	.000	.904	.875	.417	.901	.000	.000	.000	.000	.000	.919	.951	.000	.000	.941	.000	.000	.871	.250	.865	.972

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Dresher Rd

Description:

Machine:

Person: George Ferrio / Rafiq

File Name : 027-03

Site Code : 3

Start Date : 5/7/2013

Page No : 2

Start Time	Dresher Road Southbound					Horsham Road Westbound					Dresher Road Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	220	9	0	230	23	163	0	0	186	28	78	12	1	119	74	73	133	0	280	815
07:30 AM	1	228	15	0	244	47	192	0	0	239	34	75	8	0	117	88	93	129	0	310	910
07:45 AM	2	265	14	0	281	51	187	0	0	238	37	103	8	0	148	68	89	147	0	304	971
08:00 AM	1	230	17	1	249	54	211	0	0	265	43	81	10	0	134	57	84	147	1	289	937
Total Volume	5	943	55	1	1004	175	753	0	0	928	142	337	38	1	518	287	339	556	1	1183	3633
% App. Total	0.5	93.9	5.5	0.1		18.9	81.1	0	0		27.4	65.1	7.3	0.2		24.3	28.7	47	0.1		
PHF	.625	.890	.809	.250	.893	.810	.892	.000	.000	.875	.826	.818	.792	.250	.875	.815	.911	.946	.250	.954	.935

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	17	104	22	2	145	24	123	3	0	150	124	318	42	0	484	82	187	54	2	325	1104
05:15 PM	16	89	19	0	124	19	136	0	0	155	140	296	36	0	472	96	258	72	0	426	1177
05:30 PM	15	102	20	0	137	18	143	0	0	161	146	362	40	0	548	88	198	58	0	344	1190
05:45 PM	10	85	27	1	123	23	112	3	0	138	97	327	45	0	469	85	232	51	0	368	1098
Total Volume	58	380	88	3	529	84	514	6	0	604	507	1303	163	0	1973	351	875	235	2	1463	4569
% App. Total	11	71.8	16.6	0.6		13.9	85.1	1	0		25.7	66	8.3	0		24	59.8	16.1	0.1		
PHF	.853	.913	.815	.375	.912	.875	.899	.500	.000	.938	.868	.900	.906	.000	.900	.914	.848	.816	.250	.859	.960

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Maple Ave

Description:

Machine:

Person: TT / Andrew Klinek

File Name : 027-04

Site Code : 4

Start Date : 5/7/2013

Page No : 2

Start Time	Maple Avenue Southbound					Horsham Road Westbound					Maple Avenue Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	41	2	152	0	195	0	231	6	0	237	13	5	4	0	22	61	238	4	0	303	757
07:30 AM	56	14	123	0	193	1	271	6	0	278	18	6	2	0	26	63	269	4	0	336	833
07:45 AM	59	8	116	1	184	1	255	6	0	262	10	5	3	0	18	70	244	6	0	320	784
08:00 AM	65	13	142	0	220	4	273	9	1	287	18	13	2	1	34	59	211	8	2	280	821
Total Volume	221	37	533	1	792	6	1030	27	1	1064	59	29	11	1	100	253	962	22	2	1239	3195
% App. Total	27.9	4.7	67.3	0.1		0.6	96.8	2.5	0.1		5.9	2.9	1.1	1		20.4	77.6	1.8	0.2		
PHF	.850	.661	.877	.250	.900	.375	.943	.750	.250	.927	.819	.558	.688	.250	.735	.904	.894	.688	.250	.922	.959
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	13	12	69	0	94	5	248	29	0	282	14	21	4	0	39	142	350	6	1	499	914
05:15 PM	22	12	80	0	114	1	264	29	0	294	27	35	2	0	64	123	353	9	0	485	957
05:30 PM	13	7	81	0	101	5	269	17	0	291	37	23	3	0	63	138	356	4	0	498	953
05:45 PM	16	9	67	0	92	3	232	36	1	272	23	15	1	0	39	121	322	9	1	453	856
Total Volume	64	40	297	0	401	14	1013	111	1	1139	101	94	10	0	205	524	1381	28	2	1935	3680
% App. Total	16	10	74.1	0		1.2	88.9	9.7	0.1		49.3	45.9	4.9	0		27.1	71.4	1.4	0.1		
PHF	.727	.833	.917	.000	.879	.700	.941	.771	.250	.969	.682	.671	.625	.000	.801	.923	.970	.778	.500	.969	.961

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Norristown Rd

Description:

Machine:

Person: Josh K/ Robert Vera

File Name : 027-05

Site Code : 5

Start Date : 5/7/2013

Page No : 2

Start Time	Southbound					Horsham Road Westbound					Norristown Road Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	114	285	0	0	399	64	0	94	3	161	0	221	38	0	259	819
07:30 AM	0	0	0	0	0	139	251	0	0	390	43	1	129	0	173	0	201	26	0	227	790
07:45 AM	0	0	0	0	0	109	256	0	0	365	38	0	109	0	147	0	179	23	0	202	714
08:00 AM	0	0	0	0	0	123	289	0	0	412	34	0	104	0	138	0	182	21	0	203	753
Total Volume	0	0	0	0	0	485	1081	0	0	1566	179	1	436	3	619	0	783	108	0	891	3076
% App. Total	0	0	0	0	0	31	69	0	0		28.9	0.2	70.4	0.5		0	87.9	12.1	0		
PHF	.000	.000	.000	.000	.000	.872	.935	.000	.000	.950	.699	.250	.845	.250	.895	.000	.886	.711	.000	.860	.939
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	99	222	0	0	321	40	0	158	1	199	0	333	20	0	353	873
05:15 PM	0	0	0	0	0	117	225	0	0	342	35	0	141	2	178	0	304	16	0	320	840
05:30 PM	0	0	0	0	0	102	258	0	0	360	36	0	135	1	172	0	331	20	0	351	883
05:45 PM	0	0	0	0	0	119	216	0	0	335	47	0	139	1	187	0	303	16	0	319	841
Total Volume	0	0	0	0	0	437	921	0	0	1358	158	0	573	5	736	0	1271	72	0	1343	3437
% App. Total	0	0	0	0	0	32.2	67.8	0	0		21.5	0	77.9	0.7		0	94.6	5.4	0		
PHF	.000	.000	.000	.000	.000	.918	.892	.000	.000	.943	.840	.000	.907	.625	.925	.000	.954	.900	.000	.951	.973

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Home Depot Dr
 Description:
 Machine:
 Person: Alex Henderson / Pat Hoffman

File Name : 027-06
 Site Code : 6
 Start Date : 5/8/2013
 Page No : 2

Start Time	Easton Road Southbound					Ramp from Pen Turnpike Westbound					Easton Road Northbound					Home Depot Drive Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	360	8	7	375	0	2	345	0	347	2	107	0	0	109	8	0	19	0	27	858
07:30 AM	0	381	8	0	389	0	4	347	0	351	8	114	0	0	122	24	0	26	0	50	912
07:45 AM	0	313	2	0	315	0	0	349	2	351	8	106	0	0	114	10	0	20	0	30	810
08:00 AM	0	382	6	0	388	0	8	374	2	384	10	138	0	0	148	18	0	16	0	34	954
Total Volume	0	1436	24	7	1467	0	14	1415	4	1433	28	465	0	0	493	60	0	81	0	141	3534
% App. Total	0	97.9	1.6	0.5		0	1	98.7	0.3		5.7	94.3	0	0		42.6	0	57.4	0		
PHF	.000	.940	.750	.250	.943	.000	.438	.946	.500	.933	.700	.842	.000	.000	.833	.625	.000	.779	.000	.705	.926
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	519	16	0	535	0	4	411	2	417	30	167	0	0	197	26	0	40	0	66	1215
05:15 PM	0	549	36	0	585	0	24	435	6	465	24	198	0	0	222	30	0	34	0	64	1336
05:30 PM	0	509	26	0	535	0	10	412	0	422	36	136	0	0	172	24	0	37	0	61	1190
05:45 PM	0	513	48	0	561	0	18	442	0	460	26	168	0	0	194	22	0	32	0	54	1269
Total Volume	0	2090	126	0	2216	0	56	1700	8	1764	116	669	0	0	785	102	0	143	0	245	5010
% App. Total	0	94.3	5.7	0		0	3.2	96.4	0.5		14.8	85.2	0	0		41.6	0	58.4	0		
PHF	.000	.952	.656	.000	.947	.000	.583	.962	.333	.948	.806	.845	.000	.000	.884	.850	.000	.894	.000	.928	.938

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Privet Rd
 Description:
 Machine:
 Person: George Ferrio / David Lee

File Name : 027-07
 Site Code : 7
 Start Date : 5/8/2013
 Page No : 2

Start Time	Southbound					Horsham Road Westbound					Privet Road Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	24	298	0	0	322	8	0	3	1	12	0	248	24	0	272	606
07:30 AM	0	0	0	0	0	25	248	0	0	273	9	0	7	1	17	0	219	24	0	243	533
07:45 AM	0	0	0	0	0	34	246	0	0	280	5	0	5	0	10	0	189	30	0	219	509
08:00 AM	0	0	0	0	0	48	255	0	0	303	6	0	2	0	8	0	187	32	0	219	530
Total Volume	0	0	0	0	0	131	1047	0	0	1178	28	0	17	2	47	0	843	110	0	953	2178
% App. Total	0	0	0	0	0	11.1	88.9	0	0		59.6	0	36.2	4.3		0	88.5	11.5	0		
PHF	.000	.000	.000	.000	.000	.682	.878	.000	.000	.915	.778	.000	.607	.500	.691	.000	.850	.859	.000	.876	.899
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	13	238	0	0	251	47	0	43	0	90	0	298	12	0	310	651
05:15 PM	0	0	0	0	0	12	237	0	0	249	34	0	44	1	79	0	265	16	0	281	609
05:30 PM	0	0	0	0	0	10	262	0	0	272	48	0	90	1	139	0	242	7	0	249	660
05:45 PM	0	0	0	0	0	5	237	0	0	242	38	0	46	2	86	0	257	12	0	269	597
Total Volume	0	0	0	0	0	40	974	0	0	1014	167	0	223	4	394	0	1062	47	0	1109	2517
% App. Total	0	0	0	0	0	3.9	96.1	0	0		42.4	0	56.6	1		0	95.8	4.2	0		
PHF	.000	.000	.000	.000	.000	.769	.929	.000	.000	.932	.870	.000	.619	.500	.709	.000	.891	.734	.000	.894	.953

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Horsham Rd & Keith Valley Rd

Description:

Machine:

Person: Mike Wang / Tom S

File Name : 027-08

Site Code : 8

Start Date : 5/8/2013

Page No : 2

Start Time	Keith Valley Rd Southbound					Horsham Road Westbound					Driveway Northbound					Horsham Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	39	0	29	0	68	0	108	7	0	115	0	0	1	0	1	8	268	1	0	277	461
07:30 AM	49	0	30	0	79	0	112	20	0	132	0	0	0	0	0	13	209	2	0	224	435
07:45 AM	66	0	12	0	78	1	113	2	0	116	0	0	0	0	0	6	235	0	0	241	435
08:00 AM	59	2	21	0	82	1	115	3	0	119	0	0	0	0	0	15	211	1	0	227	428
Total Volume	213	2	92	0	307	2	448	32	0	482	0	0	1	0	1	42	923	4	0	969	1759
% App. Total	69.4	0.7	30	0		0.4	92.9	6.6	0		0	0	100	0		4.3	95.3	0.4	0		
PHF	.807	.250	.767	.000	.936	.500	.974	.400	.000	.913	.000	.000	.250	.000	.250	.700	.861	.500	.000	.875	.954
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	11	0	4	0	15	0	292	32	0	324	0	0	0	0	0	23	141	0	1	165	504
05:15 PM	7	0	11	0	18	0	258	43	0	301	1	0	0	0	1	40	188	0	0	228	548
05:30 PM	16	0	9	0	25	1	268	23	0	292	0	0	1	0	1	22	173	0	0	195	513
05:45 PM	14	0	8	0	22	0	267	28	0	295	0	0	0	0	0	33	166	0	0	199	516
Total Volume	48	0	32	0	80	1	1085	126	0	1212	1	0	1	0	2	118	668	0	1	787	2081
% App. Total	60	0	40	0		0.1	89.5	10.4	0		50	0	50	0		15	84.9	0	0.1		
PHF	.750	.000	.727	.000	.800	.250	.929	.733	.000	.935	.250	.000	.250	.000	.500	.738	.888	.000	.250	.863	.949

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: County Line Rd & Keith Valley

Description:

Machine:

Person: Andrew Klinek / TT

File Name : 027-10

Site Code : 10

Start Date : 5/8/2013

Page No : 2

Start Time	Kansas Road Southbound					County Line Road Westbound					Keith Valley Road Northbound					County Line Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	5	45	6	0	56	61	141	1	0	203	0	7	16	0	23	4	161	7	0	172	454
07:30 AM	4	81	10	0	95	54	121	0	0	175	4	9	18	0	31	3	168	15	0	186	487
07:45 AM	20	69	11	0	100	65	130	1	0	196	1	4	15	0	20	6	145	13	0	164	480
08:00 AM	7	69	3	0	79	62	114	0	0	176	0	11	25	0	36	6	145	16	0	167	458
Total Volume	36	264	30	0	330	242	506	2	0	750	5	31	74	0	110	19	619	51	0	689	1879
% App. Total	10.9	80	9.1	0		32.3	67.5	0.3	0		4.5	28.2	67.3	0		2.8	89.8	7.4	0		
PHF	.450	.815	.682	.000	.825	.931	.897	.500	.000	.924	.313	.705	.740	.000	.764	.792	.921	.797	.000	.926	.965
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	8	15	4	0	27	30	194	9	0	233	39	53	75	0	167	2	149	3	0	154	581
05:15 PM	5	14	9	0	28	31	196	12	0	239	48	65	93	0	206	7	135	3	0	145	618
05:30 PM	3	19	10	0	32	27	168	9	0	204	39	70	69	0	178	6	130	0	0	136	550
05:45 PM	6	17	12	0	35	24	142	9	0	175	26	60	68	0	154	4	136	7	0	147	511
Total Volume	22	65	35	0	122	112	700	39	0	851	152	248	305	0	705	19	550	13	0	582	2260
% App. Total	18	53.3	28.7	0		13.2	82.3	4.6	0		21.6	35.2	43.3	0		3.3	94.5	2.2	0		
PHF	.688	.855	.729	.000	.871	.903	.893	.813	.000	.890	.792	.886	.820	.000	.856	.679	.923	.464	.000	.945	.914

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: County Line Rd & Easton Rd

Description:

Machine:

Person: Erica E/Dan W/Brandon T

File Name : 027-11

Site Code : 11

Start Date : 5/9/2013

Page No : 2

Start Time	Easton Road Southbound					County Line Road Westbound					Easton Road Northbound					County Line Road Eastbound					Int. Total
	Left to County Line Rd EB	Thru to Easton Rd SB	Right to Privet Rd	Right to County Line Rd WB	App. Total	Left to Easton Rd SB	Left to Privet Rd	Thru to County Line Rd WB	Right to Easton Rd NB	App. Total	Left Privet Rd	Left to County Line Rd WB	Thru to Easton Rd NB	Right to County Line Rd EB	App. Total	Left to Easton Road NB	Thru County Line Rd EB	Right to Easton Rd SB	Right to Privet Rd	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	33	306	0	1	340	47	5	83	18	153	6	37	173	18	234	2	68	18	0	88	815
07:30 AM	20	280	0	3	303	47	2	114	34	197	2	29	223	19	273	5	83	19	0	107	880
07:45 AM	16	293	0	7	316	71	4	61	28	164	0	43	203	23	269	2	64	18	0	84	833
08:00 AM	19	301	0	1	321	44	0	93	31	168	1	44	165	27	237	1	73	25	0	99	825
Total Volume	88	1180	0	12	1280	209	11	351	111	682	9	153	764	87	1013	10	288	80	0	378	3353
% App. Total	6.9	92.2	0	0.9		30.6	1.6	51.5	16.3		0.9	15.1	75.4	8.6		2.6	76.2	21.2	0		
PHF	.667	.964	.000	.429	.941	.736	.550	.770	.816	.865	.375	.869	.857	.806	.928	.500	.867	.800	.000	.883	.953

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	24	204	1	0	229	21	0	108	23	152	0	71	260	34	365	6	51	16	0	73	819
05:15 PM	49	242	0	6	297	37	9	95	26	167	0	34	293	28	355	3	100	31	0	134	953
05:30 PM	28	239	0	1	268	11	0	75	28	114	0	44	292	36	372	0	62	17	0	79	833
05:45 PM	46	258	0	1	305	11	3	64	35	113	0	47	328	23	398	1	76	23	0	100	916
Total Volume	147	943	1	8	1099	80	12	342	112	546	0	196	1173	121	1490	10	289	87	0	386	3521
% App. Total	13.4	85.8	0.1	0.7		14.7	2.2	62.6	20.5		0	13.2	78.7	8.1		2.6	74.9	22.5	0		
PHF	.750	.914	.250	.333	.901	.541	.333	.792	.800	.817	.000	.690	.894	.840	.936	.417	.723	.702	.000	.720	.924

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Entrance

Description:

Machine:

Person: Mike Wang / Tom S

File Name : 027-12

Site Code : 12

Start Date : 5/9/2013

Page No : 2

Start Time	Easton Road Southbound					Westbound					Easton Road Northbound					Entrance Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	386	4	0	390	0	0	0	0	0	12	249	0	0	261	0	0	0	0	0	651
07:30 AM	0	377	16	0	393	0	0	0	0	0	19	301	0	0	320	0	0	0	0	0	713
07:45 AM	0	400	16	0	416	0	0	0	0	0	13	303	0	0	316	0	0	0	0	0	732
08:00 AM	0	378	17	0	395	0	0	0	0	0	6	255	0	0	261	0	0	0	0	0	656
Total Volume	0	1541	53	0	1594	0	0	0	0	0	50	1108	0	0	1158	0	0	0	0	0	2752
% App. Total	0	96.7	3.3	0		0	0	0	0	0	4.3	95.7	0	0		0	0	0	0	0	
PHF	.000	.963	.779	.000	.958	.000	.000	.000	.000	.000	.658	.914	.000	.000	.905	.000	.000	.000	.000	.000	.940
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	264	0	0	264	0	0	0	0	0	1	376	0	0	377	3	0	16	0	19	660
05:15 PM	0	320	1	0	321	0	0	0	0	0	5	362	0	0	367	2	0	21	0	23	711
05:30 PM	0	259	0	0	259	0	0	0	0	0	0	404	0	0	404	2	0	11	0	13	676
05:45 PM	0	306	0	0	306	0	0	0	0	0	0	425	0	0	425	0	0	7	0	7	738
Total Volume	0	1149	1	0	1150	0	0	0	0	0	6	1567	0	0	1573	7	0	55	0	62	2785
% App. Total	0	99.9	0.1	0		0	0	0	0	0	0.4	99.6	0	0		11.3	0	88.7	0		
PHF	.000	.898	.250	.000	.896	.000	.000	.000	.000	.000	.300	.922	.000	.000	.925	.583	.000	.655	.000	.674	.943

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852
Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Maple Ave
Description:
Machine:
Person: Pat Hoffman / Ghulam Shah

File Name : 027-14
Site Code : 14
Start Date : 5/9/2013
Page No : 2

Start Time	Easton Road Southbound					Entrance Westbound					Easton Road Northbound					Maple Avenue Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	307	120	0	427	0	2	0	0	2	51	172	0	0	223	54	1	15	0	70	722
07:30 AM	0	240	129	0	369	3	9	0	0	12	39	252	0	0	291	67	0	10	0	77	749
07:45 AM	0	310	162	0	472	0	3	0	0	3	24	243	0	0	267	38	0	10	0	48	790
08:00 AM	0	259	147	0	406	0	5	0	0	5	45	195	3	6	249	52	0	13	0	65	725
Total Volume	0	1116	558	0	1674	3	19	0	0	22	159	862	3	6	1030	211	1	48	0	260	2986
% App. Total	0	66.7	33.3	0		13.6	86.4	0	0		15.4	83.7	0.3	0.6		81.2	0.4	18.5	0		
PHF	.000	.900	.861	.000	.887	.250	.528	.000	.000	.458	.779	.855	.250	.250	.885	.787	.250	.800	.000	.844	.945
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	218	74	0	292	0	4	0	0	4	9	367	3	0	379	176	2	36	0	214	889
05:15 PM	2	295	98	0	395	2	0	0	0	2	24	315	6	0	345	162	4	30	0	196	938
05:30 PM	0	196	62	0	258	3	2	0	0	5	28	401	2	0	431	148	6	28	0	182	876
05:45 PM	0	270	78	0	348	3	3	0	0	6	18	322	3	0	343	150	0	26	0	176	873
Total Volume	2	979	312	0	1293	8	9	0	0	17	79	1405	14	0	1498	636	12	120	0	768	3576
% App. Total	0.2	75.7	24.1	0		47.1	52.9	0	0		5.3	93.8	0.9	0		82.8	1.6	15.6	0		
PHF	.250	.830	.796	.000	.818	.667	.563	.000	.000	.708	.705	.876	.583	.000	.869	.903	.500	.833	.000	.897	.953

TechniQuest Corporation

4105 US Route 1, Monmouth Junction, NJ 08852

Phone: 732-274-9500 Fax: 732-274-9510

Location: Easton Rd & Dresher Rd

Description:

Machine:

Person: TT / Andrew Klinek

File Name : 027-15

Site Code : 15

Start Date : 5/9/2013

Page No : 2

Start Time	Easton Road Southbound					Meetinghouse Road Westbound					Easton Road Northbound					Dresher Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	6	217	91	0	314	22	181	6	0	209	1	195	16	0	212	21	121	0	0	142	877
07:30 AM	4	171	91	0	266	21	173	3	0	197	4	229	16	0	249	40	138	0	0	178	890
07:45 AM	8	186	122	0	316	10	218	3	0	231	5	209	16	0	230	39	128	3	0	170	947
08:00 AM	13	169	87	0	269	14	209	2	0	225	8	175	13	0	196	29	94	1	0	124	814
Total Volume	31	743	391	0	1165	67	781	14	0	862	18	808	61	0	887	129	481	4	0	614	3528
% App. Total	2.7	63.8	33.6	0		7.8	90.6	1.6	0		2	91.1	6.9	0		21	78.3	0.7	0		
PHF	.596	.856	.801	.000	.922	.761	.896	.583	.000	.933	.563	.882	.953	.000	.891	.806	.871	.333	.000	.862	.931
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	9	218	40	0	267	30	133	2	1	166	5	245	27	0	277	113	281	3	0	397	1107
05:15 PM	6	244	43	0	293	23	138	2	0	163	6	249	23	0	278	125	231	5	1	362	1096
05:30 PM	11	198	37	0	246	12	124	6	0	142	11	289	34	0	334	108	262	7	0	377	1099
05:45 PM	11	216	45	0	272	22	100	4	0	126	6	260	27	0	293	90	186	2	0	278	969
Total Volume	37	876	165	0	1078	87	495	14	1	597	28	1043	111	0	1182	436	960	17	1	1414	4271
% App. Total	3.4	81.3	15.3	0		14.6	82.9	2.3	0.2		2.4	88.2	9.4	0		30.8	67.9	1.2	0.1		
PHF	.841	.898	.917	.000	.920	.725	.897	.583	.250	.899	.636	.902	.816	.000	.885	.872	.854	.607	.250	.890	.965

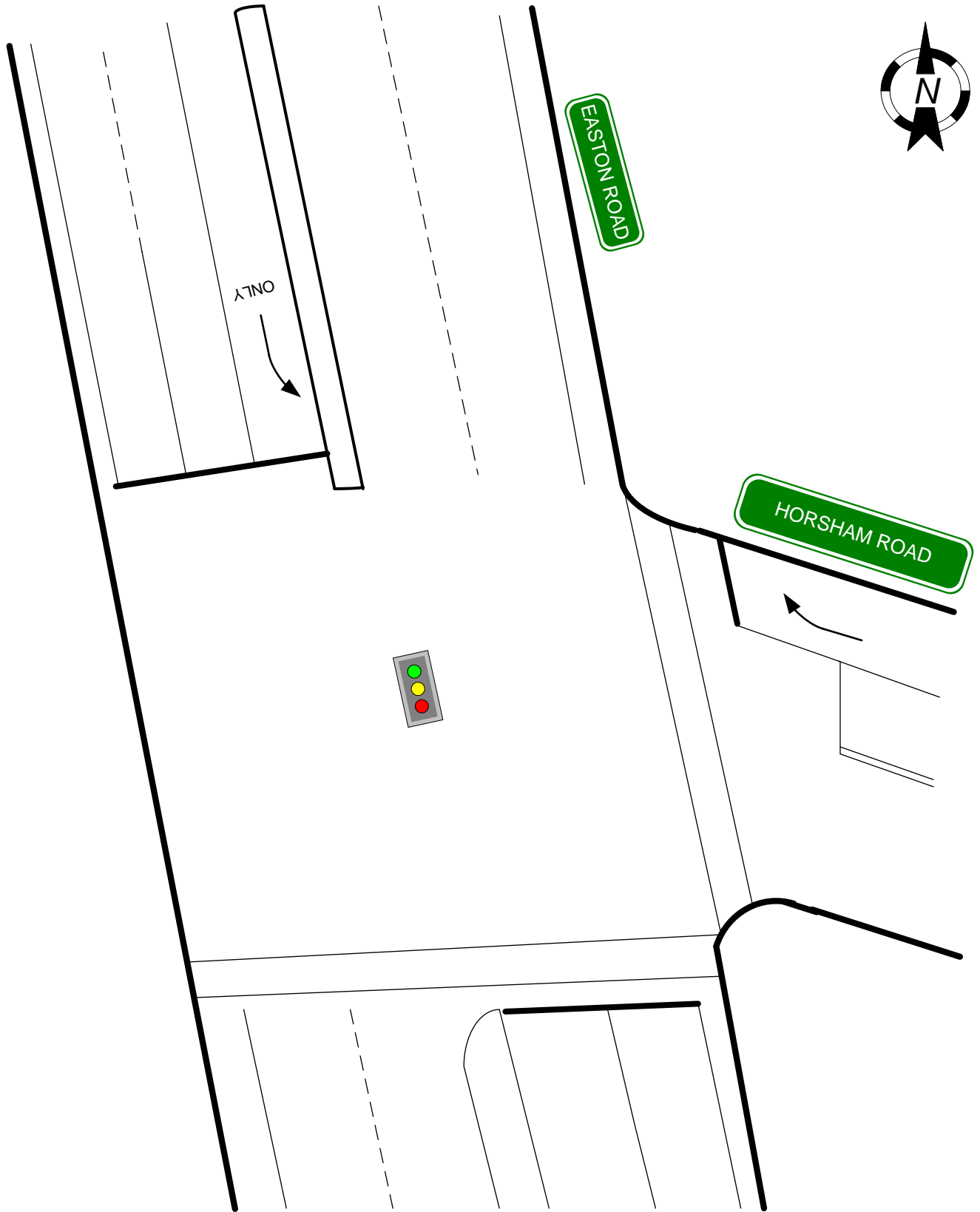
TRAFFIC ASSESSMENT STUDY

Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove

TOWNSHIP OF HORSHAM

MONTGOMERY COUNTY, PENNSYLVANIA

Intersection Geometry Sketches



LOCATION # 1
INTERSECTION OF
EASTON ROAD AND HORSHAM ROAD
HORSHAM TOWNSHIP, PA

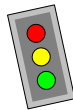
DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY





HORSHAM ROAD

LAUREL AVE



EASTON ROAD

ONLY

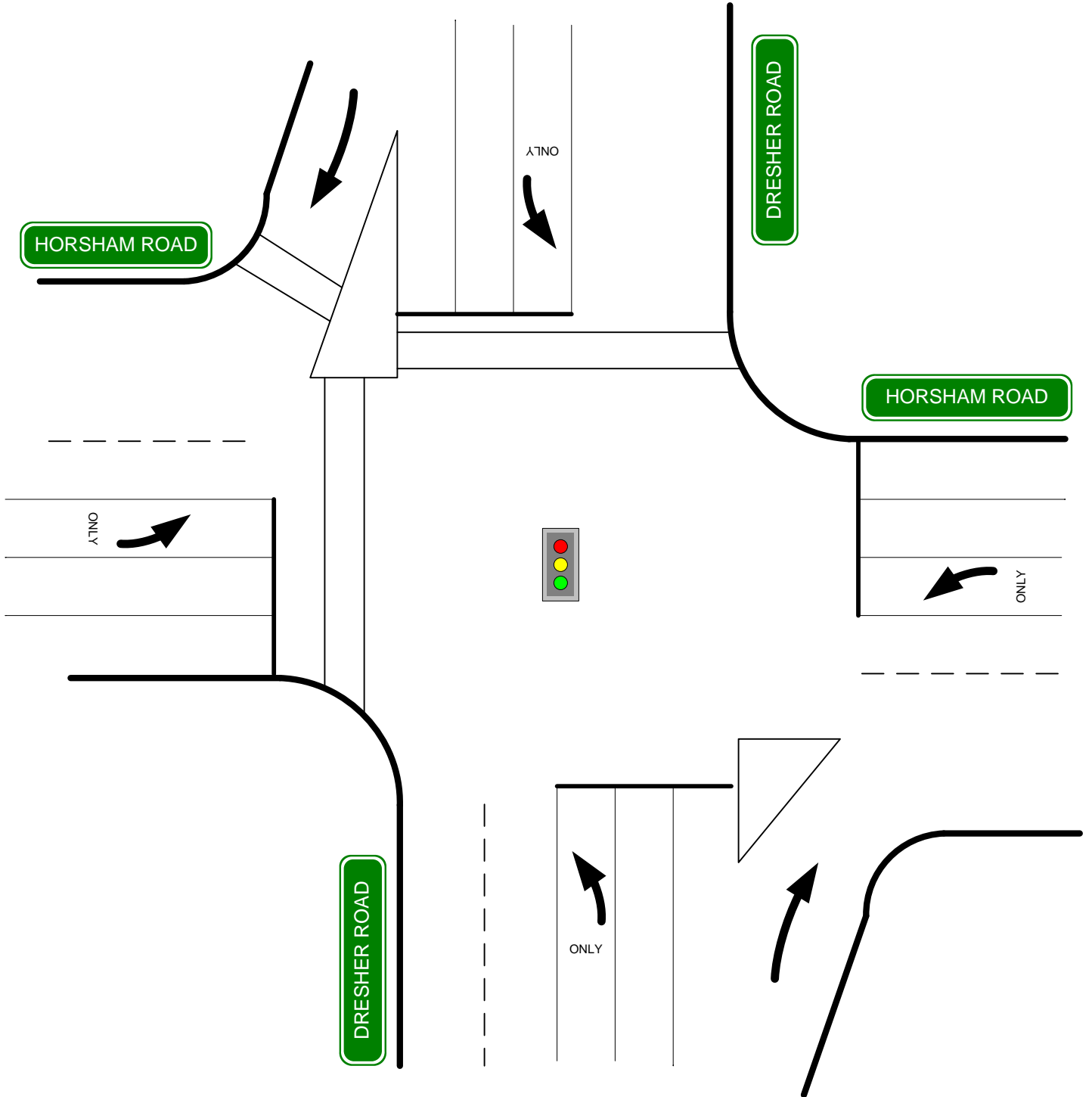
ONLY



LOCATION # 2
INTERSECTION OF
EASTON ROAD AND HORSHAM ROAD
HORSHAM TOWNSHIP, PA

DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY





LOCATION # 3
INTERSECTION OF
HORSHAM ROAD AND DRESHER ROAD
HORSHAM TOWNSHIP, PA

DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY





HORSHAM ROAD

MAPLE AVE

MAPLE AVE

HORSHAM ROAD

ONLY

ONLY



LOCATION # 4
INTERSECTION OF
HORSHAM ROAD AND MAPLE AVENUE
HORSHAM TOWNSHIP, PA

DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY





HORSHAM ROAD

ONLY

HORSHAM ROAD

NORRISTOWN ROAD



LOCATION # 5
INTERSECTION OF
HORSHAM ROAD AND NORRISTOWN ROAD
HORSHAM TOWNSHIP, PA

DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY



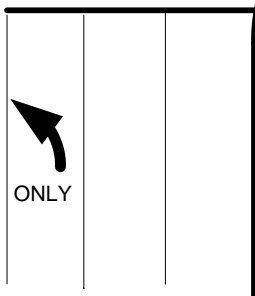
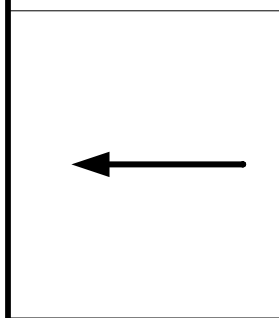
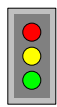
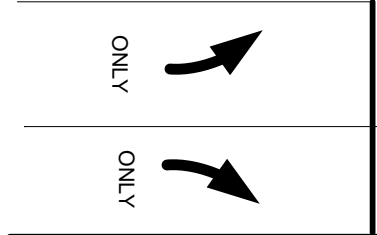


EASTON ROAD

HOME DEPOT DRIVE

RAMP FROM PATPK

EASTON ROAD



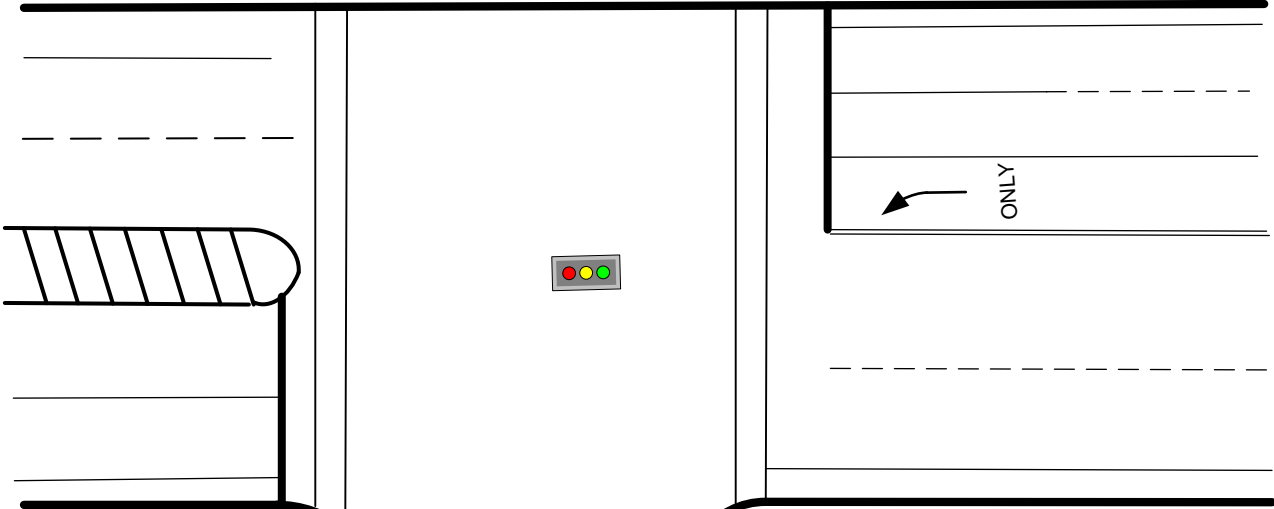
LOCATION # 6
INTERSECTION OF
EASTONROAD AND HOME DEPOT DRIVE
UPPER MORELAND TOWNSHIP, PA

DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY

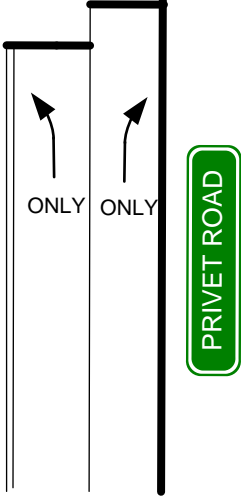




HORSHAM ROAD



HORSHAM ROAD



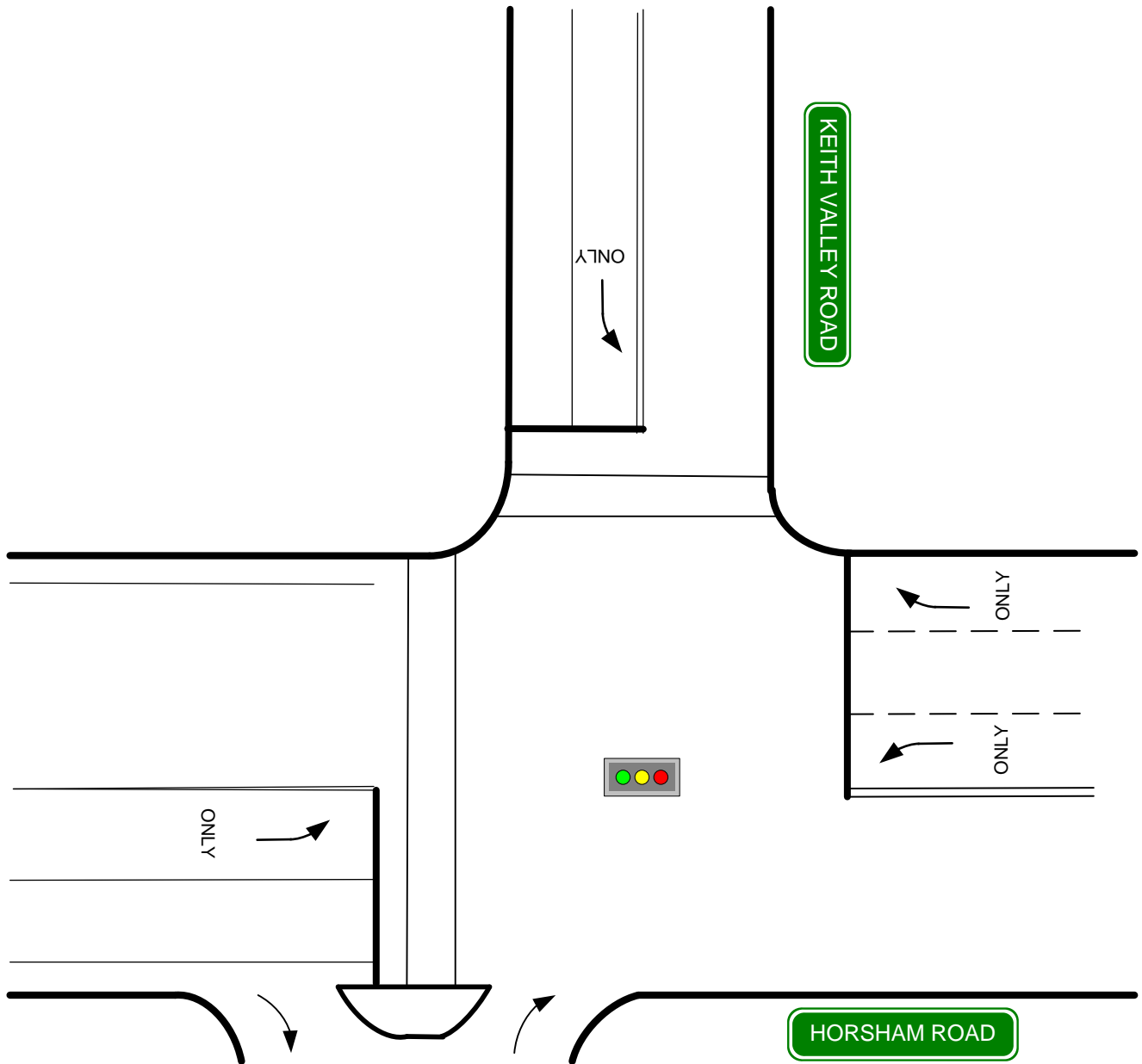
PRIVET ROAD



LOCATION # 7
INTERSECTION OF
HORSHAM ROAD AND PRIVET ROAD
HORSHAM TOWNSHIP, PA

DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY

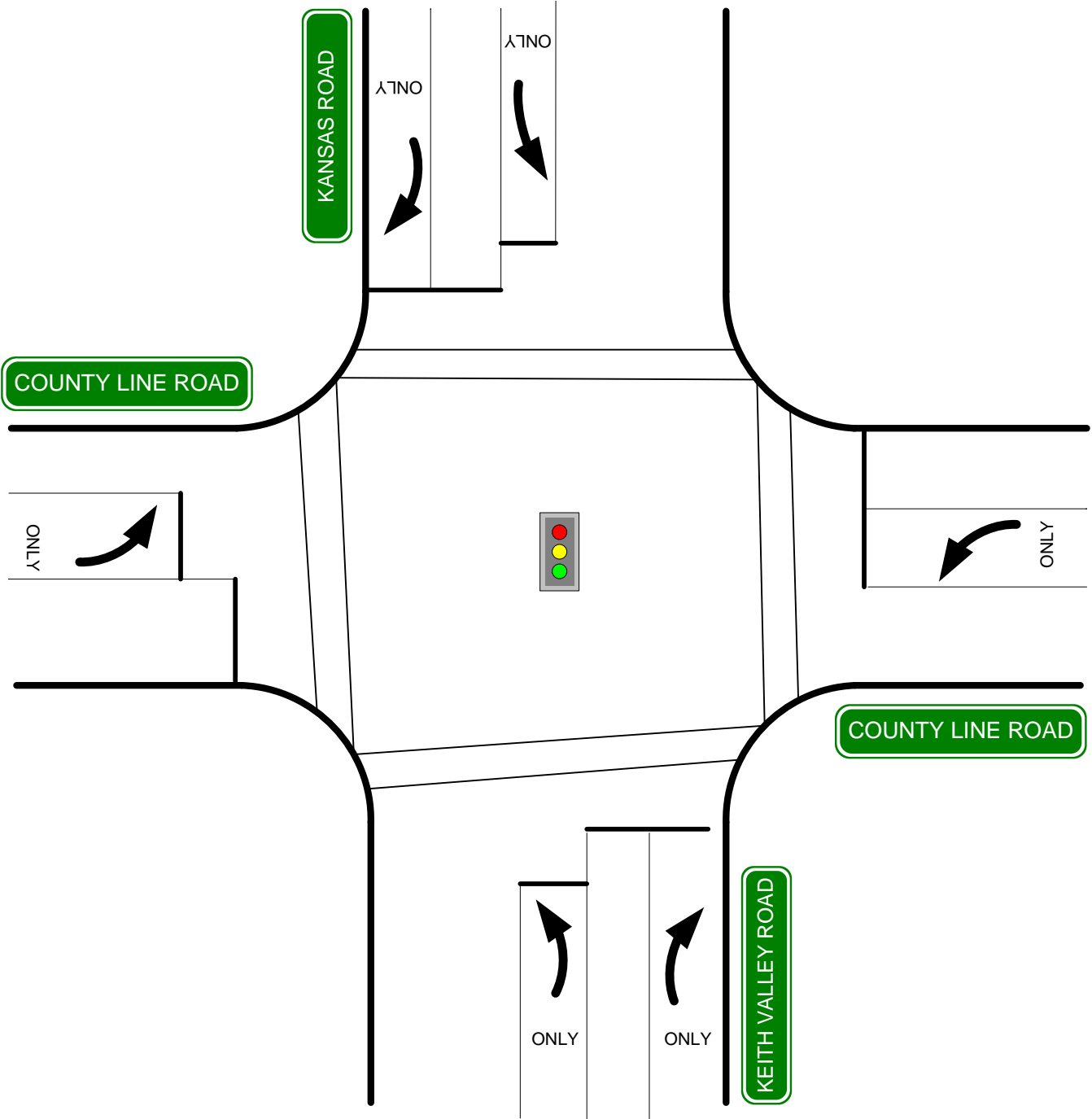




LOCATION # 8
INTERSECTION OF
HORSHAM ROAD AND KEITH VALLEY ROAD
HORSHAM TOWNSHIP, PA

DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY

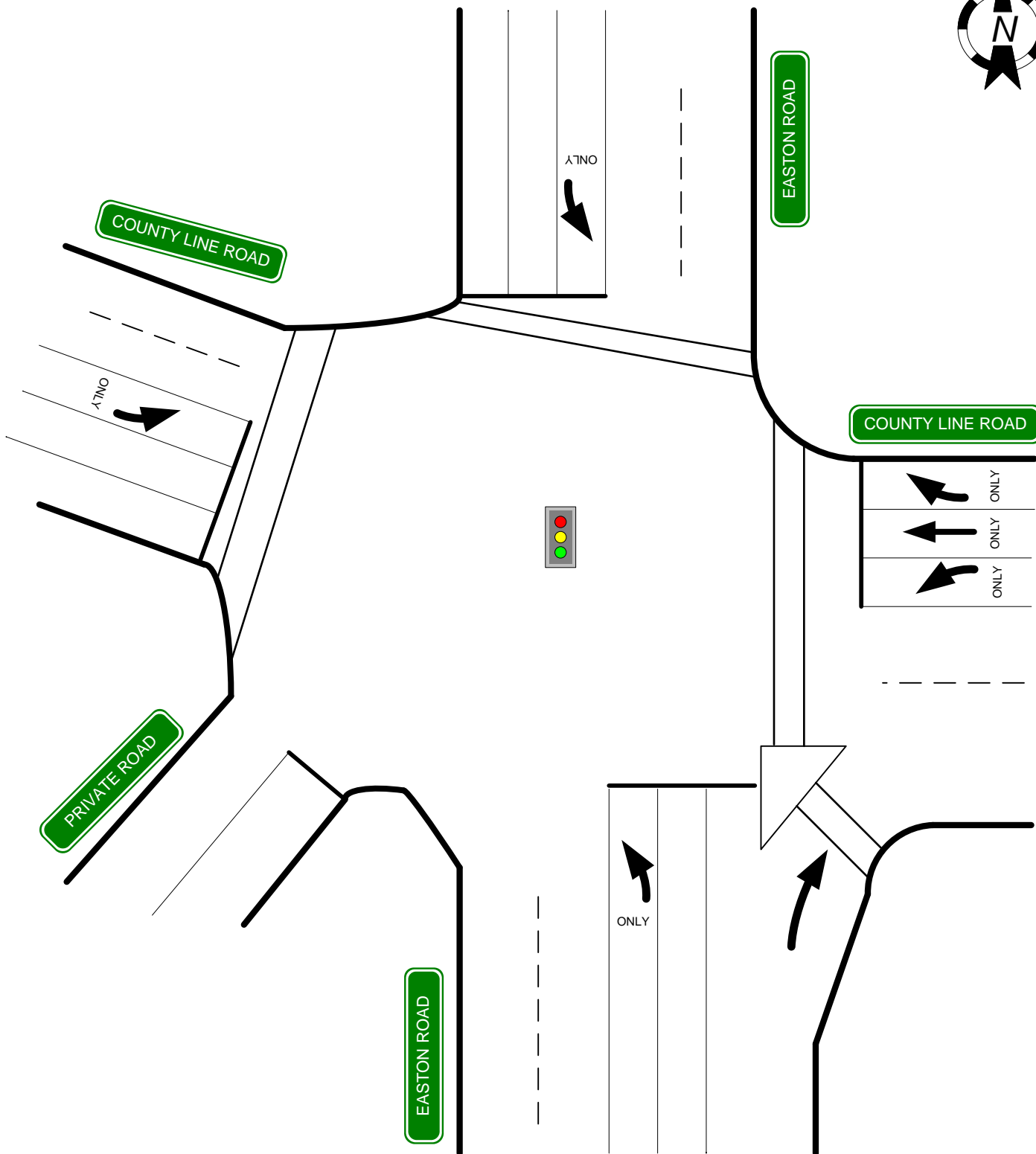




LOCATION # 10
INTERSECTION OF
KEITH VALLEY ROAD AND COUNTY LINE ROAD
AMBLER TOWNSHIP, PA

DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY





LOCATION # 11
INTERSECTION OF
EASTON ROAD AND COUNTY LINE / PRIVET ROAD
HORSHAM TOWNSHIP, PA

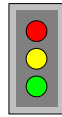
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PREPARED: AH
CHECK: MY





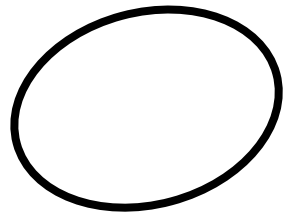
EASTON ROAD

PRIVATE DRIVEWAY



ONLY

ONLY



GATE 1

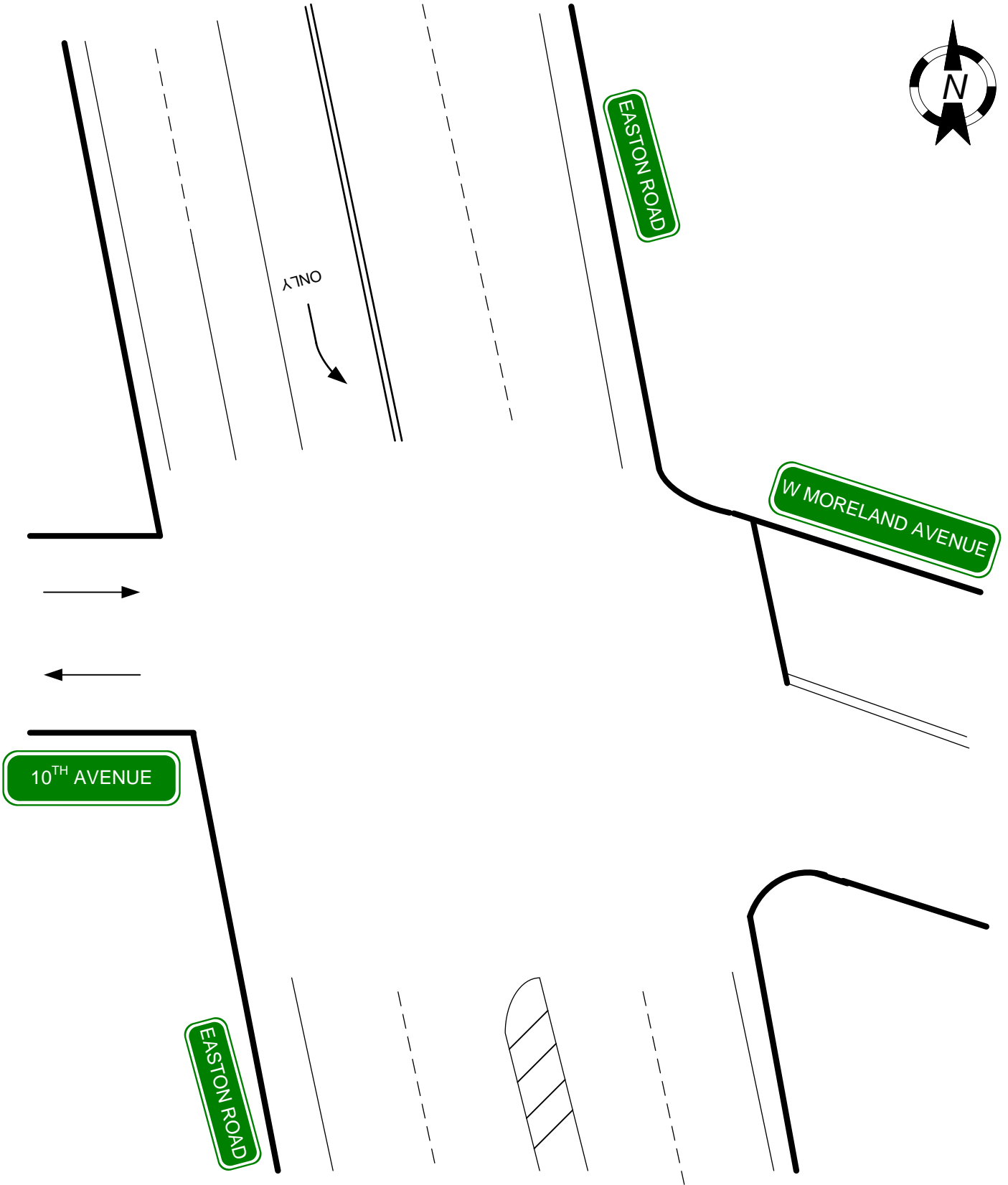
EASTON ROAD



LOCATION # 12
INTERSECTION OF
EASTON ROAD AND GATE 1
WARRINGTON TOWNSHIP, PA

DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY

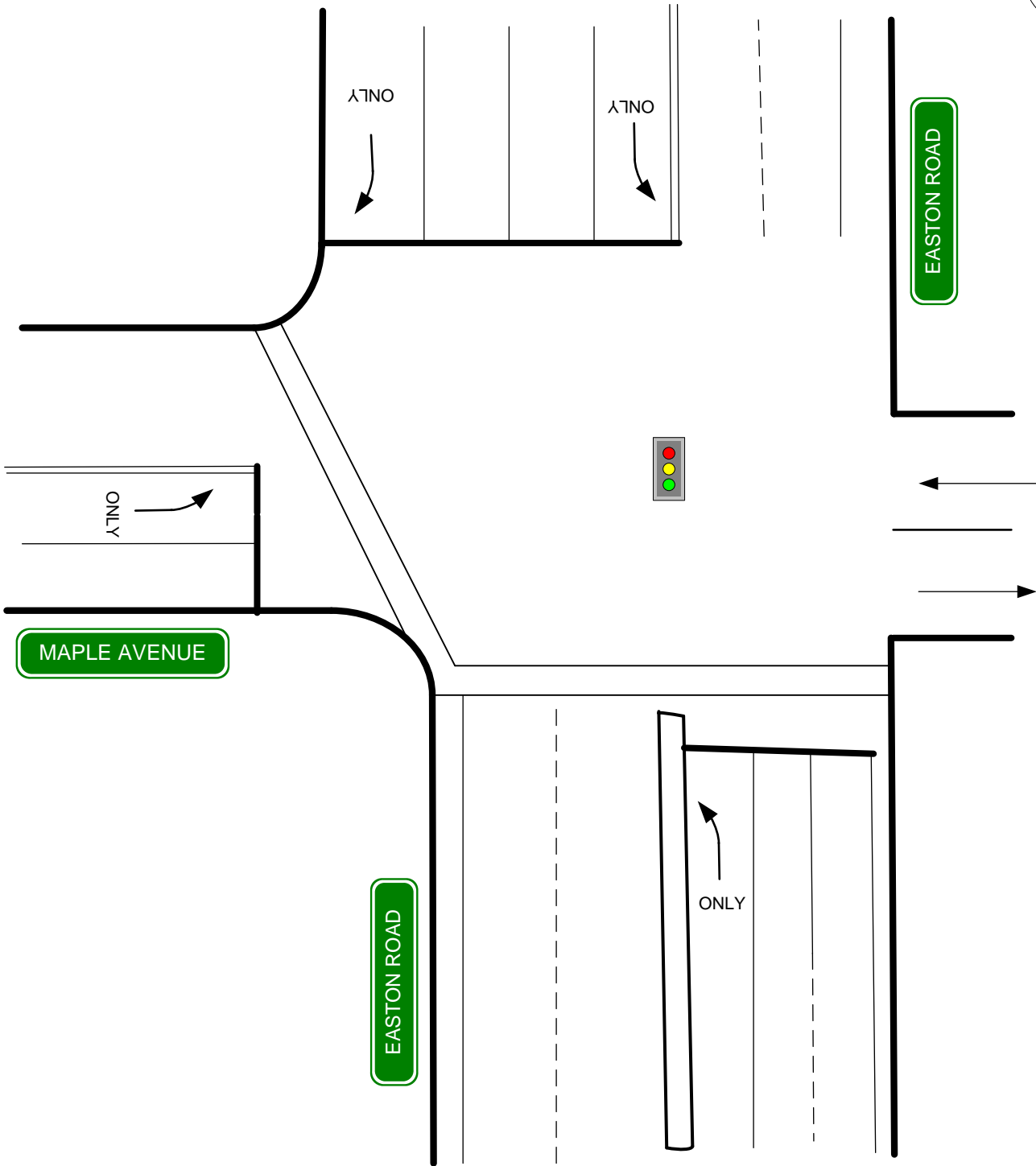




LOCATION # 13
INTERSECTION OF
EASTON ROAD AND W MORELAND / 10TH AVENUE
UPPER MORELAND TOWNSHIP, PA

DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY

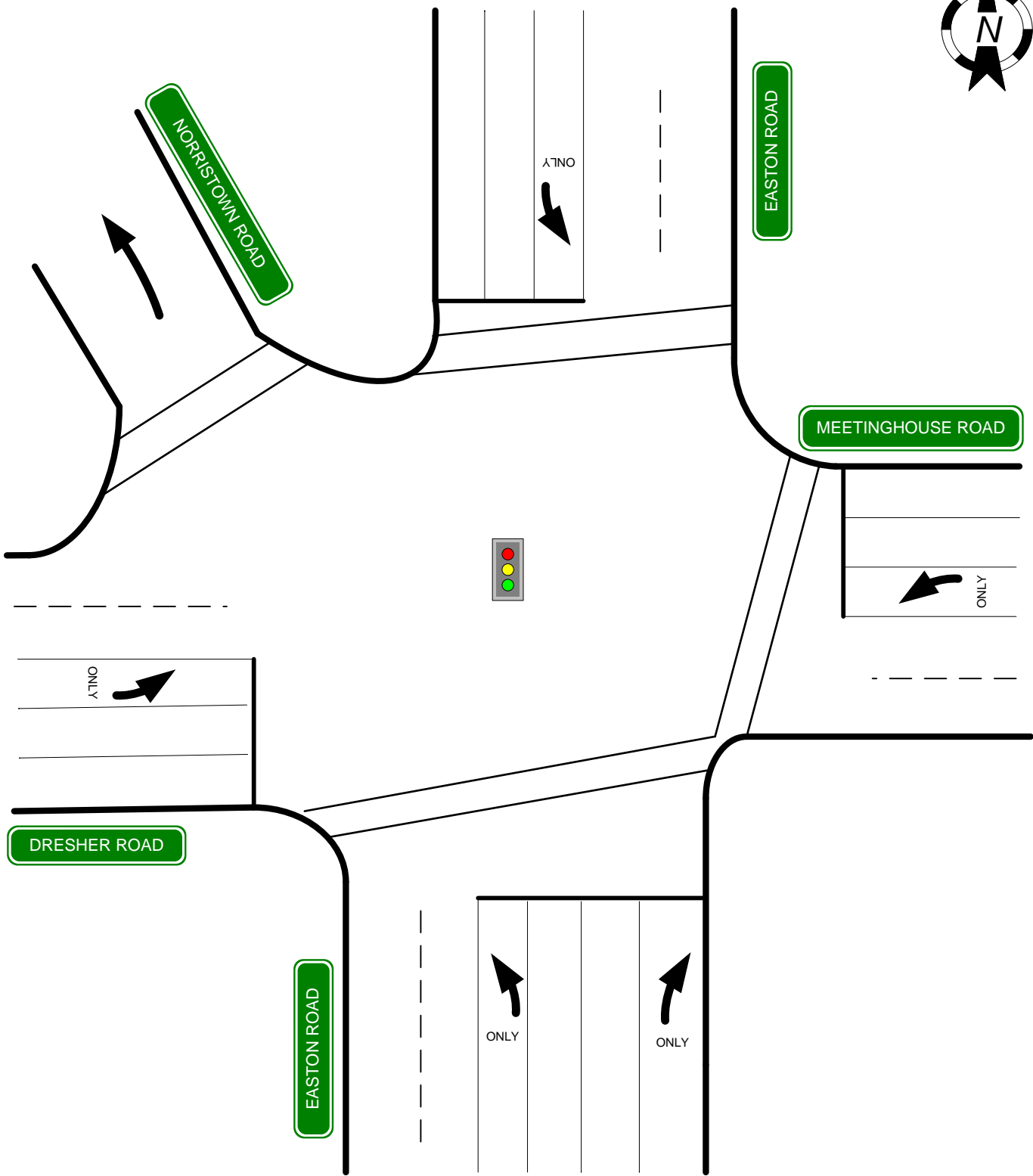





LOCATION # 14
INTERSECTION OF
EASTON ROAD AND MAPLE AVENUE
HORSHAM TOWNSHIP, PA

DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY





LOCATION # 15
INTERSECTION OF
EASTON ROAD AND DRESHER ROAD /
MEETINGHOUSE ROAD / NORRISTOWN ROAD
HORSHAM TOWNSHIP, PA

DATE: 5/7/2013
SCALE: NTS
PREPARED: AH
CHECK: MY
 **TechniQuest Corporation**
Engineering Consultation & Construction Inspection

TRAFFIC ASSESSMENT STUDY

Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove

TOWNSHIP OF HORSHAM

MONTGOMERY COUNTY, PENNSYLVANIA

Potential Mitigation Measures

TIME	2566	404	17	TOTALS
1. 7:00AM TO 8:00AM	317	36	12	1
2. 8:00AM TO 9:00AM	287	34	11	4
3. 9:00AM TO 10:00AM	261	35	9	4
4. 10:00AM TO 11:00AM	167	34	9	4
5. 11:00AM TO 12:00PM	141	43	6	4
6. 12:00PM TO 1:00PM	141	43	6	4
7. 1:00PM TO 2:00PM	122	29	5	4
8. 2:00PM TO 3:00PM	160	31	4	4
9. 3:00PM TO 4:00PM	224	29	13	4
10. 4:00PM TO 5:00PM	300	45	2	1
11. 5:00PM TO 6:00PM	446	45	1	1
12. 6:00PM TO 7:00PM				
TOTALS	1165	281	118	303

EMERGENCY PRE-EMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND & SOUTHBOUND APPROACHES OF EASTON ROAD AND THE WESTBOUND APPROACH OF HORSHAM ROAD WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS FAIL SAFE DEVICE SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL BEGIN FLASHING WHEN THE PRE-EMPTION PHASE DISPLAYS PRE-EMPTION GREEN FOR THE EMERGENCY VEHICLE APPROACH. LOCATION OF EMERGENCY VEHICLE DETECTORS ARE TO BE FIELD ADJUSTED TO ACHIEVE MAXIMUM OPERATION.
- THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY, THEN THE GREEN INTERVAL FOR THE PRE-EMPTED PHASE SHALL FOLLOW.
- THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLE SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- IF THE SIGNALS ARE IN EITHER YELLOW OR RED CLEARANCE, THE CLEARANCE TIMES SHALL BE COMPLETED BEFORE THE GREEN INTERVAL OF THE PRE-EMPTION PHASE OCCURS.
- IF SIGNALS HAVE BEEN ACTUATED BY PEDESTRIAN PUSH BUTTON, AND THE SIGNAL IS PRE-EMPTED DURING THE "MAN" INTERVAL THE "MAN" INTERVAL SHALL TERMINATE IMMEDIATELY FOLLOWED BY THE "FLASHING HAND" INDICATION IN ITS ENTIRETY, FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES BEFORE PROCEEDING TO THE PRE-EMPTION PHASE.
- IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ARE FLASHING ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- UPON COMPLETION OF PRE-EMPTION, PHASE 2, 4, OR 6 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 4 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED, PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

EMERGENCY PRE-EMPTION PHASING

PHASE	2	4	6
INTERVAL	12 13 14	15 16 17	18 19 20
SIGNALS	R R R	R R R	G Y R
2,3	R R R	R R R	G Y R
4,5	G Y R	R R R	R R R
6,7	R R R	G Y R	R R R
8	R R R	R R R	R R R
9,10,11,12	H H H	H H H	H H H
SELECTIVE CLEARANCES	* 5 2	* 3 3	* 5 2

NOTE: IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

① G/Y IF WHEN RETURNING TO NORMAL OPERATION
 ② G WHEN RETURNING TO NORMAL OPERATION

PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
A	W1-7	48X24	LARGE DOUBLE ARROW
B	D3-4	96X16	Horsham Road
C	D3-4	96X16	Easton Road
D	R10-10R	30X36	RIGHT TURN SIGNAL
E	R10-3B(L)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
F	R10-3B(R)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
G	R3-7La	24X48	LEFT LANE MUST TURN LEFT
K	R10-12	30X36	LEFT TURN YIELD ON GREEN
L	R3-7L	30X30	LEFT LANE MUST TURN LEFT
N	R4-7	24X30	KEEP RIGHT
P	OM1-3	18X18	OBJECT MARKER
R	R10-7	24X30	DO NOT BLOCK INTERSECTION
S	R3-2	24X24	NO LEFT TURN
T	R9-3A	18X18	NO PEDESTRIAN CROSSING
U	R3-1	30X30	NO RIGHT TURN
V	M4-4	12X24	TRUCKS

GENERAL NOTES

- NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.
- ALL MAINTENANCE WORK INCLUDING TRIMMING OF TREES, NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS IS THE RESPONSIBILITY OF THE PERMITTEE.
- ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.
- POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.
- SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.
- ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.
- THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.
- EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.
- CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS FORM 408.
- PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.
- THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.
- WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT, FOR REVIEW, PRIOR TO BIDDING.
- PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.
- CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

SYSTEM PERMIT #0092

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
 ENGINEERING DISTRICT 6-0

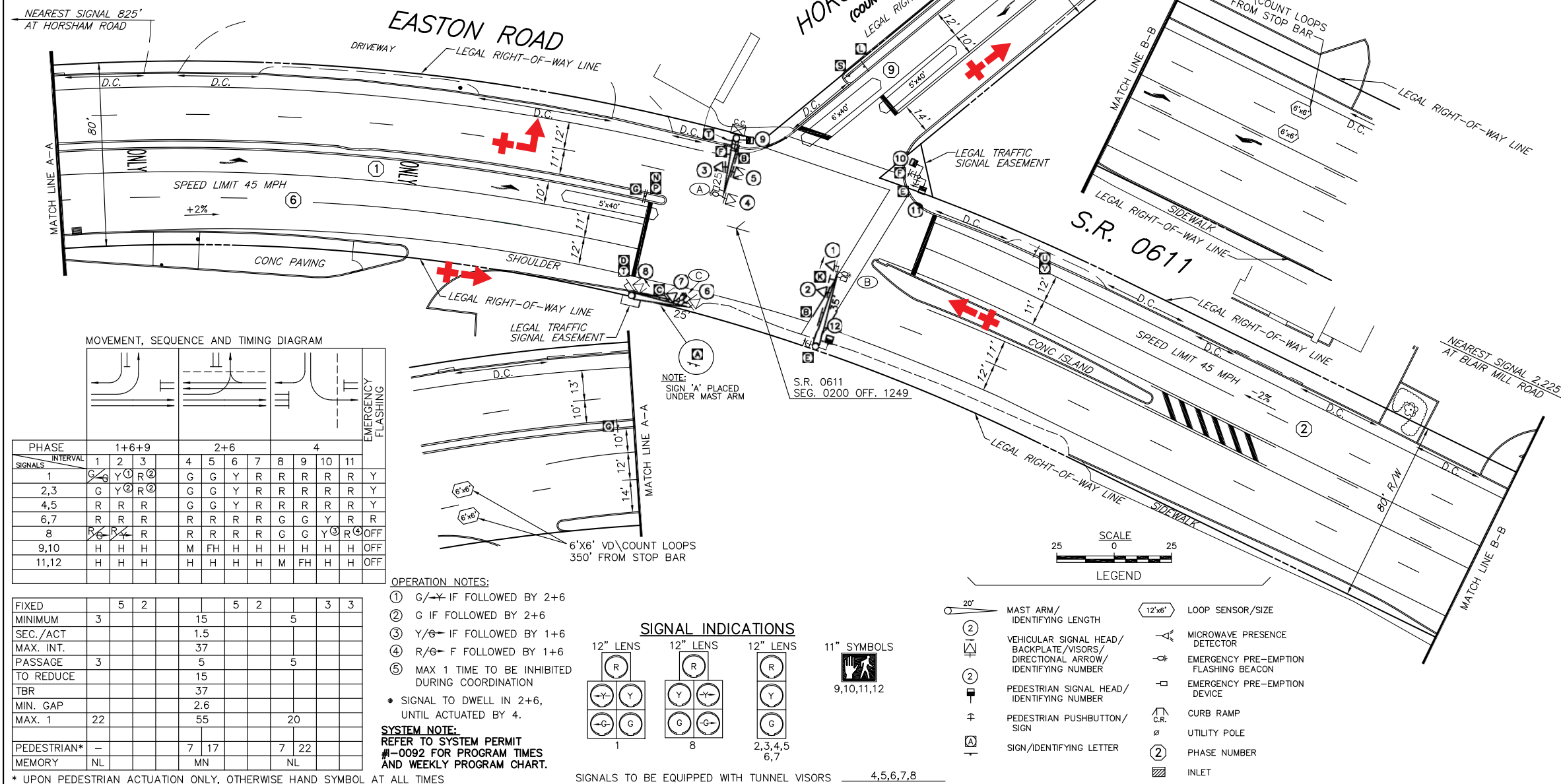
COUNTY: MONTGOMERY
 MUNICIPALITY: HORSHAM TOWNSHIP
 INTERSECTION: EASTON ROAD (S.R. 0611)
 AND HORSHAM ROAD

REVIEWED: _____ DATE _____
 MUNICIPAL OFFICIAL _____ DATE _____

RECOMMENDED: **PAUL LUTZ** 1/14/04
LOUIS R. BELMONTE 1/14/04
 DISTRICT TRAFFIC ENGINEER

NO.	REVISION	DES./REV.	DATE	REV.	DATE	RECOM.	DATE
1	AS-BUILT PLAN	JLH	1/11/09	DLA	4/20/10	ABP	5/3/10
2	REVISED TIMINGS	KMJ	6/15/12				
3							
4							
5							
6							
7							
8							

SHEET 2 OF 2 PERMIT # 64-3001 FILE # 3001



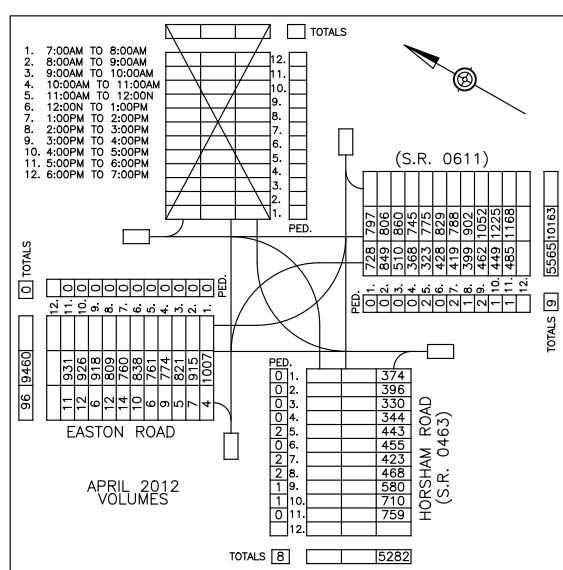
MOVEMENT, SEQUENCE AND TIMING DIAGRAM

PHASE	INTERVAL	1	2	3	4	5	6	7	8	9	10	11
SIGNALS	INTERVAL	1,2	G	G	Y	R	G	Y	R	R	R	Y
	3,4	G	G	Y	R	R	R	R	R	R	R	Y
	5	G	G	Y	R	R	R	R	R	R	R	Y
	6,7	R	R	R	R	G	Y	R	G	Y	R	OFF
	8,9	R	R	R	R	G	Y	R	G	Y	R	R
	10,11*	M	FH	H	H	H	H	H	H	H	H	OFF
	12,13,14,15*	H	H	H	H	H	H	H	M	FH	H	OFF

FIXED		5	2	4	3						4	3
MINIMUM	10											
PASSAGE	5											
SEC./ACT.	1.5											
MAX. INT.	37											
TBR	37											
TO REDUCE	15											
MIN. GAP	2.6											
MAX. 1	56											

PEDESTRIAN*	7	34									7	39
MEMORY	MN										NL	

* UPON PEDESTRIAN ACTUATION ONLY, OTHERWISE HAND SYMBOL AT ALL TIMES



OPERATION NOTES:

- ① G IF FOLLOWED BY PHASE 4+6+8
- ② G IF FOLLOWED BY PHASE 2+6
- ③ PHASE 4 UPON PEDESTRIAN ACTUATION ONLY. THIS PHASE SHALL ONLY FOLLOW PHASE 2+6 (INTERVAL 4). UPON COMPLETION OF THIS PHASE (INTERVAL 11), PHASE 2+6 (INTERVAL 1) SHALL FOLLOW. PHASE 4+8 PED OMITTS PHASE 4+6+8.
- ④ MAX 1 TIME TO BE INHIBITED DURING COORDINATION.

SYSTEM NOTE:
REFER TO SYSTEM PERMIT #1-0092 FOR PROGRAM TIMES AND WEEKLY PROGRAM CHART.

EMERGENCY PRE-EMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND & SOUTHBOUND APPROACHES OF EASTON ROAD AND THE EASTBOUND APPROACH OF HORSHAM ROAD WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS FAIL SAFE DEVICE SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL BEGIN FLASHING WHEN THE PRE-EMPTION PHASE DISPLAYS PRE-EMPTION GREEN FOR THE EMERGENCY VEHICLE APPROACH. LOCATION OF EMERGENCY VEHICLE DETECTORS ARE TO BE FIELD ADJUSTED TO ACHIEVE MAXIMUM OPERATION.
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- UPON COMPLETION OF PRE-EMPTION, PHASE 2, 4, OR 8 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 1 SHALL FOLLOW.
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EMERGENCY PRE-EMPTION PHASING

PHASE	INTERVAL	12	13	14	15	16	17	18	19	20
SIGNALS	INTERVAL	R	R	R	R	R	R	G	Y	R
	3,4	G	Y	R	R	R	R	R	R	R
	5	R	R	R	R	R	R	R	R	R
	6,7	R	R	R	R	R	R	G	Y	R
	8,9	R	R	R	R	R	R	R	R	R
	10,11	H	H	H	H	H	H	H	H	H
	12,13,14,15	H	H	H	H	H	H	H	H	H
FIXED		* 5	2		* 4	3		* 5	2	

NOTE:
IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

③ G WHEN RETURNING TO NORMAL OPERATION.

SIGN TABULATION

PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
ⓐ	D3-4	96X16	Horsham Rd
ⓑ	D3-4	96X16	Easton Rd
ⓒ	R10-10L	30X36	LEFT TURN SIGNAL
ⓓ	R3-2	30X30	NO LEFT TURN
ⓔ	R10-3B(R)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON SIGNAL
ⓕ	R10-6L	24X30	STOP HERE ON RED
ⓖ	R3-2	24X24	NO LEFT TURN
ⓗ	R3-5R	30X36	RIGHT TURN
ⓘ	OM1-3	18X18	OBJECT MARKER
ⓙ	R3-5L	30X36	LEFT TURN
ⓚ	R3-5S	30X36	STRAIGHT THROUGH
ⓛ	R10-11	30X36	NO TURN ON RED
ⓜ	R10-3B(L-R)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON SIGNAL
ⓝ	R9-3A	18X18	NO PEDESTRIAN CROSSING
ⓞ	R4-7	24X30	KEEP RIGHT
ⓟ	R10-3B(L)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON SIGNAL
ⓠ	R10-11	24X30	NO TURN ON RED
ⓡ	R3-1	30X30	NO RIGHT TURN
ⓢ	M4-4	12X24	TRUCKS

GENERAL NOTES

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- ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.
- POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.
- SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.
- ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.
- THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.
- EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.
- CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS FORM 408.
- PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.
- THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.
- WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT, FOR REVIEW, PRIOR TO BIDDING.
- PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.
- CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

SYSTEM PERMIT #1-0092

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

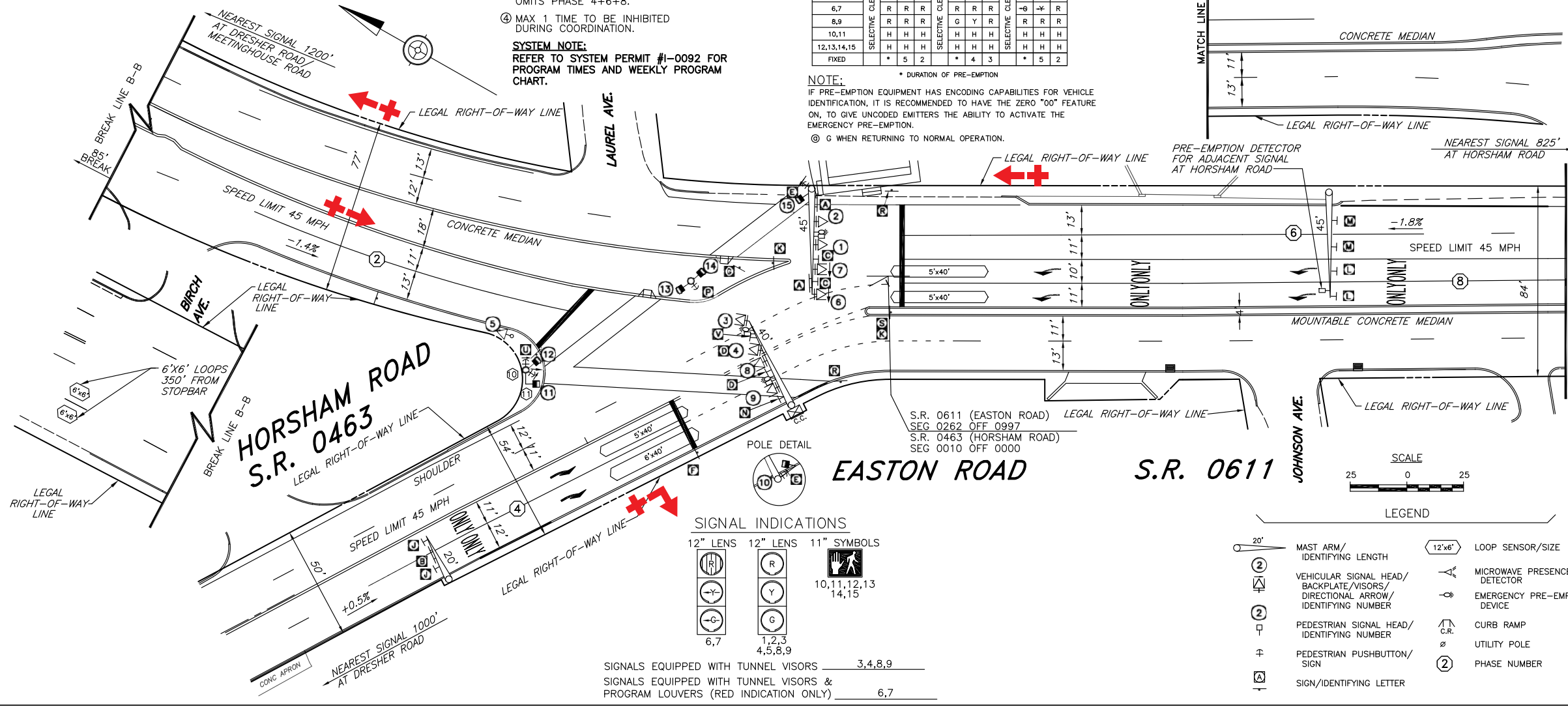
COUNTY: MONTGOMERY
MUNICIPALITY: HORSHAM TOWNSHIP
INTERSECTION: EASTON ROAD (S.R. 0611) AND HORSHAM ROAD (S.R. 0463)

REVIEWED: _____ DATE _____
MUNICIPAL OFFICIAL _____ DATE _____

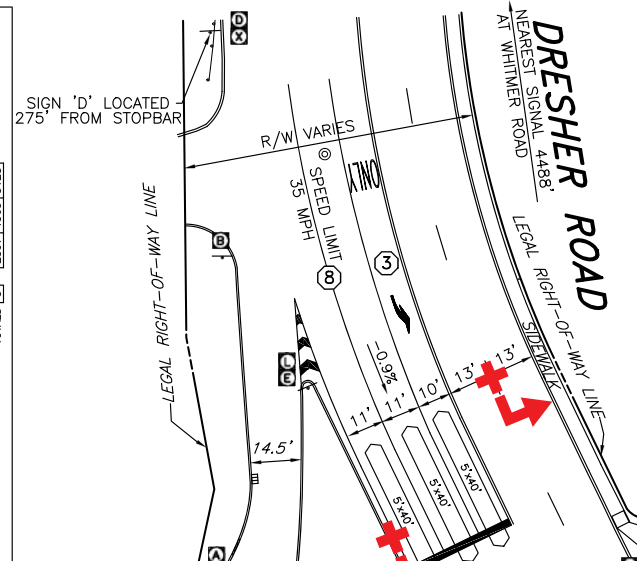
RECOMMENDED:
PAUL LUTZ 1/14/04
LOUIS R. BELMONTE 1/14/04
DISTRICT TRAFFIC ENGINEER

NO.	REVISION	DES./REVW.	DATE	REVW.	DATE	RECOM.	DATE
1	AS-BUILT PLAN	JLH	1/11/09	DLA	4/20/10	ABP	5/3/10
2	REVISED TIMINGS	KMJ	6/15/12				
3							
4							
5							
6							
7							
8							

SHEET 2 OF 2 PERMIT # 64-2991 FILE # 2991



TIME	813	4344	2301	TOTALS
1. 7:00AM TO 8:00AM	180	1054	439	11
2. 8:00AM TO 9:00AM	119	744	343	10
3. 9:00AM TO 10:00AM	88	457	257	9
4. 10:00AM TO 11:00AM	60	227	160	8
5. 11:00AM TO 12:00PM	40	120	92	7
6. 12:00PM TO 1:00PM	99	368	275	6
7. 1:00PM TO 2:00PM	68	236	170	5
8. 2:00PM TO 3:00PM	41	255	149	4
9. 3:00PM TO 4:00PM	38	347	168	3
10. 4:00PM TO 5:00PM	40	334	111	2
11. 5:00PM TO 6:00PM	40	334	111	2
12. 6:00PM TO 7:00PM	40	334	111	2
TOTALS	4	252	4823	725



EMERGENCY PRE-EMPTION PHASING

PHASE	2	3	31	32	33	34	35	36	37	38	39	40
1	R	R	R	R	R	R	R	R	R	R	R	R
2	G	Y	R	G	Y	R	G	Y	R	G	Y	R
3	R	R	R	R	R	R	R	R	R	R	R	R
4	R	R	R	R	R	R	R	R	R	R	R	R
5	R	R	R	R	R	R	R	R	R	R	R	R
6	R	R	R	R	R	R	R	R	R	R	R	R
7	R	R	R	R	R	R	R	R	R	R	R	R
8	R	R	R	R	R	R	R	R	R	R	R	R
9,10	H	H	H	H	H	H	H	H	H	H	H	H
11,12	H	H	H	H	H	H	H	H	H	H	H	H
FIXED	**	5	2	**	4	2	**	5	2	**	4	2

SIGN TABULATION

PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
(A)	R1-2	36X36	YIELD
(B)	R3-7L	30X30	LEFT LANE MUST TURN LEFT
(C)	R3-7R	30X30	RIGHT LANE MUST TURN RIGHT
(D)	W3-3	36X36	SIGNAL AHEAD
(E)	OM1-3	18X18	OBJECT MARKER
(F)	R1-1	30X30	STOP
(G)	R5-1	30X30	DO NOT ENTER
(H)	R1-1	30X30	STOP
(I)	W12-1	24X24	DOUBLE ARROW SIGN
(J)	R10-3B(L)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
(K)	R10-3B(R)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
(L)	R10-12	30X36	LEFT TURN YIELD ON GREEN
(M)	R3-2	30X30	NO LEFT TURN
(N)	R3-5L	30X36	LEFT TURN
(O)	W11-2	30X30	PEDESTRIAN
(P)	W16-7P	30X18	DIAGONAL DOWNWARD POINTING ARROW
(Q)	R3-5S	30X36	STRAIGHT THROUGH
(R)	R3-6SR	30X36	OPTIONAL RIGHT TURN
(S)	D3-2	48X8	Horsham Road (Yellow And Black)
(T)	D3-4	96X16	Dresher Road
(U)	D3-4	84X16	Horsham Road
(V)	R9-3A	18X18	NO PEDESTRIAN CROSSING

GENERAL NOTES

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.

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

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.

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WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT, FOR REVIEW, PRIOR TO BIDDING.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

S.R. 0463

NEAREST SIGNAL 1000' AT EASTON RD.

SPEED LIMIT 45 MPH

LEGAL RIGHT-OF-WAY LINE

VOLUME DENSITY LOOPS 300' FROM STOPBAR

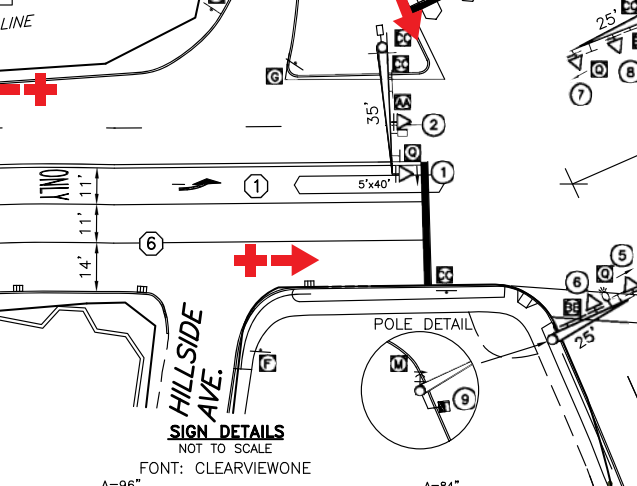
12" LENS 12" LENS 11" SYMBOLS

SIGNAL INDICATIONS

SYSTEM NOTE: REFER TO SYSTEM PERMIT #1-0092 FOR PROGRAM TIMES AND WEEKLY PROGRAM CHART.

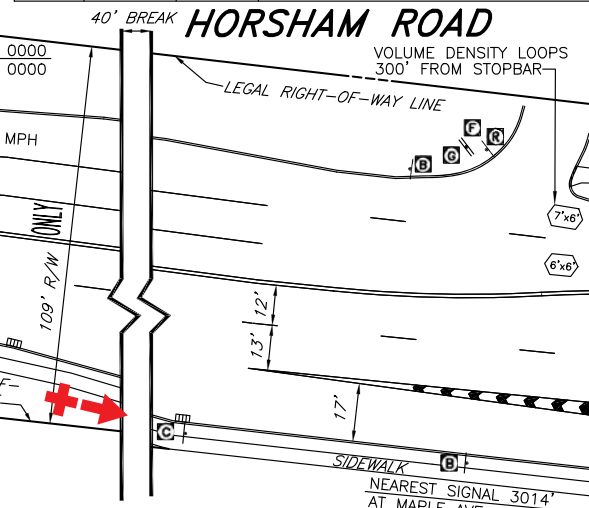
MOVEMENT, SEQUENCE AND TIMING DIAGRAM

PHASE	1+5	1+6	2+5	2+6	3+7	4+7	3+8	4+8
1	R	R	R	R	R	R	R	R
2	R	R	R	R	R	R	R	R
3	R	R	R	R	R	R	R	R
4	R	R	R	R	R	R	R	R
5	R	R	R	R	R	R	R	R
6	R	R	R	R	R	R	R	R
7	R	R	R	R	R	R	R	R
8	R	R	R	R	R	R	R	R
9,10	H	H	H	H	H	H	H	H
12,13	H	H	H	H	H	H	H	H



NOTE: IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

PRE-EMPTION OPERATION NOTES:
 (G) G/Y when returning to normal operation.
 (G) G when returning to normal operation.

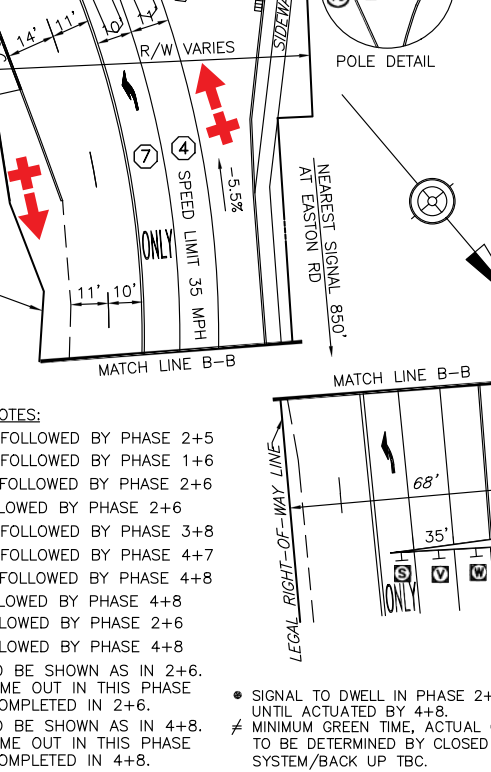
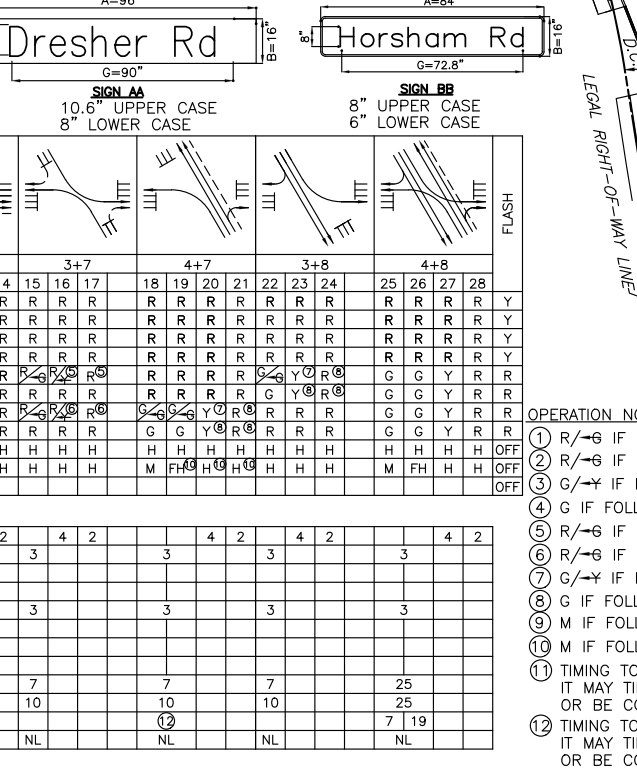


OPERATION NOTES:

- R/G IF FOLLOWED BY PHASE 2+5
- R/G IF FOLLOWED BY PHASE 1+6
- G/Y IF FOLLOWED BY PHASE 2+6
- G IF FOLLOWED BY PHASE 2+6
- R/G IF FOLLOWED BY PHASE 3+8
- R/G IF FOLLOWED BY PHASE 4+7
- G/Y IF FOLLOWED BY PHASE 4+8
- G IF FOLLOWED BY PHASE 4+8
- M IF FOLLOWED BY PHASE 2+6
- M IF FOLLOWED BY PHASE 4+8
- TIMING TO BE SHOWN AS IN 2+6. IT MAY TIME OUT IN THIS PHASE OR BE COMPLETED IN 2+6.
- TIMING TO BE SHOWN AS IN 4+8. IT MAY TIME OUT IN THIS PHASE OR BE COMPLETED IN 4+8.

FIXED	5	2	5	2	5	2	5	2	4	2	4	2	4	2
MINIMUM	3		3		3		15		3		3		3	
SEC./ACT							1.5							
MAX INT.							32							
PASSAGE	3		3		3		4.8		3		3		3	
TBR							32							
TTR							15							
MIN. GAP							2.7							
MAXIMUM 1	10		10		10		48		7		7		25	
MAXIMUM 2	15		15		15		48		10		10		25	
PEDESTRIAN*							7		20				7	
MEMORY	NL		NL		NL		MN		NL		NL		NL	

*UPON PEDESTRIAN ACTUATION ONLY, OTHERWISE HAND SYMBOL AT ALL TIMES



EMERGENCY PRE-EMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND & SOUTHBOUND APPROACHES OF DRESHER ROAD AND THE EASTBOUND AND WESTBOUND APPROACHES OF HORSHAM ROAD WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS FAIL SAFE DEVICE SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL BEGIN FLASHING WHEN THE PRE-EMPTION PHASE DISPLAYS PRE-EMPTION GREEN FOR THE EMERGENCY VEHICLE APPROACH. LOCATION OF EMERGENCY VEHICLE DETECTORS ARE TO BE FIELD ADJUSTED TO ACHIEVE MAXIMUM OPERATION.
- THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY, THEN THE GREEN INTERVAL FOR THE PRE-EMPTED PHASE SHALL FOLLOW.
- THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLE SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- IF THE SIGNALS ARE IN EITHER YELLOW OR RED CLEARANCE, THE CLEARANCE TIMES SHALL BE COMPLETED BEFORE THE GREEN INTERVAL OF THE PRE-EMPTION PHASE OCCURS.
- IF SIGNALS HAVE BEEN ACTUATED BY PEDESTRIAN PUSH BUTTON, AND THE SIGNAL IS PRE-EMPTED DURING THE "MAN" INTERVAL THE "MAN" INTERVAL SHALL TERMINATE IMMEDIATELY FOLLOWED BY THE "FLASHING HAND" INDICATION IN ITS ENTIRETY, FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES BEFORE PROCEEDING TO THE PRE-EMPTION PHASE.
- IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ARE FLASHING ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- UPON COMPLETION OF PRE-EMPTION, PHASE 2,4,6, OR 8 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 11 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED. PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVED" OPERATION.

SCALE: 25' 0' 25'

LEGEND:

- (A) MAST ARM/IDENTIFYING LENGTH
- (B) VEHICULAR SIGNAL HEAD/BACKPLATE/VISORS/DIRECTIONAL ARROW/IDENTIFYING NUMBER
- (C) PEDESTRIAN SIGNAL HEAD/IDENTIFYING NUMBER
- (D) PEDESTRIAN PUSHBUTTON/SIGN
- (E) SIGN/IDENTIFYING LETTER
- (F) LOOP SENSOR/SIZE
- (G) MICROWAVE PRESENCE DETECTOR
- (H) EMERGENCY PRE-EMPTION DEVICE
- (I) CURB RAMP
- (J) UTILITY POLE
- (K) PHASE NUMBER

SYSTEM PERMIT #1-0092

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: MONTGOMERY

MUNICIPALITY: HORSHAM TOWNSHIP

INTERSECTION: HORSHAM ROAD (S.R.0463) AND DRESHER ROAD

REVIEWED: _____ DATE _____

MUNICIPAL OFFICIAL: _____ DATE _____

RECOMMENDED: PAUL LUTZ 1/14/04

LOUIS R. BELMONTE 1/14/04
DISTRICT TRAFFIC ENGINEER

NO.	REVISION	DES./REV.	DATE	REVW.	DATE	RECOM.	DATE
1	ADDED SOWLK ON SOUTHWEST CORNER/BANNED PIDS ON NB/WB APPROACH CROSSINGS	MCM		DLA	5/26/09	ABP	6/16/09
2	AS-BUILT PLAN	JLH	1/12/10	DLA	4/20/10	ABP	5/3/10
3	REVISED TIMINGS	KMJ	6/15/12				
4							
5							
6							
7							
8							

SHEET 2 OF 2 PERMIT # 64-1981 FILE # 1981

EMERGENCY PRE-EMPTION PHASING

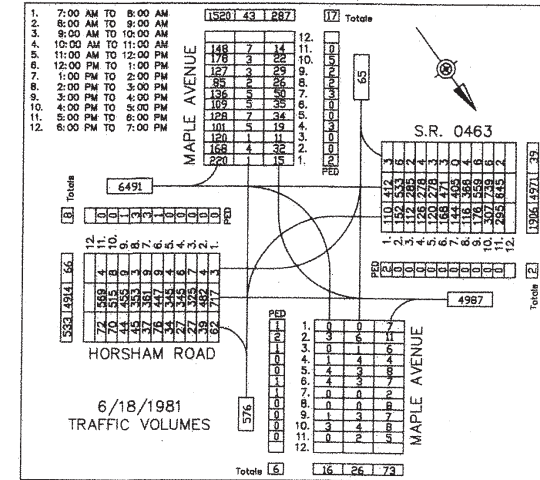
PHASE	2	4	6	8
1	R	R	R	R
2	R	R	R	R
3,4,5	G	Y	R	R
6,7	R	R	R	R
8,9	G	Y	R	R
10,11	H	H	H	H
12,13	H	H	H	H
FIXED	* 4 2	* 3 3	* 4 2	* 3 3

EMERGENCY PRE-EMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND & SOUTHBOUND APPROACHES OF MAPLE AVENUE AND THE EASTBOUND & WESTBOUND APPROACHES OF HORSHAM ROAD WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS FAIL SAFE DEVICE SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH.
- THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY. THEN THE GREEN INTERVAL FOR THE PRE-EMPTED PHASE SHALL FOLLOW.
- THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLE SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- IF SIGNALS HAVE BEEN ACTUATED BY PEDESTRIAN PUSH BUTTON, AND THE SIGNAL IS PRE-EMPTED, THE PEDESTRIAN TIME SHALL BE SPLIT BETWEEN PED "WALK (MAN)" AND PED "CLEAR (HAND)", THE PED "WALK (MAN)" INTERVAL SHALL TERMINATE IMMEDIATELY, FOLLOWED BY THE PED "CLEAR (HAND)" INTERVAL, THIS INTERVAL SHALL TIME OUT FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES, BEFORE GOING INTO EMERGENCY PRE-EMPTION.
- IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ARE FLASHING ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- UPON COMPLETION OF PRE-EMPTION, PHASE 2,4,6 OR 8 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 5 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED, PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

SIGN TABULATION

PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
A	D3-4	84X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
B	D3-4	84X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
C	R10-12	30X36	LEFT TURN YIELD ON GREEN
D	R10-3B(L)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
E	R10-3B(R)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
F	R3-7L	30X30	LEFT LANE MUST TURN LEFT
G	R1-2	36X36	YIELD
H	R5-1	30X30	DO NOT ENTER
I	R9-3A	18X18	NO PEDESTRIAN CROSSING



GENERAL NOTES

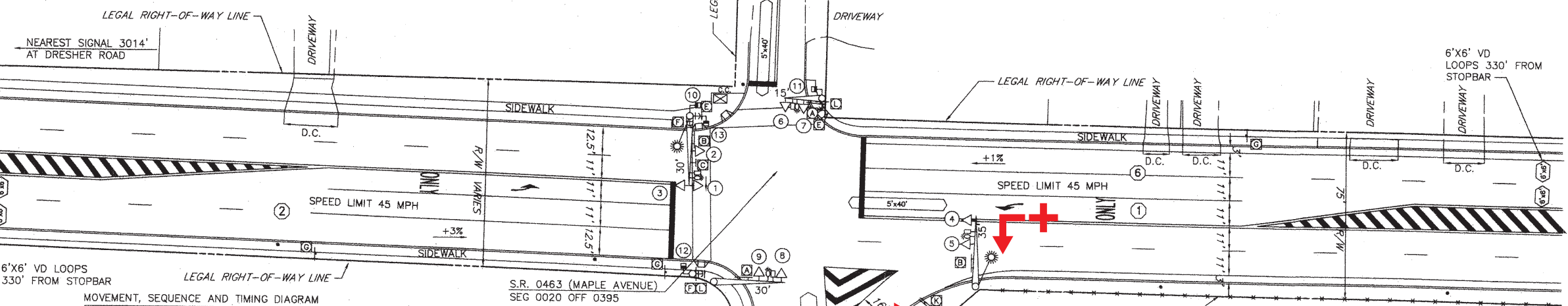
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- ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.
- POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.
- SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.
- ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.
- THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.
- EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.
- CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS.

NOTES:
IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

PRE-EMPTION OPERATION NOTES

- ① G/Y WHEN RETURNING TO NORMAL OPERATION.
- ② G WHEN RETURNING TO NORMAL OPERATION.

S.R. 0463



MOVEMENT, SEQUENCE AND TIMING DIAGRAM

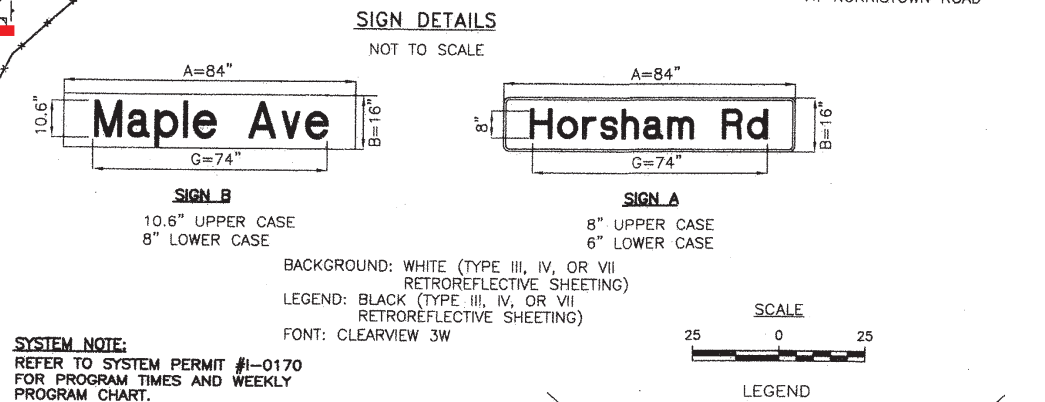
PHASE	1+6	2+6	4+8	FLASH
1	G	G	Y	R
2	G	G	Y	R
3,4,5	R	R	R	R
6,7	R	R	R	R
8,9	R	R	R	R
10,11*	M	FH	H	H
12,13*	H	H	H	H

HORSHAM ROAD
SEG 0020 OFF 0395

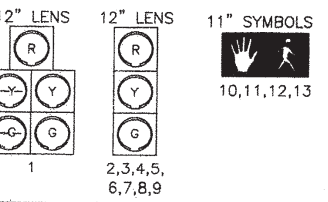
- OPERATION NOTES:**
- G/Y IF FOLLOWED BY 2+6
 - G IF FOLLOWED BY 2+6
 - TIMING WILL BE AS SHOWN IN PHASE 2+6. IT MAY TIME OUT IN THIS PHASE OR MAY BE COMPLETED IN PHASE 2+6.
 - MAX 1 TIME TO BE INHIBITED DURING COORDINATION.
- PHASE 8 DETECTOR TO BE EQUIPPED WITH A 2 SECOND DELAY.
 - SIGNAL TO DWELL IN PHASE 2+6, UNTIL ACTUATED BY PHASE 4+8.

FIXED	3	4	2	10	4	2	3	3
MINIMUM								
SEC ACT				1.5				
MAX INT				35				
PASSAGE	3			5			3	
TO REDUCE				17				
TBR				35				
MIN GAP				3				
MAX 1	20			52			20	
PEDESTRIAN*	①			7	11		7	17
MEMORY	NL			MN			NL	

- MINIMUM GREEN TIME, ACTUAL GREEN TIME TO BE DETERMINED BY CLOSED LOOP SYSTEM/BACKUP TBC.
- UPON PEDESTRIAN ACTUATION ONLY, OTHERWISE HAND SYMBOL AT ALL TIMES.



SIGNAL INDICATIONS



- LEGEND**
- ① MAST ARM/IDENTIFYING LENGTH
 - ② VEHICULAR SIGNAL HEAD/BACKPLATE/VISORS/DIRECTIONAL ARROW/IDENTIFYING NUMBER
 - ③ PEDESTRIAN SIGNAL HEAD/IDENTIFYING NUMBER
 - ④ PEDESTRIAN PUSHBUTTON/SIGN
 - ⑤ SIGN/IDENTIFYING LETTER
 - ⑥ LUMINAIRE
 - ⑦ LOOP SENSOR/SIZE
 - ⑧ MICROWAVE PRESENCE DETECTOR
 - ⑨ EMERGENCY PRE-EMPTION FLASHING BEACON
 - ⑩ EMERGENCY PRE-EMPTION DEVICE
 - ⑪ CURB RAMP
 - ⑫ UTILITY POLE
 - ⑬ PHASE NUMBER
 - ⑭ INLET

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: MONTGOMERY
MUNICIPALITY: HORSHAM TOWNSHIP
INTERSECTION: HORSHAM ROAD (S.R. 0463) AND MAPLE AVENUE

REVIEWED: _____ DATE _____
MICHAEL J. M. 1/8/2002
MUNICIPAL OFFICIAL DATE

RECOMMENDED: _____ DATE _____
PAUL LUTZ 1/15/2002
DISTRICT TRAFFIC ENGINEER DATE

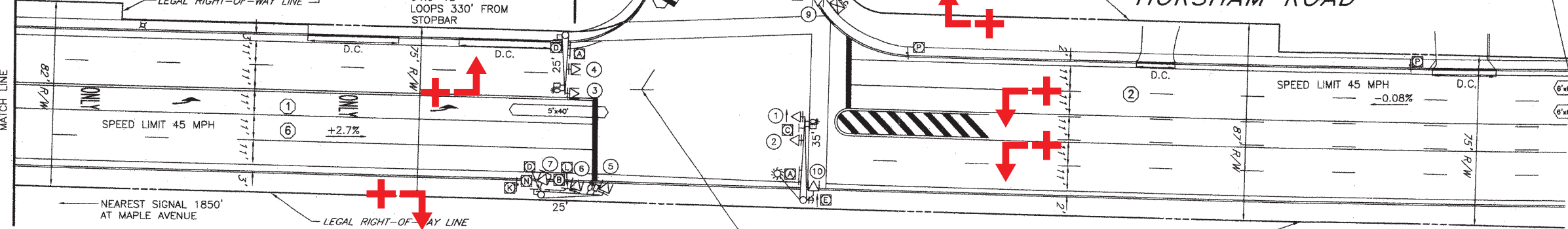
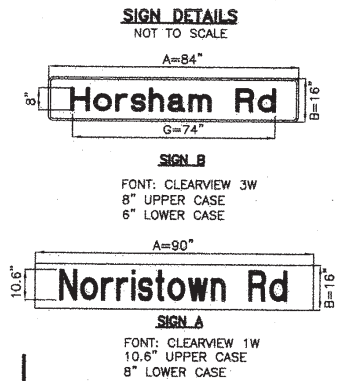
L.R. BELMONTE 1/16/2002
DISTRICT TRAFFIC ENGINEER DATE

NO.	REVISION	DES/REV.	DATE	REV.	DATE	RECOM.	DATE
1	CHANGED SIGNAL HEAD NUMBERING	SJR	10/28/02				
2	CHANGED TIMING	SAS	1/21/03	MK	1/22/03	DWM	1/22/03
3	ADDED OVER HEAD STREET SIGN	HL	6/25/06	MK	6/27/06	DWM	6/27/06
4	ADDED SIGN G, REVISED TO EXISTING CONDITION	NV	9/2/06	MK	9/3/06	DWM	9/4/06
5	REVISED ACCORDING TO AS-BUILT	JJA	9/25/08	DLA	9/8/08	ABP	9/8/08
6	REFERENCED SYSTEM PLAN, REVISED PRE-EMPT NOTES, PED TIMING	JLH	1/24/11				
7							
8							

SIGN TABULATION			
PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
A	D3-4	90X16	Norristown Road
B	D3-4	84X16	Horsham Road
C	R10-12	30X36	LEFT TURN YIELD ON GREEN
D	R9-3A	18X18	NO PEDESTRIAN CROSSING
E	R10-3(R)	9X12	PUSH BUTTON FOR GREEN LIGHT
G	R3-5L	30X36	LEFT TURN
J	R3-5R	30X36	RIGHT TURN
K	R3-7L	30X30	LEFT LANE MUST TURN LEFT
L	W1-7	48X24	LARGE DOUBLE ARROW
N	R10-10R	30X36	RIGHT TURN SIGNAL
P	R3-BSSR	30X30	LANE USE CONTROL



- LEGEND**
- MAST ARM/IDENTIFYING LENGTH
 - VEHICULAR SIGNAL HEAD/BACKPLATE/VISORS/DIRECTIONAL ARROW/IDENTIFYING NUMBER
 - PEDESTRIAN SIGNAL HEAD/IDENTIFYING NUMBER
 - PEDESTRIAN PUSHBUTTON/SIGN
 - LOOP SENSOR/SIZE
 - MICROWAVE PRESENCE DETECTOR
 - EMERGENCY PRE-EMPTION DEVICE
 - EMERGENCY PRE-EMPTION DEVICE
 - CURB RAMP
 - UTILITY POLE
 - PHASE NUMBER
 - LUMINAIRE



OCTOBER 1996 VOLUMES

TIME	N	E	S	W	TOTALS
1. 7:00AM TO 8:00AM	111	133	101	82	414
2. 8:00AM TO 9:00AM	111	133	101	82	414
3. 9:00AM TO 10:00AM	111	133	101	82	414
4. 10:00AM TO 11:00AM	111	133	101	82	414
5. 11:00AM TO 12:00PM	111	133	101	82	414
6. 12:00PM TO 1:00PM	111	133	101	82	414
7. 1:00PM TO 2:00PM	111	133	101	82	414
8. 2:00PM TO 3:00PM	111	133	101	82	414
9. 3:00PM TO 4:00PM	111	133	101	82	414
10. 4:00PM TO 5:00PM	111	133	101	82	414
11. 5:00PM TO 6:00PM	111	133	101	82	414
12. 6:00PM TO 7:00PM	111	133	101	82	414
TOTALS	138	502	201	513	1354

GENERAL NOTES

- NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.
- ALL MAINTENANCE WORK INCLUDING TRIMMING OF TREES, NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS IS THE RESPONSIBILITY OF THE PERMITTEE.
- ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.
- POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.
- SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.
- ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.
- THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.
- EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.
- CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS.
- PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.
- THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.
- WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT, FOR REVIEW, PRIOR TO BIDDING.
- PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.
- CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

SYSTEM PERMIT # I-0170

**PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0**

COUNTY: MONTGOMERY
MUNICIPALITY: HORSHAM TOWNSHIP
INTERSECTION: HORSHAM ROAD (S.R. 0463) AND
NORRISTOWN ROAD (S.R. 2007)

REVIEWED: _____ DATE _____
MICHAEL J. M. 1/8/2002
MUNICIPAL OFFICIAL

RECOMMENDED: _____ DATE _____
PAUL LUTZ 1/15/2002
DISTRICT TRAFFIC ENGINEER

NO.	REVISION	DES./REV.	DATE	REV.	DATE	RECOM.	DATE
1	NEW DRAWING	PAI	7/18/97	MK	7/18/97	DWM	7/21/97
2	REVISED ACCORDING TO AS-BUILT	JJA	8/25/08	DLA	9/8/08	ABP	9/8/08
3	REFERENCED SYSTEM PLAN, REVISED PRE-EMPT NOTES, PED TIMING, PHASE 2+6 MIN	JLH	1/24/11	DLA	2/1/11	WJG	2/1/11
4							
5							
6							
7							
8							

SHEET 2 OF 2 PERMIT # **64-2152** FILE # **2152**

MOVEMENT, SEQUENCE AND TIMING DIAGRAM

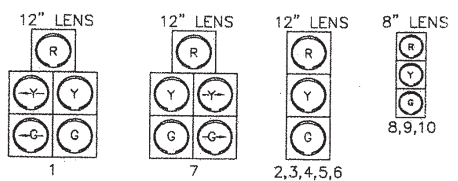
PHASE	INTERVAL	1+6	2+6	4	FLASH
1	1	G	G	R	Y
2	2	G	Y	R	Y
3,4	3	R	R	R	Y
5,6	4	R	R	R	R
7	5	R	R	R	OFF
8	6	R	R	R	OFF
9,10	7	R	R	R	OFF

OPERATION NOTES:

- G/-Y WHEN FOLLOWED BY 2+
 - G WHEN FOLLOWED BY 2+6
 - Y/- IF FOLLOWED BY 1+6
 - R/- IF FOLLOWED BY 1+6
 - MAX 1 TIME TO BE INHIBITED DURING COORDINATION.
- * SIGNAL TO DWELL IN PHASE 2+6, UNTIL ACTUATED BY PHASE 4.

SYSTEM NOTE:
REFER TO SYSTEM PERMIT #I-0170 FOR PROGRAM TIMES AND WEEKLY PROGRAM CHART.

SIGNAL INDICATIONS



SIGNALS EQUIPPED WITH TUNNEL VISORS 3,4,5,6,7
SIGNALS EQUIPPED WITH TUNNEL VISORS AND LOUVERS 8,9,10

EMERGENCY PRE-EMPTION PHASING

PHASE	10	11	12	13	14	15	16	17	18
1	R	R	R	R	R	R	G	Y	R
2	R	R	R	R	R	R	G	Y	R
4,5	G	Y	R	R	R	R	R	R	R
7,8	R	R	R	G	Y	R	R	R	R
9	R	R	R	G	Y	R	R	R	R
3,6	R	R	R	R	R	R	R	R	R
FIXED	* 4	2		* 4	2		* 4	2	

EMERGENCY PRE-EMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND APPROACH OF NORRISTOWN ROAD AND THE EASTBOUND & WESTBOUND APPROACHES OF HORSHAM ROAD WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS FAIL SAFE DEVICE SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH.
- THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLE, SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY, THEN THE GREEN INTERVAL FOR THE PRE-EMPTION PHASE SHALL FOLLOW. ONLY THOSE PHASES NOT POSING A YELLOW TRAP CONDITION MAY REMAIN GREEN (PHASE 4 OR 6) WHEN GOVERNED BY AN APPROACHING EMERGENCY VEHICLE.
- THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLE SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ARE FLASHING ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- UPON COMPLETION OF PRE-EMPTION, PHASE 2, 4 OR 6 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 4 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED, PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

NOTE:

- IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.
- DURATION OF PRE-EMPTION
- IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.
- UPON COMPLETION OF PRE-EMPTION, PHASE 2, 4 OR 6 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 4 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED, PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

- IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ARE FLASHING ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- UPON COMPLETION OF PRE-EMPTION, PHASE 2, 4 OR 6 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 4 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED, PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

MOVEMENT, SEQUENCE, AND TIMING DIAGRAM

PHASE	2+5	2+6	4+8	RAMP-PREEMPTION
1	G	G	R	R
2,3	Y	Y	R	R
4,5,6	R	R	G	G
7,8	R	R	G	G
9	R	R	G	G
10,11	R	R	G	G

FIXED	5	2	5	2	3	3	3	2
MINIMUM	5		15		5		5	
SEC / ACT			2.1					
MAX. INT.			35					
PASSAGE	3		5		3		3	
TBR			35					
TO REDUCE			10					
MIN. GAP			2.7					
MAX. 1	14		56		22		21	
MAX. 2	14		56		22		21	
PEDESTRIAN	NL		NL		NL		NL	

EMERGENCY PRE-EMPTION PHASING

PHASE	13	14	15	16	17	18	19	20	21	22	23	24
1	G	G	G	R	R	R	R	R	R	R	R	R
2,3	Y	Y	Y	R	R	R	R	R	R	R	R	R
4,5,6	R	R	R	G	G	G	G	G	G	G	G	G
7,8	R	R	R	G	G	G	G	G	G	G	G	G
9	R	R	R	G	G	G	G	G	G	G	G	G
10,11	R	R	R	G	G	G	G	G	G	G	G	G

PRE-EMPTION OPERATION NOTES

- ① SIGNAL TO INDICATE G WHEN RETURNING TO NORMAL OPERATION
- ② SIGNAL TO INDICATE Y WHEN RETURNING TO NORMAL OPERATION

NOTE: IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

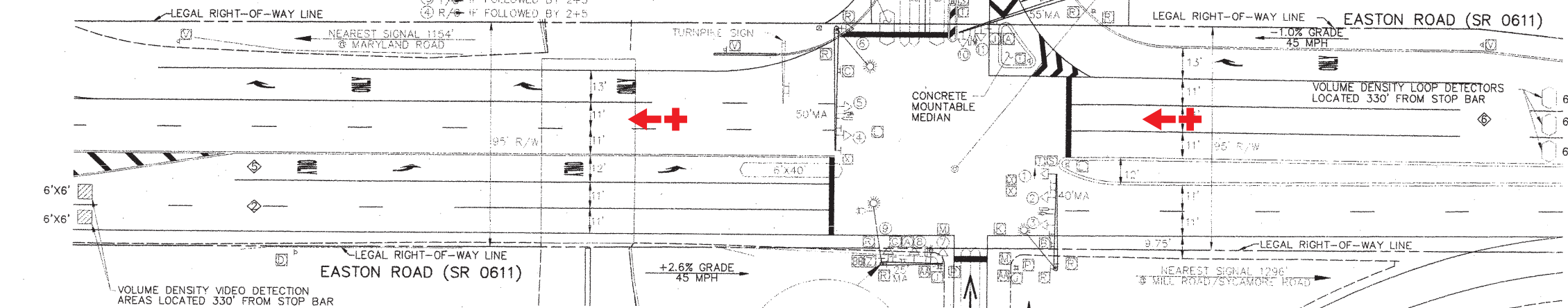
- FOR DURATION OF PRE-EMPTION, EMERGENCY PRE-EMPTION NOTES.
- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND AND SOUTHBOUND APPROACHES OF EASTON ROAD (SR 0611), THE EASTBOUND APPROACH OF HOME DEPOT DRIVE AND THE WESTBOUND APPROACH OF RAMP J WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION.
- THIS EMERGENCY BEACON SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH.
- THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLE, SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY. THEN THE GREEN INTERVAL FOR THE PRE-EMPTION PHASE SHALL FOLLOW.
- THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLE SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ARE FLASHING ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- UPON COMPLETION OF PRE-EMPTION PHASE 2,4,6 OR 8 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 4 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED. PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVED" OPERATION.
- THE FIELD DETECTORS SHALL BE FIELD ADJUSTED TO ACHIEVE THE MAXIMUM DETECTION ZONES.

OPERATION NOTES

- ① G/Y IF FOLLOWED BY 2+6
- ② Y/G IF FOLLOWED BY 2+6
- ③ Y/R IF FOLLOWED BY 2+5
- ④ R/G IF FOLLOWED BY 2+5

REFER TO SYSTEM PERMIT #1-0090 FOR PROGRAM TIMINGS AND WEEKLY PROGRAM CHART

- CONTROLLER TO DWELL IN PHASE 2+6 UNTIL ACTUATED BY PHASE 4+8



SIGN TABULATION

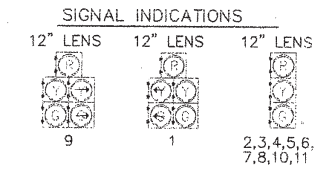
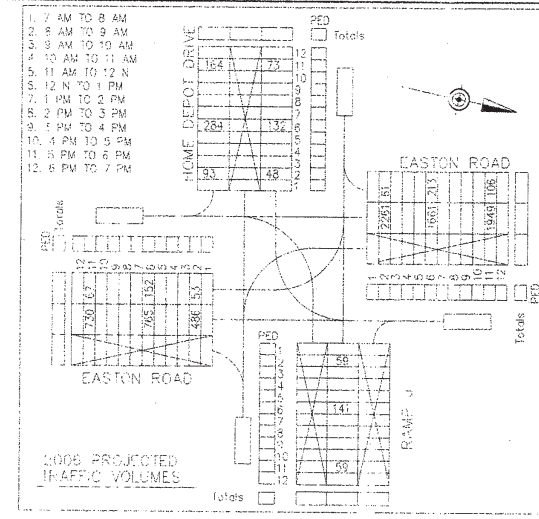
PLAN SYMBOL	SERIES	SIZE	DESCRIPTION
D3-4	96"x16"	STREET SIGN "Easton Rd"	
D3-4	96"x16"	STREET SIGN "Home Depot Dr"	
D3-4	96"x16"	STREET SIGN "Home Depot Dr"	
R3-7L	30"x30"	LEFT LANE MUST TURN LEFT	
R3-SL(MOD.)	30"x42"	LEFT TURN/RT 611 NORTH SIGN	
R3-SR(MOD.)	30"x48"	RIGHT TURN/RT 611 SOUTH/PA TURNPIKE SIGN	
R10-10R	30"x36"	RIGHT TURN SIGNAL SIGN	
R3-3	36"x36"	NO TURNS SIGN	
R3-1R	36"x36"	NO RIGHT TURN SIGN	
R3-1L	36"x36"	NO LEFT TURN SIGN	
R5-1	36"x36"	DO NOT ENTER SIGN	
R5-1A	48"x36"	WRONG WAY SIGN	
R6-1L	48"x18"	HORIZONTAL LEFT ONE WAY SIGN	
R6-1R	48"x18"	HORIZONTAL RIGHT ONE WAY SIGN	
R10-11	30"x36"	NO TURN ON RED SIGN	
R9-3A	18"x18"	NO PEDESTRIAN CROSSING SIGN	
R4-7	24"x30"	KEEP RIGHT SIGN	
OM1-3	18"x18"	OBJECT MARKER	
R10-12	30"x36"	LEFT TURN YIELD ON GREEN	
R3-7R	30"x30"	RIGHT LANE MUST TURN RIGHT	
SPECIAL	96"x78"	NORTH 611 DOYLESTOWN/HOME DEPOT DR	
R3-4	30"x30"	NO U-TURNS SIGN	
R3-20	30"x24"	6:00-9:00 AM; 3:00-6:30 PM: MON-FRI	

EMERGENCY PRE-EMPTION NOTES:
 WHEN PREEMPTION IS ACTIVATED, ALL YELLOW AND RED INDICATIONS, SHALL TIME OUT, FOLLOWED BY THE GREEN INTERVAL OF THE PREEMPTION PHASE.
 IF THE SIGNALS ARE FLASHING WHEN ACTIVATED FOR PREEMPTION, ALL SIGNALS SHALL REMAIN FLASHING.

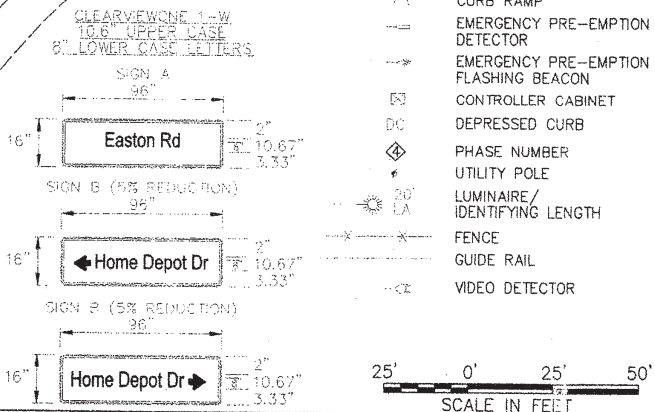
UPON COMPLETION OF THE PREEMPTION PHASE, IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 1 SHALL FOLLOW.

A CONSTANT CALL ON THE RAMP J PREEMPTION PHASE (EASTBOUND) FOR 10 SECONDS SHALL START THE PREEMPTION CALL.

A CONSTANT CALL ON THE RAMP PREEMPTION FOR 180 SECONDS SHALL INHIBIT THE PREEMPTION CALL.



- LEGEND**
- MAST ARM/IDENTIFYING LENGTH
 - SIGNAL HEAD/IDENTIFYING NUMBER
 - SIGN/IDENTIFYING LETTER
 - LOOP SENSOR/SIZE
 - DETECTOR ZONE/SIZE
 - CURB RAMP
 - EMERGENCY PRE-EMPTION DETECTOR
 - EMERGENCY PRE-EMPTION FLASHING BEACON
 - CONTROLLER CABINET
 - DEPRESSED CURB
 - PHASE NUMBER
 - UTILITY POLE
 - LUMINAIRE/IDENTIFYING LENGTH
 - FENCE
 - GUIDE RAIL
 - VIDEO DETECTOR



GENERAL NOTES

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- ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.
- POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.
- SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.
- ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.
- THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.
- EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.
- CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS FORM 408.
- PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.
- THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.
- WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT FOR REVIEW PRIOR TO BIDDING.
- PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.
- CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-7800 SERIES.

SYSTEM PERMIT #1-0090

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: MONTGOMERY
MUNICIPALITY: UPPER MORELAND TOWNSHIP
INTERSECTION: EASTON ROAD (SR 0611) & RAMP J (SR 8041)/HOME DEPOT DRIVE

REVIEWED: _____ DATE _____
 MUNICIPAL OFFICIAL: _____ DATE _____

RECOMMENDED: MARK L. KRAY 9/26/05
 LOUIS BELMONTE, P.E. 9/26/05
 DISTRICT TRAFFIC ENGINEER

NO	REVISION	DES/REVW	DATE	REVW	DATE	RECOM	DATE
1	CHANGE SIGNAL HEAD #1 TO A 5-SECTION HEAD & ADDED "NOR" RESTRICTED TIMES	TPD	6/13/06	SM	7/11/06	LRB	7/24/06
2	UPDATE PRESENTATION STYLE AS-BUILT	MCM		DLA	10/15/08	ABP	10/27/08
3		JLH	6/24/10	DLA	6/24/10	WJL	6/24/10
4							
5							
6							
7							
8							

SHEET 2 OF 2 PERMIT # 64-3503 FILE # 3503

MOVEMENT, SEQUENCE, AND TIMING DIAGRAM

PHASE	INTERVAL	1	2	3	4	5	6	7	8	9	10	11	FLASH
1		G	Y	R	G	Y	R	R	R	R	R	Y	
2		R	R	R	G	Y	R	R	R	R	R	Y	
3,4		R	R	R	G	Y	R	R	R	R	R	Y	
5,6		R	R	R	G	Y	R	R	R	R	R	Y	
7,8		H	H	H	M	FH	H	H	H	H	H	OFF	
9,10		H	H	H	H	H	H	M	FH	H	H	OFF	

FIXED	MINIMUM	5	2	15	5	2	3	4	2
SEC / ACT				1.5					
MAX INT				35					
PASSAGE				5					
TBR				35					
TO REDUCE				10					
MIN GAP				2.7					
MAX 1				52					
PEDESTRIAN				7	15		7	21	
MEMORY				NL	MN		NL		

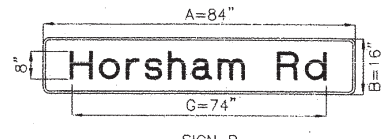
REFER TO SYSTEM PERMIT # I-0170 FOR PROGRAM TIMINGS AND WEEKLY PROGRAM CHART

OPERATION NOTES

- CONTROLLER TO DWELL IN PHASE 2+6 UNTIL ACTUATED BY PHASE 4
- UPON PEDESTRIAN ACTUATION, OTHERWISE HAND SYMBOL AT ALL TIMES
- IF FOLLOWED BY 2+6
- IF FOLLOWED BY 2+6

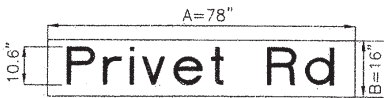
SIGN DETAILS

NOT TO SCALE



SIGN B

FONT: CLEARVIEW 3W
8" UPPER CASE
6" LOWER CASE



SIGN A

FONT: CLEARVIEW 3W
10.6" UPPER CASE
8" LOWER CASE

EMERGENCY PRE-EMPTION PHASING

MOVEMENT, SEQUENCE, AND TIMING DIAGRAM

PHASE	INTERVAL	6	15	17	2	4
1		G	Y	R	G	Y
2		R	R	R	G	Y
3,4		R	R	R	G	Y
5,6		R	R	R	G	Y
7,8		H	H	H	M	FH
9,10		H	H	H	M	FH

▲ FOR DURATION OF PRE-EMPTION

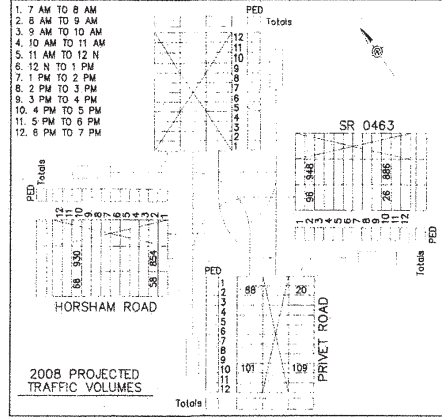
NOTE:

IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

EMERGENCY PRE-EMPTION OPERATION NOTES

- SIGNAL TO INDICATE G WHEN RETURNING TO NORMAL OPERATION
- SIGNAL TO INDICATE G WHEN RETURNING TO NORMAL OPERATION
- EMERGENCY PRE-EMPTION NOTES
- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE WESTBOUND APPROACH OF PRIVET ROAD AND THE NORTHBOUND AND SOUTHBOUND APPROACHES OF HORSHAM ROAD (SR 0463) WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS EMERGENCY BEACON SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH.
- THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLE, SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS. THE GREEN INTERVAL FOR THE PRE-EMPTED PHASE SHALL BE ONLY THOSE PHASES NOT POSING A YELLOW TRAP CONDITION MAY REMAIN GREEN (2 AND 4) WHEN GOVERNED BY APPROACHING EMERGENCY VEHICLE.
- THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLE SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.

- IF THE SIGNAL HAS BEEN ACTUATED BY A PEDESTRIAN PUSH BUTTON AND THE SIGNAL IS PRE-EMPTED DURING THE "MAN" INTERVAL, THE MAN INTERVAL SHALL TERMINATE IMMEDIATELY FOLLOWED BY THE "FLASHING HAND" INDICATION IN ITS ENTIRETY, FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES BEFORE PROCEEDING TO THE PRE-EMPTION PHASE.
- IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ARE FLASHING ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- UPON COMPLETION OF PRE-EMPTION PHASE 2,4 OR 6 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 4 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED. PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.
- LOCATION OF EMERGENCY VEHICLE DETECTORS ARE TO BE FIELD ADJUSTED TO ACHIEVE MAXIMUM OPERATION.



GENERAL NOTES

- NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.
- ALL MAINTENANCE WORK INCLUDING TRIMMING OF TREES, NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS IS THE RESPONSIBILITY OF THE PERMITTEE.
- ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.
- POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.
- SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.
- ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.
- THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.
- EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.
- CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS FORM 408.
- PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.
- THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.
- WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT FOR REVIEW PRIOR TO BIDDING.
- PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.
- CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

SYSTEM PERMIT # I-0170

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

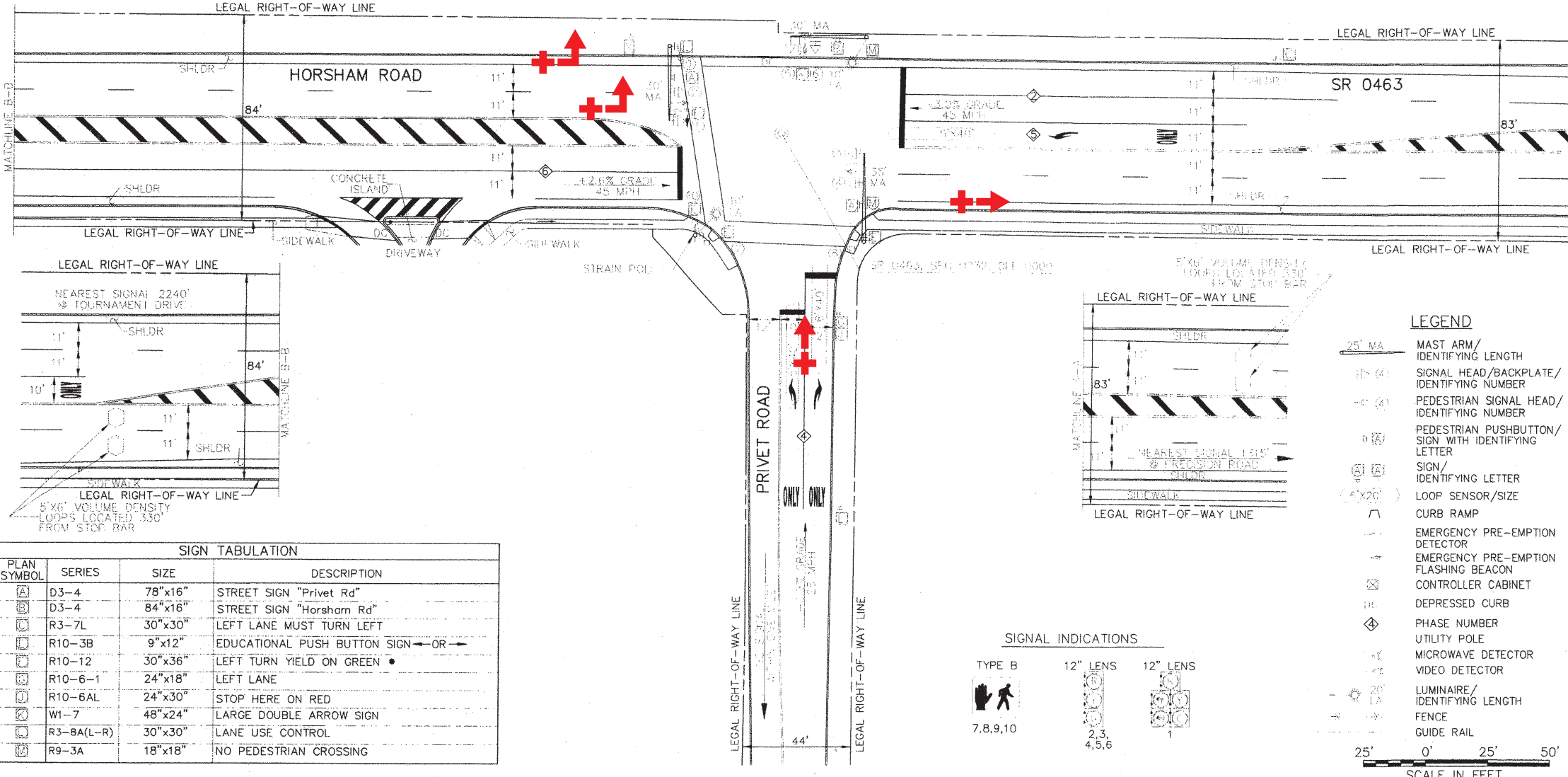
COUNTY: MONTGOMERY
MUNICIPALITY: HORSHAM TOWNSHIP
INTERSECTION: HORSHAM ROAD (SR 0463)
AND PRIVET ROAD

REVIEWED:
MICHAEL J MCGEE 1-08-02
MUNICIPAL OFFICIAL DATE

RECOMMENDED:
PAUL LUTZ 1-15-02
L. R. BELMONTE 1-16-02
DISTRICT TRAFFIC ENGINEER DATE

NO	REVISION	DES/REVW	DATE	REVW	DATE	RECOM	DATE
1	REMOVED PRIVATE DRIVE	MCM				LUTZ	5/23/05
2	ADD 5' & SIGN "L"; REVISE SIGN "B"	TPD	3/30/08			ABP	4/01/08
3	AS BUILT CONDITIONS	CEC		DLA	5/6/09	ABP	5/7/09
4	RE-REVIEW SYSTEM PLAN, REVISION 10/1/09, 10/1/09, 10/1/09			DLA	10/1/09	ABP	10/1/09
5							
6							
7							
8							

SHEET 2 OF 2 PERMIT # 64-3253 FILE # 3253



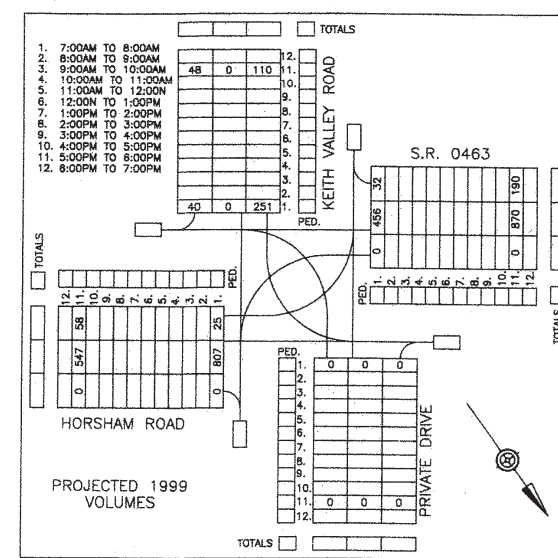
SIGN TABULATION

PLAN SYMBOL	SERIES	SIZE	DESCRIPTION
A	D3-4	78"x16"	STREET SIGN "Privet Rd"
B	D3-4	84"x16"	STREET SIGN "Horsham Rd"
C	R3-7L	30"x30"	LEFT LANE MUST TURN LEFT
D	R10-3B	9"x12"	EDUCATIONAL PUSH BUTTON SIGN ← OR →
E	R10-12	30"x36"	LEFT TURN YIELD ON GREEN
F	R10-6-1	24"x18"	LEFT LANE
G	R10-6AL	24"x30"	STOP HERE ON RED
H	W1-7	48"x24"	LARGE DOUBLE ARROW SIGN
I	R3-8A(L-R)	30"x30"	LANE USE CONTROL
J	R9-3A	18"x18"	NO PEDESTRIAN CROSSING

EMERGENCY PRE-EMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND & SOUTHBOUND APPROACHES OF KEITH VALLEY ROAD AND THE EASTBOUND & WESTBOUND APPROACHES OF HORSHAM ROAD WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS FAIL SAFE DEVICE SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH.
- THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY. THEN THE GREEN INTERVAL FOR THE PRE-EMPTED PHASE SHALL FOLLOW.
- THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLE SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- IF SIGNALS HAVE BEEN ACTUATED BY PEDESTRIAN PUSH BUTTON, AND THE SIGNAL IS PRE-EMPTED, THE PEDESTRIAN TIME SHALL BE SPLIT BETWEEN PED "WALK (MAN)" AND PED "CLEAR (HAND)". THE PED "WALK (MAN)" INTERVAL SHALL TERMINATE IMMEDIATELY, FOLLOWED BY THE PED "CLEAR (HAND)" INTERVAL. THIS INTERVAL SHALL TIME OUT FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES, BEFORE GOING INTO EMERGENCY PRE-EMPTION.
- IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ARE FLASHING ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- UPON COMPLETION OF PRE-EMPTION, PHASE 2,4,6 OR 8 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 1 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED. PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
A	D3-4	84X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
B	D3-4	96X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
C	R10-3B(L)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
D	R10-3B(R)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
E	R3-7L	30X30	LEFT LANE MUST TURN LEFT
F	R3-7R	30X30	RIGHT LANE MUST TURN RIGHT
G	R3-6SR	30X36	OPTIONAL RIGHT TURN
H	R3-5L	30X36	LEFT TURN
I	R9-3A	18X18	NO PEDESTRIAN CROSSING
J	R10-6L	24X30	STOP HERE ON RED



GENERAL NOTES

- NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.
- ALL MAINTENANCE WORK INCLUDING TRIMMING OF TREES, NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS IS THE RESPONSIBILITY OF THE PERMITTEE.
- ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 68.
- POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.
- SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.
- ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.
- THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.
- EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.
- CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS.
- PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF
- THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF ACT 38, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, EFFECTIVE DATE DECEMBER 12, 1991.
- WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT, FOR REVIEW, PRIOR TO BIDDING.
- PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.
- CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

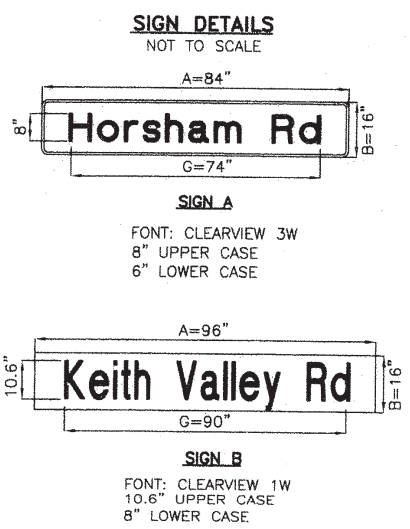
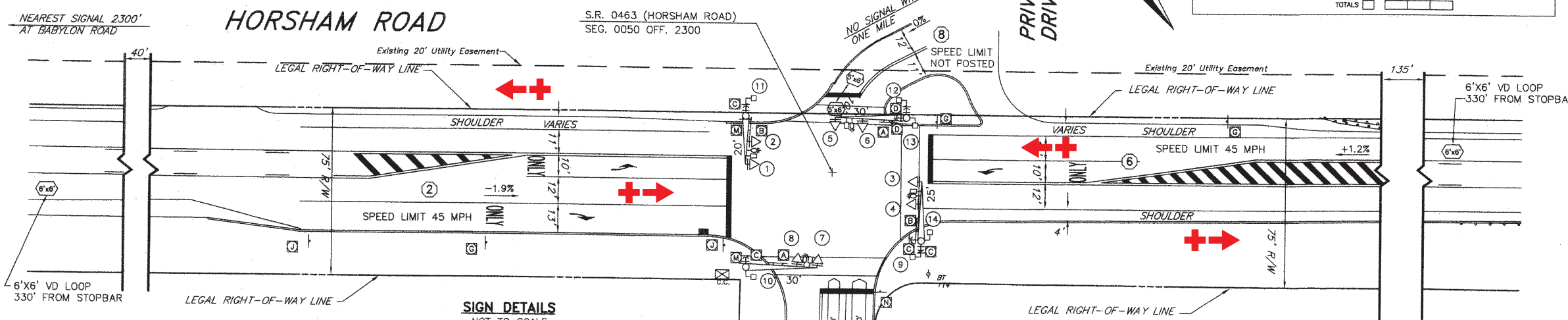
EMERGENCY PRE-EMPTION PHASING

PHASE	2	4	6	8
INTERNAL	9 10 11	12 13 14	15 16 17	18 19 20
SIGNALS	R R R	R R R	G Y R	R R R
1,2	R R R	R R R	G Y R	R R R
3,4	G Y R	R R R	R R R	R R R
5,6	R R R	G Y R	R R R	R R R
7,8	R R R	R R R	R R R	G Y R
9,10	H H H	H H H	H H H	H H H
11,12	H H H	H H H	H H H	H H H
13,14	H H H	H H H	H H H	H H H
FIXED	* 5 2	* 3 3	* 5 2	* 3 3

* DURATION OF PRE-EMPTION

NOTE:
IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

PRE-EMPTION OPERATION NOTES
© G WHEN RETURNING TO NORMAL OPERATION.



MOVEMENT, SEQUENCE AND TIMING DIAGRAM

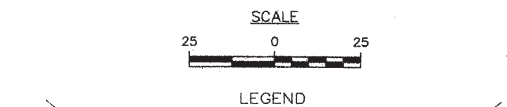
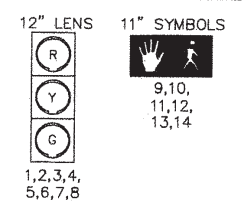
PHASE	2+6	4+8	FLASH
SIGNALS	1 2 3 4 5 6 7 8		
1,2	G G Y R R R R R Y		
3,4	G G Y R R R R R Y		
5,6	R R R R G G Y R R		
7,8	R R R R G G Y R R		
9,10,11,12	M FH H H H H H H OFF		
13,14	H H H H M FH H H OFF		

FIXED		5	2	3	3
MINIMUM	10				
SEC. ACT.	2				
MAX. INT	35				
PASSAGE	5	3			
TO REDUCE	17				
TBR	35				
MIN. GAP	3				
MAX 1	52	25			
PEDESTRIAN*	7 14		7 14		
MEMORY	MN		NL		

* UPON PEDESTRIAN ACTUATION ONLY, OTHERWISE HAND SYMBOL AT ALL TIMES.

OPERATION NOTES:
① MAX 1 TIME TO BE INHIBITED DURING COORDINATION.

SIGNAL INDICATIONS



SYSTEM PERMIT# I-0170

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: MONTGOMERY
MUNICIPALITY: HORSHAM TOWNSHIP
INTERSECTION: HORSHAM ROAD (S.R. 0463) AND KEITH VALLEY ROAD

REVIEWED:
MUNICIPAL OFFICIAL: MICHAEL J. M. 1/8/2002
DISTRICT TRAFFIC ENGINEER: PAUL LUTZ 1/15/2002
DISTRICT TRAFFIC ENGINEER: L.R. BELMONTE 1/16/2002

NO.	REVISION	DES./REVW.	DATE	REVW.	DATE	RECOM.	DATE
1	REVISED ACCORDING TO AS-BUILT	JJA	8/26/08	DLA	9/8/08	ABP	9/8/08
2	REFERENCED SYSTEM PLAN, REVISED PRE-EMPT NOTES, PED TIMING	JLH	1/24/11	DLA	2/12/11	ALP	2/15/11
3							
4							
5							
6							
7							
8							

SHEET 2 OF 2 PERMIT # 64-3072 FILE # 3072

HORSHAM/WARRINGTON TWP.

2989

PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
A	R10-10R	30X36	RIGHT TURN SIGNAL
B	R10-12	30X36	LEFT TURN YIELD ON GREEN
C	R3-8LSR	30X30	LANE USE CONTROL SIGN
D	R3-5L	30X36	LEFT TURN SIGN
E	R10-6L	24X30	STOP HERE ON RED SIGN
F	R10-3B(L)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON SIGNAL SIGN
G	D3-4	96X16	SINGLE LINE OVERHEAD STREET NAME (COUNTY LINE RD)
J	D3-5	96X28	DOUBLE LINE OVERHEAD STREET NAME (←KANSAS RD, KEITH VALLEY RD→)
K	D3-5	96X28	DOUBLE LINE OVERHEAD STREET NAME (←KEITH VALLEY RD, KANSAS RD→)
L	R3-5S	30X36	STRAIGHT THROUGH SIGN
M	R3-5R	30X36	RIGHT TURN SIGN
N	R10-21	24X30	WAIT FOR GREEN
P	R3-8LSRA	30X48	LANE USE CONTROL SIGN
S	R10-3B(R)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON SIGNAL SIGN

EMERGENCY PRE-EMPTION PHASING

MOVEMENT SEQUENCE & TIMING DIAGRAM

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
INTERVAL	1,2	3	4	5,6	7	8,9	10,11,12,13	14,15,16,17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32										
SIGNALS	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
SELECTIVE YELLOW																																	
SELECTIVE RED																																	
SELECTIVE YELLOW																																	
SELECTIVE RED																																	
FIXED TIME																																	

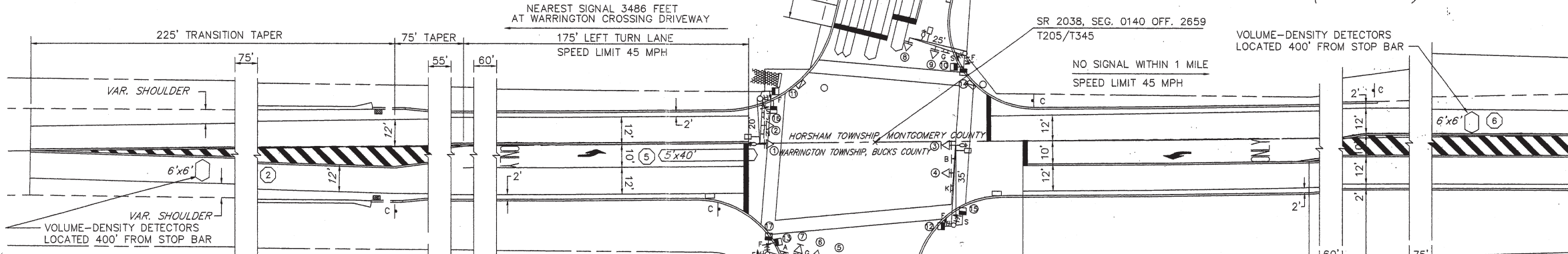
* PRE-EMPTION DURATION
 NOTE: IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.
 (1) SIGNAL TO INDICATE G/Y WHEN RETURNING TO NORMAL OPERATION.
 (2) SIGNAL TO INDICATE G WHEN RETURNING TO NORMAL OPERATION.

EMERGENCY PRE-EMPTION NOTES

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR ALL FOUR APPROACHES WITH A FLASHING FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION.
- THIS FAIL SAFE DEVICE SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL BEGIN FLASHING WHEN THE PRE-EMPTION PHASE DISPLAYS PRE-EMPTION GREEN FOR THE EMERGENCY VEHICLE APPROACH.
- THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, SHALL TERMINATE ALL GREEN INDICATIONS, EXCEPT THE GREEN INDICATIONS FOR THE PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE, FOLLOWED BY SELECTIVE CLEARANCES DEPENDENT UPON THE PHASE IN WHICH THE PRE-EMPTION OCCURS. THE GREEN INDICATIONS FOR THE PREEMPTED PHASE SHALL REMAIN GREEN FOR THE DURATION OF SIGNAL PRE-EMPTION WITH RED INDICATORS DISPLAYED FOR ALL OTHER PHASES.
- THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, SHALL TIME OUT ALL YELLOW AND RED INDICATORS, FOLLOWED BY THE GREEN INTERVAL OF THE PREEMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- IF THE SIGNALS ARE FLASHING WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ALL SIGNALS SHALL REMAIN FLASHING.
- UPON COMPLETION OF PREEMPTION PHASE 2, 4, 6 OR 8, IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 5 SHALL FOLLOW.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED. PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVED" OPERATION.
- THE FIELD LOCATIONS OF THE PRE-EMPTION DETECTORS MAY DIFFER FROM THE LOCATIONS DEPICTED ON THE CONDITION DIAGRAM AS THE DETECTORS MAY NEED TO BE RELOCATED AND/OR ADJUSTED TO PROVIDE ACCEPTABLE OPERATION AS DEEMED APPROPRIATE BY DEPARTMENT PERSONNEL.
- IF THE SIGNAL HAS BEEN ACTIVATED BY A PEDESTRIAN PUSH BUTTON, AND THE SIGNAL IS PRE-EMPTED DURING THE "MAY" PHASE, THE "MAY" PHASE SHALL TERMINATE IMMEDIATELY, FOLLOWED BY THE FLASHING "HAND" INDICATION IN ITS ENTIRETY, FOLLOWED BY THE APPROPRIATE SELECTIVE YELLOW AND RED CLEARANCE INTERVALS BEFORE PROCEEDING TO THE PRE-EMPTION PHASE. IF THE SIGNAL IS PRE-EMPTED DURING THE FLASHING "HAND" INDICATION, THE INTERVAL SHALL TIME OUT IN ITS ENTIRETY FOLLOWED BY THE APPROPRIATE SELECTIVE YELLOW AND RED CLEARANCE INTERVALS BEFORE PROCEEDING TO THE PRE-EMPTION PHASE.

COUNT DATE
 AM: 4/25/02
 PM: 4/23/02

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	Totals
6:00 AM														
7:00 AM														
8:00 AM														
9:00 AM														
10:00 AM														
11:00 AM														
12:00 PM														
1:00 PM														
2:00 PM														
3:00 PM														
4:00 PM														
5:00 PM														
Totals	439	209	134	12	7	13								
	343	145	76											

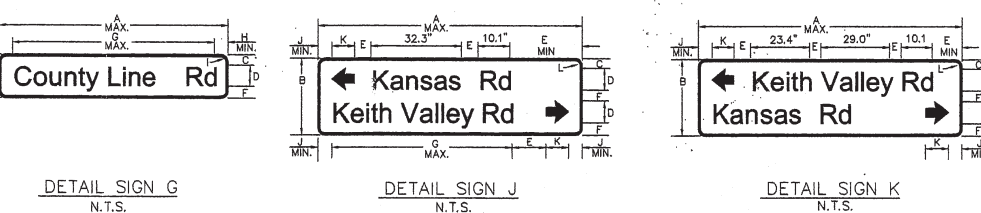


MOVEMENT, SEQUENCE AND TIMING DIAGRAM

PHASE	2+5	2+6	4+8	EMERGENCY FLASHING
INTERVAL	1,2,3,4	5,6,7,8	9,10,11,12	
1	R R R R	G G Y R	R R R R R Y	
2	R R R R	G G Y R	R R R R R Y	
3	G G G G	Y R G G	R R R R R Y	
4	G G Y R	G G Y R	R R R R R Y	
5,6	R R R R	R R R R	R R R R G G Y R R	
7	R R R R	R R R R	R R R R G G Y R OFF	
8,9	R R R R	R R R R	R R R R G G Y R OFF	
10,11 *	H H H H	M F H H	H H H H H H OFF	
12,13 *	M F H H	M F H H	H H H H H H OFF	
14,15,16,17 *	H H H H	H H H H	M F H H H H OFF	

NOTES:
 (1) G/Y IF FOLLOWED BY PHASE 2+6.
 (2) G IF FOLLOWED BY PHASE 2+6.
 (3) TIMING WILL BE AS SHOWN IN PHASE 2+6, IT MAY TIME OUT IN THIS PHASE OR MAY BE COMPLETED IN PHASE 2+6.
 * CONTROLLER TO DWELL IN PHASE 2+6 UNTIL ACTIVATED BY PHASE 4+8.
 * UPON PEDESTRIAN ACTUATION, OTHERWISE "H" AT ALL TIMES.
 * MAX II SHALL BE OPERATIONAL FROM 7:00 AM TO 9:00 AM AND FROM 4:00 PM TO 8:00 PM, MONDAY THROUGH FRIDAY. MAX I SHALL BE OPERATIONAL AT ALL OTHER TIMES.

FIXED	3	4	2	18	4	2	5	4	2
MINIMUM									
PASSAGE									
MAX I	← 15 →			← 47 →			← 15 →		
MAX II	← 25 →			← 56 →			← 25 →		
PEDESTRIAN	(3)			12 21			10 14		
MEMORY	← NL →			← MIR →			← NL →		
TBR				26					
TTR				13					
MIN. GAP				2					
MAX. INITIAL				26					
SEC./ACT.				2					



STREET NAME SIGN COLORS
 WARRINGTON TOWNSHIP SIDE: BLUE BACKGROUND-WHITE LEGEND
 HORSHAM TOWNSHIP SIDE: WHITE BACKGROUND-BLACK LEGEND

SIGNAL INDICATIONS
 12" LENS: (R), (Y), (G)
 11" SYMBOLS: 10,11,12,13, 14,15,16,17

LEGEND
 20' MAST ARM/IDENTIFYING LENGTH
 VEHICULAR SIGNAL HEAD/BACKPLATE/VISORS/DIRECTIONAL ARROW/IDENTIFYING NUMBER
 PEDESTRIAN PUSHBUTTON/SIGN
 LOOP SENSOR/SIZE
 EMERGENCY PREEMPTION DEVICE
 UTILITY POLE
 PHASE NUMBER
 SIGN/IDENTIFYING LETTER

GENERAL NOTES

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

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 68.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.

SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.

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EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS FORM 40B.

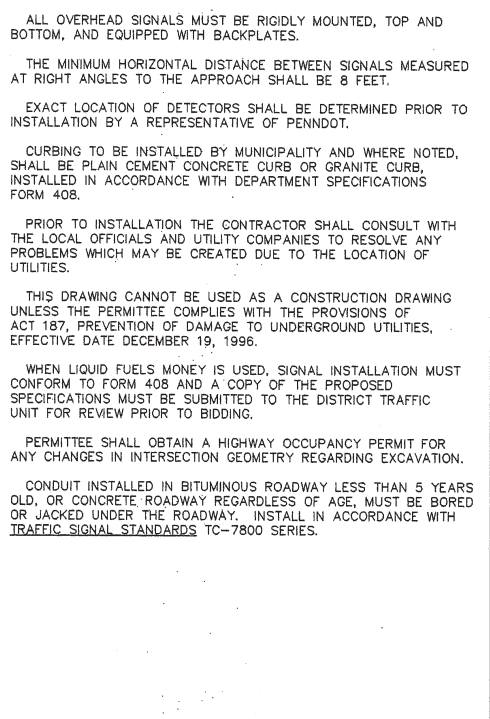
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THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF ACT 187, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, EFFECTIVE DATE DECEMBER 19, 1996.

WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 40B AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT FOR REVIEW PRIOR TO BIDDING.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-7800 SERIES.



PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
 ENGINEERING DISTRICT 6-0

COUNTY: MONTGOMERY AND BUCKS
 MUNICIPALITY: HORSHAM TWP & WARRINGTON TWP.
 INTERSECTION: COUNTY LINE ROAD (S.R. 2038)
 AND KEITH VALLEY ROAD/KANSAS ROAD

REVIEWED:

MUNICIPAL OFFICIAL _____ DATE _____

RECOMMENDED:
 MARK KRAY 5-13-98 DATE
 MUNICIPAL SIGNALS ENGINEER
 DOUGLAS MAY 5-13-98 DATE
 DISTRICT TRAFFIC ENGINEER

NO.	REVISION	DES./REV.	DATE	REV.	DATE	RECOM.	DATE
1	POLE AND STOP BAR RELOCATION PER PENNDOT POLE SPOT 5-9-98	N.V.	6/22/98	M.K.	6/29/98	D.W.M.	6/29/98
2	WIDEN KANSAS RD FOR SEPARATE TURN LANES 03/02	C.E.C.	5/10/02	M.K.	6/14/02	M.K.	6/14/02

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THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

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SYSTEM PERMIT #A-0102

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

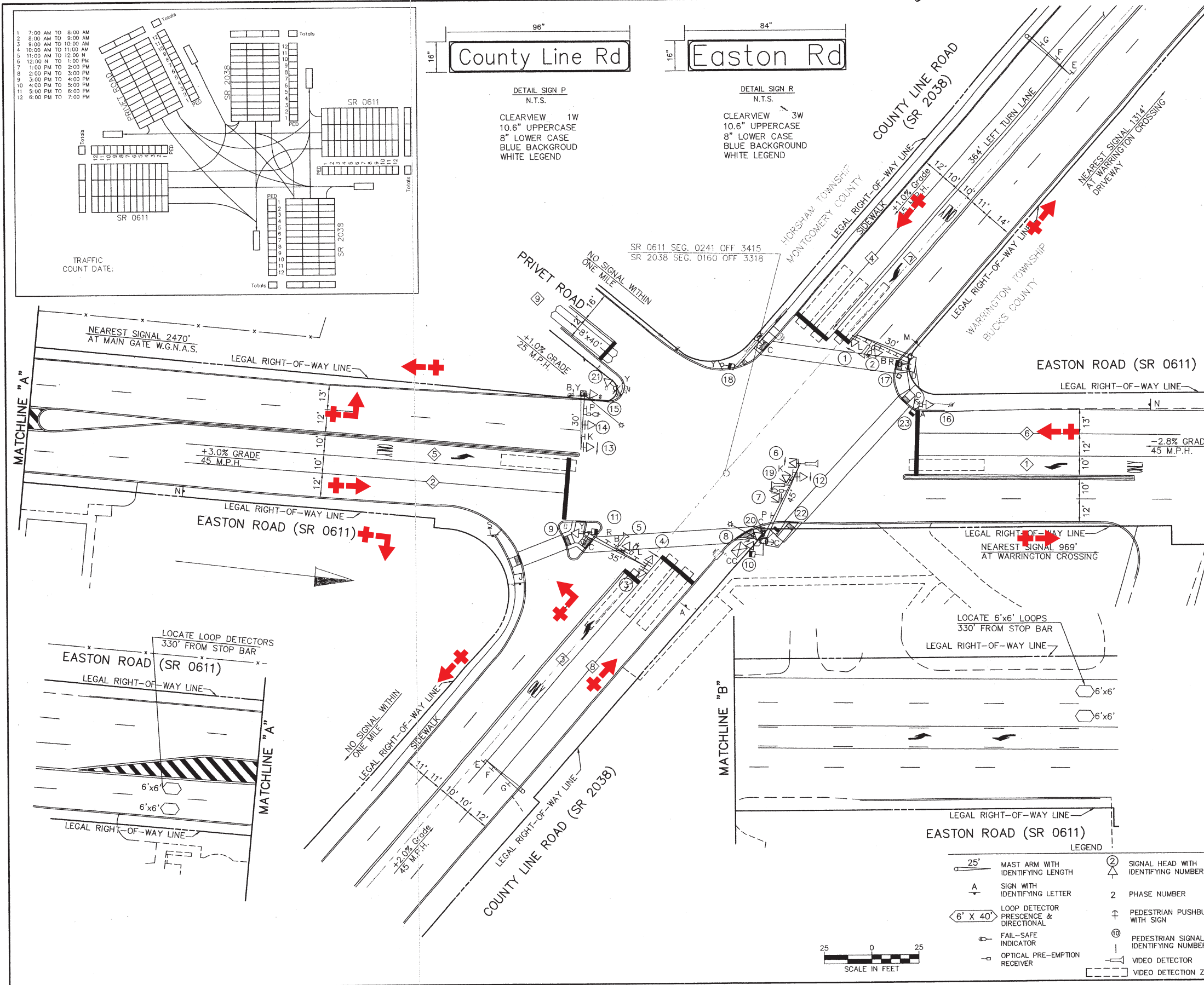
COUNTY: BUCKS/MONTGOMERY
MUNICIPALITY: WARRINGTON/HORSHAM TOWNSHIPS
INTERSECTION: EASTON ROAD (S.R. 0611) AND
COUNTY LINE ROAD (S.R. 2038)/PRIVET ROAD

REVIEWED: _____ DATE _____
MUNICIPAL OFFICIAL _____ DATE _____

RECOMMENDED:
MARK L. KRAY 6/26/95
DOUGLAS MAY 6/26/95
DISTRICT TRAFFIC ENGINEER DATE

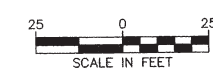
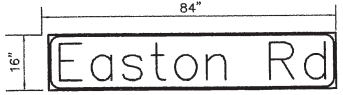
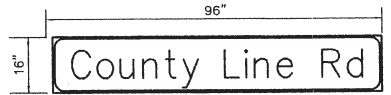
NO.	REVISION	DES./REV.	DATE	REV.	DATE	RECOM.	DATE
1	NEW DRAWING	PA	6/28/95	MK	6/28/95	DWM	6/28/95
2	REVISE TBC/CORRECTED LANE WIDTHS	CEC	1/24/01	MK	1/30/01	LRB	2/28/01
3	AS-BUILT FOR S.R. 0611-066 PROJECT	MCM	8/22/06	PAL	8/22/06	LRB	8/22/06
4	REVISED CURB RAMP, PEDESTRIAN BUTTONS, MCM PEDESTRIAN TIMES AND CLEARANCES	MCM	8/22/06	PAL	8/22/06	LRB	8/22/06
5							
6							
7							
8							

SHEET 2 OF 3 PERMIT # 61-0949 FILE # 0949



TRAFFIC COUNT DATE:

1	7:00 AM TO 8:00 AM	Totals
2	8:00 AM TO 9:00 AM	
3	9:00 AM TO 10:00 AM	
4	10:00 AM TO 11:00 AM	
5	11:00 AM TO 12:00 PM	
6	12:00 PM TO 1:00 PM	
7	1:00 PM TO 2:00 PM	
8	2:00 PM TO 3:00 PM	
9	3:00 PM TO 4:00 PM	
10	4:00 PM TO 5:00 PM	
11	5:00 PM TO 6:00 PM	
12	6:00 PM TO 7:00 PM	



TRAFFIC COUNTS DATE:

Time	WILLOW GROVE N.A.S.	SR 0611	PRIVATE DRIVEWAY
7:00 AM			
7:30 AM			
8:00 AM			
8:30 AM			
9:00 AM			
9:30 AM			
10:00 AM			
10:30 AM			
11:00 AM			
11:30 AM			
12:00 PM			
12:30 PM			
1:00 PM			
1:30 PM			
2:00 PM			
2:30 PM			
3:00 PM			
3:30 PM			
4:00 PM			
4:30 PM			
5:00 PM			
5:30 PM			
6:00 PM			
Totals			

EMERGENCY PRE-EMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND & SOUTHBOUND APPROACHES OF WILLOW GROVE NAVAL AIR STATION DRIVE AND THE EASTBOUND & WESTBOUND APPROACHES OF EASTON ROAD WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS EMERGENCY BEACON SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH.
- LOCATION OF EMERGENCY VEHICLE DETECTORS ARE TO BE FIELD ADJUSTED TO ACHIEVE MAXIMUM OPERATION.
- THE SIGNALS, WHEN ACTIVATED BY EMERGENCY VEHICLES, SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY. THEN THE GREEN INTERVAL FOR THE PRE-EMPTED PHASE SHALL FOLLOW.
- IF THE SIGNALS HAVE BEEN ACTUATED BY PEDESTRIAN PUSH BUTTON AND THE SIGNAL IS PRE-EMPTED, THE PEDESTRIAN TIME SHALL BE SPLIT BETWEEN PED "WALK (MAN)" AND PED "CLEAR (HAND)". THE PED "WALK (MAN)" INTERVAL SHALL TERMINATE IMMEDIATELY, FOLLOWED BY THE PED "CLEAR (HAND)" INTERVAL. THIS INTERVAL SHALL TIME OUT, FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES, BEFORE GOING INTO EMERGENCY PRE-EMPTION.
- IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE ARE FLASHING ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- UPON COMPLETION OF PRE-EMPTION PHASE, 2,4 OR 6 IN RETURNING TO NORMAL OPERATION, PHASE 2 + 6 INTERVAL 4 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED. PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

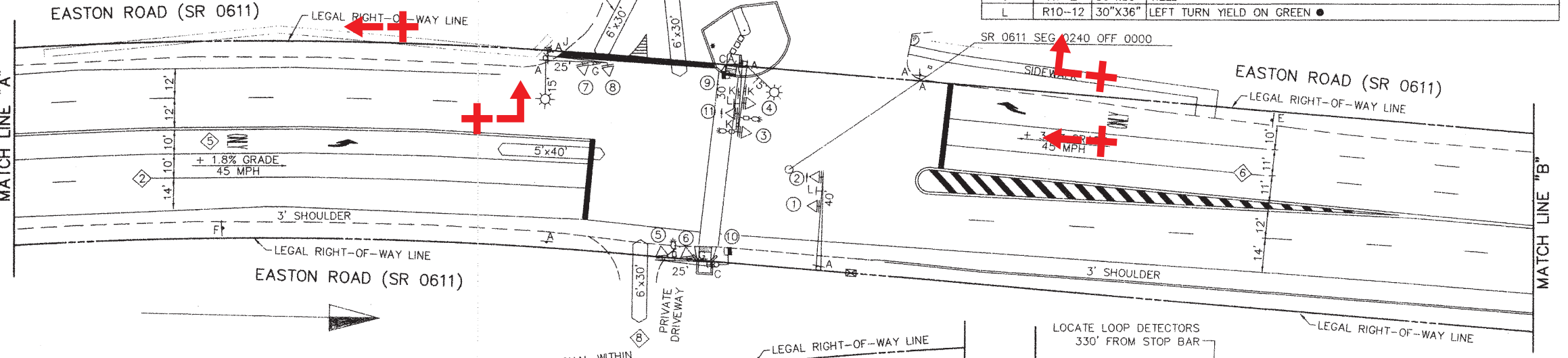
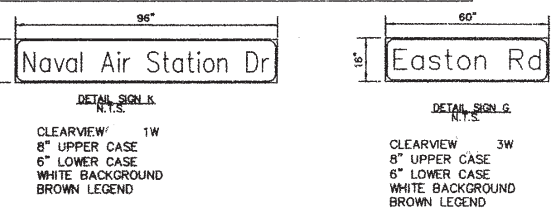
EMERGENCY PRE-EMPTION PHASING

PHASE	11	12	13	14	15	16	17	18	19
SIGNALS	G	Y	R	R	R	R	R	R	R
INTERVAL	2,11	3,4	5,6	7,8	9,10				
FIXED TIME	5	2	5	2	4	2			

- G IF FOLLOWED BY PHASE 2+6
- G/Y WHEN RETURNING TO PHASE 2 + 6
- FOR DURATION OF OPTICAL PRE-EMPTION NOTE: IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

SIGN TABULATION

PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
A	R9-3A	18"x18"	NO PEDESTRIAN CROSSING
C	R10-3B	9"x12"	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON SIGN
E	R3-7R	30"x30"	RIGHT LANE MUST TURN RIGHT
F	R3-7L	30"x30"	LEFT LANE MUST TURN LEFT
G	D3-4	60"x16"	OVERHEAD STREET NAME SIGN (SEE DETAIL) "EASTON RD"
K	D3-4	96"x16"	OVERHEAD STREET NAME SIGN (SEE DETAIL) "NAVAL AIR STATION DR"
J	R1-2	36"x36"	YIELD
L	R10-12	30"x36"	LEFT TURN YIELD ON GREEN



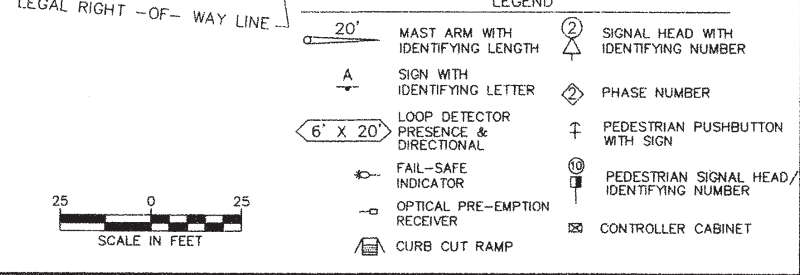
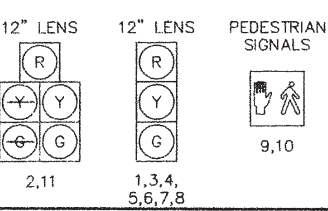
MOVEMENT, SEQUENCE AND TIMING DIAGRAM

PHASE	INTERVAL	2+5	2+6	4+8	FLASHING
SIGNALS	1	G Y R	G Y R	R R R	
2,11	G/Y	R R R	R R R	R R R	
3,4	R R R	R R R	R R R	G G Y	
5,6	R R R	R R R	R R R	R R R	
7,8	R R R	R R R	R R R	G G Y	
9,10	H H H	H H H	M FH H	H H OFF	
FIXED		5 2	5 2	4 2	
MINIMUM		3	38	3	
SEC/ACT.			1.5		
MAXIMUM INIT.			35		
PASSAGE		3	5	3	
TTR			15		
TBR			35		
MINIMUM GAP			2.7		
MAXIMUM 1		20	48	26	
PEDESTRIAN*				7 20	
MEMORY	NL		MN	NL	

SYSTEM NOTE:
REFER TO SYSTEM PERMIT #0102 FOR PROGRAM TIMES AND WEEKLY PROGRAM CHART

- OPERATION NOTES**
- "G" IF FOLLOWED BY 2+6
 - "G/Y" IF FOLLOWED BY 2+5
 - "G/Y" IF FOLLOWED BY 2+6

SIGNAL INDICATIONS



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SYSTEM PERMIT # I-0102

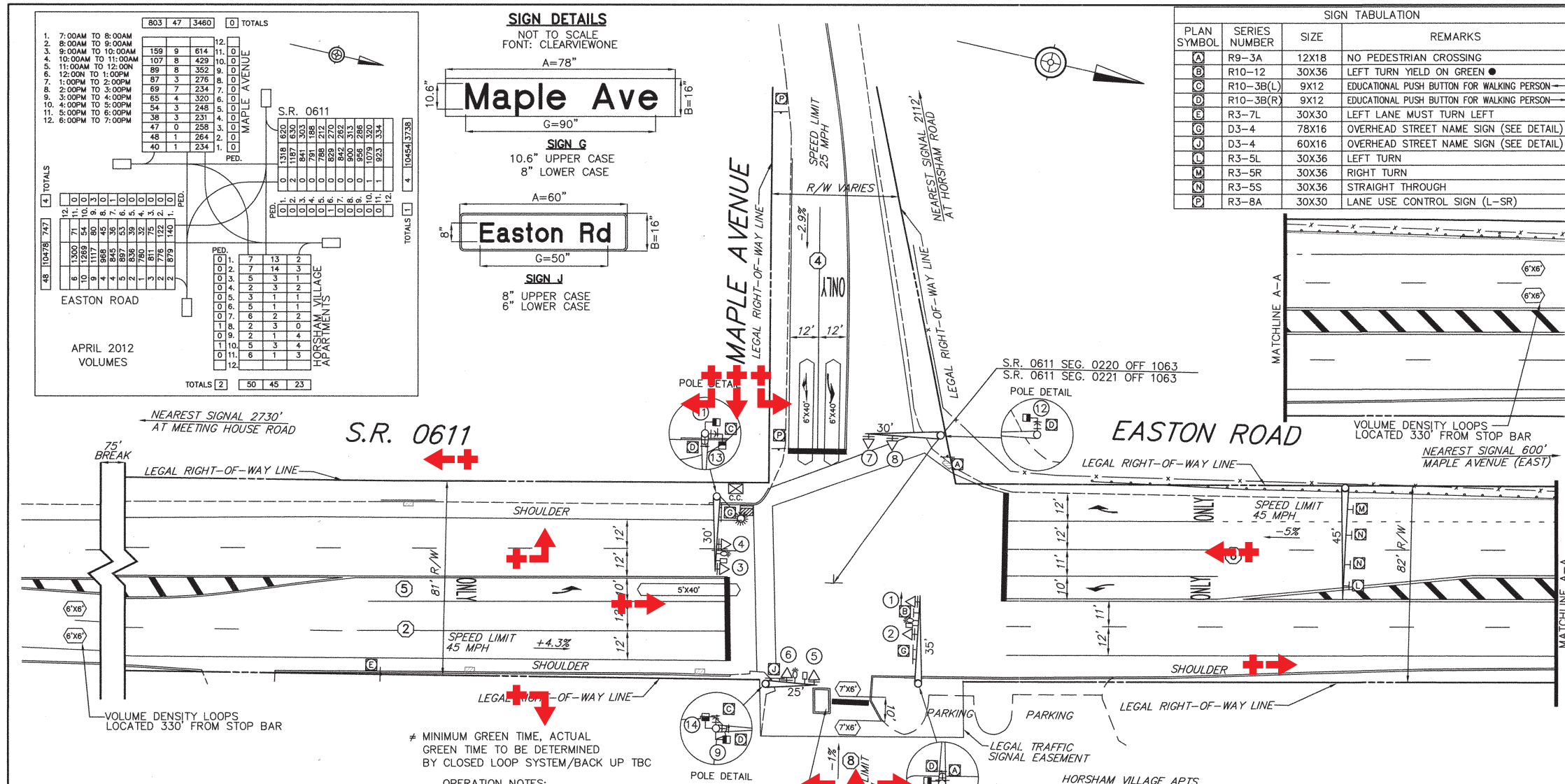
PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: MONTGOMERY
MUNICIPALITY: HORSHAM TOWNSHIP
INTERSECTION: EASTON ROAD (S.R. 0611) & WILLOW GROVE NAVAL AIR STATION DRIVE

REVIEWED: _____ DATE _____
MUNICIPAL OFFICIAL _____ DATE _____

RECOMMENDED:
MARK L. KRAY 6/20/95
MUNICIPAL SIGNALS ENGINEER
DOUGLAS MAY 6/22/95
DISTRICT TRAFFIC ENGINEER

NO.	REVISION	REV./REV.	DATE	REV.	DATE	RECOM.	DATE
1	NEW DRAWING SH#2 CHANGE TO 3 SECTION	PA 1	4/20/95	MK	4/20/95	DWM	4/20/95
2	ADDED OVERHEAD ST NAME SIGNS	J.L.	1/25/96	MK	1/27/96	DWM	1/27/96
3	REVISED TBC/RED LEDS	CE	1/24/96	RP	2/2/96	LRB	1/22/96
4	AS-BUILT PLAN FOR S.R. 0611 SEC 086	CEC					
5	REVISED CURB RAMP, PED BINS, PEDESTRIAN TIMES, & SIGN "A"	MCN					
6							
7							
8							



PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
A	R9-3A	12X18	NO PEDESTRIAN CROSSING
B	R10-12	30X36	LEFT TURN YIELD ON GREEN
C	R10-3B(L)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
D	R10-3B(R)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
E	R3-7L	30X30	LEFT LANE MUST TURN LEFT
F	D3-4	78X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
G	D3-4	60X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
H	R3-5L	30X36	LEFT TURN
I	R3-5R	30X36	RIGHT TURN
J	R3-5S	30X36	STRAIGHT THROUGH
K	R3-8A	30X30	LANE USE CONTROL SIGN (L-SR)

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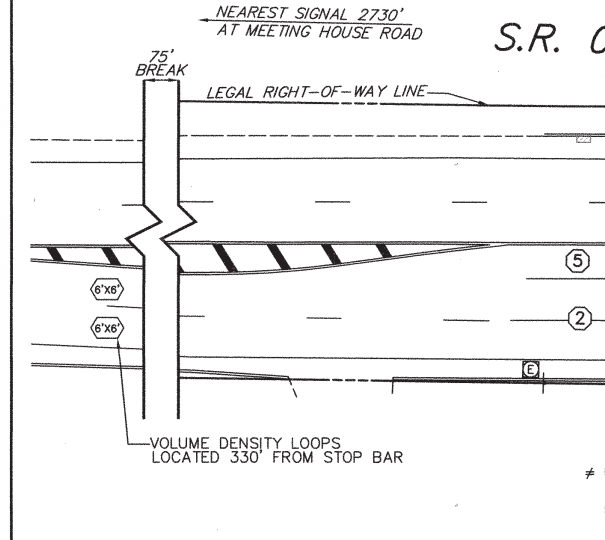
THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT, FOR REVIEW, PRIOR TO BIDDING.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

TIME PERIOD	MAPLE AVENUE	EASTON ROAD	TOTALS
7:00AM TO 8:00AM	159	9	614
8:00AM TO 9:00AM	107	8	429
9:00AM TO 10:00AM	89	8	352
10:00AM TO 11:00AM	87	3	276
11:00AM TO 12:00PM	69	7	234
12:00PM TO 1:00PM	85	4	323
1:00PM TO 2:00PM	38	3	231
2:00PM TO 3:00PM	47	0	258
3:00PM TO 4:00PM	48	1	264
4:00PM TO 5:00PM	40	1	234
5:00PM TO 6:00PM			
6:00PM TO 7:00PM			



OPERATION NOTES:
 1 G/⚡ IF FOLLOWED BY PHASE 2+6.
 2 G IF FOLLOWED BY PHASE 2+6.
 3 M IF FOLLOWED BY PHASE 2+6.
 4 TIMING WILL BE AS SHOWN IN 2+6. IT MAY TIME OUT IN THIS PHASE OR MAY BE COMPLETED IN 2+6.

EMERGENCY PRE-EMPTION PHASING
 MOVEMENT, SEQUENCE AND TIMING DIAGRAM

EMERGENCY PRE-EMPTION NOTES:
 CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND & SOUTHBOUND APPROACHES OF EASTON ROAD (S.R. 0611) AND THE EASTBOUND APPROACH OF MAPLE AVENUE WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS EMERGENCY BEACON SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH. LOCATION OF EMERGENCY VEHICLE DETECTORS ARE TO BE FIELD ADJUSTED TO ACHIEVE MAXIMUM OPERATION.

THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY. THEN THE GREEN INTERVAL FOR THE PRE-EMPTED PHASE SHALL FOLLOW.

THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.

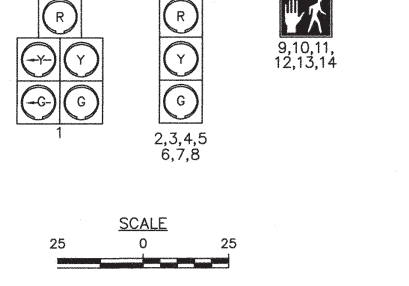
IF SIGNALS HAVE BEEN ACTIVATED BY PEDESTRIAN PUSH BUTTON AND THE SIGNAL IS PRE-EMPTED, THE PEDESTRIAN TIME SHALL BE SPLIT BETWEEN "PED WALK" AND "PED CLEAR". THE "PED WALK" INTERVAL SHALL TERMINATE IMMEDIATELY FOLLOWED BY THE "PED CLEAR" INTERVAL. THIS INTERVAL SHALL TIME OUT FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES BEFORE GOING INTO EMERGENCY PRE-EMPTION.

IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ARE FLASHING ALL SIGNALS SHALL REMAIN FLASHING.

IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.

UPON COMPLETION OF PRE-EMPTION, PHASE 2, 4 OR 6 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 5 SHALL FOLLOW.

IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED. PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

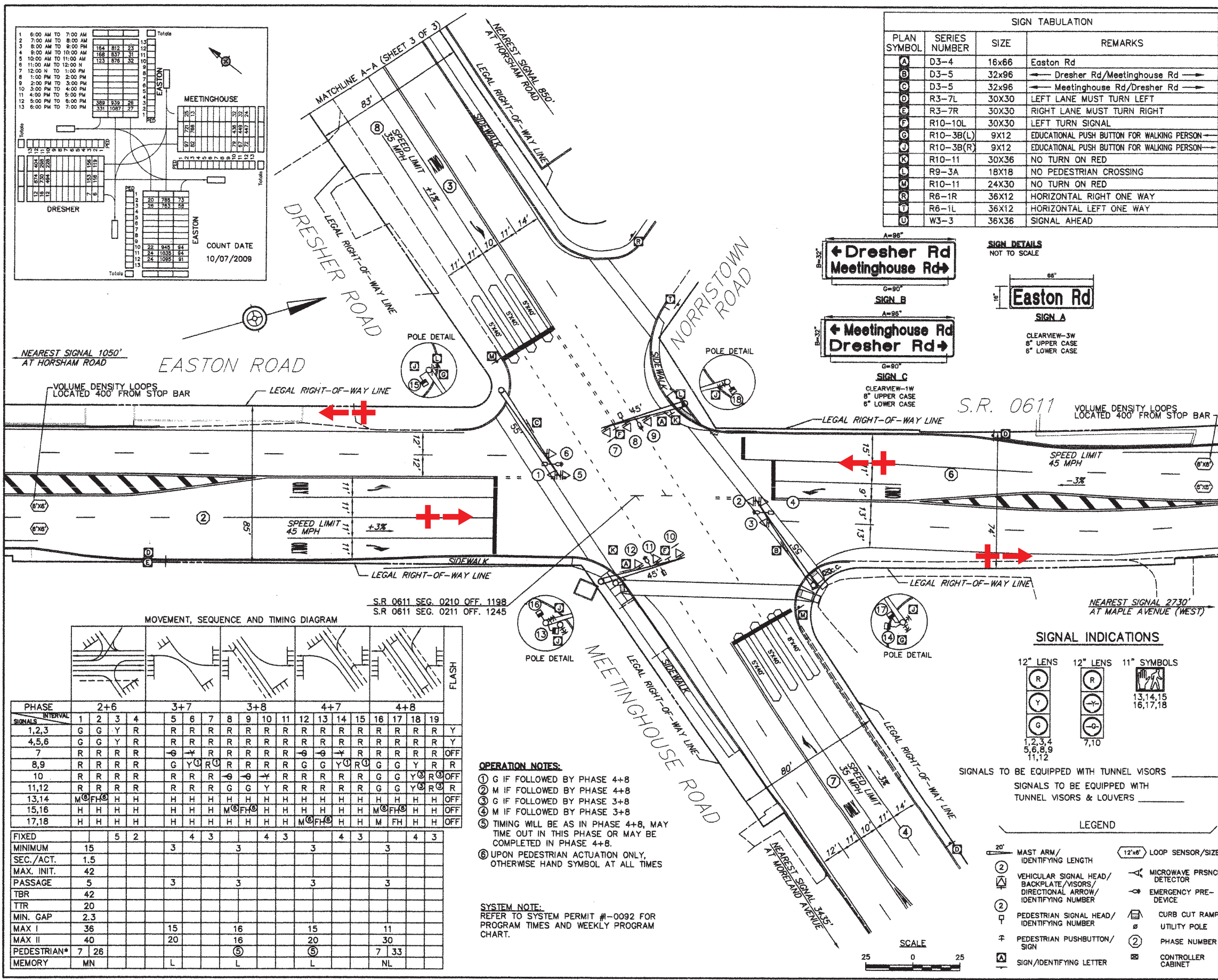


PHASE	INTERVAL	1	2	3	4	5	6	7	8	9	10	11	12	FLASH
1	2+5	G	G	Y	R	G	G	Y	R	R	R	R	R	Y
2	2+6	G	Y	R	G	G	Y	R	R	R	R	R	R	Y
3,4	4+8	R	R	R	R	G	G	Y	R	R	R	R	R	Y
5,6	2+5	R	R	R	R	R	R	R	R	G	G	Y	R	R
7,8	2+6	R	R	R	R	R	R	R	R	G	G	Y	R	R
9,10	4+8	M	FH	H	H	M	FH	H	H	H	H	H	H	OFF
11,12	2+5	H	H	H	H	M	FH	H	H	H	H	H	H	OFF
13,14	2+6	H	H	H	H	M	FH	H	H	H	H	H	H	OFF

NOTE:
 IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

⊙ G/⚡ WHEN RETURNING TO NORMAL OPERATION
 ⊙ G WHEN RETURNING TO NORMAL OPERATION

SYSTEM PERMIT #0092							
PENNSYLVANIA DEPARTMENT OF TRANSPORTATION ENGINEERING DISTRICT 6-0							
COUNTY:	MONTGOMERY						
MUNICIPALITY:	HORSHAM TOWNSHIP						
INTERSECTION:	EASTON ROAD (S.R. 0611) AND MAPLE AVENUE (LOWER)						
REVIEWED:	DATE						
MUNICIPAL OFFICIAL:	DATE						
RECOMMENDED:	1/14/04						
LOUIS R. BELMONTE	1/14/04						
DISTRICT TRAFFIC ENGINEER	DATE						
NO.	REVISION	DES./REV.	DATE	REVW.	DATE	RECOM.	DATE
1	PAVEMENT MARKING IMPS	MCJ	4/11/08	DLA		ABP	4/16/08
2	AS-BUILT PLAN	JLH	1/11/09	DLA	4/20/10	ABP	5/3/10
3	REVISED TIMINGS	KMJ	6/15/12	DLA	6/20/12	ABP	6/21/12
4	ADD SIGNING, MARKINGS TO EB APPROACH	DLA	9/1/13	DLA		ABP	9/1/13
5							
6							
7							
8							
SHEET 2 OF 2		PERMIT # 64-2211		FILE # 2211			



PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
A	D3-4	16x66	Easton Rd
B	D3-5	32x96	Dresher Rd/Meetinghouse Rd
C	D3-5	32x96	Meetinghouse Rd/Dresher Rd
D	R3-7L	30X30	LEFT LANE MUST TURN LEFT
E	R3-7R	30X30	RIGHT LANE MUST TURN RIGHT
F	R10-10L	30X30	LEFT TURN SIGNAL
G	R10-3B(L)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
H	R10-3B(R)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
I	R10-11	30X36	NO TURN ON RED
J	R9-3A	18X18	NO PEDESTRIAN CROSSING
K	R10-11	24X30	NO TURN ON RED
L	R6-1R	36X12	HORIZONTAL RIGHT ONE WAY
M	R6-1L	36X12	HORIZONTAL LEFT ONE WAY
N	W3-3	36X36	SIGNAL AHEAD

GENERAL NOTES

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.

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

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.

SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.

ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS FORM 40B.

PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

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SYSTEM PERMIT # I-0092

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: MONTGOMERY
MUNICIPALITY: HORSHAM TOWNSHIP
INTERSECTION: EASTON ROAD (S.R. 0611) & DRESHER ROAD/MEETINGHOUSE ROAD

REVIEWED: _____ DATE _____
MUNICIPAL OFFICIAL _____ DATE _____

RECOMMENDED:
MARK L KRAY 9-16-74
DOUGLAS MAY 9-16-74
DISTRICT TRAFFIC ENGINEER

NO.	REVISION	DES./REVK.	DATE	REVK.	DATE	RECOM.	DATE
1	NEW DRAWINGS ADDED TBC & CHANGED TIMING	NV	3/20/98	MLJ	3/23/98	DWM	3/23/98
2	ADDED PAVEMENT MARKING	MEK	3/1/04	MLJ	3/18/04	LRB	3/19/04
3	AS-BUILT DRAWING FOR S.R. 0611 SEC. 001	JLH	1/7/10	DLA	4/20/10	ABP	5/3/10
4	REVISED CURB RAMP, PEDESTRIAN BUTTONS, PED TIMES & V/D TIMES	WCH		DLA	1/26/11	ABP	2/16/11
5	REVISION OF LEGAL RIGHT-OF-WAY LINE, REVISION OF LEGAL RIGHT-OF-WAY LINE, REVISION OF LEGAL RIGHT-OF-WAY LINE	DLA		DLA			

Time	Easton	Dresher	Meetinghouse	Total
1 6:00 AM TO 7:00 AM				
2 7:00 AM TO 8:00 AM	184	812	23	1019
3 8:00 AM TO 9:00 PM	168	837	31	1036
4 9:00 AM TO 10:00 AM	123	878	32	1033
5 10:00 AM TO 11:00 AM				
6 11:00 AM TO 12:00 N				
7 12:00 N TO 1:00 PM				
8 1:00 PM TO 2:00 PM				
9 2:00 PM TO 3:00 PM				
10 3:00 PM TO 4:00 PM				
11 4:00 PM TO 5:00 PM	369	936	28	1333
12 5:00 PM TO 6:00 PM	331	1087	27	1445
13 6:00 PM TO 7:00 PM				
Total				

MEETINGHOUSE
DRESHER
EASTON
COUNT DATE 10/07/2009

MOVEMENT, SEQUENCE AND TIMING DIAGRAM

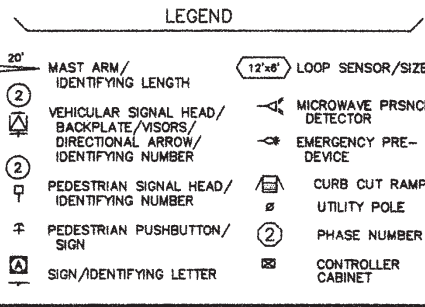
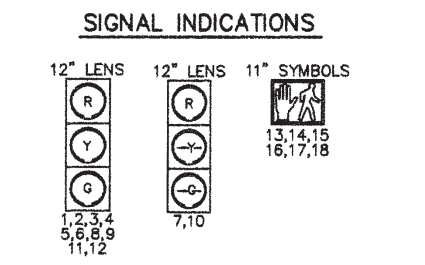
PHASE	2+6	3+7	3+8	4+7	4+8	FLASH
1,2,3	G G Y R	R R R R R R R R	R R R R R R R R	R R R R R R R R	R R R R R R R R	
4,5,6	G G Y R	R R R R R R R R	R R R R R R R R	R R R R R R R R	R R R R R R R R	
7	R R R R R	G Y R R R R R R	R R R R R R R R	R R R R R R R R	R R R R R R R R	OFF
8,9	R R R R R	G Y R R R R R R	R R R R R R R R	R R R R R R R R	R R R R R R R R	OFF
10	R R R R R	R R R R R R R R	R R R R R R R R	R R R R R R R R	R R R R R R R R	OFF
11,12	R R R R R	R R R R R R R R	R R R R R R R R	R R R R R R R R	R R R R R R R R	OFF
13,14	M@FH H H	H H H H H H H H	H H H H H H H H	H H H H H H H H	H H H H H H H H	OFF
15,16	H H H H H	H H H H H H H H	M@FH H H H H H H	H H H H H H H H	M@FH H H H H H	OFF
17,18	H H H H H	H H H H H H H H	H H H H H H H H	M@FH H H H H H	H H H H H H H H	OFF

FIXED	MINIMUM	SEC./ACT.	MAX. INIT.	PASSAGE	TBR	TTR	MIN. GAP	MAX I	MAX II	PEDESTRIAN*	MEMORY
	15	1.5	42	5	42	20	2.3	36	40	7 26	MN
				3						L	L
				3						5	L
				3						5	L
				3						7 33	NL

OPERATION NOTES:

- G IF FOLLOWED BY PHASE 4+8
- M IF FOLLOWED BY PHASE 4+8
- G IF FOLLOWED BY PHASE 3+8
- M IF FOLLOWED BY PHASE 3+8
- TIMING WILL BE AS IN PHASE 4+8, MAY TIME OUT IN THIS PHASE OR MAY BE COMPLETED IN PHASE 4+8.
- UPON PEDESTRIAN ACTUATION ONLY, OTHERWISE HAND SYMBOL AT ALL TIMES

SYSTEM NOTE:
REFER TO SYSTEM PERMIT # I-0092 FOR PROGRAM TIMES AND WEEKLY PROGRAM CHART.



TRAFFIC ASSESSMENT STUDY

Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove

TOWNSHIP OF HORSHAM

MONTGOMERY COUNTY, PENNSYLVANIA

**PennDOT Growth Factors —
September 2012 to July 2013**

Growth Factors for September 2012 to July 2013

County	Urban Interstate	Rural Interstate	Urban Non-Interstate	Rural Non-Interstate
ADAMS	*	*	1.87	0.94
ALLEGHENY	1.29	*	0.18	0.53
ARMSTRONG	1.37	*	0.21	0.54
BEAVER	1.27	2.25	0.20	0.52
BEDFORD	*	2.33	*	0.59
BERKS	1.48	2.36	0.71	0.65
BLAIR	0.81	1.82	0.00	0.36
BRADFORD	1.32	*	0.33	0.50
BUCKS	2.04	2.55	1.43	0.81
BUTLER	1.95	2.79	1.08	0.83
CAMBRIA	0.44	*	0.00	0.24
CAMERON	*	*	*	0.32
CARBON	1.93	2.76	1.26	0.84
CENTRE	1.99	2.60	1.32	0.83
CHESTER	2.54	2.99	1.91	1.03
CLARION	1.35	2.22	0.45	0.55
CLEARFIELD	*	2.48	0.18	0.57
CLINTON	1.40	2.06	0.65	0.54
COLUMBIA	1.78	2.18	1.25	0.68
CRAWFORD	1.06	2.13	0.03	0.47
CUMBERLAND	1.72	2.04	1.37	0.68
DAUPHIN	1.46	2.24	0.75	0.62
DELAWARE	1.38	*	0.51	*
ELK	*	*	0.10	0.42
ERIE	0.97	1.78	0.15	0.41
FAYETTE	1.14	*	0.12	0.49
FOREST	*	*	*	0.70
FRANKLIN	2.49	2.72	2.00	0.98
FULTON	*	2.52	*	0.79
GREENE	1.05	2.06	0.04	0.45
HUNTINGDON	*	2.14	0.33	0.51
INDIANA	1.63	*	0.59	0.64
JEFFERSON	*	2.55	0.23	0.61
JUNIATA	*	*	*	0.70
LACKAWANNA	1.30	2.30	0.19	0.52
LANCASTER	2.02	2.47	1.42	0.81
LAWRENCE	1.24	2.21	0.17	0.50
LEBANON	*	2.35	1.09	0.70
LEHIGH	1.93	2.86	1.13	0.85
LUZERNE	1.30	2.32	0.18	0.53
LYCOMING	1.06	1.65	0.29	0.39
MCKEAN	1.10	*	0.11	0.45
MERCER	1.06	1.86	0.20	0.42
MIFFLIN	1.29	*	0.20	0.54
MONROE	2.33	2.80	1.90	0.99
MONTGOMERY	1.51	2.34	0.73	0.64
MONTOUR	*	2.96	1.46	0.92
NORTHAMPTON	2.19	*	1.57	0.94
NORTHUMBERLAND	1.22	1.88	0.24	0.42
PERRY	*	*	1.91	0.81
PHILADELPHIA	1.12	*	0.00	*
PIKE	*	3.08	*	1.16
POTTER	*	*	*	0.44
SCHUYLKILL	*	1.98	0.15	0.44
SNYDER	1.58	*	0.99	0.60
SOMERSET	1.05	2.00	0.12	0.45
SULLIVAN	*	*	*	0.51
SUSQUEHANNA	1.53	2.44	0.64	0.64
TIOGA	*	*	*	0.46
UNION	*	2.31	1.50	0.75
VENANGO	1.10	1.84	0.20	0.42
WARREN	*	*	0.09	0.53
WASHINGTON	1.50	2.73	0.30	0.66
WAYNE	*	2.43	1.20	0.76
WESTMORELAND	1.37	2.39	0.33	0.57
WYOMING	*	*	0.51	0.46
YORK	1.96	2.40	1.52	0.80

* = Functional Class Doesn't Exist in County

Questions? Please contact Andrew O'Neill at the Bureau of Planning and Research, 717-346-3250 or andoneill@pa.gov

NOTE: The projected growth factors are derived using historical VMT (Vehicle Miles Traveled) data (1994 to 2011), as well as Woods and Poole demographic and economic data. The factors should not be used to project traffic beyond a 20-year period. Please be aware that these factors are estimates, and unforeseen events (opening of shopping centers, fast food franchises, gas stations, etc) could cause growth to change over time.

TRAFFIC ASSESSMENT STUDY

Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove

TOWNSHIP OF HORSHAM

MONTGOMERY COUNTY, PENNSYLVANIA

**Capacity Analysis Worksheets
(Existing, No-Action [No-Build]),
Alternative 1, Alternative 2 and
Alternative 3**

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: COUNTY LINE RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	9	282	77	207	343	109	152	758	87	85	1155	12
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	8.4	20.9			4.0	50.7		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	187	1593	0.11	0.32	27.5	C		
TR	585	3080	0.73	0.19	46.6	D	45.8	D
Westbound								
L	231	1593	1.23	0.32	176.8	F		
TR	585	3079	0.98	0.19	77.6	E	110.3	F
Northbound								
L	146	1593	1.21	0.56	182.0	F		
TR	1448	3141	0.69	0.46	24.9	C	48.5	D
Southbound								
L	204	1593	0.65	0.56	32.9	C		
TR	1466	3181	0.83	0.46	30.1	C	30.4	C

Intersection Delay = 55.7 (sec/veh) Intersection LOS = E

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: COUNTY LINE RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	10	286	85	80	338	111	195	1167	121	147	923	8
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
WB Left		A	A		SB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		5.0	29.0			9.0	62.0	
Yellow		4.0	4.0			5.0	5.0	
All Red		2.0	2.0			2.0	2.0	

Cycle Length: 131.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	142	1593	0.17	0.31	34.3	C		
TR	682	3079	0.76	0.22	52.9	D	52.0	D
Westbound								
L	160	1593	0.93	0.31	99.9	F		
TR	681	3074	0.84	0.22	58.3	E	66.8	E
Northbound								
L	247	1593	1.15	0.60	148.6	F		
TR	1488	3145	0.98	0.47	52.0	D	67.8	E
Southbound								
L	164	1593	1.20	0.60	172.8	F		
TR	1506	3181	0.69	0.47	28.3	C	51.3	D

Intersection Delay = 60.8 (sec/veh) Intersection LOS = E

Analyst: LDK
 Agency: TQC
 Date: 6/8/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: County Line Road

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 EXISTING
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	19	611	51	242	500	2	5	31	73	36	264	30
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	8.7	52.6			20.7			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	398	757	0.06	0.53	11.7	B		
TR	871	1655	0.84	0.53	27.8	C	27.3	C
Westbound								
L	307	1593	0.85	0.67	34.6	C		
TR	1127	1675	0.50	0.67	8.4	A	16.7	B
Northbound								
L	89	432	0.18	0.21	33.6	C		
T	347	1676	0.13	0.21	32.5	C	26.4	C
R	504	1425	0.20	0.35	22.6	C		
Southbound								
L	253	1221	0.32	0.21	34.4	C		
T	347	1676	0.93	0.21	69.5	E	59.5	E
R	295	1425	0.15	0.21	32.7	C		
Intersection Delay = 29.8			(sec/veh)		Intersection LOS = C			

Analyst: LDK
 Agency: TQC
 Date: 6/8/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: County Line Road

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year :
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	19	548	13	111	696	39	152	248	304	22	65	35
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	5.6	57.1			29.3			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	212	408	0.13	0.52	13.9	B		
TR	864	1665	0.72	0.52	23.3	C	22.9	C
Westbound								
L	309	1593	0.40	0.62	13.6	B		
TR	1038	1662	0.80	0.62	20.0+	C	19.2	B
Northbound								
L	316	1186	0.61	0.27	38.7	D		
T	446	1676	0.63	0.27	38.3	D	36.2	D
R	530	1425	0.70	0.37	33.4	C		
Southbound								
L	184	690	0.17	0.27	31.5	C		
T	446	1676	0.17	0.27	31.2	C	31.1	C
R	380	1425	0.13	0.27	30.8	C		
Intersection Delay = 26.4			(sec/veh)		Intersection LOS = C			

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	127	478	4	67	780	13	18	770	58	31	724	390
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		4.0	22.0			34.0		
Yellow		4.0	4.0			5.0		
All Red		3.0	2.0			2.0		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	1593	0.92	0.40	74.5	E		
TR	875	3182	0.64	0.28	27.1	C	37.5	D
Westbound								
L	234	1593	0.38	0.40	17.2	B		
TR	874	3179	1.02	0.28	64.4	E	60.2	E
Northbound								
L	90	197	0.36	0.43	18.0	B		
T	1357	3192	0.64	0.43	19.3	B	18.9	B
R	606	1425	0.11	0.43	13.9	B		
Southbound								
L	172	404	0.30	0.43	16.2	B		
TR	1282	3017	1.04	0.43	58.1	E	56.6	E

Intersection Delay = 45.0 (sec/veh) Intersection LOS = D

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	436	959	17	85	494	14	28	1027	111	37	864	165
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	6.0	30.0			40.0			
Yellow	4.0	4.0			5.0			
All Red	3.0	3.0			2.0			

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	277	1593	1.81	0.44	411.5	F		
TR	984	3180	1.17	0.31	123.0	F	210.2	F
Westbound								
L	173	1593	0.67	0.44	32.6	C		
TR	981	3172	0.58	0.31	29.1	C	29.7	C
Northbound								
L	78	189	0.56	0.41	31.0	C		
T	1316	3192	0.87	0.41	32.5	C	31.0	C
R	588	1425	0.23	0.41	18.7	B		
Southbound								
L	80	194	0.55	0.41	29.5	C		
TR	1285	3117	0.89	0.41	35.0+	D	34.8	C

Intersection Delay = 92.9 (sec/veh) Intersection LOS = F

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: BASE GATE 1 N/S St: easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	0	0	0	0	0	0	50	1070	0	0	1520	53
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LT	382	1676	0.00	0.23	34.0	C		
R	325	1425	0.00	0.23	34.0	C		

Westbound

LTR	382	1676	0.00	0.23	34.0	C		
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Northbound

L	342	1593	0.22	0.66	19.3	B		
TR	2100	3192	0.57	0.66	11.0	B	11.5	B

Southbound

LT	1344	3192	1.18	0.42	121.1	F	116.9	F
R	600	1425	0.11	0.42	20.1	C		

Intersection Delay = 71.2 (sec/veh) Intersection LOS = E

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: BASE GATE 1 N/S St: easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	0	0	0	7	0	55	6	1555	0	0	1119	1
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LT	382	1676	0.00	0.23	34.0	C		
R	325	1425	0.00	0.23	34.0	C		

Westbound

LTR	141	619	0.67	0.23	52.1	D	52.1	D
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Northbound

L	365	1593	0.05	0.66	11.5	B		
TR	2100	3192	0.74	0.66	14.4	B	14.4	B

Southbound

LT	1344	3192	0.83	0.42	34.1	C	34.0	C
R	600	1425	0.01	0.42	19.2	B		

Intersection Delay = 23.6 (sec/veh) Intersection LOS = C

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	211	1	47	3	19	1	159	824	3	1	1098	558
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0				7.0	52.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 101.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	265	1216	1.01	0.22	96.7	F		
TR	314	1442	0.19	0.22	32.5	C	84.9	F
Westbound								
LTR	342	1568	0.14	0.22	32.1	C	32.1	C
Northbound								
L	229	1593	0.89	0.65	47.3	D		
TR	2082	3186	0.47	0.65	8.9	A	15.6	B
Southbound								
L	255	496	0.00	0.51	11.9	B		
T	1643	3192	0.75	0.51	21.4	C	25.8	C
R	734	1425	0.88	0.51	34.2	C		
Intersection Delay = 28.0			(sec/veh)		Intersection LOS = C			

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	636	12	120	8	9	0	79	1388	14	2	966	312
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0				3.0	42.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 87.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	313	1239	2.26	0.25	609.1	F		
TR	369	1461	0.46	0.25	28.4	C	497.1	F
Westbound								
LTR	371	1467	0.08	0.25	24.8	C	24.8	C
Northbound								
L	188	390	0.59	0.48	21.1	C		
TR	1538	3185	1.03	0.48	53.5	D	51.4	D
Southbound								
L	138	1593	0.06	0.60	16.0	B		
T	1908	3192	0.62	0.60	11.8	B	11.4	B
R	852	1425	0.46	0.60	10.1	B		
Intersection Delay = 129.6 (sec/veh)					Intersection LOS = F			

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 7/24/2013
 Analysis Time Period: AM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 EXISTING
 Project ID:
 East/West Street: W MORELAND AVE
 North/South Street: EASTON RD (611)
 Intersection Orientation: NS

Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R		4 L	5 T	6 R
Volume		1133	5		70	1424		
Peak-Hour Factor, PHF		0.90	0.90		0.90	0.90		
Hourly Flow Rate, HFR		1258	5		77	1582		
Percent Heavy Vehicles		--	--		2	--	--	
Median Type/Storage		Undivided			/			
RT Channelized?								
Lanes		2	0		1	2		
Configuration		T	TR		L	T		
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R		10 L	11 T	12 R
Volume		0		83				
Peak Hour Factor, PHF		0.90		0.90				
Hourly Flow Rate, HFR		0		92				
Percent Heavy Vehicles		2		2				
Percent Grade (%)			0			0		
Flared Approach: Exists?/Storage				No	/		/	
Lanes		0		0				
Configuration			LR					

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound				Eastbound			
			7	8	9		10	11	12	
Movement	1	4		7	8	9		10	11	12
Lane Config		L			LR					
v (vph)		77			92					
C(m) (vph)		546			478					
v/c		0.14			0.19					
95% queue length		0.49			0.70					
Control Delay		12.7			14.3					
LOS		B			B					
Approach Delay					14.3					
Approach LOS					B					

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 7/24/2013
 Analysis Time Period:
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 EXISTING
 Project ID:
 East/West Street: W MORELAND AVE
 North/South Street: EASTON RD (611)
 Intersection Orientation: NS

Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		1420	8		119	1102	
Peak-Hour Factor, PHF		0.90	0.90		0.90	0.90	
Hourly Flow Rate, HFR		1577	8		132	1224	
Percent Heavy Vehicles		--	--		2	--	--
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		2	0		1	2	
Configuration		T	TR		L	T	
Upstream Signal?		No				No	

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		0		77			
Peak Hour Factor, PHF		0.90		0.90			
Hourly Flow Rate, HFR		0		85			
Percent Heavy Vehicles		2		2			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/		/
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound				
			7	8	9	10	11	12		
Movement	1	4		7	8	9		10	11	12
Lane Config		L			LR					
v (vph)		132			85					
C(m) (vph)		411			387					
v/c		0.32			0.22					
95% queue length		1.37			0.83					
Control Delay		17.8			16.9					
LOS		C			C					
Approach Delay					16.9					
Approach LOS					C					

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HOME DEPOT/I-276 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	60		81		14		28	465			1436	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	22.0	21.0			56.0	14.0		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 139.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	195	1234	0.49	0.16	55.3	E	45.2	D
R	441	1425	0.24	0.31	36.0	D		
Westbound								
T	591	1676	0.05	0.35	29.7	C	29.7	C
Northbound								
L	293	1593	0.14	0.55	36.5	D		
T	1768	3192	0.31	0.55	16.8	B	18.2	B
Southbound								
T	1840	4567	0.83	0.40	40.6	D	40.6	D

Intersection Delay = 35.2 (sec/veh) Intersection LOS = D

Analyst: LDK
 Agency: TQC
 Date: 6/8/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 EXISTING
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	102		143		56		116	669			2090	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	22.0	21.0			56.0	14.0		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 139.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	191	1206	0.63	0.16	61.1	E	47.8	D
R	441	1425	0.37	0.31	37.9	D		
Westbound								
T	591	1676	0.10	0.35	30.3	C	30.3	C
Northbound								
L	293	1593	0.49	0.55	52.5	D		
T	1768	3192	0.45	0.55	18.5	B	23.8	C
Southbound								
T	1840	4567	1.18	0.40	129.8	F	129.8	F

Intersection Delay = 92.8 (sec/veh) Intersection LOS = F

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	285	334	554	175	746	0	141	336	38	5	943	54
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru			A		Thru		A	
Right				A	Right			A
Peds					Peds			
WB Left		A			SB Left	A		A
Thru			A		Thru		A	A
Right				A	Right		A	A
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right	A		
Green		15.0	48.0			10.0	25.0	10.0
Yellow		5.0	5.0			4.0	4.0	4.0
All Red		2.0	2.0			2.0	2.0	2.0

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	273	1593	1.29	0.50	183.8	F		
TR	993	2896	0.96	0.34	64.3	E	96.6	F
Westbound								
L	242	1593	0.89	0.50	64.4	E		
TR	1094	3192	0.77	0.34	44.3	D	48.4	D
Northbound								
L	165	1593	1.04	0.29	125.7	F		
T	570	3192	0.72	0.18	58.6	E	76.2	E
R	254	1425	0.19	0.18	49.2	D		
Southbound								
L	390	1593	0.02	0.41	25.6	C		
T	935	3192	1.13	0.29	123.0	F	117.2	F
R	417	1425	0.16	0.29	36.9	D		
Intersection Delay = 86.9			(sec/veh)		Intersection LOS = F			

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	350	872	235	84	511	6	506	1302	163	58	380	88
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A	A	NB Left	A	A	A
Thru			A	A	Thru	A	A	
Right			A	A	Right	A	A	
Peds					Peds			
WB Left		A		A	SB Left		A	A
Thru				A	Thru		A	
Right				A	Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0	15.0	32.0		10.0	25.0	10.0
Yellow		5.0	5.0	5.0		4.0	4.0	4.0
All Red		2.0	2.0	2.0		2.0	2.0	2.0

Cycle Length: 146.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	481	1593	0.79	0.52	40.5	D		
TR	1141	3086	1.14	0.37	120.0	F	102.0	F
Westbound								
L	213	1593	0.45	0.32	39.9	D		
TR	697	3182	0.84	0.22	63.7	E	60.3	E
Northbound								
L	367	1593	1.59	0.39	329.0	F		
T	896	3192	1.61	0.28	334.4	F	309.4	F
R	400	1425	0.45	0.28	44.0	D		
Southbound								
L	224	1593	0.30	0.28	57.4	E		
T	547	3192	0.76	0.17	64.0	E	61.7	E
R	244	1425	0.44	0.17	55.5	E		

Intersection Delay = 180.6 (sec/veh) Intersection LOS = F

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				88		511		1253	22	247	941	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	21.5				13.3	45.2		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	342	1593	0.30	0.22	33.5	C	46.6	D
R	581	1425	0.93	0.41	49.2	D		

Northbound

TR	1438	3182	0.95	0.45	39.4	D	39.4	D
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Southbound

L	284	1593	1.05	0.65	98.8	F		
T	2091	3192	0.49	0.65	9.0	A	29.1	C

Intersection Delay = 36.7 (sec/veh) Intersection LOS = D

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				30		329		1467	36	625	1350	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	4.0					47.6	78.4	
Yellow	3.0					5.0	5.0	
All Red	3.0					2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	42	1593	1.24	0.03	290.1	F	72.7	E
R	547	1425	0.72	0.38	44.2	D		

Northbound

TR	1661	3178	1.01	0.52	60.4	E	60.4	E
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Southbound

L	554	1593	1.23	0.89	164.2	F		
T	2830	3192	0.50	0.89	1.9	A	54.7	D

Intersection Delay = 58.9 (sec/veh) Intersection LOS = E

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R	LTR			L	TR	
Volume	41	913	4	2	443	32	2	2	2	212	2	92
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol			0			0	0					0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	52.0				25.0			
Yellow	5.0				3.0			
All Red	2.0				3.0			
								Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	433	749	0.14	0.58	8.9	A		
TR	968	1675	1.11	0.58	81.3	F	77.4	E
Westbound								
L	80	129	0.05	0.58	8.5	A		
T	968	1676	0.47	0.58	11.3	B	10.9	B
R	823	1425	0.10	0.58	8.6	A		
Northbound								
LTR	410	1477	0.06	0.28	23.9	C	23.9	C
Southbound								
L	345	1243	0.75	0.28	38.6	D		
TR	400	1441	0.32	0.28	26.2	C	34.5	C

Intersection Delay = 51.6 (sec/veh) Intersection LOS = D

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R		LTR		L	TR	
Volume	117	663	1	1	1078	125	1	1	1	47	1	32
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		52.0				7.0		
Yellow		5.0				3.0		
All Red		2.0				3.0		

Cycle Length: 72.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	138	191	1.13	0.72	125.9	F		
TR	1210	1676	0.62	0.72	6.0	A	26.7	C
Westbound								
L	399	553	0.01	0.72	2.8	A		
T	1210	1676	0.96	0.72	25.8	C	22.8	C
R	1029	1425	0.17	0.72	3.2	A		
Northbound								
LTR	136	1397	0.09	0.10	29.9	C	29.9	C
Southbound								
L	122	1257	0.52	0.10	35.0+	D		
TR	139	1431	0.32	0.10	31.7	C	33.6	C

Intersection Delay = 24.8 (sec/veh) Intersection LOS = C

Analyst: LDK
 Agency: TQC
 Date: 6/8/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 EXISTING
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR		LTR			LT R		
Volume	250	954	20	6	1020	27	58	29	11	220	37	531
Lane Width	12.0	12.0		12.0	12.0		12.0			12.0 12.0		
RTOR Vol			0			0	0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.0	44.0			34.0			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	161	365	1.71	0.44	371.6	F		
TR	1399	3180	0.79	0.44	27.0	C	96.0	F
Westbound								
L	167	1593	0.10	0.54	14.6	B		
TR	1716	3177	0.65	0.54	17.2	B	17.2	B
Northbound								
LTR	295	869	0.47	0.34	27.2	C	27.2	C
Southbound								
LT	390	1146	0.81	0.34	42.0	D	118.8	F
R	485	1425	1.24	0.34	159.0	F		
Intersection Delay = 74.1			(sec/veh)		Intersection LOS = E			

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	522	1377	28	14	1010	111	101	94	10	64	40	295
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.5	57.2			20.3			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	217	379	2.59	0.57	748.0	F		
TR	1819	3180	0.80	0.57	19.5	B	222.2	F
Westbound								
L	168	1593	0.12	0.68	10.9	B		
TR	2122	3135	0.57	0.68	8.9	A	8.9	A
Northbound								
LTR	202	994	1.51	0.20	293.2	F	293.2	F
Southbound								
LT	208	1025	0.65	0.20	43.8	D	104.1	F
R	289	1425	1.12	0.20	129.4	F		
Intersection Delay = 148.4 (sec/veh)					Intersection LOS = F			

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	1	0	1	0	0	0
LGConfig	TR			L	T		L	R				
Volume	776 107			482	1066		178	429				
Lane Width	12.0			12.0	12.0		12.0	12.0				
RTOR Vol	0						0					

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	25.0	43.2			33.8			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

TR 1124 3121 0.92 0.36 48.9 D 48.9 D

Westbound

L 394 1593 1.39 0.62 228.0 F
 T 1974 3192 0.58 0.62 14.1 B 83.3 F

Northbound

L 449 1593 0.56 0.28 38.3 D
 R 401 1425 1.26 0.28 178.6 F 132.0 F

Southbound

Intersection Delay = 83.6 (sec/veh) Intersection LOS = F

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	1	0	1	0	0	0
LGConfig	TR			L	T		L	R				
Volume	1266 71			434	915		157	573				
Lane Width	12.0			12.0	12.0		12.0	12.0				
RTOR Vol	0						0					

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	35.2	59.3			37.5			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
TR	1251	3165	1.13	0.40	114.2	F	114.2	F
Westbound								
L	422	1593	1.13	0.67	123.1	F		
T	2139	3192	0.48	0.67	12.2	B	47.6	D
Northbound								
L	398	1593	0.46	0.25	48.6	D		
R	356	1425	1.77	0.25	413.9	F	330.9	F
Southbound								

Intersection Delay = 134.9 (sec/veh) Intersection LOS = F

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			388				939	877			830	8
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left		A	A
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right		A	A
SB Right					WB Right			
Green						56.0	33.0	3.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
Cycle Length: 113.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	960	2522	0.44	0.38	26.4	C	26.4	C
---	-----	------	------	------	------	---	------	---

Westbound

Northbound

L	1177	3093	0.94	0.38	47.8	D		
T	2712	3192	0.34	0.85	1.9	A	26.8	C

Southbound

TR	1576	3181	0.67	0.50	22.7	C	22.7	C
----	------	------	------	------	------	---	------	---

Intersection Delay = 25.5 (sec/veh) Intersection LOS = C

Analyst: Inter.: east hors 463 PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			1177				573	1182			896	14
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						28.8	34.2	6.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
Cycle Length: 90.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	1323	2522	1.01	0.52	49.0	D	49.0	D
---	------	------	------	------	------	---	------	---

Westbound

Northbound

L	1622	3093	0.39	0.52	12.9	B		
T	2483	3192	0.50	0.78	3.8	A	6.9	A

Southbound

TR	1019	3184	0.99	0.32	56.9	E	56.9	E
----	------	------	------	------	------	---	------	---

Intersection Delay = 32.2 (sec/veh) Intersection LOS = C

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	1	0	1	0	0	0
LGConfig	TR			L	T		L	R				
Volume	843 110			131	1047		28	17				
Lane Width	12.0			12.0	12.0		12.0	12.0				
RTOR Vol	0						0					

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	52.0			25.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 104.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

TR 1569 3137 0.71 0.50 21.8 C 21.8 C

Westbound

L 245 1593 0.79 0.63 29.2 C
 T 2026 3192 0.59 0.63 11.5 B 14.0 B

Northbound

L 383 1593 0.09 0.24 30.8 C
 R 343 1425 0.08 0.24 30.7 C 30.8 C

Southbound

Intersection Delay = 17.8 (sec/veh) Intersection LOS = B

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : 2013 EXISTING
 Project ID:
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	1	0	1	0	0	0
LGConfig	TR			L	T		L	R				
Volume	1062 47			40	974		167		223			
Lane Width	12.0			12.0	12.0		12.0		12.0			
RTOR Vol	0						0					

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	35.0			25.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			
								Cycle Length: 87.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
TR	1274	3168	0.99	0.40	47.7	D	47.7	D
Westbound								
L	211	1593	0.25	0.56	14.9	B		
T	1798	3192	0.58	0.56	12.8	B	12.9	B
Northbound								
L	458	1593	0.42	0.29	25.7	C		
R	409	1425	0.88	0.29	48.9	D	40.9	D
Southbound								

Intersection Delay = 33.3 (sec/veh) Intersection LOS = C

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : No-Build
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	12	338	94	246	412	130	180	898	102	103	1386	14
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	8.4	20.9			4.0	50.7		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	187	1593	0.13	0.32	28.4	C		
TR	585	3081	0.86	0.19	56.0	E	54.8	D
Westbound								
L	203	1593	1.64	0.32	348.9	F		
TR	586	3082	1.18	0.19	144.0	F	210.3	F
Northbound								
L	123	1593	1.68	0.56	364.9	F		
TR	1447	3140	0.81	0.46	29.0	C	79.5	E
Southbound								
L	158	1593	0.97	0.56	101.7	F		
TR	1466	3181	1.01	0.46	55.0-	D	59.4	E

Intersection Delay = 98.9 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : No-Build
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	12	340	102	94	402	132	230	1378	142	173	1108	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	5.0	29.0			9.0	62.0		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 131.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	116	1593	0.25	0.31	35.8	D		
TR	682	3079	0.91	0.22	65.5	E	64.2	E
Westbound								
L	128	1593	1.36	0.31	255.6	F		
TR	681	3075	0.99	0.22	82.7	F	118.1	F
Northbound								
L	194	1593	1.72	0.60	372.5	F		
TR	1488	3145	1.15	0.47	111.9	F	154.2	F
Southbound								
L	164	1593	1.41	0.60	258.6	F		
TR	1506	3182	0.83	0.47	33.8	C	69.0	E

Intersection Delay = 111.5 (sec/veh) Intersection LOS = F

Analyst: AH Inter.: CL and KV AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : No-Build
 Project ID:
 E/W St: County Line Road N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	727	60	284	594	2	6	36	87	42	310	35
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	19.5	78.8			33.7			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	364	692	0.08	0.53	17.7	B		
TR	869	1655	1.00	0.53	64.8	E	63.3	E
Westbound								
L	279	1593	1.09	0.70	129.5	F		
TR	1165	1675	0.57	0.70	12.2	B	49.1	D
Northbound								
L	53	235	0.36	0.22	53.2	D		
T	377	1676	0.14	0.22	46.7	D	37.0	D
R	562	1425	0.21	0.39	30.2	C		
Southbound								
L	273	1213	0.34	0.22	49.6	D		
T	377	1676	1.00	0.22	105.2	F	89.6	F
R	320	1425	0.16	0.22	47.0	D		
Intersection Delay = 61.4			(sec/veh)		Intersection LOS = E			

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: County Line Road

Inter.: CL and KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : No-Build
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	646	15	132	822	46	179	291	358	26	76	41
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	6.2	56.5			29.3			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	118	230	0.27	0.51	16.4	B		
TR	855	1665	0.86	0.51	32.1	C	31.5	C
Westbound								
L	241	1593	0.61	0.62	21.0	C		
TR	1038	1662	0.95	0.62	35.3	D	33.5	C
Northbound								
L	312	1173	0.73	0.27	45.0	D		
T	446	1676	0.73	0.27	42.9	D	42.1	D
R	538	1425	0.81	0.38	40.0	D		
Southbound								
L	149	560	0.26	0.27	32.7	C		
T	446	1676	0.20	0.27	31.5	C	31.6	C
R	380	1425	0.15	0.27	31.0	C		
Intersection Delay = 35.6			(sec/veh)		Intersection LOS = D			

Analyst: AH Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : No-Build
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	152	565	5	79	918	16	21	949	72	36	873	459
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		4.0	22.0			34.0		
Yellow		4.0	4.0			5.0		
All Red		3.0	2.0			2.0		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	1593	1.11	0.40	123.1	F		
TR	875	3181	0.76	0.28	30.5	C	50.9	D
Westbound								
L	198	1593	0.53	0.40	19.4	B		
TR	874	3179	1.20	0.28	129.6	F	119.7	F
Northbound								
L	90	197	0.41	0.43	19.1	B		
T	1357	3192	0.79	0.43	23.3	C	22.6	C
R	606	1425	0.13	0.43	14.1	B		
Southbound								
L	111	261	0.54	0.43	22.4	C		
TR	1283	3019	1.24	0.43	137.2	F	133.0	F

Intersection Delay = 88.3 (sec/veh) Intersection LOS = F

Analyst: AH Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : No-Build
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	512	1128	20	102	582	16	33	1225	130	43	1029	194
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	6.0	30.0			40.0			
Yellow	4.0	4.0			5.0			
All Red	3.0	3.0			2.0			

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	240	1593	2.45	0.44	701.4	F		
TR	984	3180	1.38	0.31	211.8	F	359.8	F
Westbound								
L	173	1593	0.81	0.44	46.8	D		
TR	981	3172	0.69	0.31	31.4	C	34.1	C
Northbound								
L	74	168	0.70	0.41	49.4	D		
T	1316	3192	1.03	0.41	62.6	E	57.7	E
R	588	1425	0.27	0.41	19.1	B		
Southbound								
L	74	168	0.69	0.41	47.1	D		
TR	1285	3117	1.05	0.41	69.0	E	68.3	E

Intersection Delay = 159.5 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : No-Build
 N/S St: easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	0	0	0	0	0	0	59	1302	0	0	1810	62
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	382	1676	0.00	0.23	34.0	C		
R	325	1425	0.00	0.23	34.0	C		
Westbound								
LTR	382	1676	0.00	0.23	34.0	C		
Northbound								
L	342	1593	0.26	0.66	19.5	B		
TR	2100	3192	0.68	0.66	13.0	B	13.4	B
Southbound								
LT	1344	3192	1.40	0.42	218.7	F	210.7	F
R	600	1425	0.13	0.42	20.3	C		
Intersection Delay = 124.6 (sec/veh)					Intersection LOS = F			

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : No-Build
 N/S St: easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	8	0	65	0	0	0	7	1841	0	0	1350	1
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LT	171	749	0.05	0.23	34.5	C	35.9	D
R	325	1425	0.22	0.23	36.1	D		

Westbound

LTR	382	1676	0.00	0.23	34.0	C		
-----	-----	------	------	------	------	---	--	--

Northbound

L	342	1593	0.07	0.66	18.1	B		
TR	2100	3192	0.95	0.66	28.6	C	28.4	C

Southbound

LT	1344	3192	1.12	0.42	95.9	F	95.7	F
R	600	1425	0.01	0.42	19.2	B		

Intersection Delay = 56.6 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: AH Inter.: East Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : No-Build
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	248	1	56	4	22	0	187	1013	4	2	1311	656
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	19.0				4.0	47.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	255	1206	1.23	0.21	168.9	F		
TR	304	1439	0.24	0.21	29.9	C	142.4	F
Westbound								
LTR	325	1541	0.18	0.21	29.4	C	29.4	C
Northbound								
L	140	268	1.71	0.52	371.3	F		
TR	1664	3186	0.72	0.52	17.9	B	77.1	E
Southbound								
L	208	1593	0.01	0.64	8.7	A		
T	2057	3192	0.71	0.64	11.6	B	14.1	B
R	918	1425	0.83	0.64	18.8	B		
Intersection Delay = 48.5 (sec/veh)					Intersection LOS = D			

Analyst: AH Inter.: East Maple PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : No-Build
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	747	14	141	9	11	0	93	1651	16	2	1150	367
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0				3.0	52.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	280	1233	2.96	0.23	931.0	F		
TR	331	1461	0.60	0.23	36.5	D	758.7	F
Westbound								
LTR	330	1456	0.10	0.23	29.8	C	29.8	C
Northbound								
L	153	285	0.86	0.54	54.5	D		
TR	1707	3185	1.12	0.54	83.2	F	81.3	F
Southbound								
L	123	1593	0.07	0.64	21.7	C		
T	2040	3192	0.68	0.64	12.1	B	11.6	B
R	911	1425	0.50	0.64	9.8	A		
Intersection Delay = 195.6 (sec/veh)					Intersection LOS = F			

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 8/14/2013
 Analysis Time Period: AM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: Future NB
 Project ID:
 East/West Street: W MORELAND AVE
 North/South Street: EASTON RD (611)
 Intersection Orientation: NS

Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound			
		1 L	2 T	3 R	4 L	5 T	6 R		
Volume		1331	6	82	1673				
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90				
Hourly Flow Rate, HFR		1478	6	91	1858				
Percent Heavy Vehicles		--	--	2	--	--			
Median Type/Storage		Undivided		/					
RT Channelized?									
Lanes		2	0		1	2			
Configuration		T	TR		L	T			
Upstream Signal?		No				No			

Minor Street:	Approach Movement	Westbound				Eastbound			
		7 L	8 T	9 R	10 L	11 T	12 R		
Volume		0	98						
Peak Hour Factor, PHF		0.90	0.90						
Hourly Flow Rate, HFR		0	108						
Percent Heavy Vehicles		2	2						
Percent Grade (%)			0			0			
Flared Approach: Exists?/Storage			No	/			/		
Lanes		0	0						
Configuration			LR						

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound				Eastbound			
			1	4 	7	8	9	10 	11	12
Movement			L		LR					
Lane Config										
v (vph)		91			108					
C(m) (vph)		449			414					
v/c		0.20			0.26					
95% queue length		0.75			1.03					
Control Delay		15.0+			16.7					
LOS		C			C					
Approach Delay					16.7					
Approach LOS					C					

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 8/14/2013
 Analysis Time Period: PM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: Future NB
 Project ID:
 East/West Street: W MORELAND AVE
 North/South Street: EASTON RD (611)
 Intersection Orientation: NS

Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		1668	9		140	1295	
Peak-Hour Factor, PHF		0.90	0.90		0.90	0.90	
Hourly Flow Rate, HFR		1853	10		155	1438	
Percent Heavy Vehicles		--	--		2	--	--
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		2	0		1	2	
Configuration		T	TR		L	T	
Upstream Signal?		No				No	

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		0		90			
Peak Hour Factor, PHF		0.90		0.90			
Hourly Flow Rate, HFR		0		100			
Percent Heavy Vehicles		2		2			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/		/
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound				
			7	8	9	10	11	12		
Movement	1	4		7	8	9		10	11	12
Lane Config		L			LR					
v (vph)		155			100					
C(m) (vph)		320			321					
v/c		0.48			0.31					
95% queue length		2.51			1.30					
Control Delay		26.4			21.2					
LOS		D			C					
Approach Delay					21.2					
Approach LOS					C					

Analyst: AH Inter.: East and HD
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : NO BUILD
 Project ID:
 E/W St: HOME DEPOT/I-276 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	70		95		16		33	546			1687	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	22.0	21.0			56.0	14.0		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 139.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	195	1230	0.57	0.16	58.0	E	46.8	D
R	441	1425	0.28	0.31	36.6	D		
Westbound								
T	591	1676	0.06	0.35	29.8	C	29.8	C
Northbound								
L	293	1593	0.16	0.55	42.9	D		
T	1768	3192	0.37	0.55	17.5	B	19.2	B
Southbound								
T	1840	4567	0.98	0.40	56.4	E	56.4	E

Intersection Delay = 45.8 (sec/veh) Intersection LOS = D

Analyst: LDK
 Agency: TQC
 Date: 6/8/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 EXISTING
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	120		168		66		136	786			2455	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	22.0	21.0			56.0	14.0		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 139.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	184	1162	0.77	0.16	73.5	E	53.7	D
R	441	1425	0.43	0.31	38.9	D		
Westbound								
T	591	1676	0.12	0.35	30.5	C	30.5	C
Northbound								
L	293	1593	0.57	0.55	54.8	D		
T	1768	3192	0.52	0.55	19.8	B	25.1	C
Southbound								
T	1840	4567	1.39	0.40	220.3	F	220.3	F

Intersection Delay = 150.8 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 NB
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	337	398	653	206	885	0	167	396	45	6	1108	65
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
WB Left		A	A		SB Left	A	A	A
Thru			A		Thru		A	A
Right			A		Right		A	A
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right	A		
Green		15.0	48.0			10.0	25.0	10.0
Yellow		5.0	5.0			4.0	4.0	4.0
All Red		2.0	2.0			2.0	2.0	2.0

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	231	1593	1.78	0.50	407.7	F		
TR	994	2899	1.13	0.34	117.7	F	195.3	F
Westbound								
L	222	1593	1.14	0.50	149.5	F		
TR	1094	3192	0.91	0.34	55.0-	D	74.2	E
Northbound								
L	165	1593	1.22	0.29	184.7	F		
T	570	3192	0.85	0.18	67.1	E	97.7	F
R	254	1425	0.22	0.18	49.7	D		
Southbound								
L	365	1593	0.03	0.41	26.1	C		
T	935	3192	1.33	0.29	206.1	F	194.6	F
R	417	1425	0.19	0.29	37.3	D		

Intersection Delay = 149.1 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 NB
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	412	1028	276	99	604	6	596	1531	191	68	446	103
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A	A	NB Left	A	A	A
Thru			A	A	Thru	A	A	
Right			A	A	Right	A	A	
Peds					Peds			
WB Left		A		A	SB Left		A	A
Thru				A	Thru		A	
Right				A	Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0	15.0	32.0		10.0	25.0	10.0
Yellow		5.0	5.0	5.0		4.0	4.0	4.0
All Red		2.0	2.0	2.0		2.0	2.0	2.0

Cycle Length: 146.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	453	1593	1.00	0.52	86.9	F		
TR	1142	3088	1.35	0.37	211.0	F	182.9	F
Westbound								
L	213	1593	0.53	0.32	41.5	D		
TR	698	3184	0.98	0.22	85.3	F	79.1	E
Northbound								
L	343	1593	2.00	0.39	500.6	F		
T	896	3192	1.90	0.28	461.0	F	437.8	F
R	400	1425	0.52	0.28	45.6	D		
Southbound								
L	224	1593	0.36	0.28	58.1	E		
T	547	3192	0.90	0.17	76.5	E	70.9	E
R	244	1425	0.52	0.17	56.9	E		

Intersection Delay = 265.2 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 NB
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				105		604	1511	26		291	1152	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	21.5				13.3	45.2		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	342	1593	0.36	0.22	34.1	C	85.4	F
R	581	1425	1.09	0.41	95.4	F		

Northbound

TR	1438	3182	1.14	0.45	99.5	F	99.5	F
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Southbound

L	284	1593	1.24	0.65	154.7	F		
T	2091	3192	0.61	0.65	10.4	B	41.7	D

Intersection Delay = 73.6 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 NB
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				35		387	1746	42		737	1619	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	4.0				47.6	78.4		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	42	1593	1.43	0.03	361.4	F	89.6	F
R	547	1425	0.85	0.38	54.6	D		

Northbound

TR	1662	3179	1.20	0.52	132.3	F	132.3	F
----	------	------	------	------	-------	---	-------	---

Southbound

L	554	1593	1.45	0.89	258.5	F		
T	2830	3192	0.60	0.89	2.4	A	84.3	F

Intersection Delay = 103.9 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 NB
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R		LTR		L	TR	
Volume	49	1084	5	2	526	38	2	2	2	249	2	108
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		52.0				25.0		
Yellow		5.0				3.0		
All Red		2.0				3.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	367	635	0.19	0.58	9.3	A		
TR	967	1674	1.31	0.58	167.4	F	159.2	F
Westbound								
L	80	129	0.05	0.58	8.5	A		
T	968	1676	0.56	0.58	12.6	B	12.0	B
R	823	1425	0.12	0.58	8.7	A		
Northbound								
LTR	409	1471	0.06	0.28	23.9	C	23.9	C
Southbound								
L	345	1243	0.89	0.28	54.8	D		
TR	400	1439	0.37	0.28	26.7	C	45.7	D

Intersection Delay = 98.5 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 NB
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R	LTR			L	TR	
Volume	139	785	0	1	1275	148	2	2	2	56	1	38
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol			0			0	0					0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	52.0				7.0			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 72.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	100	129	1.88	0.72	441.3	F		
TR	1210	1676	0.74	0.72	8.4	A	83.7	F
Westbound								
L	305	423	0.01	0.72	2.8	A		
T	1210	1676	1.13	0.72	80.6	F	70.5	E
R	1029	1425	0.20	0.72	3.3	A		
Northbound								
LTR	135	1390	0.18	0.10	30.5	C	30.5	C
Southbound								
L	121	1243	0.62	0.10	40.6	D		
TR	139	1430	0.38	0.10	32.2	C	37.1	D

Intersection Delay = 73.7 (sec/veh) Intersection LOS = E

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 NB
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR		LTR			LT R		
Volume	297	1130	26	7	1210	32	69	34	13	260	43	626
Lane Width	12.0	12.0		12.0	12.0		12.0			12.0 12.0		
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.1	44.1			33.8			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	108	245	3.06	0.44	977.1	F		
TR	1401	3178	0.93	0.44	38.2	D	227.4	F
Westbound								
L	137	1593	0.13	0.54	17.3	B		
TR	1722	3177	0.77	0.54	20.3	C	20.2	C
Northbound								
LTR	238	705	0.69	0.34	36.7	D	36.7	D
Southbound								
LT	375	1110	0.99	0.34	76.4	E	195.7	F
R	482	1425	1.48	0.34	257.9	F		
Intersection Delay = 145.9 (sec/veh)					Intersection LOS = F			

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 NB
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR		LTR			LT R		
Volume	616	1622	33	16	1190	130	119	110	12	75	47	349
Lane Width	12.0	12.0		12.0	12.0		12.0			12.0 12.0		
RTOR Vol			0			0	0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.5	57.2			20.3			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	157	275	4.27	0.57	1507	F		
TR	1819	3180	0.94	0.57	30.3	C	445.2	F
Westbound								
L	144	1593	0.16	0.68	15.7	B		
TR	2123	3136	0.68	0.68	10.5	B	10.6	B
Northbound								
LTR	181	890	1.98	0.20	499.2	F	499.2	F
Southbound								
LT	205	1008	0.78	0.20	55.2	E	158.8	F
R	289	1425	1.31	0.20	202.6	F		
Intersection Delay = 283.0 (sec/veh)					Intersection LOS = F			

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Nor AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 NB
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	1	0	1	0	0	0
LGConfig	TR			L	T		L	R				
Volume	920 127			570 1270			210 512					
Lane Width	12.0			12.0 12.0			12.0 12.0					
RTOR Vol	0						0					

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	25.0	43.2			33.8			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

TR 1124 3121 1.08 0.36 89.3 F 89.3 F

Westbound

L 392 1593 1.67 0.62 351.8 F
 T 1974 3192 0.68 0.62 16.1 B 125.7 F

Northbound

L 449 1593 0.67 0.28 41.9 D 201.7 F
 R 401 1425 1.50 0.28 281.4 F

Southbound

Intersection Delay = 131.7 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Norr PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 NB
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	1	0	1	0	0	0
LGConfig	TR			L	T		L	R				
Volume	1493 85			513	1082		186	673				
Lane Width	12.0			12.0	12.0		12.0	12.0				
RTOR Vol	0						0					

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	35.2	59.3			37.5			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

TR 1251 3165 1.33 0.40 200.2 F 200.2 F

Westbound

L 422 1593 1.32 0.67 211.0 F
 T 2139 3192 0.57 0.67 13.6 B 75.7 E

Northbound

L 398 1593 0.56 0.25 50.7 D
 R 356 1425 2.08 0.25 551.2 F 436.1 F

Southbound

Intersection Delay = 201.5 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 NB
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			456				1113	1063			1008	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left		A	A
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right		A	A
SB Right					WB Right			
Green						56.0	33.0	3.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 113.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	960	2522	0.52	0.38	27.5	C	27.5	C
---	-----	------	------	------	------	---	------	---

Westbound

Northbound

L	1177	3093	1.10	0.38	92.8	F		
T	2712	3192	0.41	0.85	2.1	A	51.0	D

Southbound

TR	1577	3182	0.82	0.50	27.6	C	27.6	C
----	------	------	------	------	------	---	------	---

Intersection Delay = 41.0 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 6/8/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2013 NB
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			1387				678	1404			1078	16
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left		A	A
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right		A	A
SB Right					WB Right			
Green						28.8	34.2	6.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
						Cycle Length: 90.0 secs		

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	1323	2522	1.20	0.52	121.0	F	121.0	F
---	------	------	------	------	-------	---	-------	---

Westbound

Northbound

L	1622	3093	0.45	0.52	13.6	B		
T	2483	3192	0.60	0.78	4.5	A	7.5	A

Southbound

TR	1019	3185	1.19	0.32	127.4	F	127.4	F
----	------	------	------	------	-------	---	-------	---

Intersection Delay = 72.5 (sec/veh) Intersection LOS = E

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : NO BUILD
 Project ID:
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	1	0	1	0	0	0
LGConfig	TR			L	T		L	R				
Volume	990 129			154	1230		33	20				
Lane Width	12.0			12.0	12.0		12.0	12.0				
RTOR Vol	0						0					

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	52.0			12.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 91.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

TR 1793 3137 0.73 0.57 16.0 B 16.0 B

Westbound

L 257 1593 0.88 0.73 41.9 D
 T 2315 3192 0.60 0.73 6.6 A 11.5 B

Northbound

L 210 1593 0.20 0.13 35.7 D
 R 188 1425 0.18 0.13 35.6 D

Southbound

Intersection Delay = 14.0 (sec/veh) Intersection LOS = B

Analyst: Inter.:
 Agency: TQC Area Type: CBD or Similar
 Date: 6/8/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : NO BUILD
 Project ID:
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	1	0	1	0	0	0
LGConfig	TR			L	T		L	R				
Volume	1248 55			47	1144		196	262				
Lane Width	12.0			12.0	12.0		12.0	12.0				
RTOR Vol	0						0					

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	45.0			25.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

TR 1470 3168 1.00 0.46 50.6 D 50.6 D

Westbound

L 189 1593 0.32 0.61 17.8 B
 T 1942 3192 0.63 0.61 12.8 B 13.0 B

Northbound

L 411 1593 0.55 0.26 32.7 C
 R 367 1425 1.15 0.26 131.3 F 97.1 F

Southbound

Intersection Delay = 45.2 (sec/veh) Intersection LOS = D

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	12	338	94	383	412	130	180	966	170	103	1524	14
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A	A		SB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	8.4	20.9			4.0	50.7		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	187	1593	0.13	0.32	28.4	C		
TR	585	3081	0.86	0.19	56.0	E	54.8	D
Westbound								
L	203	1593	2.55	0.32	754.3	F		
TR	586	3082	1.18	0.19	144.0	F	404.8	F
Northbound								
L	123	1593	1.68	0.56	367.0	F		
TR	1437	3117	0.93	0.46	38.6	D	82.8	F
Southbound								
L	123	1593	1.25	0.56	186.2	F		
TR	1467	3182	1.10	0.46	87.4	F	96.0	F

Intersection Delay = 161.7 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East and CL AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID: ADD: NB Dbl LT Lane; NB exclsv RT; N,S,E,W Th; WB Dbl LT
 E/W St: COUNTY LINE RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	3	0	2	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	12	338	94	383	412	130	180	966	170	103	1524	14
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left			A		SB Left		A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		17.8	24.5			33.2	48.5	
Yellow		4.0	4.0			5.0	5.0	
All Red		2.0	2.0			2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	189	1593	0.13	0.12	59.5	E		
TR	523	4408	0.97	0.12	96.9	F	95.2	F
Westbound								
L	505	3093	1.03	0.16	109.5	F		
TR	720	4410	0.96	0.16	87.2	F	96.7	F
Northbound								
L	685	3093	0.30	0.22	49.0	D		
T	1011	4567	1.11	0.22	122.2	F	103.7	F
R	315	1425	0.67	0.22	58.6	E		
Southbound								
L	515	1593	0.30	0.32	38.3	D		
TR	1472	4553	1.10	0.32	107.1	F	101.1	F

Intersection Delay = 100.2 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	12	340	102	218	402	132	230	1562	326	173	1232	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A	A		SB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		5.0	29.0			9.0	62.0	
Yellow		4.0	4.0			5.0	5.0	
All Red		2.0	2.0			2.0	2.0	

Cycle Length: 131.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	116	1593	0.25	0.31	35.8	D		
TR	682	3079	0.91	0.22	65.5	E	64.2	E
Westbound								
L	128	1593	3.16	0.31	1042	F		
TR	681	3075	0.99	0.22	82.7	F	442.3	F
Northbound								
L	165	1593	2.02	0.60	516.4	F		
TR	1470	3105	1.46	0.47	244.3	F	280.9	F
Southbound								
L	164	1593	1.41	0.60	258.6	F		
TR	1506	3183	0.92	0.47	41.3	D	72.5	E

Intersection Delay = 228.9 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East and CL PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID: Add: NB D1b LT, Th, RT; SB Th, EB Th; WB LT, Th
 E/W St: COUNTY LINE RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	3	0	2	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	12	340	102	218	402	132	230	1562	326	173	1232	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left			A		SB Left		A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		13.9	21.0			49.3	39.8	
Yellow		4.0	4.0			5.0	5.0	
All Red		2.0	2.0			2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	148	1593	0.20	0.09	63.5	E		
TR	408	4405	1.51	0.09	312.0	F	300.9	F
Westbound								
L	433	3093	0.93	0.14	91.0	F		
TR	616	4399	1.09	0.14	129.1	F	114.9	F
Northbound								
L	1017	3093	0.33	0.33	38.1	D		
T	1501	4567	1.17	0.33	134.0	F	109.3	F
R	468	1425	0.83	0.33	58.3	E		
Southbound								
L	423	1593	0.55	0.27	48.8	D		
TR	1208	4553	1.14	0.27	129.8	F	118.2	F

Intersection Delay = 134.1 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: County Line Road

Inter.: CL and KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	727	81	289	594	2	22	53	103	42	327	35
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	14.0	46.7			21.3			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	323	692	0.09	0.47	14.9	B		
TR	770	1648	1.16	0.47	111.7	F	108.7	F
Westbound								
L	295	1593	1.05	0.67	86.3	F		
TR	1117	1675	0.59	0.67	10.1	B	34.4	C
Northbound								
L	72	315	0.99	0.21	140.3	F		
T	357	1676	0.21	0.21	32.7	C	53.0	D
R	589	1425	0.24	0.41	19.3	B		
Southbound								
L	253	1187	0.37	0.21	34.5	C		
T	357	1676	1.12	0.21	122.7	F	99.1	F
R	304	1425	0.17	0.21	32.4	C		
Intersection Delay = 74.3			(sec/veh)		Intersection LOS = E			

Analyst: LDK
 Agency: TQC
 Date: 9/22/13
 Period: AM PEAK HOUR
 Project ID: ADD: NB Th Lane
 E/W St: County Line Road

Inter.: CL and KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-Mitigation
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	727	81	289	594	2	22	53	103	42	327	35
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	17.9	61.8			32.3			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	329	692	0.09	0.48	18.8	B		
TR	783	1648	1.14	0.48	111.4	F	108.6	F
Westbound								
L	274	1593	1.14	0.66	121.2	F		
TR	1104	1675	0.60	0.66	13.4	B	47.8	D
Northbound								
L	71	287	1.00	0.25	155.7	F		
T	793	3192	0.09	0.25	37.6	D	60.1	E
R	616	1425	0.23	0.43	23.4	C		
Southbound								
L	294	1183	0.32	0.25	40.5	D		
T	416	1676	0.96	0.25	81.8	F	70.6	E
R	354	1425	0.14	0.25	38.3	D		

Intersection Delay = 74.2 (sec/veh) Intersection LOS = E

Analyst: AH Inter.: CL and KV PM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1
 Project ID:
 E/W St: County Line Road N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	646	32	135	822	46	215	328	395	26	90	41
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	5.6	56.8			29.6			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	115	222	0.28	0.52	16.3	B		
TR	854	1654	0.90	0.52	37.1	D	36.3	D
Westbound								
L	211	1593	0.71	0.62	28.9	C		
TR	1033	1662	0.95	0.62	36.4	D	35.4	D
Northbound								
L	311	1155	0.87	0.27	61.5	E		
T	451	1676	0.82	0.27	49.0	D	52.9	D
R	534	1425	0.90	0.37	51.1	D		
Southbound								
L	123	456	0.31	0.27	33.5	C		
T	451	1676	0.23	0.27	31.6	C	31.7	C
R	383	1425	0.15	0.27	30.8	C		

Intersection Delay = 41.4 (sec/veh) Intersection LOS = D

Analyst: LDK
 Agency: TQC
 Date: 9/22/13
 Period: PM PEAK HOUR
 Project ID: ADD: NB Th Lane
 E/W St: County Line Road

Inter.: CL and KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-Mitigation
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	646	32	135	822	46	215	328	395	26	90	41
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right		A			EB Right			
SB Right					WB Right			
Green		5.1	48.6			28.3		
Yellow		4.0	4.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	89	184	0.36	0.49	18.5	B		
TR	804	1654	0.96	0.49	47.2	D	46.1	D
Westbound								
L	181	1593	0.83	0.60	45.1	D		
TR	992	1662	0.99	0.60	45.6	D	45.5	D
Northbound								
L	327	1155	0.83	0.28	50.1	D		
T	903	3192	0.41	0.28	29.4	C	39.2	D
R	561	1425	0.86	0.39	40.5	D		
Southbound								
L	229	809	0.17	0.28	27.3	C		
T	474	1676	0.22	0.28	27.7	C	27.4	C
R	403	1425	0.14	0.28	26.9	C		
Intersection Delay = 42.4			(sec/veh)		Intersection LOS = D			

Analyst: AH Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	152	565	5	79	918	16	21	1467	72	36	1100	459
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		4.0	22.0			34.0		
Yellow		4.0	4.0			5.0		
All Red		3.0	2.0			2.0		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	1593	1.11	0.40	123.1	F		
TR	875	3181	0.76	0.28	30.5	C	50.9	D
Westbound								
L	198	1593	0.53	0.40	19.4	B		
TR	874	3179	1.20	0.28	129.6	F	119.7	F
Northbound								
L	90	197	0.41	0.43	19.1	B		
T	1357	3192	1.23	0.43	132.5	F	125.1	F
R	606	1425	0.13	0.43	14.1	B		
Southbound								
L	90	197	0.67	0.43	35.7	D		
TR	1294	3044	1.43	0.43	221.9	F	216.1	F

Intersection Delay = 143.4 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	1	1	3	1	1	3	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	152	565	5	79	918	16	21	1467	72	36	1100	459
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		4.8	29.5			45.7		
Yellow		4.0	4.0			5.0		
All Red		3.0	2.0			2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	675	3093	0.28	0.40	23.8	C		
TR	938	3181	0.71	0.29	33.9	C	31.7	C
Westbound								
L	200	1593	0.52	0.40	23.2	C		
T	942	3192	1.08	0.29	89.6	F	82.1	F
R	420	1425	0.07	0.29	25.4	C		
Northbound								
L	72	147	0.51	0.46	25.5	C		
T	2087	4567	0.80	0.46	25.5	C	25.1	C
R	651	1425	0.12	0.46	15.7	B		
Southbound								
L	72	147	0.83	0.46	77.7	E		
TR	1990	4355	0.93	0.46	34.2	C	35.6	D

Intersection Delay = 41.1 (sec/veh) Intersection LOS = D

Analyst: AH Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	512	1128	20	102	582	16	33	1627	130	43	1530	194
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	6.0	30.0			40.0			
Yellow	4.0	4.0			5.0			
All Red	3.0	3.0			2.0			

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	240	1593	2.45	0.44	701.4	F		
TR	984	3180	1.38	0.31	211.8	F	359.8	F
Westbound								
L	173	1593	0.81	0.44	46.8	D		
TR	981	3172	0.69	0.31	31.4	C	34.1	C
Northbound								
L	74	168	0.70	0.41	49.4	D		
T	1316	3192	1.37	0.41	201.6	F	183.3	F
R	588	1425	0.27	0.41	19.1	B		
Southbound								
L	74	168	0.69	0.41	47.1	D		
TR	1294	3139	1.48	0.41	247.3	F	242.1	F

Intersection Delay = 233.4 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	1	1	3	1	1	3	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	512	1128	20	102	582	16	33	1627	130	43	1530	194
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		8.6	39.8			50.6		
Yellow		4.0	4.0			5.0		
All Red		3.0	3.0			2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	493	3093	1.19	0.46	149.6	F		
TR	1055	3180	1.29	0.33	177.4	F	169.0	F
Westbound								
L	174	1593	0.80	0.46	50.8	D		
T	1059	3192	0.61	0.33	34.7	C	37.2	D
R	473	1425	0.06	0.33	27.4	C		
Northbound								
L	60	133	0.87	0.42	102.5	F		
T	1926	4567	0.94	0.42	42.8	D	42.8	D
R	601	1425	0.26	0.42	22.8	C		
Southbound								
L	60	133	0.85	0.42	97.2	F		
TR	1894	4491	1.01	0.42	57.6	E	58.6	E

Intersection Delay = 83.2 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	61	0	125	0	0	0	312	1376	0	0	1961	187
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LT	59	258	1.15	0.23	208.7	F	94.4	F
R	325	1425	0.43	0.23	38.5	D		

Westbound

LTR	382	1676	0.00	0.23	34.0	C		
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Northbound

L	342	1593	1.38	0.66	228.0	F		
TR	2100	3192	0.72	0.66	13.9	B	64.9	E

Southbound

LT	1344	3192	1.52	0.42	270.9	F	244.9	F
R	600	1425	0.40	0.42	23.4	C		

Intersection Delay = 158.1 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East Gate 1 AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID: ADD: EB Dble LT lanes, exclsv RT lane
 E/W St: BASE GATE 1 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	0	0	1	0	2	2	0	0	3	1
LGConfig	L	TR			LTR		L	TR			LT	R
Volume	61	0	125	0	0	0	312	1376	0	0	1961	187
Lane Width	12.0	12.0			12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	15.0				3.0	72.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	327	2400	0.21	0.14	42.5	D		
TR	194	1425	0.72	0.14	57.4	E	52.5	D
Westbound								
LTR	229	1676	0.00	0.14	41.0	D		
Northbound								
L	727	3093	0.65	0.75	19.6	B		
TR	2379	3192	0.64	0.75	7.3	A	10.3	B
Southbound								
LT	2989	4567	0.68	0.65	12.5	B	12.1	B
R	933	1425	0.26	0.65	8.0	A		
Intersection Delay = 13.1 (sec/veh)					Intersection LOS = B			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	186	0	332	0	0	0	207	2030	0	0	1499	100
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LT	59	258	3.51	0.23	1214	F	523.2	F
R	325	1425	1.14	0.23	135.8	F		

Westbound

LTR	382	1676	0.00	0.23	34.0	C		
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Northbound

L	342	1593	2.02	0.66	506.4	F		
TR	2100	3192	1.05	0.66	54.1	D	161.9	F

Southbound

LT	1344	3192	1.24	0.42	147.3	F	124.5	F
R	600	1425	0.67	0.42	29.4	C		

Intersection Delay = 185.5 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East Gate 1 PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID: ADD: Dbl LT Lanes, exclsv RT Lane
 E/W St: BASE GATE 1 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	0	0	1	0	2	2	0	0	3	1
LGConfig	L	TR			LTR		L	TR			LT	R
Volume	186	0	332	0	0	0	207	2030	0	0	1499	100
Lane Width	12.0	12.0			12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	29.0				21.8	59.2		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	441	1978	0.47	0.22	44.6	D		
TR	318	1425	1.16	0.22	151.8	F	113.3	F
Westbound								
LTR	374	1676	0.00	0.22	39.2	D		
Northbound								
L	1020	3093	0.68	0.68	18.0	B		
TR	2161	3192	1.02	0.68	45.9	D	39.3	D
Southbound								
LT	2080	4567	0.80	0.46	32.7	C	31.9	C
R	649	1425	0.62	0.46	28.6	C		
Intersection Delay = 44.2 (sec/veh)					Intersection LOS = D			

Analyst: AH Inter.: East Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	280	1	117	4	22	5	310	1407	4	5	1478	722
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	19.0				4.0	47.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	253	1199	1.40	0.21	237.3	F		
TR	302	1432	0.50	0.21	32.6	C	176.4	F
Westbound								
LTR	318	1505	0.20	0.21	29.6	C	29.6	C
Northbound								
L	100	191	3.97	0.52	1382	F		
TR	1664	3187	0.99	0.52	41.6	D	301.3	F
Southbound								
L	151	1593	0.04	0.64	14.8	B		
T	2057	3192	0.80	0.64	14.0	B	18.5	B
R	918	1425	0.92	0.64	27.4	C		
Intersection Delay = 147.7 (sec/veh)					Intersection LOS = F			

Analyst: LDK Inter.: East Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID: ADD: NB Dbl LT lanes; EB Dbl LT lanes, T-R lane, NB / SB Th
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	1	1	1	1	2	3	1	1	3	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	280	1	117	4	22	5	310	1407	4	5	1478	722
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	19.0				4.0	47.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	391	1851	0.91	0.21	58.6	E		
T	354	1676	0.01	0.21	28.1	C	50.8	D
R	301	1425	0.49	0.21	32.4	C		
Westbound								
L	267	1266	0.06	0.21	28.5	C		
T	354	1676	0.12	0.21	28.9	C	28.7	C
R	301	1425	0.02	0.21	28.1	C		
Northbound								
L	461	882	0.86	0.52	33.9	C		
T	2385	4567	0.69	0.52	16.8	B	20.1	C
R	744	1425	0.02	0.52	10.4	B		
Southbound								
L	156	1593	0.03	0.64	8.4	A		
T	2943	4567	0.56	0.64	9.1	A	15.3	B
R	918	1425	0.92	0.64	27.4	C		
Intersection Delay = 20.9			(sec/veh)		Intersection LOS = C			

Analyst: AH Inter.: East Maple PM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	836	14	274	9	11	5	182	1963	16	5	1517	426
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0				3.0	52.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		
Cycle Length: 97.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	279	1228	3.33	0.23	1095	F		
TR	328	1445	1.09	0.23	113.9	F	822.1	F
Westbound								
LTR	231	1019	0.16	0.23	30.5	C	30.5	C
Northbound								
L	74	129	3.46	0.54	1162	F		
TR	1708	3186	1.32	0.54	171.9	F	272.7	F
Southbound								
L	123	1593	0.16	0.64	22.8	C		
T	2040	3192	0.90	0.64	20.5	C	18.4	B
R	911	1425	0.58	0.64	11.0	B		
Intersection Delay = 287.6 (sec/veh)					Intersection LOS = F			

Analyst: LDK Inter.: East Maple PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID: ADD: NB Dbl LT lanes; EB Dbl LT lanes, T-R lane, NB / SB Th
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	1	1	1	1	2	3	1	1	3	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	836	14	274	9	11	5	182	1963	16	5	1517	426
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	31.6	4.0			44.3	44.1		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	652	3093	1.42	0.21	259.2	F		
T	353	1676	0.08	0.21	47.6	D	224.2	F
R	300	1425	1.10	0.21	140.7	F		
Westbound								
L	42	1593	0.31	0.03	75.8	E		
T	45	1676	0.44	0.03	78.8	E	77.0	E
R	38	1425	0.13	0.03	72.9	E		
Northbound								
L	909	3093	0.28	0.29	40.9	D		
T	1343	4567	1.66	0.29	353.8	F	318.5	F
R	419	1425	0.07	0.29	38.2	D		
Southbound								
L	470	1593	0.01	0.30	37.4	D		
T	1349	4567	1.36	0.30	217.6	F	175.7	F
R	721	1425	0.74	0.51	33.2	C		

Intersection Delay = 243.0 (sec/veh) Intersection LOS = F

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 9/22/13
 Analysis Time Period: AM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: Build Alt 1
 Project ID:
 East/West Street: W MORELAND AVE
 North/South Street: EASTON RD (611)
 Intersection Orientation: NS

Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R		4 L	5 T	6 R
Volume		142	1617	6		82	1864	
Peak-Hour Factor, PHF		1.00	0.90	0.90		0.90	0.90	
Hourly Flow Rate, HFR		142	1796	6		91	2071	
Percent Heavy Vehicles		0	--	--		2	--	--
Median Type/Storage		Undivided			/			
RT Channelized?								
Lanes		1	2	0		1	2	
Configuration		L	T	TR		L	T	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R		10 L	11 T	12 R
Volume		0	57	98		42	56	42
Peak Hour Factor, PHF		0.90	1.00	0.90		1.00	1.00	1.00
Hourly Flow Rate, HFR		0	57	108		42	56	42
Percent Heavy Vehicles		2	0	2		0	0	0
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage					/	No /		
Lanes		0	1	1		1	1	0
Configuration		LT		R		L		TR

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound				Eastbound			
			7 LT	8	9 R		10 L	11	12 TR	
Movement	1	4		7	8	9		10	11	12
Lane Config	L	L		LT		R		L		TR
v (vph)	142	91		57		108		42		98
C(m) (vph)	273	338		0		335		0		2
v/c	0.52	0.27				0.32				49.00
95% queue length	2.78	1.07				1.36				14.53
Control Delay	31.6	19.5				20.8				25108
LOS	D	C		F		C		F		F
Approach Delay										
Approach LOS										

Analyst: Inter.:
 Agency: TQC Area Type: All other areas
 Date: 9/26/2013 Jurisd: PennDOT
 Period: AM PEAK HOUR Year : Build Alt 1 - Mitigation
 Project ID:
 E/W St: Access/W Moreland N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	42	56	42	5	57	98	142	1617	6	82	1864	85
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.7				11.3	84.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				0.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	122	894	0.38	0.14	53.1	D		
TR	237	1743	0.45	0.14	53.0	D	53.1	D
Westbound								
L	173	1274	0.03	0.14	48.8	D		
TR	230	1686	0.73	0.14	65.5	E	65.0	E
Northbound								
L	211	1770	0.73	0.78	53.0	D		
TR	2291	3545	0.77	0.65	17.9	B	20.7	C
Southbound								
L	232	1770	0.38	0.78	18.7	B		
T	2292	3547	0.88	0.65	23.5	C	22.7	C
R	1023	1583	0.09	0.65	8.7	A		
Intersection Delay = 24.5			(sec/veh)		Intersection LOS = C			

Analyst: LDK Inter.:
 Agency: TQC Area Type: All other areas
 Date: 9/26/2013 Jurisd: PennDOT
 Period: PM PEAK HOUR Year : Build Alt 1 - Mitigation
 Project ID:
 E/W St: Access Rd/W Moreland Rd N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	100	134	100	5	22	90	112	1957	9	140	1621	90
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.1				3.9	79.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				3.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	175	1229	0.62	0.14	55.1	E		
TR	248	1743	1.03	0.14	116.1	F	97.8	F
Westbound								
L	66	466	0.08	0.14	45.1	D		
TR	233	1638	0.52	0.14	49.8	D	49.6	D
Northbound								
L	144	1770	0.85	0.74	55.0-	D		
TR	2333	3544	0.92	0.66	23.9	C	25.6	C
Southbound								
L	120	1770	1.27	0.74	206.7	F		
T	2335	3547	0.75	0.66	15.4	B	29.4	C
R	1042	1583	0.09	0.66	7.5	A		
Intersection Delay = 33.4			(sec/veh)		Intersection LOS = C			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	2	1
LGConfig	L		R		T		L	T			T	R
Volume	70		95		16		33	1041			1879	28
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru	A	A			Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right	A	A			WB Right			
Green	13.7	6.2				95.3	8.8	
Yellow	3.0	3.0				5.0	5.0	
All Red	3.0	3.0				2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	112	1230	0.99	0.09	150.2	F	99.8	F
R	280	1425	0.44	0.20	54.0	D		
Westbound								
T	289	1676	0.12	0.17	52.7	D	52.7	D
Northbound								
L	216	1593	0.22	0.74	48.4	D		
T	2364	3192	0.52	0.74	8.5	A	9.9	A
Southbound								
T	2028	3192	0.99	0.64	43.3	D	42.7	D
R	1425	1425	0.02	1.00	0.0+	A		
Intersection Delay = 34.8 (sec/veh)					Intersection LOS = C			

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-Mitigation
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	1
LGConfig	L		R		T		L	T			T	R
Volume	70		95		16		33	1041			1879	28
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru	A	A			Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right	A	A			WB Right			
Green	16.0	6.1				77.9	4.0	
Yellow	3.0	3.0				5.0	5.0	
All Red	3.0	3.0				2.0	2.0	

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	151	1230	0.74	0.12	71.9	E	58.1	E
R	296	1425	0.41	0.21	45.6	D		
Westbound								
T	362	1676	0.10	0.22	40.9	D	40.9	D
Northbound								
L	195	1593	0.24	0.68	27.4	C		
T	2183	3192	0.57	0.68	11.0	B	11.6	B
Southbound								
T	2737	4567	0.73	0.60	19.6	B	19.3	B
R	1425	1425	0.02	1.00	0.0+	A		
Intersection Delay = 19.3 (sec/veh)					Intersection LOS = B			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	2	1
LGConfig	L		R		T		L	T			T	R
Volume	120		168		66		136	1155			2938	148
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	5.1	4.2			108.1	6.6		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	48	1315	2.94	0.03	997.9	F	512.5	F
R	178	1425	1.06	0.12	150.4	F		
Westbound								
T	171	1676	0.40	0.10	64.6	E	64.6	E
Northbound								
L	192	1593	0.88	0.81	98.4	F		
T	2590	3192	0.52	0.81	4.8	A	15.1	B
Southbound								
T	2300	3192	1.33	0.72	172.7	F	164.1	F
R	1425	1425	0.11	1.00	0.0+	A		
Intersection Delay = 140.9 (sec/veh)					Intersection LOS = F			

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-Mitigation
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	1
LGConfig	L		R		T		L	T			T	R
Volume	120		168		66		136	1155			2938	148
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	13.9	4.0			102.5	3.6		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	85	919	1.66	0.09	410.7	F	221.1	F
R	233	1425	0.81	0.16	79.6	E		
Westbound								
T	267	1676	0.26	0.16	55.8	E	55.8	E
Northbound								
L	161	1593	1.04	0.75	147.0	F		
T	2407	3192	0.56	0.75	8.2	A	23.5	C
Southbound								
T	3121	4567	0.98	0.68	34.7	C	33.0	C
R	1425	1425	0.11	1.00	0.0+	A		
Intersection Delay = 42.5 (sec/veh)					Intersection LOS = D			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	337	555	653	206	1357	0	167	396	45	6	1108	65
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
WB Left		A	A		SB Left	A	A	A
Thru			A		Thru		A	A
Right			A		Right		A	A
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right	A		
Green		15.0	48.0			10.0	25.0	10.0
Yellow		5.0	5.0			4.0	4.0	4.0
All Red		2.0	2.0			2.0	2.0	2.0

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	222	1593	1.85	0.50	445.4	F		
TR	1007	2938	1.29	0.34	183.1	F	246.3	F
Westbound								
L	222	1593	1.14	0.50	150.2	F		
TR	1094	3192	1.39	0.34	228.9	F	217.7	F
Northbound								
L	165	1593	1.22	0.29	184.7	F		
T	570	3192	0.85	0.18	67.1	E	97.7	F
R	254	1425	0.22	0.18	49.7	D		
Southbound								
L	365	1593	0.03	0.41	26.1	C		
T	935	3192	1.33	0.29	206.1	F	194.6	F
R	417	1425	0.19	0.29	37.3	D		

Intersection Delay = 204.9 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/24/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-Mitigation
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	1	3	0	2	3	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	337	555	653	206	1357	0	167	396	45	6	1108	65
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
WB Left		A	A		SB Left	A	A	A
Thru			A		Thru		A	A
Right			A		Right		A	A
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right	A		
Green		15.0	48.0			10.0	25.0	10.0
Yellow		5.0	5.0			4.0	4.0	4.0
All Red		2.0	2.0			2.0	2.0	2.0

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	222	1593	1.85	0.50	444.4	F		
TR	1441	4204	0.90	0.34	51.8	D	146.3	F
Westbound								
L	224	1593	1.13	0.50	142.6	F		
TR	1566	4567	0.97	0.34	62.2	E	73.7	E
Northbound								
L	654	3093	0.31	0.29	40.3	D		
T	816	4567	0.59	0.18	54.0	D	49.9	D
R	254	1425	0.22	0.18	49.7	D		
Southbound								
L	399	1593	0.03	0.41	25.4	C		
T	935	3192	1.33	0.29	206.1	F	194.6	F
R	417	1425	0.19	0.29	37.3	D		
Intersection Delay = 121.8 (sec/veh)					Intersection LOS = F			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	412	1492	276	99	940	0	596	1531	191	68	446	103
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A	A	NB Left	A	A	A
Thru			A	A	Thru	A	A	
Right			A	A	Right	A	A	
Peds					Peds			
WB Left		A		A	SB Left		A	A
Thru				A	Thru		A	
Right				A	Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0	15.0	32.0		10.0	25.0	10.0
Yellow		5.0	5.0	5.0		4.0	4.0	4.0
All Red		2.0	2.0	2.0		2.0	2.0	2.0

Cycle Length: 146.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	453	1593	1.00	0.52	87.7	F		
TR	1152	3115	1.82	0.37	416.6	F	358.1	F
Westbound								
L	213	1593	0.53	0.32	41.5	D		
TR	700	3192	1.49	0.22	285.7	F	261.8	F
Northbound								
L	343	1593	2.00	0.39	500.6	F		
T	896	3192	1.90	0.28	461.0	F	437.8	F
R	400	1425	0.52	0.28	45.6	D		
Southbound								
L	224	1593	0.36	0.28	58.1	E		
T	547	3192	0.90	0.17	76.5	E	70.9	E
R	244	1425	0.52	0.17	56.9	E		

Intersection Delay = 343.2 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: Hors Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/21/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID: Add: NB LT+Th; EB Th; WB Th
 E/W St: HORSHAM RD N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	1	3	0	2	3	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	412	1492	276	99	940	0	596	1531	191	68	446	103
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A	A	NB Left	A	A	A
Thru			A	A	Thru	A	A	
Right			A	A	Right	A	A	
Peds					Peds			
WB Left		A		A	SB Left		A	A
Thru				A	Thru		A	
Right				A	Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0	15.0	32.0		10.0	25.0	10.0
Yellow		5.0	5.0	5.0		4.0	4.0	4.0
All Red		2.0	2.0	2.0		2.0	2.0	2.0

Cycle Length: 146.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	453	1593	1.00	0.52	87.5	F		
TR	1648	4456	1.27	0.37	172.2	F	157.1	F
Westbound								
L	213	1593	0.53	0.32	41.5	D		
TR	1001	4567	1.04	0.22	97.3	F	91.8	F
Northbound								
L	788	3093	0.87	0.39	46.9	D		
T	1283	4567	1.33	0.28	204.6	F	150.1	F
R	400	1425	0.52	0.28	45.6	D		
Southbound								
L	224	1593	0.36	0.28	58.1	E		
T	547	3192	0.90	0.17	76.5	E	70.9	E
R	244	1425	0.52	0.17	56.9	E		

Intersection Delay = 135.1 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				105		604	2500	26		483	1345	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	21.5				13.3	45.2		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	342	1593	0.36	0.22	34.1	C	85.4	F
R	581	1425	1.09	0.41	95.4	F		

Northbound

TR	1440	3186	1.87	0.45	421.6	F	421.6	F
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Southbound

L	284	1593	2.05	0.65	517.6	F		
T	2091	3192	0.71	0.65	12.2	B	155.0	F

Intersection Delay = 275.6 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 9/24/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-Mitigation
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	3	0	2	3	0
LGConfig				L		R		TR		L	T	
Volume				105		604	2500	26		483	1345	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	21.5				13.3	45.2		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	342	1593	0.36	0.22	34.1	C	85.4	F
R	581	1425	1.09	0.41	95.4	F		

Northbound

TR	2060	4558	1.31	0.45	169.3	F	169.3	F
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Southbound

L	1343	3093	0.43	0.65	19.5	B		
T	2991	4567	0.49	0.65	8.9	A	11.9	B

Intersection Delay = 98.9 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				35		387	2484	42		1219	2101	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	4.0					47.6	78.4	
Yellow	3.0					5.0	5.0	
All Red	3.0					2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	42	1593	1.43	0.03	361.4	F	89.6	F
R	547	1425	0.85	0.38	54.6	D		

Northbound

TR	1663	3182	1.69	0.52	350.4	F	350.4	F
----	------	------	------	------	-------	---	-------	---

Southbound

L	554	1593	2.39	0.89	679.7	F		
T	2830	3192	0.78	0.89	4.6	A	257.5	F

Intersection Delay = 282.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors East 611 PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/24/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1 - Mitigation
 Project ID: SB +1LT + 1Th; NB +1Th; EB two accepting lanes
 E/W St: HORSHAM RD N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	3	0	2	3	0
LGConfig				L		R		TR		L	T	
Volume				35		387	2484	42		1219	2101	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	4.0					47.6	78.4	
Yellow	3.0					5.0	5.0	
All Red	3.0					2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	42	1593	1.43	0.03	361.4	F	89.6	F
R	547	1425	0.85	0.38	54.6	D		

Northbound

TR	2380	4553	1.18	0.52	122.9	F	122.9	F
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Southbound

L	982	3093	1.35	0.32	215.2	F		
T	4049	4567	0.55	0.89	2.0	A	81.9	F

Intersection Delay = 99.2 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R		LTR		L	TR	
Volume	101	1509	5	2	778	66	0	0	1	266	2	117
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		52.0				25.0		
Yellow		5.0				3.0		
All Red		2.0				3.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	192	333	0.75	0.58	29.3	C		
TR	968	1675	1.82	0.58	393.6	F	366.1	F
Westbound								
L	80	129	0.05	0.58	8.5	A		
T	968	1676	0.83	0.58	21.5	C	19.3	B
R	823	1425	0.20	0.58	9.2	A		
Northbound								
LTR	403	1450	0.01	0.28	23.5	C	23.5	C
Southbound								
L	352	1266	0.93	0.28	62.7	E		
TR	399	1438	0.40	0.28	27.1	C	51.0	D

Intersection Delay = 220.2 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: Hors KV AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/26/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1
 Project ID: Add: EB Th + R Lane; WB Th Lane
 E/W St: HORSHAM RD N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	1	1	2	1	0	1	0	1	1	0
LGConfig	L	T	R	L	T	R	LTR			L	TR	
Volume	101	1509	5	2	778	66	0	0	1	266	2	117
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	53.1				33.9			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	268	505	0.54	0.53	17.5	B		
T	1695	3192	1.04	0.53	55.0+	E	52.0	D
R	757	1425	0.01	0.53	11.1	B		
Westbound								
L	72	126	0.06	0.53	11.7	B		
T	1695	3192	0.47	0.53	14.9	B	14.5	B
R	757	1425	0.22	0.53	12.6	B		
Northbound								
LTR	492	1450	0.01	0.34	21.9	C	21.9	C
Southbound								
L	429	1266	0.76	0.34	37.5	D		
TR	487	1438	0.33	0.34	25.0	C	33.4	C

Intersection Delay = 38.5 (sec/veh) Intersection LOS = D

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R	LTR			L	TR	
Volume	180	1158	0	1	1815	208	1	0	1	97	0	58
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol			0			0	0					0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	52.0				7.0			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 72.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	100	129	2.43	0.72	682.8	F		
TR	1210	1676	1.09	0.72	63.1	E	159.7	F
Westbound								
L	100	129	0.04	0.72	3.0	A		
T	1210	1676	1.61	0.72	289.8	F	252.9	F
R	1029	1425	0.28	0.72	3.6	A		
Northbound								
LTR	118	1215	0.07	0.10	29.8	C	29.8	C
Southbound								
L	123	1261	1.05	0.10	127.3	F		
TR	139	1425	0.57	0.10	36.5	D	92.8	F

Intersection Delay = 208.0 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors KV PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1
 Project ID: Add: EB Th + R Lane; WB Th Lane
 E/W St: HORSHAM RD N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	1	1	2	1	0	1	0	1	1	0
LGConfig	L	T	R	L	T	R	LTR			L	TR	
Volume	180	1158	0	1	1815	208	1	0	1	97	0	58
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
WB Left			A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		7.0	60.0			15.0		
Yellow		5.0	5.0			3.0		
All Red		0.0	2.0			3.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	184	1593	1.32	0.74	210.4	F		
T	2298	3192	0.57	0.72	7.0	A	38.7	D
R	1026	1425	0.00	0.72	3.9	A		
Westbound								
L	211	351	0.02	0.60	8.1	A		
T	1915	3192	1.02	0.60	45.6	D	41.0	D
R	855	1425	0.33	0.60	10.2	B		
Northbound								
LTR	208	1387	0.04	0.15	36.4	D	36.4	D
Southbound								
L	189	1261	0.68	0.15	49.9	D		
TR	214	1425	0.37	0.15	39.3	D	45.9	D

Intersection Delay = 40.4 (sec/veh) Intersection LOS = D

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	382	1259	26	7	1588	126	69	44	13	288	53	682
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
WB Left			A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right		A	A		WB Right			
Green		19.5	63.9			38.6		
Yellow		4.0	4.0			3.0		
All Red		2.0	2.0			3.0		

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	273	1593	1.55	0.64	315.6	F		
TR	2030	3179	0.72	0.64	18.1	B	85.3	F
Westbound								
L	127	278	0.14	0.46	22.6	C		
TR	1437	3149	1.29	0.46	174.9	F	173.4	F
Northbound								
LTR	118	428	1.54	0.28	332.4	F	332.4	F
Southbound								
LT	288	1043	1.45	0.28	273.7	F	96.3	F
R	1425	1425	0.54	1.00	0.4	A		
Intersection Delay = 128.9 (sec/veh)					Intersection LOS = F			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/25/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1
 Project ID: EB-Double L; NB-L & TR; SB-Double R
 E/W St: HORSHAM RD N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	0	1	1	0	0	1	2
LGConfig	L	TR		L	TR		L	TR		LT	R	
Volume	382	1259	26	7	1588	126	69	44	13	288	53	682
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
WB Left			A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right		A	A		WB Right			
Green	4.2	80.5			37.3			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	836	3093	0.51	0.65	32.0	C		
TR	2060	3179	0.71	0.65	17.1	B	20.5	C
Westbound								
L	132	230	0.14	0.57	14.2	B		
TR	1811	3149	1.03	0.57	57.6	E	57.2	E
Northbound								
L	75	282	1.12	0.27	191.6	F		
TR	434	1628	0.23	0.27	40.3	D	110.2	F
Southbound								
LT	313	1176	1.34	0.27	223.8	F	78.6	E
R	2522	2522	0.31	1.00	0.1	A		
Intersection Delay = 50.6 (sec/veh) Intersection LOS = D								

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR		LTR			LT R		
Volume	690	2019	33	16	1459	198	119	118	12	142	69	482
Lane Width	12.0	12.0		12.0	12.0		12.0			12.0 12.0		
RTOR Vol			0			0	0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
WB Left			A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right		A	A		WB Right			
Green		38.3	60.5			33.2		
Yellow		4.0	4.0			3.0		
All Red		2.0	2.0			3.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	455	1593	1.65	0.70	351.0	F		
TR	2224	3183	0.95	0.70	30.9	C	114.5	F
Westbound								
L	48	111	0.48	0.40	40.5	D		
TR	1260	3124	1.44	0.40	245.4	F	242.8	F
Northbound								
LTR	117	527	3.16	0.22	1053	F	1053	F
Southbound								
LT	210	951	1.32	0.22	233.3	F	81.0	F
R	1425	1425	0.37	1.00	0.2	A		
Intersection Delay = 209.0 (sec/veh)					Intersection LOS = F			

Analyst: LDK Inter.: Hors Map PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/21/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID: EB-Double L; NB-L & TR; SB-Double R
 E/W St: HORSHAM RD N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	0	1	1	0	0	1	2
LGConfig	L	TR		L	TR		L	TR		LT	R	
Volume	690	2019	33	16	1459	198	119	118	12	142	69	482
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.3	56.7			21.0			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	549	968	1.37	0.57	197.8	F		
TR	1805	3183	1.18	0.57	107.1	F	130.8	F
Westbound								
L	140	1593	0.16	0.67	23.5	C		
TR	2093	3124	0.86	0.67	17.0	B	17.1	B
Northbound								
L	124	591	1.41	0.21	265.4	F		
TR	347	1652	0.56	0.21	37.5	D	145.3	F
Southbound								
LT	197	936	1.41	0.21	251.8	F	136.6	F
R	530	2522	0.99	0.21	75.4	E		
Intersection Delay = 97.0			(sec/veh)		Intersection LOS = F			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Nor AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	170	1078	127	570	1515	189	210	19	512	56	19	112
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	31.3	53.7			37.0			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	99	259	1.87	0.38	469.9	F		
TR	1201	3130	1.16	0.38	123.7	F	164.3	F
Westbound								
L	407	1593	1.61	0.65	308.7	F		
T	2075	3192	0.78	0.65	19.3	B	95.2	F
R	926	1425	0.22	0.65	10.1	B		
Northbound								
L	330	1247	0.91	0.26	77.7	E		
T	443	1676	0.05	0.26	38.4	D	242.9	F
R	377	1425	1.60	0.26	332.3	F		
Southbound								
L	330	1247	0.18	0.26	40.1	D		
T	443	1676	0.05	0.26	38.4	D	41.0	D
R	377	1425	0.32	0.26	41.9	D		

Intersection Delay = 140.4 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: Hors Nor AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID: Add: WB-Double L; NB R; EB-L & R; SB-L, T, R
 E/W St: HORSHAM RD N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	1	2	2	1	1	1	1	1	1	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	170	1078	127	570	1515	189	210	19	512	56	19	112
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right		A			WB Right			
Green	66.9	45.2			19.9			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	932	3093	0.20	0.30	39.0	D		
T	962	3192	1.26	0.30	177.4	F	145.8	F
R	429	1425	0.42	0.30	42.5	D		
Westbound								
L	1379	3093	0.47	0.45	29.5	C		
T	1424	3192	1.13	0.45	110.3	F	82.0	F
R	636	1425	0.32	0.45	27.2	C		
Northbound								
L	165	1247	1.82	0.13	456.1	F		
T	222	1676	0.09	0.13	57.3	E	163.3	F
R	882	1425	0.68	0.62	21.1	C		
Southbound								
L	165	1247	0.37	0.13	60.7	E		
T	222	1676	0.09	0.13	57.3	E	37.7	D
R	675	1425	0.18	0.47	22.8	C		

Intersection Delay = 114.2 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Norr PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	149	1831	85	513	1350	134	186	15	673	134	45	267
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	34.1	59.8			38.1			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	114	287	1.42	0.40	277.9	F		
TR	1264	3170	1.60	0.40	318.4	F	315.4	F
Westbound								
L	410	1593	1.36	0.67	228.1	F		
T	2126	3192	0.71	0.67	17.1	B	69.6	E
R	949	1425	0.15	0.67	9.4	A		
Northbound								
L	309	1216	0.72	0.25	58.7	E		
T	426	1676	0.04	0.25	42.2	D	419.5	F
R	362	1425	2.04	0.25	535.4	F		
Southbound								
L	318	1252	0.46	0.25	48.3	D		
T	426	1676	0.12	0.25	43.1	D	57.5	E
R	362	1425	0.80	0.25	64.6	E		

Intersection Delay = 218.3 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: Hors Norr PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID: Add: WB-Double L; NB R; EB-L & R; SB-L, T, R
 E/W St: HORSHAM RD N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	1	2	2	1	1	1	1	1	1	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	149	1831	85	513	1350	134	186	15	673	134	45	267
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			250			80

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right		A			EB Right			
SB Right			A		WB Right			
Green		51.2	58.0			22.8		
Yellow		4.0	4.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	1196	3093	0.14	0.39	29.8	C		
T	1234	3192	1.56	0.39	302.7	F	270.7	F
R	551	1425	0.17	0.39	30.4	C		
Westbound								
L	1056	3093	0.53	0.34	40.2	D		
T	1090	3192	1.39	0.34	231.4	F	170.5	F
R	486	1425	0.30	0.34	36.6	D		
Northbound								
L	185	1216	1.19	0.15	191.9	F		
T	255	1676	0.06	0.15	54.6	D	78.7	E
R	760	1425	0.61	0.53	25.7	C		
Southbound								
L	190	1252	0.77	0.15	78.3	E		
T	255	1676	0.19	0.15	55.9	E	43.6	D
R	825	1425	0.25	0.58	15.7	B		

Intersection Delay = 189.4 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			613				1585	1581			1235	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left		A	A
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right		A	A
SB Right					WB Right			
Green						56.0	33.0	3.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
Cycle Length: 113.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	960	2522	0.69	0.38	31.6	C	31.6	C
---	-----	------	------	------	------	---	------	---

Northbound

L	1177	3093	1.57	0.38	293.8	F		
T	2712	3192	0.61	0.85	3.0	A	156.6	F

Southbound

TR	1578	3184	1.00	0.50	49.9	D	49.9	D
----	------	------	------	------	------	---	------	---

Intersection Delay = 112.8 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East Hors 463 AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/25/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1-Mitigation
 Project ID: Add 3rd EB RT lane; Add 3rd SB Th lane; widen SB departure
 E/W St: HORSHAM RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	3	0	0	0	2	2	0	0	3	0
LGConfig			R				L	T			TR	
Volume			613				1585	1581			1235	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						47.1	54.7	17.2
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
Cycle Length: 140.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	2188	3882	0.30	0.56	16.2	B	16.2	B
---	------	------	------	------	------	---	------	---

Westbound

Northbound

L	1743	3093	1.06	0.56	69.1	E		
T	2481	3192	0.66	0.78	7.9	A	40.2	D

Southbound

TR	1532	4555	1.03	0.34	76.2	E	76.2	E
----	------	------	------	------	------	---	------	---

Intersection Delay = 47.3 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			1851				1014	1806			1579	16
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						28.8	34.2	6.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
Cycle Length: 90.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	1323	2522	1.61	0.52	298.8	F	298.8	F
---	------	------	------	------	-------	---	-------	---

Northbound

L	1622	3093	0.68	0.52	17.0	B		
T	2483	3192	0.77	0.78	7.0	A	10.6	B

Southbound

TR	1020	3187	1.74	0.32	366.5	F	366.5	F
----	------	------	------	------	-------	---	-------	---

Intersection Delay = 190.8 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East Hors 463 PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/21/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1 - Mitigation
 Project ID: Add 3rd EB RT lane; Add 3rd SB Th lane; widen SB departure
 E/W St: HORSHAM RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	3	0	0	0	2	2	0	0	3	0
LGConfig			R				L	T			TR	
Volume			1851				1014	1806			1579	16
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8	
EB Left					NB Left		A	A	
Thru					Thru	A	A		
Right					Right				
Peds					Peds				
WB Left					SB Left				
Thru					Thru	A			
Right					Right	A			
Peds					Peds				
NB Right					EB Right		A	A	
SB Right					WB Right				
Green						28.8	34.2	6.0	
Yellow						5.0	4.0	4.0	
All Red						2.0	3.0	3.0	
								Cycle Length: 90.0	secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c g/C		Lane Group Delay LOS		Approach Delay LOS	
----------------------	---------------------------	-----------------------------	-------------------	--	-------------------------	--	-----------------------	--

Eastbound

R	2036	3882	1.05	0.52	54.4	D	54.4	D
---	------	------	------	------	------	---	------	---

Northbound

L	1622	3093	0.68	0.52	17.0	B		
T	2483	3192	0.77	0.78	7.0	A	10.6	B

Southbound

TR	1459	4560	1.21	0.32	133.7	F	133.7	F
----	------	------	------	------	-------	---	-------	---

Intersection Delay = 55.7 (sec/veh) Intersection LOS = E

Analyst: AH Inter.: Hors Priv
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1
 Project ID:
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	170	1262	129	154	1398	189	33	19	20	56	19	112
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	52.0			12.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 91.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	150	263	1.23	0.57	169.0	F		
TR	1799	3148	0.91	0.57	24.7	C	39.3	D
Westbound								
L	202	1593	1.12	0.73	126.2	F		
T	2315	3192	0.69	0.73	7.7	A	20.6	C
R	1034	1425	0.20	0.73	4.1	A		
Northbound								
L	164	1247	0.26	0.13	36.3	D		
T	221	1676	0.10	0.13	34.9	C	35.7	D
R	188	1425	0.18	0.13	35.6	D		
Southbound								
L	164	1247	0.37	0.13	37.5	D		
T	221	1676	0.10	0.13	34.9	C	41.8	D
R	188	1425	0.65	0.13	45.1	D		
Intersection Delay = 30.2			(sec/veh)		Intersection LOS = C			

Analyst: LDK
 Agency: TQC
 Date: 9/26/13
 Period: AM PEAK HOUR
 Project ID: ADD: EB L + Th Lane
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-Mitigation
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	3	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	170	1262	129	154	1398	189	33	19	20	56	19	112
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		7.1	34.3			8.6		
Yellow		5.0	5.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 70.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	515	1052	0.36	0.49	11.5	B		
TR	2207	4504	0.74	0.49	15.7	B	15.2	B
Westbound								
L	265	1593	0.85	0.69	38.1	D		
T	2207	3192	0.72	0.69	7.8	A	10.8	B
R	985	1425	0.21	0.69	4.0	A		
Northbound								
L	153	1247	0.27	0.12	28.8	C		
T	206	1676	0.10	0.12	27.5	C	28.3	C
R	175	1425	0.19	0.12	28.1	C		
Southbound								
L	153	1247	0.40	0.12	30.0	C		
T	206	1676	0.10	0.12	27.5	C	36.3	D
R	175	1425	0.70	0.12	41.0	D		
Intersection Delay = 14.4			(sec/veh)		Intersection LOS = B			

Analyst: AH Inter.: Hors Priv
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1
 Project ID:
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	149	1513	55	47	1545	134	196	15	262	223	22	200
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	45.0			25.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	77	166	2.10	0.46	563.9	F		
TR	1472	3172	1.21	0.46	125.3	F	162.0	F
Westbound								
L	189	1593	0.32	0.61	21.1	C		
T	1942	3192	0.86	0.61	19.5	B	18.7	B
R	867	1425	0.17	0.61	8.4	A		
Northbound								
L	320	1243	0.70	0.26	39.4	D		
T	432	1676	0.04	0.26	27.0	C	97.7	F
R	367	1425	1.15	0.26	131.3	F		
Southbound								
L	323	1252	0.75	0.26	42.5	D		
T	432	1676	0.06	0.26	27.2	C	37.9	D
R	367	1425	0.59	0.26	34.1	C		
Intersection Delay = 87.2			(sec/veh)		Intersection LOS = F			

Analyst: LDK
 Agency: TQC
 Date: 9/26/13
 Period: PM PEAK HOUR
 Project ID: ADD: EB Th Lane
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-Mitigation
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	3	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	149	1513	55	47	1545	134	196	15	262	223	22	200
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
WB Left			A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		3.0	77.9			39.1		
Yellow		5.0	5.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	643	3093	0.25	0.63	23.3	C		
TR	2849	4538	0.62	0.63	16.4	B	16.9	B
Westbound								
L	94	169	0.65	0.56	36.2	D		
T	1776	3192	0.94	0.56	38.6	D	36.7	D
R	793	1425	0.18	0.56	15.5	B		
Northbound								
L	347	1243	0.65	0.28	48.6	D		
T	468	1676	0.03	0.28	36.7	D	89.5	F
R	398	1425	1.06	0.28	113.2	F		
Southbound								
L	350	1252	0.69	0.28	50.8	D		
T	468	1676	0.05	0.28	36.9	D	47.3	D
R	398	1425	0.55	0.28	44.5	D		

Intersection Delay = 37.1 (sec/veh) Intersection LOS = D

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 9/25/2013
 Analysis Time Period: AM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: BUILD ALT 1
 Project ID:
 East/West Street: ACCESS RD
 North/South Street: KEITH VALLEY RD
 Intersection Orientation: NS

Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R		4 L	5 T	6 R
Volume		28	52		42	654		
Peak-Hour Factor, PHF		0.90	0.90		0.90	0.90		
Hourly Flow Rate, HFR		31	57		46	726		
Percent Heavy Vehicles		--	--		0	--	--	
Median Type/Storage		Undivided			/			
RT Channelized?								
Lanes		1	0			0	1	
Configuration			TR			LT		
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R		10 L	11 T	12 R
Volume		5		21				
Peak Hour Factor, PHF		0.90		0.90				
Hourly Flow Rate, HFR		5		23				
Percent Heavy Vehicles		0		0				
Percent Grade (%)			0			0		
Flared Approach: Exists?/Storage				No	/			/
Lanes		0		0				
Configuration			LR					

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound				Eastbound			
			7	8	9		10	11	12	
Movement	1	4		7	8	9		10	11	12
Lane Config		LT			LR					
v (vph)		46			28					
C(m) (vph)		1520			721					
v/c		0.03			0.04					
95% queue length		0.09			0.12					
Control Delay		7.4			10.2					
LOS		A			B					
Approach Delay					10.2					
Approach LOS					B					

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 9/25/2013
 Analysis Time Period: PM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: BUILD ALT 1
 Project ID:
 East/West Street: ACCESS RD
 North/South Street: KEITH VALLEY RD
 Intersection Orientation: NS

Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		60	41	34	223		
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90		
Hourly Flow Rate, HFR		66	45	37	247		
Percent Heavy Vehicles		--	--	0	--	--	
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR		LT		
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		5		50			
Peak Hour Factor, PHF		0.90		0.90			
Hourly Flow Rate, HFR		5		55			
Percent Heavy Vehicles		0		0			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/		/
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound				
			7	8	9	10	11	12		
Movement	1	4		7	8	9		10	11	12
Lane Config		LT			LR					
v (vph)		37		60						
C(m) (vph)		1492		925						
v/c		0.02		0.06						
95% queue length		0.08		0.21						
Control Delay		7.5		9.2						
LOS		A		A						
Approach Delay				9.2						
Approach LOS				A						

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	12	338	94	378	412	130	180	971	176	103	1518	14
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A	A		SB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	8.4	20.9			4.0	50.7		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	187	1593	0.13	0.32	28.4	C		
TR	585	3081	0.86	0.19	56.0	E	54.8	D
Westbound								
L	203	1593	2.52	0.32	738.9	F		
TR	586	3082	1.18	0.19	144.0	F	396.2	F
Northbound								
L	123	1593	1.68	0.56	366.9	F		
TR	1436	3115	0.94	0.46	40.0	D	83.6	F
Southbound								
L	123	1593	1.25	0.56	187.2	F		
TR	1467	3182	1.10	0.46	85.6	F	94.4	F

Intersection Delay = 158.9 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East and CL AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: ADD: NB Dbl LT Lane; NB exclsv RT lane; N,S,E,W Th Lane
 E/W St: COUNTY LINE RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	3	0	2	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	12	338	94	378	412	130	180	971	176	103	1518	14
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left			A		SB Left		A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		17.8	20.2			35.1	50.9	
Yellow		4.0	4.0			5.0	5.0	
All Red		2.0	2.0			2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	189	1593	0.13	0.12	59.5	E		
TR	523	4408	0.97	0.12	96.9	F	95.2	F
Westbound								
L	417	3093	1.23	0.13	186.0	F		
TR	594	4410	1.17	0.13	157.8	F	169.8	F
Northbound								
L	724	3093	0.29	0.23	47.4	D		
T	1069	4567	1.06	0.23	101.1	F	87.7	F
R	333	1425	0.65	0.23	56.4	E		
Southbound								
L	541	1593	0.28	0.34	36.5	D		
TR	1545	4553	1.04	0.34	85.1	F	80.8	F

Intersection Delay = 105.6 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	12	340	102	216	402	132	230	1553	317	173	1230	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A	A		SB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		5.0	29.0			9.0	62.0	
Yellow		4.0	4.0			5.0	5.0	
All Red		2.0	2.0			2.0	2.0	

Cycle Length: 131.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	116	1593	0.25	0.31	35.8	D		
TR	682	3079	0.91	0.22	65.5	E	64.2	E
Westbound								
L	128	1593	3.13	0.31	1028	F		
TR	681	3075	0.99	0.22	82.7	F	434.8	F
Northbound								
L	166	1593	2.01	0.60	510.8	F		
TR	1470	3107	1.44	0.47	238.0	F	275.0	F
Southbound								
L	164	1593	1.41	0.60	258.6	F		
TR	1506	3183	0.92	0.47	41.2	D	72.4	E

Intersection Delay = 224.7 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East and CL PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: Add: NB D1b LT, Th, RT; SB Th, EB Th; WB LT, Th
 E/W St: COUNTY LINE RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	3	0	2	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	12	340	102	216	402	132	230	1553	317	173	1230	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left			A		SB Left		A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	13.4	24.9			41.7	34.0		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	152	1593	0.19	0.10	58.9	E		
TR	422	4405	1.46	0.10	285.0	F	274.9	F
Westbound								
L	550	3093	0.73	0.18	59.2	E		
TR	782	4399	0.86	0.18	65.6	E	63.2	E
Northbound								
L	921	3093	0.36	0.30	38.9	D		
T	1360	4567	1.28	0.30	182.3	F	145.1	F
R	424	1425	0.89	0.30	67.0	E		
Southbound								
L	387	1593	0.60	0.24	49.5	D		
TR	1106	4553	1.25	0.24	171.8	F	154.2	F

Intersection Delay = 147.0 (sec/veh) Intersection LOS = F

Analyst: AH Inter.: CL and KV AM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2
 Project ID:
 E/W St: County Line Road N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	727	80	288	594	2	23	54	104	42	326	35
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	14.1	46.7			21.2			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	323	692	0.09	0.47	14.9	B		
TR	770	1648	1.16	0.47	111.2	F	108.2	F
Westbound								
L	297	1593	1.04	0.67	83.0	F		
TR	1119	1675	0.59	0.67	10.0-	A	33.2	C
Northbound								
L	72	316	1.03	0.21	153.4	F		
T	355	1676	0.21	0.21	32.8	C	56.9	E
R	589	1425	0.24	0.41	19.3	B		
Southbound								
L	251	1186	0.37	0.21	34.6	C		
T	355	1676	1.12	0.21	124.1	F	100.1	F
R	302	1425	0.17	0.21	32.5	C		

Intersection Delay = 74.3 (sec/veh) Intersection LOS = E

Analyst: LDK Inter.: CL and KV AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/27/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID:
 E/W St: County Line Road N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	727	80	288	594	2	23	54	104	42	326	35
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	13.9	47.0			21.1			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	325	692	0.09	0.47	14.8	B		
TR	775	1648	1.15	0.47	108.0	F	105.2	F
Westbound								
L	293	1593	1.06	0.67	88.0	F		
TR	1121	1675	0.59	0.67	9.9	A	34.8	C
Northbound								
L	72	318	1.03	0.21	153.4	F		
T	674	3192	0.11	0.21	32.0	C	56.8	E
R	584	1425	0.24	0.41	19.5	B		
Southbound								
L	249	1182	0.37	0.21	34.7	C		
T	354	1676	1.12	0.21	125.3	F	101.1	F
R	301	1425	0.17	0.21	32.5	C		
Intersection Delay = 74.0			(sec/veh)		Intersection LOS = E			

Analyst: AH Inter.: CL and KV PM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2
 Project ID:
 E/W St: County Line Road N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	646	32	135	822	46	213	326	393	26	90	41
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	5.6	56.8			29.6			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	115	222	0.28	0.52	16.3	B		
TR	854	1654	0.90	0.52	37.1	D	36.3	D
Westbound								
L	211	1593	0.71	0.62	28.9	C		
TR	1033	1662	0.95	0.62	36.4	D	35.4	D
Northbound								
L	311	1155	0.87	0.27	60.4	E		
T	451	1676	0.81	0.27	48.4	D	52.1	D
R	534	1425	0.90	0.37	50.2	D		
Southbound								
L	125	464	0.30	0.27	33.4	C		
T	451	1676	0.23	0.27	31.6	C	31.7	C
R	383	1425	0.15	0.27	30.8	C		

Intersection Delay = 41.1 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: CL and KV PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/27/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: ADD: NB Th
 E/W St: County Line Road N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	646	32	135	822	46	213	326	393	26	90	41
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right		A			EB Right			
SB Right					WB Right			
Green	5.6	56.8			29.6			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	115	222	0.28	0.52	16.3	B		
TR	854	1654	0.90	0.52	37.1	D	36.3	D
Westbound								
L	211	1593	0.71	0.62	28.9	C		
TR	1033	1662	0.95	0.62	36.4	D	35.4	D
Northbound								
L	311	1155	0.87	0.27	60.4	E		
T	859	3192	0.43	0.27	33.5	C	47.2	D
R	534	1425	0.90	0.37	50.2	D		
Southbound								
L	212	786	0.18	0.27	31.3	C		
T	451	1676	0.23	0.27	31.6	C	31.3	C
R	383	1425	0.15	0.27	30.8	C		

Intersection Delay = 39.4 (sec/veh) Intersection LOS = D

Analyst: AH Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	152	565	5	79	918	16	21	1445	72	36	1119	459
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.0	22.0				34.0		
Yellow	4.0	4.0				5.0		
All Red	3.0	2.0				2.0		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	1593	1.11	0.40	123.1	F		
TR	875	3181	0.76	0.28	30.5	C	50.9	D
Westbound								
L	198	1593	0.53	0.40	19.4	B		
TR	874	3179	1.20	0.28	129.6	F	119.7	F
Northbound								
L	90	197	0.41	0.43	19.1	B		
T	1357	3192	1.21	0.43	124.6	F	117.6	F
R	606	1425	0.13	0.43	14.1	B		
Southbound								
L	90	197	0.67	0.43	35.7	D		
TR	1294	3045	1.45	0.43	229.4	F	223.4	F

Intersection Delay = 144.0 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	3	1	1	3	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	152	565	5	79	918	16	21	1445	72	36	1119	459
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		4.8	29.5			45.7		
Yellow		4.0	4.0			5.0		
All Red		3.0	2.0			2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	148	1593	1.27	0.40	196.0	F		
TR	938	3181	0.71	0.29	33.9	C	69.7	E
Westbound								
L	200	1593	0.52	0.40	23.2	C		
T	942	3192	1.08	0.29	89.6	F	82.1	F
R	420	1425	0.07	0.29	25.4	C		
Northbound								
L	72	147	0.51	0.46	25.5	C		
T	2087	4567	0.79	0.46	25.1	C	24.7	C
R	651	1425	0.12	0.46	15.7	B		
Southbound								
L	72	147	0.83	0.46	77.7	E		
TR	1991	4357	0.94	0.46	35.6	D	36.9	D

Intersection Delay = 47.2 (sec/veh) Intersection LOS = D

Analyst: AH Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt 2
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	512	1128	20	102	582	16	33	1621	130	43	1506	194
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	6.0	30.0			40.0			
Yellow	4.0	4.0			5.0			
All Red	3.0	3.0			2.0			

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	240	1593	2.45	0.44	701.4	F		
TR	984	3180	1.38	0.31	211.8	F	359.8	F
Westbound								
L	173	1593	0.81	0.44	46.8	D		
TR	981	3172	0.69	0.31	31.4	C	34.1	C
Northbound								
L	74	168	0.70	0.41	49.4	D		
T	1316	3192	1.37	0.41	199.3	F	181.2	F
R	588	1425	0.27	0.41	19.1	B		
Southbound								
L	74	168	0.69	0.41	47.1	D		
TR	1294	3138	1.46	0.41	238.0	F	233.0	F

Intersection Delay = 230.1 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	512	1128	20	102	582	16	33	1621	130	43	1506	194
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	14.2	46.1			58.7			
Yellow	4.0	4.0			5.0			
All Red	3.0	3.0			2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	305	1593	1.93	0.48	480.6	F		
TR	1047	3180	1.30	0.33	188.6	F	276.8	F
Westbound								
L	213	1593	0.66	0.48	40.3	D		
TR	1044	3172	0.65	0.33	41.4	D	41.2	D
Northbound								
L	51	114	1.02	0.42	172.4	F		
T	1915	4567	0.94	0.42	48.8	D	50.3	D
R	597	1425	0.27	0.42	26.8	C		
Southbound								
L	51	114	1.00	0.42	166.7	F		
TR	1883	4490	1.00	0.42	61.5	E	64.3	E

Intersection Delay = 119.0 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: Easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	66	5	135	5	5	5	301	1382	5	5	1955	182
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LT	279	1223	0.28	0.23	36.9	D	38.3	D
R	325	1425	0.46	0.23	39.0	D		

Westbound

LTR	341	1495	0.05	0.23	34.4	C	34.4	C
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Northbound

L	342	1593	1.33	0.66	207.0	F		
TR	2099	3190	0.73	0.66	14.1	B	58.5	E

Southbound

LT	1274	3026	1.60	0.42	308.0	F	278.8	F
R	600	1425	0.39	0.42	23.3	C		

Intersection Delay = 168.7 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East Gate 1 AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: ADD: EB Dble LT lanes, exclsv RT lane
 E/W St: BASE GATE 1 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	1	0	2	2	0	0	3	1
LGConfig	L		R		LTR		L		TR		LT	R
Volume	66		135	0	0	0	301	1382	0	0	1955	182
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	463	2030	0.16	0.23	35.4	D	24.4	C
R	650	1425	0.23	0.46	19.0	B		
Westbound								
LTR	382	1676	0.00	0.23	34.0	C		
Northbound								
L	1288	3093	0.35	0.66	18.1	B		
TR	2100	3192	0.72	0.66	14.0	B	14.9	B
Southbound								
LT	1923	4567	1.06	0.42	71.1	E	66.2	E
R	600	1425	0.39	0.42	23.3	C		
Intersection Delay = 41.5 (sec/veh)					Intersection LOS = D			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: Easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	178	5	319	5	5	5	204	2021	5	5	1497	98
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LT	274	1200	0.74	0.23	51.5	D	94.9	F
R	325	1425	1.09	0.23	119.9	F		

Westbound

LTR	322	1414	0.07	0.23	34.6	C	34.6	C
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Northbound

L	342	1593	1.99	0.66	493.4	F		
TR	2099	3191	1.05	0.66	53.7	D	157.4	F

Southbound

LT	1178	2797	1.42	0.42	225.6	F	188.2	F
R	600	1425	0.65	0.42	28.9	C		

Intersection Delay = 162.1 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East Gate 1 PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: ADD: Dbl LT Lanes, exclsv RT Lane
 E/W St: BASE GATE 1 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	1	0	2	2	0	0	3	1
LGConfig	L		R		LTR		L		TR		LT	R
Volume	178		319	0	0	0	204	2021	0	0	1497	98
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right			
Green	31.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 119.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	507	1948	0.39	0.26	36.7	D	27.4	C
R	683	1425	0.52	0.48	22.2	C		
Westbound								
LTR	437	1676	0.00	0.26	32.5	C		
Northbound								
L	1075	3093	0.63	0.63	18.5	B		
TR	2012	3192	1.09	0.63	72.1	E	59.5	E
Southbound								
LT	1842	4567	0.90	0.40	40.0	D	38.6	D
R	575	1425	0.68	0.40	32.5	C		
Intersection Delay = 48.4 (sec/veh)					Intersection LOS = D			

HCS+: Signalized Intersections Release 5.5

Analyst: AH Inter.: East Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	283	1	122	4	22	0	304	1391	4	0	1491	719
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	19.0				4.0	47.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	255	1206	1.40	0.21	239.2	F		
TR	302	1431	0.52	0.21	33.0	C	176.6	F
Westbound								
LTR	319	1509	0.18	0.21	29.4	C	29.4	C
Northbound								
L	97	185	4.02	0.52	1405	F		
TR	1664	3187	0.98	0.52	38.8	D	302.2	F
Southbound								
L	151	1593	0.00	0.64				
T	2057	3192	0.81	0.64	14.3	B		
R	918	1425	0.91	0.64	26.8	C		
Intersection Delay =			(sec/veh)		Intersection LOS =			

Analyst: LDK Inter.: East Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: ADD: NB Dbl LT lanes; EB Dbl LT lanes, T-R lane, NB / SB Th
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	1	0	1	0	2	3	1	1	3	1
LGConfig	L	T	R	LTR			L	T	R	L	T	R
Volume	283	1	122	4	22	5	304	1391	4	5	1491	719
Lane Width	12.0	12.0	12.0	12.0			12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	19.0				4.0	47.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	492	2331	0.73	0.21	38.5	D		
T	354	1676	0.01	0.21	28.1	C	36.7	D
R	301	1425	0.50	0.21	32.7	C		
Westbound								
LTR	329	1559	0.19	0.21	29.5	C	29.5	C
Northbound								
L	464	888	0.84	0.52	31.3	C		
T	2385	4567	0.68	0.52	16.7	B	19.5	B
R	744	1425	0.02	0.52	10.4	B		
Southbound								
L	158	1593	0.03	0.64	8.3	A		
T	2943	4567	0.56	0.64	9.2	A	15.1	B
R	918	1425	0.91	0.64	26.8	C		
Intersection Delay = 19.2			(sec/veh)		Intersection LOS = B			

Analyst: AH Inter.: East Maple PM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	832	14	268	9	11	0	181	1958	16	0	1500	425
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0				3.0	52.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	280	1233	3.30	0.23	1082	F		
TR	328	1445	1.07	0.23	107.1	F	813.3	F
Westbound								
LTR	236	1042	0.14	0.23	30.2	C	30.2	C
Northbound								
L	74	129	3.45	0.54	1156	F		
TR	1708	3186	1.32	0.54	170.3	F	270.6	F
Southbound								
L	123	1593	0.00	0.64				
T	2040	3192	0.89	0.64	19.7	B		
R	911	1425	0.58	0.64	11.0	B		
Intersection Delay =			(sec/veh)		Intersection LOS =			

Analyst: LDK Inter.: East Maple PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: ADD: NB Dbl LT lanes; EB Dbl LT lanes, T-R lane, NB / SB Th
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	1	0	1	0	2	3	1	1	3	1
LGConfig	L	T	R	LTR			L	T	R	L	T	R
Volume	832	14	268	9	11	5	181	1958	16	5	1500	425
Lane Width	12.0	12.0	12.0	12.0			12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	31.6	4.0			44.3	44.1		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	652	3093	1.42	0.21	255.9	F		
T	353	1676	0.08	0.21	47.6	D	220.2	F
R	300	1425	1.08	0.21	133.1	F		
Westbound								
LTR	43	1619	0.88	0.03	166.2	F	166.2	F
Northbound								
L	909	3093	0.28	0.29	40.9	D		
T	1343	4567	1.66	0.29	351.8	F	316.7	F
R	419	1425	0.07	0.29	38.2	D		
Southbound								
L	470	1593	0.01	0.30	37.4	D		
T	1349	4567	1.34	0.30	210.7	F	205.3	F
R	421	1425	1.26	0.30	188.3	F		

Intersection Delay = 253.5 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.:
 Agency: TQC Area Type: All other areas
 Date: 9/26/2013 Jurisd: PennDOT
 Period: AM PEAK HOUR Year : Build Alt 2 - Mitigation
 Project ID:
 E/W St: Access/W Moreland N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	45	60	45	5	54	98	136	1609	6	82	1871	81
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.7				11.3	84.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				0.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	124	912	0.40	0.14	53.3	D		
TR	237	1743	0.48	0.14	53.4	D	53.4	D
Westbound								
L	168	1231	0.03	0.14	48.8	D		
TR	229	1683	0.72	0.14	64.7	E	64.2	E
Northbound								
L	211	1770	0.70	0.78	50.2	D		
TR	2291	3545	0.77	0.65	17.7	B	20.3	C
Southbound								
L	234	1770	0.38	0.78	18.3	B		
T	2292	3547	0.89	0.65	23.8	C	22.9	C
R	1023	1583	0.09	0.65	8.7	A		
Intersection Delay = 24.5			(sec/veh)		Intersection LOS = C			

Analyst: LDK Inter.:
 Agency: TQC Area Type: All other areas
 Date: 9/26/2013 Jurisd: PennDOT
 Period: PM PEAK HOUR Year : Build Alt 2 - Mitigation
 Project ID:
 E/W St: Access Rd/W Moreland Rd N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	95	127	95	5	22	90	110	1950	9	140	1608	88
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.1				3.9	79.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				3.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	175	1229	0.59	0.14	53.3	D		
TR	248	1743	0.97	0.14	100.3	F	86.2	F
Westbound								
L	78	544	0.06	0.14	44.9	D		
TR	233	1638	0.52	0.14	49.8	D	49.6	D
Northbound								
L	147	1770	0.82	0.74	47.7	D		
TR	2333	3544	0.91	0.66	23.6	C	24.9	C
Southbound								
L	120	1770	1.27	0.74	206.5	F		
T	2335	3547	0.75	0.66	15.2	B	29.4	C
R	1042	1583	0.09	0.66	7.5	A		
Intersection Delay = 31.9			(sec/veh)		Intersection LOS = C			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-Mitigation
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	1
LGConfig	L		R		T		L	T			T	R
Volume	70		95		16		33	1020			1895	28
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	16.0	6.1			77.9	4.0		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	151	1230	0.74	0.12	71.9	E	58.1	E
R	296	1425	0.41	0.21	45.6	D		
Westbound								
T	362	1676	0.10	0.22	40.9	D	40.9	D
Northbound								
L	193	1593	0.24	0.68	28.0	C		
T	2183	3192	0.56	0.68	10.8	B	11.4	B
Southbound								
T	2737	4567	0.74	0.60	19.8	B	19.5	B
R	1425	1425	0.02	1.00	0.0+	A		
Intersection Delay = 19.4			(sec/veh)		Intersection LOS = B			

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-Mitigation
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	1
LGConfig	L		R		T		L	T			T	R
Volume	120		168		66		136	1150			2915	148
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	13.9	4.0			102.5	3.6		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	85	919	1.66	0.09	410.7	F	221.1	F
R	233	1425	0.81	0.16	79.6	E		
Westbound								
T	267	1676	0.26	0.16	55.8	E	55.8	E
Northbound								
L	161	1593	1.04	0.75	146.8	F		
T	2407	3192	0.56	0.75	8.2	A	23.5	C
Southbound								
T	3121	4567	0.97	0.68	33.0	C	31.4	C
R	1425	1425	0.11	1.00	0.0+	A		
Intersection Delay = 41.6			(sec/veh)		Intersection LOS = D			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	2	1
LGConfig	L		R		T		L	T			T	R
Volume	70		95		16		33	1020			1895	28
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	22.0	21.0			56.0	14.0		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 139.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	195	1230	0.57	0.16	58.0	E	46.8	D
R	441	1425	0.28	0.31	36.6	D		
Westbound								
T	591	1676	0.06	0.35	29.8	C	29.8	C
Northbound								
L	293	1593	0.16	0.55	48.4	D		
T	1768	3192	0.69	0.55	23.4	C	24.4	C
Southbound								
T	1286	3192	1.57	0.40	300.8	F	296.3	F
R	1425	1425	0.02	1.00	0.0+	A		
Intersection Delay = 181.5 (sec/veh) Intersection LOS = F								

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	2	1
LGConfig	L		R		T		L	T			T	R
Volume	120		168		66		136	1150			2915	148
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	22.0	7.0			56.0	14.0		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 125.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	203	1151	0.69	0.18	58.2	E	42.9	D
R	490	1425	0.39	0.34	31.5	C		
Westbound								
T	469	1676	0.15	0.28	33.9	C	33.9	C
Northbound								
L	326	1593	0.52	0.62	46.0	D		
T	1966	3192	0.69	0.62	17.0	B	20.2	C
Southbound								
T	1430	3192	2.12	0.45	542.3	F	514.9	F
R	1425	1425	0.11	1.00	0.0+	A		
Intersection Delay = 331.0 (sec/veh)					Intersection LOS = F			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	337	568	653	206	1337	0	167	396	45	6	1108	65
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru			A		Thru		A	
Right				A	Right			A
Peds					Peds			
WB Left		A			SB Left	A		A
Thru			A		Thru		A	A
Right				A	Right		A	A
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right	A		
Green		15.0	48.0			10.0	25.0	10.0
Yellow		5.0	5.0			4.0	4.0	4.0
All Red		2.0	2.0			2.0	2.0	2.0

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	222	1593	1.85	0.50	445.4	F		
TR	1008	2941	1.30	0.34	188.6	F	249.9	F
Westbound								
L	222	1593	1.14	0.50	150.2	F		
TR	1094	3192	1.37	0.34	219.7	F	209.6	F
Northbound								
L	165	1593	1.22	0.29	184.7	F		
T	570	3192	0.85	0.18	67.1	E	97.7	F
R	254	1425	0.22	0.18	49.7	D		
Southbound								
L	365	1593	0.03	0.41	26.1	C		
T	935	3192	1.33	0.29	206.1	F	194.6	F
R	417	1425	0.19	0.29	37.3	D		

Intersection Delay = 203.6 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/24/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-Mitigation
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	1	3	0	2	3	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	337	568	653	206	1337	0	167	396	45	6	1108	65
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru			A		Thru		A	
Right				A	Right			A
Peds					Peds			
WB Left		A			SB Left	A		A
Thru			A		Thru		A	A
Right				A	Right		A	A
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0	48.0			10.0	25.0	10.0
Yellow		5.0	5.0			4.0	4.0	4.0
All Red		2.0	2.0			2.0	2.0	2.0

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	222	1593	1.85	0.50	444.3	F		
TR	1443	4208	0.91	0.34	52.7	D	146.1	F
Westbound								
L	222	1593	1.14	0.50	147.1	F		
TR	1566	4567	0.96	0.34	59.3	E	72.0	E
Northbound								
L	654	3093	0.31	0.29	40.3	D		
T	816	4567	0.59	0.18	54.0	D	49.9	D
R	254	1425	0.22	0.18	49.7	D		
Southbound								
L	399	1593	0.03	0.41	25.4	C		
T	935	3192	1.33	0.29	206.1	F	194.6	F
R	417	1425	0.19	0.29	37.3	D		

Intersection Delay = 121.5 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	412	1470	276	99	935	0	596	1531	191	68	446	103
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A	A	NB Left	A	A	A
Thru			A	A	Thru	A	A	
Right			A	A	Right	A	A	
Peds					Peds			
WB Left		A		A	SB Left		A	A
Thru				A	Thru		A	
Right				A	Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0	15.0	32.0		10.0	25.0	10.0
Yellow		5.0	5.0	5.0		4.0	4.0	4.0
All Red		2.0	2.0	2.0		2.0	2.0	2.0

Cycle Length: 146.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	453	1593	1.00	0.52	87.7	F		
TR	1152	3114	1.79	0.37	406.5	F	349.2	F
Westbound								
L	213	1593	0.53	0.32	41.5	D		
TR	700	3192	1.48	0.22	282.5	F	258.9	F
Northbound								
L	343	1593	2.00	0.39	500.6	F		
T	896	3192	1.90	0.28	461.0	F	437.8	F
R	400	1425	0.52	0.28	45.6	D		
Southbound								
L	224	1593	0.36	0.28	58.1	E		
T	547	3192	0.90	0.17	76.5	E	70.9	E
R	244	1425	0.52	0.17	56.9	E		

Intersection Delay = 339.5 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: Hors Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/21/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: Add: NB LT+Th; EB Th; WB Th
 E/W St: HORSHAM RD N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	1	3	0	2	3	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	412	1470	276	99	935	0	596	1531	191	68	446	103
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A	A	NB Left	A	A	A
Thru			A	A	Thru	A	A	
Right			A	A	Right	A	A	
Peds					Peds			
WB Left		A		A	SB Left		A	A
Thru				A	Thru		A	
Right				A	Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0	15.0	32.0		10.0	25.0	10.0
Yellow		5.0	5.0	5.0		4.0	4.0	4.0
All Red		2.0	2.0	2.0		2.0	2.0	2.0

Cycle Length: 146.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	453	1593	1.00	0.52	87.5	F		
TR	1648	4455	1.25	0.37	165.3	F	151.3	F
Westbound								
L	213	1593	0.53	0.32	41.5	D		
TR	1001	4567	1.04	0.22	95.8	F	90.4	F
Northbound								
L	788	3093	0.87	0.39	46.9	D		
T	1283	4567	1.33	0.28	204.6	F	150.1	F
R	400	1425	0.52	0.28	45.6	D		
Southbound								
L	224	1593	0.36	0.28	58.1	E		
T	547	3192	0.90	0.17	76.5	E	70.9	E
R	244	1425	0.52	0.17	56.9	E		

Intersection Delay = 132.8 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				105		604		2459	26	499	1360	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	21.5				13.3	45.2		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	342	1593	0.36	0.22	34.1	C	85.4	F
R	581	1425	1.09	0.41	95.4	F		

Northbound

TR	1440	3186	1.84	0.45	407.9	F	407.9	F
----	------	------	------	------	-------	---	-------	---

Southbound

L	284	1593	2.12	0.65	547.4	F		
T	2091	3192	0.71	0.65	12.4	B	165.8	F

Intersection Delay = 271.2 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	3	0	2	3	0
LGConfig				L		R		TR		L	T	
Volume				105		604	2459	26		499	1360	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	12.9				28.0	89.1		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	137	1593	0.91	0.09	117.4	F	233.3	F
R	446	1425	1.43	0.31	255.9	F		

Northbound

TR	2707	4558	0.98	0.59	42.2	D	42.2	D
----	------	------	------	------	------	---	------	---

Southbound

L	1441	3093	0.42	0.83	22.2	C		
T	3778	4567	0.40	0.83	3.4	A	8.8	A

Intersection Delay = 55.9 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				35		387		2473	42	1196	2078	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	4.0					47.6	78.4	
Yellow	3.0					5.0	5.0	
All Red	3.0					2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	42	1593	1.43	0.03	361.4	F	89.6	F
R	547	1425	0.85	0.38	54.6	D		

Northbound

TR	1663	3182	1.69	0.52	347.2	F	347.2	F
----	------	------	------	------	-------	---	-------	---

Southbound

L	554	1593	2.35	0.89	659.4	F		
T	2830	3192	0.77	0.89	4.4	A	248.6	F

Intersection Delay = 276.9 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors East 611 PM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2 - Mitigation
 Project ID: SB +1LT + 1Th; NB +1Th; EB two accepting lanes
 E/W St: HORSHAM RD N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	3	0	2	3	0
LGConfig				L		R		TR		L	T	
Volume				35		387	2473	42		1196	2078	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	4.5				40.4	85.1		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	48	1593	1.25	0.03	284.7	F	103.4	F
R	484	1425	0.96	0.34	80.1	F		

Northbound

TR	2583	4553	1.09	0.57	78.4	E	78.4	E
----	------	------	------	------	------	---	------	---

Southbound

L	1818	3093	0.72	0.88	29.4	C		
T	4034	4567	0.54	0.88	2.1	A	12.3	B

Intersection Delay = 46.5 (sec/veh) Intersection LOS = D

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R	LTR			L	TR	
Volume	99	1492	5	2	798	68	0	0	1	268	2	117
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol			0			0	0					0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	52.0				25.0			
Yellow	5.0				3.0			
All Red	2.0				3.0			
								Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	179	309	0.79	0.58	35.3	D		
TR	968	1675	1.80	0.58	384.3	F	358.2	F
Westbound								
L	80	129	0.05	0.58	8.5	A		
T	968	1676	0.85	0.58	23.1	C	20.6	C
R	823	1425	0.21	0.58	9.2	A		
Northbound								
LTR	403	1450	0.01	0.28	23.5	C	23.5	C
Southbound								
L	352	1266	0.94	0.28	64.6	E		
TR	399	1438	0.40	0.28	27.1	C	52.4	D

Intersection Delay = 213.8 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: Hors KV AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/24/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: Add: EB Th + R Lane; WB Th Lane
 E/W St: HORSHAM RD N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	1	1	2	1	0	1	0	1	1	0
LGConfig	L	T	R	L	T	R	LTR			L	TR	
Volume	99	1492	5	2	798	68	0	0	1	268	2	117
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	53.1				33.9			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	260	489	0.54	0.53	17.8	B		
T	1695	3192	1.02	0.53	51.5	D	48.8	D
R	757	1425	0.01	0.53	11.1	B		
Westbound								
L	72	126	0.06	0.53	11.7	B		
T	1695	3192	0.49	0.53	15.0	B	14.6	B
R	757	1425	0.22	0.53	12.6	B		
Northbound								
LTR	492	1450	0.01	0.34	21.9	C	21.9	C
Southbound								
L	429	1266	0.77	0.34	38.0	D		
TR	487	1438	0.33	0.34	25.0	C	33.8	C

Intersection Delay = 36.5 (sec/veh) Intersection LOS = D

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R	LTR			L	TR	
Volume	179	1153	0	1	1790	205	1	0	1	95	0	57
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol			0			0	0					0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	52.0				7.0			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 72.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	100	129	2.42	0.72	678.3	F		
TR	1210	1676	1.08	0.72	61.3	E	157.5	F
Westbound								
L	100	129	0.04	0.72	3.0	A		
T	1210	1676	1.59	0.72	279.9	F	244.2	F
R	1029	1425	0.27	0.72	3.6	A		
Northbound								
LTR	119	1227	0.07	0.10	29.8	C	29.8	C
Southbound								
L	123	1261	1.03	0.10	122.6	F		
TR	139	1425	0.56	0.10	36.1	D	89.7	F

Intersection Delay = 202.0 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: Hors KV PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: Add: EB Th + R Lane; WB Th Lane
 E/W St: HORSHAM RD N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	1	1	2	1	0	1	0	1	1	0
LGConfig	L	T	R	L	T	R	LTR			L	TR	
Volume	179	1153	0	1	1790	205	1	0	1	95	0	57
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
WB Left			A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		9.1	60.6			12.3		
Yellow		5.0	5.0			3.0		
All Red		0.0	2.0			3.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	217	1593	1.12	0.77	129.8	F		
T	2384	3192	0.55	0.75	5.7	A	25.1	C
R	1064	1425	0.00	0.75	3.2	A		
Westbound								
L	214	353	0.02	0.61	7.9	A		
T	1934	3192	1.00	0.61	38.9	D	35.1	D
R	864	1425	0.33	0.61	9.9	A		
Northbound								
LTR	167	1360	0.05	0.12	38.8	D	38.8	D
Southbound								
L	155	1261	0.82	0.12	70.9	E		
TR	175	1425	0.45	0.12	42.5	D	60.1	E

Intersection Delay = 32.5 (sec/veh) Intersection LOS = C

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	379	1270	26	7	1572	122	69	43	13	290	54	687
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.1	44.1			33.8			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	72	152	5.85	0.44	2239	F		
TR	1402	3180	1.04	0.44	64.6	E	550.0	F
Westbound								
L	137	1593	0.13	0.54	20.0-	B		
TR	1707	3149	1.07	0.54	68.0	E	67.5	E
Northbound								
LTR	216	640	0.83	0.34	54.0	D	54.0	D
Southbound								
LT	369	1091	1.15	0.34	126.0	F	252.9	F
R	482	1425	1.62	0.34	321.7	F		
Intersection Delay = 288.2 (sec/veh)					Intersection LOS = F			

Analyst: LDK
 Agency: TQC
 Date: 9/24/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-Mitigation
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	0	1	1	0	0	1	2
LGConfig	L	TR		L	TR		L	TR		LT	R	
Volume	379	1270	26	7	1572	122	69	43	13	290	54	687
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.1	44.1			33.8			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	687	1558	0.61	0.44	23.0	C		
TR	1402	3180	1.04	0.44	64.6	E	55.3	E
Westbound								
L	137	1593	0.13	0.54	20.0-	B		
TR	1707	3149	1.07	0.54	68.0	E	67.5	E
Northbound								
L	168	498	0.50	0.34	28.7	C		
TR	550	1627	0.17	0.34	23.4	C	25.9	C
Southbound								
LT	399	1179	1.06	0.34	95.0	F	63.4	E
R	852	2522	0.92	0.34	46.3	D		
Intersection Delay = 60.6			(sec/veh)		Intersection LOS = E			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR		LTR			LT R		
Volume	689	2001	33	16	1455	197	119	118	12	139	68	476
Lane Width	12.0	12.0		12.0	12.0		12.0			12.0 12.0		
RTOR Vol			0			0	0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.5	57.2			20.3			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	81	141	9.25	0.57	3757	F		
TR	1820	3182	1.16	0.57	98.5	F	1059	F
Westbound								
L	144	1593	0.16	0.68	23.6	C		
TR	2115	3124	0.85	0.68	16.0	B	16.0	B
Northbound								
LTR	98	481	3.78	0.20	1313	F	1313	F
Southbound								
LT	193	952	1.41	0.20	251.9	F	354.5	F
R	289	1425	1.79	0.20	408.5	F		
Intersection Delay = 653.5 (sec/veh)					Intersection LOS = F			

Analyst: LDK Inter.: Hors Map PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/21/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: EB-Double L; NB-L & TR; SB-Double R
 E/W St: HORSHAM RD N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	0	1	1	0	0	1	2
LGConfig	L	TR		L	TR		L	TR			LT	R
Volume	689	2001	33	16	1455	197	119	118	12	139	68	476
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.5	57.2			20.3			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	541	946	1.38	0.57	205.7	F		
TR	1820	3182	1.16	0.57	98.5	F	126.7	F
Westbound								
L	144	1593	0.16	0.68	23.6	C		
TR	2115	3124	0.85	0.68	16.0	B	16.0	B
Northbound								
L	120	592	1.46	0.20	286.1	F		
TR	335	1652	0.58	0.20	38.6	D	155.6	F
Southbound								
LT	188	926	1.45	0.20	268.2	F	146.2	F
R	512	2522	1.01	0.20	82.1	F		
Intersection Delay = 96.5			(sec/veh)		Intersection LOS = F			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Nor AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	163	1080	127	570	1511	181	210	18	512	60	20	121
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	25.0	43.2			33.8			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	87	241	2.03	0.36	541.6	F		
TR	1127	3130	1.24	0.36	152.0	F	196.0	F
Westbound								
L	392	1593	1.67	0.62	352.0	F		
T	1974	3192	0.81	0.62	20.3	C	107.9	F
R	881	1425	0.22	0.62	10.3	B		
Northbound								
L	351	1246	0.85	0.28	59.0	E		
T	472	1676	0.04	0.28	31.4	C	203.6	F
R	401	1425	1.50	0.28	281.4	F		
Southbound								
L	352	1248	0.18	0.28	32.9	C		
T	472	1676	0.05	0.28	31.4	C	33.8	C
R	401	1425	0.33	0.28	34.6	C		

Intersection Delay = 148.6 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: Hors Nor AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: Add: WB-Double L; NB R; EB-L & R; SB-L, T, R
 E/W St: HORSHAM RD N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	1	2	2	1	1	1	1	1	1	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	163	1080	127	570	1511	181	210	18	512	60	20	121
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right		A			EB Right			
SB Right			A		WB Right			
Green		66.9	45.2			19.9		
Yellow		4.0	4.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	932	3093	0.19	0.30	38.9	D		
T	962	3192	1.26	0.30	178.2	F	147.0	F
R	429	1425	0.42	0.30	42.5	D		
Westbound								
L	1379	3093	0.47	0.45	29.5	C		
T	1424	3192	1.13	0.45	108.9	F	81.2	F
R	636	1425	0.31	0.45	27.0	C		
Northbound								
L	165	1246	1.82	0.13	456.1	F		
T	222	1676	0.09	0.13	57.3	E	163.4	F
R	882	1425	0.68	0.62	21.1	C		
Southbound								
L	166	1248	0.39	0.13	61.0	E		
T	222	1676	0.10	0.13	57.4	E	37.8	D
R	675	1425	0.20	0.47	23.0	C		

Intersection Delay = 114.0 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Norr PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	147	1818	85	513	1342	133	186	15	673	127	42	254
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	35.2	59.3			37.5			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	114	289	1.40	0.40	271.1	F		
TR	1253	3170	1.60	0.40	320.3	F	316.6	F
Westbound								
L	422	1593	1.32	0.67	211.0	F		
T	2139	3192	0.71	0.67	16.6	B	65.1	E
R	955	1425	0.15	0.67	9.2	A		
Northbound								
L	305	1219	0.72	0.25	59.8	E		
T	419	1676	0.04	0.25	42.6	D	431.7	F
R	356	1425	2.08	0.25	551.2	F		
Southbound								
L	313	1252	0.44	0.25	48.4	D		
T	419	1676	0.11	0.25	43.5	D	56.4	E
R	356	1425	0.78	0.25	62.6	E		

Intersection Delay = 219.8 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: Hors Norr PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/22/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2-Mitigation
 Project ID: Add: WB-Double L; NB R; EB-L & R; SB-L, T, R
 E/W St: HORSHAM RD N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	1	2	2	1	1	1	1	1	1	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	147	1818	85	513	1342	133	186	15	673	127	42	254
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			250			80

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right		A			WB Right			
Green	51.2	58.0			22.8			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	1196	3093	0.13	0.39	29.8	C		
T	1234	3192	1.55	0.39	298.0	F	266.6	F
R	551	1425	0.17	0.39	30.4	C		
Westbound								
L	1056	3093	0.53	0.34	40.2	D		
T	1090	3192	1.38	0.34	227.7	F	167.9	F
R	486	1425	0.30	0.34	36.6	D		
Northbound								
L	185	1219	1.19	0.15	191.9	F		
T	255	1676	0.06	0.15	54.6	D	78.7	E
R	760	1425	0.61	0.53	25.7	C		
Southbound								
L	190	1252	0.73	0.15	73.7	E		
T	255	1676	0.18	0.15	55.8	E	42.0	D
R	825	1425	0.23	0.58	15.5	B		

Intersection Delay = 187.0 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			626				1565	1559			1254	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						56.0	33.0	3.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
Cycle Length: 113.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	960	2522	0.71	0.38	32.1	C	32.1	C
---	-----	------	------	------	------	---	------	---

Westbound

Northbound

L	1177	3093	1.55	0.38	285.1	F		
T	2712	3192	0.60	0.85	3.0	A	152.1	F

Southbound

TR	1578	3184	1.01	0.50	53.7	D	53.7	D
----	------	------	------	------	------	---	------	---

Intersection Delay = 110.4 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Hors 463 AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/27/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2 - Mitigation
 Project ID:
 E/W St: HORSHAM RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	3	0	0	0	2	3	0	0	3	0
LGConfig			R				L	T			TR	
Volume			626				1565	1559			1254	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						51.4	63.2	4.4
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
Cycle Length: 140.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	2069	3882	0.33	0.53	18.6	B	18.6	B
---	------	------	------	------	------	---	------	---

Northbound

L	1648	3093	1.10	0.53	89.3	F		
T	3967	4567	0.41	0.87	1.9	A	48.1	D

Southbound

TR	1672	4555	0.95	0.37	55.8	E	55.8	E
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Intersection Delay = 46.7 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			1829				1009	1800			1555	16
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left		A	A
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right		A	A
SB Right					WB Right			
Green						28.8	34.2	6.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
Cycle Length: 90.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	1323	2522	1.59	0.52	290.0	F	290.0	F
---	------	------	------	------	-------	---	-------	---

Westbound

Northbound

L	1622	3093	0.68	0.52	16.9	B		
T	2483	3192	0.76	0.78	6.9	A	10.6	B

Southbound

TR	1020	3187	1.71	0.32	355.1	F	355.1	F
----	------	------	------	------	-------	---	-------	---

Intersection Delay = 184.4 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East Hors 463 PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/21/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2 - Mitigation
 Project ID: Add 3rd EB RT lane; Add 3rd SB Th lane; widen SB departure
 E/W St: HORSHAM RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	3	0	0	0	2	2	0	0	3	0
LGConfig			R				L	T			TR	
Volume			1829				1009	1800			1555	16
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						53.2	61.0	4.8
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
Cycle Length: 140.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c g/C		Lane Group Delay LOS		Approach Delay LOS	
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Eastbound

R	2019	3882	1.04	0.52	65.3	E	65.3	E
---	------	------	------	------	------	---	------	---

Northbound

L	1608	3093	0.68	0.52	26.2	C		
T	2763	3192	0.69	0.87	3.8	A	12.0	B

Southbound

TR	1733	4560	1.01	0.38	66.9	E	66.9	E
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Intersection Delay = 42.4 (sec/veh) Intersection LOS = D

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	163	1253	129	154	1411	181	33	18	20	60	20	121
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	52.0			12.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 91.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	147	258	1.20	0.57	158.9	F		
TR	1799	3148	0.90	0.57	24.1	C	37.3	D
Westbound								
L	202	1593	1.12	0.73	126.2	F		
T	2315	3192	0.69	0.73	7.8	A	20.6	C
R	1034	1425	0.19	0.73	4.1	A		
Northbound								
L	164	1246	0.26	0.13	36.3	D		
T	221	1676	0.09	0.13	34.9	C	35.8	D
R	188	1425	0.18	0.13	35.6	D		
Southbound								
L	165	1248	0.39	0.13	37.7	D		
T	221	1676	0.10	0.13	34.9	C	44.2	D
R	188	1425	0.70	0.13	48.9	D		
Intersection Delay = 29.5			(sec/veh)		Intersection LOS = C			

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: AM PEAK HOUR
 Project ID: ADD: EB L + Th Lane
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-Mitigation
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	3	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	163	1253	129	154	1411	181	33	18	20	60	20	121
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		9.7	40.8			9.5		
Yellow		5.0	5.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	475	932	0.37	0.51	12.4	B		
TR	2297	4503	0.71	0.51	16.0	B	15.7	B
Westbound								
L	283	1593	0.80	0.72	33.8	C		
T	2294	3192	0.70	0.72	7.3	A	9.9	A
R	1024	1425	0.19	0.72	3.8	A		
Northbound								
L	148	1246	0.28	0.12	33.2	C		
T	199	1676	0.10	0.12	31.7	C	32.6	C
R	169	1425	0.20	0.12	32.4	C		
Southbound								
L	148	1248	0.44	0.12	34.9	C		
T	199	1676	0.11	0.12	31.7	C	46.6	D
R	169	1425	0.78	0.12	54.9	D		
Intersection Delay = 14.9			(sec/veh)		Intersection LOS = B			

HCS+: Signalized Intersections Release 5.5

Analyst: AH Inter.: Hors Priv
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2
 Project ID:
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	147	1508	55	47	1526	133	196	15	262	212	21	191
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	45.0			25.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	81	175	1.98	0.46	506.0	F		
TR	1472	3172	1.20	0.46	123.6	F	155.3	F
Westbound								
L	189	1593	0.32	0.61	21.1	C		
T	1942	3192	0.85	0.61	19.0	B	18.2	B
R	867	1425	0.17	0.61	8.4	A		
Northbound								
L	321	1244	0.70	0.26	39.3	D		
T	432	1676	0.04	0.26	27.0	C	97.6	F
R	367	1425	1.15	0.26	131.3	F		
Southbound								
L	323	1252	0.71	0.26	39.9	D		
T	432	1676	0.05	0.26	27.1	C	36.3	D
R	367	1425	0.57	0.26	33.4	C		
Intersection Delay = 84.6			(sec/veh)		Intersection LOS = F			

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: PM PEAK HOUR
 Project ID: ADD EB Dbl L + Th
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	3	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	147	1508	55	47	1526	133	196	15	262	212	21	191
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		3.0	41.0			26.0		
Yellow		5.0	5.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	536	1176	0.30	0.46	15.8	B		
TR	2067	4538	0.86	0.46	25.6	C	24.8	C
Westbound								
L	133	1593	0.46	0.57	16.5	B		
T	1809	3192	0.91	0.57	24.5	C	23.1	C
R	807	1425	0.18	0.57	9.5	A		
Northbound								
L	359	1244	0.63	0.29	31.2	C		
T	484	1676	0.03	0.29	23.0	C	64.2	E
R	412	1425	1.03	0.29	83.3	F		
Southbound								
L	362	1252	0.64	0.29	31.5	C		
T	484	1676	0.05	0.29	23.1	C	29.4	C
R	412	1425	0.50	0.29	27.7	C		
Intersection Delay = 29.9			(sec/veh)		Intersection LOS = C			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	12	338	94	346	412	130	180	926	131	103	1487	14
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A	A		SB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	8.4	20.9			4.0	50.7		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	187	1593	0.13	0.32	28.4	C		
TR	585	3081	0.86	0.19	56.0	E	54.8	D
Westbound								
L	203	1593	2.31	0.32	644.4	F		
TR	586	3082	1.18	0.19	144.0	F	345.5	F
Northbound								
L	123	1593	1.68	0.56	366.4	F		
TR	1442	3129	0.86	0.46	31.9	C	79.8	E
Southbound								
L	141	1593	1.09	0.56	141.9	F		
TR	1467	3182	1.08	0.46	77.4	E	83.1	F

Intersection Delay = 141.6 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	3	0	2	2	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	12	338	94	346	412	130	180	926	131	103	1487	14
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	6.1	16.2			4.1	37.6		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	188	1593	0.13	0.31	22.6	C		
TR	793	4408	0.64	0.18	35.9	D	35.3	D
Westbound								
L	508	3093	0.92	0.31	54.7	D		
TR	794	4410	0.87	0.18	46.6	D	49.8	D
Northbound								
L	737	3093	0.28	0.54	14.1	B		
T	1334	3192	0.81	0.42	26.8	C	23.9	C
R	595	1425	0.27	0.42	17.5	B		
Southbound								
L	175	1593	0.88	0.54	64.8	E		
TR	1902	4552	0.83	0.42	26.7	C	30.1	C

Intersection Delay = 33.5 (sec/veh) Intersection LOS = C

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	12	340	102	169	402	132	230	1510	274	173	1183	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A	A		SB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		5.0	29.0			9.0	62.0	
Yellow		4.0	4.0			5.0	5.0	
All Red		2.0	2.0			2.0	2.0	

Cycle Length: 131.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	116	1593	0.25	0.31	35.8	D		
TR	682	3079	0.91	0.22	65.5	E	64.2	E
Westbound								
L	128	1593	2.45	0.31	725.1	F		
TR	681	3075	0.99	0.22	82.7	F	286.4	F
Northbound								
L	176	1593	1.89	0.60	456.1	F		
TR	1474	3115	1.37	0.47	206.5	F	241.8	F
Southbound								
L	164	1593	1.41	0.60	258.6	F		
TR	1506	3182	0.88	0.47	37.6	D	70.4	E

Intersection Delay = 180.9 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: PM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	2	0	2	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	12	340	102	169	402	132	230	1510	274	173	1183	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.7	25.2			9.6	44.5		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	133	1593	0.22	0.33	28.3	C		
TR	1009	4405	0.61	0.23	39.1	D	38.6	D
Westbound								
L	405	3093	0.77	0.33	46.8	D		
TR	704	3075	0.96	0.23	65.8	E	59.7	E
Northbound								
L	709	3093	0.47	0.56	16.0	B		
T	1848	4567	0.92	0.40	38.9	D	34.0	C
R	576	1425	0.57	0.40	26.6	C		
Southbound								
L	204	1593	1.13	0.56	134.9	F		
TR	1842	4553	0.72	0.40	28.9	C	44.6	D

Intersection Delay = 42.1 (sec/veh) Intersection LOS = D

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: County Line Road

Inter.: CL and KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	727	60	284	594	2	10	41	91	42	310	35
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	25.0	56.0			25.0			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 124.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	313	692	0.09	0.45	19.6	B		
TR	747	1655	1.16	0.45	119.7	F	116.6	F
Westbound								
L	379	1593	0.80	0.70	50.3	D		
TR	1175	1675	0.57	0.70	9.8	A	22.5	C
Northbound								
L	58	268	0.55	0.20	55.4	E		
T	338	1676	0.17	0.20	41.2	D	31.4	C
R	644	1425	0.19	0.45	20.6	C		
Southbound								
L	243	1206	0.38	0.20	43.8	D		
T	338	1676	1.12	0.20	134.3	F	109.1	F
R	287	1425	0.18	0.20	41.3	D		

Intersection Delay = 73.0 (sec/veh) Intersection LOS = E

Analyst: LDK Inter.: CL and KV AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/27/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3-Mitigation
 Project ID:
 E/W St: County Line Road N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	727	60	284	594	2	10	41	91	42	310	35
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	19.5	78.8			33.7			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	364	692	0.08	0.53	17.7	B		
TR	869	1655	1.00	0.53	64.8	E	63.3	E
Westbound								
L	279	1593	1.09	0.70	129.5	F		
TR	1165	1675	0.57	0.70	12.2	B	49.1	D
Northbound								
L	53	235	0.60	0.22	70.1	E		
T	717	3192	0.08	0.22	46.0	D	40.5	D
R	562	1425	0.22	0.39	30.3	C		
Southbound								
L	270	1203	0.34	0.22	49.6	D		
T	377	1676	1.00	0.22	105.2	F	89.6	F
R	320	1425	0.16	0.22	47.0	D		
Intersection Delay = 61.4			(sec/veh)		Intersection LOS = E			

Analyst: AH Inter.: CL and KV PM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3
 Project ID:
 E/W St: County Line Road N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	646	15	132	822	46	194	307	374	26	76	41
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	15.0	47.0			25.0			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 105.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	145	325	0.22	0.45	18.5	B		
TR	745	1665	0.99	0.45	58.2	E	56.6	E
Westbound								
L	308	1593	0.48	0.65	18.2	B		
TR	1076	1662	0.91	0.65	27.5	C	26.3	C
Northbound								
L	279	1173	0.88	0.24	64.8	E		
T	399	1676	0.86	0.24	56.0	E	46.2	D
R	624	1425	0.73	0.44	28.8	C		
Southbound								
L	106	447	0.36	0.24	35.4	D		
T	399	1676	0.22	0.24	32.4	C	32.9	C
R	339	1425	0.17	0.24	32.0	C		
Intersection Delay = 40.8 (sec/veh)					Intersection LOS = D			

Analyst: LDK Inter.: CL and KV PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/27/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-Mitigation
 Project ID:
 E/W St: County Line Road N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	22	646	15	132	822	46	194	307	374	26	76	41
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	8.1	57.5			26.4			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	148	283	0.22	0.52	14.9	B		
TR	870	1665	0.84	0.52	30.1	C	29.5	C
Westbound								
L	277	1593	0.53	0.65	17.1	B		
TR	1082	1662	0.91	0.65	27.3	C	26.0	C
Northbound								
L	282	1173	0.87	0.24	64.7	E		
T	766	3192	0.45	0.24	36.0	D	47.4	D
R	525	1425	0.87	0.37	46.7	D		
Southbound								
L	191	797	0.20	0.24	33.9	C		
T	402	1676	0.22	0.24	33.8	C	33.7	C
R	342	1425	0.16	0.24	33.3	C		
Intersection Delay = 34.5 (sec/veh)					Intersection LOS = C			

Analyst: AH Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	152	565	5	79	918	16	21	1326	72	36	968	459
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.0	22.0				34.0		
Yellow	4.0	4.0				5.0		
All Red	3.0	2.0				2.0		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	1593	1.11	0.40	123.1	F		
TR	875	3181	0.76	0.28	30.5	C	50.9	D
Westbound								
L	198	1593	0.53	0.40	19.4	B		
TR	874	3179	1.20	0.28	129.6	F	119.7	F
Northbound								
L	90	197	0.41	0.43	19.1	B		
T	1357	3192	1.11	0.43	83.7	F	78.9	E
R	606	1425	0.13	0.43	14.1	B		
Southbound								
L	90	197	0.67	0.43	35.7	D		
TR	1288	3030	1.32	0.43	172.5	F	167.8	F

Intersection Delay = 112.3 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/27/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3-Mitigation
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	152	565	5	79	918	16	21	1326	72	36	968	459
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.2	34.8			61.0			
Yellow	4.0	4.0			5.0			
All Red	3.0	2.0			2.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	116	1593	1.62	0.38	353.6	F		
TR	922	3181	0.72	0.29	41.0	D	110.0	F
Westbound								
L	170	1593	0.61	0.38	42.9	D		
TR	922	3179	1.14	0.29	117.4	F	110.7	F
Northbound								
L	60	110	0.62	0.51	38.7	D		
T	1623	3192	0.93	0.51	37.3	D	36.3	D
R	724	1425	0.10	0.51	15.4	B		
Southbound								
L	60	110	1.00	0.51	145.7	F		
TR	1540	3030	1.10	0.51	86.4	F	88.5	F

Intersection Delay = 80.9 (sec/veh) Intersection LOS = F

Analyst: AH Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	512	1128	20	102	582	16	33	1467	130	43	1390	194
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	6.0	30.0			40.0			
Yellow	4.0	4.0			5.0			
All Red	3.0	3.0			2.0			

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	240	1593	2.45	0.44	701.4	F		
TR	984	3180	1.38	0.31	211.8	F	359.8	F
Westbound								
L	173	1593	0.81	0.44	46.8	D		
TR	981	3172	0.69	0.31	31.4	C	34.1	C
Northbound								
L	74	168	0.70	0.41	49.4	D		
T	1316	3192	1.24	0.41	142.6	F	129.3	F
R	588	1425	0.27	0.41	19.1	B		
Southbound								
L	74	168	0.69	0.41	47.1	D		
TR	1292	3134	1.36	0.41	194.9	F	190.7	F

Intersection Delay = 204.5 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/27/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-Mitigation
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	512	1128	20	102	582	16	33	1467	130	43	1390	194
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		11.4	53.5			54.1		
Yellow		4.0	4.0			5.0		
All Red		3.0	3.0			2.0		

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	316	1593	1.86	0.51	447.5	F		
TR	1215	3180	1.12	0.38	108.4	F	210.9	F
Westbound								
L	181	1593	0.77	0.51	53.5	D		
TR	1212	3172	0.56	0.38	34.5	C	37.8	D
Northbound								
L	51	124	1.02	0.39	174.7	F		
T	1765	4567	0.92	0.39	49.6	D	51.5	D
R	551	1425	0.29	0.39	30.0	C		
Southbound								
L	51	124	1.00	0.39	169.0	F		
TR	1733	4484	1.01	0.39	67.7	E	70.6	E

Intersection Delay = 103.6 (sec/veh) Intersection LOS = F

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	26	0	52	0	0	0	243	1333	0	0	1920	153
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LT	81	357	0.36	0.23	39.7	D	37.0	D
R	325	1425	0.18	0.23	35.7	D		

Westbound

LTR	382	1676	0.00	0.23	34.0	C		
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Northbound

L	342	1593	1.08	0.66	108.7	F		
TR	2100	3192	0.70	0.66	13.4	B	32.5	C

Southbound

LT	1344	3192	1.49	0.42	256.7	F	235.8	F
R	600	1425	0.33	0.42	22.5	C		

Intersection Delay = 141.0 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: Easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	0	0	1	0	2	2	0	0	3	1
LGConfig	L	TR			LTR		L	TR			LT	R
Volume	26	0	52	0	0	0	243	1333	0	0	1920	153
Lane Width	12.0	12.0			12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	6.9				4.5	98.6		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	173	3256	0.17	0.05	59.3	E		
TR	76	1425	0.76	0.05	96.7	F	84.2	F
Westbound								
LTR	89	1676	0.00	0.05	58.3	E		
Northbound								
L	642	3093	0.57	0.85	6.2	A		
TR	2703	3192	0.54	0.85	3.0	A	3.7	A
Southbound								
LT	3464	4567	0.58	0.76	7.0	A	6.8	A
R	1081	1425	0.18	0.76	4.5	A		
Intersection Delay = 7.0			(sec/veh)		Intersection LOS = A			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	136	0	257	0	0	0	128	1977	0	0	1440	61
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LT	59	258	2.56	0.23	792.6	F	316.8	F
R	325	1425	0.88	0.23	65.6	E		

Westbound

LTR	382	1676	0.00	0.23	34.0	C		
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Northbound

L	342	1593	1.25	0.66	172.3	F		
TR	2100	3192	1.02	0.66	45.3	D	66.3	E

Southbound

LT	1344	3192	1.19	0.42	126.4	F	112.8	F
R	600	1425	0.41	0.42	23.5	C		

Intersection Delay = 106.5 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: PM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: Easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	0	0	1	0	2	2	0	0	3	1
LGConfig	L	TR			LTR		L	TR			LT	R
Volume	136	0	257	0	0	0	128	1977	0	0	1440	61
Lane Width	12.0	12.0			12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		29.0				7.4	73.6	
Yellow		4.0				5.0	5.0	
All Red		2.0				2.0	2.0	

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	441	1978	0.34	0.22	42.9	D		
TR	318	1425	0.90	0.22	75.9	E	64.5	E
Westbound								
LTR	374	1676	0.00	0.22	39.2	D		
Northbound								
L	613	3093	0.70	0.68	16.1	B		
TR	2161	3192	0.99	0.68	38.8	D	35.0+	D
Southbound								
LT	2586	4567	0.62	0.57	19.3	B	18.7	B
R	807	1425	0.30	0.57	15.0	B		
Intersection Delay = 31.5 (sec/veh)					Intersection LOS = C			

Analyst: AH Inter.: East Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	261	1	82	4	22	5	276	1300	4	5	1381	704
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	19.0				4.0	47.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	253	1199	1.30	0.21	198.1	F		
TR	303	1434	0.35	0.21	30.9	C	157.5	F
Westbound								
LTR	321	1521	0.20	0.21	29.5	C	29.5	C
Northbound								
L	122	234	2.90	0.52	899.2	F		
TR	1664	3187	0.92	0.52	28.3	C	192.1	F
Southbound								
L	151	1593	0.04	0.64	12.6	B		
T	2057	3192	0.75	0.64	12.5	B	16.6	B
R	918	1425	0.89	0.64	24.4	C		
Intersection Delay = 99.4			(sec/veh)		Intersection LOS = F			

Analyst: LDK Inter.: East Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/27/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3-Mitigation
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	1	0	1	0	2	3	1	1	3	1
LGConfig	L	T	R	LTR			L	T	R	L	T	R
Volume	261	1	82	4	22	5	276	1300	4	5	1381	704
Lane Width	12.0	12.0	12.0	12.0			12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	16.5				3.1	40.4		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	480	2329	0.69	0.21	33.5	C		
T	346	1676	0.01	0.21	25.3	C	32.1	C
R	294	1425	0.35	0.21	27.9	C		
Westbound								
LTR	321	1554	0.20	0.21	26.6	C	26.6	C
Northbound								
L	475	940	0.75	0.50	22.0	C		
T	2306	4567	0.66	0.50	15.3	B	16.6	B
R	720	1425	0.02	0.50	9.9	A		
Southbound								
L	162	1593	0.04	0.63	7.5	A		
T	2883	4567	0.53	0.63	8.4	A	14.5	B
R	900	1425	0.91	0.63	25.9	C		
Intersection Delay = 17.1			(sec/veh)		Intersection LOS = B			

Analyst: AH Inter.: East Maple PM
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	811	14	237	9	11	5	147	1839	16	5	1415	403
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0				3.0	52.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	279	1228	3.23	0.23	1050	F		
TR	328	1447	0.96	0.23	75.4	E	798.1	F
Westbound								
LTR	259	1143	0.15	0.23	30.3	C	30.3	C
Northbound								
L	84	156	2.46	0.54	715.7	F		
TR	1708	3186	1.24	0.54	135.7	F	187.4	F
Southbound								
L	123	1593	0.16	0.64	22.8	C		
T	2040	3192	0.84	0.64	16.8	B	15.4	B
R	911	1425	0.55	0.64	10.5	B		
Intersection Delay = 248.1 (sec/veh)					Intersection LOS = F			

Analyst: LDK Inter.: East Maple PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/27/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-Mitigation
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	1	0	1	0	2	3	1	1	3	1
LGConfig	L	T	R	LTR			L	T	R	L	T	R
Volume	811	14	237	9	11	5	147	1839	16	5	1415	403
Lane Width	12.0	12.0	12.0	12.0			12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	44.7				3.0	62.3		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	820	2384	1.10	0.34	104.6	F		
T	576	1676	0.05	0.34	28.5	C	86.9	F
R	490	1425	0.58	0.34	36.8	D		
Westbound								
LTR	528	1537	0.07	0.34	28.8	C	28.8	C
Northbound								
L	396	827	0.52	0.48	24.8	C		
T	2189	4567	0.95	0.48	43.1	D	41.2	D
R	683	1425	0.04	0.48	18.0	B		
Southbound								
L	92	1593	0.22	0.56	24.5	C		
T	2540	4567	0.67	0.56	21.1	C	21.2	C
R	793	1425	0.64	0.56	21.5	C		
Intersection Delay = 43.0			(sec/veh)		Intersection LOS = D			

Analyst: LDK Inter.:
 Agency: TQC Area Type: All other areas
 Date: 9/26/2013 Jurisd: PennDOT
 Period: AM PEAK HOUR Year : Build Alt 3 - Mitigation
 Project ID:
 E/W St: Access/W Moreland N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	17	23	17	5	41	98	103	1529	6	82	1773	62
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.7				11.3	84.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				0.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	136	997	0.13	0.14	49.8	D		
TR	238	1746	0.18	0.14	50.1	D	50.0	D
Westbound								
L	185	1358	0.03	0.14	48.7	D		
TR	227	1666	0.67	0.14	60.8	E	60.4	E
Northbound								
L	211	1770	0.53	0.78	34.8	C		
TR	2290	3544	0.73	0.65	16.6	B	17.7	B
Southbound								
L	251	1770	0.35	0.78	15.1	B		
T	2292	3547	0.84	0.65	20.8	C	20.2	C
R	1023	1583	0.07	0.65	8.5	A		
Intersection Delay = 21.1			(sec/veh)		Intersection LOS = C			

Analyst: LDK Inter.:
 Agency: TQC Area Type: All other areas
 Date: 9/26/2013 Jurisd: PennDOT
 Period: PM PEAK HOUR Year : Build Alt 3 - Mitigation
 Project ID:
 E/W St: Access Rd/W Moreland Rd N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	95	127	95	5	22	90	110	1950	9	140	1608	88
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	15.5				3.9	70.6		
Yellow	4.0				4.0	4.0		
All Red	3.0				3.0	2.0		

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	178	1264	0.58	0.14	48.8	D		
TR	246	1743	0.98	0.14	98.6	F	83.7	F
Westbound								
L	81	578	0.06	0.14	41.3	D		
TR	231	1638	0.53	0.14	46.1	D	45.9	D
Northbound								
L	144	1770	0.83	0.73	51.7	D		
TR	2275	3544	0.94	0.64	25.8	C	27.2	C
Southbound								
L	131	1770	1.16	0.73	161.9	F		
T	2277	3547	0.77	0.64	15.5	B	26.3	C
R	1016	1583	0.09	0.64	7.6	A		
Intersection Delay = 31.5			(sec/veh)		Intersection LOS = C			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	2	1
LGConfig	L		R		T		L	T			T	R
Volume	70		95		16		33	923			1767	28
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	22.0	21.0			56.0	14.0		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 139.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	195	1230	0.57	0.16	58.0	E	46.8	D
R	441	1425	0.28	0.31	36.6	D		
Westbound								
T	591	1676	0.06	0.35	29.8	C	29.8	C
Northbound								
L	293	1593	0.16	0.55	48.4	D		
T	1768	3192	0.62	0.55	21.8	C	22.9	C
Southbound								
T	1286	3192	1.46	0.40	253.7	F	249.7	F
R	1425	1425	0.02	1.00	0.0+	A		
Intersection Delay = 154.9 (sec/veh) Intersection LOS = F								

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	1
LGConfig	L		R		T		L	T			T	R
Volume	70		95		16		33	923			1767	28
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	15.4	10.5			73.1	5.0		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	146	1230	0.76	0.12	76.1	E	59.9	E
R	300	1425	0.41	0.21	45.2	D		
Westbound								
T	411	1676	0.09	0.25	37.9	D	37.9	D
Northbound								
L	209	1593	0.22	0.65	28.5	C		
T	2090	3192	0.53	0.65	12.1	B	12.7	B
Southbound								
T	2568	4567	0.73	0.56	22.3	C	21.9	C
R	1425	1425	0.02	1.00	0.0+	A		
Intersection Delay = 21.6 (sec/veh)					Intersection LOS = C			

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	2	1
LGConfig	L		R		T		L	T			T	R
Volume	120		168		66		136	1018			2800	148
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	22.0	7.0			56.0	14.0		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 125.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	203	1151	0.69	0.18	58.2	E	42.9	D
R	490	1425	0.39	0.34	31.5	C		
Westbound								
T	469	1676	0.15	0.28	33.9	C	33.9	C
Northbound								
L	326	1593	0.52	0.62	46.0	D		
T	1966	3192	0.61	0.62	15.3	B	19.1	B
Southbound								
T	1430	3192	2.04	0.45	504.9	F	478.5	F
R	1425	1425	0.11	1.00	0.0+	A		
Intersection Delay = 312.9 (sec/veh) Intersection LOS = F								

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	1
LGConfig	L		R		T		L	T			T	R
Volume	120		168		66		136	1018			2800	148
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green	17.3	4.0			99.1	3.6		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	114	991	1.24	0.12	227.5	F	135.0	F
R	265	1425	0.71	0.19	66.0	E		
Westbound								
T	305	1676	0.23	0.18	52.7	D	52.7	D
Northbound								
L	161	1593	1.04	0.73	146.9	F		
T	2334	3192	0.51	0.73	8.9	A	25.8	C
Southbound								
T	3017	4567	0.97	0.66	33.8	C	32.1	C
R	1425	1425	0.11	1.00	0.0+	A		
Intersection Delay = 37.6			(sec/veh)		Intersection LOS = D			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	337	462	653	206	1262	0	167	396	45	6	1108	65
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru			A		Thru		A	
Right				A	Right			A
Peds					Peds			
WB Left		A			SB Left	A		A
Thru			A		Thru		A	A
Right				A	Right		A	A
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right	A		
Green		15.0	48.0			10.0	25.0	10.0
Yellow		5.0	5.0			4.0	4.0	4.0
All Red		2.0	2.0			2.0	2.0	2.0

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	222	1593	1.85	0.50	445.4	F		
TR	1000	2917	1.20	0.34	143.7	F	220.9	F
Westbound								
L	222	1593	1.14	0.50	150.0-	F		
TR	1094	3192	1.30	0.34	186.1	F	180.6	F
Northbound								
L	165	1593	1.22	0.29	184.7	F		
T	570	3192	0.85	0.18	67.1	E	97.7	F
R	254	1425	0.22	0.18	49.7	D		
Southbound								
L	365	1593	0.03	0.41	26.1	C		
T	935	3192	1.33	0.29	206.1	F	194.6	F
R	417	1425	0.19	0.29	37.3	D		

Intersection Delay = 184.7 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	1	3	0	2	3	1	1	3	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	337	462	653	206	1262	0	167	396	45	6	1108	65
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
WB Left		A	A		SB Left	A	A	A
Thru			A		Thru		A	A
Right			A		Right		A	A
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0	48.0			10.0	25.0	10.0
Yellow		5.0	5.0			4.0	4.0	4.0
All Red		2.0	2.0			2.0	2.0	2.0

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	222	1593	1.85	0.50	444.0	F		
TR	1431	4173	0.84	0.34	46.8	D	148.5	F
Westbound								
L	239	1593	1.06	0.50	112.8	F		
TR	1566	4567	0.91	0.34	51.8	D	61.0	E
Northbound								
L	654	3093	0.31	0.29	40.3	D		
T	816	4567	0.59	0.18	54.0	D	49.9	D
R	254	1425	0.22	0.18	49.7	D		
Southbound								
L	399	1593	0.03	0.41	25.4	C		
T	1337	4567	0.93	0.29	59.9	E	58.3	E
R	417	1425	0.19	0.29	37.3	D		
Intersection Delay = 85.0 (sec/veh)					Intersection LOS = F			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	412	1357	276	99	826	0	596	1531	191	68	446	103
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A	A	NB Left	A	A	A
Thru			A	A	Thru	A	A	
Right			A	A	Right	A	A	
Peds					Peds			
WB Left		A		A	SB Left		A	A
Thru				A	Thru		A	
Right				A	Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0	15.0	32.0		10.0	25.0	10.0
Yellow		5.0	5.0	5.0		4.0	4.0	4.0
All Red		2.0	2.0	2.0		2.0	2.0	2.0

Cycle Length: 146.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	453	1593	1.00	0.52	87.7	F		
TR	1150	3109	1.68	0.37	356.2	F	305.2	F
Westbound								
L	213	1593	0.53	0.32	41.5	D		
TR	700	3192	1.31	0.22	207.2	F	189.1	F
Northbound								
L	343	1593	2.00	0.39	500.6	F		
T	896	3192	1.90	0.28	461.0	F	437.8	F
R	400	1425	0.52	0.28	45.6	D		
Southbound								
L	224	1593	0.36	0.28	58.1	E		
T	547	3192	0.90	0.17	76.5	E	70.9	E
R	244	1425	0.52	0.17	56.9	E		

Intersection Delay = 314.4 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	1	3	0	2	3	1	1	3	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	412	1357	276	99	826	0	596	1531	191	68	446	103
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A	A	NB Left	A	A	A
Thru			A	A	Thru	A	A	
Right			A	A	Right	A	A	
Peds					Peds			
WB Left		A		A	SB Left		A	A
Thru				A	Thru		A	
Right				A	Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		3.3	15.5	34.3		22.8	19.5	5.6
Yellow		5.0	5.0	5.0		4.0	4.0	4.0
All Red		2.0	2.0	2.0		2.0	2.0	2.0

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	354	1593	1.28	0.48	186.9	F		
TR	1804	4447	1.07	0.41	84.9	F	104.3	F
Westbound								
L	89	1593	1.27	0.27	242.3	F		
TR	1119	4567	0.82	0.24	54.9	D	75.5	E
Northbound								
L	973	3093	0.70	0.43	32.6	C		
T	1576	4567	1.08	0.34	93.2	F	72.6	E
R	492	1425	0.43	0.34	35.8	D		
Southbound								
L	183	1593	0.44	0.22	59.3	E		
T	636	4567	0.77	0.14	63.9	E	63.3	E
R	198	1425	0.64	0.14	63.5	E		
Intersection Delay = 83.3 (sec/veh)					Intersection LOS = F			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				105		604	2265	26		371	1232	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	21.5				13.3	45.2		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	342	1593	0.36	0.22	34.1	C	85.4	F
R	581	1425	1.09	0.41	95.4	F		

Northbound

TR	1440	3186	1.70	0.45	343.9	F	343.9	F
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Southbound

L	284	1593	1.57	0.65	307.9	F		
T	2091	3192	0.65	0.65	11.0	B	84.7	F

Intersection Delay = 211.3 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	3	0	2	2	0
LGConfig				L		R		TR		L	T	
Volume				105		604		2265	26	371	1232	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	18.2				8.5	53.3		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	290	1593	0.43	0.18	37.3	D	182.8	F
R	466	1425	1.36	0.33	211.2	F		

Northbound

TR	2429	4557	1.01	0.53	43.0	D	43.0	D
----	------	------	------	------	------	---	------	---

Southbound

L	1171	3093	0.38	0.69	17.4	B		
T	2196	3192	0.62	0.69	9.0	A	11.1	B

Intersection Delay = 52.7 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				35		387		2210	42	1081	1964	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	4.0					47.6	78.4	
Yellow	3.0					5.0	5.0	
All Red	3.0					2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	42	1593	1.43	0.03	361.4	F	89.6	F
R	547	1425	0.85	0.38	54.6	D		

Northbound

TR	1663	3181	1.51	0.52	268.7	F	268.7	F
----	------	------	------	------	-------	---	-------	---

Southbound

L	554	1593	2.12	0.89	558.4	F		
T	2830	3192	0.73	0.89	3.7	A	204.7	F

Intersection Delay = 220.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	3	0	2	3	0
LGConfig				L		R		TR		L	T	
Volume				35		387	2210	42		1081	1964	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	7.2				24.7	68.1		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	96	1593	0.63	0.06	67.2	E	90.0	F
R	450	1425	1.04	0.32	93.0	F		

Northbound

TR	2583	4551	0.97	0.57	37.0	D	37.0	D
----	------	------	------	------	------	---	------	---

Southbound

L	1508	3093	0.78	0.83	21.5	C		
T	3798	4567	0.54	0.83	3.3	A	9.9	A

Intersection Delay = 27.5 (sec/veh) Intersection LOS = C

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R	LTR			L	TR	
Volume	49	1424	5	2	642	50	0	0	1	249	2	108
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol			0			0	0					0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	52.0				25.0			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	284	492	0.25	0.58	9.8	A		
TR	968	1675	1.72	0.58	347.9	F	334.2	F
Westbound								
L	80	129	0.05	0.58	8.5	A		
T	968	1676	0.68	0.58	15.3	B	14.2	B
R	823	1425	0.15	0.58	8.9	A		
Northbound								
LTR	403	1450	0.01	0.28	23.5	C	23.5	C
Southbound								
L	352	1266	0.87	0.28	51.5	D		
TR	400	1439	0.37	0.28	26.7	C	43.5	D

Intersection Delay = 204.7 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R		LTR		L	TR	
Volume	49	1424	5	2	642	50	0	0	1	249	2	108
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		53.7				23.3		
Yellow		5.0				3.0		
All Red		2.0				3.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	388	651	0.18	0.60	8.4	A		
TR	1903	3189	0.88	0.60	20.3	C	19.8	B
Westbound								
L	80	125	0.05	0.60	7.8	A		
T	1905	3192	0.35	0.60	9.3	A	9.1	A
R	850	1425	0.15	0.60	8.1	A		
Northbound								
LTR	375	1450	0.01	0.26	24.8	C	24.8	C
Southbound								
L	328	1266	0.94	0.26	66.0	E		
TR	373	1439	0.40	0.26	28.2	C	53.8	D

Intersection Delay = 22.1 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R	LTR			L	TR	
Volume	139	1032	0	1	1707	196	1	0	1	56	0	38
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol			0			0	0					0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	52.0				7.0			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 72.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	100	129	1.88	0.72	441.3	F		
TR	1210	1676	0.97	0.72	28.2	C	85.2	F
Westbound								
L	129	178	0.03	0.72	2.9	A		
T	1210	1676	1.52	0.72	246.7	F	215.3	F
R	1029	1425	0.26	0.72	3.6	A		
Northbound								
LTR	124	1277	0.06	0.10	29.7	C	29.7	C
Southbound								
L	123	1261	0.61	0.10	39.7	D		
TR	139	1425	0.37	0.10	32.1	C	36.6	D

Intersection Delay = 159.5 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R	LTR			L	TR	
Volume	139	1032	0	1	1707	196	1	0	1	56	0	38
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol			0			0	0					0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	99.7				7.3			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	144	173	1.31	0.83	188.8	F		
TR	2652	3192	0.44	0.83	2.8	A	28.5	C
Westbound								
L	325	391	0.01	0.83	1.7	A		
T	2652	3192	0.69	0.83	4.8	A	4.5	A
R	1184	1425	0.23	0.83	2.2	A		
Northbound								
LTR	67	1094	0.12	0.06	54.1	D	54.1	D
Southbound								
L	77	1261	0.97	0.06	149.7	F		
TR	87	1425	0.60	0.06	65.7	E	115.3	F

Intersection Delay = 17.6 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	359	1183	26	7	1519	100	69	41	13	271	47	650
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.1	44.1			33.8			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	72	152	5.54	0.44	2102	F		
TR	1402	3179	0.98	0.44	45.7	D	510.3	F
Westbound								
L	137	1593	0.13	0.54	18.2	B		
TR	1711	3156	1.02	0.54	50.5	D	50.1	D
Northbound								
LTR	233	689	0.76	0.34	42.6	D	42.6	D
Southbound								
LT	369	1092	1.06	0.34	95.7	F	218.5	F
R	482	1425	1.53	0.34	283.3	F		
Intersection Delay = 257.1 (sec/veh)					Intersection LOS = F			

Analyst: LDK Inter.: Hors Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/27/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3-Mitigation
 Project ID:
 E/W St: HORSHAM RD N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	0	1	1	0	0	1	2
LGConfig	L	TR		L	TR		L	TR			LT	R
Volume	359	1183	26	7	1519	100	69	41	13	271	47	650
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.0	46.5			31.5			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	592	1273	0.67	0.47	23.9	C		
TR	1478	3179	0.92	0.47	35.3	D	32.7	C
Westbound								
L	136	1593	0.13	0.56	16.6	B		
TR	1783	3156	0.98	0.56	38.2	D	37.9	D
Northbound								
L	165	525	0.51	0.31	30.6	C		
TR	512	1625	0.18	0.31	25.0	C	27.7	C
Southbound								
LT	371	1178	1.05	0.31	95.0	F	66.0	E
R	794	2522	0.93	0.31	50.6	D		
Intersection Delay = 42.2			(sec/veh)		Intersection LOS = D			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	661	1903	33	16	1372	171	119	115	12	123	63	445
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.5	57.2			20.3			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	103	180	6.97	0.57	2729	F		
TR	1820	3182	1.10	0.57	75.9	E	775.6	F
Westbound								
L	144	1593	0.16	0.68	22.8	C		
TR	2118	3129	0.79	0.68	13.5	B	13.6	B
Northbound								
LTR	117	574	3.13	0.20	1020	F	1020	F
Southbound								
LT	196	965	1.24	0.20	185.4	F	300.3	F
R	289	1425	1.67	0.20	358.2	F		
Intersection Delay = 493.8 (sec/veh)					Intersection LOS = F			

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	0	1	1	0	0	1	2
LGConfig	L	TR		L	TR		L	TR		LT	R	
Volume	661	1903	33	16	1372	171	119	115	12	123	63	445
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.2	49.4			18.4			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	521	950	1.38	0.55	202.2	F		
TR	1747	3182	1.15	0.55	93.7	F	122.4	F
Westbound								
L	154	1593	0.15	0.66	20.5	C		
TR	2072	3129	0.81	0.66	13.7	B	13.8	B
Northbound								
L	149	729	1.17	0.20	164.1	F		
TR	338	1651	0.57	0.20	34.4	C	96.4	F
Southbound								
LT	202	986	1.21	0.20	166.4	F	95.9	F
R	516	2522	0.94	0.20	60.3	E		
Intersection Delay = 83.6			(sec/veh)		Intersection LOS = F			

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Nor AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	155	1005	127	570	1431	172	210	17	512	29	10	58
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	25.0	43.2			33.8			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	103	285	1.63	0.36	362.0	F		
TR	1125	3126	1.16	0.36	121.7	F	149.0	F
Westbound								
L	392	1593	1.67	0.62	341.0	F		
T	1974	3192	0.77	0.62	18.6	B	107.3	F
R	881	1425	0.21	0.62	10.2	B		
Northbound								
L	354	1258	0.85	0.28	57.9	E		
T	472	1676	0.04	0.28	31.3	C	203.6	F
R	401	1425	1.50	0.28	281.4	F		
Southbound								
L	352	1250	0.09	0.28	31.9	C		
T	472	1676	0.02	0.28	31.2	C	32.2	C
R	401	1425	0.16	0.28	32.6	C		

Intersection Delay = 136.5 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Nor AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	1	2	2	1	1	1	1	1	1	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	155	1005	127	570	1431	172	210	17	512	29	10	58
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		25.0	43.2			33.8		
Yellow		4.0	4.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	311	863	0.54	0.36	32.4	C		
T	1149	3192	0.98	0.36	60.4	E	53.3	D
R	513	1425	0.35	0.36	28.5	C		
Westbound								
L	1127	3093	0.58	0.62	18.7	B		
T	1974	3192	0.77	0.62	18.6	B	18.0	B
R	881	1425	0.21	0.62	10.2	B		
Northbound								
L	354	1258	0.85	0.28	57.9	E		
T	472	1676	0.04	0.28	31.3	C	203.6	F
R	401	1425	1.50	0.28	281.4	F		
Southbound								
L	352	1250	0.09	0.28	31.9	C		
T	472	1676	0.02	0.28	31.2	C	32.2	C
R	401	1425	0.16	0.28	32.6	C		

Intersection Delay = 64.1 (sec/veh) Intersection LOS = E

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Norr PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	112	1698	85	513	1259	101	186	11	673	120	40	240
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	35.2	59.3			37.5			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	126	318	0.97	0.40	114.5	F		
TR	1252	3168	1.50	0.40	275.6	F	265.8	F
Westbound								
L	422	1593	1.32	0.67	211.0	F		
T	2139	3192	0.66	0.67	15.4	B	67.5	E
R	955	1425	0.12	0.67	8.9	A		
Northbound								
L	306	1222	0.72	0.25	59.6	E		
T	419	1676	0.03	0.25	42.5	D	433.3	F
R	356	1425	2.08	0.25	551.2	F		
Southbound								
L	314	1257	0.41	0.25	47.9	D		
T	419	1676	0.10	0.25	43.4	D	54.3	D
R	356	1425	0.73	0.25	59.3	E		

Intersection Delay = 203.6 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Norr PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	1	2	2	1	1	1	1	1	1	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	112	1698	85	513	1259	101	186	11	673	120	40	240
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.0	74.9			53.1			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	341	683	0.36	0.50	23.5	C		
T	1594	3192	1.12	0.50	101.0	F	92.5	F
R	712	1425	0.13	0.50	20.2	C		
Westbound								
L	997	3093	0.56	0.57	28.4	C		
T	1807	3192	0.78	0.57	27.7	C	27.2	C
R	807	1425	0.14	0.57	15.4	B		
Northbound								
L	433	1222	0.51	0.35	39.2	D		
T	593	1676	0.02	0.35	31.5	C	214.5	F
R	504	1425	1.47	0.35	269.8	F		
Southbound								
L	445	1257	0.29	0.35	35.3	D		
T	593	1676	0.07	0.35	32.2	C	37.4	D
R	504	1425	0.52	0.35	39.3	D		

Intersection Delay = 85.0 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			520				1490	1440			1103	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left		A	A
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right		A	A
SB Right					WB Right			
Green						56.0	33.0	3.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
Cycle Length: 113.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
R	960	2522	0.59	0.38	28.9	C	28.9	C
Westbound								
Northbound								
L	1177	3093	1.47	0.38	252.2	F		
T	2712	3192	0.55	0.85	2.7	A	136.4	F
Southbound								
TR	1577	3183	0.89	0.50	32.6	C	32.6	C

Intersection Delay = 96.7 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	3	0	0	0	2	3	0	0	3	0
LGConfig			R				L	T			TR	
Volume			520				1490	1440			1103	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						41.4	61.7	5.9
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	2228	3882	0.25	0.57	13.9	B	13.9	B
---	------	------	------	------	------	---	------	---

Westbound

Northbound

L	1775	3093	0.98	0.57	42.9	D		
T	3868	4567	0.39	0.85	2.3	A	24.1	C

Southbound

TR	1450	4554	0.97	0.32	60.6	E	60.6	E
----	------	------	------	------	------	---	------	---

Intersection Delay = 32.8 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: AH
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			1716				900	1646			1439	16
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						28.8	34.2	6.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
Cycle Length: 90.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	1323	2522	1.49	0.52	246.2	F	246.2	F
---	------	------	------	------	-------	---	-------	---

Westbound

Northbound

L	1622	3093	0.60	0.52	15.5	B		
T	2483	3192	0.70	0.78	5.7	A	9.3	A

Southbound

TR	1020	3187	1.59	0.32	298.7	F	298.7	F
----	------	------	------	------	-------	---	-------	---

Intersection Delay = 157.7 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 9/27/13
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-Mitigation
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	3	0	0	0	2	3	0	0	3	0
LGConfig			R				L	T			TR	
Volume			1716				900	1646			1439	16
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0								0	

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						35.7	38.0	5.3
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	1953	3882	1.01	0.50	47.6	D	47.6	D
---	------	------	------	------	------	---	------	---

Westbound

Northbound

L	1556	3093	0.63	0.50	18.9	B		
T	3686	4567	0.47	0.81	3.1	A	8.8	A

Southbound

TR	1628	4559	0.99	0.36	52.7	D	52.7	D
----	------	------	------	------	------	---	------	---

Intersection Delay = 32.2 (sec/veh) Intersection LOS = C

Analyst: AH Inter.: Hors Priv
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3
 Project ID:
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	124	1207	129	154	1312	137	33	14	20	23	8	47
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	52.0			12.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 91.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	168	294	0.80	0.57	39.4	D		
TR	1798	3146	0.87	0.57	21.8	C	23.2	C
Westbound								
L	202	1593	1.12	0.73	124.9	F		
T	2315	3192	0.64	0.73	7.1	A	21.1	C
R	1034	1425	0.14	0.73	3.9	A		
Northbound								
L	166	1260	0.25	0.13	36.3	D		
T	221	1676	0.07	0.13	34.7	C	35.8	D
R	188	1425	0.18	0.13	35.6	D		
Southbound								
L	165	1253	0.15	0.13	35.4	D		
T	221	1676	0.04	0.13	34.6	C	35.9	D
R	188	1425	0.27	0.13	36.3	D		
Intersection Delay = 22.7 (sec/veh)					Intersection LOS = C			

Analyst: LDK Inter.: Hors Priv
 Agency: TQC Area Type: CBD or Similar
 Date: 9/27/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3-Mitigation
 Project ID:
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	3	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	124	1207	129	154	1312	137	33	14	20	23	8	47
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	8.9	56.6			4.5			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	433	689	0.31	0.63	8.1	A		
TR	2831	4501	0.55	0.63	9.8	A	9.6	A
Westbound								
L	292	1593	0.77	0.81	25.0	C		
T	2571	3192	0.58	0.81	3.5	A	6.0	A
R	1148	1425	0.13	0.81	2.0	A		
Northbound								
L	80	1490	0.52	0.05	48.0	D		
T	84	1676	0.18	0.05	42.0	D	46.4	D
R	71	1425	0.46	0.05	46.3	D		
Southbound								
L	80	1490	0.31	0.05	43.5	D		
T	84	1676	0.11	0.05	41.4	D	60.1	E
R	71	1425	0.72	0.05	71.5	E		
Intersection Delay = 9.8			(sec/veh)		Intersection LOS = A			

Analyst: AH Inter.: Hors Priv
 Agency: TQC Area Type: CBD or Similar
 Date: 8/14/2013 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3
 Project ID:
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	90	1405	55	47	1481	81	196	9	262	160	16	144
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	45.0			25.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	90	195	1.09	0.46	147.0	F		
TR	1471	3170	1.12	0.46	91.4	F	94.6	F
Westbound								
L	189	1593	0.32	0.61	20.8	C		
T	1942	3192	0.82	0.61	17.8	B	17.4	B
R	867	1425	0.10	0.61	8.0	A		
Northbound								
L	322	1251	0.70	0.26	39.1	D		
T	432	1676	0.02	0.26	26.9	C	98.2	F
R	367	1425	1.15	0.26	131.3	F		
Southbound								
L	324	1259	0.54	0.26	32.8	C		
T	432	1676	0.04	0.26	27.0	C	31.6	C
R	367	1425	0.43	0.26	30.8	C		
Intersection Delay = 60.4			(sec/veh)		Intersection LOS = E			

Analyst: LDK Inter.: Hors Priv
 Agency: TQC Area Type: CBD or Similar
 Date: 9/27/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-Mitigation
 Project ID:
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	3	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	90	1405	55	47	1481	81	196	9	262	160	16	144
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	3.0	41.0			26.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	513	1125	0.19	0.46	14.8	B		
TR	2066	4536	0.80	0.46	23.3	C	22.9	C
Westbound								
L	133	1593	0.46	0.57	15.7	B		
T	1809	3192	0.88	0.57	22.3	C	21.4	C
R	807	1425	0.11	0.57	9.1	A		
Northbound								
L	361	1251	0.62	0.29	31.1	C		
T	484	1676	0.02	0.29	22.9	C	64.6	E
R	412	1425	1.03	0.29	83.3	F		
Southbound								
L	364	1259	0.48	0.29	27.4	C		
T	484	1676	0.04	0.29	23.0	C	26.6	C
R	412	1425	0.38	0.29	26.2	C		
Intersection Delay = 28.7 (sec/veh)					Intersection LOS = C			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2014 EXISTING
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	359		161				316	1151			897	868
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A	A				
Thru					Thru	A	A				
Right		A			Right						
Peds					Peds						
WB Left					SB Left						
Thru					Thru		A				
Right					Right		A				
Peds					Peds						
NB Right					EB Right						
SB Right		A			WB Right						
Green		26.0				8.0	38.0				
Yellow		3.0				4.0	4.0				
All Red		3.0				2.0	2.0				
Cycle Length: 90.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.43	0.29	26.3	C	28.3	C
R	412	1425	0.64	0.29	31.3	C		
Westbound								
Northbound								
L	273	1593	1.36	0.58	200.2	F		
T	1844	3192	0.71	0.58	14.9	B	55.9	E
Southbound								
T	1348	3192	0.72	0.42	23.4	C	18.0	B
R	1108	1425	0.84	0.78	12.5	B		
Intersection Delay = 34.7 (sec/veh)					Intersection LOS = C			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : 2014 EXISTING
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	405		307				223	1187			1221	1167
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	26.0					8.0	38.0	
Yellow	3.0					4.0	4.0	
All Red	3.0					2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.60	0.29	28.6	C		
R	412	1425	0.80	0.29	40.4	D	33.1	C
Westbound								
Northbound								
L	222	1593	1.08	0.58	108.7	F		
T	1844	3192	0.71	0.58	14.8	B	29.4	C
Southbound								
T	1348	3192	0.97	0.42	44.1	D	62.3	E
R	1108	1425	1.13	0.78	81.3	F		
Intersection Delay = 47.0 (sec/veh) Intersection LOS = D								

Analyst: LD
 Agency: TQC
 Date: 6/1
 Period: AM
 Project ID:
 E/W St: MAR

er.:
 a Type: CBD or Similar
 isd: PENNDOT
 r : ALT 1 BUILD

St: EASTON RD

#16 Maryland/Easton
ALT 1 Phase 2
ALT 1 Mitigation

No. Lanes
 LGConfig
 Volume
 Lane Width
 RTOR Vol

CTION SUMMARY

Northbound			Southbound		
L	T	R	L	T	R
1	2	0	0	2	1
L	T			T	R
371	1682		1150	1116	
12.0	12.0		12.0	12.0	
					0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	26.0					8.0	38.0	
Yellow	3.0					4.0	4.0	
All Red	3.0					2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.71	0.29	31.1	C		
R	412	1425	0.75	0.29	36.7	D	33.0	C
Westbound								
Northbound								
L	222	1593	1.96	0.58	474.3	F		
T	1844	3192	1.04	0.58	50.0	D	128.8	F
Southbound								
T	1348	3192	0.92	0.42	34.7	C	48.4	D
R	1108	1425	1.08	0.78	62.5	E		
Intersection Delay = 78.8			(sec/veh)		Intersection LOS = E			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 1 BUILD
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	660		361				262	1579			1756	1532
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right		A			WB Right			
Green		26.0				8.0	38.0	
Yellow		3.0				4.0	4.0	
All Red		3.0				2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.97	0.29	54.8	D	56.8	E
R	412	1425	0.94	0.29	61.2	E		
Westbound								
Northbound								
L	222	1593	1.27	0.58	178.5	F		
T	1844	3192	0.94	0.58	27.8	C	48.8	D
Southbound								
T	1348	3192	1.40	0.42	210.8	F	221.5	F
R	1108	1425	1.49	0.78	233.8	F		

Intersection Delay = 140.0 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/29/2014
 Period: AM PEAK HOUR
 Project ID: Signal timing optimization
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 1 BUILD-Mitigation
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	587		189				371	1682			1150	1116
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right		A			WB Right			
Green		22.6				13.7	45.7	
Yellow		3.0				4.0	4.0	
All Red		3.0				2.0	2.0	

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	699	3093	0.90	0.23	52.7	D	61.2	E
R	322	1425	0.96	0.23	78.4	E		
Westbound								
Northbound								
L	298	1593	1.46	0.65	255.2	F		
T	2088	3192	0.92	0.65	21.8	C	65.1	E
Southbound								
T	1459	3192	0.85	0.46	29.0	C	56.5	E
R	1059	1425	1.13	0.74	84.8	F		
Intersection Delay = 60.8 (sec/veh)					Intersection LOS = E			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID: Signal Timing Optimization
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 1 BUILD-Mitigation
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	660		361				262	1579			1756	1532
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	28.7				5.1	58.2		
Yellow	3.0				4.0	4.0		
All Red	3.0				2.0	2.0		

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	807	3093	1.08	0.26	94.7	F	96.0	F
R	372	1425	1.04	0.26	99.0	F		
Westbound								
Northbound								
L	139	1593	2.03	0.63	512.1	F		
T	2011	3192	0.86	0.63	20.6	C	89.3	F
Southbound								
T	1689	3192	1.12	0.53	87.6	F	130.7	F
R	1203	1425	1.37	0.84	180.0	F		

Intersection Delay = 112.0 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

#16 Maryland/Easton
ALT 2 Phase 2
ALT 2 Mitigation

D or Similar
 OT
 BUILD

N RD

ARY

	Eastbou	
	L	T
No. Lanes	2	0
LGConfig	L	
Volume	580	
Lane Width	12.0	12.0
RTOR Vol	0	

und R	Southbound		
	L	T	R
0	0	2	1
		T	R
		1158	1124
		12.0	12.0
			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	26.0				8.0	38.0		
Yellow	3.0				4.0	4.0		
All Red	3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.70	0.29	30.9	C	32.8	C
R	412	1425	0.75	0.29	36.7	D		
Westbound								
Northbound								
L	222	1593	1.96	0.58	474.4	F		
T	1844	3192	1.03	0.58	47.4	D	127.2	F
Southbound								
T	1348	3192	0.92	0.42	35.4	D	50.2	D
R	1108	1425	1.09	0.78	65.4	E		

Intersection Delay = 78.8 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 2 BUILD
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	658		361				262	1576			1741	1524
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right		A			WB Right			
Green		26.0				8.0	38.0	
Yellow		3.0				4.0	4.0	
All Red		3.0				2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.79	0.29	34.4	C	43.9	D
R	412	1425	0.94	0.29	61.2	E		
Westbound								
Northbound								
L	222	1593	1.27	0.58	178.5	F		
T	1844	3192	0.94	0.58	27.5	C	48.7	D
Southbound								
T	1348	3192	1.39	0.42	205.6	F	294.7	F
R	1108	1425	1.81	0.78	377.9	F		
Intersection Delay = 184.4 (sec/veh)					Intersection LOS = F			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: AM PEAK HOUR
 Project ID: Signal Timing Optimization
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 2 BUILD-Mitigation
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	580		189				371	1668			1158	1124
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	21.5					14.0	46.5	
Yellow	3.0					4.0	4.0	
All Red	3.0					2.0	2.0	

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	665	3093	0.94	0.22	59.7	E	71.1	E
R	306	1425	1.01	0.22	94.1	F		
Westbound								
Northbound								
L	306	1593	1.42	0.66	238.2	F		
T	2123	3192	0.89	0.67	19.1	B	60.1	E
Southbound								
T	1484	3192	0.84	0.47	27.9	C	58.6	E
R	1055	1425	1.15	0.74	90.1	F		
Intersection Delay = 61.2 (sec/veh) Intersection LOS = E								

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID: Signal Timing Optimization
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 2 BUILD-Mitigation
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	658		361				262	1576			1741	1524
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	25.9					4.7	61.4	
Yellow	3.0					4.0	4.0	
All Red	3.0					2.0	2.0	

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	728	3093	0.97	0.24	68.3	E	93.7	F
R	336	1425	1.15	0.24	140.1	F		
Westbound								
Northbound								
L	133	1593	2.12	0.66	560.9	F		
T	2092	3192	0.83	0.66	17.2	B	93.3	F
Southbound								
T	1782	3192	1.05	0.56	60.3	E	188.6	F
R	1209	1425	1.66	0.85	308.3	F		

Intersection Delay = 146.2 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 6/13/201
 Period: AM PEAK
 Project ID:
 E/W St: MARYLANE

**#16 Maryland/Easton
 ALT 3 Phase 2
 ALT 3 Mitigation**

Location: CBD or Similar
 PENNDOT
 ALT 3 BUILD
 EASTON RD

	Eastbound		SUMMARY				
	L	R	Northbound	Southbound			
			T	L	T	R	
No. Lanes	2		2	0	0	2	1
LGConfig	L		T		T	R	
Volume	527		1563		1085	1051	
Lane Width	12.0	12.0	12.0		12.0	12.0	
RTOR Vol		0				0	

Duration: 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	26.0				8.0	38.0		
Yellow	3.0				4.0	4.0		
All Red	3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.63	0.29	29.3	C	31.9	C
R	412	1425	0.75	0.29	36.7	D		
Westbound								
Northbound								
L	222	1593	1.96	0.58	473.1	F		
T	1844	3192	0.96	0.58	31.4	C	118.5	F
Southbound								
T	1348	3192	0.87	0.42	29.9	C	35.9	D
R	1108	1425	1.02	0.78	42.1	D		

Intersection Delay = 69.2 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 3 BUILD
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	576		361				262	1495			1639	1473
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right		A			WB Right			
Green	26.0					8.0	38.0	
Yellow	3.0					4.0	4.0	
All Red	3.0					2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.69	0.29	30.8	C	42.5	D
R	412	1425	0.94	0.29	61.2	E		
Westbound								
Northbound								
L	222	1593	1.27	0.58	178.5	F		
T	1844	3192	0.89	0.58	22.4	C	45.3	D
Southbound								
T	1348	3192	1.31	0.42	169.7	F	264.6	F
R	1108	1425	1.75	0.78	350.8	F		

Intersection Delay = 167.2 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/29/2014
 Period: AM PEAK HOUR
 Project ID: Signal Timing Optimization
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 3 BUILD-Mitigation
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	527		189				371	1563			1085	1051
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right		A			WB Right			
Green		22.6				14.1	45.3	
Yellow		3.0				4.0	4.0	
All Red		3.0				2.0	2.0	

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	699	3093	0.81	0.23	43.9	D	56.1	E
R	322	1425	0.96	0.23	78.4	E		
Westbound								
Northbound								
L	319	1593	1.37	0.65	211.2	F		
T	2088	3192	0.85	0.65	17.1	B	55.3	E
Southbound								
T	1446	3192	0.81	0.45	27.1	C	44.6	D
R	1053	1425	1.07	0.74	62.6	E		
Intersection Delay = 50.9 (sec/veh)					Intersection LOS = D			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID: Signal Timing Optimization
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 3 BUILD-Mitigation
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	576		361				262	1495			1639	1473
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right		A			WB Right			
Green		25.9				5.6	60.5	
Yellow		3.0				4.0	4.0	
All Red		3.0				2.0	2.0	

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	728	3093	0.85	0.24	49.6	D	84.5	F
R	336	1425	1.15	0.24	140.1	F		
Westbound								
Northbound								
L	146	1593	1.93	0.66	475.7	F		
T	2092	3192	0.79	0.66	15.5	B	82.9	F
Southbound								
T	1756	3192	1.00	0.55	47.0	D	175.0	F
R	1197	1425	1.62	0.84	291.3	F		
Intersection Delay = 134.5 (sec/veh)					Intersection LOS = F			

Analyst: LDK
 Agency: TQC
 Date: 7/23/14
 Period: AM PEAK HC
 Project ID:
 E/W St: Access/W M

**#3 Easton/W
 Moreland**

All other areas
 annDOT
 Build - 10 Years
 Easton Rd

**Phase 1-10yrs
 No BUILP**

	East
	L
No. Lanes	0
LGConfig	
Volume	
Lane Width	
RTOR Vol	0

SUMMARY

Northbound		Southbound		
T	R	L	T	R
2	0	1	2	0
TR		L	T	
331	6	82	1673	
2.0		12.0	12.0	
	0			

Duration 0.25 Area Type: All other areas
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.7				11.3	84.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				0.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
Westbound								
L	241	1770	0.02	0.14	48.7	D	53.6	D
R	216	1583	0.50	0.14	53.8	D		
Northbound								
TR	2290	3544	0.63	0.65	14.4	B	14.4	B
Southbound								
L	301	1770	0.30	0.78	9.9	A		
T	2292	3547	0.79	0.65	18.7	B	18.3	B

Intersection Delay = 17.8 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 7/23/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: Access/W Moreland

Inter.:
 Area Type: All other areas
 Jurisd: PennDOT
 Year : No Build - 10 Years
 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				5		90		1668	9	140	1295	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.7				11.3	84.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				0.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	241	1770	0.02	0.14	48.7	D	53.0	D
R	216	1583	0.45	0.14	53.2	D		

Northbound

TR	2290	3544	0.80	0.65	18.8	B	18.8	B
----	------	------	------	------	------	---	------	---

Southbound

L	222	1770	0.68	0.78	42.7	D		
T	2292	3547	0.61	0.65	14.0	B	16.8	B

Intersection Delay = 18.9 (sec/veh) Intersection LOS = B

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				96		553		1384	24	267	1056	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	21.5					13.3	45.2	
Yellow	3.0					5.0	5.0	
All Red	3.0					2.0	2.0	

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/c	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	342	1593	0.33	0.22	33.7	C	61.9	E
R	581	1425	1.00	0.41	67.4	E		

Northbound

TR	1438	3182	1.04	0.45	63.7	E	63.7	E
----	------	------	------	------	------	---	------	---

Southbound

L	284	1593	1.13	0.65	127.1	F		
T	2091	3192	0.55	0.65	9.7	A	35.2	D

Intersection Delay = 51.9 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				32		354		1599	39	675	1483	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	4.0				47.6	78.4		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	42	1593	1.31	0.03	316.2	F	78.4	E
R	547	1425	0.78	0.38	47.8	D		

Northbound

TR	1661	3178	1.10	0.52	91.0	F	91.0	F
----	------	------	------	------	------	---	------	---

Southbound

L	554	1593	1.32	0.89	205.5	F		
T	2830	3192	0.55	0.89	2.1	A	67.2	E

Intersection Delay = 77.8 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			417				1019	974			923	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						56.0	33.0	3.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 113.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	960	2522	0.47	0.38	26.8	C	26.8	C
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Northbound

L	1177	3093	1.01	0.38	62.9	E		
T	2712	3192	0.37	0.85	2.0	A	34.8	C

Southbound

TR	1576	3181	0.75	0.50	24.9	C	24.9	C
----	------	------	------	------	------	---	------	---

Intersection Delay = 30.8 (sec/veh) Intersection LOS = C

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			1271				621	1286			988	15
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						28.8	34.2	6.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
						Cycle Length: 90.0 secs		

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
R	1323	2522	1.10	0.52	79.9	E	79.9	E
Westbound								
Northbound								
L	1622	3093	0.42	0.52	13.2	B		
T	2483	3192	0.55	0.78	4.1	A	7.1	A
Southbound								
TR	1019	3185	1.09	0.32	88.1	F	88.1	F

Intersection Delay = 49.8 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	309	365	598	188	810	0	153	363	41	5	1015	59
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type:	CBD or Similar									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left		A	A		NB Left	A	A					
Thru			A		Thru		A					
Right			A		Right		A					
Peds					Peds							
WB Left		A	A		SB Left	A	A	A				
Thru			A		Thru		A	A				
Right			A		Right		A	A				
Peds					Peds							
NB Right					EB Right	A						
SB Right					WB Right	A						
Green		15.0	48.0			10.0	25.0	10.0				
Yellow		5.0	5.0			4.0	4.0	4.0				
All Red		2.0	2.0			2.0	2.0	2.0				
Cycle Length: 140.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	253	1593	1.49	0.50	274.4	F		
TR	994	2900	1.04	0.34	84.3	F	135.3	F
Westbound								
L	222	1593	1.05	0.50	115.4	F		
TR	1094	3192	0.83	0.34	47.9	D	61.6	E
Northbound								
L	165	1593	1.12	0.29	148.3	F		
T	570	3192	0.78	0.18	61.6	E	84.1	F
R	254	1425	0.20	0.18	49.4	D		
Southbound								
L	379	1593	0.02	0.41	25.8	C		
T	935	3192	1.22	0.29	157.9	F	149.8	F
R	417	1425	0.18	0.29	37.1	D		

Intersection Delay = 112.5 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	378	941	253	90	553	0	546	1402	175	62	409	95
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A	A	NB Left	A	A	A
Thru			A	A	Thru	A	A	
Right			A	A	Right	A	A	
Peds					Peds			
WB Left		A		A	SB Left		A	A
Thru				A	Thru		A	
Right				A	Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0	15.0	32.0		10.0	25.0	10.0
Yellow		5.0	5.0	5.0		4.0	4.0	4.0
All Red		2.0	2.0	2.0		2.0	2.0	2.0

Cycle Length: 146.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	472	1593	0.88	0.52	53.9	D		
TR	1142	3088	1.24	0.37	161.6	F	137.2	F
Westbound								
L	213	1593	0.48	0.32	40.4	D		
TR	700	3192	0.88	0.22	67.3	E	63.4	E
Northbound								
L	356	1593	1.76	0.39	393.1	F		
T	896	3192	1.74	0.28	389.6	F	362.7	F
R	400	1425	0.48	0.28	44.5	D		
Southbound								
L	224	1593	0.33	0.28	57.7	E		
T	547	3192	0.82	0.17	68.0	E	64.7	E
R	244	1425	0.48	0.17	56.0	E		

Intersection Delay = 215.8 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	272	1035	24	6	1108	29	63	31	12	238	40	573
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		4.1	44.1			33.8		
Yellow		4.0	4.0			3.0		
All Red		2.0	2.0			3.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	135	307	2.24	0.44	607.8	F		
TR	1401	3178	0.86	0.44	30.5	C	146.7	F
Westbound								
L	144	1593	0.11	0.54	15.6	B		
TR	1722	3177	0.71	0.54	18.4	B	18.3	B
Northbound								
LTR	267	789	0.56	0.34	29.6	C	29.6	C
Southbound								
LT	383	1133	0.89	0.34	53.3	D	152.3	F
R	482	1425	1.35	0.34	204.1	F		

Intersection Delay = 102.8 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	564	1486	30	15	1090	119	109	101	11	69	43	320
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left			A		NB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		4.5	57.2			20.3		
Yellow		4.0	4.0			3.0		
All Red		2.0	2.0			3.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	188	329	3.26	0.57	1052	F		
TR	1819	3180	0.86	0.57	22.7	C	311.8	F
Westbound								
L	145	1593	0.14	0.68	12.8	B		
TR	2123	3136	0.62	0.68	9.5	A	9.6	A
Northbound								
LTR	192	946	1.71	0.20	379.8	F	379.8	F
Southbound								
LT	206	1015	0.71	0.20	48.2	D	126.7	F
R	289	1425	1.20	0.20	159.8	F		

Intersection Delay = 202.8 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Nor AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound					
	L	T	R	L	T	R	L	T	R	L	T	R			
No. Lanes	0	2	0	1	2	0	1	0	1	0	0	0			
LGConfig	TR			L	T		L	R							
Volume	842		116	522	1163		193		469						
Lane Width	12.0			12.0	12.0		12.0		12.0						
RTOR Vol	0									0					

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	25.0	43.2			33.8			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
TR	1124	3122	0.99	0.36	61.7	E	61.7	E
Westbound								
L	392	1593	1.53	0.62	289.8	F		
T	1974	3192	0.63	0.62	14.9	B	104.7	F
Northbound								
L	449	1593	0.61	0.28	40.0	D	165.1	F
R	401	1425	1.38	0.28	227.6	F		
Southbound								

Intersection Delay = 105.3 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Norr PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	1	0	1	0	0	0
LGConfig	TR			L	T		L	R				
Volume	1368 77			470	991		170	617				
Lane Width	12.0			12.0	12.0		12.0	12.0				
RTOR Vol	0						0					

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	35.2	59.3			37.5			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
TR	1251	3165	1.22	0.40	151.7	F	151.7	F
Westbound								
L	422	1593	1.21	0.67	165.3	F		
T	2139	3192	0.52	0.67	12.8	B	60.8	E
Northbound								
L	398	1593	0.51	0.25	49.4	D		
R	356	1425	1.90	0.25	473.7	F	376.3	F
Southbound								

Intersection Delay = 164.1 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and HD
 Agency: TQC Area Type: CBD or Similar
 Date: 6/16/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : NO BUILD PHASE 1
 Project ID:
 E/W St: HOME DEPOT/I-276 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	65		87		15		30	500			1545	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru	A	A			Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right	A	A			WB Right			
Green	22.0	21.0				56.0	14.0	
Yellow	3.0	3.0				5.0	5.0	
All Red	3.0	3.0				2.0	2.0	

Cycle Length: 139.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	195	1232	0.53	0.16	56.4	E	45.9	D
R	441	1425	0.25	0.31	36.3	D		
Westbound								
T	591	1676	0.06	0.35	29.8	C	29.8	C
Northbound								
L	293	1593	0.15	0.55	39.3	D		
T	1768	3192	0.34	0.55	17.1	B	18.6	B
Southbound								
T	1840	4567	0.89	0.40	44.8	D	44.8	D

Intersection Delay = 38.1 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO-BUILD PHASE 1
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	110		154		60		125	720			2249	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru	A	A			Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right	A	A			WB Right			
Green	22.0	21.0				56.0	14.0	
Yellow	3.0	3.0				5.0	5.0	
All Red	3.0	3.0				2.0	2.0	

Cycle Length: 139.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	189	1193	0.68	0.16	64.9	E	49.7	D
R	441	1425	0.39	0.31	38.3	D		
Westbound								
T	591	1676	0.11	0.35	30.4	C	30.4	C
Northbound								
L	293	1593	0.53	0.55	53.3	D		
T	1768	3192	0.48	0.55	19.0	B	24.3	C
Southbound								
T	1840	4567	1.27	0.40	168.9	F	168.9	F

Intersection Delay = 117.8 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD (463)

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound			
	L	T	R	L	T	R	L	T	R	L	T	R	
No. Lanes	0	2	0	1	2	0	1	0	1	0	0	0	
LGConfig	TR			L	T		L	R					
Volume	907		118	141	1127		30		18				
Lane Width	12.0			12.0	12.0		12.0		12.0				
RTOR Vol	0									0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	52.0			25.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 104.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
TR	1569	3138	0.77	0.50	23.5	C	23.5	C
Westbound								
L	223	1593	0.93	0.63	57.2	E		
T	2026	3192	0.63	0.63	12.2	B	18.5	B
Northbound								
L	383	1593	0.10	0.24	30.9	C		
R	343	1425	0.09	0.24	30.8	C	30.8	C
Southbound								

Intersection Delay = 21.0 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD (463)

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	1	0	1	0	0	0
LGConfig	TR			L	T		L	R				
Volume	1143		51	43	1048		180		240			
Lane Width	12.0			12.0	12.0		12.0		12.0			
RTOR Vol			0						0			

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	45.0			25.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
TR	1469	3167	0.92	0.46	34.2	C	34.2	C
Westbound								
L	189	1593	0.30	0.61	15.6	B		
T	1942	3192	0.58	0.61	11.9	B	12.1	B
Northbound								
L	411	1593	0.50	0.26	31.7	C	74.9	E
R	367	1425	1.05	0.26	98.0	F		
Southbound								

Intersection Delay = 33.6 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : NO BUILD PHASE 1
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R		LTR		L	TR	
Volume	45	993	4	2	482	34	2	2	2	228	2	99
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	52.0				25.0			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	399	691	0.16	0.58	9.0	A		
TR	968	1675	1.20	0.58	119.6	F	113.9	F
Westbound								
L	80	129	0.05	0.58	8.5	A		
T	968	1676	0.51	0.58	11.9	B	11.4	B
R	823	1425	0.10	0.58	8.6	A		
Northbound								
LTR	409	1474	0.06	0.28	23.9	C	23.9	C
Southbound								
L	345	1243	0.81	0.28	44.3	D		
TR	400	1440	0.34	0.28	26.5	C	38.4	D

Intersection Delay = 72.3 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: CL and KV AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/16/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : No-Build PHASE 1
 Project ID:
 E/W St: County Line Road N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	666	55	260	544	2	5	33	80	39	284	32
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	8.7	52.6			20.7			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	383	728	0.07	0.53	11.7	B		
TR	871	1655	0.91	0.53	35.1	D	34.4	C
Westbound								
L	270	1593	1.04	0.67	87.3	F		
TR	1127	1675	0.54	0.67	8.9	A	33.6	C
Northbound								
L	73	351	0.22	0.21	34.5	C		
T	347	1676	0.13	0.21	32.5	C	26.5	C
R	504	1425	0.21	0.35	22.8	C		
Southbound								
L	252	1219	0.35	0.21	34.7	C		
T	347	1676	1.00	0.21	87.1	F	72.3	E
R	295	1425	0.16	0.21	32.8	C		

Intersection Delay = 41.3 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: County Line Road

Inter.: CL and KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : No-Build PHASE 1
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	666	55	260	544	2	5	33	80	39	284	32
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	8.7	52.6			20.7			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	383	728	0.07	0.53	11.7	B		
TR	871	1655	0.91	0.53	35.1	D	34.4	C
Westbound								
L	270	1593	1.04	0.67	87.3	F		
TR	1127	1675	0.54	0.67	8.9	A	33.6	C
Northbound								
L	73	351	0.22	0.21	34.5	C		
T	347	1676	0.13	0.21	32.5	C	26.5	C
R	504	1425	0.21	0.35	22.8	C		
Southbound								
L	252	1219	0.35	0.21	34.7	C		
T	347	1676	1.00	0.21	87.1	F	72.3	E
R	295	1425	0.16	0.21	32.8	C		

Intersection Delay = 41.3 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: CL and KV PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/16/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : No-Build PHASE 1
 Project ID:
 E/W St: County Line Road N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	592	14	121	753	42	164	267	328	24	70	38
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	5.6	57.1			29.3			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	327	0.17	0.52	14.4	B		
TR	864	1665	0.78	0.52	26.0	C	25.5	C
Westbound								
L	277	1593	0.48	0.62	15.4	B		
TR	1038	1662	0.87	0.62	24.7	C	23.5	C
Northbound								
L	315	1181	0.66	0.27	41.0	D		
T	446	1676	0.67	0.27	40.0	D	38.6	D
R	530	1425	0.75	0.37	36.3	D		
Southbound								
L	169	633	0.21	0.27	31.9	C		
T	446	1676	0.18	0.27	31.3	C	31.3	C
R	380	1425	0.14	0.27	30.9	C		

Intersection Delay = 29.3 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/2014
 Period: AM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : No-Build - PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	11	310	86	225	378	119	165	822	94	95	1270	13
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		8.4	20.9			4.0	50.7	
Yellow		4.0	4.0			5.0	5.0	
All Red		2.0	2.0			2.0	2.0	

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	187	1593	0.12	0.32	27.9	C		
TR	585	3081	0.79	0.19	49.8	D	48.8	D
Westbound								
L	218	1593	1.39	0.32	244.8	F		
TR	586	3083	1.09	0.19	107.0	F	151.5	F
Northbound								
L	123	1593	1.54	0.56	304.8	F		
TR	1447	3140	0.74	0.46	26.4	C	68.3	E
Southbound								
L	183	1593	0.78	0.56	48.7	D		
TR	1466	3181	0.92	0.46	37.8	D	38.9	D

Intersection Delay = 74.2 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : No-Build PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	11	311	94	86	368	121	211	1262	130	158	1015	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		5.0	29.0			9.0	62.0	
Yellow		4.0	4.0			5.0	5.0	
All Red		2.0	2.0			2.0	2.0	

Cycle Length: 131.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	129	1593	0.20	0.31	34.9	C		
TR	682	3079	0.83	0.22	57.2	E	56.2	E
Westbound								
L	144	1593	1.10	0.31	157.5	F		
TR	681	3075	0.91	0.22	65.5	E	84.3	F
Northbound								
L	219	1593	1.40	0.60	227.5	F		
TR	1488	3145	1.06	0.47	74.6	E	99.5	F
Southbound								
L	164	1593	1.29	0.60	208.6	F		
TR	1506	3181	0.76	0.47	30.6	C	58.4	E

Intersection Delay = 79.3 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : No-Build PHASE 1
 N/S St: Easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	0	0	0	0	0	0	54	1192	0	0	1658	57
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	382	1676	0.00	0.23	34.0	C		
R	325	1425	0.00	0.23	34.0	C		
Westbound								
LTR	382	1676	0.00	0.23	34.0	C		
Northbound								
L	342	1593	0.24	0.66	19.4	B		
TR	2100	3192	0.62	0.66	11.9	B	12.3	B
Southbound								
LT	1344	3192	1.28	0.42	167.0	F	161.1	F
R	600	1425	0.12	0.42	20.2	C		
Intersection Delay = 96.2 (sec/veh)					Intersection LOS = F			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : No-Build PHASE 1
 N/S St: Easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR		LT	R	
Volume	8	0	59	0	0	0	6	1686	0	0	1236	1
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	140	616	0.10	0.23	35.1	D	36.5	D
R	325	1425	0.27	0.23	36.7	D		
Westbound								
LTR	382	1676	0.00	0.23	34.0	C		
Northbound								
L	342	1593	0.06	0.66	13.2	B		
TR	2100	3192	0.80	0.66	16.5	B	16.5	B
Southbound								
LT	1344	3192	0.92	0.42	41.6	D	41.5	D
R	600	1425	0.01	0.42	19.2	B		
Intersection Delay = 27.3 (sec/veh)					Intersection LOS = C			

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 8/14/2013
 Analysis Time Period: AM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: Future NB PHASE 1
 Project ID:
 East/West Street: W MORELAND AVE
 North/South Street: EASTON RD (611)
 Intersection Orientation: NS
 Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		1219	5	75	1532			
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90			
Hourly Flow Rate, HFR		1354	5	83	1702			
Percent Heavy Vehicles		--	--	2	--	--		
Median Type/Storage		Undivided			/			
RT Channelized?								
Lanes		2	0		1	2		
Configuration		T	TR		L	T		
Upstream Signal?		No			No			

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		0	89				
Peak Hour Factor, PHF		0.90	0.90				
Hourly Flow Rate, HFR		0	98				
Percent Heavy Vehicles		2	2				
Percent Grade (%)		0		0			
Flared Approach: Exists?/Storage		No	/		/		
Lanes		0	0				
Configuration		LR					

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			4	7	8	9	10	11
Lane Config	1	L		LR				
v (vph)		83		98				
C(m) (vph)		502		449				
v/c		0.17		0.22				
95% queue length		0.59		0.82				
Control Delay		13.6		15.2				
LOS		B		C				
Approach Delay				15.2				
Approach LOS				C				

Analyst: LDK
 Agency: TQC
 Date: 7/23/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: Access/W Moreland

Inter.:
 Area Type: All other areas
 Jurisd: PennDOT
 Year : No Build Phase 1
 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				5		89		1219	5	75	1532	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru		A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.7				11.3	84.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				0.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	241	1770	0.02	0.14	48.7	D	52.9	D
R	216	1583	0.45	0.14	53.1	D		

Northbound

TR	2291	3545	0.58	0.65	13.4	B	13.4	B
----	------	------	------	------	------	---	------	---

Southbound

L	334	1770	0.25	0.78	7.9	A		
T	2292	3547	0.73	0.65	16.5	B	16.1	B

Intersection Delay = 16.2 (sec/veh) Intersection LOS = B

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 8/14/2013
 Analysis Time Period: PM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: Future NB PHASE 1
 Project ID:
 East/West Street: W MORELAND AVE
 North/South Street: EASTON RD (611)
 Intersection Orientation: NS

Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound			
		1 L	2 T	3 R	4 L	5 T	6 R		
Volume		1528	9		128	1186			
Peak-Hour Factor, PHF		0.90	0.90		0.90	0.90			
Hourly Flow Rate, HFR		1697	10		142	1317			
Percent Heavy Vehicles		--	--		2	--	--		
Median Type/Storage		Undivided				/			
RT Channelized?									
Lanes		2	0		1	2			
Configuration		T	TR		L	T			
Upstream Signal?		No				No			

Minor Street:	Approach Movement	Westbound				Eastbound			
		7 L	8 T	9 R	10 L	11 T	12 R		
Volume		0		83					
Peak Hour Factor, PHF		0.90		0.90					
Hourly Flow Rate, HFR		0		92					
Percent Heavy Vehicles		2		2					
Percent Grade (%)			0			0			
Flared Approach: Exists?/Storage				No	/			/	
Lanes		0		0					
Configuration			LR						

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound				Eastbound		
			7	8	9	10	11	12	
Lane Config		L		LR					
v (vph)		142		92					
C(m) (vph)		368		357					
v/c		0.39		0.26					
95% queue length		1.77		1.01					
Control Delay		20.8		18.5					
LOS		C		C					
Approach Delay				18.5					
Approach LOS				C					

Analyst: LDK
 Agency: TQC
 Date: 7/23/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: Access/W Moreland

Inter.:
 Area Type: All other areas
 Jurisd: PennDOT
 Year : No Build Phase 1
 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				5		83		1528	9	128	1186	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru		A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.7				11.3	84.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				0.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	241	1770	0.02	0.14	48.7	D	52.5	D
R	216	1583	0.42	0.14	52.7	D		

Northbound

TR	2289	3543	0.73	0.65	16.6	B	16.6	B
----	------	------	------	------	------	---	------	---

Southbound

L	251	1770	0.55	0.78	21.1	C		
T	2292	3547	0.56	0.65	13.1	B	13.9	B

Intersection Delay = 16.5 (sec/veh) Intersection LOS = B

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MAPLE AVE (LOWER)

Inter.: East Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : No-Build PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	227	1	52	3	20	1	171	927	3	1	1201	600
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations										
Phase Combination	1	2	3	4	5	6	7	8		
EB Left		A			NB Left		A			
Thru		A			Thru		A			
Right		A			Right		A			
Peds					Peds					
WB Left		A			SB Left	A	A			
Thru		A			Thru	A	A			
Right		A			Right	A	A			
Peds					Peds					
NB Right					EB Right					
SB Right					WB Right					
Green	19.0					4.0	47.0			
Yellow	3.0					5.0	5.0			
All Red	3.0					2.0	2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	256	1213	1.12	0.21	128.2	F		
TR	304	1440	0.23	0.21	29.8	C	109.2	F
Westbound								
LTR	331	1566	0.15	0.21	29.2	C	29.2	C
Northbound								
L	171	327	1.28	0.52	184.9	F		
TR	1664	3187	0.66	0.52	16.6	B	44.7	D
Southbound								
L	237	1593	0.00	0.64	7.9	A		
T	2057	3192	0.65	0.64	10.5	B	12.0	B
R	918	1425	0.76	0.64	14.9	B		

Intersection Delay = 32.9 (sec/veh) Intersection LOS = C

Analyst: LDK Inter.: East Maple PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/16/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : No-Build PHASE 1
 Project ID:
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	684	13	129	9	10	1	85	1512	15	1	1053	336
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0				3.0	52.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	280	1234	2.71	0.23	819.0	F		
TR	331	1461	0.55	0.23	35.0+	D	668.2	F
Westbound								
LTR	329	1452	0.10	0.23	29.8	C	29.8	C
Northbound								
L	180	335	0.67	0.54	25.3	C		
TR	1707	3185	1.01	0.54	46.9	D	45.5	D
Southbound								
L	123	1593	0.03	0.64	17.2	B		
T	2040	3192	0.63	0.64	11.2	B	10.7	B
R	911	1425	0.46	0.64	9.3	A		
Intersection Delay = 161.7 (sec/veh)					Intersection LOS = F			

Analyst: LDK Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/16/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : No-Build PHASE 1
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	139	518	4	72	840	15	19	869	66	33	799	421
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations										
Phase Combination	1	2	3	4	5	6	7	8		
EB Left		A	A		NB Left	A				
Thru			A		Thru	A				
Right			A		Right	A				
Peds					Peds					
WB Left		A	A		SB Left	A				
Thru			A		Thru	A				
Right			A		Right	A				
Peds					Peds					
NB Right					EB Right					
SB Right					WB Right					
Green	4.0	22.0				34.0				
Yellow	4.0	4.0				5.0				
All Red	3.0	2.0				2.0				

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	1593	1.01	0.40	98.7	F		
TR	875	3183	0.69	0.28	28.4	C	43.9	D
Westbound								
L	218	1593	0.44	0.40	17.8	B		
TR	874	3179	1.10	0.28	89.6	F	83.1	F
Northbound								
L	90	197	0.38	0.43	18.4	B		
T	1357	3192	0.73	0.43	21.2	C	20.6	C
R	606	1425	0.11	0.43	14.0	B		
Southbound								
L	136	321	0.40	0.43	17.9	B		
TR	1283	3019	1.13	0.43	93.5	F	90.7	F

Intersection Delay = 63.4 (sec/veh) Intersection LOS = E

Analyst: LDK Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/16/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : No-Build PHASE 1
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	469	1033	18	94	533	15	30	1122	119	40	943	178
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	6.0	30.0				40.0		
Yellow	4.0	4.0				5.0		
All Red	3.0	3.0				2.0		

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	260	1593	2.07	0.44	530.0	F		
TR	984	3180	1.27	0.31	161.0	F	272.5	F
Westbound								
L	173	1593	0.75	0.44	38.6	D		
TR	981	3172	0.63	0.31	30.0	C	31.5	C
Northbound								
L	74	168	0.64	0.41	39.3	D		
T	1316	3192	0.95	0.41	41.7	D	39.3	D
R	588	1425	0.25	0.41	18.9	B		
Southbound								
L	74	168	0.65	0.41	41.1	D		
TR	1286	3118	0.97	0.41	45.2	D	45.0	D

Intersection Delay = 118.7 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : PHASE 1 NO-BUILD
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	386		173				340	1238			965	934
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

		Signal Operations							
Phase Combination		1	2	3	4	5	6	7	8
EB	Left		A			NB Left	A	A	
	Thru					Thru	A	A	
	Right		A			Right			
	Peds					Peds			
WB	Left					SB Left			
	Thru					Thru		A	
	Right					Right		A	
	Peds					Peds			
NB	Right					EB Right			
SB	Right		A			WB Right			
Green		26.0					8.0	38.0	
Yellow		3.0					4.0	4.0	
All Red		3.0					2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.46	0.29	26.7	C	29.3	C
R	412	1425	0.69	0.29	33.2	C		
Westbound								
Northbound								
L	252	1593	1.59	0.58	300.2	F		
T	1844	3192	0.76	0.58	16.3	B	79.1	E
Southbound								
T	1348	3192	0.77	0.42	25.1	C	21.7	C
R	1108	1425	0.91	0.78	18.2	B		
Intersection Delay = 45.7 (sec/veh)					Intersection LOS = D			

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : PHASE 1 NO BUILD
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	436		330				240	1277			1314	1256
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right		A			WB Right			
Green	26.0					8.0	38.0	
Yellow	3.0					4.0	4.0	
All Red	3.0					2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.64	0.29	29.5	C	36.2	D
R	412	1425	0.86	0.29	47.1	D		
Westbound								
Northbound								
L	222	1593	1.16	0.58	136.9	F		
T	1844	3192	0.76	0.58	16.2	B	35.0-	C
Southbound								
T	1348	3192	1.05	0.42	64.2	E	90.0	F
R	1108	1425	1.22	0.78	117.0	F		
Intersection Delay = 63.6 (sec/veh)					Intersection LOS = E			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 - PHASE 1
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				96		553	1671	24		353	1142	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	21.5				13.3	45.2		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group	Approach	
			v/c	g/C	Delay	LOS	Delay LOS

Eastbound

Westbound

L	342	1593	0.33	0.22	33.7	C	61.9	E
R	581	1425	1.00	0.41	67.4	E		

Northbound

TR	1439	3184	1.26	0.45	148.6	F	148.6	F
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Southbound

L	284	1593	1.50	0.65	274.4	F		
T	2091	3192	0.60	0.65	10.3	B	77.1	E

Intersection Delay = 105.5 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				32		354	1912	39		837	1645	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration	0.25	Area Type: CBD or Similar							
Signal Operations									
Phase Combination	1	2	3	4	5	6	7	8	
EB Left					NB Left				
Thru					Thru	A			
Right					Right	A			
Peds					Peds				
WB Left	A				SB Left	A	A		
Thru					Thru	A	A		
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right	A			
Green	4.0					47.6	78.4		
Yellow	3.0					5.0	5.0		
All Red	3.0					2.0	2.0		
Cycle Length: 150.0 secs									

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
Westbound								
L	42	1593	1.31	0.03	316.2	F	78.4	E
R	547	1425	0.78	0.38	47.8	D		
Northbound								
TR	1663	3181	1.31	0.52	179.1	F	179.1	F
Southbound								
L	554	1593	1.64	0.89	345.1	F		
T	2830	3192	0.61	0.89	2.5	A	120.5	F

Intersection Delay = 140.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			488				1156	1124			1025	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						56.0	33.0	3.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 113.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
R	960	2522	0.55	0.38	28.1	C	28.1	C
Westbound								
Northbound								
L	1177	3093	1.14	0.38	109.4	F		
T	2712	3192	0.43	0.85	2.1	A	59.5	E
Southbound								
TR	1577	3182	0.83	0.50	28.3	C	28.3	C

Intersection Delay = 46.3 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			1427				764	1457			1157	15
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						28.8	34.2	6.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
R	1323	2522	1.24	0.52	135.9	F	135.9	F
Westbound								
Northbound								
L	1622	3093	0.51	0.52	14.2	B		
T	2483	3192	0.62	0.78	4.7	A	8.1	A
Southbound								
TR	1020	3186	1.28	0.32	163.1	F	163.1	F

Intersection Delay = 85.6 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1- PHASE 1
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	309	435	598	188	947	0	153	363	41	5	1015	59
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A	A		NB Left	A	A				
Thru			A		Thru		A				
Right			A		Right		A				
Peds					Peds						
WB Left		A	A		SB Left	A	A	A			
Thru			A		Thru		A	A			
Right			A		Right		A	A			
Peds					Peds						
NB Right					EB Right	A					
SB Right					WB Right	A					
Green		15.0	48.0			10.0	25.0	10.0			
Yellow		5.0	5.0			4.0	4.0	4.0			
All Red		2.0	2.0			2.0	2.0	2.0			
Cycle Length: 140.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	222	1593	1.70	0.50	377.2	F		
TR	1001	2920	1.11	0.34	108.1	F	176.4	F
Westbound								
L	222	1593	1.05	0.50	117.4	F		
TR	1094	3192	0.97	0.34	66.2	E	75.3	E
Northbound								
L	165	1593	1.12	0.29	148.3	F		
T	570	3192	0.78	0.18	61.6	E	84.1	F
R	254	1425	0.20	0.18	49.4	D		
Southbound								
L	379	1593	0.02	0.41	25.8	C		
T	935	3192	1.22	0.29	157.9	F	149.8	F
R	417	1425	0.18	0.29	37.1	D		

Intersection Delay = 128.1 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1- PHASE 1
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	378	1098	253	90	696	0	546	1402	175	62	409	95
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A	A	A	NB Left	A	A	A			
Thru			A	A	Thru	A	A				
Right			A	A	Right	A	A				
Peds					Peds						
WB Left		A		A	SB Left		A	A			
Thru				A	Thru		A				
Right				A	Right		A				
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green		15.0	15.0	32.0		10.0	25.0	10.0			
Yellow		5.0	5.0	5.0		4.0	4.0	4.0			
All Red		2.0	2.0	2.0		2.0	2.0	2.0			
Cycle Length: 146.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	453	1593	0.92	0.52	66.3	E		
TR	1147	3100	1.40	0.37	229.5	F	195.9	F
Westbound								
L	213	1593	0.48	0.32	40.4	D		
TR	700	3192	1.10	0.22	123.2	F	113.6	F
Northbound								
L	356	1593	1.76	0.39	393.1	F		
T	896	3192	1.74	0.28	389.6	F	362.7	F
R	400	1425	0.48	0.28	44.5	D		
Southbound								
L	224	1593	0.33	0.28	57.7	E		
T	547	3192	0.82	0.17	68.0	E	64.7	E
R	244	1425	0.48	0.17	56.0	E		

Intersection Delay = 236.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR		LT	R	
Volume	297	1093	24	6	1218	56	63	34	12	250	44	599
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A					
Thru		A			Thru	A					
Right		A			Right	A					
Peds					Peds						
WB Left	A	A			SB Left	A					
Thru	A	A			Thru	A					
Right	A	A			Right	A					
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green	4.1	44.1			33.8						
Yellow	4.0	4.0			3.0						
All Red	2.0	2.0			3.0						

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	98	223	3.37	0.44	1119	F		
TR	1402	3179	0.90	0.44	34.2	C	258.9	F
Westbound								
L	137	1593	0.12	0.54	16.5	B		
TR	1716	3166	0.80	0.54	21.3	C	21.2	C
Northbound								
LTR	258	763	0.60	0.34	31.4	C	31.4	C
Southbound								
LT	381	1126	0.95	0.34	65.0	E	173.4	F
R	482	1425	1.41	0.34	230.9	F		

Intersection Delay = 150.2 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	596	1620	30	15	1204	148	109	104	11	91	51	365
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left			A		NB Left	A					
Thru			A		Thru	A					
Right			A		Right	A					
Peds					Peds						
WB Left		A	A		SB Left	A					
Thru		A	A		Thru	A					
Right		A	A		Right	A					
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green		4.5	57.2			20.3					
Yellow		4.0	4.0			3.0					
All Red		2.0	2.0			3.0					

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	148	259	4.38	0.57	1557	F		
TR	1820	3181	0.94	0.57	29.8	C	449.9	F
Westbound								
L	144	1593	0.15	0.68	15.4	B		
TR	2119	3130	0.70	0.68	10.9	B	10.9	B
Northbound								
LTR	160	787	2.08	0.20	544.4	F	544.4	F
Southbound								
LT	201	991	0.93	0.20	82.1	F	181.8	F
R	289	1425	1.37	0.20	228.4	F		
Intersection Delay = 286.0 (sec/veh)					Intersection LOS = F			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Nor AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE1
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	49	900	116	522	1243	55	193	5	469	25	8	50
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left			A		NB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		31.3	53.7			37.0		
Yellow		4.0	4.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	134	349	0.40	0.38	33.3	C		
TR	1199	3126	0.98	0.38	63.6	E	62.3	E
Westbound								
L	407	1593	1.47	0.65	272.4	F		
T	2075	3192	0.64	0.65	15.3	B	92.9	F
R	926	1425	0.06	0.65	9.0	A		
Northbound								
L	333	1260	0.83	0.26	64.4	E		
T	443	1676	0.01	0.26	38.0	D	203.5	F
R	377	1425	1.46	0.26	274.5	F		
Southbound								
L	334	1265	0.08	0.26	38.8	D		
T	443	1676	0.02	0.26	38.1	D	39.2	D
R	377	1425	0.14	0.26	39.6	D		

Intersection Delay = 105.0 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Norr PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	63	1488	77	470	1093	57	170	6	617	45	15	90
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		34.1	59.8			38.1		
Yellow		4.0	4.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	153	384	0.44	0.40	35.0+	D		
TR	1263	3167	1.31	0.40	189.5	F	183.4	F
Westbound								
L	410	1593	1.25	0.67	180.4	F		
T	2126	3192	0.58	0.67	14.0	B	61.0	E
R	949	1425	0.07	0.67	8.8	A		
Northbound								
L	318	1252	0.64	0.25	53.9	D		
T	426	1676	0.02	0.25	41.9	D	363.6	F
R	362	1425	1.87	0.25	459.2	F		
Southbound								
L	321	1263	0.15	0.25	43.6	D		
T	426	1676	0.04	0.25	42.2	D	44.5	D
R	362	1425	0.27	0.25	45.2	D		

Intersection Delay = 165.2 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 - PHASE 1
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	1
LGConfig	L		R		T		L	T			T	R
Volume	65		87		15		30	644			1632	28
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A	A				
Thru					Thru	A	A				
Right		A			Right						
Peds					Peds						
WB Left					SB Left						
Thru		A	A		Thru	A					
Right					Right	A	A				
Peds					Peds						
NB Right					EB Right		A				
SB Right		A	A		WB Right						
Green		22.0	21.0			56.0	14.0				
Yellow		3.0	3.0			5.0	5.0				
All Red		3.0	3.0			2.0	2.0				
Cycle Length: 139.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	195	1232	0.53	0.16	56.4	E	45.9	D
R	441	1425	0.25	0.31	36.3	D		
Westbound								
T	591	1676	0.06	0.35	29.8	C	29.8	C
Northbound								
L	293	1593	0.15	0.55	41.1	D		
T	1768	3192	0.43	0.55	18.4	B	19.6	B
Southbound								
T	1840	4567	0.94	0.40	50.5	D	49.6	D
R	1425	1425	0.02	1.00	0.0+	A		
Intersection Delay = 40.5 (sec/veh) Intersection LOS = D								

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 - PHASE 1
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	1
LGConfig	L		R		T		L	T			T	R
Volume	110		154		60		125	877			2412	148
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left	A				NB Left	A	A				
Thru					Thru	A	A				
Right	A				Right						
Peds					Peds						
WB Left					SB Left						
Thru	A	A			Thru	A					
Right					Right	A	A				
Peds					Peds						
NB Right					EB Right		A				
SB Right	A	A			WB Right						
Green	22.0	21.0				56.0	14.0				
Yellow	3.0	3.0				5.0	5.0				
All Red	3.0	3.0				2.0	2.0				
Cycle Length: 139.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	189	1193	0.68	0.16	64.9	E	49.7	D
R	441	1425	0.39	0.31	38.3	D		
Westbound								
T	591	1676	0.11	0.35	30.4	C	30.4	C
Northbound								
L	293	1593	0.53	0.55	53.3	D		
T	1768	3192	0.58	0.55	20.9	C	25.1	C
Southbound								
T	1840	4567	1.37	0.40	209.7	F	197.0	F
R	1425	1425	0.11	1.00	0.0+	A		
Intersection Delay = 135.8 (sec/veh) Intersection LOS = F								

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	49	989	118	141	1202	55	30	5	18	25	8	50
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	52.0			12.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 91.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	191	334	0.28	0.57	10.7	B		
TR	1795	3142	0.72	0.57	15.8	B	15.6	B
Westbound								
L	260	1593	0.80	0.73	27.2	C		
T	2315	3192	0.59	0.73	6.4	A	8.9	A
R	1034	1425	0.06	0.73	3.6	A		
Northbound								
L	166	1260	0.23	0.13	36.1	D		
T	221	1676	0.02	0.13	34.4	C	35.7	D
R	188	1425	0.16	0.13	35.4	D		
Southbound								
L	167	1265	0.16	0.13	35.5	D		
T	221	1676	0.04	0.13	34.6	C	36.0	D
R	188	1425	0.29	0.13	36.5	D		

Intersection Delay = 13.2 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	63	1252	51	43	1183	57	180	6	240	75	8	68
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type:	CBD or Similar									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left		A			NB Left	A						
Thru		A			Thru	A						
Right		A			Right	A						
Peds					Peds							
WB Left	A	A			SB Left	A						
Thru	A	A			Thru	A						
Right	A	A			Right	A						
Peds					Peds							
NB Right					EB Right							
SB Right					WB Right							
Green	7.0	45.0			25.0							
Yellow	5.0	5.0			4.0							
All Red	2.0	2.0			2.0							
Cycle Length: 97.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	165	355	0.41	0.46	18.9	B		
TR	1470	3169	1.00	0.46	50.6	D	49.2	D
Westbound								
L	189	1593	0.30	0.61	17.5	B		
T	1942	3192	0.65	0.61	13.2	B	13.1	B
R	867	1425	0.07	0.61	7.8	A		
Northbound								
L	325	1260	0.64	0.26	36.1	D		
T	432	1676	0.02	0.26	26.8	C	75.9	E
R	367	1425	1.05	0.26	98.0	F		
Southbound								
L	326	1263	0.25	0.26	29.0	C		
T	432	1676	0.02	0.26	26.9	C	28.6	C
R	367	1425	0.20	0.26	28.5	C		
Intersection Delay = 39.1 (sec/veh)					Intersection LOS = D			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 - PHASE 1
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R		LTR		L	TR	
Volume	60	1116	4	2	595	47	2	2	2	236	2	103
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	52.0				25.0			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	317	549	0.27	0.58	10.0-	A		
TR	968	1675	1.35	0.58	183.0	F	172.3	F
Westbound								
L	80	129	0.05	0.58	8.5	A		
T	968	1676	0.63	0.58	14.0	B	13.2	B
R	823	1425	0.14	0.58	8.8	A		
Northbound								
LTR	409	1472	0.06	0.28	23.9	C	23.9	C
Southbound								
L	345	1243	0.84	0.28	47.8	D		
TR	400	1439	0.35	0.28	26.6	C	40.8	D

Intersection Delay = 103.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R		LTR		L	TR	
Volume	144	877	2	1	1350	156	2	2	2	65	1	41
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration	0.25	Area Type:	CBD or Similar									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left	A				NB Left	A						
Thru	A				Thru	A						
Right	A				Right	A						
Peds					Peds							
WB Left	A				SB Left	A						
Thru	A				Thru	A						
Right	A				Right	A						
Peds					Peds							
NB Right					EB Right							
SB Right					WB Right							
Green	52.0				7.0							
Yellow	5.0				3.0							
All Red	2.0				3.0							
Cycle Length: 72.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	100	129	1.95	0.72	471.7	F		
TR	1210	1676	0.83	0.72	11.7	B	86.8	F
Westbound								
L	239	331	0.02	0.72	2.8	A		
T	1210	1676	1.20	0.72	108.2	F	94.5	F
R	1029	1425	0.21	0.72	3.4	A		
Northbound								
LTR	135	1388	0.18	0.10	30.5	C	30.5	C
Southbound								
L	121	1243	0.72	0.10	50.2	D		
TR	139	1429	0.41	0.10	32.5	C	43.2	D

Intersection Delay = 88.5 (sec/veh) Intersection LOS = F

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 6/18/14
 Analysis Time Period: PM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: BUILD ALT 1 - PHASE 1
 Project ID:
 East/West Street: ACCESS RD
 North/South Street: KEITH VALLEY RD
 Intersection Orientation: NS
 Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		20	17	14	204		
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90		
Hourly Flow Rate, HFR		22	18	15	226		
Percent Heavy Vehicles		--	--	0	--	--	
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR			LT	
Upstream Signal?		No				No	

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		5		17			
Peak Hour Factor, PHF		0.90		0.90			
Hourly Flow Rate, HFR		5		18			
Percent Heavy Vehicles		0		0			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/		/
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement	NB		Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		15		23				
C(m) (vph)		1583		947				
v/c		0.01		0.02				
95% queue length		0.03		0.07				
Control Delay		7.3		8.9				
LOS		A		A				
Approach Delay				8.9				
Approach LOS				A				

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 6/18/14
 Analysis Time Period: AM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: BUILD ALT 1-PHASE 1
 Project ID:
 East/West Street: ACCESS RD
 North/South Street: KEITH VALLEY RD
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound			Southbound		
	1 L	2 T	3 R	4 L	5 T	6 R
Volume		13	15	12	599	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		14	16	13	665	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		0	1
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach Movement	Westbound			Eastbound		
	7 L	8 T	9 R	10 L	11 T	12 R
Volume	5		9			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	5		10			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration			LR			

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		13		15				
C(m) (vph)		1596		682				
v/c		0.01		0.02				
95% queue length		0.02		0.07				
Control Delay		7.3		10.4				
LOS		A		B				
Approach Delay				10.4				
Approach LOS				B				

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: County Line Road

Inter.: CL and KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 PHASE 1
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	666	61	262	544	2	13	41	87	39	289	32
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right		A			EB Right			
SB Right					WB Right			
Green		8.7	52.6			20.7		
Yellow		4.0	4.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	383	728	0.07	0.53	11.7	B		
TR	869	1653	0.92	0.53	36.6	D	35.9	D
Westbound								
L	265	1593	1.06	0.67	96.4	F		
TR	1127	1675	0.54	0.67	8.9	A	36.6	D
Northbound								
L	72	331	0.58	0.21	47.3	D		
T	347	1676	0.17	0.21	32.8	C	30.3	C
R	504	1425	0.23	0.35	23.0	C		
Southbound								
L	250	1206	0.35	0.21	34.7	C		
T	347	1676	1.01	0.21	91.7	F	75.8	E
R	295	1425	0.16	0.21	32.8	C		

Intersection Delay = 43.7 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: County Line Road

Inter.: CL and KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 PHASE 1
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	592	21	122	753	42	176	279	340	24	76	38
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type:	CBD or Similar									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left		A			NB Left	A						
Thru		A			Thru	A						
Right		A			Right	A						
Peds					Peds							
WB Left	A	A			SB Left	A						
Thru	A	A			Thru	A						
Right	A	A			Right	A						
Peds					Peds							
NB Right	A				EB Right							
SB Right					WB Right							
Green	5.6	57.1			29.3							
Yellow	4.0	4.0			4.0							
All Red	2.0	2.0			2.0							
Cycle Length: 110.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	327	0.17	0.52	14.4	B		
TR	862	1660	0.80	0.52	27.1	C	26.6	C
Westbound								
L	267	1593	0.51	0.62	16.2	B		
TR	1038	1662	0.87	0.62	24.7	C	23.5	C
Northbound								
L	312	1173	0.71	0.27	44.1	D		
T	446	1676	0.70	0.27	41.3	D	40.6	D
R	530	1425	0.78	0.37	38.1	D		
Southbound								
L	159	597	0.22	0.27	32.1	C		
T	446	1676	0.20	0.27	31.5	C	31.4	C
R	380	1425	0.14	0.27	30.9	C		
Intersection Delay = 30.4 (sec/veh)					Intersection LOS = C			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 - PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	11	310	86	265	378	119	165	853	124	95	1310	13
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru		A	
Right			A		Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		8.4	20.9			4.0	50.7	
Yellow		4.0	4.0			5.0	5.0	
All Red		2.0	2.0			2.0	2.0	

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	187	1593	0.12	0.32	27.9	C		
TR	585	3081	0.79	0.19	49.8	D	48.8	D
Westbound								
L	218	1593	1.64	0.32	350.5	F		
TR	586	3083	1.09	0.19	107.0	F	194.7	F
Northbound								
L	123	1593	1.54	0.56	305.3	F		
TR	1442	3128	0.79	0.46	28.4	C	67.8	E
Southbound								
L	164	1593	0.87	0.56	69.1	E		
TR	1467	3182	0.95	0.46	42.0	D	44.5	D

Intersection Delay = 86.4 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/16/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	11	311	94	139	368	121	211	1324	192	158	1067	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration	0.25	Area Type:	CBD or Similar							
Signal Operations										
Phase Combination	1	2	3	4	5	6	7	8		
EB Left		A			NB Left	A	A			
Thru			A		Thru		A			
Right			A		Right		A			
Peds					Peds					
WB Left		A	A		SB Left	A	A			
Thru			A		Thru		A			
Right			A		Right		A			
Peds					Peds					
NB Right					EB Right					
SB Right					WB Right					
Green		5.0	29.0			9.0	62.0			
Yellow		4.0	4.0			5.0	5.0			
All Red		2.0	2.0			2.0	2.0			
Cycle Length: 131.0 secs										

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	129	1593	0.20	0.31	34.9	C		
TR	682	3079	0.83	0.22	57.2	E	56.2	E
Westbound								
L	144	1593	1.78	0.31	431.4	F		
TR	681	3075	0.91	0.22	65.5	E	173.1	F
Northbound								
L	205	1593	1.49	0.60	272.4	F		
TR	1480	3128	1.16	0.47	114.5	F	138.4	F
Southbound								
L	164	1593	1.29	0.60	209.6	F		
TR	1506	3181	0.80	0.47	32.3	C	58.8	E

Intersection Delay = 111.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 PHASE 1
 N/S St: Easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig	LT R			LTR			L TR			LT R		
Volume	28	0	56	0	0	0	127	1226	0	0	1702	93
Lane Width	12.0 12.0			12.0			12.0 12.0			12.0 12.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0		48.0	
Yellow	4.0				5.0		5.0	
All Red	2.0				2.0		2.0	

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LT	75	331	0.41	0.23	41.2	D	37.6	D
R	325	1425	0.19	0.23	35.8	D		

Westbound

LTR	382	1676	0.00	0.23	34.0	C		
-----	-----	------	------	------	------	---	--	--

Northbound

L	342	1593	0.56	0.66	30.4	C		
TR	2100	3192	0.64	0.66	12.2	B	14.5	B

Southbound

LT	1344	3192	1.32	0.42	182.0	F	171.9	F
R	600	1425	0.20	0.42	21.0	C		

Intersection Delay = 99.6 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 PHASE 1
 N/S St: Easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	68	0	149	0	0	0	92	1750	0	0	1300	43
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	59	258	1.29	0.23	256.8	F	107.9	F
R	325	1425	0.51	0.23	39.8	D		
Westbound								
LTR	382	1676	0.00	0.23	34.0	C		
Northbound								
L	342	1593	0.90	0.66	61.2	E		
TR	2100	3192	0.91	0.66	22.6	C	28.0	C
Southbound								
LT	1344	3192	1.07	0.42	80.2	F	74.0	E
R	600	1425	0.29	0.42	22.0	C		
Intersection Delay = 51.0 (sec/veh)					Intersection LOS = D			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MAPLE AVE (LOWER)

Inter.: East Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	242	1	79	3	20	2	207	1042	3	5	1276	620
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar							
Signal Operations									
Phase Combination	1	2	3	4	5	6	7	8	
EB Left		A			NB Left		A		
Thru		A			Thru		A		
Right		A			Right		A		
Peds					Peds				
WB Left		A			SB Left	A	A		
Thru		A			Thru	A	A		
Right		A			Right	A	A		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		19.0				4.0	47.0		
Yellow		3.0				5.0	5.0		
All Red		3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	256	1212	1.20	0.21	155.0	F		
TR	303	1435	0.34	0.21	30.8	C	123.8	F
Westbound								
LTR	328	1553	0.16	0.21	29.2	C	29.2	C
Northbound								
L	149	286	1.78	0.52	397.5	F		
TR	1664	3187	0.74	0.52	18.4	B	85.9	F
Southbound								
L	200	1593	0.03	0.64	9.0	A		
T	2057	3192	0.69	0.64	11.2	B	12.9	B
R	918	1425	0.79	0.64	16.1	B		
Intersection Delay = 50.7			(sec/veh)		Intersection LOS = D			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MAPLE AVE (LOWER)

Inter.: East Maple PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	714	13	174	9	10	5	123	1644	15	5	1177	361
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0				3.0	52.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	279	1230	2.84	0.23	876.4	F		
TR	330	1453	0.72	0.23	41.8	D	685.0	F
Westbound								
LTR	312	1375	0.12	0.23	29.9	C	29.9	C
Northbound								
L	145	270	1.19	0.54	158.4	F		
TR	1707	3185	1.11	0.54	80.8	F	87.3	F
Southbound								
L	123	1593	0.16	0.64	22.2	C		
T	2040	3192	0.70	0.64	12.4	B	11.9	B
R	911	1425	0.50	0.64	9.7	A		
Intersection Delay = 181.0 (sec/veh)					Intersection LOS = F			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/17/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1 PHASE 1
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	139	518	4	72	840	15	19	1019	66	33	902	421
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar							
Signal Operations									
Phase Combination	1	2	3	4	5	6	7	8	
EB Left		A			NB Left	A			
Thru					Thru	A			
Right					Right	A			
Peds					Peds				
WB Left		A			SB Left	A			
Thru					Thru	A			
Right					Right	A			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		4.0	22.0			34.0			
Yellow		4.0	4.0			5.0			
All Red		3.0	2.0			2.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	1593	1.01	0.40	98.7	F		
TR	875	3183	0.69	0.28	28.4	C	43.9	D
Westbound								
L	218	1593	0.44	0.40	17.8	B		
TR	874	3179	1.10	0.28	89.6	F	83.1	F
Northbound								
L	90	197	0.38	0.43	18.4	B		
T	1357	3192	0.85	0.43	26.2	C	25.4	C
R	606	1425	0.11	0.43	14.0	B		
Southbound								
L	90	212	0.61	0.43	29.5	C		
TR	1289	3032	1.22	0.43	130.0	F	126.6	F

Intersection Delay = 76.2 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE

Inter.: East and Dresh PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1 PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	469	1033	18	94	533	15	30	1293	119	40	1112	178
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration	0.25	Area Type:	CBD or Similar										
Signal Operations													
Phase Combination	1	2	3	4	5	6	7	8					
EB Left		A	A		NB Left	A							
Thru			A		Thru	A							
Right			A		Right	A							
Peds					Peds								
WB Left		A	A		SB Left	A							
Thru			A		Thru	A							
Right			A		Right	A							
Peds					Peds								
NB Right					EB Right								
SB Right					WB Right								
Green		6.0	30.0			40.0							
Yellow		4.0	4.0			5.0							
All Red		3.0	3.0			2.0							
											Cycle Length:	97.0	secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	260	1593	2.07	0.44	530.0	F		
TR	984	3180	1.27	0.31	161.0	F	272.5	F
Westbound								
L	173	1593	0.75	0.44	38.6	D		
TR	981	3172	0.63	0.31	30.0	C	31.5	C
Northbound								
L	74	168	0.64	0.41	39.3	D		
T	1316	3192	1.09	0.41	82.4	F	75.5	E
R	588	1425	0.25	0.41	18.9	B		
Southbound								
L	74	168	0.65	0.41	41.1	D		
TR	1289	3127	1.11	0.41	88.9	F	87.4	F

Intersection Delay = 135.1 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 1 BUILD - PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	434		173				340	1334			1008	977
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

		Signal Operations							
Phase Combination		1	2	3	4	5	6	7	8
EB	Left		A			NB	Left	A	A
	Thru						Thru	A	A
	Right		A				Right		
	Peds						Peds		
WB	Left					SB	Left		
	Thru						Thru	A	
	Right						Right	A	
	Peds						Peds		
NB	Right					EB	Right		
SB	Right		A			WB	Right		
Green		26.0					8.0	38.0	
Yellow		3.0					4.0	4.0	
All Red		3.0					2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.52	0.29	27.4	C	29.6	C
R	412	1425	0.69	0.29	33.2	C		
Westbound								
Northbound								
L	240	1593	1.67	0.58	337.4	F		
T	1844	3192	0.82	0.58	18.4	B	85.0	F
Southbound								
T	1348	3192	0.80	0.42	26.4	C	25.6	C
R	1108	1425	0.95	0.78	24.7	C		
Intersection Delay = 49.9 (sec/veh)					Intersection LOS = D			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 1 BUILD - PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	514		330				240	1356			1422	1310
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A	A				
Thru					Thru	A	A				
Right		A			Right						
Peds					Peds						
WB Left					SB Left						
Thru					Thru		A				
Right					Right		A				
Peds					Peds						
NB Right					EB Right						
SB Right		A			WB Right						
Green		26.0				8.0	38.0				
Yellow		3.0				4.0	4.0				
All Red		3.0				2.0	2.0				
Cycle Length: 90.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach		
			v/c	g/C	Delay	LOS	Delay	LOS	
Eastbound									
L	894	3093	0.76	0.29	32.9	C	37.8	D	
R	412	1425	0.86	0.29	47.1	D			
Westbound									
Northbound									
L	222	1593	1.16	0.58	130.2	F			
T	1844	3192	0.81	0.58	17.8	B	34.4	C	
Southbound									
T	1348	3192	1.13	0.42	96.1	F	116.9	F	
R	1108	1425	1.27	0.78	139.4	F			
Intersection Delay = 77.4 (sec/veh) Intersection LOS = E									

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOU
 Project ID: ADD: NB
 E/W St: HORSHAM RD

East 611 AM
 CBD or Similar
 NDOT
 1d Alt1- PHASE 1 Mitigation
 TON RD 611

**PHASE I
 ALT 1
 MITIGATION**

	Eastb	
	L	T
No. Lanes	0	
LGConfig		
Volume		
Lane Width		
RTOR Vol	0	

MMARY bound	Southbound			
	R	L	T	R
3	0	2	3	0
TR	L		T	
71	24	353	1142	
.0		12.0	12.0	
0				

Duration	0.25	Area Type:	CBD or Similar							
Signal Operations										
Phase Combination	1	2	3	4	5	6	7	8		
EB Left					NB Left					
Thru					Thru	A				
Right					Right	A				
Peds					Peds					
WB Left	A				SB Left	A	A			
Thru					Thru	A	A			
Right	A				Right					
Peds					Peds					
NB Right					EB Right					
SB Right					WB Right	A				
Green	15.3				21.3	63.4				
Yellow	3.0				5.0	5.0				
All Red	3.0				2.0	2.0				

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	203	1593	0.51	0.13	51.1	D	128.3	F
R	506	1425	1.19	0.35	141.7	F		

Northbound

TR	2408	4557	0.76	0.53	23.9	C	23.9	C
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Southbound

L	1117	3093	0.34	0.76	10.1	B		
T	3490	4567	0.36	0.76	4.6	A	5.9	A

Intersection Delay = 34.5 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID: ADD: NB Th; SB LT+ TH
 E/W St: HORSHAM RD

Inter.: Hors East 611 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-MITIGATION
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	3	0	2	3	0
LGConfig				L		R		TR		L	T	
Volume				32		354	1912	39		837	1645	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations									
Phase Combination	1	2	3	4	5	6	7	8	
EB Left					NB Left				
Thru					Thru	A			
Right					Right	A			
Peds					Peds				
WB Left	A				SB Left	A	A		
Thru					Thru	A	A		
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right	A			
Green	4.0					47.6	78.3		
Yellow	3.0					5.0	5.0		
All Red	3.0					2.0	2.0		

Cycle Length: 149.9 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	43	1593	1.28	0.03	303.2	F		76.8	E
R	548	1425	0.78	0.38	47.7	D			

Northbound

TR	2377	4550	0.92	0.52	38.9	D	38.9		D
----	------	------	------	------	------	---	------	--	---

Southbound

L	1645	3093	0.55	0.89	16.4	B			
T	4049	4567	0.43	0.89	1.6	A	6.7		A

Intersection Delay = 26.3 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID: Optimize signal timing
 E/W St: HORSHAM RD

Inter.: East Hors 463 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-Mitigate
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			488				1156	1124			1025	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						46.8	38.3	3.9
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/c	Delay	LOS	Delay	LOS
Eastbound								
R	1128	2522	0.47	0.45	21.6	C	21.6	C
Westbound								
Northbound								
L	1383	3093	0.97	0.45	47.6	D		
T	2673	3192	0.44	0.84	2.4	A	26.5	C
Southbound								
TR	1354	3182	0.97	0.43	47.8	D	47.8	D

Intersection Delay = 32.3 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Hors 463 PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/17/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-PHASE 1-Mitigate
 Project ID: signal optimization; add 3rd EB RT, 3rd SB Th
 E/W St: HORSHAM RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	3	0	0	0	2	2	0	0	3	0
LGConfig			R				L	T			TR	
Volume			1427				764	1457			1157	15
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						33.4	42.4	3.2
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
R	2042	3882	0.80	0.53	21.9	C	21.9	C
Westbound								
Northbound								
L	1627	3093	0.51	0.53	15.6	B		
T	2643	3192	0.58	0.83	3.2	A	7.5	A
Southbound								
TR	1522	4558	0.86	0.33	36.1	D	36.1	D

Intersection Delay = 19.0 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/24/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1-PHASE 1-Mitigation
 Project ID: ADD: EB Th; WB Th; NB Th+LT
 E/W St: HORSHAM RD N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	1	3	0	2	3	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	309	435	598	188	947	0	153	363	41	5	1015	59
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left	A	A			SB Left	A	A	A
Thru		A			Thru		A	A
Right		A			Right		A	A
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right	A		
Green	15.0	48.0			10.0	25.0	10.0	
Yellow	5.0	5.0			4.0	4.0	4.0	
All Red	2.0	2.0			2.0	2.0	2.0	

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	261	1593	1.44	0.50	250.9	F		
TR	1432	4177	0.77	0.34	43.8	D	96.4	F
Westbound								
L	253	1593	0.92	0.50	64.6	E		
TR	1566	4567	0.68	0.34	40.6	D	44.9	D
Northbound								
L	654	3093	0.28	0.29	40.1	D		
T	816	4567	0.54	0.18	53.1	D	49.3	D
R	254	1425	0.20	0.18	49.4	D		
Southbound								
L	410	1593	0.02	0.41	25.2	C		
T	935	3192	1.22	0.29	157.9	F	149.8	F
R	417	1425	0.18	0.29	37.1	D		

Intersection Delay = 89.2 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 9/21/13
 Period: PM PEAK HOUR
 Project ID: Add: NB LT+Th; EB Th; WB Th
 E/W St: HORSHAM RD

Inter.: Hors Dresh PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-Mitigation
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	1	3	0	2	3	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	378	1098	253	90	696	0	546	1402	175	62	409	95
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

		Signal Operations								
Phase Combination		1	2	3	4	5	6	7	8	
EB	Left		A	A	A	NB	Left	A	A	A
	Thru			A	A		Thru	A	A	
	Right			A	A		Right	A	A	
	Peds						Peds			
WB	Left		A		A	SB	Left		A	A
	Thru				A		Thru		A	
	Right				A		Right		A	
	Peds						Peds			
NB	Right					EB	Right			
SB	Right					WB	Right			
Green		15.0	15.0	32.0			10.0	25.0	10.0	
Yellow		5.0	5.0	5.0			4.0	4.0	4.0	
All Red		2.0	2.0	2.0			2.0	2.0	2.0	

Cycle Length: 146.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	474	1593	0.88	0.52	52.5	D		
TR	1640	4434	0.98	0.37	62.2	E	60.2	E
Westbound								
L	213	1593	0.48	0.32	38.7	D		
TR	1001	4567	0.77	0.22	57.4	E	55.2	E
Northbound								
L	772	3093	0.81	0.39	42.2	D		
T	1283	4567	1.21	0.28	156.3	F	117.2	F
R	400	1425	0.48	0.28	44.5	D		
Southbound								
L	224	1593	0.33	0.28	57.7	E		
T	547	3192	0.82	0.17	68.0	E	64.7	E
R	244	1425	0.48	0.17	56.0	E		

Intersection Delay = 82.9 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-MITIGATION
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	0	1	1	0	0	1	2
LGConfig	L	TR		L	TR		L	LTR			LT	R
Volume	297	1093	24	6	1218	56	63	34	12	250	44	599
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.0	50.7			32.3			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 105.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	395	818	0.84	0.48	37.9	D		
TR	1535	3179	0.82	0.48	27.1	C	29.3	C
Westbound								
L	149	1593	0.11	0.58	14.8	B		
TR	1830	3166	0.75	0.58	18.2	B	18.2	B
Northbound								
L	175	568	0.44	0.31	30.9	C		
LTR	499	1622	0.16	0.31	26.6	C	28.7	C
Southbound								
LT	368	1195	0.98	0.31	77.7	E	56.8	E
R	776	2522	0.88	0.31	45.7	D		
Intersection Delay = 32.5 (sec/veh)					Intersection LOS = C			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors Map PM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/21/13 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-PHASE 1-Mitigation
 Project ID: EB-Double L; NB-L & TR; SB-Double R
 E/W St: HORSHAM RD N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	0	1	1	0	0	1	2
LGConfig	L	TR		L	TR		L	TR			LT	R
Volume	596	1620	30	15	1204	148	109	104	11	91	51	365
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		4.3	56.7			21.0		
Yellow		4.0	4.0			3.0		
All Red		2.0	2.0			3.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	418	737	1.55	0.57	280.8	F		
TR	1804	3181	0.95	0.57	31.4	C	100.0	F
Westbound								
L	140	1593	0.15	0.67	15.9	B		
TR	2097	3130	0.70	0.67	11.4	B	11.4	B
Northbound								
L	192	915	0.83	0.21	63.6	E		
TR	347	1652	0.50	0.21	35.9	D	49.3	D
Southbound								
LT	218	1037	0.85	0.21	64.4	E	49.8	D
R	530	2522	0.75	0.21	42.9	D		

Intersection Delay = 62.5 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: Add: EB & WB-Double L
 E/W St: HORSHAM RD

Inter.: Hors Nor AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-Mitigation
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	1	2	2	1	1	1	1	1	1	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	49	900	116	522	1243	55	193	5	469	25	8	50
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type:	CBD or Similar							
Signal Operations										
Phase Combination	1	2	3	4	5	6	7	8		
EB Left		A			NB Left	A				
Thru		A			Thru	A				
Right		A			Right	A				
Peds					Peds					
WB Left	A				SB Left	A				
Thru	A				Thru	A				
Right	A				Right	A				
Peds					Peds					
NB Right	A				EB Right					
SB Right		A			WB Right					
Green	66.9	45.2			19.9					
Yellow	4.0	4.0			4.0					
All Red	2.0	2.0			2.0					

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	932	3093	0.06	0.30	37.3	D		
T	962	3192	1.05	0.30	95.7	F	86.1	F
R	429	1425	0.38	0.30	41.9	D		
Westbound								
L	1379	3093	0.44	0.45	28.8	C		
T	1424	3192	0.93	0.45	50.2	D	42.9	D
R	636	1425	0.09	0.45	24.1	C		
Northbound								
L	167	1260	1.65	0.13	383.9	F		
T	222	1676	0.02	0.13	56.6	E	140.3	F
R	882	1425	0.63	0.62	19.2	B		
Southbound								
L	168	1265	0.16	0.13	58.1	E		
T	222	1676	0.04	0.13	56.8	E	36.1	D
R	675	1425	0.08	0.47	21.6	C		

Intersection Delay = 75.2 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: Add: EB & WB-Double L
 E/W St: HORSHAM RD

Inter.: Hors Norr PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-Mitigation
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	1	2	2	1	1	1	1	1	1	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	63	1488	77	470	1093	57	170	6	617	45	15	90
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			250			80

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right		A			WB Right			
Green	51.2	58.0			22.8			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	1196	3093	0.06	0.39	28.9	C		
T	1234	3192	1.27	0.39	173.6	F	160.7	F
R	551	1425	0.16	0.39	30.2	C		
Westbound								
L	1056	3093	0.48	0.34	39.3	D		
T	1090	3192	1.13	0.34	118.5	F	93.1	F
R	486	1425	0.13	0.34	34.1	C		
Northbound								
L	190	1252	1.06	0.15	146.6	F		
T	255	1676	0.03	0.15	54.2	D	64.5	E
R	760	1425	0.53	0.53	23.5	C		
Southbound								
L	192	1263	0.26	0.15	56.8	E		
T	255	1676	0.06	0.15	54.6	D	50.1	D
R	825	1425	0.01	0.58	13.4	B		

Intersection Delay = 115.8 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: Optimize signal timing
 E/W St: HOME DEPOT/I-276

Inter.: East and HD AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-Mitigation
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	1
LGConfig	L		R		T		L	T			T	R
Volume	65		87		15		30	644			1632	28
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration	0.25	Area Type: CBD or Similar							
Signal Operations									
Phase Combination	1	2	3	4	5	6	7	8	
EB Left		A			NB Left	A	A		
Thru					Thru	A	A		
Right		A			Right				
Peds					Peds				
WB Left					SB Left				
Thru		A	A		Thru	A			
Right					Right	A	A		
Peds					Peds				
NB Right					EB Right		A		
SB Right		A	A		WB Right				
Green		16.0	6.1			77.9	4.0		
Yellow		3.0	3.0			5.0	5.0		
All Red		3.0	3.0			2.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	152	1232	0.68	0.12	66.0	E	55.1	E
R	296	1425	0.38	0.21	45.1	D		
Westbound								
T	362	1676	0.09	0.22	40.9	D	40.9	D
Northbound								
L	226	1593	0.19	0.68	19.4	B		
T	2183	3192	0.35	0.68	8.6	A	9.2	A
Southbound								
T	2737	4567	0.63	0.60	17.3	B	17.0	B
R	1425	1425	0.02	1.00	0.0+	A		
Intersection Delay = 18.0 (sec/veh)					Intersection LOS = B			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: Optimize signal timing
 E/W St: HOME DEPOT/I-276

Inter.: East and HD PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-Mitigation
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	1
LGConfig	L		R		T		L	T			T	R
Volume	110		154		60		125	877			2412	148
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration	0.25	Area Type: CBD or Similar							
Signal Operations									
Phase Combination	1	2	3	4	5	6	7	8	
EB Left		A			NB Left	A	A		
Thru					Thru	A	A		
Right		A			Right				
Peds					Peds				
WB Left					SB Left				
Thru		A	A		Thru	A			
Right					Right	A	A		
Peds					Peds				
NB Right					EB Right		A		
SB Right		A	A		WB Right				
Green		13.9	4.0			102.5	3.6		
Yellow		3.0	3.0			5.0	5.0		
All Red		3.0	3.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	91	978	1.42	0.09	308.4	F	172.9	F
R	233	1425	0.74	0.16	71.8	E		
Westbound								
T	267	1676	0.24	0.16	55.5	E	55.5	E
Northbound								
L	161	1593	0.96	0.75	117.4	F		
T	2407	3192	0.43	0.75	6.8	A	21.2	C
Southbound								
T	3121	4567	0.81	0.68	18.3	B	17.2	B
R	1425	1425	0.11	1.00	0.0+	A		
Intersection Delay = 30.0 (sec/veh)					Intersection LOS = C			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: ADD: EB L + Th Lane
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-Mitigation
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	3	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	49	989	118	141	1202	55	30	5	18	25	8	50
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.1	34.3			8.6			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 70.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	474	968	0.11	0.49	9.7	A		
TR	2203	4495	0.59	0.49	13.2	B	13.1	B
Westbound								
L	298	1593	0.69	0.69	13.8	B		
T	2207	3192	0.62	0.69	6.4	A	7.2	A
R	985	1425	0.06	0.69	3.5	A		
Northbound								
L	155	1260	0.25	0.12	28.6	C		
T	206	1676	0.02	0.12	27.1	C	28.2	C
R	175	1425	0.17	0.12	28.0	C		
Southbound								
L	155	1265	0.17	0.12	28.1	C		
T	206	1676	0.04	0.12	27.2	C	28.5	C
R	175	1425	0.31	0.12	29.0	C		

Intersection Delay = 10.8 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: ADD: EB LT + Th Lane
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-Mitigation
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	3	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	63	1252	51	43	1183	57	180	6	240	75	8	68
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations									
Phase Combination	1	2	3	4	5	6	7	8	
EB Left		A	A		NB Left	A			
Thru		A	A		Thru	A			
Right		A	A		Right	A			
Peds					Peds				
WB Left			A		SB Left	A			
Thru			A		Thru	A			
Right			A		Right	A			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		3.0	77.9			39.1			
Yellow		5.0	5.0			4.0			
All Red		2.0	2.0			2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	426	3093	0.16	0.63	15.2	B		
TR	2847	4534	0.52	0.63	14.5	B	14.6	B
Westbound								
L	144	258	0.39	0.56	19.3	B		
T	1776	3192	0.72	0.56	24.3	C	23.7	C
R	793	1425	0.08	0.56	14.4	B		
Northbound								
L	352	1260	0.59	0.28	46.1	D		
T	468	1676	0.01	0.28	36.5	D	72.7	E
R	398	1425	0.97	0.28	87.7	F		
Southbound								
L	353	1263	0.23	0.28	39.2	D		
T	468	1676	0.02	0.28	36.6	D	38.8	D
R	398	1425	0.19	0.28	38.6	D		

Intersection Delay = 28.5 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors KV AM
 Agency: TQC Area Type: CBD or Similar
 Date: 9/26/13 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1-PHASE 1-Mitigation
 Project ID: Add: EB Th + R Lane; WB Th Lane
 E/W St: HORSHAM RD N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	1	1	2	1	0	1	0	1	1	0
LGConfig	L	T	R	L	T	R	LTR			L	TR	
Volume	60	1116	4	2	595	47	2	2	2	236	2	103
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	53.1				33.9			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	352	662	0.24	0.53	13.0	B		
T	1695	3192	0.77	0.53	20.7	C	20.2	C
R	757	1425	0.01	0.53	11.1	B		
Westbound								
L	113	212	0.04	0.53	11.3	B		
T	1695	3192	0.36	0.53	13.7	B	13.5	B
R	757	1425	0.15	0.53	12.1	B		
Northbound								
LTR	503	1485	0.05	0.34	22.2	C	22.2	C
Southbound								
L	421	1243	0.69	0.34	33.3	C		
TR	488	1439	0.29	0.34	24.6	C	30.5	C

Intersection Delay = 20.0+ (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: Add: EB Th + R Lane; WB Th Lane
 E/W St: HORSHAM RD

Inter.: Hors KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-Mitigation
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	1	1	2	1	0	1	0	1	1	0
LGConfig	L	T	R	L	T	R	LTR			L	TR	
Volume	144	877	2	1	1350	156	2	2	2	65	1	41
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
WB Left			A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	60.0			15.0			
Yellow	5.0	5.0			3.0			
All Red	0.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	227	1593	0.86	0.74	44.1	D		
T	2298	3192	0.43	0.72	5.8	A	12.1	B
R	1026	1425	0.00	0.72	3.9	A		
Westbound								
L	290	483	0.01	0.60	8.1	A		
T	1915	3192	0.76	0.60	16.5	B	15.6	B
R	855	1425	0.25	0.60	9.6	A		
Northbound								
LTR	219	1460	0.11	0.15	37.0	D	37.0	D
Southbound								
L	186	1243	0.47	0.15	40.7	D		
TR	214	1429	0.27	0.15	38.3	D	39.8	D

Intersection Delay = 15.5 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: ADD: NB Th Lane
 E/W St: County Line Road

Inter.: CL and KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-Mitigation
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	666	61	262	544	2	13	41	87	39	289	32
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	7.3	61.3			23.4			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	406	728	0.06	0.56	11.2	B		
TR	921	1653	0.87	0.56	29.8	C	29.3	C
Westbound								
L	263	1593	1.07	0.68	95.5	F		
TR	1136	1675	0.54	0.68	9.4	A	36.7	D
Northbound								
L	70	329	0.60	0.21	52.6	D		
T	679	3192	0.09	0.21	34.8	C	33.9	C
R	475	1425	0.25	0.33	26.9	C		
Southbound								
L	256	1203	0.34	0.21	37.5	D		
T	357	1676	0.99	0.21	86.9	F	73.1	E
R	303	1425	0.16	0.21	35.5	D		

Intersection Delay = 41.2 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: ADD: NB Th Lane
 E/W St: County Line Road

Inter.: CL and KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt1-PHASE 1-Mitigation
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	592	21	122	753	42	176	279	340	24	76	38
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A					
Thru		A			Thru	A					
Right		A			Right	A					
Peds					Peds						
WB Left	A	A			SB Left	A					
Thru	A	A			Thru	A					
Right	A	A			Right	A					
Peds					Peds						
NB Right	A				EB Right						
SB Right					WB Right						
Green	5.1	48.6			28.3						
Yellow	4.0	4.0			4.0						
All Red	2.0	2.0			2.0						
Cycle Length: 100.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	142	293	0.20	0.49	15.4	B		
TR	807	1660	0.85	0.49	31.4	C	30.8	C
Westbound								
L	234	1593	0.58	0.60	18.9	B		
TR	992	1662	0.91	0.60	29.3	C	27.9	C
Northbound								
L	332	1173	0.67	0.28	37.0	D		
T	903	3192	0.35	0.28	28.7	C	31.7	C
R	561	1425	0.74	0.39	31.1	C		
Southbound								
L	255	902	0.14	0.28	27.0	C		
T	474	1676	0.19	0.28	27.3	C	27.1	C
R	403	1425	0.13	0.28	26.8	C		
Intersection Delay = 29.8 (sec/veh)					Intersection LOS = C			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and CL AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1-PHASE 1-Mitigation
 Project ID: ADD: NB Dbl LT Lane; NB exclsv RT; NB,SB,EB,WB Th; WB Dbl LT
 E/W St: COUNTY LINE RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	3	0	2	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	11	310	86	265	378	119	165	853	124	95	1310	13
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.8	24.5			33.2	48.5		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	189	1593	0.12	0.12	59.3	E		
TR	523	4408	0.89	0.12	81.6	F	80.6	F
Westbound								
L	505	3093	0.71	0.16	64.0	E		
TR	720	4411	0.88	0.16	73.9	E	70.3	E
Northbound								
L	685	3093	0.28	0.22	48.7	D		
T	1011	4567	0.98	0.22	81.8	F	73.7	E
R	315	1425	0.49	0.22	52.1	D		
Southbound								
L	515	1593	0.28	0.32	38.0	D		
TR	1472	4552	0.95	0.32	62.6	E	60.3	E

Intersection Delay = 69.0 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and CL PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-PHASE 1-Mitigation
 Project ID: Add: NB Dlb LT, Th, RT; SB Th, EB Th; WB LT, Th
 E/W St: COUNTY LINE RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	3	0	2	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	11	311	94	139	368	121	211	1324	192	158	1067	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	13.9	21.0			49.3	39.8		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	148	1593	0.18	0.09	63.3	E		
TR	408	4405	1.39	0.09	256.9	F	248.4	F
Westbound								
L	433	3093	0.59	0.14	62.7	E		
TR	616	4399	1.00	0.14	101.2	F	89.8	F
Northbound								
L	1017	3093	0.30	0.33	37.7	D		
T	1501	4567	0.99	0.33	71.2	E	62.8	E
R	468	1425	0.49	0.33	41.1	D		
Southbound								
L	423	1593	0.50	0.27	47.6	D		
TR	1208	4551	0.99	0.27	79.2	E	74.5	E

Intersection Delay = 93.4 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Gate 1 AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT; NB Dbl LT; SB Th Lane
 E/W St: BASE GATE 1 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	0	0	1	0	2	2	0	0	3	1
LGConfig	L	TR			LTR		L	TR			LT	R
Volume	28	0	56	0	0	0	127	1226	0	0	1702	93
Lane Width	12.0	12.0			12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0				3.0	72.0	
Yellow		4.0				5.0	5.0	
All Red		2.0				2.0	2.0	

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	327	2400	0.09	0.14	41.7	D		
TR	194	1425	0.32	0.14	43.8	D	43.1	D
Westbound								
LTR	229	1676	0.00	0.14	41.0	D		
Northbound								
L	621	3093	0.31	0.75	6.7	A		
TR	2379	3192	0.57	0.75	6.5	A	6.5	A
Southbound								
LT	2989	4567	0.59	0.65	11.0	B	10.8	B
R	933	1425	0.13	0.65	7.2	A		
Intersection Delay = 9.8			(sec/veh)		Intersection LOS = A			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Gate 1 PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT; NB Dbl LT; SB Th Lane
 E/W St: BASE GATE 1 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	0	0	1	0	2	2	0	0	3	1
LGConfig	L	TR		LTR			L	TR		LT R		
Volume	68	0	149	0	0	0	92	1750	0	0	1300	43
Lane Width	12.0	12.0			12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	29.0				21.8	59.2		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

L	441	1978	0.17	0.22	41.0	D		
TR	318	1425	0.52	0.22	46.0	D	44.4	D

Westbound

LTR	374	1676	0.00	0.22	39.2	D		
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Northbound

L	934	3093	0.33	0.68	12.0	B		
TR	2161	3192	0.88	0.68	21.4	C	20.1	C

Southbound

LT	2080	4567	0.69	0.46	29.2	C	28.5	C
R	649	1425	0.27	0.46	22.1	C		

Intersection Delay = 24.8 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: Access/W Moreland

Inter.:
 Area Type: All other areas
 Jurisd: PennDOT
 Year : Build Alt 1-PHASE 1 Mitigation
 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	19	25	19	5	16	89	41	1307	5	75	1608	25
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.7				11.3	84.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				0.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	168	1231	0.13	0.14	49.7	D		
TR	237	1741	0.20	0.14	50.3	D	50.1	D
Westbound								
L	184	1352	0.03	0.14	48.7	D		
TR	221	1625	0.52	0.14	54.3	D	54.0	D
Northbound								
L	236	1770	0.19	0.78	14.4	B		
TR	2291	3545	0.62	0.65	14.1	B	14.2	B
Southbound								
L	308	1770	0.27	0.78	9.2	A		
T	2292	3547	0.76	0.65	17.6	B	17.1	B
R	1023	1583	0.03	0.65	8.3	A		
Intersection Delay = 17.8			(sec/veh)		Intersection LOS = B			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/17/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: Access Rd/W Moreland Rd

Inter.:
 Area Type: All other areas
 Jurisd: PennDOT
 Year : Build Alt 1-PHASE 1-Mitigation
 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	34	45	34	0	10	83	48	1643	9	128	1301	38
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.1					3.9	79.0	
Yellow	4.0					4.0	4.0	
All Red	3.0					3.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	184	1288	0.20	0.14	46.0	D		
TR	248	1743	0.35	0.14	47.3	D	46.9	D
Westbound								
L	186	1306	0.00	0.14	44.1	D		
TR	230	1614	0.44	0.14	48.4	D	48.4	D
Northbound								
L	224	1770	0.23	0.74	8.7	A		
TR	2333	3544	0.77	0.66	15.8	B	15.6	B
Southbound								
L	137	1770	1.01	0.74	108.2	F		
T	2335	3547	0.61	0.66	12.1	B	20.4	C
R	1042	1583	0.04	0.66	7.2	A		
Intersection Delay = 19.6 (sec/veh)					Intersection LOS = B			

Analyst: LDK Inter.: East Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT, Th, RT; WB l&R; NB Dbl LT+Th; SB Th
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	1	1	1	1	2	3	1	1	3	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	242	1	79	3	20	2	207	1042	3	5	1276	620
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	19.0				4.0	47.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	393	1862	0.78	0.21	43.1	D		
T	354	1676	0.01	0.21	28.1	C	40.0	D
R	301	1425	0.33	0.21	30.7	C		
Westbound								
L	267	1266	0.04	0.21	28.3	C		
T	354	1676	0.11	0.21	28.8	C	28.7	C
R	301	1425	0.01	0.21	28.1	C		
Northbound								
L	416	797	0.64	0.52	18.6	B		
T	2385	4567	0.51	0.52	14.2	B	14.9	B
R	744	1425	0.02	0.52	10.4	B		
Southbound								
L	234	1593	0.02	0.64	6.9	A		
T	2943	4567	0.48	0.64	8.4	A	11.0	B
R	918	1425	0.79	0.64	16.1	B		

Intersection Delay = 15.5 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Maple PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT, Th, RT; WB l&R; NB Dbl LT+Th; SB Th
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	1	1	1	1	2	3	1	1	3	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	714	13	174	9	10	5	123	1644	15	5	1177	361
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	31.6	4.0			44.3	44.1		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	652	3093	1.22	0.21	170.1	F		
T	353	1676	0.07	0.21	47.6	D	144.9	F
R	300	1425	0.70	0.21	61.9	E		
Westbound								
L	42	1593	0.31	0.03	75.8	E		
T	45	1676	0.40	0.03	77.6	E	76.3	E
R	38	1425	0.13	0.03	72.9	E		
Northbound								
L	909	3093	0.19	0.29	39.7	D		
T	1343	4567	1.39	0.29	233.5	F	214.8	F
R	419	1425	0.06	0.29	38.1	D		
Southbound								
L	470	1593	0.01	0.30	37.4	D		
T	1349	4567	1.05	0.30	92.0	F	76.6	E
R	721	1425	0.63	0.51	28.5	C		

Intersection Delay = 147.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt1-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT; WB-Th+Excl RT; NB & SB Th Lane
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	1	1	3	1	1	3	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	139	518	4	72	840	15	19	1019	66	33	902	421
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.8	29.5			45.7			
Yellow	4.0	4.0			5.0			
All Red	3.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	607	3093	0.28	0.40	22.7	C		
TR	939	3183	0.65	0.29	32.3	C	30.2	C
Westbound								
L	220	1593	0.43	0.40	21.6	C		
T	942	3192	0.99	0.29	62.0	E	57.5	E
R	420	1425	0.06	0.29	25.4	C		
Northbound								
L	72	148	0.47	0.46	23.6	C		
T	2087	4567	0.55	0.46	20.1	C	19.9	B
R	651	1425	0.11	0.46	15.6	B		
Southbound								
L	140	306	0.39	0.46	19.8	B		
TR	1982	4338	0.79	0.46	25.5	C	25.3	C

Intersection Delay = 31.8 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt1-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT; WB-Th+Excl RT; NB & SB Th Lane
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	1	1	3	1	1	3	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	469	1033	18	94	533	15	30	1293	119	40	1112	178
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		8.6	39.8			50.6		
Yellow		4.0	4.0			5.0		
All Red		3.0	3.0			2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	479	3093	1.13	0.46	125.4	F		
TR	1055	3180	1.18	0.33	131.1	F	129.4	F
Westbound								
L	174	1593	0.74	0.46	42.6	D		
T	1059	3192	0.56	0.33	33.6	C	34.9	C
R	473	1425	0.05	0.33	27.3	C		
Northbound								
L	71	168	0.66	0.42	48.5	D		
T	1926	4567	0.75	0.42	30.9	C	30.7	C
R	601	1425	0.24	0.42	22.6	C		
Southbound								
L	70	165	0.69	0.42	52.6	D		
TR	1887	4474	0.76	0.42	31.3	C	32.0	C

Intersection Delay = 62.8 (sec/veh) Intersection LOS = E

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 1 BUILD-PHASE 1-MITIGATE
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	434		173				340	1334			1008	977
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right		A			WB Right			
Green		20.0				18.0	34.0	
Yellow		3.0				4.0	4.0	
All Red		3.0				2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	687	3093	0.68	0.22	34.8	C	44.4	D
R	317	1425	0.90	0.22	60.2	E		
Westbound								
Northbound								
L	399	1593	1.00	0.64	72.8	E		
T	2057	3192	0.74	0.64	12.3	B	24.9	C
Southbound								
T	1206	3192	0.90	0.38	35.7	D	56.4	E
R	950	1425	1.11	0.67	77.9	E		
Intersection Delay = 42.0 (sec/veh)					Intersection LOS = D			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 1 BUILD-PHASE 1-MITIGATE
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	514		330				240	1356			1422	1310
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration	0.25	Area Type:	CBD or Similar									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left		A			NB Left	A	A					
Thru					Thru	A	A					
Right		A			Right							
Peds					Peds							
WB Left					SB Left							
Thru					Thru		A					
Right					Right		A					
Peds					Peds							
NB Right					EB Right							
SB Right		A			WB Right							
Green		21.8				4.5	45.7					
Yellow		3.0				4.0	4.0					
All Red		3.0				2.0	2.0					
Cycle Length: 90.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	749	3093	0.90	0.24	47.3	D	62.1	E
R	345	1425	1.03	0.24	90.2	F		
Westbound								
Northbound								
L	160	1593	1.61	0.62	324.9	F		
T	1993	3192	0.75	0.62	13.5	B	59.5	E
Southbound								
T	1621	3192	0.94	0.51	32.5	C	70.2	E
R	1164	1425	1.21	0.82	111.2	F		
Intersection Delay = 65.5 (sec/veh) Intersection LOS = E								

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				96		553		1655	24	359	1147	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	21.5					13.3	45.2	
Yellow	3.0					5.0	5.0	
All Red	3.0					2.0	2.0	

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	342	1593	0.33	0.22	33.7	C	61.9	E
R	581	1425	1.00	0.41	67.4	E		

Northbound

TR	1439	3184	1.24	0.45	143.5	F	143.5	F
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Southbound

L	284	1593	1.52	0.65	286.6	F		
T	2091	3192	0.60	0.65	10.3	B	81.0	F

Intersection Delay = 104.6 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				32		354		1897	39	826	1634	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	4.0					47.6	78.4	
Yellow	3.0					5.0	5.0	
All Red	3.0					2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	42	1593	1.31	0.03	316.2	F	78.4	E
R	547	1425	0.78	0.38	47.8	D		

Northbound

TR	1662	3180	1.30	0.52	175.2	F	175.2	F
----	------	------	------	------	-------	---	-------	---

Southbound

L	554	1593	1.62	0.89	335.5	F		
T	2830	3192	0.61	0.89	2.5	A	116.7	F

Intersection Delay = 137.2 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			492				1149	1116			1032	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						56.0	33.0	3.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 113.0 secs

Intersection Performance Summary

Appr/Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
R	960	2522	0.56	0.38	28.2	C	28.2	C
Westbound								
Northbound								
L	1177	3093	1.14	0.38	106.7	F		
T	2712	3192	0.43	0.85	2.1	A	58.0	E
Southbound								
TR	1577	3182	0.84	0.50	28.6	C	28.6	C

Intersection Delay = 45.5 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			1416				757	1448			1145	15
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						28.8	34.2	6.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	1323	2522	1.23	0.52	132.0	F	132.0	F
---	------	------	------	------	-------	---	-------	---

Westbound

Northbound

L	1622	3093	0.51	0.52	14.1	B		
T	2483	3192	0.61	0.78	4.7	A	8.0	A

Southbound

TR	1020	3186	1.26	0.32	157.2	F	157.2	F
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Intersection Delay = 82.9 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	309	440	598	188	940	188	153	363	41	5	1015	59
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A	A				
Thru			A		Thru		A				
Right			A		Right		A				
Peds					Peds						
WB Left		A		A	SB Left	A	A	A			
Thru				A	Thru		A	A			
Right				A	Right		A	A			
Peds					Peds						
NB Right					EB Right	A					
SB Right					WB Right	A					
Green		15.0	48.0			10.0	25.0	10.0			
Yellow		5.0	5.0			4.0	4.0	4.0			
All Red		2.0	2.0			2.0	2.0	2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	222	1593	1.70	0.50	363.5	F		
TR	1001	2921	1.11	0.34	110.3	F	174.4	F
Westbound								
L	222	1593	1.05	0.50	117.4	F		
TR	1068	3116	1.17	0.34	134.4	F	131.8	F
Northbound								
L	165	1593	1.12	0.29	148.3	F		
T	570	3192	0.78	0.18	61.6	E	84.1	F
R	254	1425	0.20	0.18	49.4	D		
Southbound								
L	379	1593	0.02	0.41	25.8	C		
T	935	3192	1.22	0.29	157.9	F	149.8	F
R	417	1425	0.18	0.29	37.1	D		

Intersection Delay = 142.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	378	1087	253	90	689	0	546	1402	175	62	409	95
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations										
Phase Combination	1	2	3	4	5	6	7	8		
EB Left		A	A	A	NB Left	A	A	A		
Thru			A	A	Thru	A	A			
Right			A	A	Right	A	A			
Peds					Peds					
WB Left		A		A	SB Left		A	A		
Thru				A	Thru		A			
Right				A	Right		A			
Peds					Peds					
NB Right					EB Right					
SB Right					WB Right					
Green		15.0	15.0	32.0		10.0	25.0	10.0		
Yellow		5.0	5.0	5.0		4.0	4.0	4.0		
All Red		2.0	2.0	2.0		2.0	2.0	2.0		

Cycle Length: 146.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	453	1593	0.92	0.52	66.3	E		
TR	1146	3099	1.39	0.37	225.0	F	192.1	F
Westbound								
L	213	1593	0.48	0.32	40.4	D		
TR	700	3192	1.09	0.22	119.6	F	110.3	F
Northbound								
L	356	1593	1.76	0.39	393.1	F		
T	896	3192	1.74	0.28	389.6	F	362.7	F
R	400	1425	0.48	0.28	44.5	D		
Southbound								
L	224	1593	0.33	0.28	57.7	E		
T	547	3192	0.82	0.17	68.0	E	64.7	E
R	244	1425	0.48	0.17	56.0	E		

Intersection Delay = 235.2 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	296	1097	24	6	1212	55	63	34	12	251	44	600
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left			A		NB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		4.1	44.1			33.8		
Yellow		4.0	4.0			3.0		
All Red		2.0	2.0			3.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	101	228	3.26	0.44	1069	F		
TR	1402	3179	0.90	0.44	34.6	C	247.7	F
Westbound								
L	137	1593	0.12	0.54	16.6	B		
TR	1716	3166	0.79	0.54	21.1	C	21.0	C
Northbound								
LTR	257	761	0.60	0.34	31.5	C	31.5	C
Southbound								
LT	381	1126	0.95	0.34	65.7	E	174.2	F
R	482	1425	1.41	0.34	231.8	F		

Intersection Delay = 146.4 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR		LT	R	
Volume	594	1610	30	15	1199	147	109	104	11	90	50	361
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.5	57.2			20.3			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	149	261	4.34	0.57	1538	F		
TR	1820	3181	0.93	0.57	29.0	C	444.9	F
Westbound								
L	144	1593	0.15	0.68	15.2	B		
TR	2119	3130	0.69	0.68	10.8	B	10.9	B
Northbound								
LTR	162	799	2.05	0.20	532.9	F	532.9	F
Southbound								
LT	201	991	0.91	0.20	78.5	E	175.8	F
R	289	1425	1.36	0.20	221.2	F		

Intersection Delay = 282.1 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Nor AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	47	901	116	522	1242	52	193	5	469	27	9	53
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		25.0	43.2			33.8		
Yellow		4.0	4.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	126	349	0.40	0.36	30.9	C		
TR	1125	3126	1.04	0.36	77.6	E	75.6	E
Westbound								
L	392	1593	1.53	0.62	290.1	F		
T	1974	3192	0.67	0.62	15.8	B	98.8	F
R	881	1425	0.06	0.62	9.1	A		
Northbound								
L	355	1259	0.78	0.28	50.1	D		
T	472	1676	0.01	0.28	31.1	C	167.6	F
R	401	1425	1.38	0.28	227.6	F		
Southbound								
L	356	1265	0.08	0.28	31.8	C		
T	472	1676	0.02	0.28	31.2	C	32.1	C
R	401	1425	0.14	0.28	32.4	C		

Intersection Delay = 104.2 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Norr PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	60	1480	77	470	1087	54	170	6	617	42	14	84
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A					
Thru		A			Thru	A					
Right		A			Right	A					
Peds					Peds						
WB Left		A	A		SB Left	A					
Thru		A	A		Thru	A					
Right		A	A		Right	A					
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green		35.2	59.3			37.5					
Yellow		4.0	4.0			4.0					
All Red		2.0	2.0			2.0					
Cycle Length: 150.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	153	386	0.42	0.40	34.9	C		
TR	1252	3167	1.31	0.40	192.0	F	186.1	F
Westbound								
L	422	1593	1.21	0.67	165.3	F		
T	2139	3192	0.57	0.67	13.6	B	56.7	E
R	955	1425	0.06	0.67	8.5	A		
Northbound								
L	313	1253	0.65	0.25	54.8	D		
T	419	1676	0.02	0.25	42.4	D	374.9	F
R	356	1425	1.90	0.25	473.7	F		
Southbound								
L	316	1263	0.15	0.25	44.0	D		
T	419	1676	0.04	0.25	42.6	D	44.7	D
R	356	1425	0.26	0.25	45.4	D		

Intersection Delay = 167.2 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	65		87		15		30	636			1637	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A	A				
Thru					Thru	A	A				
Right		A			Right						
Peds					Peds						
WB Left					SB Left						
Thru		A	A		Thru	A					
Right					Right	A	A				
Peds					Peds						
NB Right					EB Right		A				
SB Right		A	A		WB Right						
Green		22.0	21.0			56.0	14.0				
Yellow		3.0	3.0			5.0	5.0				
All Red		3.0	3.0			2.0	2.0				
Cycle Length: 139.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	195	1232	0.53	0.16	56.4	E	45.9	D
R	441	1425	0.25	0.31	36.3	D		
Westbound								
T	591	1676	0.06	0.35	29.8	C	29.8	C
Northbound								
L	293	1593	0.15	0.55	41.2	D		
T	1768	3192	0.43	0.55	18.3	B	19.5	B
Southbound								
T	1840	4567	0.95	0.40	50.9	D	50.9	D

Intersection Delay = 41.3 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	110		154		60		125	869			2400	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A	A				
Thru					Thru	A	A				
Right		A			Right						
Peds					Peds						
WB Left					SB Left						
Thru		A	A		Thru	A					
Right					Right	A	A				
Peds					Peds						
NB Right					EB Right		A				
SB Right		A	A		WB Right						
Green		22.0	21.0			56.0	14.0				
Yellow		3.0	3.0			5.0	5.0				
All Red		3.0	3.0			2.0	2.0				
Cycle Length: 139.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	189	1193	0.68	0.16	64.9	E	49.7	D
R	441	1425	0.39	0.31	38.3	D		
Westbound								
T	591	1676	0.11	0.35	30.4	C	30.4	C
Northbound								
L	293	1593	0.53	0.55	53.3	D		
T	1768	3192	0.58	0.55	20.8	C	25.1	C
Southbound								
T	1840	4567	1.36	0.40	206.5	F	206.5	F

Intersection Delay = 139.3 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	47	985	118	141	1207	52	30	5	18	27	9	53
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type:	CBD or Similar									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left		A			NB Left	A						
Thru		A			Thru	A						
Right		A			Right	A						
Peds					Peds							
WB Left	A	A			SB Left	A						
Thru	A	A			Thru	A						
Right	A	A			Right	A						
Peds					Peds							
NB Right					EB Right							
SB Right					WB Right							
Green	7.0	52.0			12.0							
Yellow	5.0	5.0			4.0							
All Red	2.0	2.0			2.0							
Cycle Length: 91.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	190	332	0.27	0.57	10.6	B		
TR	1795	3141	0.72	0.57	15.7	B	15.5	B
Westbound								
L	262	1593	0.79	0.73	26.3	C		
T	2315	3192	0.59	0.73	6.4	A	8.8	A
R	1034	1425	0.06	0.73	3.6	A		
Northbound								
L	166	1259	0.23	0.13	36.1	D		
T	221	1676	0.02	0.13	34.4	C	35.7	D
R	188	1425	0.16	0.13	35.4	D		
Southbound								
L	167	1265	0.17	0.13	35.6	D		
T	221	1676	0.05	0.13	34.6	C	36.1	D
R	188	1425	0.31	0.13	36.7	D		
Intersection Delay = 13.1 (sec/veh) Intersection LOS = B								

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	60	1246	51	43	1173	54	180	6	240	70	7	63
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A					
Thru		A			Thru	A					
Right		A			Right	A					
Peds					Peds						
WB Left		A	A		SB Left	A					
Thru		A	A		Thru	A					
Right		A	A		Right	A					
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green		7.0	45.0			25.0					
Yellow		5.0	5.0			4.0					
All Red		2.0	2.0			2.0					
Cycle Length: 97.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	168	362	0.39	0.46	18.5	B		
TR	1470	3169	1.00	0.46	49.5	D	48.2	D
Westbound								
L	189	1593	0.30	0.61	17.4	B		
T	1942	3192	0.65	0.61	13.1	B	13.0	B
R	867	1425	0.07	0.61	7.8	A		
Northbound								
L	325	1261	0.64	0.26	36.1	D		
T	432	1676	0.02	0.26	26.8	C	75.9	E
R	367	1425	1.05	0.26	98.0	F		
Southbound								
L	326	1263	0.23	0.26	28.8	C		
T	432	1676	0.02	0.26	26.9	C	28.5	C
R	367	1425	0.19	0.26	28.3	C		
Intersection Delay = 38.7 (sec/veh)					Intersection LOS = D			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R		LTR		L	TR	
Volume	59	1110	4	2	602	48	2	2	2	236	2	103
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		52.0				25.0		
Yellow		5.0				3.0		
All Red		2.0				3.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	312	540	0.27	0.58	10.0-	A		
TR	968	1675	1.34	0.58	179.9	F	169.5	F
Westbound								
L	80	129	0.05	0.58	8.5	A		
T	968	1676	0.64	0.58	14.2	B	13.3	B
R	823	1425	0.15	0.58	8.8	A		
Northbound								
LTR	409	1472	0.06	0.28	23.9	C	23.9	C
Southbound								
L	345	1243	0.84	0.28	47.8	D		
TR	400	1439	0.35	0.28	26.6	C	40.8	D

Intersection Delay = 101.6 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R		LTR		L	TR	
Volume	144	870	0	1	1337	154	2	2	2	64	1	41
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		52.0				7.0		
Yellow		5.0				3.0		
All Red		2.0				3.0		

Cycle Length: 72.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	100	129	1.95	0.72	471.7	F		
TR	1210	1676	0.82	0.72	11.3	B	87.1	F
Westbound								
L	246	340	0.02	0.72	2.8	A		
T	1210	1676	1.19	0.72	103.3	F	90.3	F
R	1029	1425	0.21	0.72	3.4	A		
Northbound								
LTR	135	1388	0.18	0.10	30.5	C	30.5	C
Southbound								
L	121	1243	0.70	0.10	48.2	D		
TR	139	1429	0.41	0.10	32.5	C	41.9	D

Intersection Delay = 86.3 (sec/veh) Intersection LOS = F

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 6/18/14
 Analysis Time Period: AM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: BUILD ALT 2-PHASE 1
 Project ID:
 East/West Street: ACCESS RD
 North/South Street: KEITH VALLEY RD
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		13	14		12	599	
Peak-Hour Factor, PHF		0.90	0.90		0.90	0.90	
Hourly Flow Rate, HFR		14	15		13	665	
Percent Heavy Vehicles		--	--		0	--	--
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR			LT	
Upstream Signal?		No				No	

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		5		10			
Peak Hour Factor, PHF		0.90		0.90			
Hourly Flow Rate, HFR		5		11			
Percent Heavy Vehicles		0		0			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/		/
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement	NB 1	SB 4	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		13		16				
C(m) (vph)		1597		698				
v/c		0.01		0.02				
95% queue length		0.02		0.07				
Control Delay		7.3		10.3				
LOS		A		B				
Approach Delay				10.3				
Approach LOS				B				

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 6/18/14
 Analysis Time Period: PM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: ALT 2 - PHASE 1
 Project ID:
 East/West Street: ACCESS RD
 North/South Street: KEITH VALLEY RD
 Intersection Orientation: NS

Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		19	17	14	204		
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90		
Hourly Flow Rate, HFR		21	18	15	226		
Percent Heavy Vehicles		--	--	0	--	--	
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR		LT		
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		5		16			
Peak Hour Factor, PHF		0.90		0.90			
Hourly Flow Rate, HFR		5		17			
Percent Heavy Vehicles		0		0			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/		/
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			4	7	8	9	10	11
Lane Config	1	LT			LR			
v (vph)		15			22			
C(m) (vph)		1584			944			
v/c		0.01			0.02			
95% queue length		0.03			0.07			
Control Delay		7.3			8.9			
LOS		A			A			
Approach Delay					8.9			
Approach LOS					A			

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: County Line Road

Inter.: CL and KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	666	61	262	544	2	13	41	87	39	289	32
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	8.7	52.6			20.7			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	383	728	0.07	0.53	11.7	B		
TR	869	1653	0.92	0.53	36.6	D	35.9	D
Westbound								
L	265	1593	1.06	0.67	96.4	F		
TR	1127	1675	0.54	0.67	8.9	A	36.6	D
Northbound								
L	72	331	0.58	0.21	47.3	D		
T	347	1676	0.17	0.21	32.8	C	30.3	C
R	504	1425	0.23	0.35	23.0	C		
Southbound								
L	250	1206	0.35	0.21	34.7	C		
T	347	1676	1.01	0.21	91.7	F	75.8	E
R	295	1425	0.16	0.21	32.8	C		

Intersection Delay = 43.7 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: County Line Road

Inter.: CL and KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	592	21	122	753	42	175	278	340	24	75	38
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A					
Thru		A			Thru	A					
Right		A			Right	A					
Peds					Peds						
WB Left		A	A		SB Left	A					
Thru		A	A		Thru	A					
Right		A	A		Right	A					
Peds					Peds						
NB Right		A			EB Right						
SB Right					WB Right						
Green		5.6	57.1			29.3					
Yellow		4.0	4.0			4.0					
All Red		2.0	2.0			2.0					

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	327	0.17	0.52	14.4	B		
TR	862	1660	0.80	0.52	27.1	C	26.6	C
Westbound								
L	267	1593	0.51	0.62	16.2	B		
TR	1038	1662	0.87	0.62	24.7	C	23.5	C
Northbound								
L	313	1174	0.71	0.27	43.8	D		
T	446	1676	0.70	0.27	41.2	D	40.5	D
R	530	1425	0.78	0.37	38.1	D		
Southbound								
L	160	600	0.22	0.27	32.1	C		
T	446	1676	0.20	0.27	31.4	C	31.4	C
R	380	1425	0.14	0.27	30.9	C		

Intersection Delay = 30.4 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2 - PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	11	310	86	263	378	119	165	855	126	95	1308	13
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A	A		SB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	8.4	20.9			4.0	50.7		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	187	1593	0.12	0.32	27.9	C		
TR	585	3081	0.79	0.19	49.8	D	48.8	D
Westbound								
L	218	1593	1.63	0.32	344.5	F		
TR	586	3083	1.09	0.19	107.0	F	192.1	F
Northbound								
L	123	1593	1.54	0.56	305.2	F		
TR	1441	3127	0.80	0.46	28.5	C	67.8	E
Southbound								
L	162	1593	0.88	0.56	71.9	E		
TR	1467	3182	0.95	0.46	41.8	D	44.6	D

Intersection Delay = 85.8 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	11	311	94	136	368	121	211	1320	188	158	1065	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A	A		NB Left	A	A				
Thru			A		Thru		A				
Right			A		Right		A				
Peds					Peds						
WB Left		A	A		SB Left	A	A				
Thru			A		Thru		A				
Right			A		Right		A				
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green		5.0	29.0			9.0	62.0				
Yellow		4.0	4.0			5.0	5.0				
All Red		2.0	2.0			2.0	2.0				

Cycle Length: 131.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	129	1593	0.20	0.31	34.9	C		
TR	682	3079	0.83	0.22	57.2	E	56.2	E
Westbound								
L	144	1593	1.75	0.31	416.3	F		
TR	681	3075	0.91	0.22	65.5	E	167.2	F
Northbound								
L	205	1593	1.49	0.60	272.1	F		
TR	1481	3129	1.15	0.47	111.4	F	135.8	F
Southbound								
L	164	1593	1.29	0.60	195.3	F		
TR	1506	3181	0.79	0.47	32.2	C	56.6	E

Intersection Delay = 108.9 (sec/veh) Intersection LOS = F

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: Easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR		LT	R	
Volume	29	5	60	5	5	5	123	1228	5	5	1700	91
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left	A				NB Left	A	A				
Thru	A				Thru	A	A				
Right	A				Right	A	A				
Peds					Peds						
WB Left	A				SB Left		A				
Thru	A				Thru		A				
Right	A				Right		A				
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green	26.0					20.0	48.0				
Yellow	4.0					5.0	5.0				
All Red	2.0					2.0	2.0				
Cycle Length: 114.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	303	1329	0.12	0.23	35.1	D	35.7	D
R	325	1425	0.21	0.23	36.0	D		
Westbound								
LTR	345	1512	0.04	0.23	34.4	C	34.4	C
Northbound								
L	342	1593	0.54	0.66	29.5	C		
TR	2099	3190	0.65	0.66	12.3	B	14.4	B
Southbound								
LT	1277	3032	1.39	0.42	213.7	F	201.8	F
R	600	1425	0.19	0.42	21.0	C		
Intersection Delay = 115.0 (sec/veh)					Intersection LOS = F			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: Easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			LT	R
Volume	63	5	143	5	5	5	87	1745	5	5	1297	41
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left	A				NB Left	A	A				
Thru	A				Thru	A	A				
Right	A				Right	A	A				
Peds					Peds						
WB Left		A			SB Left		A				
Thru		A			Thru		A				
Right		A			Right		A				
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green	26.0					20.0	48.0				
Yellow	4.0					5.0	5.0				
All Red	2.0					2.0	2.0				
Cycle Length: 114.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach		
			v/c	g/C	Delay	LOS	Delay	LOS	
Eastbound									
LT	279	1223	0.27	0.23	36.7	D	38.5	D	
R	325	1425	0.49	0.23	39.4	D			
Westbound									
LTR	333	1461	0.07	0.23	34.6	C	34.6	C	
Northbound									
L	342	1593	0.85	0.66	52.8	D			
TR	2099	3190	0.91	0.66	22.7	C	26.7	C	
Southbound									
LT	1264	3001	1.14	0.42	107.9	F	99.2	F	
R	600	1425	0.27	0.42	21.8	C			
Intersection Delay = 56.2 (sec/veh) Intersection LOS = E									

TWO-WAY STOP CONTROL SUMMARY

Analyst: LDK
 Agency/Co.: TQC
 Date Performed: 6/18/14
 Analysis Time Period: PM PEAK HOUR
 Intersection:
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: Buld Alt 2-PHASE 1
 Project ID:
 East/West Street: W MORELAND AVE
 North/South Street: EASTON RD (611)
 Intersection Orientation: NS

Study period (hrs): 0.25

		Vehicle Volumes and Adjustments						
Major Street:	Approach Movement	Northbound			Southbound			
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		45	1637	9	128	1293	36	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		50	1818	10	142	1436	40	
Percent Heavy Vehicles		0	--	--	2	--	--	
Median Type/Storage		Undivided			/			
RT Channelized?								
Lanes		1	2	0	1	2	0	
Configuration		L	T	TR	L	T	TR	
Upstream Signal?		No			No			
Minor Street:	Approach Movement	Westbound			Eastbound			
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		5	9	83	31	42	31	
Peak Hour Factor, PHF		0.90	0.90	0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		5	10	92	34	46	34	
Percent Heavy Vehicles		2	0	2	0	0	0	
Percent Grade (%)		0			0			
Flared Approach: Exists?/Storage					/	No /		
Lanes		0	1	1	1	1	0	
Configuration		LT		R	L	TR		
		Delay, Queue Length, and Level of Service						
Approach Movement	Lane Config	NB	SB	Westbound		Eastbound		
		1 L	4 L	7 LT	8	9 R	10 L	11 12 TR
v (vph)		50	142	15		92	34	80
C(m) (vph)		462	330	0		329	0	5
v/c		0.11	0.43			0.28		16.00
95% queue length		0.36	2.08			1.12		11.90
Control Delay		13.7	23.9			20.1		8171
LOS		B	C	F		C	F	F
Approach Delay								
Approach LOS								

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MAPLE AVE (LOWER)

Inter.: East Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	243	1	81	3	20	5	205	1036	3	5	1281	619
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	19.0				4.0	47.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	255	1208	1.21	0.21	159.9	F		
TR	303	1435	0.35	0.21	30.9	C	127.1	F
Westbound								
LTR	326	1545	0.17	0.21	29.3	C	29.3	C
Northbound								
L	148	284	1.78	0.52	397.1	F		
TR	1664	3187	0.73	0.52	18.3	B	85.6	F
Southbound								
L	202	1593	0.03	0.64	8.9	A		
T	2057	3192	0.69	0.64	11.3	B	12.9	B
R	918	1425	0.78	0.64	16.0	B		
Intersection Delay = 50.9 (sec/veh)					Intersection LOS = D			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MAPLE AVE (LOWER)

Inter.: East Maple PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	712	13	171	9	10	5	121	1638	15	5	1168	360
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0				3.0	52.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	279	1230	2.84	0.23	873.2	F		
TR	330	1453	0.70	0.23	41.1	D	684.5	F
Westbound								
LTR	315	1389	0.11	0.23	29.9	C	29.9	C
Northbound								
L	147	275	1.16	0.54	144.9	F		
TR	1707	3185	1.11	0.54	79.2	E	84.6	F
Southbound								
L	123	1593	0.16	0.64	22.2	C		
T	2040	3192	0.69	0.64	12.3	B	11.8	B
R	911	1425	0.49	0.64	9.7	A		

Intersection Delay = 179.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/18/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-PHASE 1
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	139	518	4	72	840	15	19	1011	66	33	908	421
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru			A		Thru	A		
Right				A	Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru			A		Thru	A		
Right				A	Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		4.0	22.0			34.0		
Yellow		4.0	4.0			5.0		
All Red		3.0	2.0			2.0		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	1593	1.01	0.40	98.7	F		
TR	875	3183	0.69	0.28	28.4	C	43.9	D
Westbound								
L	218	1593	0.44	0.40	17.8	B		
TR	874	3179	1.10	0.28	89.6	F	83.1	F
Northbound								
L	90	197	0.38	0.43	18.4	B		
T	1357	3192	0.85	0.43	25.8	C	25.0	C
R	606	1425	0.11	0.43	14.0	B		
Southbound								
L	92	217	0.60	0.43	28.0	C		
TR	1289	3033	1.23	0.43	132.3	F	128.8	F

Intersection Delay = 77.1 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/18/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt 2-PHASE 1
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	469	1033	18	94	533	15	30	1285	119	40	1099	178
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	6.0	30.0			40.0			
Yellow	4.0	4.0			5.0			
All Red	3.0	3.0			2.0			

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	260	1593	2.07	0.44	530.0	F		
TR	984	3180	1.27	0.31	161.0	F	272.5	F
Westbound								
L	173	1593	0.75	0.44	38.6	D		
TR	981	3172	0.63	0.31	30.0	C	31.5	C
Northbound								
L	74	168	0.64	0.41	39.3	D		
T	1316	3192	1.09	0.41	79.8	E	73.2	E
R	588	1425	0.25	0.41	18.9	B		
Southbound								
L	74	168	0.65	0.41	41.1	D		
TR	1289	3127	1.10	0.41	84.5	F	83.0	F

Intersection Delay = 133.5 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 2 BUILD - PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	432		173				340	1329			1011	980
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right		A			WB Right			
Green		26.0				8.0	38.0	
Yellow		3.0				4.0	4.0	
All Red		3.0				2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.52	0.29	27.3	C	29.6	C
R	412	1425	0.69	0.29	33.2	C		
Westbound								
Northbound								
L	239	1593	1.67	0.58	340.7	F		
T	1844	3192	0.82	0.58	18.3	B	85.8	F
Southbound								
T	1348	3192	0.81	0.42	26.5	C	25.9	C
R	1108	1425	0.95	0.78	25.2	C		
Intersection Delay = 50.3 (sec/veh)					Intersection LOS = D			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 2 BUILD - PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	510		330				240	1352			1414	1306
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	26.0					8.0	38.0	
Yellow	3.0					4.0	4.0	
All Red	3.0					2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.75	0.29	32.6	C	37.6	D
R	412	1425	0.86	0.29	47.1	D		
Westbound								
Northbound								
L	222	1593	1.16	0.58	130.3	F		
T	1844	3192	0.81	0.58	17.8	B	34.4	C
Southbound								
T	1348	3192	1.13	0.42	93.5	F	114.6	F
R	1108	1425	1.27	0.78	137.5	F		

Intersection Delay = 76.2 (sec/veh) Intersection LOS = E

HCS+:

a 5.5

Analyst: LDK
Agency: TQC
Date: 6/20/14
Period: AM PEAK HOUR
Project ID: ADD: NB Th;
E/W St: HORSHAM RD

st 611 AM
or Similar

lt2- PHASE 1 Mitigation

RD 611

PHASE I ALT 2 MITIGATION

	Eastbound		Y d R	Southbound		
	L	T		L	T	R
No. Lanes	0	0	0	2	3	0
LGConfig				L	T	
Volume			4	259	1147	
Lane Width				12.0	12.0	
RTOR Vol			0			

Duration	0.25	Area Type:	CBD or Similar							
Signal Operations										
Phase Combination	1	2	3	4	5	6	7	8		
EB Left					NB Left					
Thru					Thru	A				
Right					Right	A				
Peds					Peds					
WB Left	A				SB Left	A	A			
Thru					Thru	A	A			
Right	A				Right					
Peds					Peds					
NB Right					EB Right					
SB Right					WB Right	A				
Green	15.3				21.3	63.4				
Yellow	3.0				5.0	5.0				
All Red	3.0				2.0	2.0				
Cycle Length: 120.0 secs										

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	203	1593	0.56	0.13	52.5	D	115.0	F
R	506	1425	1.15	0.35	127.1	F		

Northbound

TR	2407	4555	0.74	0.53	23.3	C	23.3	C
----	------	------	------	------	------	---	------	---

Southbound

L	1096	3093	0.28	0.76	9.2	A		
T	3490	4567	0.36	0.76	4.7	A	5.6	A

Intersection Delay = 32.1 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 8/14/2013
 Period: PM PEAK HOUR
 Project ID: SB +1LT + 1Th; NB +1Th; EB two accepting lanes
 E/W St: HORSHAM RD

Inter.: Hors East 611 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigation
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	3	0	2	3	0
LGConfig				L		R		TR		L	T	
Volume				32		354		1897	39	826	1634	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	4.5					40.4	85.1	
Yellow	3.0					5.0	5.0	
All Red	3.0					2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
Westbound								
L	48	1593	1.15	0.03	248.4	F	85.0	F
R	484	1425	0.88	0.34	63.9	E		
Northbound								
TR	2581	4550	0.84	0.57	29.3	C	29.3	C
Southbound								
L	1454	3093	0.62	0.88	16.6	B		
T	4034	4567	0.43	0.88	1.7	A	6.8	A

Intersection Delay = 23.2 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: Optimize signal timing
 E/W St: HORSHAM RD

Inter.: East Hors 463 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigate
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			492				1149	1116			1032	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						46.8	38.3	3.9
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0
Cycle Length: 110.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
R	1128	2522	0.47	0.45	21.6	C	21.6	C
Westbound								
Northbound								
L	1383	3093	0.97	0.45	46.3	D		
T	2673	3192	0.44	0.84	2.4	A	25.9	C
Southbound								
TR	1354	3182	0.97	0.43	49.2	D	49.2	D

Intersection Delay = 32.4 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: signal optimization
 E/W St: HORSHAM RD

Inter.: East Hors 463 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigate
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	3	0	0	0	2	2	0	0	3	0
LGConfig			R				L	T			TR	
Volume			1416				757	1448			1145	15
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						33.4	42.4	3.2
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	2042	3882	0.80	0.53	21.7	C	21.7	C
---	------	------	------	------	------	---	------	---

Northbound

L	1627	3093	0.51	0.53	15.6	B		
T	2643	3192	0.58	0.83	3.1	A	7.5	A

Southbound

TR	1522	4558	0.85	0.33	35.6	D	35.6	D
----	------	------	------	------	------	---	------	---

Intersection Delay = 18.8 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-PHASE 1-Mitigation
 Project ID: ADD: EB Th; WB Th; NB Th + LT lanes
 E/W St: HORSHAM RD N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	1	3	0	2	3	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	337	568	653	206	1337	0	167	396	45	6	1108	65
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru			A		Thru		A	
Right				A	Right			A
Peds					Peds			
WB Left		A			SB Left	A		A
Thru			A		Thru		A	A
Right				A	Right		A	A
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0	48.0			10.0	25.0	10.0
Yellow		5.0	5.0			4.0	4.0	4.0
All Red		2.0	2.0			2.0	2.0	2.0

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	222	1593	1.85	0.50	444.3	F		
TR	1443	4208	0.91	0.34	52.7	D	146.1	F
Westbound								
L	222	1593	1.14	0.50	147.1	F		
TR	1566	4567	0.96	0.34	59.3	E	72.0	E
Northbound								
L	654	3093	0.31	0.29	40.3	D		
T	816	4567	0.59	0.18	54.0	D	49.9	D
R	254	1425	0.22	0.18	49.7	D		
Southbound								
L	399	1593	0.03	0.41	25.4	C		
T	935	3192	1.33	0.29	206.1	F	194.6	F
R	417	1425	0.19	0.29	37.3	D		

Intersection Delay = 121.5 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: ADD: EB Th; WB Th; NB Th + LT lanes
 E/W St: HORSHAM RD

Inter.: Hors Dresh PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigation
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	1	3	0	2	3	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	378	1087	253	90	689	0	546	1402	175	62	409	95
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A	A	NB Left	A	A	A
Thru			A	A	Thru	A	A	
Right			A	A	Right	A	A	
Peds					Peds			
WB Left		A	A		SB Left		A	A
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		15.0	15.0	32.0		10.0	25.0	10.0
Yellow		5.0	5.0	5.0		4.0	4.0	4.0
All Red		2.0	2.0	2.0		2.0	2.0	2.0

Cycle Length: 146.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	476	1593	0.87	0.52	51.6	D		
TR	1640	4433	0.97	0.37	60.5	E	58.7	E
Westbound								
L	213	1593	0.48	0.32	38.6	D		
TR	1001	4567	0.77	0.22	57.1	E	54.9	D
Northbound								
L	772	3093	0.81	0.39	42.2	D		
T	1283	4567	1.21	0.28	156.3	F	117.2	F
R	400	1425	0.48	0.28	44.5	D		
Southbound								
L	224	1593	0.33	0.28	57.7	E		
T	547	3192	0.82	0.17	68.0	E	64.7	E
R	244	1425	0.48	0.17	56.0	E		

Intersection Delay = 82.4 (sec/veh) Intersection LOS = F

Analyst: LDK Inter.: Hors Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-PHASE 1-Mitigation
 Project ID: EB-Double L; NB-L & TR; SB-Double R
 E/W St: HORSHAM RD N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	0	1	1	0	0	1	2
LGConfig	L	TR		L	TR		L	TR		LT	R	
Volume	296	1097	24	6	1212	55	63	34	12	251	44	600
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A					
Thru		A			Thru	A					
Right		A			Right	A					
Peds					Peds						
WB Left		A	A		SB Left	A					
Thru		A	A		Thru	A					
Right		A	A		Right	A					
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green		4.1	44.1			33.8					
Yellow		4.0	4.0			3.0					
All Red		2.0	2.0			3.0					
Cycle Length: 100.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	411	931	0.80	0.44	35.0-	C		
TR	1402	3179	0.90	0.44	34.6	C	34.7	C
Westbound								
L	137	1593	0.12	0.54	16.6	B		
TR	1716	3166	0.79	0.54	21.1	C	21.0	C
Northbound								
L	212	626	0.36	0.34	26.0	C		
TR	548	1622	0.14	0.34	23.1	C	24.6	C
Southbound								
LT	404	1195	0.90	0.34	53.3	D	41.7	D
R	852	2522	0.80	0.34	35.5	D		
Intersection Delay = 31.6 (sec/veh) Intersection LOS = C								

HCS+: Signalized Intersections Release 5.5

Analyst: LDK

Agency: TQC

Date: 6/20/14

Period: PM PEAK HOUR

Project ID: EB-Double L; NB-L & TR; SB-Double R

E/W St: HORSHAM RD

Inter.: Hors Map PM

Area Type: CBD or Similar

Jurisd: PENNDOT

Year : Build Alt2-PHASE 1-Mitigation

N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	0	1	1	0	0	1	2
LGConfig	L	TR		L	TR		L	TR			LT	R
Volume	594	1610	30	15	1199	147	109	104	11	90	50	361
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.3	56.7			21.0			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	416	733	1.55	0.57	282.1	F		
TR	1804	3181	0.94	0.57	30.5	C	99.8	F
Westbound								
L	140	1593	0.15	0.67	15.7	B		
TR	2097	3130	0.70	0.67	11.3	B	11.4	B
Northbound								
L	194	926	0.82	0.21	62.0	E		
TR	347	1652	0.50	0.21	35.9	D	48.5	D
Southbound								
LT	218	1037	0.84	0.21	62.1	E	48.7	D
R	530	2522	0.74	0.21	42.4	D		

Intersection Delay = 62.3 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: Add: EB & WB-Double L
 E/W St: HORSHAM RD

Inter.: Hors Nor AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigation
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	1	2	2	1	1	1	1	1	1	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	47	901	116	522	1242	52	193	5	469	27	8	53
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A					
Thru		A			Thru	A					
Right		A			Right	A					
Peds					Peds						
WB Left		A			SB Left	A					
Thru		A			Thru	A					
Right		A			Right	A					
Peds					Peds						
NB Right		A			EB Right						
SB Right			A		WB Right						
Green		66.9	45.2			19.9					
Yellow		4.0	4.0			4.0					
All Red		2.0	2.0			2.0					

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	932	3093	0.05	0.30	37.2	D		
T	962	3192	1.05	0.30	96.1	F	86.4	F
R	429	1425	0.38	0.30	41.9	D		
Westbound								
L	1379	3093	0.44	0.45	28.8	C		
T	1424	3192	0.93	0.45	50.1	D	42.9	D
R	636	1425	0.09	0.45	24.0	C		
Northbound								
L	167	1260	1.65	0.13	383.9	F		
T	222	1676	0.02	0.13	56.6	E	140.3	F
R	882	1425	0.63	0.62	19.2	B		
Southbound								
L	168	1265	0.17	0.13	58.2	E		
T	222	1676	0.04	0.13	56.8	E	36.0	D
R	675	1425	0.09	0.47	21.7	C		

Intersection Delay = 75.3 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: Add: EB & WB-Double L
 E/W St: HORSHAM RD

Inter.: Hors Norr PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigation
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	1	2	2	1	1	1	1	1	1	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	60	1480	77	470	1087	54	170	6	617	42	14	84
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			250			80

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right		A			WB Right			
Green	51.2	58.0			22.8			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	1196	3093	0.05	0.39	28.8	C		
T	1234	3192	1.26	0.39	170.8	F	158.3	F
R	551	1425	0.16	0.39	30.2	C		
Westbound								
L	1056	3093	0.48	0.34	39.3	D		
T	1090	3192	1.12	0.34	116.0	F	91.4	F
R	486	1425	0.12	0.34	34.1	C		
Northbound								
L	190	1253	1.06	0.15	146.6	F		
T	255	1676	0.03	0.15	54.2	D	64.5	E
R	760	1425	0.53	0.53	23.5	C		
Southbound								
L	192	1263	0.24	0.15	56.6	E		
T	255	1676	0.06	0.15	54.5	D	53.5	D
R	825	1425	0.00	0.58	13.4	B		

Intersection Delay = 114.3 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: Optimize signal timing
 E/W St: HOME DEPOT/I-276

Inter.: East and HD AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigation
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	65		87		15		30	636			1637	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A	A				
Thru					Thru	A	A				
Right		A			Right						
Peds					Peds						
WB Left					SB Left						
Thru		A	A		Thru	A					
Right					Right	A	A				
Peds					Peds						
NB Right					EB Right		A				
SB Right		A	A		WB Right						
Green		16.0	6.1			77.9	4.0				
Yellow		3.0	3.0			5.0	5.0				
All Red		3.0	3.0			2.0	2.0				

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	152	1232	0.68	0.12	66.0	E	55.1	E
R	296	1425	0.38	0.21	45.1	D		
Westbound								
T	362	1676	0.09	0.22	40.9	D	40.9	D
Northbound								
L	225	1593	0.19	0.68	19.5	B		
T	2183	3192	0.35	0.68	8.6	A	9.2	A
Southbound								
T	2737	4567	0.64	0.60	17.4	B	17.4	B

Intersection Delay = 18.2 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: Optimize signal timing
 E/W St: HOME DEPOT/I-276

Inter.: East and HD PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigation
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	110		154		60		125	869			2400	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A	A				
Thru					Thru	A	A				
Right		A			Right						
Peds					Peds						
WB Left					SB Left						
Thru		A	A		Thru	A					
Right					Right	A	A				
Peds					Peds						
NB Right					EB Right		A				
SB Right		A	A		WB Right						
Green		13.9	4.0			102.5	3.6				
Yellow		3.0	3.0			5.0	5.0				
All Red		3.0	3.0			2.0	2.0				

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	91	978	1.42	0.09	308.4	F	172.9	F
R	233	1425	0.74	0.16	71.8	E		
Westbound								
T	267	1676	0.24	0.16	55.5	E	55.5	E
Northbound								
L	161	1593	0.96	0.75	117.3	F		
T	2407	3192	0.42	0.75	6.8	A	21.3	C
Southbound								
T	3121	4567	0.80	0.68	18.2	B	18.2	B

Intersection Delay = 31.2 (sec/veh) Intersection LOS = C

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: ADD: EB L + Th Lane
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigation
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	3	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	47	985	118	141	1207	52	30	5	18	27	9	53
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.1	34.3			8.6			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 70.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	475	970	0.11	0.49	9.7	A		
TR	2202	4494	0.59	0.49	13.2	B	13.1	B
Westbound								
L	299	1593	0.69	0.69	13.6	B		
T	2207	3192	0.62	0.69	6.4	A	7.2	A
R	985	1425	0.06	0.69	3.5	A		
Northbound								
L	155	1259	0.25	0.12	28.6	C		
T	206	1676	0.02	0.12	27.1	C	28.2	C
R	175	1425	0.17	0.12	28.0	C		
Southbound								
L	155	1265	0.19	0.12	28.1	C		
T	206	1676	0.05	0.12	27.2	C	28.7	C
R	175	1425	0.33	0.12	29.2	C		

Intersection Delay = 10.9 (sec/veh) Intersection LOS = B

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: ADD: EB LT + Th Lane
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigation
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	3	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	60	1246	51	43	1173	54	180	6	240	70	7	63
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type:	CBD or Similar									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left	A	A			NB Left	A						
Thru	A	A			Thru	A						
Right	A	A			Right	A						
Peds					Peds							
WB Left		A			SB Left	A						
Thru		A			Thru	A						
Right		A			Right	A						
Peds					Peds							
NB Right					EB Right							
SB Right					WB Right							
Green	3.0	77.9				39.1						
Yellow	5.0	5.0				4.0						
All Red	2.0	2.0				2.0						
Cycle Length: 140.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	422	3093	0.15	0.63	15.1	B		
TR	2847	4534	0.52	0.63	14.5	B	14.5	B
Westbound								
L	145	261	0.39	0.56	19.3	B		
T	1776	3192	0.71	0.56	24.1	C	23.5	C
R	793	1425	0.07	0.56	14.4	B		
Northbound								
L	352	1261	0.59	0.28	46.1	D		
T	468	1676	0.01	0.28	36.5	D	72.7	E
R	398	1425	0.97	0.28	87.7	F		
Southbound								
L	353	1263	0.22	0.28	39.0	D		
T	468	1676	0.02	0.28	36.5	D	38.6	D
R	398	1425	0.17	0.28	38.4	D		
Intersection Delay = 28.4 (sec/veh)					Intersection LOS = C			

Analyst: LDK

Agency: TQC

Date: 9/26/13

Period: AM PEAK HOUR

Project ID: Add: EB Th + R Lane; WB Th Lane

E/W St: HORSHAM RD

Inter.: Hors KV AM

Area Type: CBD or Similar

Jurisd: PENNDOT

Year : Build Alt2-PHASE 1-Mitigation

N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	1	1	2	1	0	1	0	1	1	0
LGConfig	L	T	R	L	T	R	LTR			L	TR	
Volume	59	1110	4	2	602	48	2	2	2	236	2	103
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol			0			0						0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	53.1				33.9			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	348	655	0.24	0.53	13.0	B		
T	1695	3192	0.76	0.53	20.6	C	20.0+	C
R	757	1425	0.01	0.53	11.1	B		
Westbound								
L	114	215	0.04	0.53	11.3	B		
T	1695	3192	0.37	0.53	13.8	B	13.5	B
R	757	1425	0.16	0.53	12.1	B		
Northbound								
LTR	503	1485	0.05	0.34	22.2	C	22.2	C
Southbound								
L	421	1243	0.69	0.34	33.3	C		
TR	488	1439	0.29	0.34	24.6	C	30.5	C

Intersection Delay = 19.9 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors KV PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2-PHASE 1-Mitigation
 Project ID: Add: EB Th + R Lane; WB Th Lane
 E/W St: HORSHAM RD N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	1	1	2	1	0	1	0	1	1	0
LGConfig	L	T	R	L	T	R	LTR			L	TR	
Volume	144	870	0	1	1337	154	2	2	2	64	1	41
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	60.0			15.0			
Yellow	5.0	5.0			3.0			
All Red	0.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	230	1593	0.85	0.74	41.2	D		
T	2298	3192	0.43	0.72	5.8	A	11.6	B
R	1026	1425	0.00	0.72	3.9	A		
Westbound								
L	292	487	0.01	0.60	8.1	A		
T	1915	3192	0.75	0.60	16.3	B	15.4	B
R	855	1425	0.25	0.60	9.5	A		
Northbound								
LTR	219	1460	0.11	0.15	37.0	D	37.0	D
Southbound								
L	186	1243	0.46	0.15	40.6	D		
TR	214	1429	0.27	0.15	38.3	D	39.7	D

Intersection Delay = 15.2 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: ADD: NB Th Lane
 E/W St: County Line Road

Inter.: CL and KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigation
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	666	61	262	544	2	13	41	87	39	289	32
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type:	CBD or Similar									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left		A			NB Left	A						
Thru		A			Thru	A						
Right		A			Right	A						
Peds					Peds							
WB Left	A	A			SB Left	A						
Thru	A	A			Thru	A						
Right	A	A			Right	A						
Peds					Peds							
NB Right	A				EB Right							
SB Right					WB Right							
Green	7.3	61.3				23.4						
Yellow	4.0	4.0				4.0						
All Red	2.0	2.0				2.0						
Cycle Length: 110.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	406	728	0.06	0.56	11.2	B		
TR	921	1653	0.87	0.56	29.8	C	29.3	C
Westbound								
L	263	1593	1.07	0.68	95.5	F		
TR	1136	1675	0.54	0.68	9.4	A	36.7	D
Northbound								
L	70	329	0.60	0.21	52.6	D		
T	679	3192	0.09	0.21	34.8	C	33.9	C
R	475	1425	0.25	0.33	26.9	C		
Southbound								
L	256	1203	0.34	0.21	37.5	D		
T	357	1676	0.99	0.21	86.9	F	73.1	E
R	303	1425	0.16	0.21	35.5	D		
Intersection Delay = 41.2 (sec/veh)					Intersection LOS = D			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: ADD: NB Th Lane
 E/W St: County Line Road

Inter.: CL and KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigation
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	592	21	122	753	42	175	278	340	24	75	38
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A					
Thru		A			Thru	A					
Right		A			Right	A					
Peds					Peds						
WB Left	A	A			SB Left	A					
Thru	A	A			Thru	A					
Right	A	A			Right	A					
Peds					Peds						
NB Right	A				EB Right						
SB Right					WB Right						
Green	5.1	48.6			28.3						
Yellow	4.0	4.0			4.0						
All Red	2.0	2.0			2.0						
Cycle Length: 100.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/c	Delay	LOS	Delay	LOS
Eastbound								
L	142	293	0.20	0.49	15.4	B		
TR	807	1660	0.85	0.49	31.4	C	30.8	C
Westbound								
L	234	1593	0.58	0.60	18.9	B		
TR	992	1662	0.91	0.60	29.3	C	27.9	C
Northbound								
L	332	1174	0.67	0.28	36.8	D		
T	903	3192	0.35	0.28	28.7	C	31.7	C
R	561	1425	0.74	0.39	31.1	C		
Southbound								
L	256	904	0.14	0.28	27.0	C		
T	474	1676	0.18	0.28	27.3	C	27.1	C
R	403	1425	0.13	0.28	26.8	C		
Intersection Delay = 29.8 (sec/veh)					Intersection LOS = C			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: ADD: NB Dbl LT Lane; NB exclsv RT; NB,SB,EB,WB Th; WB Dbl LT
 E/W St: COUNTY LINE RD

Inter.: East and CL AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt2-PHASE 1-Mitigation
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	3	0	2	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	11	310	86	263	378	119	165	855	126	95	1308	13
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A					
Thru		A			Thru	A					
Right		A			Right	A					
Peds					Peds						
WB Left			A		SB Left		A				
Thru			A		Thru		A				
Right			A		Right		A				
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green		17.8	24.5			33.2	48.5				
Yellow		4.0	4.0			5.0	5.0				
All Red		2.0	2.0			2.0	2.0				
Cycle Length: 150.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	189	1593	0.12	0.12	59.3	E		
TR	523	4408	0.89	0.12	81.6	F	80.6	F
Westbound								
L	505	3093	0.70	0.16	63.7	E		
TR	720	4411	0.88	0.16	73.9	E	70.2	E
Northbound								
L	685	3093	0.28	0.22	48.7	D		
T	1011	4567	0.98	0.22	82.3	F	74.0	E
R	315	1425	0.50	0.22	52.3	D		
Southbound								
L	515	1593	0.28	0.32	38.0	D		
TR	1472	4552	0.95	0.32	62.4	E	60.1	E

Intersection Delay = 69.0 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK

Agency: TQC

Date: 6/20/14

Period: PM PEAK HOUR

Project ID: Add: NB Dlb LT, Th, RT; SB Th, EB Th; WB LT, Th

E/W St: COUNTY LINE RD

Inter.: East and CL PM

Area Type: CBD or Similar

Jurisd: PENNDOT

Year : Build Alt2-PHASE 1-Mitigation

N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	3	0	2	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	11	311	94	136	368	121	211	1320	188	158	1065	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	13.9	21.0			49.3	39.8		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	148	1593	0.18	0.09	63.3	E		
TR	408	4405	1.39	0.09	256.9	F	248.4	F
Westbound								
L	433	3093	0.58	0.14	62.4	E		
TR	616	4399	1.00	0.14	101.2	F	89.9	F
Northbound								
L	1017	3093	0.30	0.33	37.7	D		
T	1501	4567	0.99	0.33	70.4	E	62.1	E
R	468	1425	0.48	0.33	40.9	D		
Southbound								
L	423	1593	0.50	0.27	47.6	D		
TR	1208	4551	0.99	0.27	78.5	E	73.9	E

Intersection Delay = 93.1 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Gate 1 AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT; NB Dbl LT; SB Th Lane
 E/W St: BASE GATE 1 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	0	0	1	0	2	2	0	0	3	1
LGConfig	L	TR		LTR			L	TR		LT R		
Volume	29	5	60	5	5	5	123	1228	5	5	1700	91
Lane Width	12.0	12.0		12.0			12.0	12.0		12.0 12.0		
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	15.0				3.0	72.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	331	2428	0.10	0.14	41.7	D		
TR	197	1442	0.37	0.14	44.3	D	43.5	D
Westbound								
LTR	199	1461	0.09	0.14	41.7	D	41.7	D
Northbound								
L	623	3093	0.30	0.75	6.6	A		
TR	2378	3190	0.57	0.75	6.5	A	6.5	A
Southbound								
LT	2793	4267	0.64	0.65	11.7	B	11.5	B
R	933	1425	0.13	0.65	7.2	A		
Intersection Delay = 10.4 (sec/veh)					Intersection LOS = B			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK

Agency: TQC

Date: 6/20/14

Period: PM PEAK HOUR

Project ID: ADD: EB Dbl LT; NB Dbl LT;

E/W St: BASE GATE 1

Inter.: East Gate 1 PM

Area Type: CBD or Similar

Jurisd: PENNDOT

Year : Build Alt2-PHASE 1-Mitigation

SB Th Lane

N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	0	0	1	0	2	2	0	0	3	1
LGConfig	L	TR			LTR		L	TR			LT	R
Volume	63	5	143	5	5	5	87	1745	5	5	1297	41
Lane Width	12.0	12.0			12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	29.0				21.8	59.2		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	539	2417	0.13	0.22	40.5	D		
TR	320	1433	0.51	0.22	45.7	D	44.2	D
Westbound								
LTR	319	1428	0.07	0.22	40.0	D	40.0	D
Northbound								
L	935	3093	0.31	0.68	11.9	B		
TR	2159	3190	0.88	0.68	21.5	C	20.2	C
Southbound								
LT	1924	4226	0.75	0.46	31.0	C	30.1	C
R	649	1425	0.25	0.46	22.0	C		
Intersection Delay = 25.6 (sec/veh)					Intersection LOS = C			

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: Access/W Moreland

Inter.:
 Area Type: All other areas
 Jurisd: PennDOT
 Year : Build Alt 2-Mitigation-PHASE1
 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	20	27	20	5	16	89	39	1304	5	75	1610	23
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: All other areas									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left	A				NB Left	A	A				
Thru	A				Thru	A	A				
Right	A				Right	A	A				
Peds					Peds						
WB Left	A				SB Left	A	A				
Thru	A				Thru	A	A				
Right	A				Right	A	A				
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green	17.7					11.3	84.0				
Yellow	4.0					4.0	4.0				
All Red	3.0					0.0	2.0				
Cycle Length: 130.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	168	1231	0.13	0.14	49.7	D		
TR	237	1742	0.22	0.14	50.4	D	50.2	D
Westbound								
L	184	1348	0.03	0.14	48.7	D		
TR	221	1625	0.52	0.14	54.3	D	54.0	D
Northbound								
L	235	1770	0.18	0.78	14.3	B		
TR	2291	3545	0.62	0.65	14.1	B	14.1	B
Southbound								
L	309	1770	0.27	0.78	9.1	A		
T	2292	3547	0.76	0.65	17.6	B	17.1	B
R	1023	1583	0.02	0.65	8.3	A		
Intersection Delay = 17.8 (sec/veh) Intersection LOS = B								

Analyst: LDK Inter.:
 Agency: TQC Area Type: All other areas
 Date: 6/18/14 Jurisd: PennDOT
 Period: PM PEAK HOUR Year : Build Alt 2-Mitigation-PHASE 1
 Project ID:
 E/W St: Access Rd/W Moreland Rd N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	31	42	31	5	9	83	45	1637	9	128	1293	36
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.1				3.9	79.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				3.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	184	1290	0.18	0.14	45.8	D		
TR	249	1744	0.32	0.14	47.0	D	46.6	D
Westbound								
L	187	1313	0.03	0.14	44.3	D		
TR	230	1611	0.43	0.14	48.3	D	48.2	D
Northbound								
L	226	1770	0.22	0.74	8.5	A		
TR	2333	3544	0.77	0.66	15.7	B	15.5	B
Southbound								
L	139	1770	1.00	0.74	103.5	F		
T	2335	3547	0.60	0.66	12.0	B	20.0-	B
R	1042	1583	0.04	0.66	7.2	A		

Intersection Delay = 19.4 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT, Th, RT; WB l&R; NB Dbl LT+Th; SB Th
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	1	1	1	1	2	3	1	1	3	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	243	1	81	3	20	5	205	1036	3	5	1281	619
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	19.0				4.0	47.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	393	1862	0.78	0.21	43.5	D		
T	354	1676	0.01	0.21	28.1	C	40.3	D
R	301	1425	0.34	0.21	30.8	C		
Westbound								
L	267	1266	0.04	0.21	28.3	C		
T	354	1676	0.11	0.21	28.8	C	28.6	C
R	301	1425	0.02	0.21	28.1	C		
Northbound								
L	417	799	0.63	0.52	18.4	B		
T	2385	4567	0.51	0.52	14.1	B	14.9	B
R	744	1425	0.02	0.52	10.4	B		
Southbound								
L	235	1593	0.02	0.64	6.8	A		
T	2943	4567	0.48	0.64	8.4	A	10.9	B
R	918	1425	0.78	0.64	16.0	B		

Intersection Delay = 15.6 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Maple PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT, Th, RT; WB l&R; NB Dbl LT+Th; SB Th
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	1	1	1	1	2	3	1	1	3	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	712	13	171	9	10	5	121	1638	15	5	1168	360
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	31.6	4.0			44.3	44.1		
Yellow	3.0	3.0			5.0	5.0		
All Red	3.0	3.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	652	3093	1.21	0.21	168.9	F		
T	353	1676	0.07	0.21	47.6	D	144.1	F
R	300	1425	0.69	0.21	61.1	E		
Westbound								
L	42	1593	0.31	0.03	75.8	E		
T	45	1676	0.40	0.03	77.6	E	76.3	E
R	38	1425	0.13	0.03	72.9	E		
Northbound								
L	909	3093	0.19	0.29	39.7	D		
T	1343	4567	1.39	0.29	231.2	F	212.9	F
R	419	1425	0.06	0.29	38.1	D		
Southbound								
L	470	1593	0.01	0.30	37.4	D		
T	1349	4567	1.04	0.30	89.4	F	74.5	E
R	721	1425	0.62	0.51	28.4	C		

Intersection Delay = 146.0 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT; WB-Th+Excl RT; NB & SB Th Lane
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	1	1	3	1	1	3	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	139	518	4	72	840	15	19	1011	66	33	908	421
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.8	29.5			45.7			
Yellow	4.0	4.0			5.0			
All Red	3.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	607	3093	0.28	0.40	22.7	C		
TR	939	3183	0.65	0.29	32.3	C	30.2	C
Westbound								
L	220	1593	0.43	0.40	21.6	C		
T	942	3192	0.99	0.29	62.0	E	57.5	E
R	420	1425	0.06	0.29	25.4	C		
Northbound								
L	72	147	0.47	0.46	23.6	C		
T	2087	4567	0.55	0.46	20.0+	C	19.9	B
R	651	1425	0.11	0.46	15.6	B		
Southbound								
L	142	310	0.39	0.46	19.7	B		
TR	1983	4339	0.80	0.46	25.6	C	25.4	C

Intersection Delay = 31.9 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt2-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT; WB-Th+Excl RT; NB & SB Th Lane
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	1	1	3	1	1	3	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	469	1033	18	94	533	15	30	1285	119	40	1099	178
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations									
Phase Combination	1	2	3	4	5	6	7	8	
EB Left		A			NB Left	A			
Thru		A			Thru	A			
Right		A			Right	A			
Peds					Peds				
WB Left		A			SB Left	A			
Thru		A			Thru	A			
Right		A			Right	A			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	8.6	39.8			50.6				
Yellow	4.0	4.0			5.0				
All Red	3.0	3.0			2.0				

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	479	3093	1.13	0.46	125.4	F		
TR	1055	3180	1.18	0.33	131.1	F	129.4	F
Westbound								
L	174	1593	0.74	0.46	42.6	D		
T	1059	3192	0.56	0.33	33.6	C	34.9	C
R	473	1425	0.05	0.33	27.3	C		
Northbound								
L	73	173	0.64	0.42	45.4	D		
T	1926	4567	0.74	0.42	30.8	C	30.5	C
R	601	1425	0.24	0.42	22.6	C		
Southbound								
L	71	168	0.68	0.42	50.7	D		
TR	1886	4473	0.75	0.42	31.1	C	31.7	C

Intersection Delay = 62.8 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 2 BUILD - PHASE 1-MITIGATE
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	432		173				340	1329			1011	980
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	18.6					11.9	36.5	
Yellow	3.0					4.0	4.0	
All Red	3.0					2.0	2.0	

Cycle Length: 85.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	677	3093	0.69	0.22	33.4	C	44.1	D
R	312	1425	0.91	0.22	61.6	E		
Westbound								
Northbound								
L	327	1593	1.22	0.64	146.5	F		
T	2043	3192	0.74	0.64	11.9	B	40.1	D
Southbound								
T	1371	3192	0.79	0.43	24.3	C	35.9	D
R	1024	1425	1.03	0.72	47.8	D		
Intersection Delay = 38.8 (sec/veh)					Intersection LOS = D			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 2 BUILD - PHASE 1-MITIGATE
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	510		330				240	1352		1414	1306	
Lane Width	12.0		12.0				12.0	12.0		12.0	12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right		A			WB Right			
Green		23.3				6.9	41.8	
Yellow		3.0				4.0	4.0	
All Red		3.0				2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	801	3093	0.84	0.26	39.4	D	49.9	D
R	369	1425	0.96	0.26	69.8	E		
Westbound								
Northbound								
L	202	1593	1.28	0.61	183.0	F		
T	1940	3192	0.77	0.61	14.8	B	39.7	D
Southbound								
T	1483	3192	1.02	0.46	54.0	D	89.6	F
R	1126	1425	1.25	0.79	128.1	F		
Intersection Delay = 67.2 (sec/veh)					Intersection LOS = E			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				96		553		1712	24	311	1100	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	21.5					13.3	45.2	
Yellow	3.0					5.0	5.0	
All Red	3.0					2.0	2.0	

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	342	1593	0.33	0.22	33.7	C	61.9	E
R	581	1425	1.00	0.41	67.4	E		

Northbound

TR	1439	3184	1.29	0.45	161.6	F	161.6	F
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Southbound

L	284	1593	1.32	0.65	200.1	F		
T	2091	3192	0.58	0.65	10.0-	A	55.0-	D

Intersection Delay = 103.9 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors East 611 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	0	1	2	0
LGConfig				L		R		TR		L	T	
Volume				32		354		1950	39	881	1689	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	4.0					47.6	78.4	
Yellow	3.0					5.0	5.0	
All Red	3.0					2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	42	1593	1.31	0.03	316.2	F	78.4	E
R	547	1425	0.78	0.38	47.8	D		

Northbound

TR	1663	3181	1.33	0.52	190.5	F	190.5	F
----	------	------	------	------	-------	---	-------	---

Southbound

L	554	1593	1.73	0.89	383.6	F		
T	2830	3192	0.63	0.89	2.6	A	136.0	F

Intersection Delay = 153.1 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			454				1183	1138			976	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right		A	A
SB Right					WB Right			
Green						56.0	33.0	3.0
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 113.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
R	960	2522	0.51	0.38	27.4	C	27.4	C
Westbound								
Northbound								
L	1177	3093	1.17	0.38	120.5	F		
T	2712	3192	0.44	0.85	2.1	A	65.7	E
Southbound								
TR	1577	3182	0.79	0.50	26.5	C	26.5	C

Intersection Delay = 50.0 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: East Hors 463 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			1468				789	1469			1204	15
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration	0.25	Area Type:	CBD or Similar									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left					NB Left	A	A					
Thru					Thru	A	A					
Right					Right							
Peds					Peds							
WB Left					SB Left							
Thru					Thru	A						
Right					Right	A						
Peds					Peds							
NB Right					EB Right		A	A				
SB Right					WB Right							
Green						28.8	34.2	6.0				
Yellow						5.0	4.0	4.0				
All Red						2.0	3.0	3.0				
Cycle Length: 90.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
R	1323	2522	1.28	0.52	151.2	F	151.2	F
Westbound								
Northbound								
L	1622	3093	0.53	0.52	14.4	B		
T	2483	3192	0.62	0.78	4.8	A	8.2	A
Southbound								
TR	1020	3186	1.33	0.32	185.2	F	185.2	F

Intersection Delay = 96.6 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	309	401	598	188	975	0	153	363	41	5	1015	59
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A	A		NB Left	A	A				
Thru			A		Thru		A				
Right			A		Right		A				
Peds					Peds						
WB Left		A	A		SB Left	A	A	A			
Thru			A		Thru		A	A			
Right			A		Right		A	A			
Peds					Peds						
NB Right					EB Right	A					
SB Right					WB Right	A					
Green		15.0	48.0			10.0	25.0	10.0			
Yellow		5.0	5.0			4.0	4.0	4.0			
All Red		2.0	2.0			2.0	2.0	2.0			
Cycle Length: 140.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach		
			v/c	g/C	Delay	LOS	Delay	LOS	
Eastbound									
L	222	1593	1.70	0.50	377.4	F			
TR	998	2911	1.07	0.34	95.9	F	169.2	F	
Westbound									
L	222	1593	1.05	0.50	117.2	F			
TR	1094	3192	1.00	0.34	73.6	E	81.3	F	
Northbound									
L	165	1593	1.12	0.29	148.3	F			
T	570	3192	0.78	0.18	61.6	E	84.1	F	
R	254	1425	0.20	0.18	49.4	D			
Southbound									
L	379	1593	0.02	0.41	25.8	C			
T	935	3192	1.22	0.29	157.9	F	149.8	F	
R	417	1425	0.18	0.29	37.1	D			
Intersection Delay = 126.8 (sec/veh)					Intersection LOS = F				

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Dresh PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	378	1138	253	90	721	0	546	1402	175	62	409	95
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A	A	A	NB Left	A	A	A			
Thru			A	A	Thru	A	A				
Right			A	A	Right	A	A				
Peds					Peds						
WB Left		A		A	SB Left		A	A			
Thru				A	Thru		A				
Right				A	Right		A				
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green		15.0	15.0	32.0		10.0	25.0	10.0			
Yellow		5.0	5.0	5.0		4.0	4.0	4.0			
All Red		2.0	2.0	2.0		2.0	2.0	2.0			
Cycle Length: 146.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	453	1593	0.92	0.52	66.4	E		
TR	1147	3102	1.44	0.37	247.6	F	211.1	F
Westbound								
L	213	1593	0.48	0.32	40.4	D		
TR	700	3192	1.14	0.22	138.2	F	127.2	F
Northbound								
L	356	1593	1.76	0.39	393.1	F		
T	896	3192	1.74	0.28	389.6	F	362.7	F
R	400	1425	0.48	0.28	44.5	D		
Southbound								
L	224	1593	0.33	0.28	57.7	E		
T	547	3192	0.82	0.17	68.0	E	64.7	E
R	244	1425	0.48	0.17	56.0	E		

Intersection Delay = 243.1 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR		LTR			LT R		
Volume	299	1065	24	6	1243	59	63	34	12	244	42	587
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.1	44.1			33.8			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	92	209	3.61	0.44	1228	F		
TR	1401	3178	0.88	0.44	32.3	C	286.2	F
Westbound								
L	137	1593	0.12	0.54	16.1	B		
TR	1715	3165	0.82	0.54	22.0	C	22.0	C
Northbound								
LTR	264	781	0.59	0.34	30.7	C	30.7	C
Southbound								
LT	380	1125	0.92	0.34	59.7	E	163.7	F
R	482	1425	1.38	0.34	218.4	F		

Intersection Delay = 156.5 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Map PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR		LTR			LT R		
Volume	598	1654	30	15	1228	150	109	105	11	98	53	377
Lane Width	12.0	12.0		12.0	12.0		12.0			12.0 12.0		
RTOR Vol			0			0	0			0		

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		4.5	57.2			20.3		
Yellow		4.0	4.0			3.0		
All Red		2.0	2.0			3.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	141	247	4.61	0.57	1662	F		
TR	1820	3182	0.96	0.57	32.8	C	475.4	F
Westbound								
L	144	1593	0.15	0.68	16.2	B		
TR	2119	3130	0.71	0.68	11.1	B	11.2	B
Northbound								
LTR	151	742	2.21	0.20	606.2	F	606.2	F
Southbound								
LT	200	984	0.99	0.20	100.4	F	199.5	F
R	289	1425	1.42	0.20	247.4	F		

Intersection Delay = 304.4 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Nor AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	67	882	116	522	1236	75	193	7	469	16	5	33
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A					
Thru		A			Thru	A					
Right		A			Right	A					
Peds					Peds						
WB Left	A	A			SB Left	A					
Thru	A	A			Thru	A					
Right	A	A			Right	A					
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green	25.0	43.2			33.8						
Yellow	4.0	4.0			4.0						
All Red	2.0	2.0			2.0						
Cycle Length: 120.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	126	351	0.58	0.36	37.6	D		
TR	1125	3124	1.03	0.36	72.0	E	69.9	E
Westbound								
L	392	1593	1.53	0.62	290.0	F		
T	1974	3192	0.67	0.62	15.7	B	97.9	F
R	881	1425	0.09	0.62	9.3	A		
Northbound								
L	356	1265	0.78	0.28	49.9	D		
T	472	1676	0.02	0.28	31.1	C	167.1	F
R	401	1425	1.38	0.28	227.6	F		
Southbound								
L	355	1261	0.05	0.28	31.4	C		
T	472	1676	0.01	0.28	31.1	C	31.7	C
R	401	1425	0.09	0.28	31.9	C		

Intersection Delay = 102.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors Norr PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	85	1498	77	470	1110	76	170	8	617	72	24	144
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	35.2	59.3			37.5			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	149	376	0.62	0.40	43.8	D		
TR	1252	3167	1.33	0.40	198.7	F	190.6	F
Westbound								
L	422	1593	1.21	0.67	165.3	F		
T	2139	3192	0.58	0.67	13.8	B	55.6	E
R	955	1425	0.09	0.67	8.7	A		
Northbound								
L	310	1241	0.65	0.25	55.2	E		
T	419	1676	0.02	0.25	42.4	D	374.2	F
R	356	1425	1.90	0.25	473.7	F		
Southbound								
L	315	1260	0.25	0.25	45.4	D		
T	419	1676	0.06	0.25	42.9	D	46.9	D
R	356	1425	0.44	0.25	48.3	D		

Intersection Delay = 164.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	65		87		15		30	664			1590	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left	A				NB Left	A	A				
Thru					Thru	A	A				
Right	A				Right						
Peds					Peds						
WB Left					SB Left						
Thru	A	A			Thru	A					
Right					Right	A	A				
Peds					Peds						
NB Right					EB Right		A				
SB Right	A	A			WB Right						
Green	22.0	21.0				56.0	14.0				
Yellow	3.0	3.0				5.0	5.0				
All Red	3.0	3.0				2.0	2.0				
Cycle Length: 139.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	195	1232	0.53	0.16	56.4	E	45.9	D
R	441	1425	0.25	0.31	36.3	D		
Westbound								
T	591	1676	0.06	0.35	29.8	C	29.8	C
Northbound								
L	293	1593	0.15	0.55	40.2	D		
T	1768	3192	0.45	0.55	18.6	B	19.7	B
Southbound								
T	1840	4567	0.92	0.40	47.3	D	47.3	D

Intersection Delay = 38.7 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HOME DEPOT/I-276

Inter.: East and HD PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	110		154		60		125	895			2455	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left	A				NB Left	A	A				
Thru					Thru	A	A				
Right	A				Right						
Peds					Peds						
WB Left					SB Left						
Thru	A	A			Thru	A					
Right					Right	A	A				
Peds					Peds						
NB Right					EB Right		A				
SB Right	A	A			WB Right						
Green	22.0	21.0				56.0	14.0				
Yellow	3.0	3.0				5.0	5.0				
All Red	3.0	3.0				2.0	2.0				
Cycle Length: 139.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	189	1193	0.68	0.16	64.9	E	49.7	D
R	441	1425	0.39	0.31	38.3	D		
Westbound								
T	591	1676	0.11	0.35	30.4	C	30.4	C
Northbound								
L	293	1593	0.53	0.55	53.3	D		
T	1768	3192	0.60	0.55	21.2	C	25.3	C
Southbound								
T	1840	4567	1.39	0.40	220.3	F	220.3	F

Intersection Delay = 147.9 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors Priv
 Agency: TQC Area Type: CBD or Similar
 Date: 6/18/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3-PHASE 1
 Project ID:
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	54	1001	118	141	1172	60	30	6	18	13	4	26
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left			A		NB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		7.0	52.0			12.0		
Yellow		5.0	5.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 91.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	198	346	0.30	0.57	10.9	B		
TR	1795	3142	0.73	0.57	16.0	B	15.7	B
Westbound								
L	257	1593	0.81	0.73	28.7	C		
T	2315	3192	0.58	0.73	6.2	A	9.0	A
R	1034	1425	0.06	0.73	3.6	A		
Northbound								
L	167	1266	0.23	0.13	36.0	D		
T	221	1676	0.03	0.13	34.5	C	35.7	D
R	188	1425	0.16	0.13	35.4	D		
Southbound								
L	167	1263	0.08	0.13	34.9	C		
T	221	1676	0.02	0.13	34.4	C	35.1	D
R	188	1425	0.15	0.13	35.3	D		

Intersection Delay = 13.0 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	68	1262	31	43	1250	61	180	7	240	96	10	86
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	45.0			25.0			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 97.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	146	315	0.51	0.46	21.1	C		
TR	1474	3178	0.99	0.46	46.9	D	45.7	D
Westbound								
L	189	1593	0.30	0.61	17.2	B		
T	1942	3192	0.69	0.61	13.9	B	13.8	B
R	867	1425	0.08	0.61	7.8	A		
Northbound								
L	324	1258	0.64	0.26	36.2	D		
T	432	1676	0.02	0.26	26.9	C	75.8	E
R	367	1425	1.05	0.26	98.0	F		
Southbound								
L	325	1261	0.32	0.26	29.7	C		
T	432	1676	0.03	0.26	26.9	C	29.2	C
R	367	1425	0.25	0.26	29.0	C		

Intersection Delay = 37.3 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R		LTR		L	TR	
Volume	45	1141	4	2	547	42	2	2	2	228	2	99
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	52.0				25.0			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	351	608	0.18	0.58	9.2	A		
TR	968	1675	1.38	0.58	196.1	F	187.6	F
Westbound								
L	80	129	0.05	0.58	8.5	A		
T	968	1676	0.58	0.58	13.0	B	12.3	B
R	823	1425	0.13	0.58	8.7	A		
Northbound								
LTR	409	1474	0.06	0.28	23.9	C	23.9	C
Southbound								
L	345	1243	0.81	0.28	44.3	D		
TR	400	1440	0.34	0.28	26.5	C	38.4	D

Intersection Delay = 114.3 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: HORSHAM RD

Inter.: Hors KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	1	0	1	1	0
LGConfig	L	TR		L	T	R		LTR		L	TR	
Volume	127	906	0	1	1427	164	2	2	2	52	1	34
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	52.0				7.0			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 72.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	100	129	1.72	0.72	372.4	F		
TR	1210	1676	0.85	0.72	13.2	B	64.6	E
Westbound								
L	220	304	0.02	0.72	2.8	A		
T	1210	1676	1.27	0.72	137.2	F	119.8	F
R	1029	1425	0.22	0.72	3.4	A		
Northbound								
LTR	135	1393	0.18	0.10	30.5	C	30.5	C
Southbound								
L	121	1243	0.57	0.10	37.4	D		
TR	139	1430	0.35	0.10	31.9	C	35.1	D

Intersection Delay = 94.6 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: County Line Road

Inter.: CL and KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	666	55	260	544	2	8	36	82	39	284	32
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	8.7	52.6			20.7			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	383	728	0.07	0.53	11.7	B		
TR	871	1655	0.91	0.53	35.1	D	34.4	C
Westbound								
L	270	1593	1.04	0.67	87.3	F		
TR	1127	1675	0.54	0.67	8.9	A	33.6	C
Northbound								
L	73	351	0.36	0.21	36.9	D		
T	347	1676	0.15	0.21	32.6	C	27.4	C
R	504	1425	0.22	0.35	22.9	C		
Southbound								
L	251	1213	0.35	0.21	34.7	C		
T	347	1676	1.00	0.21	87.1	F	72.3	E
R	295	1425	0.16	0.21	32.8	C		

Intersection Delay = 41.2 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK	Inter.: CL and KV PM
Agency: TQC	Area Type: CBD or Similar
Date: 6/18/14	Jurisd: PENNDOT
Period: PM PEAK HOUR	Year : Build Alt3-PHASE 1
Project ID:	
E/W St: County Line Road	N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	592	14	121	753	42	173	276	338	24	70	38
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	5.6	57.1			29.3			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	327	0.17	0.52	14.4	B		
TR	864	1665	0.78	0.52	26.0	C	25.5	C
Westbound								
L	277	1593	0.48	0.62	15.4	B		
TR	1038	1662	0.87	0.62	24.7	C	23.5	C
Northbound								
L	315	1181	0.70	0.27	42.9	D		
T	446	1676	0.70	0.27	41.0	D	40.0	D
R	530	1425	0.78	0.37	37.7	D		
Southbound								
L	161	606	0.22	0.27	32.1	C		
T	446	1676	0.18	0.27	31.3	C	31.3	C
R	380	1425	0.14	0.27	30.9	C		

Intersection Delay = 29.9 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	11	310	86	269	378	119	165	838	110	95	1313	13
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru			A		Thru		A	
Right			A		Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		8.4	20.9			4.0	50.7	
Yellow		4.0	4.0			5.0	5.0	
All Red		2.0	2.0			2.0	2.0	

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	187	1593	0.12	0.32	27.9	C		
TR	585	3081	0.79	0.19	49.8	D	48.8	D
Westbound								
L	218	1593	1.67	0.32	362.5	F		
TR	586	3083	1.09	0.19	107.0	F	200.0	F
Northbound								
L	123	1593	1.54	0.56	305.3	F		
TR	1444	3133	0.77	0.46	27.3	C	68.0	E
Southbound								
L	173	1593	0.82	0.56	57.9	E		
TR	1467	3182	0.95	0.46	42.4	D	43.8	D

Intersection Delay = 87.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: COUNTY LINE RD

Inter.: East and CL PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	1	2	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	11	311	94	143	368	121	211	1341	209	158	1071	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
WB Left	A	A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	5.0	29.0			9.0	62.0		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 131.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	129	1593	0.20	0.31	34.9	C		
TR	682	3079	0.83	0.22	57.2	E	56.2	E
Westbound								
L	144	1593	1.84	0.31	455.6	F		
TR	681	3075	0.91	0.22	65.5	E	182.7	F
Northbound								
L	204	1593	1.50	0.60	275.8	F		
TR	1479	3124	1.19	0.47	125.9	F	148.1	F
Southbound								
L	164	1593	1.29	0.60	209.6	F		
TR	1506	3181	0.80	0.47	32.4	C	58.8	E

Intersection Delay = 117.8 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: Easton Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR		LT	R	
Volume	14	5	29	5	5	5	134	1210	5	5	1706	96
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	325	1426	0.07	0.23	34.6	C	34.8	C
R	325	1425	0.10	0.23	34.9	C		
Westbound								
LTR	345	1512	0.05	0.23	34.4	C	34.4	C
Northbound								
L	342	1593	0.59	0.66	32.0	C		
TR	2099	3190	0.64	0.66	12.1	B	14.7	B
Southbound								
LT	1275	3028	1.40	0.42	217.1	F	204.5	F
R	600	1425	0.20	0.42	21.1	C		
Intersection Delay = 118.0 (sec/veh)					Intersection LOS = F			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: BASE GATE 1

Inter.: East Gate 1 PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR		LT	R	
Volume	84	5	174	5	5	5	98	1768	5	5	1304	46
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				20.0	48.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 114.0 secs

Intersection Performance Summary

Appr/Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	276	1211	0.36	0.23	37.8	D	40.7	D
R	325	1425	0.59	0.23	42.2	D		
Westbound								
LTR	331	1452	0.07	0.23	34.6	C	34.6	C
Northbound								
L	342	1593	0.96	0.66	74.4	E		
TR	2099	3191	0.92	0.66	23.9	C	31.3	C
Southbound								
LT	1263	3000	1.15	0.42	110.9	F	100.9	F
R	600	1425	0.31	0.42	22.2	C		
Intersection Delay = 59.1 (sec/veh)					Intersection LOS = E			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MAPLE AVE (LOWER)

Inter.: East Map AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	235	1	66	3	20	5	210	1052	3	5	1240	621
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	19.0				4.0	47.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		
Cycle Length: 90.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	255	1208	1.16	0.21	143.8	F		
TR	303	1437	0.28	0.21	30.3	C	118.3	F
Westbound								
LTR	327	1551	0.17	0.21	29.3	C	29.3	C
Northbound								
L	159	305	1.69	0.52	358.4	F		
TR	1664	3187	0.74	0.52	18.6	B	79.4	E
Southbound								
L	197	1593	0.03	0.64	9.1	A		
T	2057	3192	0.67	0.64	10.9	B	12.7	B
R	918	1425	0.79	0.64	16.1	B		
Intersection Delay = 47.7 (sec/veh) Intersection LOS = D								

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MAPLE AVE (LOWER)

Inter.: East Maple PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	2	1
LGConfig	L	TR			LTR		L	TR		L	T	R
Volume	723	13	187	9	10	5	126	1654	15	5	1212	363
Lane Width	12.0	12.0			12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left	A				NB Left	A					
Thru	A				Thru	A					
Right	A				Right	A					
Peds					Peds						
WB Left	A				SB Left	A	A				
Thru	A				Thru	A	A				
Right	A				Right	A	A				
Peds					Peds						
NB Right					EB Right						
SB Right					WB Right						
Green	22.0				3.0	52.0					
Yellow	3.0				5.0	5.0					
All Red	3.0				2.0	2.0					
Cycle Length: 97.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach		
			v/c	g/C	Delay	LOS	Delay	LOS	
Eastbound									
L	279	1230	2.88	0.23	892.4	F			
TR	329	1451	0.76	0.23	45.2	D	690.7	F	
Westbound									
LTR	301	1327	0.12	0.23	30.0	C	30.0	C	
Northbound									
L	135	251	1.31	0.54	205.5	F			
TR	1707	3185	1.12	0.54	83.6	F	94.0	F	
Southbound									
L	123	1593	0.16	0.64	22.3	C			
T	2040	3192	0.72	0.64	12.9	B	12.2	B	
R	911	1425	0.50	0.64	9.7	A			
Intersection Delay = 185.7 (sec/veh)					Intersection LOS = F				

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE
 Inter.: East and Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	139	518	4	72	840	15	19	1033	66	33	853	421
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru					Thru	A		
Right			A		Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru					Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.0	22.0			34.0			
Yellow	4.0	4.0			5.0			
All Red	3.0	2.0			2.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	170	1593	1.01	0.40	98.7	F		
TR	875	3183	0.69	0.28	28.4	C	43.9	D
Westbound								
L	218	1593	0.44	0.40	17.8	B		
TR	874	3179	1.10	0.28	89.6	F	83.1	F
Northbound								
L	90	197	0.38	0.43	18.4	B		
T	1357	3192	0.87	0.43	27.0	C	26.1	C
R	606	1425	0.11	0.43	14.0	B		
Southbound								
L	90	203	0.61	0.43	29.5	C		
TR	1286	3026	1.18	0.43	112.5	F	109.6	F

Intersection Delay = 69.9 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/18/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-PHASE 1
 Project ID:
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	1	1	2	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	469	1033	18	94	533	15	30	1305	119	40	1159	178
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration	0.25	Area Type:	CBD or Similar									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left		A			NB Left	A						
Thru			A		Thru	A						
Right			A		Right	A						
Peds					Peds							
WB Left		A	A		SB Left	A						
Thru			A		Thru	A						
Right			A		Right	A						
Peds					Peds							
NB Right					EB Right							
SB Right					WB Right							
Green		6.0	30.0			40.0						
Yellow		4.0	4.0			5.0						
All Red		3.0	3.0			2.0						
Cycle Length: 97.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	260	1593	2.07	0.44	530.0	F		
TR	984	3180	1.27	0.31	161.0	F	272.5	F
Westbound								
L	173	1593	0.75	0.44	38.6	D		
TR	981	3172	0.63	0.31	30.0	C	31.5	C
Northbound								
L	74	168	0.64	0.41	39.3	D		
T	1316	3192	1.10	0.41	86.1	F	78.8	E
R	588	1425	0.25	0.41	18.9	B		
Southbound								
L	74	168	0.65	0.41	41.1	D		
TR	1291	3130	1.15	0.41	104.2	F	102.2	F

Intersection Delay = 139.5 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 3 BUILD- PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	441		173				340	1348			987	956
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration	0.25	Area Type:	CBD or Similar							
Signal Operations										
Phase Combination	1	2	3	4	5	6	7	8		
EB Left		A			NB Left	A	A			
Thru					Thru	A	A			
Right		A			Right					
Peds					Peds					
WB Left					SB Left					
Thru					Thru		A			
Right					Right		A			
Peds					Peds					
NB Right					EB Right					
SB Right		A			WB Right					
Green		26.0				8.0	38.0			
Yellow		3.0				4.0	4.0			
All Red		3.0				2.0	2.0			
Cycle Length: 90.0 secs										

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach		
			v/c	g/C	Delay	LOS	Delay	LOS	
Eastbound									
L	894	3093	0.53	0.29	27.5	C	29.6	C	
R	412	1425	0.69	0.29	33.2	C			
Westbound									
Northbound									
L	246	1593	1.63	0.58	318.4	F			
T	1844	3192	0.83	0.58	18.8	B	80.8	F	
Southbound									
T	1348	3192	0.79	0.42	25.7	C	23.5	C	
R	1108	1425	0.93	0.78	21.2	C			
Intersection Delay = 47.6 (sec/veh) Intersection LOS = D									

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 3 BUILD - PHASE 1
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	524		330				240	1365			1451	1325
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration	0.25	Area Type: CBD or Similar									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A	A				
Thru					Thru	A	A				
Right		A			Right						
Peds					Peds						
WB Left					SB Left						
Thru					Thru		A				
Right					Right		A				
Peds					Peds						
NB Right					EB Right						
SB Right		A			WB Right						
Green		26.0				8.0	38.0				
Yellow		3.0				4.0	4.0				
All Red		3.0				2.0	2.0				
										Cycle Length: 90.0 secs	

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	894	3093	0.63	0.29	29.3	C	36.2	D
R	412	1425	0.86	0.29	47.1	D		
Westbound								
Northbound								
L	222	1593	1.16	0.58	129.5	F		
T	1844	3192	0.81	0.58	18.1	B	34.4	C
Southbound								
T	1348	3192	1.16	0.42	105.5	F	193.5	F
R	1108	1425	1.57	0.78	272.3	F		
Intersection Delay = 122.6 (sec/veh)					Intersection LOS = F			

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: ADD: NB Th; S
 E/W St: HORSHAM RD

611 AM
 Similar

3- PHASE 1 Mitigation

611

PHASE I ALT 3 MITIGATION

	Eastbound		
	L	T	R
No. Lanes	0	0	0
LGConfig			
Volume			
Lane Width	12.0	12.0	12.0
RTOR Vol		0	0

	Southbound		
	L	T	R
No. Lanes	2	3	0
LGConfig			
Volume	311	1100	
Lane Width	12.0	12.0	
RTOR Vol			

Duration	0.25	Area Type:	CBD or Similar							
Signal Operations										
Phase Combination	1	2	3	4	5	6	7	8		
EB Left					NB Left					
Thru					Thru		A			
Right					Right		A			
Peds					Peds					
WB Left		A			SB Left	A	A			
Thru					Thru	A	A			
Right		A			Right					
Peds					Peds					
NB Right					EB Right					
SB Right					WB Right	A				
Green	15.3					21.3	63.4			
Yellow	3.0					5.0	5.0			
All Red	3.0					2.0	2.0			
Cycle Length: 120.0 secs										

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach		
			v/c	g/C	Delay	LOS	Delay	LOS	
Eastbound									
Westbound									
L	203	1593	0.56	0.13	52.5	D	115.0	F	
R	506	1425	1.15	0.35	127.1	F			
Northbound									
TR	2407	4556	0.77	0.53	24.1	C	24.1	C	
Southbound									
L	1121	3093	0.33	0.76	10.1	B			
T	3490	4567	0.35	0.76	4.6	A	5.9	A	

Intersection Delay = 32.4 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors East 611 PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: SB +1LT + 1Th; NB +1Th; EB two accepting lanes
 E/W St: HORSHAM RD N/S St: EASTON RD 611

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	3	0	2	3	0
LGConfig				L		R		TR		L	T	
Volume				32		354		1950	39	881	1689	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	A		
Green	4.5				40.4	85.1		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	48	1593	1.15	0.03	248.4	F	85.0	F
R	484	1425	0.88	0.34	63.9	E		

Northbound

TR	2582	4551	0.86	0.57	30.6	C	30.6	C
----	------	------	------	------	------	---	------	---

Southbound

L	1483	3093	0.65	0.88	17.9	B		
T	4034	4567	0.44	0.88	1.7	A	7.4	A

Intersection Delay = 23.7 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: Optimize signal timing
 E/W St: HORSHAM RD

Inter.: East Hors 463 AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1-Mitigate
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	2	0	0	0	2	2	0	0	2	0
LGConfig			R				L	T			TR	
Volume			454				1183	1138			976	9
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						46.8	38.3	3.9
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	1128	2522	0.44	0.45	21.2	C	21.2	C
---	------	------	------	------	------	---	------	---

Westbound

Northbound

L	1383	3093	0.99	0.45	53.2	D		
T	2673	3192	0.44	0.84	2.4	A	29.7	C

Southbound

TR	1354	3182	0.92	0.43	40.3	D	40.3	D
----	------	------	------	------	------	---	------	---

Intersection Delay = 31.8 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Hors 463 PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/18/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigate
 Project ID: Optimize signal timing; ADD 3RD RT, 3RD SB TH
 E/W St: HORSHAM RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	3	0	0	0	2	2	0	0	3	0
LGConfig			R				L	T			TR	
Volume			1468				789	1469			1204	15
Lane Width			12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right	A	A	
SB Right					WB Right			
Green						44.0	48.8	6.2
Yellow						5.0	4.0	4.0
All Red						2.0	3.0	3.0

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

R	2006	3882	0.84	0.52	28.2	C	28.2	C
---	------	------	------	------	------	---	------	---

Northbound

L	1598	3093	0.54	0.52	19.8	B		
T	2655	3192	0.58	0.83	3.6	A	9.4	A

Southbound

TR	1671	4558	0.81	0.37	37.4	D	37.4	D
----	------	------	------	------	------	---	------	---

Intersection Delay = 22.2 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: ADD: EB Th; WB Th; NB Th + LT lanes
 E/W St: HORSHAM RD

Inter.: Hors Dresh AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1-Mitigation
 N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	1	3	0	2	3	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	337	568	653	206	1337	0	167	396	45	6	1108	65
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
WB Left	A	A			SB Left	A	A	A
Thru		A			Thru	A	A	A
Right		A			Right	A	A	A
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	15.0	48.0			10.0	25.0	10.0	
Yellow	5.0	5.0			4.0	4.0	4.0	
All Red	2.0	2.0			2.0	2.0	2.0	

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	222	1593	1.85	0.50	444.3	F		
TR	1443	4208	0.91	0.34	52.7	D	146.1	F
Westbound								
L	222	1593	1.14	0.50	147.1	F		
TR	1566	4567	0.96	0.34	59.3	E	72.0	E
Northbound								
L	654	3093	0.31	0.29	40.3	D		
T	816	4567	0.59	0.18	54.0	D	49.9	D
R	254	1425	0.22	0.18	49.7	D		
Southbound								
L	399	1593	0.03	0.41	25.4	C		
T	935	3192	1.33	0.29	206.1	F	194.6	F
R	417	1425	0.19	0.29	37.3	D		

Intersection Delay = 121.5 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: ADD: EB Th; WB Th; NB Th + LT lanes
 E/W St: HORSHAM RD N/S St: DRESHER RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	1	3	0	2	3	1	1	2	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	378	1087	253	90	689	0	546	1402	175	62	409	95
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A	A	NB Left	A	A	A
Thru			A	A	Thru	A	A	
Right			A	A	Right	A	A	
Peds					Peds			
WB Left		A		A	SB Left		A	A
Thru				A	Thru		A	
Right				A	Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	15.0	15.0	32.0		10.0	25.0	10.0	
Yellow	5.0	5.0	5.0		4.0	4.0	4.0	
All Red	2.0	2.0	2.0		2.0	2.0	2.0	

Cycle Length: 146.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	476	1593	0.87	0.52	51.6	D		
TR	1640	4433	0.97	0.37	60.5	E	58.7	E
Westbound								
L	213	1593	0.48	0.32	38.6	D		
TR	1001	4567	0.77	0.22	57.1	E	54.9	D
Northbound								
L	772	3093	0.81	0.39	42.2	D		
T	1283	4567	1.21	0.28	156.3	F	117.2	F
R	400	1425	0.48	0.28	44.5	D		
Southbound								
L	224	1593	0.33	0.28	57.7	E		
T	547	3192	0.82	0.17	68.0	E	64.7	E
R	244	1425	0.48	0.17	56.0	E		

Intersection Delay = 82.4 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: EB-Double L; NB-L & TR; SB-Double R
 E/W St: HORSHAM RD N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	0	1	1	0	0	1	2
LGConfig	L	TR		L	TR		L	TR		LT	R	
Volume	296	1097	24	6	1212	55	63	34	12	251	44	600
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		4.1	44.1			33.8		
Yellow		4.0	4.0			3.0		
All Red		2.0	2.0			3.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	411	931	0.80	0.44	35.0-	C		
TR	1402	3179	0.90	0.44	34.6	C	34.7	C
Westbound								
L	137	1593	0.12	0.54	16.6	B		
TR	1716	3166	0.79	0.54	21.1	C	21.0	C
Northbound								
L	212	626	0.36	0.34	26.0	C		
TR	548	1622	0.14	0.34	23.1	C	24.6	C
Southbound								
LT	404	1195	0.90	0.34	53.3	D	41.7	D
R	852	2522	0.80	0.34	35.5	D		
Intersection Delay = 31.6			(sec/veh)		Intersection LOS = C			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors Map PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: EB-Double L; NB-L & TR; SB-Double R
 E/W St: HORSHAM RD N/S St: MAPLE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	0	1	1	0	0	1	2
LGConfig	L	TR		L	TR		L	TR		LT		R
Volume	594	1610	30	15	1199	147	109	104	11	90	50	361
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.3	56.7			21.0			
Yellow	4.0	4.0			3.0			
All Red	2.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

L	416	733	1.55	0.57	282.1	F		
TR	1804	3181	0.94	0.57	30.5	C	99.8	F

Westbound

L	140	1593	0.15	0.67	15.7	B		
TR	2097	3130	0.70	0.67	11.3	B	11.4	B

Northbound

L	194	926	0.82	0.21	62.0	E		
TR	347	1652	0.50	0.21	35.9	D	48.5	D

Southbound

LT	218	1037	0.84	0.21	62.1	E	48.7	D
R	530	2522	0.74	0.21	42.4	D		

Intersection Delay = 62.3 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors Nor AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt2-PHASE 1-Mitigation
 Project ID: Add: EB & WB-Double L
 E/W St: HORSHAM RD N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	1	2	2	1	1	1	1	1	1	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	47	901	116	522	1242	52	193	5	469	27	8	53
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration	0.25	Area Type:	CBD or Similar									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left		A			NB Left	A						
Thru		A			Thru	A						
Right		A			Right	A						
Peds					Peds							
WB Left	A				SB Left	A						
Thru	A				Thru	A						
Right	A				Right	A						
Peds					Peds							
NB Right	A				EB Right							
SB Right		A			WB Right							
Green	66.9	45.2			19.9							
Yellow	4.0	4.0			4.0							
All Red	2.0	2.0			2.0							

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	932	3093	0.05	0.30	37.2	D		
T	962	3192	1.05	0.30	96.1	F	86.4	F
R	429	1425	0.38	0.30	41.9	D		
Westbound								
L	1379	3093	0.44	0.45	28.8	C		
T	1424	3192	0.93	0.45	50.1	D	42.9	D
R	636	1425	0.09	0.45	24.0	C		
Northbound								
L	167	1260	1.65	0.13	383.9	F		
T	222	1676	0.02	0.13	56.6	E	140.3	F
R	882	1425	0.63	0.62	19.2	B		
Southbound								
L	168	1265	0.17	0.13	58.2	E		
T	222	1676	0.04	0.13	56.8	E	36.0	D
R	675	1425	0.09	0.47	21.7	C		

Intersection Delay = 75.3 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: Add: EB & WB-Double L
 E/W St: HORSHAM RD

Inter.: Hors Norr PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1-Mitigation
 N/S St: NORRISTOWN RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	1	2	2	1	1	1	1	1	1	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	60	1480	77	470	1087	54	170	6	617	42	14	84
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			250			80

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right		A			EB Right			
SB Right			A		WB Right			
Green		51.2	58.0			22.8		
Yellow		4.0	4.0			4.0		
All Red		2.0	2.0			2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/c	Delay	LOS	Delay	LOS
Eastbound								
L	1196	3093	0.05	0.39	28.8	C		
T	1234	3192	1.26	0.39	170.8	F	158.3	F
R	551	1425	0.16	0.39	30.2	C		
Westbound								
L	1056	3093	0.48	0.34	39.3	D		
T	1090	3192	1.12	0.34	116.0	F	91.4	F
R	486	1425	0.12	0.34	34.1	C		
Northbound								
L	190	1253	1.06	0.15	146.6	F		
T	255	1676	0.03	0.15	54.2	D	64.5	E
R	760	1425	0.53	0.53	23.5	C		
Southbound								
L	192	1263	0.24	0.15	56.6	E		
T	255	1676	0.06	0.15	54.5	D	53.5	D
R	825	1425	0.00	0.58	13.4	B		

Intersection Delay = 114.3 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: Optimize signal timing
 E/W St: HOME DEPOT/I-276

Inter.: East and HD AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1-Mitigation
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	65		87		15		30	636			1637	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration	0.25	Area Type: CBD or Similar						
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru		A	A		Thru	A		
Right					Right	A	A	
Peds					Peds			
NB Right					EB Right		A	
SB Right		A	A		WB Right			
Green		16.0	6.1			77.9	4.0	
Yellow		3.0	3.0			5.0	5.0	
All Red		3.0	3.0			2.0	2.0	

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	152	1232	0.68	0.12	66.0	E	55.1	E
R	296	1425	0.38	0.21	45.1	D		
Westbound								
T	362	1676	0.09	0.22	40.9	D	40.9	D
Northbound								
L	225	1593	0.19	0.68	19.5	B		
T	2183	3192	0.35	0.68	8.6	A	9.2	A
Southbound								
T	2737	4567	0.64	0.60	17.4	B	17.4	B

Intersection Delay = 18.2 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: Optimize signal timing
 E/W St: HOME DEPOT/I-276

Inter.: East and HD PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1-Mitigation
 N/S St: EASTON RD (611)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	1	2	0	0	3	0
LGConfig	L		R		T		L	T			T	
Volume	110		154		60		125	895			2455	
Lane Width	12.0		12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0									

Duration	0.25	Area Type: CBD or Similar							
Signal Operations									
Phase Combination	1	2	3	4	5	6	7	8	
EB Left	A				NB Left	A	A		
Thru					Thru	A	A		
Right	A				Right				
Peds					Peds				
WB Left					SB Left				
Thru	A	A			Thru	A			
Right					Right	A	A		
Peds					Peds				
NB Right					EB Right		A		
SB Right	A	A			WB Right				
Green	13.9	4.0				102.5	3.6		
Yellow	3.0	3.0				5.0	5.0		
All Red	3.0	3.0				2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	91	978	1.42	0.09	308.4	F	172.9	F
R	233	1425	0.74	0.16	71.8	E		
Westbound								
T	267	1676	0.24	0.16	55.5	E	55.5	E
Northbound								
L	161	1593	0.96	0.75	117.7	F		
T	2407	3192	0.44	0.75	6.9	A	21.0	C
Southbound								
T	3121	4567	0.82	0.68	18.9	B	18.9	B

Intersection Delay = 31.4 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: ADD: EB L + Th Lane
 E/W St: HORSHAM RD (463)

Inter.: Hors Priv
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1-Mitigation
 N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	3	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	54	1001	118	141	1172	60	30	6	18	13	4	26
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.1	34.3			8.6			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 70.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	468	955	0.13	0.49	9.8	A		
TR	2203	4495	0.60	0.49	13.3	B	13.2	B
Westbound								
L	295	1593	0.70	0.69	14.4	B		
T	2207	3192	0.60	0.69	6.2	A	7.1	A
R	985	1425	0.07	0.69	3.5	A		
Northbound								
L	156	1266	0.24	0.12	28.6	C		
T	206	1676	0.03	0.12	27.1	C	28.2	C
R	175	1425	0.17	0.12	28.0	C		
Southbound								
L	155	1263	0.09	0.12	27.5	C		
T	206	1676	0.02	0.12	27.0	C	27.7	C
R	175	1425	0.16	0.12	27.9	C		

Intersection Delay = 10.6 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors Priv
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: ADD: EB LT + Th Lane
 E/W St: HORSHAM RD (463) N/S St: PRIVET RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	3	0	1	2	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	60	1262	31	43	1250	61	180	7	240	96	10	86
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	3.0	77.9			39.1			
Yellow	5.0	5.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	454	3093	0.14	0.63	16.1	B		
TR	2855	4547	0.51	0.63	14.4	B	14.5	B
Westbound								
L	147	264	0.38	0.56	19.1	B		
T	1776	3192	0.76	0.56	25.7	C	25.0	C
R	793	1425	0.08	0.56	14.5	B		
Northbound								
L	351	1258	0.59	0.28	46.1	D		
T	468	1676	0.02	0.28	36.5	D	72.7	E
R	398	1425	0.97	0.28	87.7	F		
Southbound								
L	352	1261	0.30	0.28	40.1	D		
T	468	1676	0.02	0.28	36.6	D	39.5	D
R	398	1425	0.23	0.28	39.2	D		

Intersection Delay = 29.1 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors KV AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: Add: EB Th + R Lane; WB Th Lane
 E/W St: HORSHAM RD N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	1	1	2	1	0	1	0	1	1	0
LGConfig	L	T	R	L	T	R	LTR			L	TR	
Volume	45	1141	4	2	547	42	2	2	2	228	2	99
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	53.1				33.9			
Yellow	5.0				3.0			
All Red	2.0				3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	376	708	0.17	0.53	12.3	B		
T	1695	3192	0.78	0.53	21.3	C	20.8	C
R	757	1425	0.01	0.53	11.1	B		
Westbound								
L	106	199	0.04	0.53	11.4	B		
T	1695	3192	0.33	0.53	13.5	B	13.2	B
R	757	1425	0.14	0.53	12.0	B		
Northbound								
LTR	504	1486	0.05	0.34	22.2	C	22.2	C
Southbound								
L	421	1243	0.67	0.34	32.3	C		
TR	488	1440	0.28	0.34	24.5	C	29.7	C

Intersection Delay = 20.3 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: Hors KV PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: Add: EB Th + R Lane; WB Th Lane
 E/W St: HORSHAM RD N/S St: KEITH VALLEY RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	1	1	2	1	0	1	0	1	1	0
LGConfig	L	T	R	L	T	R	LTR			L	TR	
Volume	127	906	0	1	1427	164	2	2	2	52	1	34
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0			12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	7.0	60.0			15.0			
Yellow	5.0	5.0			3.0			
All Red	0.0	2.0			3.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	209	1593	0.82	0.74	42.2	D		
T	2298	3192	0.45	0.72	5.9	A	11.1	B
R	1026	1425	0.00	0.72	3.9	A		
Westbound								
L	280	467	0.01	0.60	8.1	A		
T	1915	3192	0.80	0.60	17.9	B	16.9	B
R	855	1425	0.26	0.60	9.7	A		
Northbound								
LTR	220	1464	0.11	0.15	36.9	D	36.9	D
Southbound								
L	186	1243	0.37	0.15	39.5	D		
TR	215	1430	0.22	0.15	37.9	D	38.8	D

Intersection Delay = 15.6 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: AM PEAK HOUR
 Project ID: ADD: NB Th Lane
 E/W St: County Line Road

Inter.: CL and KV AM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1-Mitigation
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	666	55	260	544	2	8	36	82	39	284	32
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations									
Phase Combination	1	2	3	4	5	6	7	8	
EB Left		A			NB Left	A			
Thru		A			Thru	A			
Right		A			Right	A			
Peds					Peds				
WB Left	A	A			SB Left	A			
Thru	A	A			Thru	A			
Right	A	A			Right	A			
Peds					Peds				
NB Right	A				EB Right				
SB Right					WB Right				
Green	7.3	61.3			23.4				
Yellow	4.0	4.0			4.0				
All Red	2.0	2.0			2.0				

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	406	728	0.06	0.56	11.2	B		
TR	922	1655	0.86	0.56	29.0	C	28.5	C
Westbound								
L	268	1593	1.04	0.68	86.3	F		
TR	1136	1675	0.54	0.68	9.4	A	33.7	C
Northbound								
L	74	348	0.35	0.21	39.7	D		
T	679	3192	0.08	0.21	34.7	C	30.7	C
R	475	1425	0.23	0.33	26.7	C		
Southbound								
L	258	1211	0.34	0.21	37.5	D		
T	357	1676	0.97	0.21	82.3	F	69.6	E
R	303	1425	0.16	0.21	35.5	D		

Intersection Delay = 38.9 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/20/14
 Period: PM PEAK HOUR
 Project ID: ADD: NB Th Lane
 E/W St: County Line Road

Inter.: CL and KV PM
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : Build Alt3-PHASE 1-Mitigation
 N/S St: Keith Valley Road

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	1	1	1	1
LGConfig	L	TR		L	TR		L	T	R	L	T	R
Volume	20	592	14	121	753	42	173	276	338	24	70	38
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right	A	A			Right	A		
Peds					Peds			
NB Right	A				EB Right			
SB Right					WB Right			
Green	5.1	48.6			28.3			
Yellow	4.0	4.0			4.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	142	293	0.20	0.49	15.4	B		
TR	809	1665	0.83	0.49	29.6	C	29.0	C
Westbound								
L	245	1593	0.55	0.60	17.3	B		
TR	992	1662	0.91	0.60	29.3	C	27.7	C
Northbound								
L	334	1181	0.66	0.28	36.2	D		
T	903	3192	0.34	0.28	28.7	C	31.4	C
R	561	1425	0.73	0.39	30.8	C		
Southbound								
L	257	907	0.14	0.28	27.0	C		
T	474	1676	0.17	0.28	27.2	C	27.0	C
R	403	1425	0.13	0.28	26.8	C		

Intersection Delay = 29.2 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and CL AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: ADD: NB Dbl LT Lane; NB exclsv RT; NB,SB,EB,WB Th; WB Dbl LT
 E/W St: COUNTY LINE RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	3	0	2	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	11	310	86	269	378	119	165	838	110	95	1313	13
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration	0.25	Area Type: CBD or Similar							
Signal Operations									
Phase Combination	1	2	3	4	5	6	7	8	
EB Left	A				NB Left	A			
Thru	A				Thru	A			
Right	A				Right	A			
Peds					Peds				
WB Left		A			SB Left		A		
Thru		A			Thru		A		
Right		A			Right		A		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	17.8	24.5			33.2	48.5			
Yellow	4.0	4.0			5.0	5.0			
All Red	2.0	2.0			2.0	2.0			
Cycle Length: 150.0 secs									

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	189	1593	0.12	0.12	59.3	E		
TR	523	4408	0.89	0.12	81.6	F	80.6	F
Westbound								
L	505	3093	0.72	0.16	64.5	E		
TR	720	4411	0.88	0.16	73.9	E	70.5	E
Northbound								
L	685	3093	0.28	0.22	48.7	D		
T	1011	4567	0.96	0.22	77.8	E	70.7	E
R	315	1425	0.43	0.22	51.2	D		
Southbound								
L	515	1593	0.28	0.32	38.0	D		
TR	1472	4552	0.95	0.32	62.9	E	60.6	E

Intersection Delay = 68.2 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and CL PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: Add: NB Dlb LT, Th, RT; SB Th, EB Th; WB LT, Th
 E/W St: COUNTY LINE RD N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	3	0	2	3	1	1	3	0
LGConfig	L	TR		L	TR		L	T	R	L	TR	
Volume	11	311	94	143	368	121	211	1341	209	158	1071	9
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	13.9	21.0			49.3	39.8		
Yellow	4.0	4.0			5.0	5.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	148	1593	0.18	0.09	63.3	E		
TR	408	4405	1.39	0.09	256.9	F	248.4	F
Westbound								
L	433	3093	0.61	0.14	63.2	E		
TR	616	4399	1.00	0.14	101.2	F	89.8	F
Northbound								
L	1017	3093	0.30	0.33	37.7	D		
T	1501	4567	1.00	0.33	74.5	E	65.2	E
R	468	1425	0.53	0.33	42.1	D		
Southbound								
L	423	1593	0.50	0.27	47.6	D		
TR	1208	4551	1.00	0.27	80.1	F	75.2	E

Intersection Delay = 94.3 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Gate 1 AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT; NB Dbl LT; SB Th Lane
 E/W St: BASE GATE 1 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	0	0	1	0	2	2	0	0	3	1
LGConfig	L	TR			LTR		L	TR			LT	R
Volume	14	5	29	5	5	5	134	1210	5	5	1706	96
Lane Width	12.0	12.0			12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	15.0				3.0	72.0		
Yellow	4.0				5.0	5.0		
All Red	2.0				2.0	2.0		

Cycle Length: 110.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	331	2428	0.05	0.14	41.4	D		
TR	199	1459	0.19	0.14	42.5	D	42.2	D
Westbound								
LTR	201	1474	0.09	0.14	41.7	D	41.7	D
Northbound								
L	625	3093	0.32	0.75	6.8	A		
TR	2378	3190	0.56	0.75	6.4	A	6.5	A
Southbound								
LT	2794	4268	0.64	0.65	11.8	B	11.5	B
R	933	1425	0.13	0.65	7.2	A		
Intersection Delay = 9.9			(sec/veh)		Intersection LOS = A			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Gate 1 PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT; NB Dbl LT; SB Th Lane
 E/W St: BASE GATE 1 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	0	0	1	0	2	2	0	0	3	1
LGConfig	L	TR			LTR		L	TR			LT	R
Volume	84	5	174	5	5	5	98	1768	5	5	1304	46
Lane Width	12.0	12.0			12.0		12.0	12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
WB Left		A			SB Left		A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		29.0				21.8	59.2	
Yellow		4.0				5.0	5.0	
All Red		2.0				2.0	2.0	

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	539	2417	0.17	0.22	41.0	D		
TR	319	1431	0.62	0.22	49.2	D	46.6	D
Westbound								
LTR	316	1416	0.07	0.22	40.0	D	40.0	D
Northbound								
L	938	3093	0.35	0.68	12.2	B		
TR	2160	3191	0.89	0.68	22.3	C	20.9	C
Southbound								
LT	1924	4225	0.76	0.46	31.2	C	30.2	C
R	649	1425	0.28	0.46	22.4	C		
Intersection Delay = 26.4 (sec/veh)					Intersection LOS = C			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: AM PEAK HOUR
 Project ID:
 E/W St: Access/W Moreland

Inter.:
 Area Type: All other areas
 Jurisd: PennDOT
 Year : Build Alt 3-Mitigation-PHASE1
 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	10	13	10	5	18	89	45	1307	5	75	1582	27
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.7				11.3	84.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				0.0	2.0		

Cycle Length: 130.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	165	1212	0.07	0.14	49.1	D		
TR	237	1740	0.11	0.14	49.4	D	49.3	D
Westbound								
L	188	1380	0.03	0.14	48.7	D		
TR	222	1631	0.53	0.14	54.6	D	54.4	D
Northbound								
L	241	1770	0.20	0.78	13.9	B		
TR	2291	3545	0.62	0.65	14.1	B	14.1	B
Southbound								
L	308	1770	0.27	0.78	9.2	A		
T	2292	3547	0.75	0.65	17.2	B	16.7	B
R	1023	1583	0.03	0.65	8.3	A		
Intersection Delay = 17.3 (sec/veh)					Intersection LOS = B			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/18/14
 Period: PM PEAK HOUR
 Project ID:
 E/W St: Access Rd/W Moreland Rd

Inter.:
 Area Type: All other areas
 Jurisd: PennDOT
 Year : Build Alt 3-Mitigation-PHASE 1
 N/S St: Easton Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	43	58	43	5	10	83	51	1657	9	128	1328	41
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
WB Left	A				SB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.1				3.9	79.0		
Yellow	4.0				4.0	4.0		
All Red	3.0				3.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	184	1288	0.26	0.14	46.5	D		
TR	248	1743	0.44	0.14	48.4	D	47.8	D
Westbound								
L	182	1278	0.03	0.14	44.4	D		
TR	230	1614	0.44	0.14	48.4	D	48.2	D
Northbound								
L	216	1770	0.25	0.74	9.2	A		
TR	2333	3544	0.78	0.66	16.0	B	15.8	B
Southbound								
L	134	1770	1.04	0.74	116.1	F		
T	2335	3547	0.62	0.66	12.3	B	21.0	C
R	1042	1583	0.04	0.66	7.2	A		
Intersection Delay = 20.3 (sec/veh)					Intersection LOS = C			

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Map AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT, Th, RT; WB 1&R; NB Dbl LT+Th; SB Th
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	1	1	1	1	2	3	1	1	3	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	235	1	66	3	20	5	210	1052	3	5	1240	621
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru		A			Thru	A	A	
Right		A			Right	A	A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	19.0				4.0	47.0		
Yellow	3.0				5.0	5.0		
All Red	3.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	393	1862	0.76	0.21	41.5	D		
T	354	1676	0.01	0.21	28.1	C	38.9	D
R	301	1425	0.27	0.21	30.2	C		
Westbound								
L	267	1266	0.04	0.21	28.3	C		
T	354	1676	0.11	0.21	28.8	C	28.6	C
R	301	1425	0.02	0.21	28.1	C		
Northbound								
L	408	782	0.66	0.52	19.6	B		
T	2385	4567	0.51	0.52	14.2	B	15.1	B
R	744	1425	0.02	0.52	10.4	B		
Southbound								
L	231	1593	0.02	0.64	6.9	A		
T	2943	4567	0.47	0.64	8.3	A	11.0	B
R	918	1425	0.79	0.64	16.1	B		

Intersection Delay = 15.4 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East Maple PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT, Th, RT; WB l&R; NB Dbl LT+Th; SB Th
 E/W St: MAPLE AVE (LOWER) N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	1	1	1	1	2	3	1	1	3	1
LGConfig	L	T	R	L	T	R	L	T	R	L	T	R
Volume	723	13	187	9	10	5	126	1654	15	5	1212	363
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left			A		SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right		A			WB Right			
Green		31.6	4.0			44.3	44.1	
Yellow		3.0	3.0			5.0	5.0	
All Red		3.0	3.0			2.0	2.0	

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	652	3093	1.23	0.21	176.5	F		
T	353	1676	0.07	0.21	47.6	D	149.6	F
R	300	1425	0.75	0.21	65.6	E		
Westbound								
L	42	1593	0.31	0.03	75.8	E		
T	45	1676	0.40	0.03	77.6	E	76.3	E
R	38	1425	0.13	0.03	72.9	E		
Northbound								
L	909	3093	0.19	0.29	39.8	D		
T	1343	4567	1.40	0.29	237.5	F	218.2	F
R	419	1425	0.06	0.29	38.1	D		
Southbound								
L	470	1593	0.01	0.30	37.4	D		
T	1349	4567	1.08	0.30	102.9	F	85.1	F
R	721	1425	0.63	0.51	28.6	C		

Intersection Delay = 152.8 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and Dresh AM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: AM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT; WB-Th+Excl RT; NB & SB Th Lane
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	1	1	3	1	1	3	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	139	518	4	72	840	15	19	1033	66	33	853	421
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru			A		Thru	A		
Right			A		Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	4.8	29.5			45.7			
Yellow	4.0	4.0			5.0			
All Red	3.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	607	3093	0.28	0.40	22.7	C		
TR	939	3183	0.65	0.29	32.3	C	30.2	C
Westbound								
L	220	1593	0.43	0.40	21.6	C		
T	942	3192	0.99	0.29	62.0	E	57.5	E
R	420	1425	0.06	0.29	25.4	C		
Northbound								
L	75	165	0.45	0.46	22.9	C		
T	2087	4567	0.56	0.46	20.2	C	20.0+	C
R	651	1425	0.11	0.46	15.6	B		
Southbound								
L	136	298	0.40	0.46	20.0+	C		
TR	1978	4329	0.77	0.46	24.6	C	24.4	C

Intersection Delay = 31.6 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: LDK Inter.: East and Dresh PM
 Agency: TQC Area Type: CBD or Similar
 Date: 6/20/14 Jurisd: PENNDOT
 Period: PM PEAK HOUR Year : Build Alt3-PHASE 1-Mitigation
 Project ID: ADD: EB Dbl LT; WB-Th+Excl RT; NB & SB Th Lane
 E/W St: DRESHER/MEETINGHOUSE N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	2	0	1	2	1	1	3	1	1	3	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	469	1033	18	94	533	15	30	1305	119	40	1159	178
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	8.6	39.8			50.6			
Yellow	4.0	4.0			5.0			
All Red	3.0	3.0			2.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	479	3093	1.13	0.46	125.4	F		
TR	1055	3180	1.18	0.33	131.1	F	129.4	F
Westbound								
L	174	1593	0.74	0.46	42.6	D		
T	1059	3192	0.56	0.33	33.6	C	34.9	C
R	473	1425	0.05	0.33	27.3	C		
Northbound								
L	64	151	0.73	0.42	64.3	E		
T	1926	4567	0.75	0.42	31.1	C	31.3	C
R	601	1425	0.24	0.42	22.6	C		
Southbound								
L	68	161	0.71	0.42	56.9	E		
TR	1888	4477	0.78	0.42	32.2	C	33.0	C

Intersection Delay = 62.9 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: AM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 3 BUILD- PHASE 1-MITIGATE
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	441		173				340	1348			987	956
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: CBD or Similar
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right		A			WB Right			
Green		18.6				11.9	36.5	
Yellow		3.0				4.0	4.0	
All Red		3.0				2.0	2.0	

Cycle Length: 85.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	677	3093	0.70	0.22	33.9	C	44.2	D
R	312	1425	0.91	0.22	61.6	E		
Westbound								
Northbound								
L	334	1593	1.20	0.64	135.4	F		
T	2043	3192	0.75	0.64	12.2	B	37.7	D
Southbound								
T	1371	3192	0.77	0.43	23.6	C	32.1	C
R	1024	1425	1.00	0.72	41.0	D		
Intersection Delay = 36.3 (sec/veh) Intersection LOS = D								

Analyst: LDK
 Agency: TQC
 Date: 6/13/2014
 Period: PM PEAK HOUR
 Project ID:
 E/W St: MARYLAND RD

Inter.:
 Area Type: CBD or Similar
 Jurisd: PENNDOT
 Year : ALT 3 BUILD - PHASE 1-MITIGATE
 N/S St: EASTON RD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	0	1	0	0	0	1	2	0	0	2	1
LGConfig	L		R				L	T			T	R
Volume	524		330				240	1365			1451	1325
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration	0.25	Area Type:	CBD or Similar									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left		A			NB Left	A	A					
Thru					Thru	A	A					
Right		A			Right							
Peds					Peds							
WB Left					SB Left							
Thru					Thru		A					
Right					Right		A					
Peds					Peds							
NB Right					EB Right							
SB Right		A			WB Right							
Green		21.6				4.4	46.0					
Yellow		3.0				4.0	4.0					
All Red		3.0				2.0	2.0					
Cycle Length: 90.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	742	3093	0.76	0.24	36.3	D	58.3	E
R	342	1425	1.04	0.24	93.1	F		
Westbound								
Northbound								
L	158	1593	1.63	0.63	334.1	F		
T	2000	3192	0.75	0.63	13.5	B	60.5	E
Southbound								
T	1631	3192	0.96	0.51	34.5	C	140.8	F
R	1165	1425	1.50	0.82	236.0	F		
Intersection Delay = 104.5 (sec/veh)					Intersection LOS = F			