



**ALBERT FEDERICO CONSULTING, LLC**

**Traffic Engineering and Mobility Solutions**

133 Rutgers Avenue  
Swarthmore, PA 19081

October 15, 2018

***via email only***

Paul Hughes, P.E.  
Kimley-Horn and Associates, Inc.  
50 S. 16th Street, Suite 1650  
Philadelphia PA, 19102

**Re:** Transportation Impact Assessment  
Prestige Worldwide Development  
West Norriton Township, Montgomery County

**Mr. Hughes:**

**EXECUTIVE SUMMARY**

Prestige Worldwide Development is proposing to construct a new 16,000 square foot Specialty Trade Contractor facility along the south side of SR 3009 (West Main Street), east of Egypt Road. Access is proposed via West Main Street (full access) east of Liberty Avenue. Build-out of the proposed Specialty Trade Contractor facility is proposed for 2020. The Specialty Trade Contractor facility will be constructed to the rear of the site, leaving a residual area along the West Main Street frontage. For planning purposes it is assumed that the frontage parcel will be developed as a mix of ground floor retail store and second story residential with a 2022 buildout. Access to the retail element will be via the driveway to the Specialty Trade Contractor facility.

The new development will replace a mix of existing uses: a Diner, a small office and several residential units. The anticipated net, new traffic generated by the proposed Specialty Trade Contractor facility is roughly equivalent to the previous uses. At full buildout the site is anticipated to generate 797 daily trips, 44 trips during the morning weekday peak hour and 95 trips during the evening weekday peak hour. Based on the relatively low volumes associated with this development this Assessment evaluates a single future horizon, 2022 Full Build-out.

Adding the new development traffic and regional growth produced future traffic projections which were evaluated using Trafficware Synchro version 10 software. The analyses indicates that the site access will operate at acceptable Overall Level of Services and the adjacent intersections along Main Street do not warrant mitigation.



**INTRODUCTION**

The site of the proposed 16,000 square foot Specialty Trade Contractor facility and frontage development is along the south side of SR 3009 (Main Street), east of Egypt Road. Access is proposed via a single, full movement driveway to Main Street, which replaces two existing accesses. The driveway is proposed to be offset from Liberty Avenue to the east. As discussed with the Township and PennDOT during scoping this offset is intended to minimize conflicting movements at the intersection of Main Street and Liberty Avenue.

The Specialty Trade Contractor facility is proposed to be completed by 2020. For planning purposes it has been assumed that the residual area along the Main Street frontage will be developed as a mix of ground floor retail store and second story residential. This is consistent with the Township Zoning and desire to promote denser, urbanist development along the Main Street corridor. A sketch of the proposed development is attached. The location of the proposed development is illustrated in **Figure 1**.



**Figure 1 - Site Location**

A Scoping Application was submitted to PennDOT and comments were provided via email-September 12, 2018 (M18-022XP). This TIA was prepared in general accordance with the submitted Scoping materials and the PennDOT comments, which are attached.



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## **EXISTING TRAFFIC CONDITIONS**

### *Existing Transportation Facilities*

Main Street (SR 3009) adjacent to the site is a Minor Arterial roadway within a Town Center/Suburban Corridor. Main Street runs generally east/west through this section of Montgomery County. Adjacent to the site the paved cartway is approximately 44 feet and provides two travel lanes in each direction with a posted speed limit of 40 miles per hour. Parking is not permitted within the vicinity of the site.

There is existing sidewalk along the both sides of Main Street. The pedestrian crossings at the signalized intersection of Main Street and Egypt Road (SR 4002)/Jefferson Avenue/Orchard Lane were upgraded in the last several years. There is a non-accessible marked crossing of Main Street along the site frontage at Liberty Avenue. There are no dedicated bicycle facilities along this section of Main Street and no future facilities are identified in the recently adopted Bike Montco plan.

Transit service along the corridor is provided via SEPTA Route 91, 93 and 131 buses. These routes originate at the Norristown Transportation Center and provide service to Graterford Prison (91, Saturdays only), Pottstown (93) and Audubon (131).

### *Existing Intersections*

Main Street and Egypt Road/Jefferson Avenue/Orchard Lane is controlled by a three-phase, semi-actuated traffic signal. Main Street provides two lanes in each direction, a dedicated left turn lane and a through lane westbound and a shared through-right and shared through-left eastbound. Egypt Road provides a dedicated right turn and a shared left-right turn lane. Jefferson Avenue is one-way southbound into the intersection and provides a dedicated left turn lane and a shared through-right lane. South of the intersection Orchard Lane is one-way southbound, away from the intersection. Accessible pedestrian crossings are provided on all approaches except the east side of Main Street.

Main Street and Liberty Avenue is an uncontrolled, unsignalized intersection. Main Street provides two lanes in each direction, a through and a shared through-right westbound and a through and shared through-left eastbound. North of the intersection Liberty Avenue is one-way northbound, away from the intersection. Non-accessible pedestrian crossings are provided on the north and west approaches.

### *Existing Traffic Volumes*

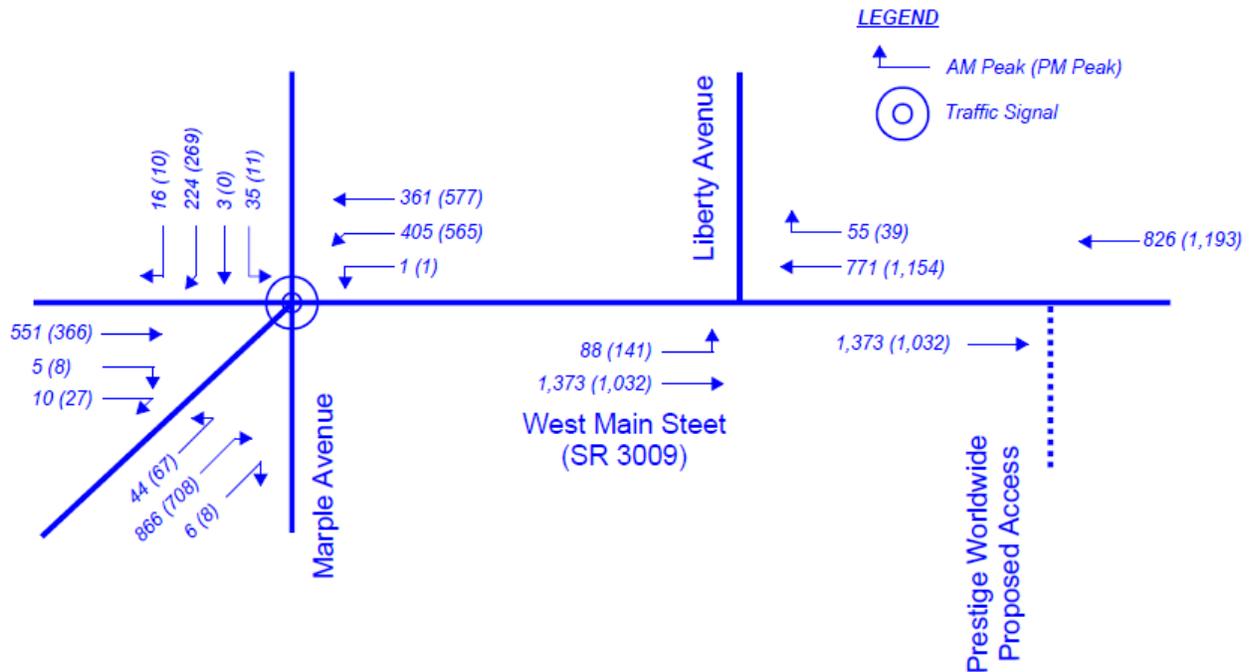
Existing traffic volume data for the study intersections were obtained from traffic counts conducted Tuesday, October 2 and October 9, 2018. It should be noted that no seasonal adjustment was applied to the counted volumes. Existing peak hour turning movement counts are shown in **Figure 2** and traffic count data is attached.

As part of the data collection efforts observations of queues were also completed, in particular for westbound Main Street. In general queues cleared each cycle. The primary exceptions were when flow was obstructed by vehicles turning left into active driveways.



**Existing Level of Service**

The HCM 2010, Highway Capacity Manual methodology does not address intersections such as Main Street and Egypt Road/Jefferson Avenue/Orchard Lane due to the fifth leg, or Main Street and Liberty Avenue due to the lack of entering volumes from the minor approach. Therefore existing 2018 morning and evening peak hour operations were evaluated using Trafficware Synchro version 10 software and modified inputs per PennDOT Publication 46. The results of these analyses provide level of service, volume to capacity ratios and average seconds of delay for the intersection approaches.



**Figure 2 - Existing 2018 Traffic Volumes**

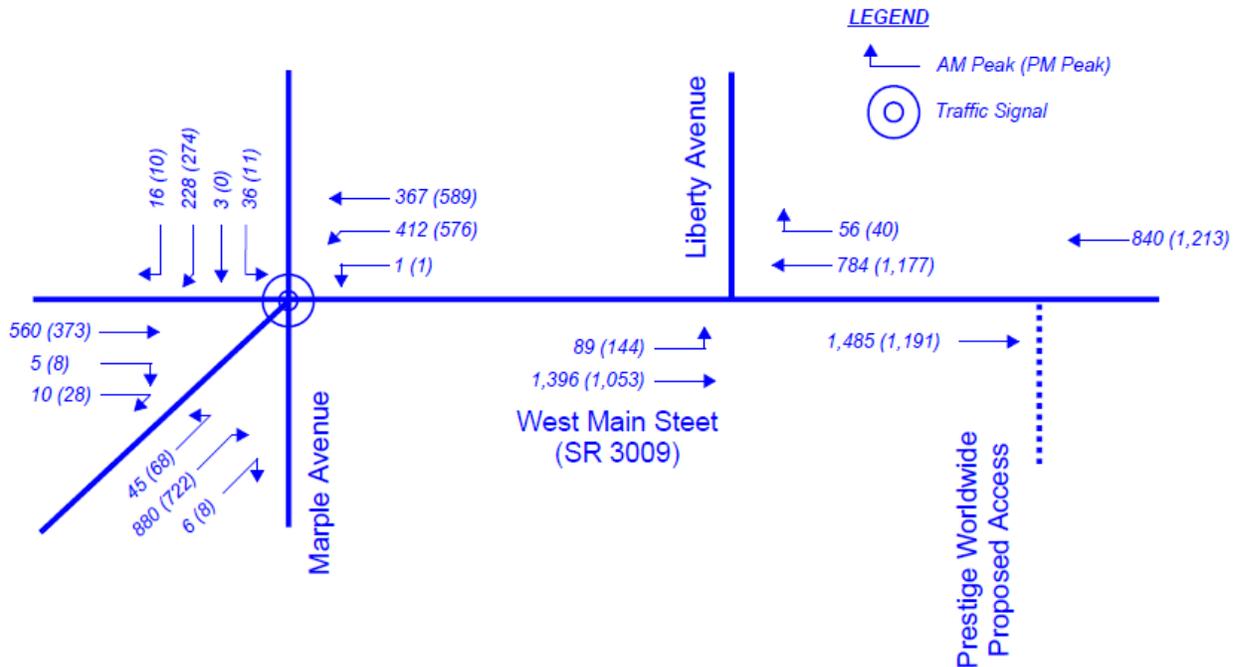
The results of the analysis indicate that the intersection of Main Street and Egypt Road/Jefferson Avenue/Orchard Lane operates at an overall LOS "E" during the morning and LOS "D" evening peak periods. The controlled movement of Main Street at Liberty Avenue operates at an overall LOS "A" during both the morning and evening peaks.



### FUTURE "PRE-DEVELOPMENT" TRAFFIC CONDITIONS

#### Pre-Development Traffic Volumes

In order to assess the impact of the traffic generated by the proposed Specialty Trade Contractor facility and Retail/Residential uses an analysis of "pre-development" conditions without the proposed project was prepared. Based on initial coordination with the Township there are no other nearby development pending; therefore the evaluation of pre-development conditions relied on the annual traffic growth. The current growth rate provided by the Bureau of Planning and Research (August 2017 to July 2018) for Urban Non-Interstate roadways in Montgomery County is 0.41%. **Figure 3** illustrates the pre-development traffic volumes.



**Figure 3 - 2022 Pre-Development Volumes**

#### Planned Roadway Improvements

As part of PennDOT Project E04240 (2020 HSIP) SR 3009 will be widened to provide a center turn lane. Other improvements, including pedestrian facilities, are also proposed; however the full as discussed with PennDOT the full scope of improvements has yet to be defined. Per the PennDOT Scoping Comments the project is being designed to reserve up to fourteen feet of right-of-way along the frontage for these improvements. As the full scope of improvements has yet to be established the future conditions analysis utilizes the existing geometry.



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The Township and PennDOT have also considered closing Orchard Lane at the intersection of Main Street and Egypt Road (SR 4002)/Jefferson Avenue/Orchard Lane. This would allow for the implementation of a right-turn overlap from Egypt Road onto Main Street. As the timing of this improvement has yet to be established the future conditions analysis utilizes the existing geometry.

*Pre-Development Operations*

The pre-development traffic volumes were evaluated utilizing the same methodology as the existing conditions analysis. The results of these analyses indicate that under pre-development conditions the intersection of Main Street and Egypt Road/Jefferson Avenue/Orchard Lane continues to operate at an overall LOS "E" during the morning. During the evening peak the overall delay increases by approximately three seconds, pushing the intersection to LOS "E". The controlled movement of Main Street at Liberty Avenue continue to operate at an overall LOS "A" during both the morning and evening peaks.



**FUTURE "POST-DEVELOPMENT" TRAFFIC CONDITIONS**

*Prestige Worldwide Development Trip Generation*

The traffic to be generated by the proposed Prestige Worldwide Development was calculated using the information provided in the ITE Trip Generation Manual, 10th Edition, for land use codes (LUC) 180 - Specialty Trade Contractor, 220 - Multi-Family Residential (Low-Rise) and 820 - Shopping Center. The Average Rate was used for all calculations, and the Peak of Adjacent Street was used for the morning and evening peaks. For the purposes of the Impact Assessment no adjustments were made for internalization or non-vehicular modes and pass-by for the retail use was only applied during the evening peak. The results are presented in **Table 1**. Note that the Applicant reserves the right to submit a supplemental trip generation calculation to the Township for purposes of establishing an appropriate impact fee.

Land Use	Size	Daily	Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
		Total	In	Out	Total	In	Out	Total
Specialty Trade Contractor	16,000 sf	164	20	7	27	10	22	32
Multi-Family Residential (Low-Rise)	4 du	29	0	2	2	1	1	2
Retail	16,000 sf	604	9	6	15	29	32	61
<i>Pass-by</i>		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>(10)</i>	<i>(10)</i>	<i>(20)</i>
<b>New External</b>		<b>797</b>	<b>29</b>	<b>15</b>	<b>44</b>	<b>30</b>	<b>45</b>	<b>75</b>

**Table 1 - Trip Generation**

The existing uses were not in operation during data collection, therefore they were not considered as part of this analysis. For comparison purposes and consideration of relative impacts the trip generation of the existing uses were presented in the Scoping Application.

*Vehicular Trip Distribution and Assignment*

For analysis purposes, it was assumed that vehicular traffic destined for the proposed facility will arrive and depart in a manner similar to existing traffic within the vicinity of the site. The distribution was developed by evaluating the peak volumes *approaching* the site at the two counted study intersections. These patterns indicate origins and destinations as presented below:

- 39% East via Main Street
- 18% West via Main Street
- 11% North via Jefferson Avenue and Liberty Avenue
- 32% Southwest via Egypt Road

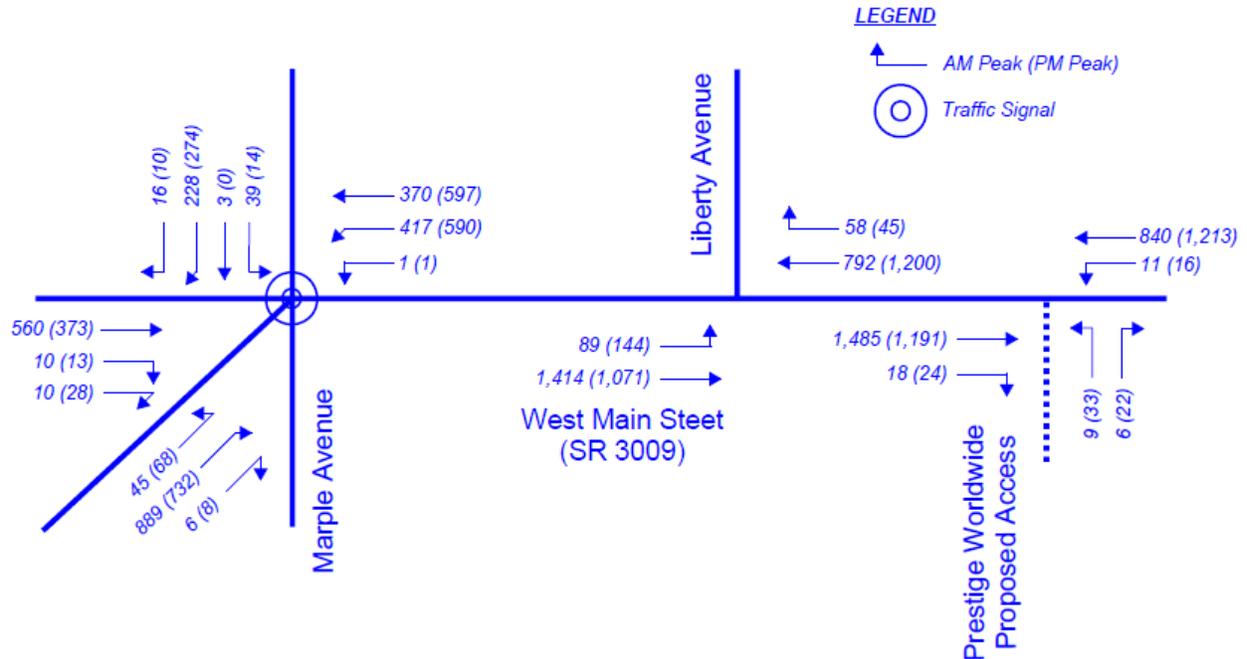


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Information used to develop the distribution and tables presenting the future volume development are attached.

**Post-Development Traffic Volumes**

The traffic volumes generated by the proposed Prestige Worldwide Development were added to the pre-development traffic volumes to provide the post-development traffic volumes. These traffic volumes are illustrated in **Figure 4**.



**Figure 4 - 2022 Post-Development Volumes**

**Post-Development Operations**

The post-development traffic volumes were evaluated utilizing the same methodology as the existing and pre-development conditions analysis. The results of these analyses indicate:

- the intersection of Main Street and Egypt Road/Jefferson Avenue/Orchard Lane continues to operate at an overall LOS "E" during the morning and evening peak periods;
- the intersection of Main Street and Liberty Avenue continues to operate at an overall LOS "A"; and
- the proposed access will operate with an overall LOS "A", however the existing movement will operate at an LOS "F" during the evening peak.

These operations are consistent with the local context. The results of the capacity analyses for the scenarios evaluated are presented in **Table 2** and summary outputs of the analyses are attached.



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Main Street and Egypt Road/Jefferson Avenue/Orchard Lane		Eastbound	Westbound		Southbound		Northeast- bound	Overall
		T-TR	L	T	L	TR	LR	
Morning	Existing	F (137)	C (27.1)	E (65.4)	C (20.1)	C (22.9)	D (41.5)	E (61.9)
	Pre	F (147)	C (27.6)	E (67.2)	C (20.3)	C (23.0)	D (42.5)	E (64.7)
	Post	F (154)	C (27.9)	E (67.8)	C (20.6)	C (23.0)	D (43.3)	E (66.7)
Evening	Existing	E (67.8)	C (25.9)	F (90.0)	C (23.0)	C (31.6)	D (51.3)	D (54.7)
	Pre	E (70.0)	C (26.6)	F(97.5)	C (23.0)	C (31.8)	D (53.6)	E (57.5)
	Post	E (71.2)	C (27.4)	F (103)	C (23.3)	C (31.8)	D (54.6)	E (59.3)

Main Street and Liberty Avenue		Eastbound	Westbound	Overall
		LT	TR	
Morning	Existing	a (1.8)	na (0)	a (0.7)
	Pre	a (1.9)	na (0)	a (0.7)
	Post	a (1.9)	na (0)	a (0.7)
Evening	Existing	a (4.8)	na (0)	a (1.4)
	Pre	a (5.2)	na (0)	a (1.4)
	Post	a (5.3)	na (0)	a (1.5)

Main Street and Site Driveway		Northbound	Eastbound	Westbound	Overall
		LR	TR	TL	
Morning	Post	f (67.4)	na (0)	a (0.5)	a (0.5)
Evening	Post	f (95.7)	na (0)	a (0.5)	a (2.3)

**Table 2 - Full-Buildout Level of Service**

**Site Access**

The proposed redevelopment will replace two existing driveways with a single access. This new, full movement access is proposed to be offset to the east of Liberty Avenue. As discussed with the Township and PennDOT during scoping this offset will minimize potential conflicting movements at the intersection of Main Street and Liberty Street. Offsetting the driveway to the east will also prevent left turning vehicles access the site from overlapping left tuns to Liberty Avenue.



*Auxiliary Lane Warrant Analysis*

The requirements for the installation auxiliary lanes were considered. A review of these standards indicate that at full build out the volume of traffic accessing the proposed site are generally well below the thresholds at which these measures would be warranted. *It is noted that as part of the PennDOT HSIP project a center left-turn lane is proposed.* Additionally, a right turn deceleration lane along the frontage is considered inconsistent with the Township’s planning goal of promoting denser, urbanist growth along Main Street.

*Sight Distance*

The location of the proposed access was evaluated to determine compliance with PennDOT sight distance requirements. There is a vertical crest to the right of the access, however it does limit the sight distance below the minimum safe stopping sight distance. Available sight lines to the left extend beyond the adjacent signalized intersection. As presented in **Table 3** there is adequate sight distance for passenger vehicles based on the posted speed limit of 40 miles per hour.

Movement	Grade	Minimum	Desirable	Measured
Exiting Right turn	+1%	304'	400'	> 460'
Exiting Left turn	-2%	325'	460'	425'
Entering Left - Ahead	+1%	304'	395'	> 460'
Entering Left - Behind	-2%	325'	na	415'

**Table 3 - Sight Distance: Main Street Access**



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## **CONCLUSIONS**

Prestige Worldwide Development is proposing to construct a new 16,000 square foot Specialty Trade Contractor facility along the south side of SR 3009 (West Main Street), east of Egypt Road. Access is proposed via West Main Street (full access) east of Liberty Avenue. Full build-out is proposed 2022. *The results of this analysis indicate that the proposed access will operate in an generally acceptable manner consistent with the local context and that the facility will not impact the operations of the adjacent signalized intersection compared to pre-development conditions.*

Please do not hesitate to contact me at 610.608.4336 or [albert@federico-consulting.com](mailto:albert@federico-consulting.com) should you have any questions or require additional information.

Sincerely,



Albert Federico, P.E., PTOE

- Attachment A – Site Plan
- Attachment B – Project Correspondence
- Attachment C – Traffic Counts
- Attachment D – Capacity Analyses
- Attachment E - Volume Development



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## **ATTACHMENT A – SITE PLAN**





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## **ATTACHMENT B – PROJECT CORRESPONDENCE**

MONTGOMERY COUNTY, W. NORRITON TOWNSHIP  
SR 3009 W. MAIN STREET  
TRAFFIC LOG NO.: M18-022XP  
**PRELIMINARY REVIEW**

ALBERT FEDERICO CONSULTING, LLC  
133 Rutgers Avenue  
Swarthmore, PA 19081

Dear Mr. Federico:

The Department has reviewed the preliminary submission for compliance with applicable Department Regulations. This preliminary review has identified deficiencies that must be addressed for your application submission to be processed as efficiently as possible.

The Department understands that the provided design sketches are preliminary in nature. As such, the Department reserves the right to make future additional comments based on a formal submission with a complete traffic impact study.

Our comments on your preliminary submission are as follows:

#### **PRELIMINARY COMMENTS**

1. The Department requires written evidence, prior to the issuance of a permit, that West Norriton Township is aware of the project and has had the opportunity to comment. Provide written evidence (e.g. municipal engineering review, council or planning commission meeting minutes, executed TE-160, etc.), which is less than one year old, to satisfy this requirement. (PA Code, Title 67, Chapter 441.3(j))
2. To improve the capacity at the intersection of Main St., Egypt Road and Orchard Lane, PennDOT and W. Norriton Township are evaluating closing Orchard Lane. In closing Orchard Lane, a right turn overlap can be provided. The right turns from Egypt Road and left turns onto Egypt Road can run in the same phase of the signal phase. Participation from this development in facilitating this improvement maybe required.
3. Fourteen feet of right of way along the property frontage should be deeded to the Commonwealth to facilitate the programmed PennDOT improvement project E04240.
4. The Traffic Impact Assessment (TIA) must be signed and sealed by a professional engineer per PennDOT Publication 46. The TIA must evaluate the exiting left turn during the am and pm peak hours to assure adequate gaps exist.
5. All driveways must be wide enough to accommodate the largest vehicle expected to use the driveway. For the full access driveway, the driveways must be wide enough to

accommodate an entering single unit truck turning right and a passenger vehicle positioned in the exit lane.

6. The Applicant must apply for a Business Partner ID (BPID).
7. M-950AA - Applicant's Authorization for Agent to Apply for HOP, must be completed and submitted with all Highway Occupancy Permit applications.
8. PennDOT Form M-950MPC, Land Use Questionnaire, must be completed and submitted with all Highway Occupancy Permit applications. (Sections 619.2 and 1105 of the Municipal Planning Code and PennDOT Publication 282, Chapter 3.3)
9. The Traffic Impact Assessment (TIA) must be signed and sealed by a professional engineer per PennDOT Publication 46.
10. The PennDOT project number, M18-022XP, for this preliminary review must be referenced in the ePermitting System when the application is submitted.
11. Please be advised that pursuant to and in accordance with Title 67, Chapter 441.8(h)(2)(iv) of the code, the Safe Stopping Sight Distance is the absolute minimum acceptable sight distance for any driveway. It is the designer's responsibility to ensure that this minimum requirement is satisfied. Furthermore, it should also be understood that any comments made (or guidance given) in this correspondence are preliminary in nature and the Department reserves the right to change, alter, withdraw, or amend them as it deems necessary in the future.
12. Stormwater management reports, site development plans and detailed plans must be added to the HOP package.

This review is preliminary in nature. The Department reserves the right to make additional comments when the application for a HOP, detailed plans and stormwater calculations are submitted in our Electronic Processing System. If you have any questions pertaining to the technical aspects of this review, please contact the Department's representative, Susan LaPenta at [slapenta@pa.gov](mailto:slapenta@pa.gov).

Respectfully,

*Susan LaPenta*

Susan LaPenta  
District Traffic Services Manager  
Engineering District 6-0

## E04240 Engineering Agreement

The Department of Transportation will retain an engineering firm for a project specific Open-end agreement for the services indicated below:

This Agreement involves assisting the District's Strategic Safety section in providing the design support services associated with the in the five county areas of Bucks, Chester, Delaware, Montgomery, and Philadelphia. Assigned work orders will include engineering services such as environmental evaluation, right of way acquisition, preliminary design, final design, and construction related services to deliver the safety improvement projects. It is being anticipated that all projects may run concurrently with aggressive completion schedule.

This agreement will also include traffic data collection and analysis, the preparation of traffic signal permit drawings (both new permits and permit revisions), the preparation of traffic signal construction plans, the preparation of interconnect/communication plans including system architecture, coordinated signal system design, municipal coordination. Utilize PennDOT's HSM network screening data to identify candidate safety projects. Assist the district in performing HSM analysis and preparing the Highway Safety Improvement project applications.

Future candidate projects will be added as a work order with similar engineering services.

The following projects are anticipated to be let under this agreement in FFY 2019 and FFY 2020.

**Project A (Manor Road and Cedar Knoll Road/Reeceville Road Roundabout Design)** - The Manor Road (SR 82) and Cedar Knoll Road/Reeceville Road (SR 4005) intersection was identified as a high crash location through the Pennsylvania Department of Transportation (PennDOT) District 6-0: District-wide Roundabout Program and has progressed through conceptual design. Desktop environmental survey has been completed with no adverse impact. The existing Manor Road (SR 82) and Cedar Knoll Road/Reeceville Road (SR 4005) intersection has a history of angle crashes. Within the five-year period of January 1, 2012 to December 31, 2016, 30 out of the 32 reported crashes were angle crashes. A detailed analysis of crashes at the intersection indicates the combination of poor visibility of the intersection, limited intersection sight distance, and intersection geometry, results in undesirable intersection conditions. Right of Way acquisition and utility relocations are being anticipated. *(Estimated let August 2019)*

**Project B (Castor Avenue and Wyoming Avenue Roundabout Design)** - Through meetings with PennDOT District 6-0 and outreach to the City of Philadelphia, Streets Department, the Castor Avenue (SR 1005) and Wyoming Avenue intersection was identified as a location to evaluate through the Pennsylvania Department of Transportation (PennDOT) District 6-0: District-wide Roundabout Program and has progressed through conceptual design. Desktop environmental survey has been completed with no adverse impact. Extensive coordination with SEPTA and utility relocations are being anticipated. This roundabout is a retrofit design and possibly can be built within existing right of way. *(Estimated let July 2019)*

**Project C (Old Skippack Road and Schwenksville Road/Shelly Road Roundabout Design)**- The Old Skippack Road (SR 1017) and Schwenksville Road (SR 4018)/Shelly Road intersection was identified as a high crash location through the Pennsylvania Department of Transportation (PennDOT) District 6-0: District-wide Roundabout Program and progressed through conceptual design. Desktop environmental survey has been completed with no adverse impact. The existing Old Skippack Road and Schwenksville Road/Shelly Road intersection has a history of angle crashes. Within the five-year period of January 1, 2012 to December 31, 2016, 34 out of the 38 reported crashes were angle crashes. A detailed analysis of crashes at the intersection indicates the combination of poor visibility of the intersection, limited intersection sight distance, and intersection geometry, results in undesirable intersection conditions. Right of Way acquisition and utility relocations are being anticipated. *(Estimated let April 2020)*

**Project D (Bethel Road and Mill Road Roundabout Design)**- The Bethel Road and Mill Road intersection was identified as a high crash location through the Pennsylvania Department of Transportation (PennDOT) District 6-0: District-wide Roundabout Program and progressed through conceptual design. Desktop environmental survey has been completed with no adverse impact. The existing Bethel Road (SR 3017)/Mill Road (3014) intersection has a history of angle crashes. Within the five-year period of January 1, 2012 to December 31, 2016, 16 out of the 23 reported crashes were angle crashes (70 percent). A detailed analysis of crashes at the intersection indicates it is difficult to judge gaps when stopped at the intersection. Due to the steep slope of the roadway there is limited visibility of approaching vehicles which results in undesirable intersection conditions. Right of Way acquisition and utility relocations are being anticipated. (*Estimated let August 2020*)

**Project E ((S. Easton Road and New Britain Road (#1) & S. Easton Road and Sauerman Road (#2) Roundabout Design))**- The S. Easton Road (SR 1001)/New Britain Road intersection was identified as a high crash location through the Pennsylvania Department of Transportation (PennDOT) District 6-0: District-wide Roundabout Program and progressed through conceptual design. Desktop environmental survey has been completed with no adverse impact. The adjacent intersection, S. Easton Road (SR 1001)/Sauerman Road, was included in the design project because these intersections operate in tandem due to S. Easton Road being bifurcated through this segment. The existing intersections of S. Easton Road (SR 1001)/New Britain Road and S. Easton Road/Sauerman Road both have a history of angle crashes. Within the five-year period of January 1, 2012 to December 31, 2016, all the reported crashes at the intersections were angle crashes (27 total crashes). A detailed analysis of crashes at the S. Easton Road/New Britain Road intersection indicates the existing geometry at the intersection, inadequate sight distance, and the curve leading up to the intersection, results in undesirable conditions. Right of Way acquisition and utility relocations are being anticipated. (*Estimated let August 2020*)

**Project F (Main Street Corridor Safety Improvements from Egypt Rd to Airy Street)** - This location was identified by the District as one with a high percentage of angle crashes (62% of 227 crashes over past 5 years) and rear-end crashes (21% of 227 crashes over past 5 years), and consequently one with a high percentage of Fatal and Injury crashes (59% of 227 crashes over past 5 years). The implementation of safety countermeasures will reduce these types of conflicts and improve the overall safety of the corridor. The treatments proposed as part of this project include, converting Main Street from an undivided four-lane section to a five-lane section including a two-way-left-turn lane, adding exclusive left-turn lanes at intersections, modify left-turn signal phasing, relocate existing utility poles and roadside fixed objects. Right of Way acquisition is anticipated. (*Estimated let April 2021+*)



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***Traffic Engineering and Mobility Solutions***

133 Rutgers Avenue  
Swarthmore, PA 19081

**TRANSPORTATION IMPACT STUDY (TIS)  
SCOPING MEETING APPLICATION**

Scoping Meeting Date: TBD

Applicant: Prestige Worldwide Development, LLC

Business Partner ID: Pending

Applicant's Primary Consultant: Kimley-Horn and Associates, Inc.

Applicant's Primary Contact: Paul Hughes, P.E.  
267.687.0150 or [paul.hughes@kimley-horn.com](mailto:paul.hughes@kimley-horn.com)

Applicant's Secondary Consultant: Albert Federico Consulting, LLC.

Applicant's Secondary Contact: Albert Federico, P.E., PTOE  
610.608.4336 or [albert@federico-consulting.com](mailto:albert@federico-consulting.com)

**(1) LOCATION OF PROPOSED DEVELOPMENT** (see attached Map)

PennDOT Engineering Dist.: 6 - 0 County: Montgomery

Municipality: West Norriton Township

State Route(s) (SR): SR 3009 (West Main Street)

Segment(s): 0030 Offset(s): 1649

Are 102" wide combinations (w/ trailer lengths greater than 28') allowed access to SR in accordance with 75 PA. C.S. §4908: No

**(2) DESCRIPTION OF PROPOSED DEVELOPMENT** (site plan attached)

Proposed site access: Replace three existing accesses with a single full movement access, east of Liberty Avenue

Existing land uses: Mixed use Restaurant, Office and Residential

Proposed land uses: Mixed use Specialty Trade Contractor, Retail and Residential

Community Linkages (access to neighboring properties, cross easements, pedestrian and transit accommodations): Per Zoning Overlay Applicant is pursuing cross access. Existing pedestrian facilities along site frontage. Bus service (Routes 91, 93 and 131)

August 16, 2018



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**(3) DEVELOPMENT SCHEDULE AND STAGING**

Anticipated Opening Date: 2020

Full Buildout Date: 2022

Describe Proposed Development Schedule/Staging:

Phase I: Specialty Contractor

Phase II: Main Street frontage

**(4) TRIP GENERATION:**

Trip Generation for the proposed development will be based on:

ITE Trip Generation Manual  
*(List proposed development land uses and associated ITE Land Use Codes)*

Other Independent Surveys  
*(Attach justification for non-ITE methods)*

List land development and trip generation information, as appropriate. If necessary, attach additional sheets to indicate additional land uses or development phases.

	Land Use	LUC	Size	Daily Trips	Evening Peak Hour	
					Inbound	Outbound
(1)	Multi-Family (Low-Rise)	220	6 du	44	2	1
(2)	Small Office	712	2,249 sf	36	2	4
(3)	High Turnover (Sit-down)	932	1,786 sf	200	11	6
			<i>Previous</i>	<i>280</i>	<i>15</i>	<i>11</i>
(3)	Specialty Trade Contractor	180	16,000 sf	164	10	22
(4)	Multi-Family (Low-Rise)	220	4 du	29	1	1
(5)	Retail	820	16,000 sf	604	29	32
			<i>Proposed</i>	<i>797</i>	<i>40</i>	<i>55</i>
				<b>Increase</b>	<b>517</b>	<b>44</b>



(5) ESTIMATED DAILY TRIP GENERATION/DRIVEWAY CLASSIFICATION:

(a) Estimated Daily Trip Generation of Proposed Development -- Assuming One Access Point and Full Build out/Occupancy of Entire Tract: 797 trips/day

(b) Driveway Classification Based on Trip Generation and One Access Point:

Low Volume: X (797 trips ~ 399 vehicles/day)

Medium Volume: \_

High Volume: \_

(6) TRANSPORTATION IMPACT STUDY REQUIRED?

X No

\_ Yes, based on: \_ 3,000 or more vehicle trips/day generated

\_ During any one-hour time period, 100 or more new (added) vehicle trips generated entering or 100 or more new (added) vehicle trips generated exiting development

\_ Other considerations as described below:

(7) TRANSPORTATION IMPACT ASSESSMENT REQUIRED? \_ No x Yes

(If a TIS is required, the following sections of this checklist will be discussed at the TIS Scoping Meeting. The applicant may provide preliminary information.)

(8) STUDY AREA: (see attached map and/or diagram)

Roadway and Study Intersections

- Proposed Site Access and West Main Street (SR 3009)
- Liberty Avenue and West Main Street
- Egypt Road (SR 4002), Jefferson Avenue, Orchard Lane and West Main Street

Land use context (Refer to PennDOT Design Manual, Part 1X, Appendix B)

- Town Center/Suburban Corridor

Known Congestion Areas

- Egypt Road (SR 4002), Jefferson Avenue, Orchard Lane and West Main Street

Known Safety Concerns

- Angle and rear-end crashes; refer PennDOT Project E04240

Known Environmental Constraints

- None



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Pedestrian/Bike Review (Community Centers, Parks, Schools, etc.)

- Existing sidewalk along site frontage
- This section of Main Street is not included in the draft County Bike Plan

Transit Review (Current routes/stops)

- Bus service (Routes 91, 93 and 131)

(9) **STUDY AREA TYPE:** Urban  Rural

(10) **TIS ANALYSIS PERIODS AND TIMES:**

(List periods and times. Normal analysis periods are existing conditions, 5 years in the future without development, and 5 years in the future with development. Normal analysis times for each period are the AM peak hour, the PM peak hour, and the peak hour of site generated traffic.)

Periods: Existing, 2020 pre-development and 2020 post-development

Times: Weekday morning and evening peaks

(11) **TRAFFIC ADJUSTMENT FACTORS:**

(a) Seasonal Adjustment: (Identify counts requiring adjustment and methodology)

(b) Annual Base Traffic Growth: 0.41 %/yr.

Source: PennDOT Bureau of Planning and Research, August 2017 to July 2018

(c) Pass-By Trips: (Attach justification where required)

	<b>Land Use</b>	<b>%</b>	<b>Source</b>
(1)	Retail	34	ITE Trip Generation, 10th edition
(2)	High Turnover (Sit-down)	43	

(d) Captured Trips for Multi-Use Sites:

(List % and manner of application. Attach justification where required.)

- None assumed

(e) Modal Split Reductions

- In accordance with ITE Trip Generation, 10th edition

(f) Other Reductions

- None assumed



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**(12) OTHER PROJECTS WITHIN STUDY AREA TO BE ADDED TO BASE TRAFFIC:**

(Identify proposed developments with issued permits that need to be included.)

- None assumed, to be verified in coordination with the Township

**(13) TRIP DISTRIBUTION AND ASSIGNMENT:**

(Describe; explain/justify; attach diagram and related information.)

Based on screenline volumes from PennDOT 2016 Traffic Volume Map

- 25% to/from the North
- 23% to/from the East
- 52% to/from the West

**(14) APPROVAL OF DATA COLLECTION ELEMENTS AND METHODOLOGIES:**

	<b>Location</b>	<b>Periods</b>	<b>Type</b>
(1)	Liberty Avenue and West Main Street	7 - 9 AM	Turning Movement Count
(2)	Egypt Road (SR 4002), Jefferson Avenue, Orchard Lane and West Main Street	4 - 6 PM	

**(15) CAPACITY/LOS ANALYSIS:**

	<b>Location</b>	<b>Period</b>	<b>Type</b>
(1)	Liberty Avenue and West Main Street	AM Peak PM Peak	Synchro v10
(2)	Egypt Road (SR 4002), Jefferson Avenue, Orchard Lane and West Main Street		
(3)	Proposed Site Access and West Main Street		

**(16) ROADWAY IMPROVEMENTS/MODIFICATIONS BY OTHERS TO BE INCLUDED:**

(Projects programmed for construction or other developments with issued permits.)

- Center turn lane by PennDOT (E04240) - 2020 HSIP (Main Street Corridor Safety Improvements)

**(17) OTHER NEEDED ANALYSES:**

- (a) Sight Distance Analysis: Proposed site access  
(Required for all site access driveways; identify other locations)
- (b) Signal Warrant Analysis: NA  
(Identify locations)
- (c) Required Signal Phasing/Timing Modifications: As appropriate  
(Determine for all signalized intersections; specify methodology.)
- (d) Traffic Signal Corridor/Network Analysis: NA  
(Identify locations/methodology)



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- (e) Analysis of the Need for Turning Lanes: Proposed site access  
(Identify locations/methodology)
- (f) Turning Lane Lengths: As appropriate  
(Identify methodology to be used)
- (g) Left Turn Signal Phasing Analysis: NA  
(Identify locations/methodology)
- (h) Queuing Analysis: NA  
(Identify locations/methodology)
- (i) Gap Studies: NA  
(Identify locations/methodology)
- (j) Crash Analysis: NA  
(Identify locations)
- (k) Weaving Analysis: NA  
(Identify locations)

**PROPOSED MEETING ATTENDEES**

	<b>Name</b>	<b>Phone</b>	<b>Email</b>
(1)	Michael Valyo	610.631.0450	mvalyo@wntwp.com
(2)	Rick Melle	215.639.7473	rmelle14@gmail.com
(3)	Paul Hughes	267.687.0150	paul.hughes@kimley-horn.com
(4)	Albert Federico	610.608.4336	albert@federico-consulting.com

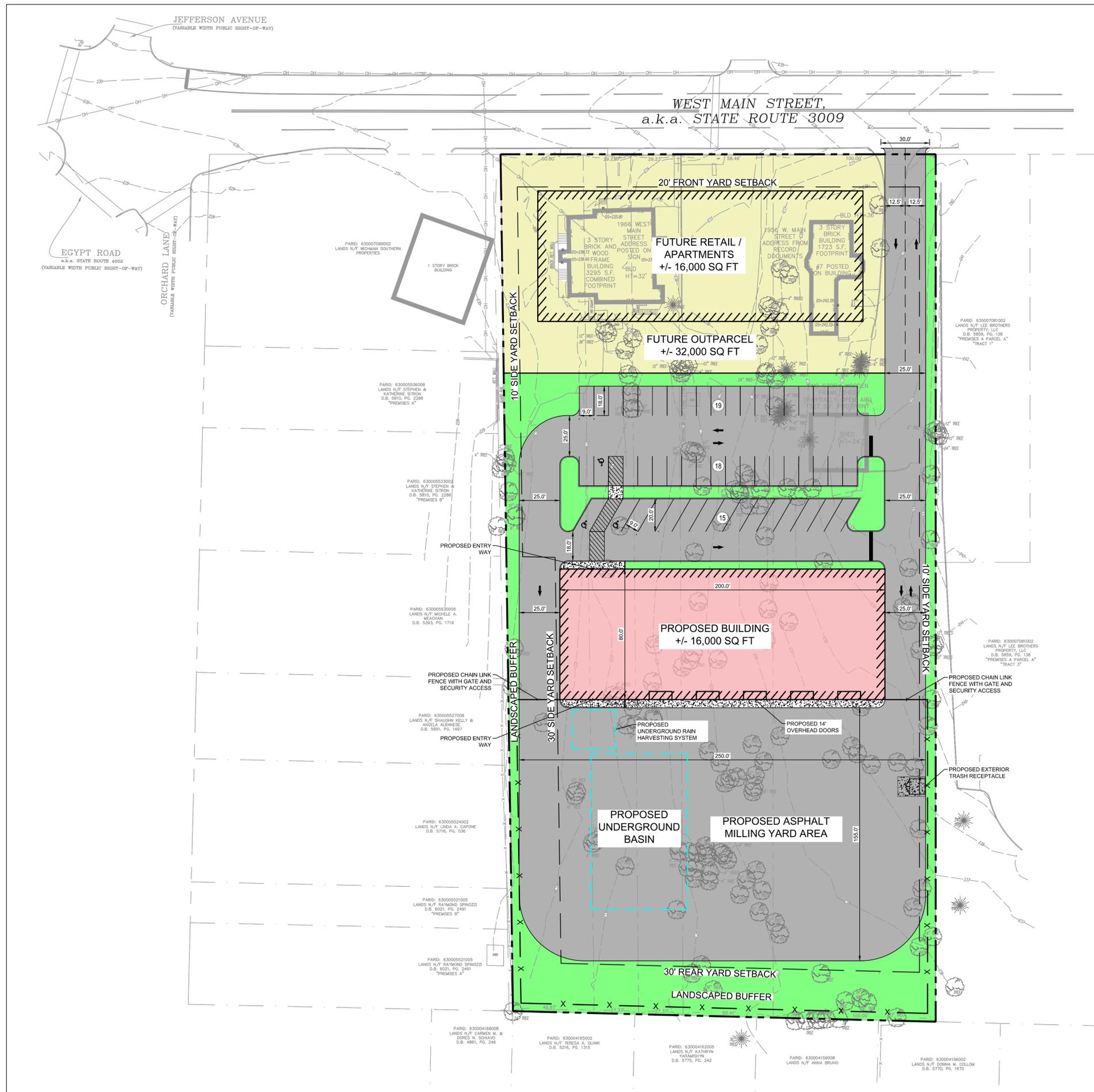


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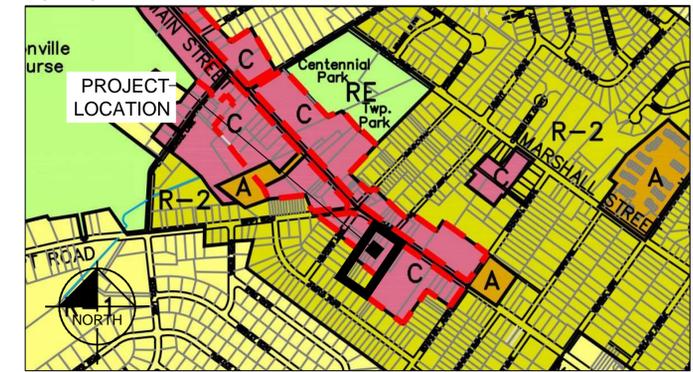
**LOCATION AND STUDY AREA**



This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



**ZONING MAP**



**SITE PLAN STATISTICS**

**SITE ADDRESS:** 1966-1968 WEST MAIN STREET, NORRISTOWN, PA 19403  
**MUNICIPALITIES:** WEST NORRITON TOWNSHIP, MONTGOMERY COUNTY, PA  
**EXISTING USES:** RESTAURANT, OFFICE, APARTMENTS  
**PARCEL INFORMATION:**  
**PROPOSED USE:** CRAFTSMEN'S SHOP - WATER AND SEWER  
**CONSOLIDATED LOT AREA:** 139,355 SQ FT (3.2 ACRES)

WEST NORRITON TOWNSHIP DIMENSIONAL STANDARDS				
REQUIREMENTS	C DISTRICT	R-2 DISTRICT	REVITALIZATION AND TRAFFIC MANAGEMENT OVERLAY DISTRICT	PROPOSED
<b>BUILDING SETBACKS</b>				
MINIMUM FRONT YARD	20 FT	25 FT	10 FT (30FT RESIDENTIAL)	254 FT (C)
MINIMUM SIDE YARD	-	NOT LESS THAN 10 FT, MINIMUM AGGREGATE OF 25 FT	10 FT (30FT RESIDENTIAL)	31 FT (C)
MINIMUM REAR YARD	20 FT	25 FT	10 FT (30FT RESIDENTIAL)	192 FT (C)
<b>INTENSITY RATIOS</b>				
MAXIMUM BUILDING AREA COVERAGE	70%	35%	-	11.5% (C)
<b>MISCELLANEOUS</b>				
MINIMUM LOT AREA	17,000 SQ FT	17,000 SQ FT	-	139,355 SQ FT (C)
MINIMUM LOT WIDTH (BUILDING LINE)	85 FT	85 FT	-	264 FT (C)
MAXIMUM BUILDING HEIGHT	35 FT	35 FT	35 FT	< 35 FT (C)
MINIMUM GREEN AREA	-	-	15%	15.5% (C)
MINIMUM PARKING SETBACK	-	-	10 FT (FR. ULT. ROW)	142 FT (C)
MAXIMUM CURB CUT	-	-	30 FT	30 FT (C)

**PARKING REQUIREMENTS**

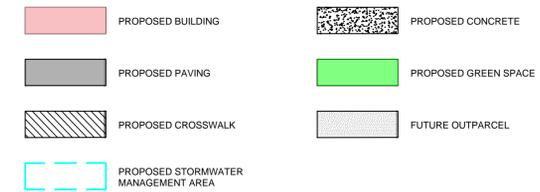
**PARKING AREA DIMENSIONAL REQUIREMENTS:**  
 MINIMUM PARKING SPACE DIMENSIONS (STANDARD): 9 FT x 18 FT (PROPOSED: 9 FT x 18 FT)  
 MINIMUM PARKING SPACE DIMENSIONS (ANGLED): 9 FT x 19 FT (PROPOSED: 9 FT x 20 FT)  
 MINIMUM PARKING AREA ONE-WAY DRIVE AISLE WIDTH: 25 FT (PROPOSED: MINIMUM 25 FT)  
 MINIMUM PARKING AREA TWO-WAY DRIVE AISLE WIDTH: 25 FT (PROPOSED: MINIMUM 25 FT)

**PROPOSED PARKING**

STANDARD (9 FT x 18 FT): 36 SPACES + 1 ADA SPACE  
 ANGLED (9 FT x 20 FT): 13 SPACES + 2 ADA SPACES  
 OVERSIZE (12 FT x 30 FT): 26 SPACES

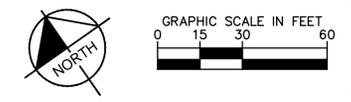
PROPOSED IMPERVIOUS COVERAGE	
TOTAL LOT AREA	139,355 SQ FT (3.2 ACRES)
IMPERVIOUS - SURFACES	101,745 SQ FT
IMPERVIOUS - BUILDING AREA	16,000 SQ FT
<b>TOTAL IMPERVIOUS AREA</b>	<b>117,745 SQ FT</b>

**HATCH LEGEND**



**NOTES**

- THIS PLAN, BEING PRELIMINARY IN NATURE DOES NOT GUARANTEE THAT ALL REQUIREMENTS FOR ZONING ISSUES, NOR STORM DRAINAGE, GRADING, UTILITY EASEMENTS, AND THE LIKE ARE PROPERLY ADDRESSED AT THIS TIME. THE ABOVE REQUIREMENTS CAN AFFECT THE LAYOUT OF THIS SITE.
- ALL REQUIREMENTS ASSUMED WITH THIS LAYOUT ARE TENTATIVE AND SUBJECT TO CHANGE AS MAY BE DIRECTED BY THE ARCHITECT, LANDLORD, OR ANY OF THE GOVERNMENTAL AGENCIES. KIMLEY-HORN HAS DONE THE BEST WE CAN GIVEN THE PRELIMINARY NATURE OF THIS WORK. ONLY AFTER HAVING A THOROUGH ALTA AND TOPOGRAPHIC SURVEY AND GONE THROUGH THE REQUISITE REVIEW PROCESSES CAN MORE ASSURANCE BE GIVEN THESE PLANS AS RELATES TO MOVING FORWARD.



CALL BEFORE YOU DIG!  
 PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL  
 PA 1  
 1-800-251-1774

No.	REVISIONS	DATE	BY

**Kimley-Horn**  
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 TWO LIBERTY PLACE, 50 SOUTH 16TH STREET, SUITE 1650  
 PHILADELPHIA, PA 19102  
 PHONE: 215-854-6396  
 WWW.KIMLEY-HORN.COM

KHA PROJECT	112160000
DATE	08/16/2018
SCALE	AS SHOWN
DESIGNED BY	PH
DRAWN BY	MP
CHECKED BY	PH

**CONCEPT PLAN**

**PRESTIGE WORLDWIDE**  
**PROPERTY INVESTMENTS, LLC**  
 1966 - 1968 WEST MAIN STREET,  
 NORRISTOWN, PA 19403  
 WEST NORRITON TOWNSHIP  
 MONTGOMERY COUNTY  
 PENNSYLVANIA  
 SHEET NUMBER  
**EX-1**



ALBERT FEDERICO CONSULTING, LLC

## **ATTACHMENT C – TRAFFIC COUNTS**

**Main St./Egypt St./Jefferson Rd./Ochard St. - TMC**

Tue Oct 2, 2018

Full Length (7AM-9AM, 4PM-6PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 570388, Location: 40.132574, -75.37823



Provided by: Tri-State Traffic Data, Inc.  
184 Baker Road,  
Coatesville, PA, 19320, US

Leg Direction	Egypt Road Eastbound							Jefferson Ave Westbound							Main St. Northbound						
	L	T	R	HR	U	App	Ped*	L	BL	T	R	U	App	Ped*	HL	L	T	R	U	App	Ped*
2018-10-02 7:00AM	11	0	190	3	0	204	1	9	0	40	2	0	51	0	0	101	77	0	0	178	0
7:15AM	11	0	232	1	0	244	1	10	1	66	7	0	84	1	0	82	86	0	0	168	0
7:30AM	13	0	223	1	0	237	0	5	2	49	5	0	61	1	0	100	102	0	0	202	0
7:45AM	9	0	221	1	0	231	0	11	0	69	2	0	82	1	1	122	96	0	0	219	0
Hourly Total	44	0	866	6	0	916	2	35	3	224	16	0	278	3	1	405	361	0	0	767	0
8:00AM	10	0	139	0	0	149	0	11	2	60	7	0	80	2	0	100	83	0	0	183	0
8:15AM	10	0	130	7	0	147	0	7	1	65	4	0	77	0	0	123	76	0	0	199	0
8:30AM	11	0	120	2	0	133	0	5	1	46	8	0	60	0	0	121	94	0	0	215	0
8:45AM	10	0	142	1	0	153	0	8	3	43	7	0	61	3	0	98	95	0	0	193	2
Hourly Total	41	0	531	10	0	582	0	31	7	214	26	0	278	5	0	442	348	0	0	790	2
9:00AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00PM	15	0	179	2	0	196	0	4	0	57	1	0	62	3	0	127	148	0	0	275	0
4:15PM	14	0	185	3	0	202	2	3	0	70	2	0	75	0	1	141	149	0	0	291	0
4:30PM	19	0	192	1	0	212	2	2	0	72	5	0	79	1	0	131	120	0	0	251	0
4:45PM	19	0	152	2	0	173	1	2	0	70	2	0	74	0	0	166	160	0	0	326	0
Hourly Total	67	0	708	8	0	783	5	11	0	269	10	0	290	4	1	565	577	0	0	1143	0
5:00PM	14	0	191	0	0	205	1	1	0	57	5	0	63	0	0	119	147	0	1	267	0
5:15PM	16	0	163	1	0	180	0	4	0	51	5	0	60	0	0	155	133	0	0	288	0
5:30PM	24	0	185	0	0	209	1	2	0	65	2	0	69	0	1	135	131	0	0	267	0
5:45PM	8	0	176	0	0	184	0	2	0	67	6	0	75	1	2	150	147	0	0	299	0
Hourly Total	62	0	715	1	0	778	2	9	0	240	18	0	267	1	3	559	558	0	1	1121	0
6:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
<b>Total</b>	214	0	2822	25	0	3061	9	86	10	947	70	0	1113	13	5	1972	1844	0	1	3822	2
<b>% Approach</b>	7.0%	0%	92.2%	0.8%	0%	-	-	7.7%	0.9%	85.1%	6.3%	0%	-	-	0.1%	51.6%	48.2%	0%	0%	-	-
<b>% Total</b>	2.2%	0%	28.4%	0.3%	0%	30.8%	-	0.9%	0.1%	9.5%	0.7%	0%	11.2%	-	0.1%	19.9%	18.6%	0%	0%	38.5%	-
<b>Lights</b>	201	0	2732	25	0	2958	-	83	9	919	68	0	1079	-	4	1919	1752	0	1	3676	-
<b>% Lights</b>	93.9%	0%	96.8%	100%	0%	96.6%	-	96.5%	90.0%	97.0%	97.1%	0%	96.9%	-	80.0%	97.3%	95.0%	0%	100%	96.2%	-
<b>Articulated Trucks and Single-Unit Trucks</b>	6	0	62	0	0	68	-	1	1	11	1	0	14	-	1	30	69	0	0	100	-
<b>% Articulated Trucks and Single-Unit Trucks</b>	2.8%	0%	2.2%	0%	0%	2.2%	-	1.2%	10.0%	1.2%	1.4%	0%	1.3%	-	20.0%	1.5%	3.7%	0%	0%	2.6%	-
<b>Buses</b>	7	0	28	0	0	35	-	2	0	17	1	0	20	-	0	23	23	0	0	46	-
<b>% Buses</b>	3.3%	0%	1.0%	0%	0%	1.1%	-	2.3%	0%	1.8%	1.4%	0%	1.8%	-	0%	1.2%	1.2%	0%	0%	1.2%	-
<b>Pedestrians</b>	-	-	-	-	-	-	9	-	-	-	-	-	-	11	-	-	-	-	-	-	2
<b>% Pedestrians</b>	-	-	-	-	-	-100%	-	-	-	-	-	-	-84.6%	-	-	-	-	-	-	-100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	-	0	-	-	-	-	-	-	2	-	-	-	-	-	-	0
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	0%	-	-	-	-	-	-15.4%	-	-	-	-	-	-	-	0%

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# Main St./Egypt St./Jefferson Rd./Ochard St. - TMC

Tue Oct 2, 2018

Full Length (7AM-9AM, 4PM-6PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 570388, Location: 40.132574, -75.37823



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,  
Coatesville, PA, 19320, US

Leg Direction	Main St. Southbound							Orchard Ln. Northeastbound							Int	
	L	T	BR	R	U	App	Ped*	HL	BL	BR	HR	U	App	Ped*		
2018-10-02 7:00AM	0	137	2	3	0	142	1	0	0	0	0	0	0	0	0	575
7:15AM	0	128	0	2	0	130	2	0	0	0	0	0	0	0	1	626
7:30AM	0	159	3	1	0	163	1	0	0	0	0	0	0	0	0	663
7:45AM	0	127	0	4	0	131	1	0	0	0	0	0	0	1	663	
Hourly Total	0	551	5	10	0	566	5	0	0	0	0	0	0	2	2527	
8:00AM	0	135	3	3	0	141	2	0	0	0	0	0	0	0	0	553
8:15AM	0	121	4	5	0	130	0	0	0	0	0	0	0	0	0	553
8:30AM	0	89	4	0	0	93	0	0	0	0	0	0	0	0	0	501
8:45AM	0	152	2	3	0	157	0	0	0	0	0	0	0	0	0	564
Hourly Total	0	497	13	11	0	521	2	0	0	0	0	0	0	0	0	2171
9:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:00PM	0	105	3	7	0	115	0	0	0	0	0	0	0	1	1	648
4:15PM	0	89	0	6	0	95	0	0	1	0	0	0	0	1	2	664
4:30PM	0	90	3	7	0	100	1	0	0	0	0	0	0	0	2	642
4:45PM	0	82	2	7	0	91	0	0	0	0	0	0	0	0	1	664
Hourly Total	0	366	8	27	0	401	1	0	1	0	0	0	0	1	6	2618
5:00PM	0	95	5	6	0	106	0	0	0	0	0	0	0	0	1	641
5:15PM	0	107	2	3	0	112	0	0	0	0	0	0	0	0	0	640
5:30PM	0	106	3	5	0	114	0	0	0	0	0	0	0	0	2	659
5:45PM	0	109	5	3	0	117	0	0	0	0	0	0	0	0	0	675
Hourly Total	0	417	15	17	0	449	0	0	0	0	0	0	0	0	3	2615
6:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<b>Total</b>	0	1831	41	65	0	1937	8	0	1	0	0	0	1	11		9934
<b>% Approach</b>	0%	94.5%	2.1%	3.4%	0%	-	-	0%	100%	0%	0%	0%	-	-	-	-
<b>% Total</b>	0%	18.4%	0.4%	0.7%	0%	19.5%	-	0%	0%	0%	0%	0%	0%	-	-	-
<b>Lights</b>	0	1759	41	62	0	1862	-	0	1	0	0	0	1	-	-	9576
<b>% Lights</b>	0%	96.1%	100%	95.4%	0%	96.1%	-	0%	100%	0%	0%	0%	100%	-	-	96.4%
<b>Articulated Trucks and Single-Unit Trucks</b>	0	53	0	0	0	53	-	0	0	0	0	0	0	-	-	235
<b>% Articulated Trucks and Single-Unit Trucks</b>	0%	2.9%	0%	0%	0%	2.7%	-	0%	0%	0%	0%	0%	0%	-	-	2.4%
<b>Buses</b>	0	19	0	3	0	22	-	0	0	0	0	0	0	-	-	123
<b>% Buses</b>	0%	1.0%	0%	4.6%	0%	1.1%	-	0%	0%	0%	0%	0%	0%	-	-	1.2%
<b>Pedestrians</b>	-	-	-	-	-	-	6	-	-	-	-	-	-	-	9	-
<b>% Pedestrians</b>	-	-	-	-	-	-	75.0%	-	-	-	-	-	-	-	81.8%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	25.0%	-	-	-	-	-	-	-	18.2%	-

\* Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# Main St./Egypt St./Jefferson Rd./Ochard St. - TMC

Tue Oct 2, 2018

AM Peak (7AM - 8AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 570388, Location: 40.132574, -75.37823



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,  
Coatesville, PA, 19320, US

Leg Direction	Egypt Road Eastbound							Jefferson Ave Westbound							Main St. Northbound						
Time	L	T	R	HR	U	App	Ped*	L	BL	T	R	U	App	Ped*	HL	L	T	R	U	App	Ped*
2018-10-02 7:00AM	11	0	190	3	0	<b>204</b>	1	9	0	40	2	0	<b>51</b>	0	0	101	77	0	0	<b>178</b>	0
7:15AM	11	0	232	1	0	<b>244</b>	1	10	1	66	7	0	<b>84</b>	1	0	82	86	0	0	<b>168</b>	0
7:30AM	13	0	223	1	0	<b>237</b>	0	5	2	49	5	0	<b>61</b>	1	0	100	102	0	0	<b>202</b>	0
7:45AM	9	0	221	1	0	<b>231</b>	0	11	0	69	2	0	<b>82</b>	1	1	122	96	0	0	<b>219</b>	0
<b>Total</b>	44	0	866	6	0	<b>916</b>	2	35	3	224	16	0	<b>278</b>	3	1	405	361	0	0	<b>767</b>	0
<b>% Approach</b>	4.8%	0%	94.5%	0.7%	0%	-	-	12.6%	1.1%	80.6%	5.8%	0%	-	-	0.1%	52.8%	47.1%	0%	0%	-	-
<b>% Total</b>	1.7%	0%	34.3%	0.2%	0%	<b>36.2%</b>	-	1.4%	0.1%	8.9%	0.6%	0%	<b>11.0%</b>	-	0%	16.0%	14.3%	0%	0%	<b>30.4%</b>	-
<b>PHF</b>	0.846	-	0.933	0.500	-	<b>0.939</b>	-	0.795	0.375	0.812	0.571	-	<b>0.827</b>	-	0.250	0.830	0.885	-	-	<b>0.876</b>	-
<b>Lights</b>	39	0	834	6	0	<b>879</b>	-	33	3	216	16	0	<b>268</b>	-	1	391	339	0	0	<b>731</b>	-
<b>% Lights</b>	88.6%	0%	96.3%	100%	0%	<b>96.0%</b>	-	94.3%	100%	96.4%	100%	0%	<b>96.4%</b>	-	100%	96.5%	93.9%	0%	0%	<b>95.3%</b>	-
<b>Articulated Trucks and Single-Unit Trucks</b>	3	0	25	0	0	<b>28</b>	-	0	0	3	0	0	<b>3</b>	-	0	6	14	0	0	<b>20</b>	-
<b>% Articulated Trucks and Single-Unit Trucks</b>	6.8%	0%	2.9%	0%	0%	<b>3.1%</b>	-	0%	0%	1.3%	0%	0%	<b>1.1%</b>	-	0%	1.5%	3.9%	0%	0%	<b>2.6%</b>	-
<b>Buses</b>	2	0	7	0	0	<b>9</b>	-	2	0	5	0	0	<b>7</b>	-	0	8	8	0	0	<b>16</b>	-
<b>% Buses</b>	4.5%	0%	0.8%	0%	0%	<b>1.0%</b>	-	5.7%	0%	2.2%	0%	0%	<b>2.5%</b>	-	0%	2.0%	2.2%	0%	0%	<b>2.1%</b>	-
Pedestrians	-	-	-	-	-	-	2	-	-	-	-	-	-	1	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	33.3%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	2	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	66.7%	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# Main St./Egypt St./Jefferson Rd./Ochard St. - TMC

Tue Oct 2, 2018

AM Peak (7AM - 8AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 570388, Location: 40.132574, -75.37823



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,  
Coatesville, PA, 19320, US

Leg Direction	Main St. Southbound							Orchard Ln. Northeastbound							Int	
	L	T	BR	R	U	App	Ped*	HL	BL	BR	HR	U	App	Ped*		
2018-10-02 7:00AM	0	137	2	3	0	142	1	0	0	0	0	0	0	0	0	575
7:15AM	0	128	0	2	0	130	2	0	0	0	0	0	0	0	1	626
7:30AM	0	159	3	1	0	163	1	0	0	0	0	0	0	0	0	663
7:45AM	0	127	0	4	0	131	1	0	0	0	0	0	0	0	1	663
<b>Total</b>	0	551	5	10	0	566	5	0	0	0	0	0	0	0	2	2527
<b>% Approach</b>	0%	97.3%	0.9%	1.8%	0%	-	-	0%	0%	0%	0%	0%	0%	-	-	-
<b>% Total</b>	0%	21.8%	0.2%	0.4%	0%	22.4%	-	0%	0%	0%	0%	0%	0%	0%	-	-
<b>PHF</b>	-	0.866	0.417	0.625	-	0.868	-	-	-	-	-	-	-	-	-	0.953
<b>Lights</b>	0	524	5	8	0	537	-	0	0	0	0	0	0	0	-	2415
<b>% Lights</b>	0%	95.1%	100%	80.0%	0%	94.9%	-	0%	0%	0%	0%	0%	0%	-	-	95.6%
<b>Articulated Trucks and Single-Unit Trucks</b>	0	22	0	0	0	22	-	0	0	0	0	0	0	0	-	73
<b>% Articulated Trucks and Single-Unit Trucks</b>	0%	4.0%	0%	0%	0%	3.9%	-	0%	0%	0%	0%	0%	0%	-	-	2.9%
<b>Buses</b>	0	5	0	2	0	7	-	0	0	0	0	0	0	0	-	39
<b>% Buses</b>	0%	0.9%	0%	20.0%	0%	1.2%	-	0%	0%	0%	0%	0%	0%	-	-	1.5%
Pedestrians	-	-	-	-	-	-	3	-	-	-	-	-	-	-	1	-
% Pedestrians	-	-	-	-	-	-	60.0%	-	-	-	-	-	-	-	50.0%	-
Bicycles on Crosswalk	-	-	-	-	-	-	2	-	-	-	-	-	-	-	1	-
% Bicycles on Crosswalk	-	-	-	-	-	-	40.0%	-	-	-	-	-	-	-	50.0%	-

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

**Main St./Egypt St./Jefferson Rd./Orchard St. - TMC**

Tue Oct 2, 2018

AM Peak (7AM - 8AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

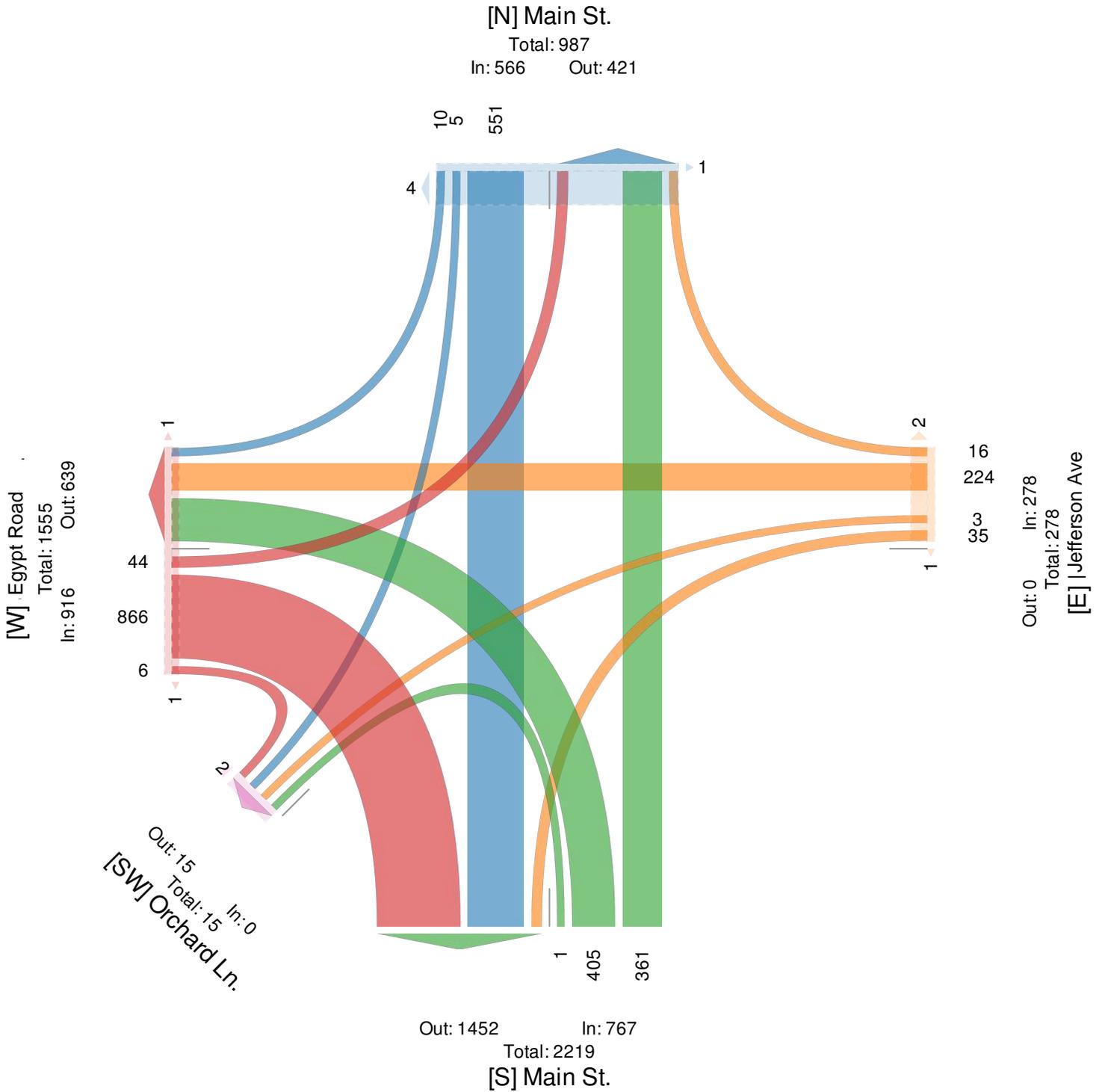
All Movements

ID: 570388, Location: 40.132574, -75.37823



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,  
Coatesville, PA, 19320, US



# Main St./Egypt St./Jefferson Rd./Ochard St. - TMC

Tue Oct 2, 2018

PM Peak (4PM - 5PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 570388, Location: 40.132574, -75.37823



Provided by: Tri-State Traffic Data, Inc.  
184 Baker Road,  
Coatesville, PA, 19320, US

Leg Direction	Egypt Road Eastbound							Jefferson Ave Westbound							Main St. Northbound						
Time	L	T	R	HR	U	App	Ped*	L	BL	T	R	U	App	Ped*	HL	L	T	R	U	App	Ped*
2018-10-02 4:00PM	15	0	179	2	0	196	0	4	0	57	1	0	62	3	0	127	148	0	0	275	0
4:15PM	14	0	185	3	0	202	2	3	0	70	2	0	75	0	1	141	149	0	0	291	0
4:30PM	19	0	192	1	0	212	2	2	0	72	5	0	79	1	0	131	120	0	0	251	0
4:45PM	19	0	152	2	0	173	1	2	0	70	2	0	74	0	0	166	160	0	0	326	0
<b>Total</b>	67	0	708	8	0	783	5	11	0	269	10	0	290	4	1	565	577	0	0	1143	0
<b>% Approach</b>	8.6%	0%	90.4%	1.0%	0%	-	-	3.8%	0%	92.8%	3.4%	0%	-	-	0.1%	49.4%	50.5%	0%	0%	-	-
<b>% Total</b>	2.6%	0%	27.0%	0.3%	0%	29.9%	-	0.4%	0%	10.3%	0.4%	0%	11.1%	-	0%	21.6%	22.0%	0%	0%	43.7%	-
<b>PHF</b>	0.882	-	0.922	0.667	-	0.923	-	0.688	-	0.934	0.500	-	0.918	-	0.250	0.851	0.902	-	-	0.877	-
<b>Lights</b>	64	0	684	8	0	756	-	11	0	265	10	0	286	-	1	551	551	0	0	1103	-
<b>% Lights</b>	95.5%	0%	96.6%	100%	0%	96.6%	-	100%	0%	98.5%	100%	0%	98.6%	-	100%	97.5%	95.5%	0%	0%	96.5%	-
<b>Articulated Trucks and Single-Unit Trucks</b>	0	0	14	0	0	14	-	0	0	1	0	0	1	-	0	11	17	0	0	28	-
<b>% Articulated Trucks and Single-Unit Trucks</b>	0%	0%	2.0%	0%	0%	1.8%	-	0%	0%	0.4%	0%	0%	0.3%	-	0%	1.9%	2.9%	0%	0%	2.4%	-
<b>Buses</b>	3	0	10	0	0	13	-	0	0	3	0	0	3	-	0	3	9	0	0	12	-
<b>% Buses</b>	4.5%	0%	1.4%	0%	0%	1.7%	-	0%	0%	1.1%	0%	0%	1.0%	-	0%	0.5%	1.6%	0%	0%	1.0%	-
<b>Pedestrians</b>	-	-	-	-	-	-	5	-	-	-	-	-	-	4	-	-	-	-	-	-	0
<b>% Pedestrians</b>	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

\* Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# Main St./Egypt St./Jefferson Rd./Ochard St. - TMC

Tue Oct 2, 2018

PM Peak (4PM - 5PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 570388, Location: 40.132574, -75.37823



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,  
Coatesville, PA, 19320, US

Leg Direction	Main St. Southbound							Orchard Ln. Northeastbound							Int
	L	T	BR	R	U	App	Ped*	HL	BL	BR	HR	U	App	Ped*	
2018-10-02 4:00PM	0	105	3	7	0	115	0	0	0	0	0	0	0	1	648
4:15PM	0	89	0	6	0	95	0	0	1	0	0	0	1	2	664
4:30PM	0	90	3	7	0	100	1	0	0	0	0	0	0	2	642
4:45PM	0	82	2	7	0	91	0	0	0	0	0	0	0	1	664
<b>Total</b>	0	366	8	27	0	401	1	0	1	0	0	0	1	6	2618
<b>% Approach</b>	0%	91.3%	2.0%	6.7%	0%	-	-	0%	100%	0%	0%	0%	-	-	-
<b>% Total</b>	0%	14.0%	0.3%	1.0%	0%	15.3%	-	0%	0%	0%	0%	0%	0%	-	-
<b>PHF</b>	-	0.871	0.667	0.964	-	0.872	-	-	0.250	-	-	-	0.250	-	0.986
<b>Lights</b>	0	348	8	27	0	383	-	0	1	0	0	0	1	-	2529
<b>% Lights</b>	0%	95.1%	100%	100%	0%	95.5%	-	0%	100%	0%	0%	0%	100%	-	96.6%
<b>Articulated Trucks and Single-Unit Trucks</b>	0	11	0	0	0	11	-	0	0	0	0	0	0	-	54
<b>% Articulated Trucks and Single-Unit Trucks</b>	0%	3.0%	0%	0%	0%	2.7%	-	0%	0%	0%	0%	0%	0%	-	2.1%
<b>Buses</b>	0	7	0	0	0	7	-	0	0	0	0	0	0	-	35
<b>% Buses</b>	0%	1.9%	0%	0%	0%	1.7%	-	0%	0%	0%	0%	0%	0%	-	1.3%
Pedestrians	-	-	-	-	-	-	1	-	-	-	-	-	-	5	-
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	83.3%	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	16.7%	-

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

**Main St./Egypt St./Jefferson Rd./Ochard St. - TMC**

Tue Oct 2, 2018

PM Peak (4PM - 5PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

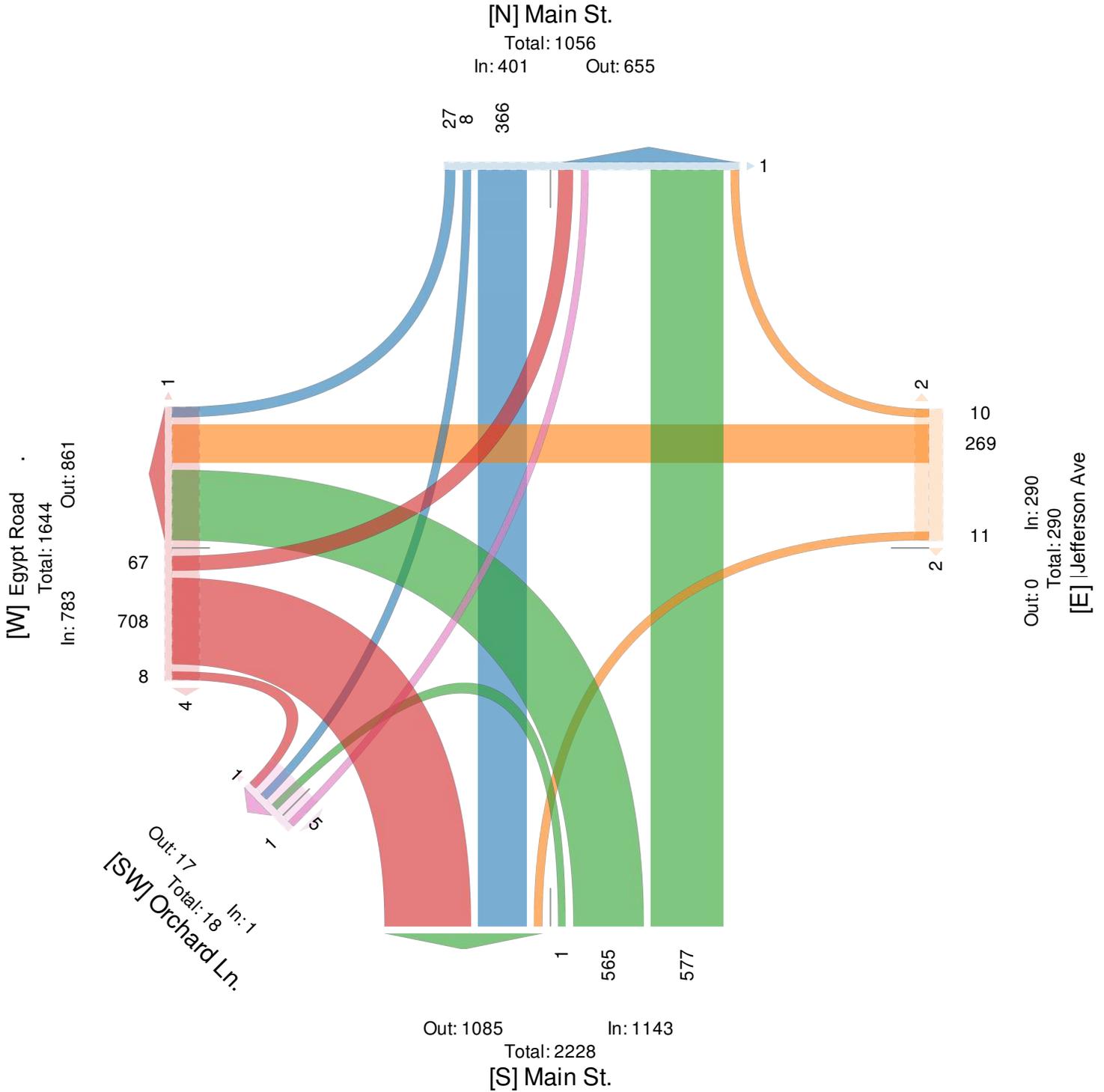
All Movements

ID: 570388, Location: 40.132574, -75.37823



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184 Baker Road,  
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Montgomery County, PA  
Main St & Liberty Ave  
Tuesday, October 2, 2018  
Location: 40.132004, -  
75.377249

Count Name: Main St./Liberty Ave.  
Site Code:  
Start Date: 10/02/2018  
Page No: 1

### Turning Movement Data

Start Time	Liberty Ave. Eastbound						Westbound Approach Westbound						Main St. Northbound						Main St. Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	165	10	0	0	175	20	316	0	0	0	336	511
7:15 AM	0	0	0	0	2	0	0	0	0	0	8	0	0	184	13	0	0	197	20	361	0	0	0	381	578
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	191	16	0	0	207	26	357	0	0	0	383	590
7:45 AM	0	0	1	0	2	1	0	0	0	0	2	0	1	231	16	0	0	248	22	339	0	0	0	361	610
Hourly Total	0	0	1	0	4	1	0	0	0	0	13	0	1	771	55	0	0	827	88	1373	0	0	0	1461	2289
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	175	24	0	0	199	53	240	0	0	0	293	492
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	215	19	0	0	234	37	204	0	0	0	241	475
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	200	22	0	0	222	31	201	0	0	0	232	454
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	204	16	0	0	220	36	254	0	0	0	290	510
Hourly Total	0	0	0	0	0	0	0	0	0	0	2	0	0	794	81	0	0	875	157	899	0	0	0	1056	1931
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	1	0	4	1	0	0	0	0	15	0	1	1565	136	0	0	1702	245	2272	0	0	0	2517	4220
Approach %	0.0	0.0	100.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.1	92.0	8.0	0.0	-	-	9.7	90.3	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	37.1	3.2	0.0	-	40.3	5.8	53.8	0.0	0.0	-	59.6	-
Lights	0	0	1	0	-	1	0	0	0	0	-	0	1	1495	131	0	-	1627	231	2173	0	0	-	2404	4032
% Lights	-	-	100.0	-	-	100.0	-	-	-	-	-	-	100.0	95.5	96.3	-	-	95.6	94.3	95.6	-	-	-	95.5	95.5
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	26	2	0	-	28	5	20	0	0	-	25	53
% Buses	-	-	0.0	-	-	0.0	-	-	-	-	-	-	0.0	1.7	1.5	-	-	1.6	2.0	0.9	-	-	-	1.0	1.3
Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	44	3	0	-	47	9	79	0	0	-	88	135
% Trucks	-	-	0.0	-	-	0.0	-	-	-	-	-	-	0.0	2.8	2.2	-	-	2.8	3.7	3.5	-	-	-	3.5	3.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	12	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	80.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-





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Montgomery County, PA  
Main St & Liberty Ave  
Tuesday, October 2, 2018  
Location: 40.132004, -  
75.377249

Count Name: Main St./Liberty Ave.  
Site Code:  
Start Date: 10/02/2018  
Page No: 3

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

Start Time	Liberty Ave. Eastbound						Westbound Approach Westbound						Main St. Northbound						Main St. Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	165	10	0	0	175	20	316	0	0	0	336	511
7:15 AM	0	0	0	0	2	0	0	0	0	0	8	0	0	184	13	0	0	197	20	361	0	0	0	381	578
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	191	16	0	0	207	26	357	0	0	0	383	590
7:45 AM	0	0	1	0	2	1	0	0	0	0	2	0	1	231	16	0	0	248	22	339	0	0	0	361	610
Total	0	0	1	0	4	1	0	0	0	0	13	0	1	771	55	0	0	827	88	1373	0	0	0	1461	2289
Approach %	0.0	0.0	100.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.1	93.2	6.7	0.0	-	-	6.0	94.0	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	33.7	2.4	0.0	-	36.1	3.8	60.0	0.0	0.0	-	63.8	-
PHF	0.000	0.000	0.250	0.000	-	0.250	0.000	0.000	0.000	0.000	-	0.000	0.250	0.834	0.859	0.000	-	0.834	0.846	0.951	0.000	0.000	-	0.954	0.938
Lights	0	0	1	0	-	1	0	0	0	0	-	0	1	735	53	0	-	789	83	1317	0	0	-	1400	2190
% Lights	-	-	100.0	-	-	100.0	-	-	-	-	-	-	100.0	95.3	96.4	-	-	95.4	94.3	95.9	-	-	-	95.8	95.7
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	15	2	0	-	17	1	14	0	0	-	15	32
% Buses	-	-	0.0	-	-	0.0	-	-	-	-	-	-	0.0	1.9	3.6	-	-	2.1	1.1	1.0	-	-	-	1.0	1.4
Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	21	0	0	-	21	4	42	0	0	-	46	67
% Trucks	-	-	0.0	-	-	0.0	-	-	-	-	-	-	0.0	2.7	0.0	-	-	2.5	4.5	3.1	-	-	-	3.1	2.9
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	23.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	10	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	76.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-





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

Montgomery County, PA  
Main St & Liberty Ave  
Tuesday, October 9, 2018  
Location: 40.132004, -  
75.377249

Count Name: Main & Liberty PM  
Site Code:  
Start Date: 10/09/2018  
Page No: 1

### Turning Movement Data

Start Time	Main St Eastbound						Main St Westbound						Driveway Northbound						Liberty Ave Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:00 PM	38	252	0	0	1	290	0	288	10	0	0	298	0	0	0	0	2	0	0	0	0	0	1	0	588
4:15 PM	27	260	0	0	0	287	0	266	6	0	0	272	0	0	0	0	0	0	0	0	0	0	1	0	559
4:30 PM	41	249	0	0	0	290	0	319	11	0	0	330	0	0	0	0	0	0	0	0	0	0	0	0	620
4:45 PM	27	263	0	0	0	290	0	299	7	0	0	306	0	0	0	0	1	0	0	0	0	0	1	0	596
Hourly Total	133	1024	0	0	1	1157	0	1172	34	0	0	1206	0	0	0	0	3	0	0	0	0	0	3	0	2363
5:00 PM	39	257	0	0	0	296	0	279	10	0	0	289	0	0	0	0	0	0	0	0	0	0	1	0	585
5:15 PM	34	263	0	0	0	297	0	257	11	0	0	268	0	0	0	0	1	0	0	0	0	0	0	0	565
5:30 PM	27	252	0	0	0	279	0	300	17	0	0	317	0	0	0	0	2	0	0	0	0	0	0	0	596
5:45 PM	33	262	0	0	1	295	0	264	12	0	0	276	0	0	0	0	0	0	0	0	0	0	0	0	571
Hourly Total	133	1034	0	0	1	1167	0	1100	50	0	0	1150	0	0	0	0	3	0	0	0	0	0	1	0	2317
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	266	2058	0	0	2	2324	0	2272	84	0	0	2356	0	0	0	0	6	0	0	0	0	0	4	0	4680
Approach %	11.4	88.6	0.0	0.0	-	-	0.0	96.4	3.6	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	5.7	44.0	0.0	0.0	-	49.7	0.0	48.5	1.8	0.0	-	50.3	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-
Lights	261	2012	0	0	-	2273	0	2217	83	0	-	2300	0	0	0	0	-	0	0	0	0	0	-	0	4573
% Lights	98.1	97.8	-	-	-	97.8	-	97.6	98.8	-	-	97.6	-	-	-	-	-	-	-	-	-	-	-	-	97.7
Buses	2	18	0	0	-	20	0	12	0	0	-	12	0	0	0	0	-	0	0	0	0	0	-	0	32
% Buses	0.8	0.9	-	-	-	0.9	-	0.5	0.0	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	0.7
Trucks	3	28	0	0	-	31	0	43	1	0	-	44	0	0	0	0	-	0	0	0	0	0	-	0	75
% Trucks	1.1	1.4	-	-	-	1.3	-	1.9	1.2	-	-	1.9	-	-	-	-	-	-	-	-	-	-	-	-	1.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	16.7	-	-	-	-	-	25.0	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	0	-	-	-	-	-	-	5	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	83.3	-	-	-	-	-	75.0	-	-





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Tuesday, October 9, 2018  
Location: 40.132004, -  
75.377249

Count Name: Main & Liberty PM  
Site Code:  
Start Date: 10/09/2018  
Page No: 3

### Turning Movement Peak Hour Data (4:30 PM)

Start Time	Main St Eastbound						Main St Westbound						Driveway Northbound						Liberty Ave Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:30 PM	41	249	0	0	0	290	0	319	11	0	0	330	0	0	0	0	0	0	0	0	0	0	0	0	620
4:45 PM	27	263	0	0	0	290	0	299	7	0	0	306	0	0	0	0	1	0	0	0	0	0	1	0	596
5:00 PM	39	257	0	0	0	296	0	279	10	0	0	289	0	0	0	0	0	0	0	0	0	0	1	0	585
5:15 PM	34	263	0	0	0	297	0	257	11	0	0	268	0	0	0	0	1	0	0	0	0	0	0	0	565
Total	141	1032	0	0	0	1173	0	1154	39	0	0	1193	0	0	0	0	2	0	0	0	0	0	2	0	2366
Approach %	12.0	88.0	0.0	0.0	-	-	0.0	96.7	3.3	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	6.0	43.6	0.0	0.0	-	49.6	0.0	48.8	1.6	0.0	-	50.4	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.860	0.981	0.000	0.000	-	0.987	0.000	0.904	0.886	0.000	-	0.904	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	0.000	0.954
Lights	140	1009	0	0	-	1149	0	1137	38	0	-	1175	0	0	0	0	-	0	0	0	0	0	-	0	2324
% Lights	99.3	97.8	-	-	-	98.0	-	98.5	97.4	-	-	98.5	-	-	-	-	-	-	-	-	-	-	-	-	98.2
Buses	0	7	0	0	-	7	0	5	0	0	-	5	0	0	0	0	-	0	0	0	0	0	-	0	12
% Buses	0.0	0.7	-	-	-	0.6	-	0.4	0.0	-	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	0.5
Trucks	1	16	0	0	-	17	0	12	1	0	-	13	0	0	0	0	-	0	0	0	0	0	-	0	30
% Trucks	0.7	1.6	-	-	-	1.4	-	1.0	2.6	-	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-	1.3
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	50.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	50.0	-	-

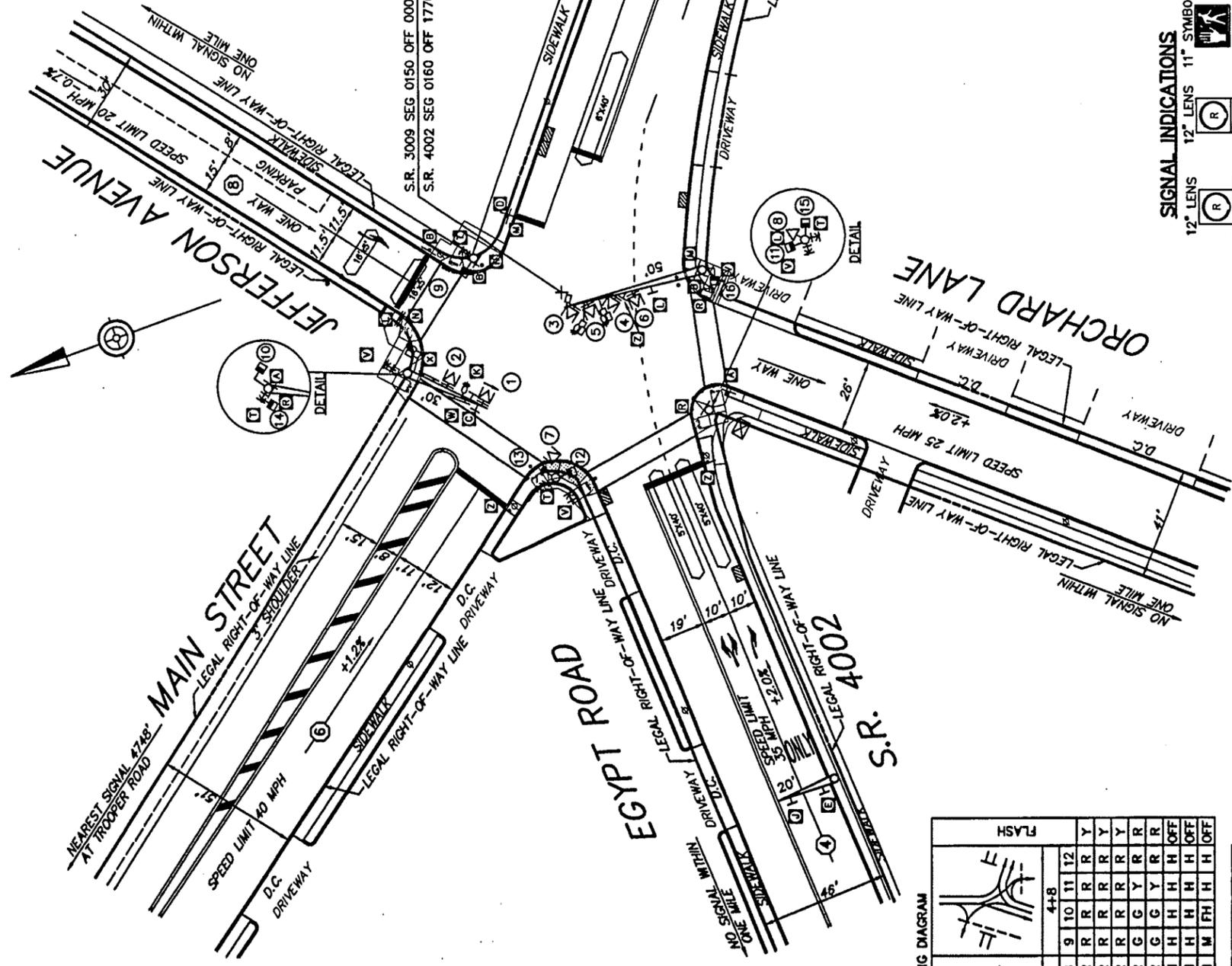




ALBERT FEDERICO CONSULTING, LLC

## **ATTACHMENT D – CAPACITY ANALYSES**

PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
1	R6-1L	36X12	HORIZONTAL LEFT ONE WAY
2	R6-1R	36X12	HORIZONTAL RIGHT ONE WAY
3	R3-2	30X30	NO LEFT TURN
4	R3-1	24X24	NO RIGHT TURN
5	R3-5R	30X36	RIGHT TURN
6	R3-5L	30X36	LEFT TURN
7	R3-5A	30X36	STRAIGHT THROUGH
8	R3-6-2	30X36	OPTIONAL LEFT OR RIGHT TURN
9	R10-12	30X36	LEFT TURN YIELD ON GREEN
10	R10-11	30X36	NO TURN ON RED
11	R9-1	30X30	DO NOT ENTER
12	R9-3	18X18	NO PEDESTRIAN CROSSING
13	D3-4	6DX16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
14	R10-3B(R)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
15	R10-3B(L)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
16	D3-4	96X32	OVERHEAD STREET NAME SIGN (SEE DETAIL)
17	D3-4	96X32	OVERHEAD STREET NAME SIGN (SEE DETAIL)
18	R10-11	24X30	NO TURN ON RED SYMBOL



**OPERATION NOTES:**

- 1 G/-+ F FOLLOWED BY 2+6
- 2 G F FOLLOWED BY 2+6
- 3 TIMING TO BE AS SHOWN IN PHASE 2+6. IT MAY TIME OUT IN THIS PHASE OR IN PHASE 2+6.
- 4 M F FOLLOWED BY 2+6

• SIGNAL TO DWELL IN PHASE 2+6 UNTIL ACTUATED BY PHASE 4+8.

**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 PERMITEE.

ALL SIGNS AND PAYMENT 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 PERMITEE.

CURBS TO BE INSTALLED BY MUNICIPALITY AND, WHERE NOTED, SHALL BE PLAIN GRAY CONCRETE CURB OR GRANITE CURB. INSTALL 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 PERMITEE 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 FDM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT, FOR REVIEW, PRIOR TO BIDDING.

PERMITEE 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 #1-0126

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION  
ENGINEERING DISTRICT 6-0

COUNTY: MONTGOMERY

MUNICIPALITY: WEST NORRITON TOWNSHIP

INTERSECTION: MAIN STREET (S.R. 3009), EGYPT ROAD (S.R. 4002), JEFFERSON AVE./ORCHARD LN

REVIEWED: \_\_\_\_\_ DATE \_\_\_\_\_

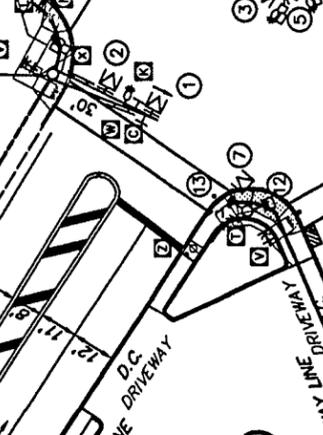
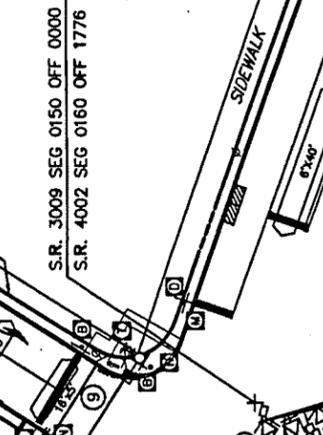
MUNICIPAL OFFICIAL: \_\_\_\_\_ DATE \_\_\_\_\_

RECOMMENDED: \_\_\_\_\_ DATE \_\_\_\_\_

ED WOODS  
DISTRICT TRAFFIC ENGINEER  
1/22/73

NO.	REVISION	REV. DATE	REVISION	DATE	REVISION	DATE	
1	REVISED TIMING	6/23/86	MLK	4/19/89	DWM	4/28/89	
2	NEW DRAWING	6/4/07	BPP	6/13/07	LRB	6/29/07	
3	ADD SYSTEM NOTES			DLA	3/1/10	ABP	3/18/10
4	UPDATE COUNT BLOCK, PED TIMES	JLH	10/5/11	DLA	10/20/11	ABP	11/1/11
5	ADD ADA RAMPS, REVISE TIMING	AEG	11/23/16	DLA	2/1/17	MLK	2/16/17
6							
7							
8							

SHEET 2 OF 3 PERMIT # 64-0662 FILE # 0662



**NOTE:**

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

REFER TO SYSTEM PERMIT #1-0126 FOR PROGRAM TIMINGS AND WEEKLY PROGRAM CHART.

**GENERAL NOTES**

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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 NOTES:**

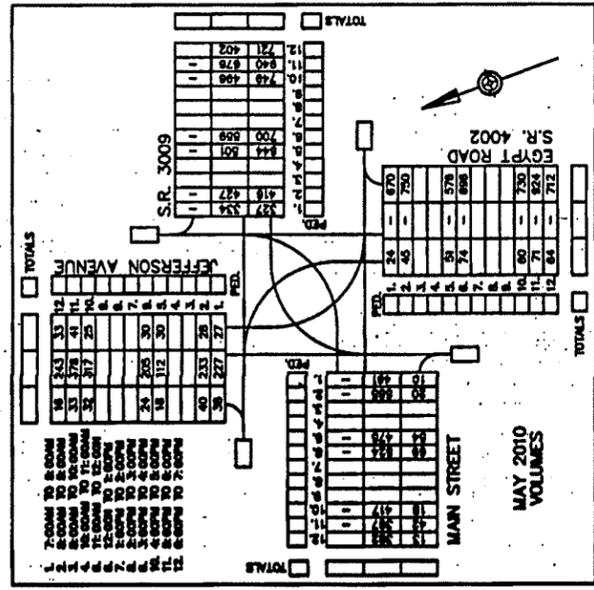
- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND APPROACH OF EGYPT ROAD & SOUTHBOUND APPROACH OF JEFFERSON AVENUE AND THE EASTBOUND & WESTBOUND APPROACHES OF MAIN STREET WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS EMERGENCY BEACON SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH.
- THE SIGNALS, WHEN ACTIVATED BY 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 ACTIVATED BY PEDESTRIAN PUSH BUTTON AND THE SIGNAL IS PRE-EMPTED, THE PEDESTRIAN TIME SHALL BE SPLIT BETWEEN "PED MAN" AND "PED HAND". THE "PED MAN" INTERVAL SHALL TERMINATE IMMEDIATELY FOLLOWED BY THE "PED 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.

**EMERGENCY PRE-EMPTION PHASING MOVEMENT, SEQUENCE AND TIMING DIAGRAM**

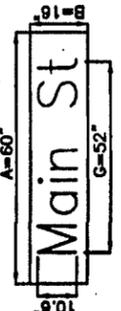
PHASE	2	4	6	8
1	13 14 15	16 17 18	19 20 21	22 23 24
2	G Y R R R	R R R R R	R R R R R	R R R R R
3,4	R R R R R	R R R R R	G Y R R R	R R R R R
5,6	R R R R R	G Y R R R	R R R R R	R R R R R
7,8	R R R R R	R R R R R	R R R R R	G Y R R R
9,10	H H H H H	H H H H H	H H H H H	H H H H H
11,12	H H H H H	H H H H H	H H H H H	H H H H H
13,14,15,16	H H H H H	H H H H H	H H H H H	H H H H H
FIXED	** 4 2	** 3 3	** 4 2	** 3 3

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.

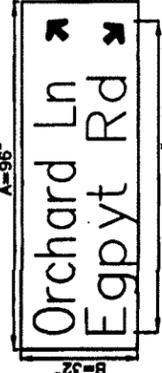
Ⓞ G\* WHEN RETURNING TO NORMAL OPERATION  
Ⓞ G WHEN RETURNING TO NORMAL OPERATION



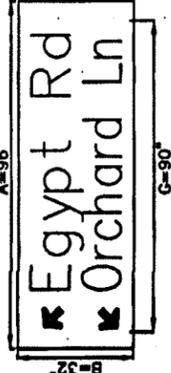
**SIGN DETAILS**  
NOT TO SCALE



SIGN B  
FONT: HELVETICA BOLD  
10.6" UPPER CASE  
8" LOWER CASE



SIGN W  
4% REDUCTION  
FONT: CLEARVIEW ONE CD-45  
10.6" UPPER CASE  
8" LOWER CASE



SIGN X  
4% REDUCTION  
FONT: CLEARVIEW ONE CD-45  
10.6" UPPER CASE  
8" LOWER CASE

**SYSTEM PERMIT #1-0126**

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION  
ENGINEERING DISTRICT 6-0

COUNTY: MONTGOMERY  
MUNICIPALITY: WEST NORRITON TOWNSHIP  
INTERSECTION: MAIN STREET (S.R. 3009), EGYPT ROAD (S.R. 4002), JEFFERSON AVE/ORCHARD LN

REVIEWED: \_\_\_\_\_ DATE \_\_\_\_\_  
MUNICIPAL OFFICIAL: \_\_\_\_\_ DATE \_\_\_\_\_  
RECOMMENDED: \_\_\_\_\_ DATE \_\_\_\_\_

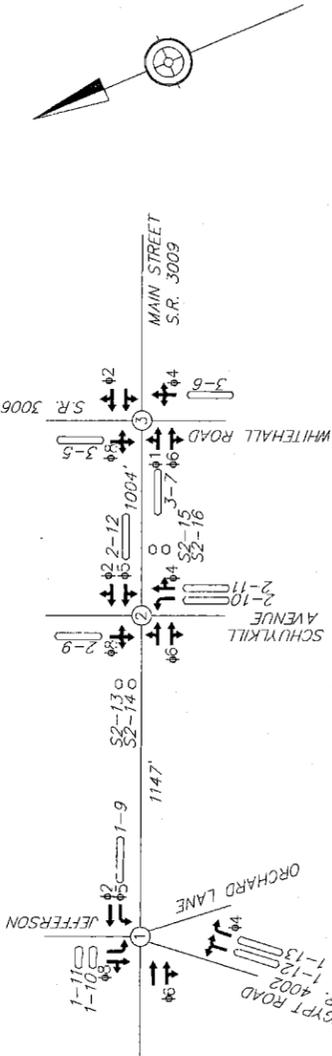
ED WOODS  
DISTRICT TRAFFIC ENGINEER  
1/22/73

NO.	REVISION	DES/REV	DATE	DATE	RECD.	DATE
1	REVISED TIMING	PAI	6/23/68	MK	4/19/69	OWM 4/26/69
2	NEW DRAWING	BPP	6/4/07	MLK	6/11/07	LRB 6/29/07
3	ADD SYSTEM NOTES			DLA	3/7/10	ABP 3/18/10
4	UPDATE COUNT BLOCK, PED TIMES	J.H	10/2/11	DLA	10/20/11	ABP 11/7/11
5	ADD ADA RAMPS, REVISE TIMING	AEG	11/23/16	DLA	1/5/17	4/24/17/JT
6						
7						
8						

# TRAFFIC SIGNAL SYSTEM PERMIT PLAN

## SYSTEM NOTES

- PROGRAM TO BE SELECTED BY CLOSED LOOP SYSTEM (TIME OF DAY) OR TBC BACKUP.
- OFFSETS ARE REFERENCED TO THE BEGINNING OF NEMA TS2 FIRST GREEN.
- SYSTEM LIMITS : RIDGE PIKE/MAIN STREET (3 INTERSECTIONS) FROM EGYPT ROAD TO WHITEHALL ROAD.  
MASTER: LOWER PROVIDENCE TOWNSHIP BUILDING  
PRIMARY COORDINATION: FIBER OPTIC CABLE.  
SECONDARY COORDINATION: TBC (DEFAULT TO BACKUP TBC).
- PHONE DROP AND WORKSTATION LOCATED AT LOWER PROVIDENCE TOWNSHIP BUILDING. PENNDOT AND LOWER PROVIDENCE TOWNSHIP TO HAVE ACCESS TO SYSTEM.



## LEGEND

- SYSTEM DETECTOR, INTERSECTION X - LOOP NO. Y
- DETECTOR, INTERSECTION X - LOOP NO. Y
- PHASE

SCALE: NOT TO SCALE

### CYCLE/SPLIT/OFFSET

Program	Intersections	File #	1	2	3	4	5	6	7	8	Cycle	Offset
Program 1 =	1 MAIN ST & EGYPT RD/JEFFERSON AVE/ORCHARD LN	0662	57	63	23	34 (LEAD)	8	120	77			
	2 MAIN ST & SCHUYLKILL	0842	95	25	82	13 (LEAD)	25	120	21			
	3 MAIN ST & WHITEHALL RD	0111	73	34	86		34	120	27			
	4											
	5											
	6											
Program 2 =	1 MAIN ST & EGYPT RD/JEFFERSON AVE/ORCHARD LN	0662	74	46	29	45 (LEAD)	7	120	0			
	2 MAIN ST & SCHUYLKILL	0842	99	21	85	14 (LEAD)	21	120	67			
	3 MAIN ST & WHITEHALL RD	0111	67	40	80		40	120	80			
	4											
	5											
	6											
Program 3 =	1 MAIN ST & EGYPT RD/JEFFERSON AVE/ORCHARD LN	0662	67	53	23	44 (LEAD)	7	120	0			
	2 MAIN ST & SCHUYLKILL	0842	94	26	81	13 (LEAD)	23	120	23			
	3 MAIN ST & WHITEHALL RD	0111	69	38	82		38	120	38			
	4											
	5											
	6											
Program 10 =	1 MAIN ST & EGYPT RD/JEFFERSON AVE/ORCHARD LN	0662	98	52	70	28 (LEAD)	6	150	73			
	2 MAIN ST & SCHUYLKILL	0842	117	33	117	OMIT LEAD	33	150	88			
	3 MAIN ST & WHITEHALL RD	0111	89	46	104		46	150	106			
	4											
	5											
	6											
Program 20 =	1 MAIN ST & EGYPT RD/JEFFERSON AVE/ORCHARD LN	0662	91	59	64	27 (LEAD)	6	150	69			
	2 MAIN ST & SCHUYLKILL	0842	103	47	90	13 (LEAD)	47	150	38			
	3 MAIN ST & WHITEHALL RD	0111	112	38	112		38	150	20			
	4											
	5											
	6											
Program 30 =	1 MAIN ST & EGYPT RD/JEFFERSON AVE/ORCHARD LN	0662	2	4	6	5	7	8				
	2 MAIN ST & SCHUYLKILL	0842	103	47	90	13 (LEAD)	47	150	38			
	3 MAIN ST & WHITEHALL RD	0111	112	38	112		38	150	20			
	4											
	5											
	6											

#### WEEKLY PROGRAM CHART

EVENT	DAY	TIME	CYCLE	OFFSET	PROGRAM	REMARKS
1	1-7	00:00	-	-	FREE	
2	1-5	06:00	VARIES	VARIES	1	AM PEAK
3	1-5	10:00	VARIES	VARIES	2	OFF PEAK
4	1-5	15:00	VARIES	VARIES	3	PM PEAK
5	1-5	18:00	VARIES	VARIES	2	OFF PEAK
6	6,7	08:00	VARIES	VARIES	2	OFF PEAK
7	1-7	20:00	-	-	MAX. 1	FREE

MONDAY = DAY 1  
OFFSET REFERENCED TO START OF NEMA TS2 FIRST GREEN

NOTES:

- ALL SPLIT TIMES INCLUDE YELLOW AND RED TIMES FOR A GIVEN PHASE.
- REFER TO SIGNAL PERMIT PLAN FOR MAX 1, MAX 2, CLEARANCE AND PED TIMES.

#### INCIDENT PROGRAM CHART

EVENT	CYCLE	PROGRAM	REMARKS
1	150	10	EASTBOUND DETOUR PLAN
2	150	20	WESTBOUND DETOUR PLAN
3	-	30	NOT CURRENTLY IN USE
4			
5			
6			
7			

OFFSET IN SECONDS  
OFFSET REFERENCED TO START OF NEMA TS2 FIRST GREEN

NOTES:

- ALL SPLIT TIMES INCLUDE YELLOW AND RED TIMES FOR A GIVEN PHASE.

## GENERAL NOTES

- NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.
- REFER TO TRAFFIC SIGNAL PERMIT DRAWING FOR INDIVIDUAL INTERSECTION OPERATION, GEOMETRY, PHASING AND CRITICAL TIMES.
- FOR CONSTRUCTION AND INSPECTION THE SYSTEM PERMIT SHOULD ALWAYS BE ACCOMPANIED WITH TRAFFIC SIGNAL PERMIT DRAWING.
- TEST THE SYSTEM AT LOCAL INTERSECTION LEVEL, SUBSYSTEM LEVEL MASTER CONTROLLER LEVEL AND PERSONAL COMPUTER REMOTE DIAL UP LEVEL.
- GATHER THE SYSTEM FAILURE CRITICAL ALARMS REPORT AND ARCHIVE THEM WHERE APPLICABLE.
- SET UP PENNDOT DISTRICT 6-0 COMPUTER WITH THE SYSTEM DATABASE AND GRAPHICS. MODIFY THE DATABASE AND GRAPHICS FOR SYSTEMS REVISIONS.
- ASSIGN LOOP DETECTORS AND PROGRAM THE CONTROLLERS TO GATHER TRAFFIC VOLUMES IN 15 MINUTE INTERVAL, WHERE APPLICABLE.
- EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.
- OBTAIN POLE ATTACHMENT PERMIT FOR AERIAL FIBER OPTIC INSTALLATION.
- MAINTAIN MASTER CONTROLLER COMMUNICATION SUCH AS PHONE DROPS.
- 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 HIGH-WAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REQUIRING 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.

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION  
ENGINEERING DISTRICT 6-0

COUNTY: MONTGOMERY

MUNICIPALITY: LOWER PROVIDENCE & WEST NORRITON

INTERSECTION: MAIN STREET/RIDGE PIKE (SR 3009/4031) FROM WHITEHALL ROAD (SR 3006) TO EAGLEVILLE ROAD

REVISED: \_\_\_\_\_ DATE \_\_\_\_\_

MUNICIPAL OFFICIAL: \_\_\_\_\_ DATE \_\_\_\_\_

RECOMMENDED: \_\_\_\_\_ DATE \_\_\_\_\_

LOUIS R. BELMONTI, P.E. 10/17/06  
DISTRICT TRAFFIC ENGINEER

NO.	REVISION	DATE	REV.	DATE	RECORD	DATE
1	REMOVE & ADD SH LANE	9/4/07	SM	9/6/07	ABP	9/7/07
2	ADDITION OF EMERGENCY	MGM	DLA	4/28/08	LRB	4/29/08
3	REMOVE SPLIT PHASE FOR #4 INT. 2, SH 1	TPD	DLA	3/27/08	ABP	4/7/08
4	ADD EB RT LANE INT 4, SH 2	MGM	DLA	8/7/08	ABP	8/13/08
5	AS BUILT DRAWING	MGM	DLA	8/13/08	ABP	9/7/08
6	REVISED TIMINGS	JLH	DLA	9/26/11	DLA	10/20/11
7	ADD NS RT TO INT. 4	TPD	DLA	12/19/13	ABP	12/19/13
8	REVISE PROGRAM 3, SH 4 TIME	KPL	DLA	8/24/15	ABP	9/4/15
9	REVISE MODEL AND PROGRAM FOR WHITEHALL OFFSET	TPD	DLA	10/11/16	ABP	10/11/16

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

Lane Group	EBT	EBR	EBR2	WBL2	WBL	WBT	SBL	SBT	SBR	SBR2	NEL2	NEL
Lane Configurations												
Traffic Volume (vph)	551	5	10	1	405	361	35	3	224	16	44	0
Future Volume (vph)	551	5	10	1	405	361	35	3	224	16	44	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	12	12	12	11	11	12	11	11	12	12	10
Grade (%)	1%					-1%		-1%				2%
Storage Length (ft)		135			0		50		0			0
Storage Lanes		1			1		1		1			1
Taper Length (ft)					25		25					25
Satd. Flow (prot)	3120	0	0	0	1582	1665	0	1623	1443	0	0	1376
Flt Permitted					0.000			0.321				0.945
Satd. Flow (perm)	3120	0	0	0	0	1665	0	543	1404	0	0	1307
Right Turn on Red			No							No		
Satd. Flow (RTOR)												
Link Speed (mph)	40					40		25				35
Link Distance (ft)	287					354		248				352
Travel Time (s)	4.9					6.0		6.8				6.9
Confl. Peds. (#/hr)							8			2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	3%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	596	0	0	0	427	380	0	40	253	0	0	475
Turn Type	NA			Perm	pm+pt	NA	Perm	NA	Perm		Perm	Perm
Protected Phases	6!				2!	5		8!				
Permitted Phases				5	5		8		8		4	4!
Detector Phase	6			5	2	5	8	8	8		4	4
Switch Phase												
Minimum Initial (s)	3.0			5.0	5.0	5.0	40.0	40.0	40.0		5.0	5.0
Minimum Split (s)	11.0			11.0	24.0	11.0	46.0	46.0	46.0		24.0	24.0
Total Split (s)	23.0			34.0	57.0	34.0	63.0	63.0	63.0		63.0	63.0
Total Split (%)	19.2%			28.3%	47.5%	28.3%	52.5%	52.5%	52.5%		52.5%	52.5%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0			2.0	2.0	2.0	3.0	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	-1.0				-1.0	-1.0		-1.0	-1.0			-1.0
Total Lost Time (s)	5.0				5.0	5.0		5.0	5.0			5.0
Lead/Lag	Lag			Lead		Lead						
Lead-Lag Optimize?	Yes			Yes		Yes						
Recall Mode	Min			None	Min	None	None	None	None		None	None
Act Effct Green (s)	18.1				51.5	28.3		49.2	49.2			49.2
Actuated g/C Ratio	0.16				0.47	0.26		0.44	0.44			0.44
v/c Ratio	1.17				0.58	0.89		0.17	0.41			0.82
Control Delay	136.9				27.1	65.4		20.1	22.9			39.7
Queue Delay	0.0				0.0	0.0		0.0	0.0			0.0
Total Delay	136.9				27.1	65.4		20.1	22.9			39.7
LOS	F				C	E		C	C			D
Approach Delay	136.9					45.1		22.5				41.5
Approach LOS	F					D		C				D
90th %ile Green (s)	17.0			28.0	51.0	28.0	57.0	57.0	57.0		57.0	57.0
90th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Max	Max

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



Lane Group	NER	NER2
Lane Configurations		
Traffic Volume (vph)	866	6
Future Volume (vph)	866	6
Ideal Flow (vphpl)	1800	1800
Lane Width (ft)	10	12
Grade (%)		
Storage Length (ft)	0	
Storage Lanes	1	
Taper Length (ft)		
Satd. Flow (prot)	1291	0
Flt Permitted		
Satd. Flow (perm)	1291	0
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor	0.95	0.95
Heavy Vehicles (%)	4%	4%
Shared Lane Traffic (%)	47%	
Lane Group Flow (vph)	489	0
Turn Type	Perm	
Protected Phases		
Permitted Phases	4!	
Detector Phase	4	
Switch Phase		
Minimum Initial (s)	5.0	
Minimum Split (s)	24.0	
Total Split (s)	63.0	
Total Split (%)	52.5%	
Yellow Time (s)	3.0	
All-Red Time (s)	3.0	
Lost Time Adjust (s)	-1.0	
Total Lost Time (s)	5.0	
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	
Act Effct Green (s)	49.2	
Actuated g/C Ratio	0.44	
v/c Ratio	0.85	
Control Delay	43.2	
Queue Delay	0.0	
Total Delay	43.2	
LOS	D	
Approach Delay		
Approach LOS		
90th %ile Green (s)	57.0	
90th %ile Term Code	Max	

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

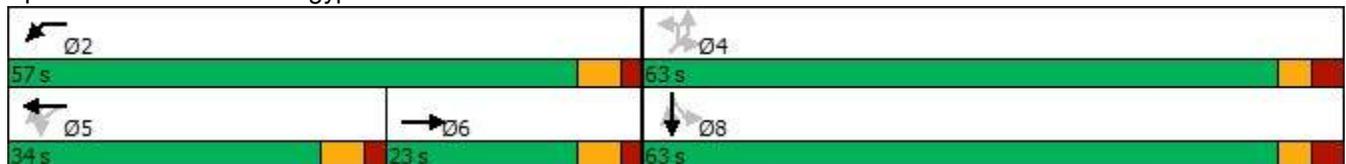


Lane Group	EBT	EBR	EBR2	WBL2	WBL	WBT	SBL	SBT	SBR	SBR2	NEL2	NEL
70th %ile Green (s)	17.0			28.0	51.0	28.0	57.0	57.0	57.0		57.0	57.0
70th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Max	Max
50th %ile Green (s)	17.0			28.0	51.0	28.0	48.3	48.3	48.3		48.3	48.3
50th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Gap	Gap
30th %ile Green (s)	17.0			28.0	51.0	28.0	40.0	40.0	40.0		40.0	40.0
30th %ile Term Code	Max			Max	Hold	Max	Min	Min	Min		Hold	Hold
10th %ile Green (s)	17.0			24.1	47.1	24.1	40.0	40.0	40.0		40.0	40.0
10th %ile Term Code	Max			Gap	Hold	Gap	Min	Min	Min		Hold	Hold
Queue Length 50th (ft)	~269				217	261		17	120			290
Queue Length 95th (ft)	#424				365	#482		40	186			437
Internal Link Dist (ft)	207					274		168				272
Turn Bay Length (ft)												
Base Capacity (vph)	510				747	438		286	740			688
Starvation Cap Reductn	0				0	0		0	0			0
Spillback Cap Reductn	0				0	0		0	0			0
Storage Cap Reductn	0				0	0		0	0			0
Reduced v/c Ratio	1.17				0.57	0.87		0.14	0.34			0.69

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	110.7
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.17
Intersection Signal Delay:	61.9
Intersection LOS:	E
Intersection Capacity Utilization:	128.3%
ICU Level of Service:	H
Analysis Period (min):	15
90th %ile Actuated Cycle:	120
70th %ile Actuated Cycle:	120
50th %ile Actuated Cycle:	111.3
30th %ile Actuated Cycle:	103
10th %ile Actuated Cycle:	99.1
~	Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
!	Phase conflict between lane groups.

Splits and Phases: 3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

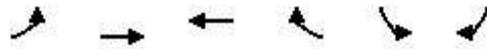
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Lane Group	NER	NER2
70th %ile Green (s)	57.0	
70th %ile Term Code	Max	
50th %ile Green (s)	48.3	
50th %ile Term Code	Gap	
30th %ile Green (s)	40.0	
30th %ile Term Code	Hold	
10th %ile Green (s)	40.0	
10th %ile Term Code	Hold	
Queue Length 50th (ft)	323	
Queue Length 95th (ft)	487	
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)	680	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.72	
<b>Intersection Summary</b>		

Lanes, Volumes, Timings  
6: Main Street & Liberty Avenue

Prestige Worldwide - Existing AM.syn



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			
Traffic Volume (vph)	88	1373	771	55	0	0
Future Volume (vph)	88	1373	771	55	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Satd. Flow (prot)	0	3279	3225	0	0	0
Flt Permitted		0.997				
Satd. Flow (perm)	0	3279	3225	0	0	0
Link Speed (mph)		25	30		30	
Link Distance (ft)		354	313		221	
Travel Time (s)		9.7	7.1		5.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1555	879	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	73.8%
ICU Level of Service	D
Analysis Period (min)	15

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



Lane Group	EBT	EBR	EBR2	WBL2	WBL	WBT	SBL	SBT	SBR	SBR2	NEL2	NEL
Lane Configurations	↑↑				↓	↑		↓	↓			↑
Traffic Volume (vph)	366	8	27	1	565	577	11	0	269	10	67	0
Future Volume (vph)	366	8	27	1	565	577	11	0	269	10	67	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	12	12	12	11	11	12	11	11	12	12	10
Grade (%)	1%					-1%		-1%				2%
Storage Length (ft)		135			0		50		0			0
Storage Lanes		1			1		1		1			1
Taper Length (ft)					25		25					25
Satd. Flow (prot)	3122	0	0	0	1613	1698	0	1645	1472	0	0	1403
Flt Permitted					0.000			0.355				0.824
Satd. Flow (perm)	3122	0	0	0	0	1698	0	611	1432	0	0	1167
Right Turn on Red			No							No		
Satd. Flow (RTOR)												
Link Speed (mph)	40					40		25				35
Link Distance (ft)	287					354		248				352
Travel Time (s)	4.9					6.0		6.8				6.9
Confl. Peds. (#/hr)							8			2		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	1%	1%	1%	1%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	413	0	0	0	583	595	0	11	287	0	0	390
Turn Type	NA			Perm	pm+pt	NA	Perm	NA	Perm		Perm	Perm
Protected Phases	6!				2!	5		8!				
Permitted Phases				5	5		8		8		4	4!
Detector Phase	6			5	2	5	8	8	8		4	4
Switch Phase												
Minimum Initial (s)	3.0			5.0	5.0	5.0	40.0	40.0	40.0		5.0	5.0
Minimum Split (s)	11.0			11.0	24.0	11.0	46.0	46.0	46.0		24.0	24.0
Total Split (s)	23.0			44.0	67.0	44.0	53.0	53.0	53.0		53.0	53.0
Total Split (%)	19.2%			36.7%	55.8%	36.7%	44.2%	44.2%	44.2%		44.2%	44.2%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0			2.0	2.0	2.0	3.0	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	-1.0				-1.0	-1.0		-1.0	-1.0			-1.0
Total Lost Time (s)	5.0				5.0	5.0		5.0	5.0			5.0
Lead/Lag	Lag			Lead		Lead						
Lead-Lag Optimize?	Yes			Yes		Yes						
Recall Mode	Min			None	Min	None	None	None	None		None	None
Act Effct Green (s)	17.8				61.9	39.0		44.9	44.9			44.9
Actuated g/C Ratio	0.15				0.53	0.33		0.38	0.38			0.38
v/c Ratio	0.87				0.68	1.05		0.05	0.52			0.87
Control Delay	67.8				25.9	90.0		23.0	31.6			54.4
Queue Delay	0.0				0.0	0.0		0.0	0.0			0.0
Total Delay	67.8				25.9	90.0		23.0	31.6			54.4
LOS	E				C	F		C	C			D
Approach Delay	67.8					58.3		31.3				51.3
Approach LOS	E					E		C				D
90th %ile Green (s)	17.0			38.0	61.0	38.0	47.0	47.0	47.0		47.0	47.0
90th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Max	Max

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



Lane Group	NER	NER2
Lane Configurations		
Traffic Volume (vph)	708	8
Future Volume (vph)	708	8
Ideal Flow (vphpl)	1800	1800
Lane Width (ft)	10	12
Grade (%)		
Storage Length (ft)	0	
Storage Lanes	1	
Taper Length (ft)		
Satd. Flow (prot)	1304	0
Flt Permitted		
Satd. Flow (perm)	1304	0
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	3%	3%
Shared Lane Traffic (%)	44%	
Lane Group Flow (vph)	417	0
Turn Type	Perm	
Protected Phases		
Permitted Phases	4!	
Detector Phase	4	
Switch Phase		
Minimum Initial (s)	5.0	
Minimum Split (s)	24.0	
Total Split (s)	53.0	
Total Split (%)	44.2%	
Yellow Time (s)	3.0	
All-Red Time (s)	3.0	
Lost Time Adjust (s)	-1.0	
Total Lost Time (s)	5.0	
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	
Act Effct Green (s)	44.9	
Actuated g/C Ratio	0.38	
v/c Ratio	0.83	
Control Delay	48.4	
Queue Delay	0.0	
Total Delay	48.4	
LOS	D	
Approach Delay		
Approach LOS		
90th %ile Green (s)	47.0	
90th %ile Term Code	Max	

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

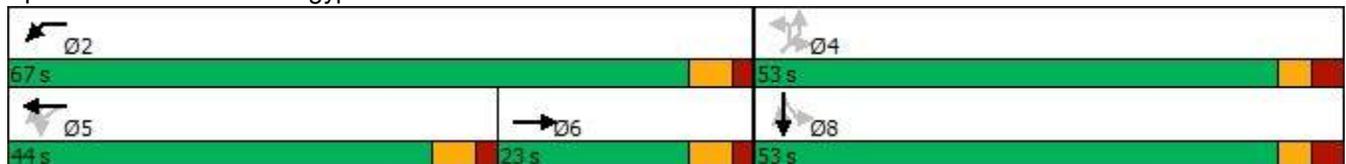


Lane Group	EBT	EBR	EBR2	WBL2	WBL	WBT	SBL	SBT	SBR	SBR2	NEL2	NEL
70th %ile Green (s)	17.0			38.0	61.0	38.0	47.0	47.0	47.0		47.0	47.0
70th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Max	Max
50th %ile Green (s)	17.0			38.0	61.0	38.0	45.7	45.7	45.7		45.7	45.7
50th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Gap	Gap
30th %ile Green (s)	17.0			38.0	61.0	38.0	40.0	40.0	40.0		40.0	40.0
30th %ile Term Code	Max			Max	Hold	Max	Min	Min	Min		Hold	Hold
10th %ile Green (s)	16.1			38.0	60.1	38.0	40.0	40.0	40.0		40.0	40.0
10th %ile Term Code	Gap			Max	Hold	Max	Min	Min	Min		Hold	Hold
Queue Length 50th (ft)	164				322	~504		5	165			269
Queue Length 95th (ft)	#256				471	#738		18	251			#447
Internal Link Dist (ft)	207					274		168				272
Turn Bay Length (ft)												
Base Capacity (vph)	481				857	567		251	589			479
Starvation Cap Reductn	0				0	0		0	0			0
Spillback Cap Reductn	0				0	0		0	0			0
Storage Cap Reductn	0				0	0		0	0			0
Reduced v/c Ratio	0.86				0.68	1.05		0.04	0.49			0.81

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	116.8
Natural Cycle:	100
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.05
Intersection Signal Delay:	54.7
Intersection LOS:	D
Intersection Capacity Utilization:	126.2%
ICU Level of Service:	H
Analysis Period (min):	15
90th %ile Actuated Cycle:	120
70th %ile Actuated Cycle:	120
50th %ile Actuated Cycle:	118.7
30th %ile Actuated Cycle:	113
10th %ile Actuated Cycle:	112.1
~	Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
!	Phase conflict between lane groups.

Splits and Phases: 3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



Lane Group	NER	NER2
70th %ile Green (s)	47.0	
70th %ile Term Code	Max	
50th %ile Green (s)	45.7	
50th %ile Term Code	Gap	
30th %ile Green (s)	40.0	
30th %ile Term Code	Hold	
10th %ile Green (s)	40.0	
10th %ile Term Code	Hold	
Queue Length 50th (ft)	295	
Queue Length 95th (ft)	#475	
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)	536	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.78	
<b>Intersection Summary</b>		

Lanes, Volumes, Timings  
6: Main Street & Liberty Avenue



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			
Traffic Volume (vph)	141	1032	1154	39	0	0
Future Volume (vph)	141	1032	1154	39	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Satd. Flow (prot)	0	3333	3336	0	0	0
Flt Permitted		0.994				
Satd. Flow (perm)	0	3333	3336	0	0	0
Link Speed (mph)		25	30		30	
Link Distance (ft)		354	313		221	
Travel Time (s)		9.7	7.1		5.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1234	1256	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	76.1% ICU Level of Service D
Analysis Period (min)	15

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

Lane Group	EBT	EBR	EBR2	WBL2	WBL	WBT	SBL	SBT	SBR	SBR2	NEL2	NEL
Lane Configurations												
Traffic Volume (vph)	560	5	10	1	412	367	36	3	228	16	45	0
Future Volume (vph)	560	5	10	1	412	367	36	3	228	16	45	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	12	12	12	11	11	12	11	11	12	12	10
Grade (%)	1%					-1%		-1%				2%
Storage Length (ft)		135			0		50		0			0
Storage Lanes		1			1		1		1			1
Taper Length (ft)					25		25					25
Satd. Flow (prot)	3120	0	0	0	1582	1665	0	1623	1443	0	0	1376
Flt Permitted					0.000			0.315				0.944
Satd. Flow (perm)	3120	0	0	0	0	1665	0	533	1404	0	0	1306
Right Turn on Red			No							No		
Satd. Flow (RTOR)												
Link Speed (mph)	40					40		25				35
Link Distance (ft)	287					354		248				352
Travel Time (s)	4.9					6.0		6.8				6.9
Confl. Peds. (#/hr)							8			2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	3%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	605	0	0	0	435	386	0	41	257	0	0	482
Turn Type	NA			Perm	pm+pt	NA	Perm	NA	Perm		Perm	Perm
Protected Phases	6!				2!	5		8!				
Permitted Phases				5	5		8		8		4	4!
Detector Phase	6			5	2	5	8	8	8		4	4
Switch Phase												
Minimum Initial (s)	3.0			5.0	5.0	5.0	40.0	40.0	40.0		5.0	5.0
Minimum Split (s)	11.0			11.0	24.0	11.0	46.0	46.0	46.0		24.0	24.0
Total Split (s)	23.0			34.0	57.0	34.0	63.0	63.0	63.0		63.0	63.0
Total Split (%)	19.2%			28.3%	47.5%	28.3%	52.5%	52.5%	52.5%		52.5%	52.5%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0			2.0	2.0	2.0	3.0	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	-1.0				-1.0	-1.0		-1.0	-1.0			-1.0
Total Lost Time (s)	5.0				5.0	5.0		5.0	5.0			5.0
Lead/Lag	Lag			Lead		Lead						
Lead-Lag Optimize?	Yes			Yes		Yes						
Recall Mode	Min			None	Min	None	None	None	None		None	None
Act Effct Green (s)	18.1				51.7	28.5		49.6	49.6			49.6
Actuated g/C Ratio	0.16				0.46	0.26		0.45	0.45			0.45
v/c Ratio	1.19				0.59	0.90		0.17	0.41			0.83
Control Delay	146.5				27.6	67.2		20.3	23.0			40.6
Queue Delay	0.0				0.0	0.0		0.0	0.0			0.0
Total Delay	146.5				27.6	67.2		20.3	23.0			40.6
LOS	F				C	E		C	C			D
Approach Delay	146.5					46.2		22.6				42.5
Approach LOS	F					D		C				D
90th %ile Green (s)	17.0			28.0	51.0	28.0	57.0	57.0	57.0		57.0	57.0
90th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Max	Max

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



Lane Group	NER	NER2
Lane Configurations		
Traffic Volume (vph)	880	6
Future Volume (vph)	880	6
Ideal Flow (vphpl)	1800	1800
Lane Width (ft)	10	12
Grade (%)		
Storage Length (ft)	0	
Storage Lanes	1	
Taper Length (ft)		
Satd. Flow (prot)	1291	0
Flt Permitted		
Satd. Flow (perm)	1291	0
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor	0.95	0.95
Heavy Vehicles (%)	4%	4%
Shared Lane Traffic (%)	47%	
Lane Group Flow (vph)	497	0
Turn Type	Perm	
Protected Phases		
Permitted Phases	4!	
Detector Phase	4	
Switch Phase		
Minimum Initial (s)	5.0	
Minimum Split (s)	24.0	
Total Split (s)	63.0	
Total Split (%)	52.5%	
Yellow Time (s)	3.0	
All-Red Time (s)	3.0	
Lost Time Adjust (s)	-1.0	
Total Lost Time (s)	5.0	
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	
Act Effct Green (s)	49.6	
Actuated g/C Ratio	0.45	
v/c Ratio	0.87	
Control Delay	44.4	
Queue Delay	0.0	
Total Delay	44.4	
LOS	D	
Approach Delay		
Approach LOS		
90th %ile Green (s)	57.0	
90th %ile Term Code	Max	

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

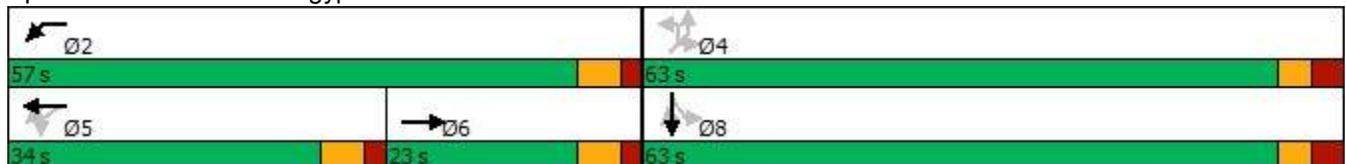


Lane Group	EBT	EBR	EBR2	WBL2	WBL	WBT	SBL	SBT	SBR	SBR2	NEL2	NEL
70th %ile Green (s)	17.0			28.0	51.0	28.0	57.0	57.0	57.0		57.0	57.0
70th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Max	Max
50th %ile Green (s)	17.0			28.0	51.0	28.0	49.7	49.7	49.7		49.7	49.7
50th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Gap	Gap
30th %ile Green (s)	17.0			28.0	51.0	28.0	40.7	40.7	40.7		40.7	40.7
30th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Gap	Gap
10th %ile Green (s)	17.0			25.3	48.3	25.3	40.0	40.0	40.0		40.0	40.0
10th %ile Term Code	Max			Gap	Hold	Gap	Min	Min	Min		Hold	Hold
Queue Length 50th (ft)	~282				228	271		17	122			297
Queue Length 95th (ft)	#432				374	#493		42	189			448
Internal Link Dist (ft)	207					274		168				272
Turn Bay Length (ft)												
Base Capacity (vph)	507			742	436		279	735				684
Starvation Cap Reductn	0			0	0		0	0				0
Spillback Cap Reductn	0			0	0		0	0				0
Storage Cap Reductn	0			0	0		0	0				0
Reduced v/c Ratio	1.19			0.59	0.89		0.15	0.35				0.70

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	111.3
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.19
Intersection Signal Delay:	64.7
Intersection LOS:	E
Intersection Capacity Utilization	129.6%
ICU Level of Service	H
Analysis Period (min)	15
90th %ile Actuated Cycle:	120
70th %ile Actuated Cycle:	120
50th %ile Actuated Cycle:	112.7
30th %ile Actuated Cycle:	103.7
10th %ile Actuated Cycle:	100.3
~	Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
!	Phase conflict between lane groups.

Splits and Phases: 3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

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Lane Group	NER	NER2
70th %ile Green (s)	57.0	
70th %ile Term Code	Max	
50th %ile Green (s)	49.7	
50th %ile Term Code	Gap	
30th %ile Green (s)	40.7	
30th %ile Term Code	Gap	
10th %ile Green (s)	40.0	
10th %ile Term Code	Hold	
Queue Length 50th (ft)	331	
Queue Length 95th (ft)	#507	
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)	676	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.74	
<b>Intersection Summary</b>		

Lanes, Volumes, Timings  
6: Main Street & Liberty Avenue

Prestige Worldwide - 2022 Pre AM.syn



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			
Traffic Volume (vph)	89	1396	784	56	0	0
Future Volume (vph)	89	1396	784	56	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Satd. Flow (prot)	0	3279	3225	0	0	0
Flt Permitted		0.997				
Satd. Flow (perm)	0	3279	3225	0	0	0
Link Speed (mph)		25	30		30	
Link Distance (ft)		354	313		221	
Travel Time (s)		9.7	7.1		5.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1580	894	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	74.9%
ICU Level of Service	D
Analysis Period (min)	15

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

Lane Group	EBT	EBR	EBR2	WBL2	WBL	WBT	SBL	SBT	SBR	SBR2	NEL2	NEL
Lane Configurations	↑↑				↓	↑		↓	↓			↑
Traffic Volume (vph)	373	8	28	1	576	589	11	0	274	10	68	0
Future Volume (vph)	373	8	28	1	576	589	11	0	274	10	68	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	12	12	12	11	11	12	11	11	12	12	10
Grade (%)	1%					-1%		-1%				2%
Storage Length (ft)		135			0		50		0			0
Storage Lanes		1			1		1		1			1
Taper Length (ft)					25		25					25
Satd. Flow (prot)	3122	0	0	0	1613	1698	0	1645	1472	0	0	1402
Flt Permitted					0.000			0.348				0.816
Satd. Flow (perm)	3122	0	0	0	0	1698	0	599	1432	0	0	1154
Right Turn on Red			No							No		
Satd. Flow (RTOR)												
Link Speed (mph)	40					40		25				35
Link Distance (ft)	287					354		248				352
Travel Time (s)	4.9					6.0		6.8				6.9
Confl. Peds. (#/hr)							8			2		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	1%	1%	1%	1%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	422	0	0	0	595	607	0	11	292	0	0	397
Turn Type	NA			Perm	pm+pt	NA	Perm	NA	Perm		Perm	Perm
Protected Phases	6!				2!	5		8!				
Permitted Phases				5	5		8		8		4	4!
Detector Phase	6			5	2	5	8	8	8		4	4
Switch Phase												
Minimum Initial (s)	3.0			5.0	5.0	5.0	40.0	40.0	40.0		5.0	5.0
Minimum Split (s)	11.0			11.0	24.0	11.0	46.0	46.0	46.0		24.0	24.0
Total Split (s)	23.0			44.0	67.0	44.0	53.0	53.0	53.0		53.0	53.0
Total Split (%)	19.2%			36.7%	55.8%	36.7%	44.2%	44.2%	44.2%		44.2%	44.2%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0			2.0	2.0	2.0	3.0	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	-1.0				-1.0	-1.0		-1.0	-1.0			-1.0
Total Lost Time (s)	5.0				5.0	5.0		5.0	5.0			5.0
Lead/Lag	Lag			Lead		Lead						
Lead-Lag Optimize?	Yes			Yes		Yes						
Recall Mode	Min			None	Min	None	None	None	None		None	None
Act Effct Green (s)	17.9				62.0	39.0		45.1	45.1			45.1
Actuated g/C Ratio	0.15				0.53	0.33		0.39	0.39			0.39
v/c Ratio	0.88				0.70	1.07		0.05	0.53			0.89
Control Delay	70.0				26.6	97.5		23.0	31.8			57.7
Queue Delay	0.0				0.0	0.0		0.0	0.0			0.0
Total Delay	70.0				26.6	97.5		23.0	31.8			57.7
LOS	E				C	F		C	C			E
Approach Delay	70.0					62.4		31.5				53.6
Approach LOS	E					E		C				D
90th %ile Green (s)	17.0			38.0	61.0	38.0	47.0	47.0	47.0		47.0	47.0
90th %ile Term Code	Max			Max	Max	Max	Hold	Hold	Hold		Max	Max

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



Lane Group	NER	NER2
Lane Configurations		
Traffic Volume (vph)	722	8
Future Volume (vph)	722	8
Ideal Flow (vphpl)	1800	1800
Lane Width (ft)	10	12
Grade (%)		
Storage Length (ft)	0	
Storage Lanes	1	
Taper Length (ft)		
Satd. Flow (prot)	1304	0
Flt Permitted		
Satd. Flow (perm)	1304	0
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	3%	3%
Shared Lane Traffic (%)	44%	
Lane Group Flow (vph)	425	0
Turn Type	Perm	
Protected Phases		
Permitted Phases	4!	
Detector Phase	4	
Switch Phase		
Minimum Initial (s)	5.0	
Minimum Split (s)	24.0	
Total Split (s)	53.0	
Total Split (%)	44.2%	
Yellow Time (s)	3.0	
All-Red Time (s)	3.0	
Lost Time Adjust (s)	-1.0	
Total Lost Time (s)	5.0	
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	
Act Effct Green (s)	45.1	
Actuated g/C Ratio	0.39	
v/c Ratio	0.85	
Control Delay	49.8	
Queue Delay	0.0	
Total Delay	49.8	
LOS	D	
Approach Delay		
Approach LOS		
90th %ile Green (s)	47.0	
90th %ile Term Code	Max	

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

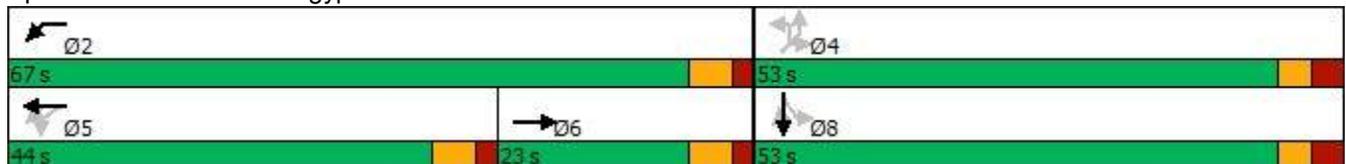


Lane Group	EBT	EBR	EBR2	WBL2	WBL	WBT	SBL	SBT	SBR	SBR2	NEL2	NEL
70th %ile Green (s)	17.0			38.0	61.0	38.0	47.0	47.0	47.0		47.0	47.0
70th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Max	Max
50th %ile Green (s)	17.0			38.0	61.0	38.0	47.0	47.0	47.0		47.0	47.0
50th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Max	Max
30th %ile Green (s)	17.0			38.0	61.0	38.0	40.1	40.1	40.1		40.1	40.1
30th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Gap	Gap
10th %ile Green (s)	16.6			38.0	60.6	38.0	40.0	40.0	40.0		40.0	40.0
10th %ile Term Code	Gap			Max	Hold	Max	Min	Min	Min		Hold	Hold
Queue Length 50th (ft)	171				340	~534		5	168			278
Queue Length 95th (ft)	#264				487	#758		18	256			#465
Internal Link Dist (ft)	207					274		168				272
Turn Bay Length (ft)												
Base Capacity (vph)	480				854	565		245	587			473
Starvation Cap Reductn	0				0	0		0	0			0
Spillback Cap Reductn	0				0	0		0	0			0
Storage Cap Reductn	0				0	0		0	0			0
Reduced v/c Ratio	0.88				0.70	1.07		0.04	0.50			0.84

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	117.1
Natural Cycle:	100
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.07
Intersection Signal Delay:	57.5
Intersection LOS:	E
Intersection Capacity Utilization	127.6%
ICU Level of Service	H
Analysis Period (min)	15
90th %ile Actuated Cycle:	120
70th %ile Actuated Cycle:	120
50th %ile Actuated Cycle:	120
30th %ile Actuated Cycle:	113.1
10th %ile Actuated Cycle:	112.6
~	Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
!	Phase conflict between lane groups.

Splits and Phases: 3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

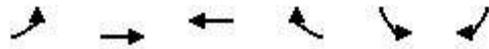
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Lane Group	NER	NER2
70th %ile Green (s)	47.0	
70th %ile Term Code	Max	
50th %ile Green (s)	47.0	
50th %ile Term Code	Max	
30th %ile Green (s)	40.1	
30th %ile Term Code	Gap	
10th %ile Green (s)	40.0	
10th %ile Term Code	Hold	
Queue Length 50th (ft)	304	
Queue Length 95th (ft)	#490	
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)	534	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.80	
<b>Intersection Summary</b>		

Lanes, Volumes, Timings  
6: Main Street & Liberty Avenue

Prestige Worldwide - 2022 Pre PM.syn



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			
Traffic Volume (vph)	144	1053	1177	40	0	0
Future Volume (vph)	144	1053	1177	40	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Satd. Flow (prot)	0	3333	3336	0	0	0
Flt Permitted		0.994				
Satd. Flow (perm)	0	3333	3336	0	0	0
Link Speed (mph)		25	30		30	
Link Distance (ft)		354	313		221	
Travel Time (s)		9.7	7.1		5.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1260	1281	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	77.5% ICU Level of Service D
Analysis Period (min)	15

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

Lane Group	EBT	EBR	EBR2	WBL2	WBL	WBT	SBL	SBT	SBR	SBR2	NEL2	NEL
Lane Configurations												
Traffic Volume (vph)	565	5	10	1	417	370	39	3	228	16	45	0
Future Volume (vph)	565	5	10	1	417	370	39	3	228	16	45	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	12	12	12	11	11	12	11	11	12	12	10
Grade (%)	1%					-1%		-1%				2%
Storage Length (ft)		135			0		50		0			0
Storage Lanes		1			1		1		1			1
Taper Length (ft)					25		25					25
Satd. Flow (prot)	3120	0	0	0	1582	1665	0	1621	1443	0	0	1375
Flt Permitted					0.000			0.311				0.945
Satd. Flow (perm)	3120	0	0	0	0	1665	0	526	1404	0	0	1306
Right Turn on Red			No							No		
Satd. Flow (RTOR)												
Link Speed (mph)	40					40		25				35
Link Distance (ft)	287					354		248				352
Travel Time (s)	4.9					6.0		6.8				6.9
Confl. Peds. (#/hr)							8			2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	3%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	611	0	0	0	440	389	0	44	257	0	0	487
Turn Type	NA			Perm	pm+pt	NA	Perm	NA	Perm		Perm	Perm
Protected Phases	6!				2!	5		8!				
Permitted Phases				5	5		8		8		4	4!
Detector Phase	6			5	2	5	8	8	8		4	4
Switch Phase												
Minimum Initial (s)	3.0			5.0	5.0	5.0	40.0	40.0	40.0		5.0	5.0
Minimum Split (s)	11.0			11.0	24.0	11.0	46.0	46.0	46.0		24.0	24.0
Total Split (s)	23.0			34.0	57.0	34.0	63.0	63.0	63.0		63.0	63.0
Total Split (%)	19.2%			28.3%	47.5%	28.3%	52.5%	52.5%	52.5%		52.5%	52.5%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0			2.0	2.0	2.0	3.0	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	-1.0				-1.0	-1.0		-1.0	-1.0			-1.0
Total Lost Time (s)	5.0				5.0	5.0		5.0	5.0			5.0
Lead/Lag	Lag			Lead		Lead						
Lead-Lag Optimize?	Yes			Yes		Yes						
Recall Mode	Min			None	Min	None	None	None	None		None	None
Act Effct Green (s)	18.1				51.9	28.8		49.9	49.9			49.9
Actuated g/C Ratio	0.16				0.46	0.26		0.45	0.45			0.45
v/c Ratio	1.21				0.60	0.91		0.19	0.41			0.84
Control Delay	153.6				27.9	67.8		20.6	23.0			41.3
Queue Delay	0.0				0.0	0.0		0.0	0.0			0.0
Total Delay	153.6				27.9	67.8		20.6	23.0			41.3
LOS	F				C	E		C	C			D
Approach Delay	153.6					46.6		22.6				43.3
Approach LOS	F					D		C				D
90th %ile Green (s)	17.0			28.0	51.0	28.0	57.0	57.0	57.0		57.0	57.0
90th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Max	Max

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



Lane Group	NER	NER2
Lane Configurations		
Traffic Volume (vph)	889	6
Future Volume (vph)	889	6
Ideal Flow (vphpl)	1800	1800
Lane Width (ft)	10	12
Grade (%)		
Storage Length (ft)	0	
Storage Lanes	1	
Taper Length (ft)		
Satd. Flow (prot)	1291	0
Flt Permitted		
Satd. Flow (perm)	1291	0
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor	0.95	0.95
Heavy Vehicles (%)	4%	4%
Shared Lane Traffic (%)	47%	
Lane Group Flow (vph)	502	0
Turn Type	Perm	
Protected Phases		
Permitted Phases	4!	
Detector Phase	4	
Switch Phase		
Minimum Initial (s)	5.0	
Minimum Split (s)	24.0	
Total Split (s)	63.0	
Total Split (%)	52.5%	
Yellow Time (s)	3.0	
All-Red Time (s)	3.0	
Lost Time Adjust (s)	-1.0	
Total Lost Time (s)	5.0	
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	
Act Effct Green (s)	49.9	
Actuated g/C Ratio	0.45	
v/c Ratio	0.87	
Control Delay	45.3	
Queue Delay	0.0	
Total Delay	45.3	
LOS	D	
Approach Delay		
Approach LOS		
90th %ile Green (s)	57.0	
90th %ile Term Code	Max	

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

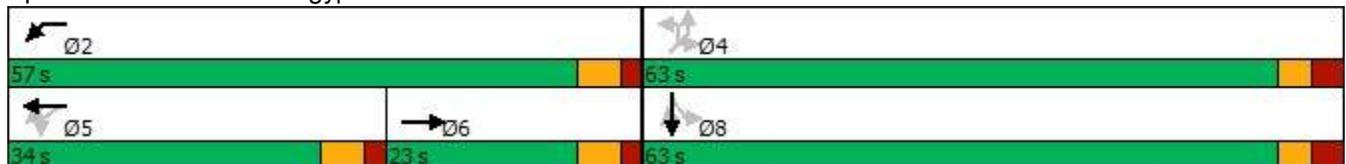


Lane Group	EBT	EBR	EBR2	WBL2	WBL	WBT	SBL	SBT	SBR	SBR2	NEL2	NEL
70th %ile Green (s)	17.0			28.0	51.0	28.0	57.0	57.0	57.0		57.0	57.0
70th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Max	Max
50th %ile Green (s)	17.0			28.0	51.0	28.0	50.6	50.6	50.6		50.6	50.6
50th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Gap	Gap
30th %ile Green (s)	17.0			28.0	51.0	28.0	41.4	41.4	41.4		41.4	41.4
30th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Gap	Gap
10th %ile Green (s)	17.0			26.5	49.5	26.5	40.0	40.0	40.0		40.0	40.0
10th %ile Term Code	Max			Gap	Hold	Gap	Min	Min	Min		Hold	Hold
Queue Length 50th (ft)	~291				235	277		19	122			302
Queue Length 95th (ft)	#438				380	#498		44	189			455
Internal Link Dist (ft)	207					274		168				272
Turn Bay Length (ft)												
Base Capacity (vph)	504				738	433		274	731			680
Starvation Cap Reductn	0				0	0		0	0			0
Spillback Cap Reductn	0				0	0		0	0			0
Storage Cap Reductn	0				0	0		0	0			0
Reduced v/c Ratio	1.21				0.60	0.90		0.16	0.35			0.72

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	111.9
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.21
Intersection Signal Delay:	66.7
Intersection LOS:	E
Intersection Capacity Utilization	130.4%
ICU Level of Service	H
Analysis Period (min)	15
90th %ile Actuated Cycle:	120
70th %ile Actuated Cycle:	120
50th %ile Actuated Cycle:	113.6
30th %ile Actuated Cycle:	104.4
10th %ile Actuated Cycle:	101.5
~	Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
!	Phase conflict between lane groups.

Splits and Phases: 3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



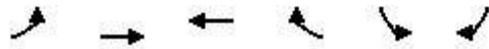
3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

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Lane Group	NER	NER2
70th %ile Green (s)	57.0	
70th %ile Term Code	Max	
50th %ile Green (s)	50.6	
50th %ile Term Code	Gap	
30th %ile Green (s)	41.4	
30th %ile Term Code	Gap	
10th %ile Green (s)	40.0	
10th %ile Term Code	Hold	
Queue Length 50th (ft)	336	
Queue Length 95th (ft)	#526	
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)	672	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.75	
<b>Intersection Summary</b>		

Lanes, Volumes, Timings  
6: Main Street & Liberty Avenue



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕			
Traffic Volume (vph)	89	1414	792	56	0	0
Future Volume (vph)	89	1414	792	56	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Satd. Flow (prot)	0	3279	3225	0	0	0
Flt Permitted		0.997				
Satd. Flow (perm)	0	3279	3225	0	0	0
Link Speed (mph)		25	30		30	
Link Distance (ft)		354	156		221	
Travel Time (s)		9.7	3.5		5.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1599	903	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	75.6% ICU Level of Service D
Analysis Period (min)	15

Lanes, Volumes, Timings  
 9: Prestige Worldwide & Main Street



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Volume (vph)	1485	18	11	840	9	6
Future Volume (vph)	1485	18	11	840	9	6
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	1%			-1%	0%	
Satd. Flow (prot)	3157	0	0	3161	1578	0
Flt Permitted				0.999	0.970	
Satd. Flow (perm)	3157	0	0	3161	1578	0
Link Speed (mph)	25			30	30	
Link Distance (ft)	156			157	194	
Travel Time (s)	4.3			3.6	4.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1599	0	0	906	16	0
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	53.9%			ICU Level of Service A		
Analysis Period (min)	15					

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



Lane Group	EBT	EBR	EBR2	WBL2	WBL	WBT	SBL	SBT	SBR	SBR2	NEL2	NEL
Lane Configurations	↑↑				↓	↑		↓	↓			↑
Traffic Volume (vph)	378	8	28	1	590	597	14	0	274	10	68	0
Future Volume (vph)	378	8	28	1	590	597	14	0	274	10	68	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	12	12	12	11	11	12	11	11	12	12	10
Grade (%)	1%					-1%		-1%				2%
Storage Length (ft)		135			0		50		0			0
Storage Lanes		1			1		1		1			1
Taper Length (ft)					25		25					25
Satd. Flow (prot)	3122	0	0	0	1613	1698	0	1645	1472	0	0	1402
Flt Permitted					0.000			0.343				0.818
Satd. Flow (perm)	3122	0	0	0	0	1698	0	591	1432	0	0	1157
Right Turn on Red			No							No		
Satd. Flow (RTOR)												
Link Speed (mph)	40					40		25				35
Link Distance (ft)	287					354		248				352
Travel Time (s)	4.9					6.0		6.8				6.9
Confl. Peds. (#/hr)							8			2		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	1%	1%	1%	1%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	427	0	0	0	609	615	0	14	292	0	0	402
Turn Type	NA			Perm	pm+pt	NA	Perm	NA	Perm		Perm	Perm
Protected Phases	6!				2!	5		8!				
Permitted Phases				5	5		8		8		4	4!
Detector Phase	6			5	2	5	8	8	8		4	4
Switch Phase												
Minimum Initial (s)	3.0			5.0	5.0	5.0	40.0	40.0	40.0		5.0	5.0
Minimum Split (s)	11.0			11.0	24.0	11.0	46.0	46.0	46.0		24.0	24.0
Total Split (s)	23.0			44.0	67.0	44.0	53.0	53.0	53.0		53.0	53.0
Total Split (%)	19.2%			36.7%	55.8%	36.7%	44.2%	44.2%	44.2%		44.2%	44.2%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0			2.0	2.0	2.0	3.0	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	-1.0				-1.0	-1.0		-1.0	-1.0			-1.0
Total Lost Time (s)	5.0				5.0	5.0		5.0	5.0			5.0
Lead/Lag	Lag			Lead		Lead						
Lead-Lag Optimize?	Yes			Yes		Yes						
Recall Mode	Min			None	Min	None	None	None	None		None	None
Act Effct Green (s)	18.0				62.0	39.0		45.4	45.4			45.4
Actuated g/C Ratio	0.15				0.53	0.33		0.39	0.39			0.39
v/c Ratio	0.89				0.71	1.09		0.06	0.53			0.90
Control Delay	71.2				27.4	102.9		23.3	31.8			58.7
Queue Delay	0.0				0.0	0.0		0.0	0.0			0.0
Total Delay	71.2				27.4	102.9		23.3	31.8			58.7
LOS	E				C	F		C	C			E
Approach Delay	71.2					65.3		31.4				54.6
Approach LOS	E					E		C				D
90th %ile Green (s)	17.0			38.0	61.0	38.0	47.0	47.0	47.0		47.0	47.0
90th %ile Term Code	Max			Max	Max	Max	Hold	Hold	Hold		Max	Max

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



Lane Group	NER	NER2
Lane Configurations		
Traffic Volume (vph)	732	8
Future Volume (vph)	732	8
Ideal Flow (vphpl)	1800	1800
Lane Width (ft)	10	12
Grade (%)		
Storage Length (ft)	0	
Storage Lanes	1	
Taper Length (ft)		
Satd. Flow (prot)	1304	0
Flt Permitted		
Satd. Flow (perm)	1304	0
Right Turn on Red		No
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	3%	3%
Shared Lane Traffic (%)	44%	
Lane Group Flow (vph)	431	0
Turn Type	Perm	
Protected Phases		
Permitted Phases	4!	
Detector Phase	4	
Switch Phase		
Minimum Initial (s)	5.0	
Minimum Split (s)	24.0	
Total Split (s)	53.0	
Total Split (%)	44.2%	
Yellow Time (s)	3.0	
All-Red Time (s)	3.0	
Lost Time Adjust (s)	-1.0	
Total Lost Time (s)	5.0	
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	
Act Effct Green (s)	45.4	
Actuated g/C Ratio	0.39	
v/c Ratio	0.86	
Control Delay	50.8	
Queue Delay	0.0	
Total Delay	50.8	
LOS	D	
Approach Delay		
Approach LOS		
90th %ile Green (s)	47.0	
90th %ile Term Code	Max	

3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

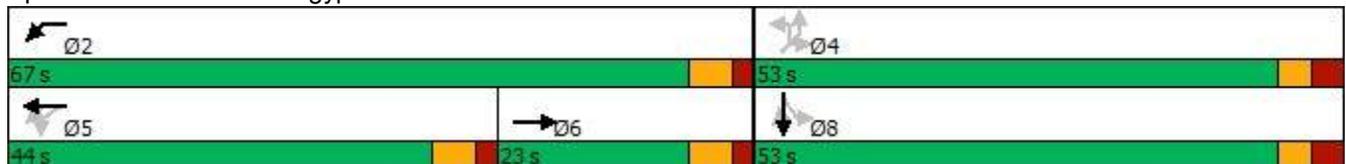


Lane Group	EBT	EBR	EBR2	WBL2	WBL	WBT	SBL	SBT	SBR	SBR2	NEL2	NEL
70th %ile Green (s)	17.0			38.0	61.0	38.0	47.0	47.0	47.0		47.0	47.0
70th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Max	Max
50th %ile Green (s)	17.0			38.0	61.0	38.0	47.0	47.0	47.0		47.0	47.0
50th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Max	Max
30th %ile Green (s)	17.0			38.0	61.0	38.0	41.0	41.0	41.0		41.0	41.0
30th %ile Term Code	Max			Max	Hold	Max	Hold	Hold	Hold		Gap	Gap
10th %ile Green (s)	16.9			38.0	60.9	38.0	40.0	40.0	40.0		40.0	40.0
10th %ile Term Code	Gap			Max	Hold	Max	Min	Min	Min		Hold	Hold
Queue Length 50th (ft)	173				353	~547		7	168			282
Queue Length 95th (ft)	#269				504	#771		21	256			#473
Internal Link Dist (ft)	207					274		168				272
Turn Bay Length (ft)												
Base Capacity (vph)	479				852	564		241	585			473
Starvation Cap Reductn	0				0	0		0	0			0
Spillback Cap Reductn	0				0	0		0	0			0
Storage Cap Reductn	0				0	0		0	0			0
Reduced v/c Ratio	0.89				0.71	1.09		0.06	0.50			0.85

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	117.4
Natural Cycle:	100
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.09
Intersection Signal Delay:	59.3
Intersection LOS:	E
Intersection Capacity Utilization	129.0%
ICU Level of Service	H
Analysis Period (min)	15
90th %ile Actuated Cycle:	120
70th %ile Actuated Cycle:	120
50th %ile Actuated Cycle:	120
30th %ile Actuated Cycle:	114
10th %ile Actuated Cycle:	112.9
~	Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
!	Phase conflict between lane groups.

Splits and Phases: 3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street



3: Egypt Road & Orchard Lane/Jefferson Avenue & Main Street

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Lane Group	NER	NER2
70th %ile Green (s)	47.0	
70th %ile Term Code	Max	
50th %ile Green (s)	47.0	
50th %ile Term Code	Max	
30th %ile Green (s)	41.0	
30th %ile Term Code	Gap	
10th %ile Green (s)	40.0	
10th %ile Term Code	Hold	
Queue Length 50th (ft)	310	
Queue Length 95th (ft)	#501	
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)	533	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.81	
<b>Intersection Summary</b>		

Lanes, Volumes, Timings  
6: Main Street & Liberty Avenue



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			
Traffic Volume (vph)	144	1071	1200	45	0	0
Future Volume (vph)	144	1071	1200	45	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Satd. Flow (prot)	0	3333	3336	0	0	0
Flt Permitted		0.994				
Satd. Flow (perm)	0	3333	3336	0	0	0
Link Speed (mph)		25	30		30	
Link Distance (ft)		354	156		221	
Travel Time (s)		9.7	3.5		5.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1279	1310	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	78.9%
	ICU Level of Service D
Analysis Period (min)	15

Lanes, Volumes, Timings  
 9: Prestige Worldwide & Main Street



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Volume (vph)	1191	24	16	1213	33	22
Future Volume (vph)	1191	24	16	1213	33	22
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	1%			-1%	0%	
Satd. Flow (prot)	3215	0	0	3254	1621	0
Flt Permitted				0.999	0.971	
Satd. Flow (perm)	3215	0	0	3254	1621	0
Link Speed (mph)	25			30	30	
Link Distance (ft)	156			157	194	
Travel Time (s)	4.3			3.6	4.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1279	0	0	1294	58	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	57.3%
	ICU Level of Service B
Analysis Period (min)	15

**Project:** TLC  
**Development:** 16,000 sf Warehouse, 4 du Apartment and 16,000 sf Retail  
**Location:** West Norriton, Montgomery County

**Overall LOS Calculation**  
**2022 Full Build-out**

<b>Existing</b>		<b>Main Street Eastbound</b>		<b>Main Street Westbound</b>		<b>Overall</b>
		<u>Left</u>	<u>Through</u>	<u>Through</u>	<u>Right</u>	
<b>AM Peak</b>	<i>Volume</i>	88	1,373	771	55	0.7
	<i>Average Delay</i>	1.8	1.1	0.0	0.0	
	<i>Total Delay</i>	158.4	1,510.3	0.0	0.0	
<b>PM Peak</b>	<i>Volume</i>	141	1,032	1,154	39	1.4
	<i>Average Delay</i>	4.8	2.5	0.0	0.0	
	<i>Total Delay</i>	676.8	2,580.0	0.0	0.0	
<b>Pre-development</b>		<b>Eastbound</b>		<b>Westbound</b>		<b>Overall</b>
		<u>Left</u>	<u>Through</u>	<u>Through</u>	<u>Right</u>	
<b>AM Peak</b>	<i>Volume</i>	89	1,396	784	56	0.7
	<i>Average Delay</i>	1.9	1.1	0.0	0.0	
	<i>Total Delay</i>	169.1	1,535.6	0.0	0.0	
<b>PM Peak</b>	<i>Volume</i>	144	1,053	1,177	40	1.4
	<i>Average Delay</i>	5.2	2.6	0.0	0.0	
	<i>Total Delay</i>	748.8	2,737.8	0.0	0.0	
<b>Post-development</b>		<b>Eastbound</b>		<b>Westbound</b>		<b>Overall</b>
		<u>Left</u>	<u>Through</u>	<u>Through</u>	<u>Right</u>	
<b>AM Peak</b>	<i>Volume</i>	89	1,414	792	58	0.7
	<i>Average Delay</i>	1.9	1.1	0.0	0.0	
	<i>Total Delay</i>	169.1	1,555.4	0.0	0.0	
<b>PM Peak</b>	<i>Volume</i>	144	1,071	1,200	45	1.5
	<i>Average Delay</i>	5.5	2.7	0.0	0.0	
	<i>Total Delay</i>	792.0	2,891.7	0.0	0.0	

		<b>Main Street Eastbound</b>		<b>Main Street Westbound</b>		<b>Site Access Northbound</b>	<b>Overall</b>
		<u>Through</u>	<u>Right</u>	<u>Left</u>	<u>Through</u>	<u>Left/Right</u>	
<b>AM Peak</b>	<i>Volume</i>	1,485	18	11	840	15	0.5
	<i>Average Delay</i>	0.0	0.0	0.5	0.3	67.4	
	<i>Total Delay</i>	0.0	0.0	5.5	252.0	1,011.0	
<b>PM Peak</b>	<i>Volume</i>	1,191	24	16	1,213	55	2.3
	<i>Average Delay</i>	0.0	0.0	0.5	0.3	95.7	
	<i>Total Delay</i>	0.0	0.0	8.0	363.9	5,263.5	



ALBERT FEDERICO CONSULTING, LLC

## **ATTACHMENT E - VOLUME DEVELOPMENT**

**Project:** TLC

**Development:** 16,000 sf Warehouse, 4 du Apartment and 16,000 sf Retail

**Location:** West Norriton, Montgomery County

**Period:** Morning Peak - Full Build

Enter	29	15	44
New Extern:			
Pass-by			0

	Site Access			Main Street			Southbound			Main Street		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2018	0	0	0	0	0	0	0	0	0	0	0	0
0.41%	0	0	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0	0	0	0
Primary	-61%	0%	-39%	39%	0%	0%	0%	0%	0%	0%	0%	61%
	9	0	6	11	0	0	0	0	0	0	0	18
Pass-by	-61%	0%	-39%	39%	0%	0%	0%	0%	0%	0%	0%	61%
	0	0	0	0	0	0	0	0	0	0	0	0
2022	9	0	6	11	840	0	0	0	0	0	0	18

	Northbound			Main Street			Liberty Avenue			Main Street		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2018	0	0	0	0	0	55	0	0	0	88	1,373	0
0.41%	0	0	0	0	0	1	0	0	0	1	23	0
2022	0	0	0	0	0	56	0	0	0	89	1,396	0
Primary	0%	0%	0%	0%	-50%	-11%	0%	0%	0%	0%	61%	0%
	0	0	0	0	8	2	0	0	0	0	18	0
Pass-by	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0	0	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	792	58	0	0	0	89	1,414	0

**Project:** TLC

**Development:** 16,000 sf Warehouse, 4 du Apartment and 16,000 sf Retail  
**Location:** West Norriton, Montgomery County

**Period: Morning Peak – Full Build**

	Egypt Road Northeastbound			Main Street Westbound			Jefferson Avenue Southbound			Main Street Eastbound				
	Left	Soft-Right	Hard-Right	Hard-Left	Soft-Left	Through	Hard-Left	Soft-Right	Hard-Right	Through	Hard-Left	Soft-Left		
2018	Existing	44	866	6	1	405	361	35	3	224	16	551	5	10
0.41%	Background	1	14	0	0	7	6	1	0	4	0	9	0	0
2022	Pre-development	45	880	6	1	412	367	36	3	228	16	560	5	10
Primary	Distribution Assignment	0%	32%	0%	0%	-32%	-18%	11%	0%	0%	0%	18%	0%	0%
Pass-by	Distribution Assignment	0	9	0	0	5	3	3	0	0	0	5	0	0
2022	Post-development	45	889	6	1	417	370	39	3	228	16	565	5	10

**Project:** TLC

**Development:** 16,000 sf Warehouse, 4 du Apartment and 16,000 sf Retail

**Location:** West Norriton, Montgomery County

**Period:** **Evening Peak - Full Build**

	Enter	Exit	Total
New Extern:	30	45	75
Pass-by	10	10	20

	Site Access			Main Street			Southbound			Main Street		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2018	0	0	0	0	1,193	0	0	0	0	0	1,173	0
0.50% Background	0	0	0	0	24	0	0	0	0	0	24	0
2022	0	0	0	0	1,217	0	0	0	0	0	1,197	0
Primary	-61%	0%	-39%	39%	0%	0%	0%	0%	0%	0%	0%	61%
Assignment	27	0	18	12	0	0	0	0	0	0	0	18
Pass-by	61%	0%	39%	39%	-39%	0%	0%	0%	0%	0%	-61%	61%
Assignment	6	0	4	4	(4)	0	0	0	0	0	(6)	6
2022	33	0	22	16	1,213	0	0	0	0	0	1,191	24

	Northbound			Main Street			Liberty Avenue			Main Street		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2018	0	0	0	0	1,154	39	0	0	0	141	1,032	0
0.50% Background	0	0	0	0	23	1	0	0	0	3	21	0
2022	0	0	0	0	1,177	40	0	0	0	144	1,053	0
Primary	0%	0%	0%	0%	-50%	-11%	0%	0%	0%	0%	61%	0%
Assignment	0	0	0	0	23	5	0	0	0	0	18	0
Pass-by	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Assignment	0	0	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	1,200	45	0	0	0	144	1,071	0

**Project:** TLC

**Development:** 16,000 sf Warehouse, 4 du Apartment and 16,000 sf Retail  
**Location:** West Norriton, Montgomery County

**Period: Evening Peak - Full Build**

	Egypt Road Northeastbound			Main Street Westbound			Jefferson Avenue Southbound			Main Street Eastbound				
	Left	Soft-Right	Hard-Right	Hard-Left	Soft-Left	Through	Hard-Left	Soft-Right	Hard-Right	Through	Hard-Left	Soft-Left		
2018	Existing	67	708	8	1	565	577	11	0	269	10	366	8	27
1%	Background	1	14	0	0	11	12	0	0	5	0	7	0	1
2022	Pre-development	68	722	8	1	576	589	11	0	274	10	373	8	28
Primary	Distribution Assignment	0%	32%	0%	0%	-32%	-18%	11%	0%	0%	0%	18%	0%	0%
		0	10	0	0	14	8	3	0	0	0	5	0	0
Pass-by	Distribution Assignment	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
2022	Post-development	68	732	8	1	590	597	14	0	274	10	378	8	28