March 12, 2021
TPD# RECC.00002

TRAFFIC PLANNING AND DESIGN, INC.

821 Homestead Road

Transportation Impact Study

Jenkintown Borough, Montgomery County, PA

For Submission To:

Jenkintown Borough, Montgomery County, PA

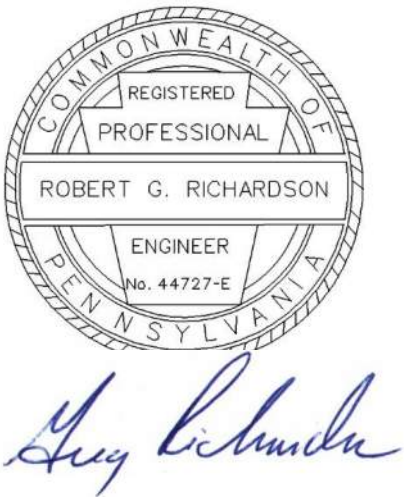
821 HOMESTEAD ROAD
TRANSPORTATION IMPACT STUDY

FOR SUBMISSION TO:

Jenkintown Borough, Montgomery County, PA

Prepared For:
Regan Kline Cross Architects
7670 Queen Street
Wyndmoor, PA 19038

March 12, 2021
TPD # RECC.00002



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EXECUTIVE SUMMARY

The purpose of this study is to examine the potential traffic impact associated with the proposed 821 Homestead Road development on the roadway network in Jenkintown Borough, Montgomery County, PA.

1. The study area intersections included in this TIS are as follows:
   - Old York Road (SR 0611) and Homestead Road;
   - Homestead Road and Cottman Street/Enter-Only Driveway;
   - Homestead Road and Exit-Only Driveway;
   - Homestead Road and Vernon Road.
2. The project site is located on the northern side of Homestead Road and is currently occupied by the former Church of Our Savior Building (currently a small office use) and Homestead Hall (consisting of two residential units). The proposed site will consist of 37 total apartments, a 5.4 ksf Little Gym, and a 2.5 ksf leasing office.
3. Access to the proposed site will be provided via the existing site driveways to Homestead Road: one enter-only driveway opposite Cottman Street and one exit-only driveway.
4. With the proposed on-site recommendations, all proposed driveway location sight distances will exceed PennDOT's Desirable and Safe Stopping Sight Distance (SSSD) criteria.
5. Based the conservative trip generation methodology utilized in this study, the proposed development will generate **32** new vehicle-trips during the weekday A.M. peak hour and **49** new vehicle-trips during the weekday P.M. peak hour.
6. Under the 2023 projected conditions with the development of the proposed site, the study area intersections will operate at the same levels of service as seen under the existing and base conditions. Furthermore, all movements at the site driveways will operate at LOS A.
7. Traffic Planning and Design Inc. (TPD) recommends the following as outlined in the study:

   ### Homestead Road & Exit-Only Driveway

   - Provide a stop sign (PennDOT designation R1-1) to control traffic
   - Provide signage to restrict access to enter-only at the Site Driveway
   - Prohibit parking within the sight triangle to ensure adequate sight distance is provided

   ### Homestead Road & Enter-Only Driveway

   - Provide signage to restrict access to exiting site traffic
8. Levels of Service (LOS) for the study area intersections have been summarized in matrix form. **Table I** details the overall intersection LOS for each study area intersection.

TABLE I
OVERALL INTERSECTION LEVEL OF SERVICE SUMMARY

Intersection	Time Period	2021 Existing	Opening Year 2023		Meets LOS Requirements?
			Base	Projected	
Old York Road (SR 0611) & Homestead Road	A.M.	A (1.6)	A (1.6)	A (1.9)	Yes
	P.M.	A (2.4)	A (2.4)	A (2.6)	
Homestead Road & Cottman Street/Enter-Only Driveway	A.M.	A (1.6)	A (1.6)	A (2.0)	Yes
	P.M.	A (2.1)	A (2.1)	A (2.8)	
Homestead Road & Exit-Only Driveway	A.M.	A (0.0)	A (0.0)	A (0.9)	Yes
	P.M.	A (0.9)	A (0.9)	A (0.9)	
Homestead Road & Vernon Road	A.M.	A (8.7)	A (8.8)	A (8.7)	Yes
	P.M.	A (8.7)	A (8.5)	A (8.5)	

INTRODUCTION

Traffic Planning and Design, Inc. (TPD) has completed a Transportation Impact Study (TIS) for the proposed 821 Homestead Road development in Jenkintown Borough, Montgomery County, Pennsylvania. The project site is located on the northern side of Homestead Road east of Old York Road (SR 0611), as shown in **Figure 1**. The existing site consists of the former Church of Our Savior Building (currently a Little Gym) and Homestead Hall consisting of two residential units. As shown **Figure 2**, the proposed site will consist of the following:

- 37 apartments (2 existing apartments to remain)
- 5.4ksf Little Gym
- 2.5ksf leasing office

This report has been prepared in accordance with PennDOT's *Policies and Procedures for Transportation Impact Studies*, found in PennDOT's Publication 282, Appendix A, dated July, 2017.

Site Access Locations

The site is currently served by one enter-only driveway to Homestead Road opposite Cottman Street and one exit-only driveway to Homestead Road which are planned to remain and serve the site under the proposed uses.

EXISTING ROADWAY NETWORK

A field review of the existing roadway system in the study area was conducted. The existing roadway characteristics within the study area are summarized in **Table 1**. Photographs of the study area intersections are included in **Appendix A**.

TABLE 1
ROADWAY CHARACTERISTICS WITHIN STUDY AREA

Roadway	Ownership	Functional Classification/ Roadway Type	Predominant Directional Orientation	Average Daily Traffic[1]	Posted Speed Limit
Old York Road	State (S.R. 0611)	Local Road	North-South	36,075	40 mph
Homestead Road	Borough	Local Road	East-West	1.650	25 mph
Cottman Street	Borough	Local Road	North-South	700	25 mph
Vernon Road	Borough	Local Road	North-South	5930	25 mph

[1] *Obtained PennDOT TIRe or calculated using the manual counts and a k factor*

Land Use Context

In Chapter 4 of the *Smart Transportation Guidebook*, dated March 2008, there is guidance pertaining to defining the land use context(s) for a given area. Based upon review of this information, the land uses surrounding the proposed site best fits the {Rural, Suburban Neighborhood, Suburban Corridor, Suburban

Center, Town/Village Neighborhood, Town/Village Center, Urban Core} designation, as described below:

> ***Suburban Neighborhood***, *"predominately low-density residential communities… typically arranged in a curvilinear internal system of streets with limited connections to regional road network or surrounding streets. . .. Neighborhoods can include community facilities such as schools, churches, recreational facilities, and some other stores and offices. When suburban houses line and arterial roadway but have their primary access to frontage roads or rear access roads, it is possible to classify this area as a suburban corridor."*

Roadway Type

In Chapter 5 of the Smart Transportation Guidebook, there is guidance pertaining to defining the transportation context(s) for a given area. Comparing the existing condition roadway characteristics to the various options presented in Table 5.1 of the *Smart Transportation Guidebook*, the study area roadways best fit the following categories, as described below:

> ***Regional Arterial***, traffic volumes of 10,000 to 40,000 vehicles per day, intersection spacing of 660 to 1,320 feet, a desired operating speed of 30-55 mph, and a description as follows: "*Roadways in this category would be considered "Principal Arterial" in traditional functional classification."*
>
> - Old York Road (S.R. 0611)
>
> ***Local Road***, traffic volumes of <3,000 vehicles per day, intersection spacing of 000 to 660 feet, a desired operating speed of 20-30 mph.
>
> - Cottman Street
> - Vernon Road

Bicycle and Pedestrian Facilities

Based on observations during field visits, sidewalk is present along both sides of the study area roadways.

Mass Transit Facilities

An inventory of the existing transit facilities in the vicinity of the study area was evaluated. The study area is currently serviced by mass transit via various SEPTA routes:

- SEPTA Bus Route along Old York Road: 55 (stop at Homestead Road);
- SEPTA Regional Rail Nobel Station located 0.5 miles from the site.

Crash Data Investigation

Crash data were obtained from PennDOT for the study area intersections. PennDOT defines a reportable crash as follows, "A reportable (crash) is one in which an injury or fatality occurs or if at least one of the vehicles involved requires towing from the scene." Reportable crashes were tabulated for the five-year time period beginning 01/01/2015 and ending 12/31/2019. For a given intersection, PennDOT considers a crash occurrence of 5 reportable, correctable crashes over a continuous twelve-month period during the past five years to be a threshold value, above which the intersection design should be reviewed to examine if corrective measures can be taken to enhance safety. The number of reportable crashes at the study area intersections is shown in **Table 2.**

TABLE 2
PENNDOT REPORTABLE CRASH DATA

Study Area Intersection	Number of Reportable Crashes				
	2015	2016	2017	2018	2019
Old York Road and Homestead Road	0	1	0	2	0
Homestead Road and Cottman Street	0	0	0	0	0
Homestead Road and Exit Only Site Driveway	0	0	0	0	0
Homestead Road and Vernon Road	0	0	0	0	0

Based on a review of the crash data, there were no continuous twelve-month periods during the past 5 years where 5 or more crashes occurred.

EXISTING TRAFFIC CONDITIONS

Manual Turning Movement Counts

Manual traffic counts were conducted on 15-minute intervals during the weekday morning (7:00 to 9:00 A.M.) and weekday evening (4:00 to 6:00 P.M.) peak periods. Peak hours and count dates for the study area intersections are identified in **Table 3**.

TABLE 3
MANUAL TRAFFIC COUNT INFORMATION

Intersection	Date of Traffic Counts	Time Period	Intersection Peak Hour[1]
Old York Road & Homestead Road	Thursday, February 25, 2021	Weekday A.M.	7:15 to 8:15 A.M.
		Weekday P.M.	5:00 to 6:00 P.M.
Homestead Road & Cottman Street/Enter-Only Driveway	Thursday, February 25, 2021	Weekday A.M.	7:45 to 8:45 A.M.
		Weekday P.M.	4:15 to 5:15 P.M.
Homestead Road & Exit-Only Driveway	Thursday, February 25, 2021	Weekday A.M.	7:15 to 8:15 A.M.
		Weekday P.M.	4:15 to 5:15 P.M.
Homestead Road & Vernon Road	Thursday, February 25, 2021	Weekday A.M.	7:45 to 8:45 A.M.
		Weekday P.M.	5:00 to 6:00 P.M.

[1] *Peak Hour consists of the four consecutive 15-minute intervals where the highest traffic volumes occur.*

Count Adjustment

Due to COVID-19, traffic volumes are generally not representative of "typical traffic conditions". TPD utilized a comparison between the counts conducted in Table 3 and PennDOT TIRe historical traffic volume data. Based on this comparison, TPD increased the volumes at the study area intersections by **38%** during the weekday A.M. peak hour and **16%** during the weekday P.M. peak hour.

The existing condition traffic volumes for the weekday A.M. and P.M. peak hours are illustrated in **Figures 3 and 4**, respectively. Manual traffic count data sheets are provided in **Appendix B.**

BASE (NO-BUILD) CONDITIONS

Annual Background Growth

A background growth factor for the roadways in the study area was developed based on growth factors for August 2020 to July 2021 obtained from the PennDOT Bureau of Planning and Research (BPR). The PennDOT

BPR suggests using a background growth trend factor of 0.24% per year in Montgomery County for urban non-interstate roadways. As such, the background growth factor was applied annually to yield overall growth percentages of 0.48% (0.24% per year, compounded over 2 years) for the 2023 opening year.

The additional traffic volumes due to background growth were added to the existing traffic data to produce the 2023 base (no-build) condition traffic volumes. Base condition volumes for the weekday A.M. and P.M. peak hours are illustrated in **Figures 5 and 6**.

SCHEDULED ROADWAY IMPROVEMENTS

Based on a review of the Pennsylvania Transportation Improvement Program (TIP) there are no programmed roadway improvements in the vicinity of the proposed site.

PROPOSED SITE ACCESS

The proposed site will continue to be served by one enter-only driveway to Homestead Road opposite Cottman Street and one exit only driveway to Homestead Road.

Sight Distance Analysis

A sight distance analysis was prepared for the site driveways. In general, recommended safe sight distances depend upon the posted speed limit and roadway grades. The existing sight distances at the proposed driveways were measured in accordance with PennDOT Publication 282 Highway Occupancy Permit Guidelines and compared to PennDOT's desirable sight distance standard, which is identified in 67 PA Code Chapter 441.8(h), "Access to and Occupancy of Highways by Driveways and Local Roads." In addition, measured sight distances at the proposed driveways were compared to PennDOT's safe stopping sight distance standard, which is calculated by the following equation:

$$\mathbf{SSSD = 1.47VT + V^2/[30(f \pm g)]}$$

SSSD = safe stopping sight distance (acceptable sight distance)
V = Vehicle Speed
T = Perception Reaction Time of Driver (2.5 seconds)
f = Coefficient of Friction for Wet Pavements
g = Percent of Roadway Grade Divided by 100

Table 4 shows the measured, desirable, acceptable (SSSD), and required sight distances at the site driveways for vehicles entering and exiting the site.

TABLE 4
SIGHT DISTANCE ANALYSIS

	Direction	Speed	Grade[1]	Sight Distances (feet)		
				DES	SSSD	EXIST
Homestead Road Enter-Only Site Driveway						
Entering Left Turns	Approaching same direction	25 mph	-1%	250′	148′	**185′**
	Approaching opposite direction	25 mph	1%	195′	145′	**300+**
Homestead Road Exit-Only Site Driveway						
Exiting Movements	To the left	25 mph	-2%	250′	150′	**300+[2]**
	To the right	25 mph	1%	195′	145′	**375′[2]**

DES = PennDOT Desirable Sight Distance
SSSD = PennDOT Acceptable Sight Distance
EXIST = Existing (measured) Sight Distance
1 = Roadway Grade Approaching Driveway
2 = With restriction of on-street parking

During the field visit, the sight distance at the exit only driveway was obstructed by parked cars along the street. TPD recommends prohibiting parking within the sight triangle of the exit-only driveway to ensure that adequate sight distance is provided.

TRIP GENERATION

The trip generation rates for the proposed site were obtained from the manual *Trip Generation*, Tenth Edition, 2017, an Institute of Transportation Engineers (ITE) Informational Report. The data are categorized by Land Use Codes, with total vehicular trips for a given land use estimated using an independent variable and statistically generated rates or equations.

For the proposed development, the following land use codes from *Trip Generation* were used to calculate the number of vehicular trips the development will generate during the following time periods: (1) average weekday; (2) weekday A.M. peak hour; and (3) weekday P.M. peak hour. **Table 5** shows the rates/equations and directional percentages for the analyzed time periods.

TABLE 5
ITE TRIP GENERATION DATA

Land Use	ITE #	Time Period	Equations/Rates	Entering %	Exiting %
Multifamily Housing (Low Rise)	220	Weekday	T = 7.56*(X) – 40.86	50%	50%
		Weekday A.M. Peak Hour	Ln(T) = 0.95*Ln(X) – 0.51	23%	77%
		Weekday P.M. Peak Hour	Ln(T) = 0.89*Ln(X) – 0.02	63%	37%
Rock Climbing Gym	434	Weekday	T = 10.64*(X)[1]	50%	50%
		Weekday A.M. Peak Hour	T = 1.40*(X)	33%	67%
		Weekday P.M. Peak Hour	T = 1.64*(X)	57%	43%
Small Office Building	712	Weekday	T = 16.19*(X)	50%	50%
		Weekday A.M. Peak Hour	T = 1.92*(X)	83%	17%
		Weekday P.M. Peak Hour	T = 2.45*(X)	32%	68%

T = number of site-generated vehicular trips; X = independent variable (ksf, dwelling units)
1 = No ITE data available; Assumed daily trips would be 10 times higher than peak hour trips

While the apartments and leasing office have corresponding land uses in the *Trip Generation Manual,* there is not a straightforward land use match for the Little Gym use. The Little Gym offers fitness classes, including gymnastics, karate, dance and Kindermusic for infants and children. The ITE Land Use Code that is closest to this description is Rock Climbing Gym (Land Use Code 434) described as a *"recreational facility that houses artificial rock walls for the purpose of teaching and training individuals of all ages to climb. It may also offer entertainment opportunities or special events for individuals or groups of children or adults. After school programs and camps may also be offered."*

It should be noted that the apartments in the 3-story building behind Homestead Hall would fall under the ITE Land Use Code 221: Multifamily Housing (mid-rise). However, as a conservative measure, TPD calculated the trip generation for all of the apartments using the higher equations for Land Use Code 220. In addition, the leasing office is not anticipated to generate traffic as almost all apartment complexes have one and it is included in the trip generation calculations. TPD included trip generation calculations based on the square-footage of the office to be conservative. The trip generation summarized below in Table 6 includes the existing site uses that will remain as part of the development.

TABLE 6
TRIP GENERATION SUMMARY

Land Use (ITE Code)	Size (X)	New Trips		
		Total	Enter	Exit
Weekday				
Apartments (220)	37 DU	238	119	119
Little Gym (434)	5.4 ksf	90	45	45
Office (712)	2.5 ksf	40	20	20
Total	**---**	**368**	**184**	**184**
Weekday A.M. Peak Hour				
Apartments	37 DU	19	4	15
Little Gym	5.4 ksf	8	3	5
Office	2.5 ksf	5	4	1
Total	**---**	**32**	**11**	**21**
Weekday P.M. Peak Hour				
Apartments	37 DU	24	15	9
Little Gym	5.4 ksf	9	5	4
Office	2.5 ksf	6	2	4
Total	**---**	**49**	**22**	**17**

Based on the conservative trip generation analysis utilized in **Table 6**, the proposed development will generate approximately 32 new trips during the weekday A.M. peak hour and 49 new trips during the Weekday P.M. peak hour. These trip totals include the existing uses that will remain.

TRIP DISTRIBUTION

The distribution of trips generated by the proposed development was based on the local road network, the existing traffic patterns, the proposed use of the site (including the potential regional type nature of the site), and the site driveway locations. The new trips for the proposed development were distributed to the local roadway network based on the percentages shown in **Table 7**.

TABLE 7
TRIP DISTRIBUTION PERCENTAGES – NEW TRIPS

Direction - To/From	Trip Distribution Percentages
North via Old York Road (S.R. 0611)	50%
South via Old York Road (S.R. 0611)	45%
East via Vernon Road	5%

The assignment of site-generated trips for the proposed development during weekday A.M. and weekday P.M. peak hours are shown in **Figures 7 and 8**.

Existing Site Trip Redistribution

Although the small office use and two apartments are existing, TPD removed the existing traffic from the roadway network since the trip generation included the remaining uses. Redistributed trips shown in **Figures 9 and 10**.

PROJECTED (BUILD) CONDITION TRAFFIC VOLUMES

The site-generated trips for the proposed development were added to the 2023 base (no-build) condition traffic volumes to develop the 2023 projected (build) condition traffic volumes.

Projected condition traffic volumes for the opening year of 2023 for the weekday A.M. and weekday P.M. peak hours are shown in **Figures 11 and 12**. Traffic volume development worksheets are contained in **Appendix C**.

LEVELS OF SERVICE FOR AN INTERSECTION

For analysis of intersections, level of service is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. LOS criteria is stated in terms of control delay per vehicle for a one-hour analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The criteria are shown in **Table 8.** Delay, as it relates to level of service, is a complex measure and is dependent upon a number of variables. For signalized intersections, these variables include the quality of vehicle progression, the cycle length, the green time ratio, and the volume/capacity ratio for the lane group in question. For unsignalized intersections, delay is related to the availability of gaps in the flow of traffic on the major street and the driver's discretion in selecting an appropriate gap for a particular movement from the minor street (straight across, left or right turn).

TABLE 8
LEVEL OF SERVICE CRITERIA
UNSIGNALIZED AND SIGNALIZED INTERSECTIONS[1]

Level of Service	Control Delay Per Vehicle (Seconds)	
	Signalized	Unsignalized
A	< 10	< 10
B	> 10 and < 20	> 10 and < 15
C	> 20 and < 35	> 15 and < 25
D	> 35 and < 55	> 25 and < 35
E	> 55 and < 80	> 35 and < 50
F	> 80 or v/c > 1.0	> 50 or v/c > 1.0

[1] *Obtained from Exhibits 19-8, 19-9, 20-2, and 20-3 of the Transportation Research Board's Highway Capacity Manual, 6th Edition*

CAPACITY ANALYSIS METHODOLOGY

Capacity analyses were conducted for the weekday A.M. and weekday P.M. peak hours at the study area intersections. These analyses were conducted according to the methodologies contained in the *Highway Capacity Manual, 6th Edition* (HCM) using *Synchro 10* software, a Trafficware product.

The following conditions were analyzed, as applicable:

- Existing conditions;
- 2023 Base conditions (Build-out year without development);
- 2023 Projected conditions (Build-out year with development);

It should be noted that based on methodologies contained in Chapter 10 of PennDOT's Publication 46, TPD adjusted the following HCM default values in the *Synchro 10* capacity analysis. These adjustments were made at the signalized intersections within the study area for all time periods based on the study area location being classified as Suburban:

- Base saturation flow rates for signalized intersections. The saturation flow rate was changed from the default value of 1900 to 1800 based on Exhibit 10-9.
- Start-up lost time and extension of effective green time for signalized intersections. The startup lost time was changed from the default value of 2.0 seconds to 2.5 seconds. Based on the total clearance time (yellow plus all-red time) being greater than 5 seconds, the extension of green time was changed from the default value of 2 seconds to 3.5 seconds. These adjusted values were based on Exhibit 10-10.

In addition, capacity analyses were conducted at the proposed site driveway intersections under the 2023 projected conditions. The capacity analysis worksheets are included in **Appendix D**.

PennDOT's Transportation Impact Study Guidelines outlined in PennDOT's *Policies and Procedures for Transportation Impact Studies*, found in PennDOT's Publication 282, Appendix A, dated July, 2017 contain the following criteria regarding levels of service:

- Page 29 of the Guidelines state that if evaluation of the With Development Horizon Year Scenario to the Without Development Horizon Year Scenario indicates that the overall intersection level of service has dropped, the applicant will be required to mitigate the level of service if the increase in overall intersection delay is greater than 10-seconds. If the overall intersection delay increase is less than or equal to 10-seconds, mitigation of the intersection will not be required.
- Page 29 of the Guidelines state that for mitigation scenarios, applicants are expected to mitigate the overall intersection LOS to the original Without Development LOS; the 10-second delay variance is not applied to mitigation scenarios. Applicants may be required to address available storage and queue lengths at critical movements or approaches even if the overall LOS requirements are met.
- Page 31 of the Guidelines state that if signalization is the preferred alternative for mitigation, overall intersection LOS C in rural areas and LOS D in urban areas is acceptable.
- Page 31 of the Guidelines states new signalized or unsignalized intersection established to serve as access to the development shall be designed to operate at minimum LOS C for rural areas, and minimum LOS D for urban areas.

LEVELS OF SERVICE IN THE STUDY AREA

Level of service (LOS) matrices for the study area intersections are shown in **Table 9** for the weekday A.M. and weekday P.M. peak hours.

TABLE 9
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY

Intersection	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
	Existing	2023 Opening Year		Existing	2023 Opening Year	
		Base	Projected		Base	Projected
Old York Road (SR 0611) & Homestead Road						
WBR	C	C	C	B	B	B
SBL	B	B	B	B	B	B
ILOS	**A (1.6)**	**A (1.6)**	**A (1.9)**	**A (2.4)**	**A (2.4)**	**A (2.6)**
Homestead Road & Cottman Street/Enter-Only Driveway						
EBL	A	A	A	A	A	A
WBL	A	A	A	A	A	A
NBLTR	A	A	A	A	A	A
ILOS	**A (1.6)**	**A (1.6)**	**A (2.0)**	**A (2.1)**	**A (2.1)**	**A (2.8)**
Homestead Road & Exit-Only Driveway						
SBLR	A	A	A	A	A	A
ILOS	**A (0.0)**	**A (0.0)**	**A (0.9)**	**A (0.9)**	**A (0.9)**	**A (0.9)**
Homestead Road & Vernon Road						
EBLT	A	A	A	A	A	A
WBTR	A	A	A	A	A	A
NBLTR	A	A	A	A	A	A
ILOS	**A (8.7)**	**A (8.8)**	**A (8.7)**	**A (8.5)**	**A (8.5)**	**A (8.4)**

As shown in **Table 9**, under the 2023 projected conditions with the development of the proposed site, the study area intersections will operate at the same levels of service as seen under the existing and base conditions. Furthermore, all movements at the site driveways will operate at LOS A.

95TH PERCENTILE QUEUE ANALYSIS

Queue analyses were conducted at the study area intersections using *Synchro 10* software. For this analysis, the 95th percentile queue is defined as the queue length that is exceeded in 5% of the signal cycles. As an example, for a signal with a 90-second cycle, this means that the 95th percentile queue length will be exceeded during 2 of the 40 signal cycles that occur during the peak hour. The queue analysis results are summarized in **Table 10** for the analyzed peak hours.

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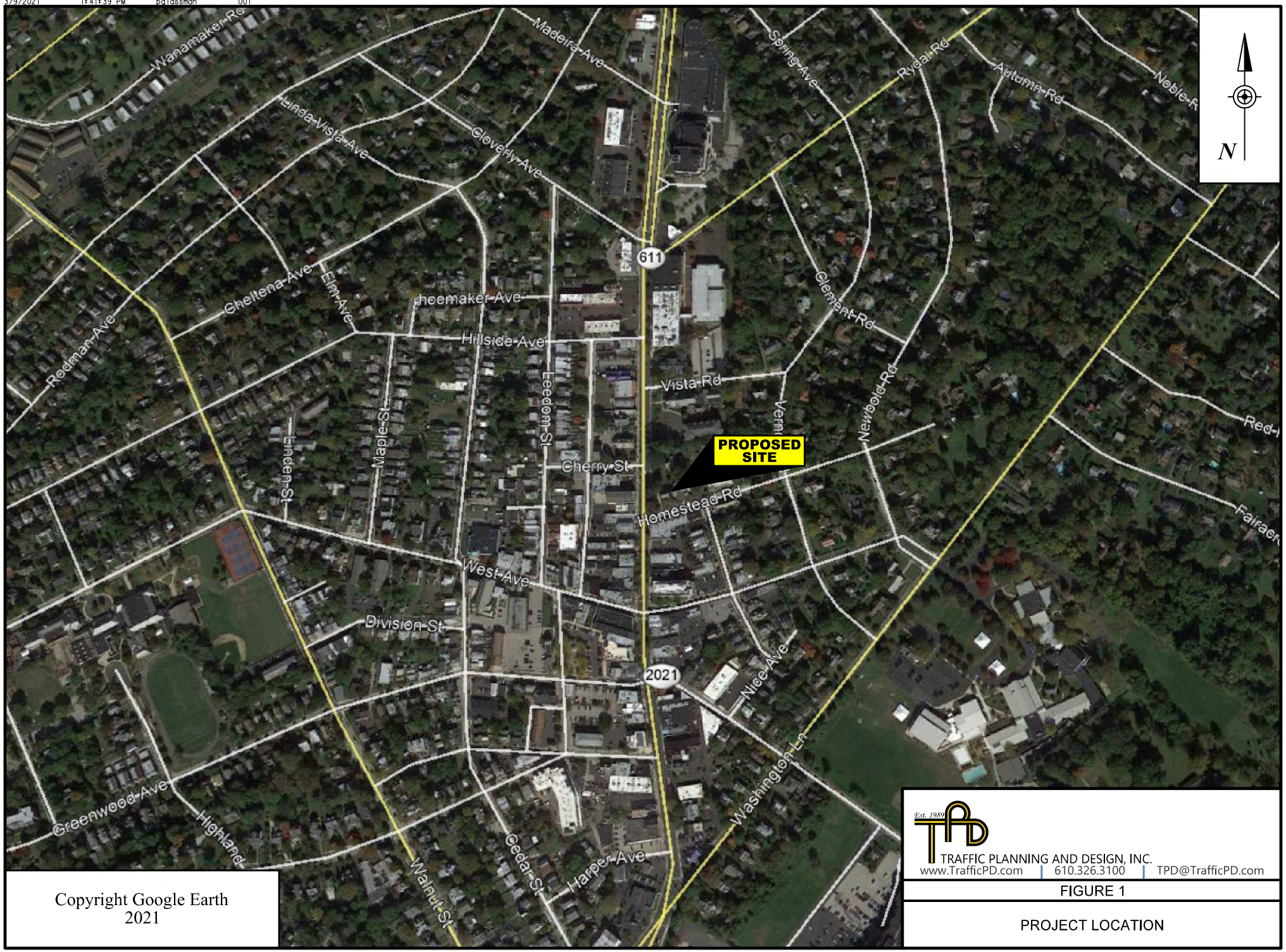

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FIGURE 1

PROJECT LOCATION

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3/15/2021 8:01:00 AM pglassman 002

1 BR UNITS - TYP. 700 SF
2 BR UNITS - TYP. 1100 SF
3 BR UNITS - TYP. 1465 SF
EXISTING STRUCTURES
COMMERCIAL PROFESSIONAL OFFICE

NEW BUILDING AREA:
1ST FLOOR - 13,572 SF
(20% COMMERICIAL SPACE 2714 SF)
2ND FLOOR - 13,025 SF
3RD FLOOR - 12,110 SF
TOTAL - 38,705 SF
TOTAL PARKING SPOTS: 69 SPOTS

PROGRAM COUNT
NEW BUILDING
(16) ONE BR UNITS
(14) TWO BR UNITS
(2) THREE BR UNITS
32 TOTAL UNITS

CHURCH
3 MULTI-STORY RESIDENTIAL UNITS

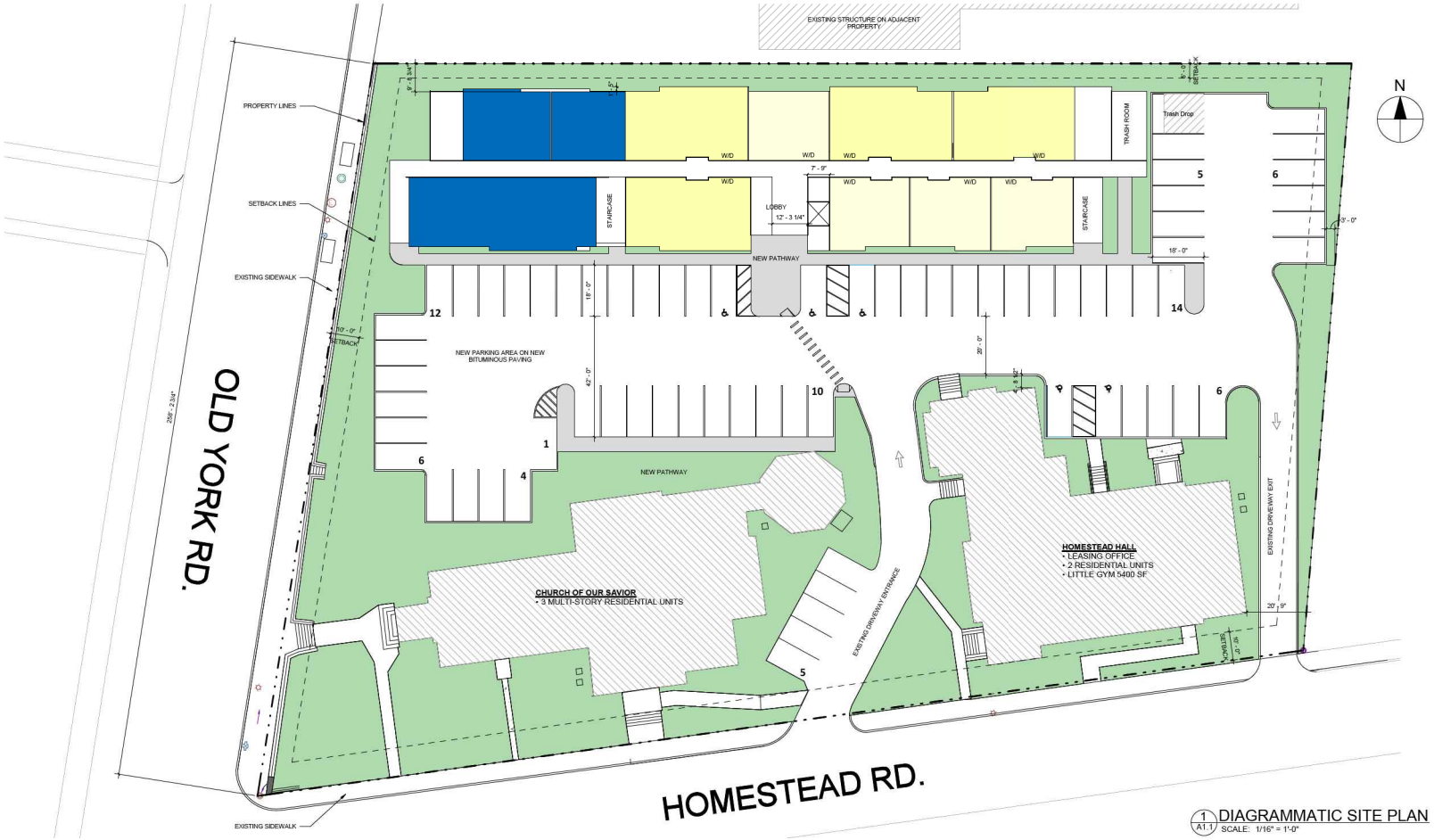
HOMESTEAD HALL
LEASING OFFICE
2 RESIDENTIAL UNITS
LITTLE GYM

PARKING CALCULATION

USE	DENSITY BY USE	USE FACTOR	REQ. SPACES
APARTMENTS	1.5 SPACES / 1 UNIT	37 UNITS	55.5 SPACES
COMMERICIAL	750SF/ 1 SPACE	2700 SF	3.60 SPACES
GYM	800 SF/ 1 SPACE	5400 SF	6.75 SPACES
		TOTAL:	65.85 SPACES
		PROVIDED:	69 SPACES

USE GROUP: NCR - NEIGHBORHOOD RESIDENTIAL DISTRICT

ZONING INFO.	REQUIRED/ALLOWABLE	EXISTING	PROPOSED
LOT AREA	MINIMUM 15,000 SF	80, 157 SF	UNCHANGED
LOT WIDTH	50' - 0"	258' - 0"	UNCHANGED
BUILDING HEIGHT	MIN. 2 STORIES & MAX. 4 STORIES OR 50'-0"		40' - 0"
BUILDING COVERAGE	MAXIMUM 40,000 SF	15, 302 SF	27, 432 SF
IMPERVIOUS COVERAGE	MAX 100%	39, 433 SF (..%)	54, 465 SF
SETBACKS:			
FRONT	15' - 0"	10' - 0"	11' - 6"
REAR	5' - 0"	N/A	N/A
SIDES	5' - 0"	20' - 9"	9' - 3"
PARKING	1.5 SPOTS PER UNIT	46	69
DENSITY (APARTMENT BLDG)	1, 500 SF LOT AREA = 1 UNIT 1, 200 SF LOT AREA/ADDITIONAL UNIT (78, 651 SF / 1200 SF) = 65 UNITS TOTAL UNITS ALLOWED = 66 UNITS	2	37 (2 EXISTING & 35 NEW)



1 A1.1 DIAGRAMMATIC SITE PLAN
SCALE: 1/16" = 1'-0"

rkc
REGAN KLINE CROSS ARCHITECTS

REGAN, KLINE, CROSS, LLC
ARCHITECTURE • PLANNING
PROJECT MANAGEMENT
7670 QUEEN ST., SUITE 200,
WYNDMOOR, PA 19038
PHONE: (215) 886-1888
FAX: (215) 886-8124

SEAL:

CONSULTANTS:

MIDGARD PROPERTIES
821 HOMESTEAD RD.
JENKINTOWN PA, 19046

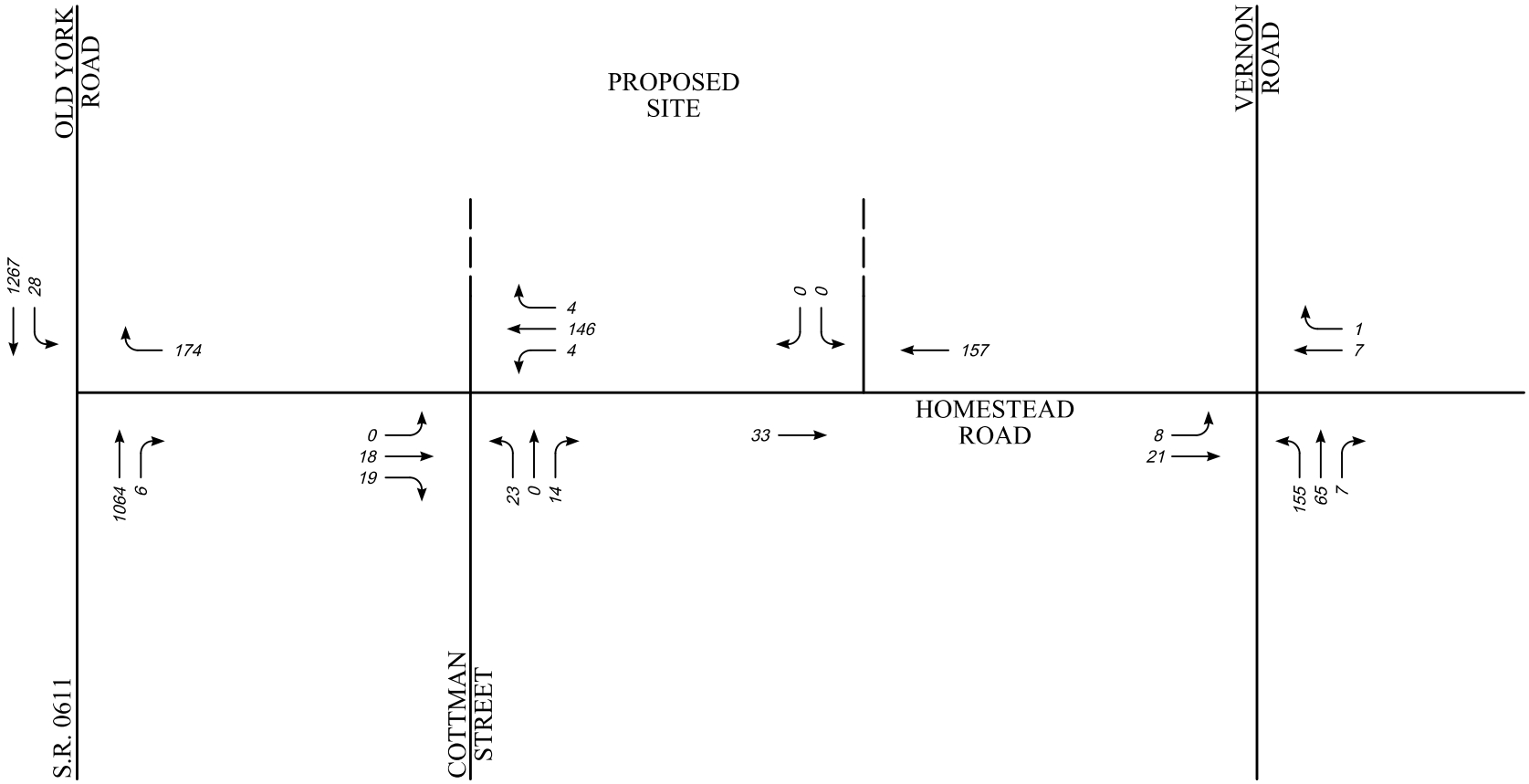
REVISION:

DATE: 02/23/2021
SCALE: 1/16" = 1'-0"
DWG. NO.:
A1.1
SITE PLAN

Est. 1989
TRAFFIC PLANNING AND DESIGN, INC.
www.TrafficPD.com | 610.326.3100 | TPD@TrafficPD.com

FIGURE 2

SITE PLAN



KEY:

- - - - - PROPOSED DRIVEWAY

SCHEMATIC DRAWING:NOT TO SCALE

N

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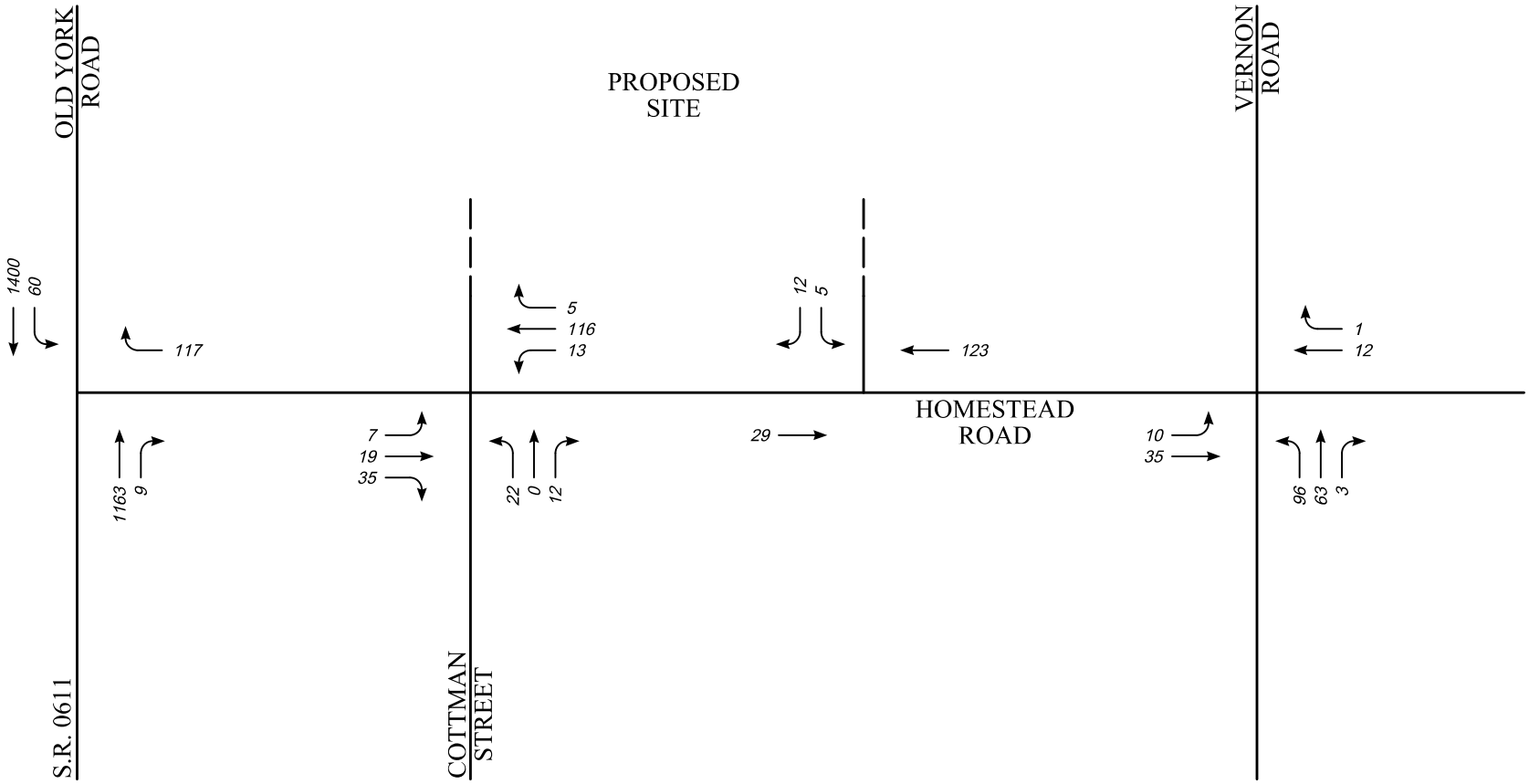
FIGURE 3

2021 EXISTING CONDITION
VEHICULAR TRAFFIC VOLUMES
WEEKDAY A.M. PEAK HOUR



KEY:

- - - - - - PROPOSED DRIVEWAY

SCHEMATIC DRAWING:NOT TO SCALE

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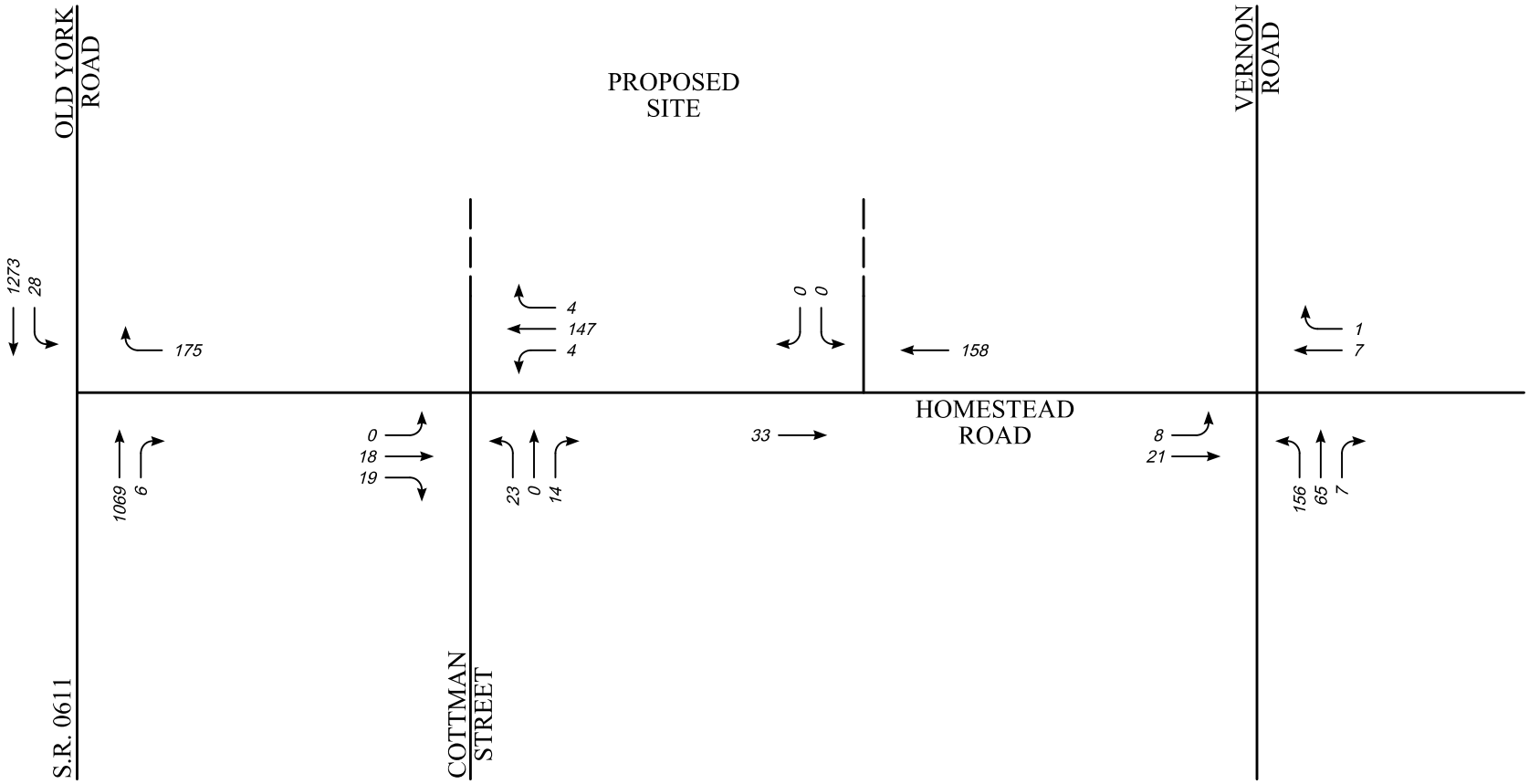
FIGURE 4

2021 EXISTING CONDITION
VEHICULAR TRAFFIC VOLUMES
WEEKDAY P.M. PEAK HOUR



KEY:

- - - - - PROPOSED DRIVEWAY

SCHEMATIC DRAWING:NOT TO SCALE

N

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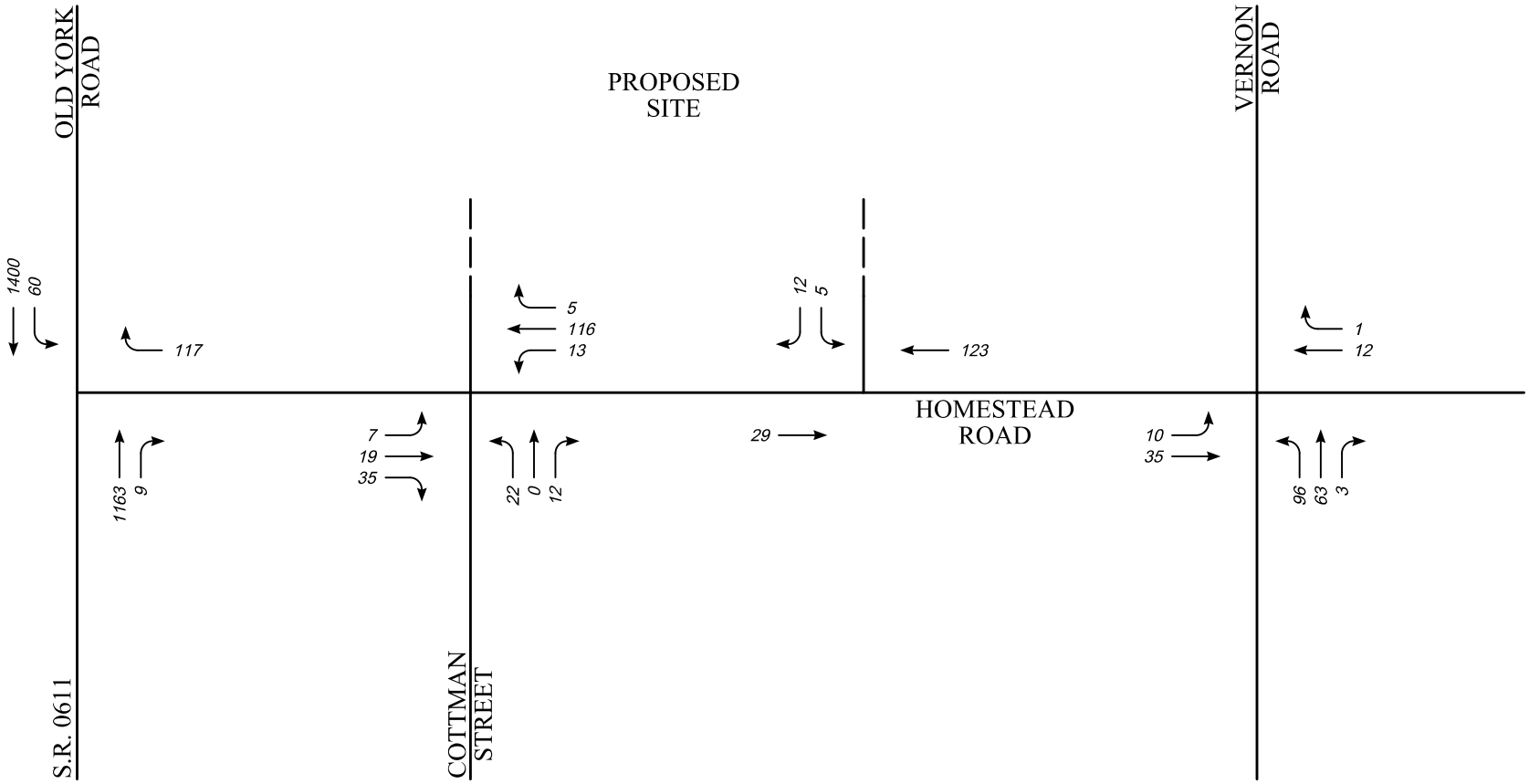
FIGURE 5

2023 BASE (NO-BUILD) CONDITION
VEHICULAR TRAFFIC VOLUMES
WEEKDAY A.M. PEAK HOUR



KEY:

- - - - - PROPOSED DRIVEWAY

SCHEMATIC DRAWING:NOT TO SCALE

N

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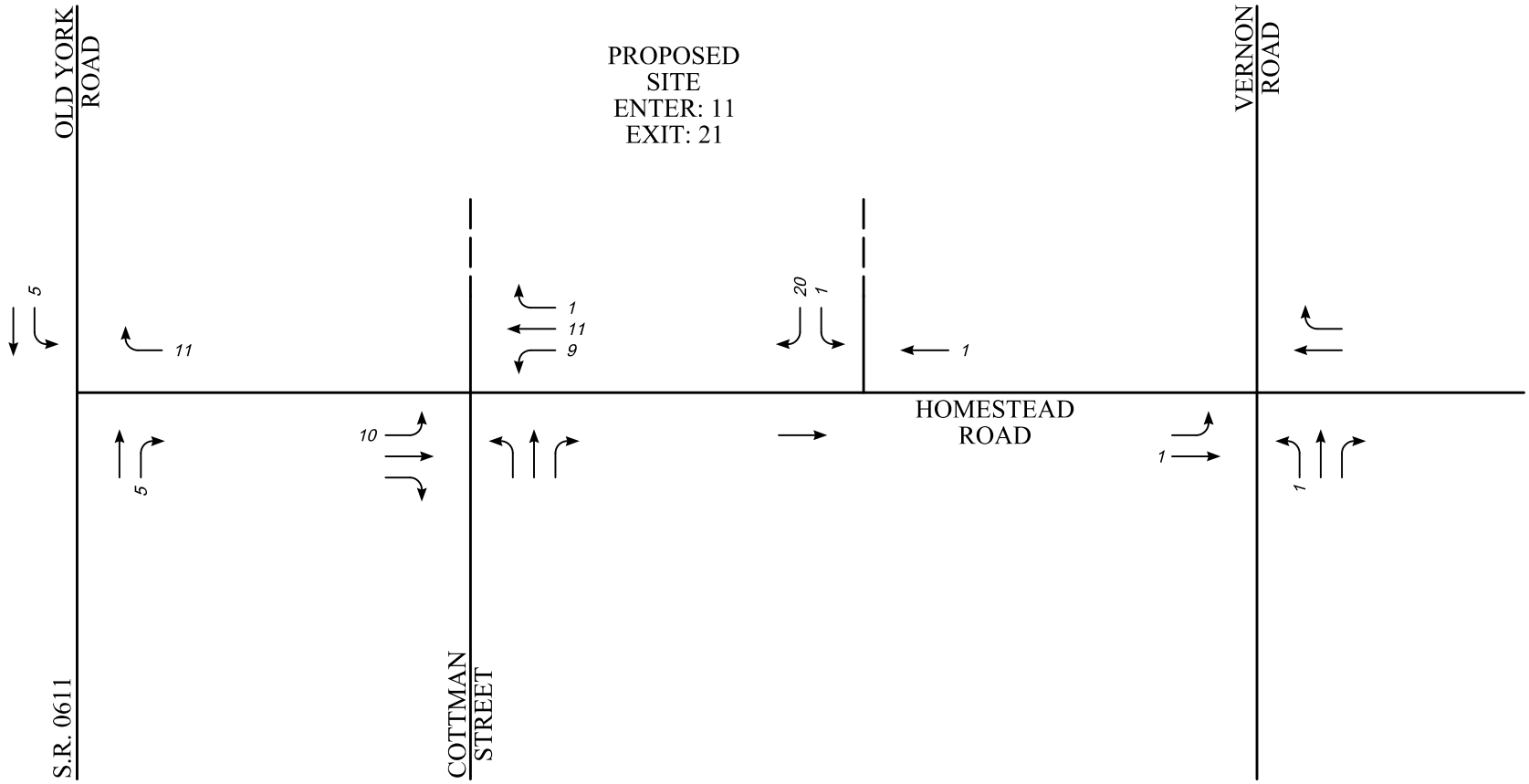
FIGURE 6

2023 BASE (NO-BUILD) CONDITION
VEHICULAR TRAFFIC VOLUMES
WEEKDAY P.M. PEAK HOUR



KEY:

- - - - - PROPOSED DRIVEWAY

SCHEMATIC DRAWING:NOT TO SCALE

N

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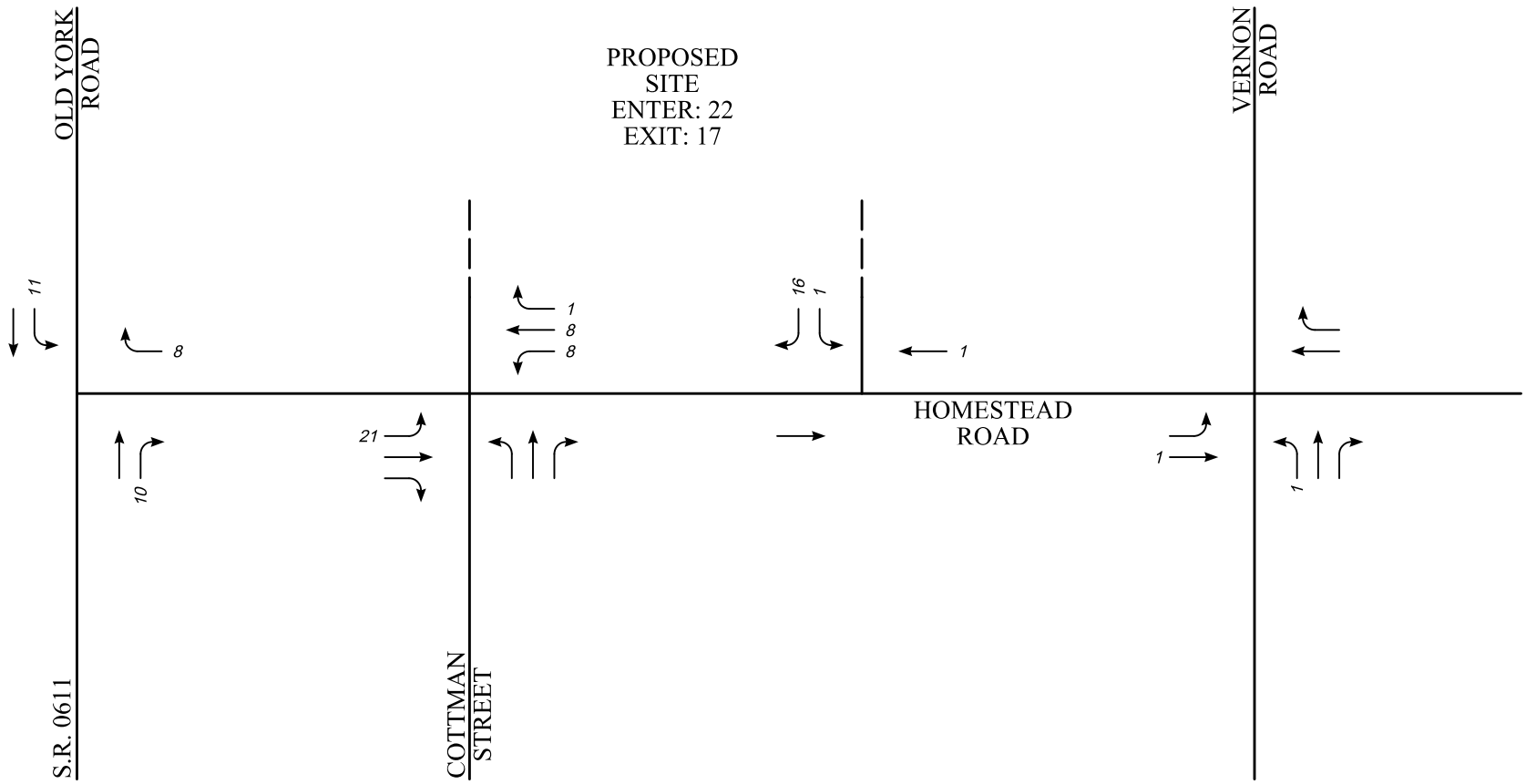
FIGURE 7

SITE TRIPS
WEEKDAY A.M. PEAK HOUR



KEY:

- - - - - PROPOSED DRIVEWAY

SCHEMATIC DRAWING:NOT TO SCALE

N

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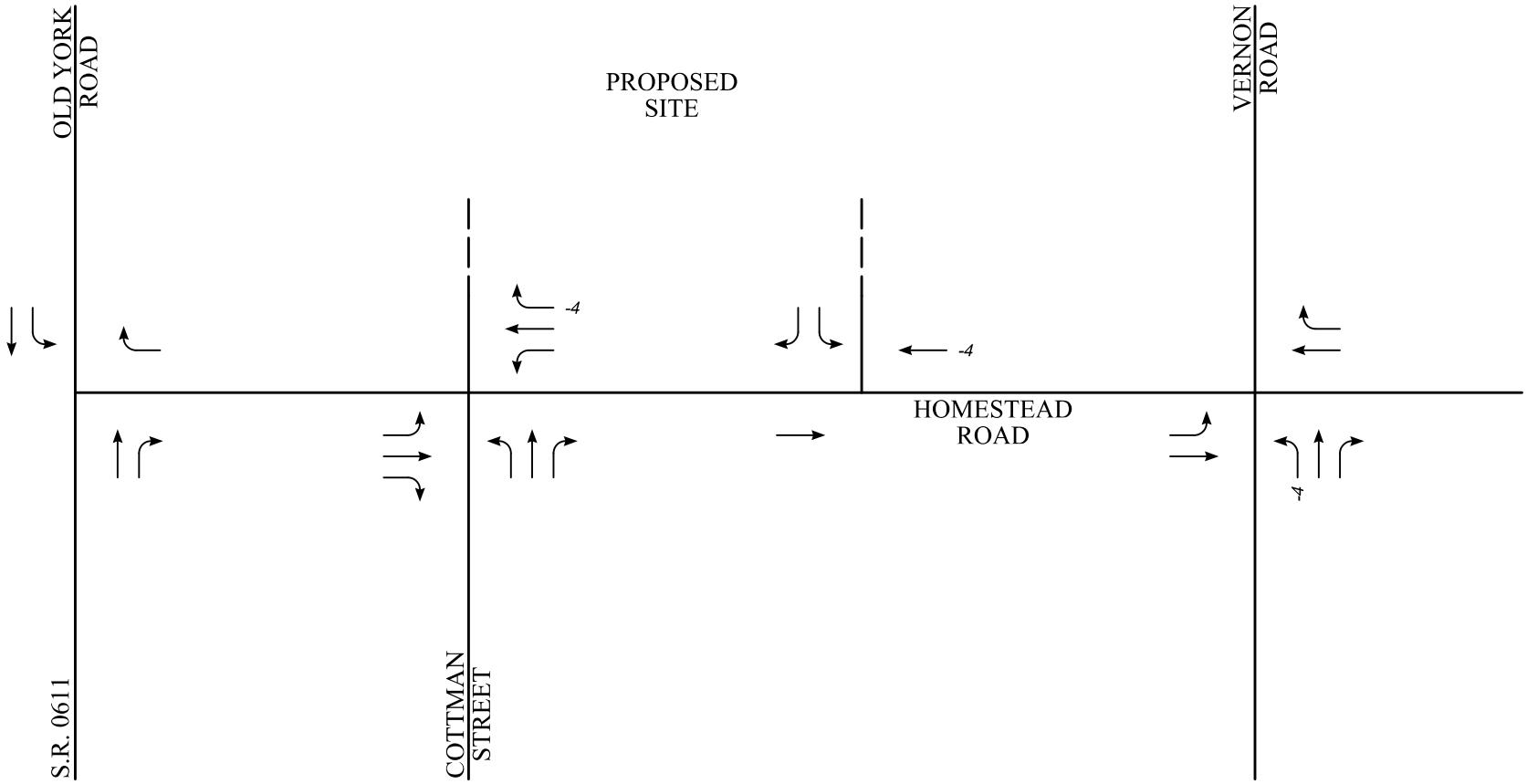
FIGURE 8

SITE TRIPS
WEEKDAY P.M. PEAK HOUR



KEY:

- - - - - PROPOSED DRIVEWAY

SCHEMATIC DRAWING:NOT TO SCALE

N

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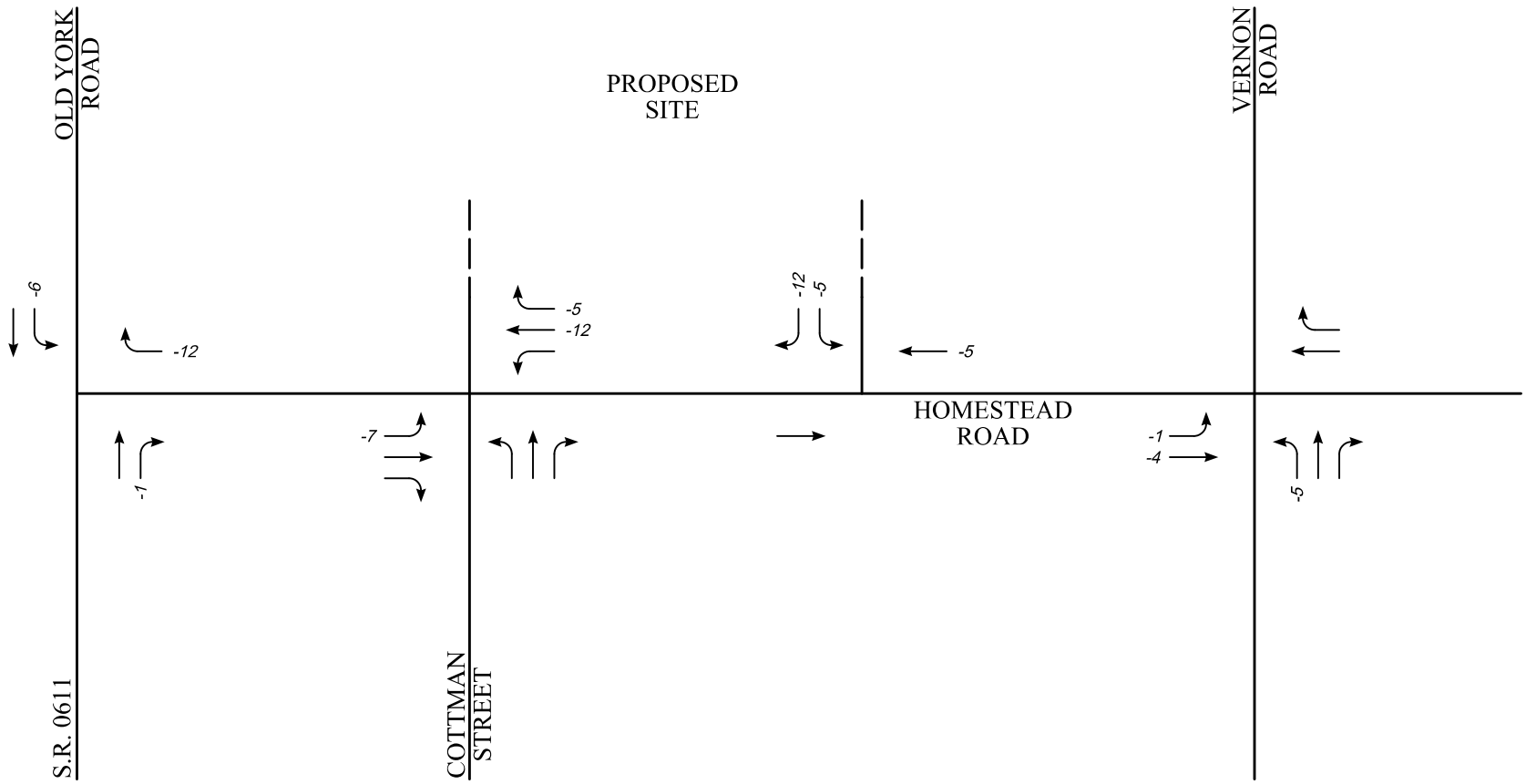
FIGURE 9

EXISTING SITE TRIP REDISTRIBUTION
WEEKDAY A.M. PEAK HOUR



KEY:

- - - - - PROPOSED DRIVEWAY

SCHEMATIC DRAWING:NOT TO SCALE

N

Est. 1989

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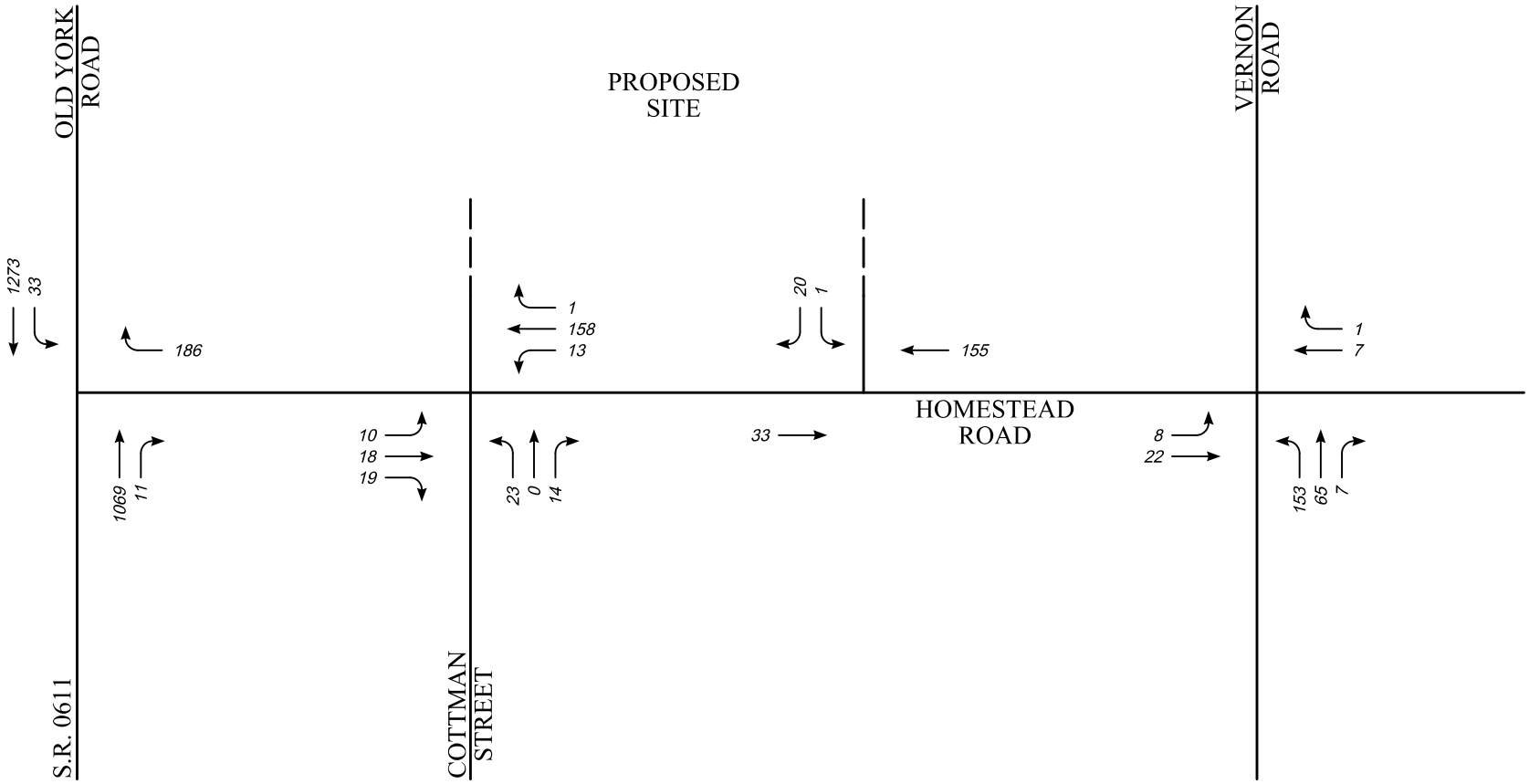
FIGURE 10

EXISTING SITE TRIP REDISTRIBUTION
WEEKDAY P.M. PEAK HOUR



KEY:

- - - - - PROPOSED DRIVEWAY

SCHEMATIC DRAWING:NOT TO SCALE

N

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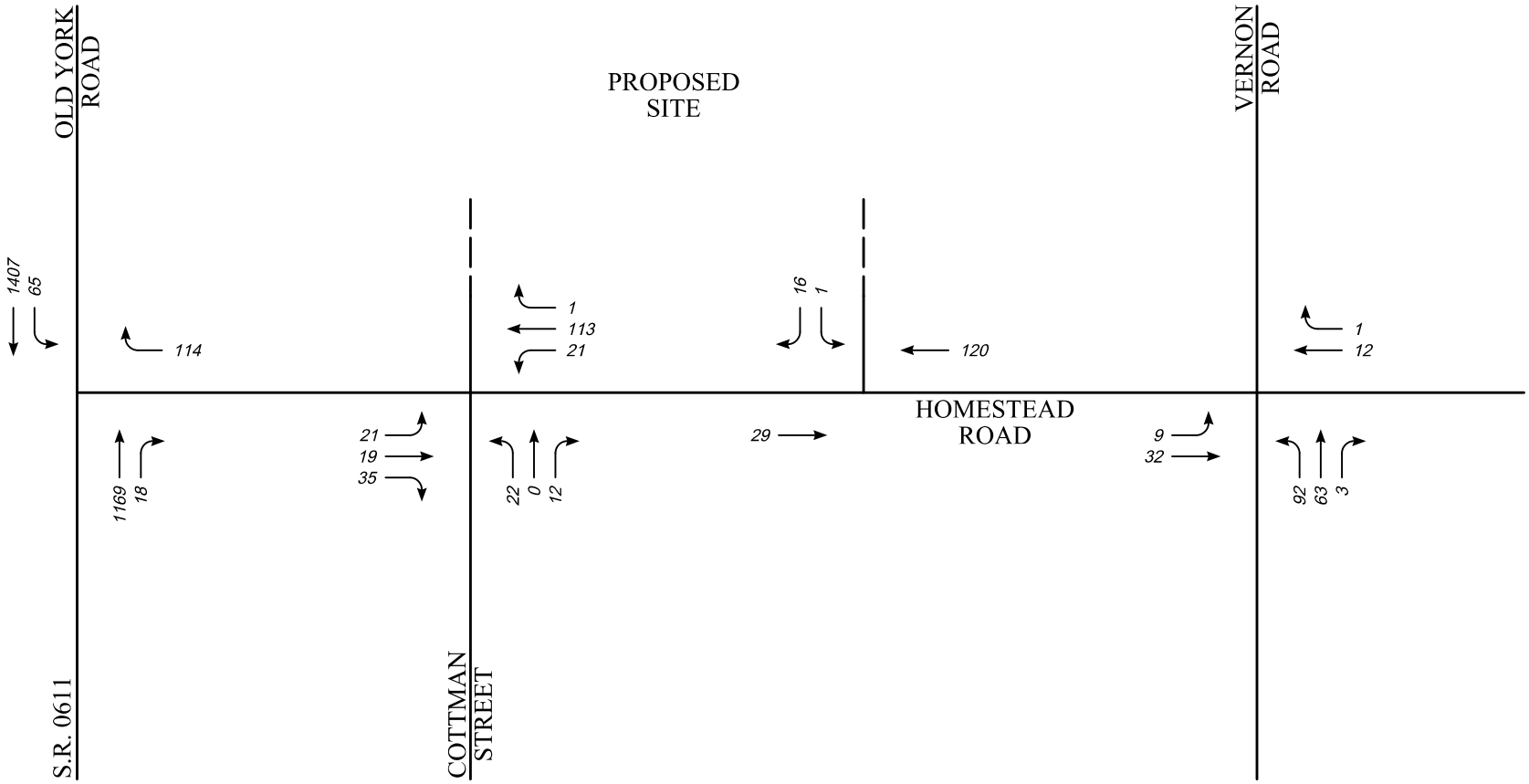
FIGURE 11

2023 PROJECTED (BUILD) CONDITION
VEHICULAR TRAFFIC VOLUMES
WEEKDAY A.M. PEAK HOUR

c:\pwworking\projectwise\pglassman\d1517068\2019-01 Figures.dgn
3/9/2021 1:41:52 PM pglassman 012



KEY:

- - - - - PROPOSED DRIVEWAY

SCHEMATIC DRAWING:NOT TO SCALE

N

Est. 1989

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FIGURE 12

2023 PROJECTED (BUILD) CONDITION
VEHICULAR TRAFFIC VOLUMES
WEEKDAY P.M. PEAK HOUR

APPENDIX A:
Study Area Photographs

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *Route 611 & Homestead Road*

Direction / Road: NB Route 611

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: NB Route 611

Approach / Departure: Approach

Distance: 150 Feet

Direction / Road: SB Route 611
Approach / Departure: Approach
Distance: 50 feet

Direction / Road: SB Route 611
Approach / Departure: Approach
Distance: 150 Feet

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *Route 611 & Homestead Road*

Direction / Road: WB Homestead Road

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: WB Homestead Road

Approach / Departure: Approach

Distance: 150 Feet

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *Cottman St-W Church DW & Homestead Road*

Direction / Road: NB Cottman Street

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: NB Cottman Street

Approach / Departure: Approach

Distance: 150 Feet

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *Cottman St-W Church DW & Homestead Road*

Direction / Road: SB W Church DW

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: SB W Church DW

Approach / Departure: Approach

Distance: 150 Feet

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *Cottman St-W Church DW & Homestead Road*

Direction / Road: EB Homestead Road

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: EB Homestead Road

Approach / Departure: Approach

Distance: 150 Feet

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *Cottman St-W Church DW & Homestead Road*

Direction / Road: WB Homestead Road

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: WB Homestead Road

Approach / Departure: Approach

Distance: 150 Feet

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *E Church DW & Homestead Road*

Direction / Road: SB E Church DW

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: SB E Church DW

Approach / Departure: Approach

Distance: 150 Feet

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *E Church DW & Homestead Road*

Direction / Road: EB Homestead Road

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: EB Homestead Road

Approach / Departure: Approach

Distance: 150 Feet

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *E Church DW & Homestead Road*

Direction / Road: WB Homestead Road

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: WB Homestead Road

Approach / Departure: Approach

Distance: 150 Feet

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *Vernon Road & Homestead Road*

Direction / Road: NB Vernon Road

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: NB Vernon Road

Approach / Departure: Approach

Distance: 150 Feet

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *Vernon Road & Homestead Road*

Direction / Road: SB Vernon Road

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: SB Vernon Road

Approach / Departure: Approach

Distance: 150 Feet

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *Vernon Road & Homestead Road*

Direction / Road: EB Homestead Road

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: EB Homestead Road

Approach / Departure: Approach

Distance: 150 Feet

Job #: *RECC.00002* *Date Taken:* *2-27-2021* *Intersection Of:* *Vernon Road & Homestead Road*

Direction / Road: WB Homestead Road

Approach / Departure: Approach

Distance: 50 feet

Direction / Road: WB Homestead Road

Approach / Departure: Approach

Distance: 150 Feet

APPENDIX B:
Manual Traffic Count Printouts

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: Route 611 & Homestead Road
Site Code:
Start Date: 02/25/2021

Turning Movement Data

Start Time	Homestead Road Westbound				Route 611 Northbound				Route 611 Southbound				
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
7:00 AM	0	36	0	36	146	1	0	147	1	170	0	171	354
7:15 AM	0	40	0	40	182	0	0	182	3	253	0	256	478
7:30 AM	0	22	1	22	198	1	0	199	4	222	0	226	447
7:45 AM	0	31	1	31	196	2	0	198	9	237	0	246	475
Hourly Total	0	129	2	129	722	4	0	726	17	882	0	899	1754
8:00 AM	0	33	1	33	195	1	0	196	4	206	0	210	439
8:15 AM	0	34	0	34	200	2	0	202	2	220	0	222	458
8:30 AM	0	24	0	24	194	0	1	194	8	215	0	223	441
8:45 AM	0	24	1	24	196	1	2	197	7	252	0	259	480
Hourly Total	0	115	2	115	785	4	3	789	21	893	0	914	1818
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	28	0	28	255	0	0	255	7	320	0	327	610
4:15 PM	0	36	1	36	248	0	0	248	8	276	0	284	568
4:30 PM	0	24	1	24	256	1	0	257	11	307	0	318	599
4:45 PM	0	36	0	36	241	3	0	244	9	288	0	297	577
Hourly Total	0	124	2	124	1000	4	0	1004	35	1191	0	1226	2354
5:00 PM	1	20	0	21	231	2	0	233	15	303	0	318	572
5:15 PM	0	21	0	21	255	2	0	257	11	313	0	324	602
5:30 PM	0	25	1	25	267	0	1	267	12	308	0	320	612
5:45 PM	3	35	1	38	250	4	1	254	14	283	1	297	589
Hourly Total	4	101	2	105	1003	8	2	1011	52	1207	1	1259	2375
Grand Total	4	469	8	473	3510	20	5	3530	125	4173	1	4298	8301
Approach %	0.8	99.2	-	-	99.4	0.6	-	-	2.9	97.1	-	-	-
Total %	0.0	5.6	-	5.7	42.3	0.2	-	42.5	1.5	50.3	-	51.8	-
Lights	4	461	-	465	3435	19	-	3454	122	4058	-	4180	8099
% Lights	100.0	98.3	-	98.3	97.9	95.0	-	97.8	97.6	97.2	-	97.3	97.6
Other Vehicles	0	8	-	8	75	1	-	76	3	115	-	118	202
% Other Vehicles	0.0	1.7	-	1.7	2.1	5.0	-	2.2	2.4	2.8	-	2.7	2.4
Bicycles on Road	0	0	-	0	0	0	-	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	8	-	-	-	5	-	-	-	1	-	-
% Pedestrians	-	-	100.0	-	-	-	100.0	-	-	-	100.0	-	-

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: Route 611 & Homestead Road
Site Code:
Start Date: 02/25/2021
Page No: 2

Route 611 [N]		
Out	In	Total
3896	4180	8076
83	118	201
0	0	0
0	0	0
3979	**4298**	**8277**

4058	122	0
115	3	0
0	0	0
0	0	1
4173	**125**	**1**
T	L	P

Fake Approach [W]		
Out	In	Total
0	0	0
0	0	0
0	0	0
0	0	0
0	**0**	**0**

02/25/2021 7:00 AM
Ending At
02/25/2021 6:00 PM

Lights
Other Vehicles
Bicycles on Road
Pedestrians

Homestead Road [E]		
Out	In	Total
141	465	606
4	8	12
0	0	0
0	0	0
145	**473**	**618**

R	L	P
469	**4**	**8**
0	0	8
0	0	0
8	0	0
461	4	0

T	R	P
3435	19	0
75	1	0
0	0	0
0	0	5
3510	**20**	**5**

4062	3454	7516
115	76	191
0	0	0
0	0	0
4177	**3530**	**7707**
Out	In	Total
Route 611 [S]		

Turning Movement Data Plot

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: Route 611 & Homestead Road
Site Code:
Start Date: 02/25/2021

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Homestead Road Westbound				Route 611 Northbound				Route 611 Southbound				
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
7:15 AM	0	40	0	40	182	0	0	182	3	253	0	256	478
7:30 AM	0	22	1	22	198	1	0	199	4	222	0	226	447
7:45 AM	0	31	1	31	196	2	0	198	9	237	0	246	475
8:00 AM	0	33	1	33	195	1	0	196	4	206	0	210	439
Total	0	126	3	126	771	4	0	775	20	918	0	938	1839
Approach %	0.0	100.0	-	-	99.5	0.5	-	-	2.1	97.9	-	-	-
Total %	0.0	6.9	-	6.9	41.9	0.2	-	42.1	1.1	49.9	-	51.0	-
PHF	0.000	0.788	-	0.788	0.973	0.500	-	0.974	0.556	0.907	-	0.916	0.962
Lights	0	125	-	125	746	3	-	749	18	874	-	892	1766
% Lights	-	99.2	-	99.2	96.8	75.0	-	96.6	90.0	95.2	-	95.1	96.0
Other Vehicles	0	1	-	1	25	1	-	26	2	44	-	46	73
% Other Vehicles	-	0.8	-	0.8	3.2	25.0	-	3.4	10.0	4.8	-	4.9	4.0
Bicycles on Road	0	0	-	0	0	0	-	0	0	0	-	0	0
% Bicycles on Road	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	3	-	-	-	0	-	-	-	0	-	-
% Pedestrians	-	-	100.0	-	-	-	-	-	-	-	-	-	-

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Count Name: Route 611 & Homestead Road
Site Code:
Start Date: 02/25/2021

Route 611 [N]		
Out	In	Total
871	892	1763
26	46	72
0	0	0
0	0	0
897	**938**	**1835**

874	18	0
44	2	0
0	0	0
0	0	0
918	**20**	**0**
T	L	P

Fake Approach [W]		
Out	In	Total
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	**0**	**0**

Peak Hour Data

02/25/2021 7:15 AM
Ending At
02/25/2021 8:15 AM

Lights
Other Vehicles
Bicycles on Road
Pedestrians

R	L	P
126	**0**	**3**
0	0	3
0	0	0
1	0	0
125	0	0

Homestead Road [E]		
Out	In	Total
21	125	146
3	1	4
0	0	0
0	0	0
24	**126**	**150**

T	R	P
746	3	0
25	1	0
0	0	0
0	0	0
771	**4**	**0**

874	749	1623
44	26	70
0	0	0
0	0	0
918	**775**	**1693**
Out	In	Total
Route 611 [S]		

Turning Movement Peak Hour Data Plot (7:15 AM)

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: Route 611 & Homestead Road
Site Code:
Start Date: 02/25/2021

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Homestead Road Westbound				Route 611 Northbound				Route 611 Southbound				
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
5:00 PM	1	20	0	21	231	2	0	233	15	303	0	318	572
5:15 PM	0	21	0	21	255	2	0	257	11	313	0	324	602
5:30 PM	0	25	1	25	267	0	1	267	12	308	0	320	612
5:45 PM	3	35	1	38	250	4	1	254	14	283	1	297	589
Total	4	101	2	105	1003	8	2	1011	52	1207	1	1259	2375
Approach %	3.8	96.2	-	-	99.2	0.8	-	-	4.1	95.9	-	-	-
Total %	0.2	4.3	-	4.4	42.2	0.3	-	42.6	2.2	50.8	-	53.0	-
PHF	0.333	0.721	-	0.691	0.939	0.500	-	0.947	0.867	0.964	-	0.971	0.970
Lights	4	99	-	103	997	8	-	1005	52	1201	-	1253	2361
% Lights	100.0	98.0	-	98.1	99.4	100.0	-	99.4	100.0	99.5	-	99.5	99.4
Other Vehicles	0	2	-	2	6	0	-	6	0	6	-	6	14
% Other Vehicles	0.0	2.0	-	1.9	0.6	0.0	-	0.6	0.0	0.5	-	0.5	0.6
Bicycles on Road	0	0	-	0	0	0	-	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	2	-	-	-	2	-	-	-	1	-	-
% Pedestrians	-	-	100.0	-	-	-	100.0	-	-	-	100.0	-	-

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Count Name: Route 611 & Homestead Road
Site Code:
Start Date: 02/25/2021

Route 611 [N]		
Out	In	Total
1096	1253	2349
8	6	14
0	0	0
0	0	0
1104	**1259**	**2363**

1201	52	0
6	0	0
0	0	0
0	0	1
1207	**52**	**1**
T	L	P

Peak Hour Data

02/25/2021 5:00 PM
Ending At
02/25/2021 6:00 PM

Lights
Other Vehicles
Bicycles on Road
Pedestrians

Fake Approach [W]		
Out	In	Total
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	**0**	**0**

R	L	P
101	**4**	**2**
0	0	2
0	0	0
2	0	0
99	4	0

Homestead Road [E]		
Out	In	Total
60	103	163
0	2	2
0	0	0
0	0	0
60	**105**	**165**

T	R	P
997	8	0
6	0	0
0	0	0
0	0	2
1003	**8**	**2**

1205	1005	2210
6	6	12
0	0	0
0	0	0
1211	**1011**	**2222**
Out	In	Total
Route 611 [S]		

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

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: Cottman St-W Church DW & Homestead Road
Site Code:
Start Date: 02/25/2021

Turning Movement Data

Start Time	Homestead Road Eastbound					Homestead Road Westbound					Cottman Street Northbound					W Church DW Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	0	1	0	1	2	30	0	1	32	6	0	0	1	6	0	0	0	0	0	39
7:15 AM	0	2	1	0	3	1	34	0	0	35	5	0	1	0	6	0	1	0	0	1	45
7:30 AM	0	4	2	0	6	1	21	0	0	22	2	0	1	0	3	0	0	0	0	0	31
7:45 AM	0	6	4	0	10	0	24	0	0	24	6	0	3	1	9	0	0	0	0	0	43
Hourly Total	0	12	8	0	20	4	109	0	1	113	19	0	5	2	24	0	1	0	0	1	158
8:00 AM	0	4	2	0	6	2	28	0	1	30	4	0	3	2	7	0	0	0	0	0	43
8:15 AM	0	1	2	1	3	1	30	2	0	33	5	0	3	0	8	0	0	0	0	0	44
8:30 AM	0	2	6	0	8	0	24	1	0	25	2	0	1	0	3	0	0	0	0	0	36
8:45 AM	2	1	4	0	7	0	20	0	0	20	4	0	0	0	4	0	0	0	0	0	31
Hourly Total	2	8	14	1	24	3	102	3	1	108	15	0	7	2	22	0	0	0	0	0	154
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	1	1	5	0	7	1	28	1	2	30	1	0	0	1	1	0	0	0	0	0	38
4:15 PM	0	1	8	0	9	1	26	1	2	28	6	0	1	0	7	0	0	0	0	0	44
4:30 PM	2	4	5	0	11	3	23	0	7	26	5	0	0	6	5	0	0	0	0	0	42
4:45 PM	3	2	8	0	13	5	32	2	2	39	6	0	5	3	11	0	0	0	0	0	63
Hourly Total	6	8	26	0	40	10	109	4	13	123	18	0	6	10	24	0	0	0	0	0	187
5:00 PM	1	9	9	2	19	2	19	1	1	22	2	0	4	3	6	0	0	1	4	1	48
5:15 PM	1	2	8	1	11	1	15	0	2	16	5	0	1	0	6	0	0	0	0	0	33
5:30 PM	0	6	8	2	14	1	18	0	1	19	8	1	4	1	13	0	0	0	4	0	46
5:45 PM	2	4	9	1	15	7	29	3	0	39	9	1	5	18	15	0	0	0	2	0	69
Hourly Total	4	21	34	6	59	11	81	4	4	96	24	2	14	22	40	0	0	1	10	1	196
Grand Total	12	49	82	7	143	28	401	11	19	440	76	2	32	36	110	0	1	1	10	2	695
Approach %	8.4	34.3	57.3	-	-	6.4	91.1	2.5	-	-	69.1	1.8	29.1	-	-	0.0	50.0	50.0	-	-	-
Total %	1.7	7.1	11.8	-	20.6	4.0	57.7	1.6	-	63.3	10.9	0.3	4.6	-	15.8	0.0	0.1	0.1	-	0.3	-
Lights	12	46	81	-	139	27	395	11	-	433	74	2	32	-	108	0	1	1	-	2	682
% Lights	100.0	93.9	98.8	-	97.2	96.4	98.5	100.0	-	98.4	97.4	100.0	100.0	-	98.2	-	100.0	100.0	-	100.0	98.1
Other Vehicles	0	3	1	-	4	1	6	0	-	7	2	0	0	-	2	0	0	0	-	0	13
% Other Vehicles	0.0	6.1	1.2	-	2.8	3.6	1.5	0.0	-	1.6	2.6	0.0	0.0	-	1.8	-	0.0	0.0	-	0.0	1.9
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	7	-	-	-	-	19	-	-	-	-	36	-	-	-	-	10	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: Cottman St-W
Church DW & Homestead Road
Site Code:
Start Date: 02/25/2021
Page No: 2

W Church DW [N]		
Out	In	Total
25	2	27
0	0	0
0	0	0
0	0	0
25	**2**	**27**

1	1	0	0
0	0	0	0
0	0	0	0
0	0	0	10
1	**1**	**0**	**10**
R	T	L	P

Homestead Road [W]						
	Out	In	Total			
	470	139	609			
	8	4	12			
	0	0	0			
	0	0	0			
	478	**143**	**621**			
P	0	81	46	12	L	
P	0	1	3	0	T	
P	0	0	0	0	R	
P	7	0	0	0	P	
P	**7**	**82**	**49**	**12**		

02/25/2021 7:00 AM
Ending At
02/25/2021 6:00 PM

Lights
Other Vehicles
Bicycles on Road
Pedestrians

Homestead Road [E]						
	Out	In	Total			
	78	433	511			
	3	7	10			
	0	0	0			
	0	0	0			
	81	**440**	**521**			
R	0	0	0	11		
T	0	0	0	395		
L	0	0	0	27		
P	0	0	0	0		
P	**11**	**401**	**28**	**19**		

L	T	R	P
74	2	32	0
2	0	0	0
0	0	0	0
0	0	0	36
76	**2**	**32**	**36**

109	108	217
2	2	4
0	0	0
0	0	0
111	**110**	**221**
Out	In	Total
Cottman Street [S]		

Turning Movement Data Plot

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: Cottman St-W Church DW & Homestead Road
Site Code:
Start Date: 02/25/2021

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Homestead Road Eastbound					Homestead Road Westbound					Cottman Street Northbound					W Church DW Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:45 AM	0	6	4	0	10	0	24	0	0	24	6	0	3	1	9	0	0	0	0	0	43
8:00 AM	0	4	2	0	6	2	28	0	1	30	4	0	3	2	7	0	0	0	0	0	43
8:15 AM	0	1	2	1	3	1	30	2	0	33	5	0	3	0	8	0	0	0	0	0	44
8:30 AM	0	2	6	0	8	0	24	1	0	25	2	0	1	0	3	0	0	0	0	0	36
Total	0	13	14	1	27	3	106	3	1	112	17	0	10	3	27	0	0	0	0	0	166
Approach %	0.0	48.1	51.9	-	-	2.7	94.6	2.7	-	-	63.0	0.0	37.0	-	-	0.0	0.0	0.0	-	-	-
Total %	0.0	7.8	8.4	-	16.3	1.8	63.9	1.8	-	67.5	10.2	0.0	6.0	-	16.3	0.0	0.0	0.0	-	0.0	-
PHF	0.000	0.542	0.583	-	0.675	0.375	0.883	0.375	-	0.848	0.708	0.000	0.833	-	0.750	0.000	0.000	0.000	-	0.000	0.943
Lights	0	11	13	-	24	3	103	3	-	109	17	0	10	-	27	0	0	0	-	0	160
% Lights	-	84.6	92.9	-	88.9	100.0	97.2	100.0	-	97.3	100.0	-	100.0	-	100.0	-	-	-	-	-	96.4
Other Vehicles	0	2	1	-	3	0	3	0	-	3	0	0	0	-	0	0	0	0	-	0	6
% Other Vehicles	-	15.4	7.1	-	11.1	0.0	2.8	0.0	-	2.7	0.0	-	0.0	-	0.0	-	-	-	-	-	3.6
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	-	0.0	-	0.0	-	-	-	-	-	0.0
Pedestrians	-	-	-	1	-	-	-	-	1	-	-	-	-	3	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: Cottman St-W
Church DW & Homestead Road
Site Code:
Start Date: 02/25/2021
Page No: 4

W Church DW [N]		
Out	In	Total
3	0	3
0	0	0
0	0	0
0	0	0
3	**0**	**3**

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	**0**	**0**	**0**
R	T	L	P

Homestead Road [W]						
Out	In	Total				
120	24	144	0	11	13	0
3	3	6	0	2	1	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
123	**27**	**150**	**0**	**13**	**14**	**1**
			L	T	R	P

Peak Hour Data

02/25/2021 7:45 AM
Ending At
02/25/2021 8:45 AM

Lights
Other Vehicles
Bicycles on Road
Pedestrians

3	0	0	R
103	3	0	T
3	0	0	L
0	0	1	P
3	**0**	**1**	

Homestead Road [E]		
Out	In	Total
21	109	130
2	3	5
0	0	0
0	0	0
23	**112**	**135**

L	T	R	P
17	0	10	0
0	0	0	0
0	0	0	0
0	0	0	3
17	**0**	**10**	**3**

16	27	43
1	0	1
0	0	0
0	0	0
17	**27**	**44**
Out	In	Total
Cottman Street [S]		

Turning Movement Peak Hour Data Plot (7:45 AM)

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: Cottman St-W Church DW & Homestead Road
Site Code:
Start Date: 02/25/2021

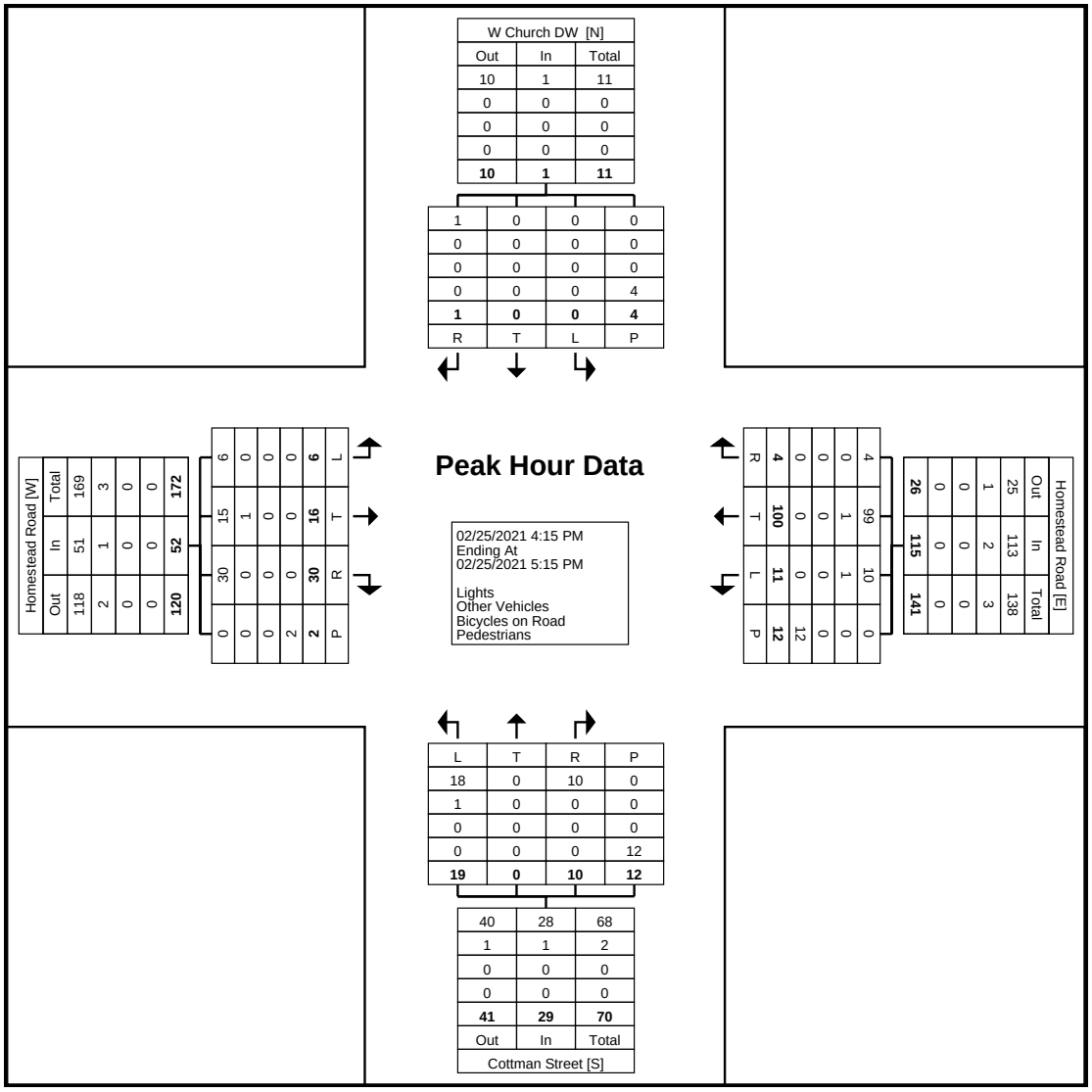
Turning Movement Peak Hour Data (4:15 PM)

Start Time	Homestead Road Eastbound					Homestead Road Westbound					Cottman Street Northbound					W Church DW Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:15 PM	0	1	8	0	9	1	26	1	2	28	6	0	1	0	7	0	0	0	0	0	44
4:30 PM	2	4	5	0	11	3	23	0	7	26	5	0	0	6	5	0	0	0	0	0	42
4:45 PM	3	2	8	0	13	5	32	2	2	39	6	0	5	3	11	0	0	0	0	0	63
5:00 PM	1	9	9	2	19	2	19	1	1	22	2	0	4	3	6	0	0	1	4	1	48
Total	6	16	30	2	52	11	100	4	12	115	19	0	10	12	29	0	0	1	4	1	197
Approach %	11.5	30.8	57.7	-	-	9.6	87.0	3.5	-	-	65.5	0.0	34.5	-	-	0.0	0.0	100.0	-	-	-
Total %	3.0	8.1	15.2	-	26.4	5.6	50.8	2.0	-	58.4	9.6	0.0	5.1	-	14.7	0.0	0.0	0.5	-	0.5	-
PHF	0.500	0.444	0.833	-	0.684	0.550	0.781	0.500	-	0.737	0.792	0.000	0.500	-	0.659	0.000	0.000	0.250	-	0.250	0.782
Lights	6	15	30	-	51	10	99	4	-	113	18	0	10	-	28	0	0	1	-	1	193
% Lights	100.0	93.8	100.0	-	98.1	90.9	99.0	100.0	-	98.3	94.7	-	100.0	-	96.6	-	-	100.0	-	100.0	98.0
Other Vehicles	0	1	0	-	1	1	1	0	-	2	1	0	0	-	1	0	0	0	-	0	4
% Other Vehicles	0.0	6.3	0.0	-	1.9	9.1	1.0	0.0	-	1.7	5.3	-	0.0	-	3.4	-	-	0.0	-	0.0	2.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	-	0.0	-	0.0	-	-	0.0	-	0.0	0.0
Pedestrians	-	-	-	2	-	-	-	-	12	-	-	-	-	12	-	-	-	-	4	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: Cottman St-W
Church DW & Homestead Road
Site Code:
Start Date: 02/25/2021
Page No: 6



Turning Movement Peak Hour Data Plot (4:15 PM)

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: E Church DW & Homestead Road
Site Code:
Start Date: 02/25/2021

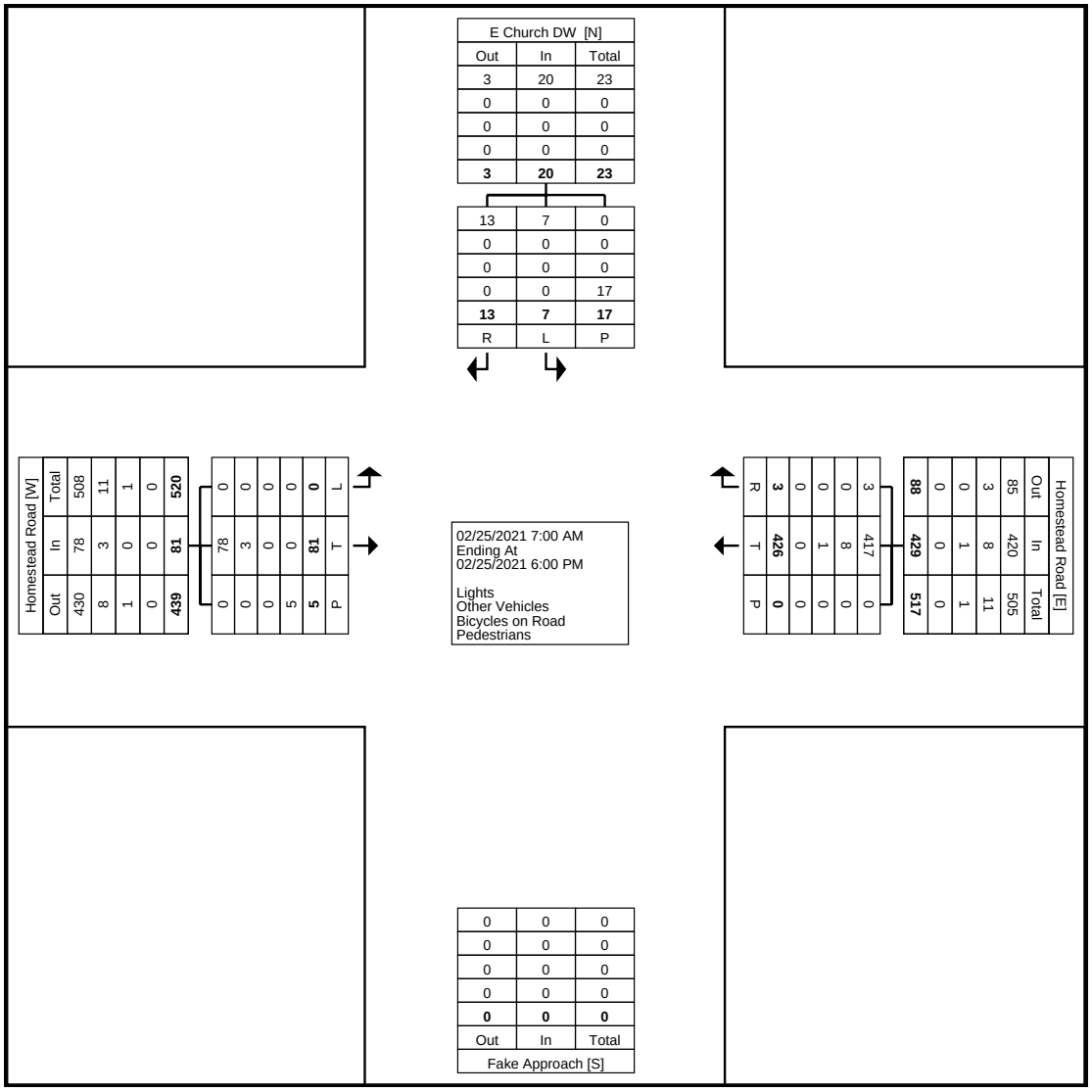
Turning Movement Data

Start Time	Homestead Road Eastbound				Homestead Road Westbound				E Church DW Southbound				
	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	31	0	0	31	0	0	0	0	31
7:15 AM	0	3	0	3	35	0	0	35	0	0	1	0	38
7:30 AM	0	5	0	5	22	0	0	22	0	0	0	0	27
7:45 AM	0	9	0	9	24	0	0	24	0	0	0	0	33
Hourly Total	0	17	0	17	112	0	0	112	0	0	1	0	129
8:00 AM	0	7	0	7	33	0	0	33	0	0	0	0	40
8:15 AM	0	5	2	5	30	0	0	30	0	0	0	0	35
8:30 AM	0	3	1	3	25	0	0	25	0	0	2	0	28
8:45 AM	0	1	0	1	20	0	0	20	0	0	0	0	21
Hourly Total	0	16	3	16	108	0	0	108	0	0	2	0	124
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	1	0	1	29	0	0	29	0	1	0	1	31
4:15 PM	0	2	0	2	29	1	0	30	0	1	0	1	33
4:30 PM	0	4	0	4	24	0	0	24	0	2	0	2	30
4:45 PM	0	6	0	6	31	2	0	33	3	7	0	10	49
Hourly Total	0	13	0	13	113	3	0	116	3	11	0	14	143
5:00 PM	0	13	2	13	22	0	0	22	1	0	7	1	36
5:15 PM	0	3	0	3	16	0	0	16	1	0	1	1	20
5:30 PM	0	10	0	10	20	0	0	20	0	0	3	0	30
5:45 PM	0	9	0	9	35	0	0	35	2	2	3	4	48
Hourly Total	0	35	2	35	93	0	0	93	4	2	14	6	134
Grand Total	0	81	5	81	426	3	0	429	7	13	17	20	530
Approach %	0.0	100.0	-	-	99.3	0.7	-	-	35.0	65.0	-	-	-
Total %	0.0	15.3	-	15.3	80.4	0.6	-	80.9	1.3	2.5	-	3.8	-
Lights	0	78	-	78	417	3	-	420	7	13	-	20	518
% Lights	-	96.3	-	96.3	97.9	100.0	-	97.9	100.0	100.0	-	100.0	97.7
Other Vehicles	0	3	-	3	8	0	-	8	0	0	-	0	11
% Other Vehicles	-	3.7	-	3.7	1.9	0.0	-	1.9	0.0	0.0	-	0.0	2.1
Bicycles on Road	0	0	-	0	1	0	-	1	0	0	-	0	1
% Bicycles on Road	-	0.0	-	0.0	0.2	0.0	-	0.2	0.0	0.0	-	0.0	0.2
Pedestrians	-	-	5	-	-	-	0	-	-	-	17	-	-
% Pedestrians	-	-	100.0	-	-	-	-	-	-	-	100.0	-	-

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: E Church DW & Homestead Road
Site Code:
Start Date: 02/25/2021
Page No: 2



Turning Movement Data Plot

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: E Church DW & Homestead Road
Site Code:
Start Date: 02/25/2021

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Homestead Road Eastbound				Homestead Road Westbound				E Church DW Southbound				
	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:15 AM	0	3	0	3	35	0	0	35	0	0	1	0	38
7:30 AM	0	5	0	5	22	0	0	22	0	0	0	0	27
7:45 AM	0	9	0	9	24	0	0	24	0	0	0	0	33
8:00 AM	0	7	0	7	33	0	0	33	0	0	0	0	40
Total	0	24	0	24	114	0	0	114	0	0	1	0	138
Approach %	0.0	100.0	-	-	100.0	0.0	-	-	0.0	0.0	-	-	-
Total %	0.0	17.4	-	17.4	82.6	0.0	-	82.6	0.0	0.0	-	0.0	-
PHF	0.000	0.667	-	0.667	0.814	0.000	-	0.814	0.000	0.000	-	0.000	0.863
Lights	0	22	-	22	112	0	-	112	0	0	-	0	134
% Lights	-	91.7	-	91.7	98.2	-	-	98.2	-	-	-	-	97.1
Other Vehicles	0	2	-	2	2	0	-	2	0	0	-	0	4
% Other Vehicles	-	8.3	-	8.3	1.8	-	-	1.8	-	-	-	-	2.9
Bicycles on Road	0	0	-	0	0	0	-	0	0	0	-	0	0
% Bicycles on Road	-	0.0	-	0.0	0.0	-	-	0.0	-	-	-	-	0.0
Pedestrians	-	-	0	-	-	-	0	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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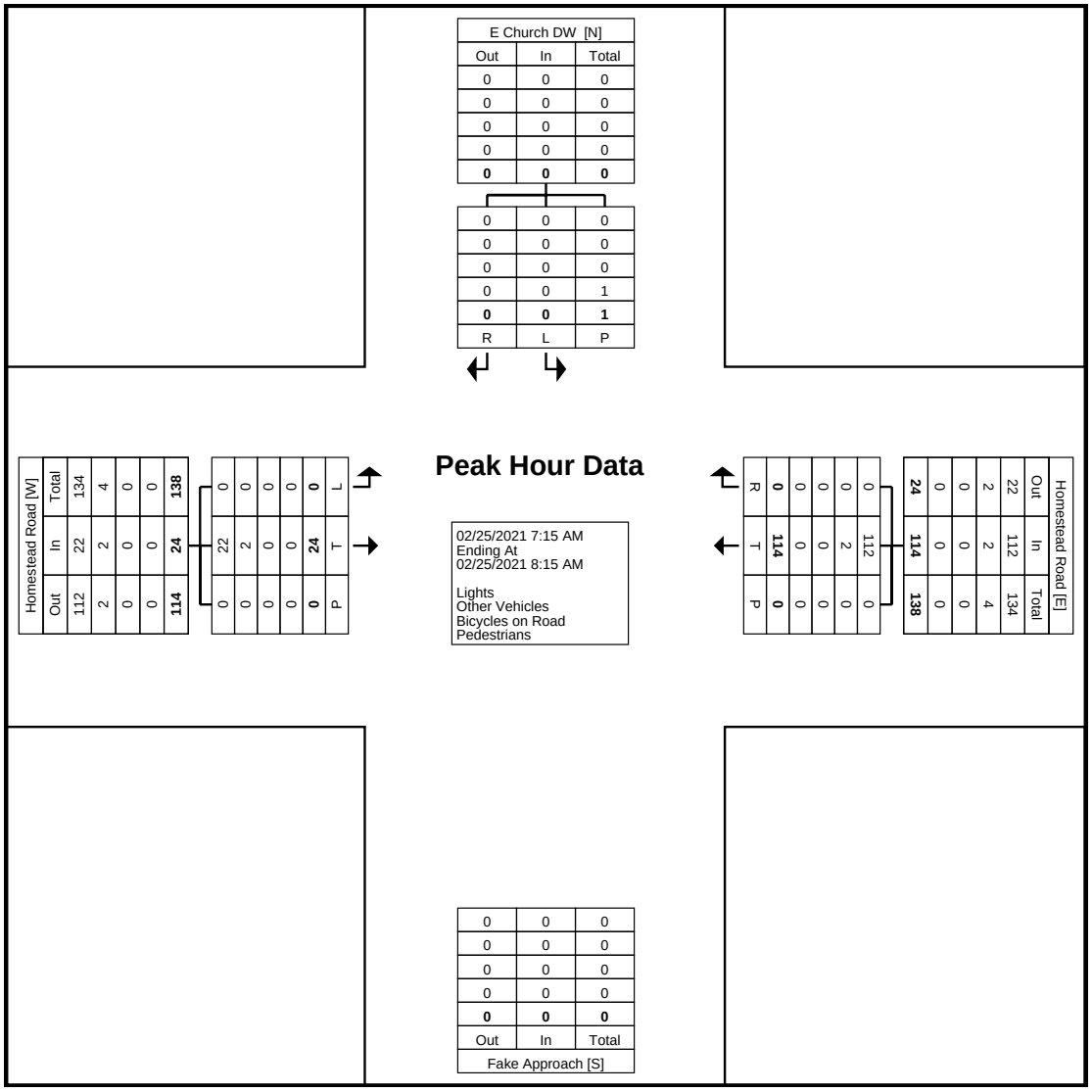
Weather:Clear:

Count Name: E Church DW & Homestead Road
Site Code:
Start Date: 02/25/2021
Page No: 4



Turning Movement Peak Hour Data Plot (7:15 AM)

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Count Name: E Church DW & Homestead Road
Site Code:
Start Date: 02/25/2021

Turning Movement Peak Hour Data (4:15 PM)

Start Time	Homestead Road Eastbound				Homestead Road Westbound				E Church DW Southbound				
	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
4:15 PM	0	2	0	2	29	1	0	30	0	1	0	1	33
4:30 PM	0	4	0	4	24	0	0	24	0	2	0	2	30
4:45 PM	0	6	0	6	31	2	0	33	3	7	0	10	49
5:00 PM	0	13	2	13	22	0	0	22	1	0	7	1	36
Total	0	25	2	25	106	3	0	109	4	10	7	14	148
Approach %	0.0	100.0	-	-	97.2	2.8	-	-	28.6	71.4	-	-	-
Total %	0.0	16.9	-	16.9	71.6	2.0	-	73.6	2.7	6.8	-	9.5	-
PHF	0.000	0.481	-	0.481	0.855	0.375	-	0.826	0.333	0.357	-	0.350	0.755
Lights	0	24	-	24	104	3	-	107	4	10	-	14	145
% Lights	-	96.0	-	96.0	98.1	100.0	-	98.2	100.0	100.0	-	100.0	98.0
Other Vehicles	0	1	-	1	2	0	-	2	0	0	-	0	3
% Other Vehicles	-	4.0	-	4.0	1.9	0.0	-	1.8	0.0	0.0	-	0.0	2.0
Bicycles on Road	0	0	-	0	0	0	-	0	0	0	-	0	0
% Bicycles on Road	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	2	-	-	-	0	-	-	-	7	-	-
% Pedestrians	-	-	100.0	-	-	-	-	-	-	-	100.0	-	-

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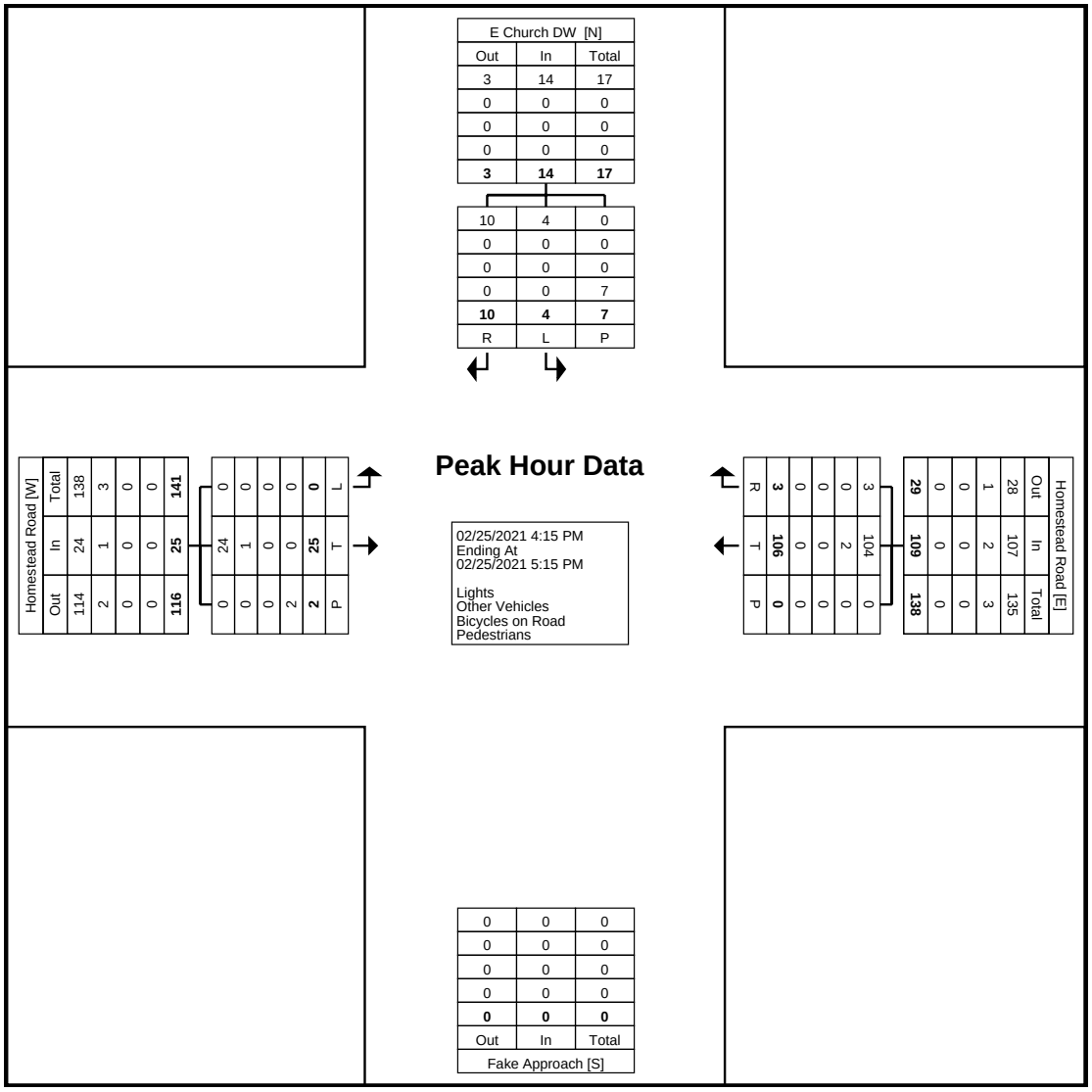
Count Name: E Church DW & Homestead Road
Site Code:
Start Date: 02/25/2021
Page No: 6



Turning Movement Peak Hour Data Plot (4:15 PM)

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Count Name: Vernon Road & Homestead Road
Site Code:
Start Date: 02/25/2021

Turning Movement Data

Start Time	Homestead Road Eastbound					Homestead Road Westbound					Vernon Road Northbound					Vernon Road Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	1	0	1	1	30	2	1	1	33	0	0	0	0	0	34
7:15 AM	1	2	0	0	3	0	0	0	2	0	35	5	0	0	40	0	0	0	2	0	43
7:30 AM	1	4	0	1	5	0	0	0	2	0	19	14	2	0	35	0	0	1	0	1	41
7:45 AM	1	7	0	0	8	0	0	0	2	0	25	10	2	0	37	0	0	0	0	0	45
Hourly Total	3	13	0	1	16	0	1	0	7	1	109	31	5	1	145	0	0	1	2	1	163
8:00 AM	1	6	0	0	7	0	2	1	0	3	33	11	1	2	45	0	0	0	0	0	55
8:15 AM	3	2	0	1	5	0	1	0	0	1	31	11	1	0	43	0	0	0	0	0	49
8:30 AM	1	0	0	2	1	0	2	0	0	2	23	15	1	1	39	0	0	0	0	0	42
8:45 AM	0	1	0	0	1	0	2	0	0	2	18	6	0	0	24	0	0	0	0	0	27
Hourly Total	5	9	0	3	14	0	7	1	0	8	105	43	3	3	151	0	0	0	0	0	173
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	2	0	0	2	0	0	0	4	0	30	8	0	0	38	0	0	0	0	0	40
4:15 PM	0	2	0	0	2	0	1	0	7	1	31	14	1	1	46	0	0	0	1	0	49
4:30 PM	0	4	0	2	4	0	1	1	1	2	20	11	0	0	31	0	0	0	0	0	37
4:45 PM	1	7	0	2	8	0	2	0	3	2	29	11	1	2	41	0	0	0	0	0	51
Hourly Total	1	15	0	4	16	0	4	1	15	5	110	44	2	3	156	0	0	0	1	0	177
5:00 PM	2	12	0	3	14	0	3	0	1	3	21	11	1	3	33	0	0	0	4	0	50
5:15 PM	1	4	0	1	5	0	2	1	5	3	12	11	0	0	23	0	0	0	0	0	31
5:30 PM	1	6	0	0	7	0	3	0	5	3	17	16	1	0	34	0	0	0	2	0	44
5:45 PM	5	8	0	0	13	1	2	0	5	3	33	16	1	3	50	0	0	0	4	0	66
Hourly Total	9	30	0	4	39	1	10	1	16	12	83	54	3	6	140	0	0	0	10	0	191
Grand Total	18	67	0	12	85	1	22	3	38	26	407	172	13	13	592	0	0	1	13	1	704
Approach %	21.2	78.8	0.0	-	-	3.8	84.6	11.5	-	-	68.8	29.1	2.2	-	-	0.0	0.0	100.0	-	-	-
Total %	2.6	9.5	0.0	-	12.1	0.1	3.1	0.4	-	3.7	57.8	24.4	1.8	-	84.1	0.0	0.0	0.1	-	0.1	-
Lights	18	62	0	-	80	0	20	3	-	23	400	169	13	-	582	0	0	1	-	1	686
% Lights	100.0	92.5	-	-	94.1	0.0	90.9	100.0	-	88.5	98.3	98.3	100.0	-	98.3	-	-	100.0	-	100.0	97.4
Other Vehicles	0	4	0	-	4	0	1	0	-	1	7	1	0	-	8	0	0	0	-	0	13
% Other Vehicles	0.0	6.0	-	-	4.7	0.0	4.5	0.0	-	3.8	1.7	0.6	0.0	-	1.4	-	-	0.0	-	0.0	1.8
Bicycles on Road	0	1	0	-	1	1	1	0	-	2	0	2	0	-	2	0	0	0	-	0	5
% Bicycles on Road	0.0	1.5	-	-	1.2	100.0	4.5	0.0	-	7.7	0.0	1.2	0.0	-	0.3	-	-	0.0	-	0.0	0.7
Pedestrians	-	-	-	12	-	-	-	-	38	-	-	-	-	13	-	-	-	-	13	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

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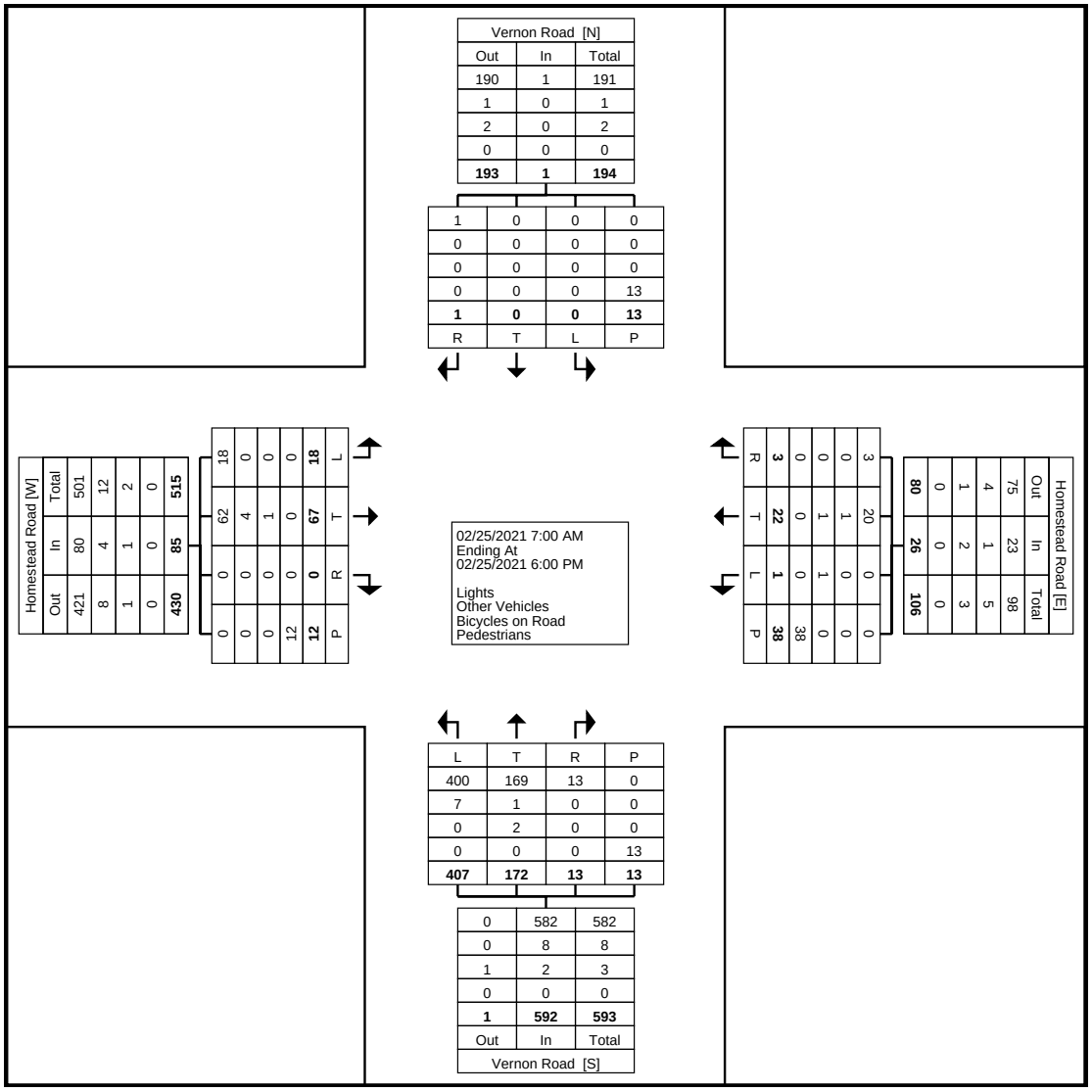
Weather:Clear:

Count Name: Vernon Road & Homestead Road
Site Code:
Start Date: 02/25/2021
Page No: 2



Turning Movement Data Plot

Counted By: Mio:
Set Up By: JH:
Weather:Clear:

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Count Name: Vernon Road & Homestead Road
Site Code:
Start Date: 02/25/2021

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Homestead Road Eastbound					Homestead Road Westbound					Vernon Road Northbound					Vernon Road Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:45 AM	1	7	0	0	8	0	0	0	2	0	25	10	2	0	37	0	0	0	0	0	45
8:00 AM	1	6	0	0	7	0	2	1	0	3	33	11	1	2	45	0	0	0	0	0	55
8:15 AM	3	2	0	1	5	0	1	0	0	1	31	11	1	0	43	0	0	0	0	0	49
8:30 AM	1	0	0	2	1	0	2	0	0	2	23	15	1	1	39	0	0	0	0	0	42
Total	6	15	0	3	21	0	5	1	2	6	112	47	5	3	164	0	0	0	0	0	191
Approach %	28.6	71.4	0.0	-	-	0.0	83.3	16.7	-	-	68.3	28.7	3.0	-	-	0.0	0.0	0.0	-	-	-
Total %	3.1	7.9	0.0	-	11.0	0.0	2.6	0.5	-	3.1	58.6	24.6	2.6	-	85.9	0.0	0.0	0.0	-	0.0	-
PHF	0.500	0.536	0.000	-	0.656	0.000	0.625	0.250	-	0.500	0.848	0.783	0.625	-	0.911	0.000	0.000	0.000	-	0.000	0.868
Lights	6	13	0	-	19	0	5	1	-	6	109	47	5	-	161	0	0	0	-	0	186
% Lights	100.0	86.7	-	-	90.5	-	100.0	100.0	-	100.0	97.3	100.0	100.0	-	98.2	-	-	-	-	-	97.4
Other Vehicles	0	2	0	-	2	0	0	0	-	0	3	0	0	-	3	0	0	0	-	0	5
% Other Vehicles	0.0	13.3	-	-	9.5	-	0.0	0.0	-	0.0	2.7	0.0	0.0	-	1.8	-	-	-	-	-	2.6
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	-	-	-	-	-	0.0
Pedestrians	-	-	-	3	-	-	-	-	2	-	-	-	-	3	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-

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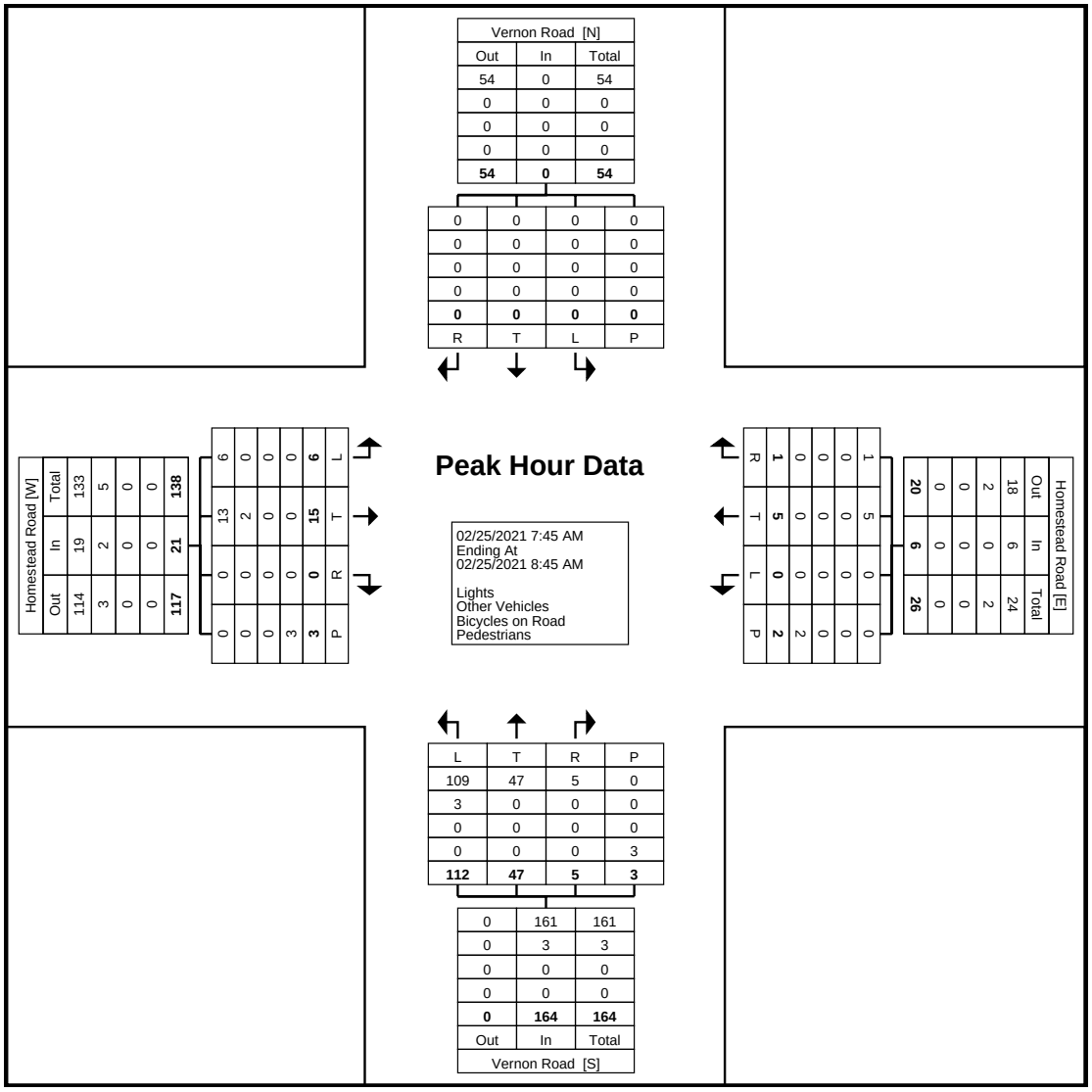

Turning Movement Peak Hour Data Plot (7:45 AM)

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Count Name: Vernon Road & Homestead Road
Site Code:
Start Date: 02/25/2021

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Homestead Road Eastbound					Homestead Road Westbound					Vernon Road Northbound					Vernon Road Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
5:00 PM	2	12	0	3	14	0	3	0	1	3	21	11	1	3	33	0	0	0	4	0	50
5:15 PM	1	4	0	1	5	0	2	1	5	3	12	11	0	0	23	0	0	0	0	0	31
5:30 PM	1	6	0	0	7	0	3	0	5	3	17	16	1	0	34	0	0	0	2	0	44
5:45 PM	5	8	0	0	13	1	2	0	5	3	33	16	1	3	50	0	0	0	4	0	66
Total	9	30	0	4	39	1	10	1	16	12	83	54	3	6	140	0	0	0	10	0	191
Approach %	23.1	76.9	0.0	-	-	8.3	83.3	8.3	-	-	59.3	38.6	2.1	-	-	0.0	0.0	0.0	-	-	-
Total %	4.7	15.7	0.0	-	20.4	0.5	5.2	0.5	-	6.3	43.5	28.3	1.6	-	73.3	0.0	0.0	0.0	-	0.0	-
PHF	0.450	0.625	0.000	-	0.696	0.250	0.833	0.250	-	1.000	0.629	0.844	0.750	-	0.700	0.000	0.000	0.000	-	0.000	0.723
Lights	9	29	0	-	38	0	9	1	-	10	82	52	3	-	137	0	0	0	-	0	185
% Lights	100.0	96.7	-	-	97.4	0.0	90.0	100.0	-	83.3	98.8	96.3	100.0	-	97.9	-	-	-	-	-	96.9
Other Vehicles	0	0	0	-	0	0	0	0	-	0	1	0	0	-	1	0	0	0	-	0	1
% Other Vehicles	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	1.2	0.0	0.0	-	0.7	-	-	-	-	-	0.5
Bicycles on Road	0	1	0	-	1	1	1	0	-	2	0	2	0	-	2	0	0	0	-	0	5
% Bicycles on Road	0.0	3.3	-	-	2.6	100.0	10.0	0.0	-	16.7	0.0	3.7	0.0	-	1.4	-	-	-	-	-	2.6
Pedestrians	-	-	-	4	-	-	-	-	16	-	-	-	-	6	-	-	-	-	10	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

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Set Up By: JH:
Weather:Clear:

Count Name: Vernon Road & Homestead Road
Site Code:
Start Date: 02/25/2021

Vernon Road [N]		
Out	In	Total
62	0	62
0	0	0
2	0	2
0	0	0
64	**0**	**64**

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	10
0	**0**	**0**	**10**
R	T	L	P

Homestead Road [W]					
Out	In	Total			
91	38	129	1	2	0
1	0	1			
1	1	2			
0	0	0			
93	**39**	**132**			

6	0	0	0	**9**
29	0	1	0	**30**
0	0	0	0	**0**
0	0	0	4	**4**
P	R	T	L	

Peak Hour Data

02/25/2021 5:00 PM
Ending At
02/25/2021 6:00 PM

Lights
Other Vehicles
Bicycles on Road
Pedestrians

R	T	L	P	
1	**10**	**1**	**16**	
0	0	0	16	
0	1	1	0	
0	0	0	0	
1	9	0	0	

Homestead Road [E]				
Out	In	Total		
32	10	42	0	1
0	0	0	0	0
1	2	3	0	0
0	0	0	0	0
33	**12**	**45**		

L	T	R	P
82	52	3	0
1	0	0	0
0	2	0	0
0	0	0	6
83	**54**	**3**	**6**

0	137	137
0	1	1
1	2	3
0	0	0
1	**140**	**141**
Out	In	Total
Vernon Road [S]		

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

APPENDIX C:
Volume Development Data

TPD# RECC.02
3/11/2021
Traffic Volumes Worksheet

Intersection:	**Old York Road & Homestead Road**									
Synchro Node:	**1**	**Adjacent intersections:**	**West**	**0**	**East**	**0**	**North**	**0**	**South**	**0**

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2021 Existing Counts				**0**		**126**		**771**	**4**	**20**	**918**		**1839**
Covid Adjustment	0	0	0	0	0	48	0	293	2	8	349	0	700
2021 Existing Volumes (Balanced)	**0**	**0**	**0**	**0**	**0**	**174**	**0**	**1064**	**6**	**28**	**1267**	**0**	**2539**
Base growth (0.24% compounded for 2 yrs)	0	0	0	0	0	1	0	5	0	0	6	0	12
													0
													0
													0
2023 Base (No-Build) Volumes	**0**	**0**	**0**	**0**	**0**	**175**	**0**	**1069**	**6**	**28**	**1273**	**0**	**2551**
Existing Trip Redistribution													
New Trips						11			5	5			21
Pass-by Trips													0
Total Trip Distribution	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**5**	**5**	**0**	**0**	**21**
2023 Projected (Build) Volumes	**0**	**0**	**0**	**0**	**0**	**186**	**0**	**1069**	**11**	**33**	**1273**	**0**	**2572**

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2021 Existing Counts				**4**		**101**		**1003**	**8**	**52**	**1207**		**2375**
Covid Adjustment	0	0	0	1	0	16	0	160	1	8	193	0	379
2021 Existing Volumes (Balanced)	**0**	**0**	**0**	**5**	**0**	**117**	**0**	**1163**	**9**	**60**	**1400**	**0**	**2754**
Base growth (0.24% compounded for 2 yrs)	0	0	0	0	0	1	0	6	0	0	7	0	14
0													0
0													0
0													0
2023 Base (No-Build) Volumes	**0**	**0**	**0**	**5**	**0**	**118**	**0**	**1169**	**9**	**60**	**1407**	**0**	**2768**
Existing Trip Redistribution						**-12**			**-1**	**-6**			
New Trips						8			10	11			29
Pass-by Trips													0
Total Trip Distribution	**0**	**0**	**0**	**0**	**0**	**-4**	**0**	**0**	**9**	**5**	**0**	**0**	**10**
2023 Projected (Build) Volumes	**0**	**0**	**0**	**5**	**0**	**114**	**0**	**1169**	**18**	**65**	**1407**	**0**	**2778**

TPD# RECC.02
3/11/2021
Traffic Volumes Worksheet

Intersection:	**Cottman Street & Homestead Road**									
Synchro Node:	**2**	**Adjacent intersections:**	**West**	**0**	**East**	**0**	**North**	**0**	**South**	**0**

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2021 Existing Counts	**0**	**13**	**14**	**3**	**106**	**3**	**17**	**0**	**10**	**0**	**0**	**0**	**166**
Covid Adjustment	0	5	5	1	40	1	6	0	4	0	0	0	62
2021 Existing Volumes (Balanced)	**0**	**18**	**19**	**4**	**146**	**4**	**23**	**0**	**14**	**0**	**0**	**0**	**228**
Base growth (0.24% compounded for 2 yrs)	0	0	0	0	1	0	0	0	0	0	0	0	1
													0
													0
													0
2023 Base (No-Build) Volumes	**0**	**18**	**19**	**4**	**147**	**4**	**23**	**0**	**14**	**0**	**0**	**0**	**229**
Existing Trip Redistribution						**-4**							
New Trips	10			9	11	1							31
Pass-by Trips													0
Total Trip Distribution	**10**	**0**	**0**	**9**	**11**	**-3**	**0**	**0**	**0**	**0**	**0**	**0**	**27**
2023 Projected (Build) Volumes	**10**	**18**	**19**	**13**	**158**	**1**	**23**	**0**	**14**	**0**	**0**	**0**	**256**

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2021 Existing Counts	**6**	**16**	**30**	**11**	**100**	**4**	**19**	**0**	**10**	**0**	**0**	**1**	**197**
Covid Adjustment	1	3	5	2	16	1	3	0	2	0	0	0	33
2021 Existing Volumes (Balanced)	**7**	**19**	**35**	**13**	**116**	**5**	**22**	**0**	**12**	**0**	**0**	**1**	**230**
Base growth (0.24% compounded for 2 yrs)	0	0	0	0	1	0	0	0	0	0	0	0	1
0													0
0													0
0													0
2023 Base (No-Build) Volumes	**7**	**19**	**35**	**13**	**117**	**5**	**22**	**0**	**12**	**0**	**0**	**1**	**231**
Existing Trip Redistribution	**-7**				**-12**	**-5**						**-1**	
New Trips	21			8	8	1							38
Pass-by Trips													0
Total Trip Distribution	**14**	**0**	**0**	**8**	**-4**	**-4**	**0**	**0**	**0**	**0**	**0**	**-1**	**13**
2023 Projected (Build) Volumes	**21**	**19**	**35**	**21**	**113**	**1**	**22**	**0**	**12**	**0**	**0**	**0**	**244**

TPD# RECC.02
3/11/2021
Traffic Volumes Worksheet

Intersection:	**Church Road & Homestead Road**									
Synchro Node:	**3**	**Adjacent intersections:**	**West**	**0**	**East**	**0**	**North**	**0**	**South**	**0**

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2021 Existing Counts	**0**	**24**			**114**	**0**				**0**		**0**	**138**
Covid Adjustment	0	9	0	0	43	0	0	0	0	0	0	0	52
2021 Existing Volumes (Balanced)	**0**	**33**	**0**	**0**	**157**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**190**
Base growth (0.24% compounded for 2 yrs)	0	0	0	0	1	0	0	0	0	0	0	0	1
													0
													0
													0
2023 Base (No-Build) Volumes	**0**	**33**	**0**	**0**	**158**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**191**
Existing Trip Redistribution					**-4**								
New Trips					1					1		20	22
Pass-by Trips													0
Total Trip Distribution	**0**	**0**	**0**	**0**	**-3**	**0**	**0**	**0**	**0**	**1**	**0**	**20**	**18**
2023 Projected (Build) Volumes	**0**	**33**	**0**	**0**	**155**	**0**	**0**	**0**	**0**	**1**	**0**	**20**	**209**

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2021 Existing Counts	**0**	**25**			**106**	**3**				**4**		**10**	**148**
Covid Adjustment	0	4	0	0	17	0	0	0	0	1	0	2	24
2021 Existing Volumes (Balanced)	**0**	**29**	**0**	**0**	**123**	**3**	**0**	**0**	**0**	**5**	**0**	**12**	**172**
Base growth (0.24% compounded for 2 yrs)	0	0	0	0	1	0	0	0	0	0	0	0	1
0													0
0													0
0													0
2023 Base (No-Build) Volumes	**0**	**29**	**0**	**0**	**124**	**3**	**0**	**0**	**0**	**5**	**0**	**12**	**173**
Existing Trip Redistribution					**-5**	**-3**				**-5**		**-12**	
New Trips					1					1		16	18
Pass-by Trips													0
Total Trip Distribution	**0**	**0**	**0**	**0**	**-4**	**-3**	**0**	**0**	**0**	**-4**	**0**	**4**	**-7**
2023 Projected (Build) Volumes	**0**	**29**	**0**	**0**	**120**	**0**	**0**	**0**	**0**	**1**	**0**	**16**	**166**

TPD# RECC.02
3/11/2021
Traffic Volumes Worksheet

Intersection:	**Vernon Road & Homestead Road**									
Synchro Node:	**4**	**Adjacent intersections:**	**West**	**0**	**East**	**0**	**North**	**0**	**South**	**0**

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2021 Existing Counts	**6**	**15**			**5**	**1**	**112**	**47**	**5**	**0**	**0**	**0**	**191**
Covid Adjustment	2	6	0	0	2	0	43	18	2	0	0	0	73
2021 Existing Volumes (Balanced)	**8**	**21**	**0**	**0**	**7**	**1**	**155**	**65**	**7**	**0**	**0**	**0**	**264**
Base growth (0.24% compounded for 2 yrs)	0	0	0	0	0	0	1	0	0	0	0	0	1
													0
													0
													0
2023 Base (No-Build) Volumes	**8**	**21**	**0**	**0**	**7**	**1**	**156**	**65**	**7**	**0**	**0**	**0**	**265**
Existing Trip Redistribution							**-4**						
New Trips		1					1						2
Pass-by Trips													0
Total Trip Distribution	**0**	**1**	**0**	**0**	**0**	**0**	**-3**	**0**	**0**	**0**	**0**	**0**	**-2**
2023 Projected (Build) Volumes	**8**	**22**	**0**	**0**	**7**	**1**	**153**	**65**	**7**	**0**	**0**	**0**	**263**

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2021 Existing Counts	**9**	**30**	**0**	**1**	**10**	**1**	**83**	**54**	**3**	**0**	**0**	**0**	**191**
Covid Adjustment	1	5	0	0	2	0	13	9	0	0	0	0	30
2021 Existing Volumes (Balanced)	**10**	**35**	**0**	**1**	**12**	**1**	**96**	**63**	**3**	**0**	**0**	**0**	**221**
Base growth (0.24% compounded for 2 yrs)	0	0	0	0	0	0	0	0	0	0	0	0	0
0													0
0													0
0													0
2023 Base (No-Build) Volumes	**10**	**35**	**0**	**1**	**12**	**1**	**96**	**63**	**3**	**0**	**0**	**0**	**221**
Existing Trip Redistribution	**-1**	**-4**					**-5**						
New Trips		1					1						2
Pass-by Trips													0
Total Trip Distribution	**-1**	**-3**	**0**	**0**	**0**	**0**	**-4**	**0**	**0**	**0**	**0**	**0**	**-8**
2023 Projected (Build) Volumes	**9**	**32**	**0**	**1**	**12**	**1**	**92**	**63**	**3**	**0**	**0**	**0**	**213**

APPENDIX D:
Capacity Analyses

Existing Conditions

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	174	1064	6	28	1267
Future Volume (vph)	0	174	1064	6	28	1267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	8	8
Grade (%)	-3%		-2%			6%
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865	0.999			
Flt Protected						0.999
Satd. Flow (prot)	0	1652	3179	0	0	2884
Flt Permitted						0.999
Satd. Flow (perm)	0	1652	3179	0	0	2884
Link Speed (mph)	25		25			25
Link Distance (ft)	243		529			619
Travel Time (s)	6.6		14.4			16.9
Confl. Peds. (#/hr)				3	3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	1%	3%	25%	10%	5%
Adj. Flow (vph)	0	181	1108	6	29	1320
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	181	1114	0	0	1349
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.98	1.13	1.13	1.25	1.25
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.4%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	174	1064	6	28	1267
Future Vol, veh/h	0	174	1064	6	28	1267
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-3	-	-2	-	-	6
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	1	3	25	10	5
Mvmt Flow	0	181	1108	6	29	1320

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	560	0	0	1117	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	3.9	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	2.9	-	-	2.4	-
Pot Cap-1 Maneuver	0	527	-	-	634	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	525	-	-	632	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	525	632	-
HCM Lane V/C Ratio	-	-	0.345	0.046	-
HCM Control Delay (s)	-	-	15.4	11	0.9
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	1.5	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	18	19	4	146	4	23	0	14	0	0	0
Future Volume (vph)	0	18	19	4	146	4	23	0	14	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.931			0.997			0.948				
Flt Protected					0.999			0.970				
Satd. Flow (prot)	0	1603	0	0	1831	0	0	1747	0	0	0	0
Flt Permitted					0.999			0.970				
Satd. Flow (perm)	0	1603	0	0	1831	0	0	1747	0	0	0	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		243			154			203			127	
Travel Time (s)		6.6			4.2			5.5			3.5	
Confl. Peds. (#/hr)			3	3			1		1	1		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	15%	7%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	19	20	4	155	4	24	0	15	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	163	0	0	39	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	1.01	1.01	1.00	1.00	1.00	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 26.8%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	18	19	4	146	4	23	0	14	0	0	0
Future Vol, veh/h	0	18	19	4	146	4	23	0	14	0	0	0
Conflicting Peds, #/hr	0	0	3	3	0	0	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	-1	-	-	1	-	-	0	-	-	3	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	15	7	0	3	0	0	0	0	0	0	0
Mvmt Flow	0	19	20	4	155	4	24	0	15	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	159	0	0	42	0	0	198	199	33
Stage 1	-	-	-	-	-	-	32	32	-
Stage 2	-	-	-	-	-	-	166	167	-
Critical Hdwy	4.3	-	-	4.3	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	3	-	-	3	-	-	3	4	3.1
Pot Cap-1 Maneuver	1060	-	-	1161	-	-	915	700	1113
Stage 1	-	-	-	-	-	-	1159	872	-
Stage 2	-	-	-	-	-	-	1002	764	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1060	-	-	1158	-	-	908	0	1109
Mov Cap-2 Maneuver	-	-	-	-	-	-	908	0	-
Stage 1	-	-	-	-	-	-	1156	0	-
Stage 2	-	-	-	-	-	-	997	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	975	1060	-	-	1158	-	-
HCM Lane V/C Ratio	0.04	-	-	-	0.004	-	-
HCM Control Delay (s)	8.8	0	-	-	8.1	0	-
HCM Lane LOS	A	A	-	-	A	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	33	157	0	0	0
Future Volume (vph)	0	33	157	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		1%	-2%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	0	1750	1881	0	1900	0
Flt Permitted						
Satd. Flow (perm)	0	1750	1881	0	1900	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		154	195		156	
Travel Time (s)		4.2	5.3		4.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	8%	2%	0%	0%	0%
Adj. Flow (vph)	0	38	183	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	38	183	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 11.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		⋔	
Traffic Vol, veh/h	0	33	157	0	0	0
Future Vol, veh/h	0	33	157	0	0	0
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	-2	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	8	2	0	0	0
Mvmt Flow	0	38	183	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	221	183
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3	3.1
Pot Cap-1 Maneuver	0	-	-	0	887	916
Stage 1	0	-	-	0	983	-
Stage 2	0	-	-	0	1152	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	887	916
Mov Cap-2 Maneuver	-	-	-	-	887	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	1152	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	21	0	0	7	1	155	65	7	0	0	0
Future Volume (vph)	8	21	0	0	7	1	155	65	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-1%			5%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.985			0.996				
Flt Protected		0.987						0.967				
Satd. Flow (prot)	0	1696	0	0	1881	0	0	1748	0	0	0	0
Flt Permitted		0.987						0.967				
Satd. Flow (perm)	0	1696	0	0	1881	0	0	1748	0	0	0	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		195			358			337			198	
Travel Time (s)		5.3			9.8			9.2			5.4	
Confl. Peds. (#/hr)			3	3			3		2	2		3
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	13%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%
Adj. Flow (vph)	9	24	0	0	8	1	178	75	8	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	9	0	0	261	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.03	1.03	1.03	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 34.4%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	21	0	0	7	1	155	65	7	0	0	0
Future Vol, veh/h	8	21	0	0	7	1	155	65	7	0	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	13	0	0	0	0	3	0	0	0	0	0
Mvmt Flow	9	24	0	0	8	1	178	75	8	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	7.5	8.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	68%	28%	0%
Vol Thru, %	29%	72%	88%
Vol Right, %	3%	0%	12%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	227	29	8
LT Vol	155	8	0
Through Vol	65	21	7
RT Vol	7	0	1
Lane Flow Rate	261	33	9
Geometry Grp	1	1	1
Degree of Util (X)	0.3	0.042	0.011
Departure Headway (Hd)	4.143	4.558	4.456
Convergence, Y/N	Yes	Yes	Yes
Cap	866	790	808
Service Time	2.172	2.558	2.457
HCM Lane V/C Ratio	0.301	0.042	0.011
HCM Control Delay	8.9	7.8	7.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.3	0.1	0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	117	1163	9	60	1400
Future Volume (vph)	5	117	1163	9	60	1400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	8	8
Grade (%)	-3%		-2%			6%
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865	0.999			
Flt Protected	0.950					0.998
Satd. Flow (prot)	0	1635	3246	0	0	3000
Flt Permitted	0.950					0.998
Satd. Flow (perm)	0	1635	3246	0	0	3000
Link Speed (mph)	25		25			25
Link Distance (ft)	243		529			619
Travel Time (s)	6.6		14.4			16.9
Confl. Peds. (#/hr)	2	1		2	2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	2%	1%	0%	0%	1%
Adj. Flow (vph)	5	121	1199	9	62	1443
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	121	1208	0	0	1505
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.98	1.13	1.13	1.25	1.25
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

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

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	117	1163	9	60	1400
Future Vol, veh/h	5	117	1163	9	60	1400
Conflicting Peds, #/hr	2	1	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-3	-	-2	-	-	6
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	1	0	0	1
Mvmt Flow	5	121	1199	9	62	1443

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2054	607	0	0	1210	0
Stage 1	1206	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Critical Hdwy	7.1	6.9	-	-	3.9	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	2.8	2.9	-	-	2.4	-
Pot Cap-1 Maneuver	45	490	-	-	589	-
Stage 1	347	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	21	489	-	-	588	-
Mov Cap-2 Maneuver	21	-	-	-	-	-
Stage 1	346	-	-	-	-	-
Stage 2	241	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.8	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	489	588	-
HCM Lane V/C Ratio	-	-	0.247	0.105	-
HCM Control Delay (s)	-	-	14.8	11.8	2.9
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	1	0.4	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	19	35	13	116	5	22	0	12	0	0	1
Future Volume (vph)	7	19	35	13	116	5	22	0	12	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.922			0.995			0.953			0.850	
Flt Protected		0.994			0.995			0.968				
Satd. Flow (prot)	0	1718	0	0	1855	0	0	1697	0	0	0	0
Flt Permitted		0.994			0.995			0.968				
Satd. Flow (perm)	0	1718	0	0	1855	0	0	1697	0	0	0	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		243			154			203			127	
Travel Time (s)		6.6			4.2			5.5			3.5	
Confl. Peds. (#/hr)	4		12	12		4	2		12	12		2
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	6%	0%	9%	0%	0%	5%	0%	0%	0%	0%	0%
Adj. Flow (vph)	9	24	45	17	149	6	28	0	15	0	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	78	0	0	172	0	0	43	0	0	1	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	1.01	1.01	1.00	1.00	1.00	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

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

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	19	35	13	116	5	22	0	12	0	0	1
Future Vol, veh/h	7	19	35	13	116	5	22	0	12	0	0	1
Conflicting Peds, #/hr	4	0	12	12	0	4	2	0	12	12	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	-1	-	-	1	-	-	0	-	-	3	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	6	0	9	0	0	5	0	0	0	0	0
Mvmt Flow	9	24	45	17	149	6	28	0	15	0	0	1

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	159	0	0	81	0	0	265	270	71
Stage 1	-	-	-	-	-	-	77	77	-
Stage 2	-	-	-	-	-	-	188	193	-
Critical Hdwy	4.3	-	-	4.3	-	-	6.45	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.45	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.45	5.5	-
Follow-up Hdwy	3	-	-	3	-	-	3	4	3.1
Pot Cap-1 Maneuver	1060	-	-	1127	-	-	832	640	1059
Stage 1	-	-	-	-	-	-	1103	835	-
Stage 2	-	-	-	-	-	-	975	745	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1060	-	-	1114	-	-	800	0	1035
Mov Cap-2 Maneuver	-	-	-	-	-	-	800	0	-
Stage 1	-	-	-	-	-	-	1081	0	-
Stage 2	-	-	-	-	-	-	956	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1	0.8	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	870	1060	-	-	1114	-	-
HCM Lane V/C Ratio	0.05	0.008	-	-	0.015	-	-
HCM Control Delay (s)	9.4	8.4	0	-	8.3	0	-
HCM Lane LOS	A	A	A	-	A	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	29	123	3	5	12
Future Volume (vph)	0	29	123	3	5	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		1%	-2%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.906	
Flt Protected					0.985	
Satd. Flow (prot)	0	1818	1877	0	1696	0
Flt Permitted					0.985	
Satd. Flow (perm)	0	1818	1877	0	1696	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		154	195		156	
Travel Time (s)		4.2	5.3		4.3	
Confl. Peds. (#/hr)	7			7		2
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	4%	2%	0%	0%	0%
Adj. Flow (vph)	0	38	162	4	7	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	38	166	0	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		⋔	
Traffic Vol, veh/h	0	29	123	3	5	12
Future Vol, veh/h	0	29	123	3	5	12
Conflicting Peds, #/hr	7	0	0	7	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	-2	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	0	38	162	4	7	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	209	173
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3	3.1
Pot Cap-1 Maneuver	0	-	-	-	902	928
Stage 1	0	-	-	-	996	-
Stage 2	0	-	-	-	1152	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	889	920
Mov Cap-2 Maneuver	-	-	-	-	889	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	1144	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	911
HCM Lane V/C Ratio	-	-	-	0.025
HCM Control Delay (s)	-	-	-	9.1
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	35	0	1	12	1	96	63	3	0	0	0
Future Volume (vph)	10	35	0	1	12	1	96	63	3	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-1%			5%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.993			0.998				
Flt Protected		0.989			0.997			0.971				
Satd. Flow (prot)	0	1860	0	0	1890	0	0	1785	0	0	0	0
Flt Permitted		0.989			0.997			0.971				
Satd. Flow (perm)	0	1860	0	0	1890	0	0	1785	0	0	0	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		195			358			337			198	
Travel Time (s)		5.3			9.8			9.2			5.4	
Confl. Peds. (#/hr)	10		6	6		10	4		16	16		4
Confl. Bikes (#/hr)			1			1			2			
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	14	49	0	1	17	1	133	88	4	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	0	0	19	0	0	225	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.03	1.03	1.03	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 28.7%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	35	0	1	12	1	96	63	3	0	0	0
Future Vol, veh/h	10	35	0	1	12	1	96	63	3	0	0	0
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	0	0	0	0	0	0	1	0	0	0	0	0
Mvmt Flow	14	49	0	1	17	1	133	88	4	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.9	7.6	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	59%	22%	7%
Vol Thru, %	39%	78%	86%
Vol Right, %	2%	0%	7%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	162	45	14
LT Vol	96	10	1
Through Vol	63	35	12
RT Vol	3	0	1
Lane Flow Rate	225	62	19
Geometry Grp	1	1	1
Degree of Util (X)	0.26	0.078	0.024
Departure Headway (Hd)	4.166	4.479	4.456
Convergence, Y/N	Yes	Yes	Yes
Cap	855	804	808
Service Time	2.223	2.48	2.458
HCM Lane V/C Ratio	0.263	0.077	0.024
HCM Control Delay	8.7	7.9	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1	0.3	0.1

2023 Base (No-Build) Conditions

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	175	1069	6	28	1273
Future Volume (vph)	0	175	1069	6	28	1273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	8	8
Grade (%)	-3%		-2%			6%
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865	0.999			
Flt Protected						0.999
Satd. Flow (prot)	0	1652	3179	0	0	2884
Flt Permitted						0.999
Satd. Flow (perm)	0	1652	3179	0	0	2884
Link Speed (mph)	25		25			25
Link Distance (ft)	243		529			619
Travel Time (s)	6.6		14.4			16.9
Confl. Peds. (#/hr)				3	3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	1%	3%	25%	10%	5%
Adj. Flow (vph)	0	182	1114	6	29	1326
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	182	1120	0	0	1355
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.98	1.13	1.13	1.25	1.25
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.5%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	175	1069	6	28	1273
Future Vol, veh/h	0	175	1069	6	28	1273
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-3	-	-2	-	-	6
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	1	3	25	10	5
Mvmt Flow	0	182	1114	6	29	1326

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	563	0	0	1123	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	3.9	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	2.9	-	-	2.4	-
Pot Cap-1 Maneuver	0	525	-	-	631	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	524	-	-	629	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.5	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	524	629	-
HCM Lane V/C Ratio	-	-	0.348	0.046	-
HCM Control Delay (s)	-	-	15.5	11	0.9
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	1.5	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	18	19	4	147	4	23	0	14	0	0	0
Future Volume (vph)	0	18	19	4	147	4	23	0	14	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.931			0.997			0.948				
Flt Protected					0.999			0.970				
Satd. Flow (prot)	0	1603	0	0	1831	0	0	1747	0	0	0	0
Flt Permitted					0.999			0.970				
Satd. Flow (perm)	0	1603	0	0	1831	0	0	1747	0	0	0	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		243			154			203			127	
Travel Time (s)		6.6			4.2			5.5			3.5	
Confl. Peds. (#/hr)			3	3			1		1	1		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	15%	7%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	19	20	4	156	4	24	0	15	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	164	0	0	39	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	1.01	1.01	1.00	1.00	1.00	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	18	19	4	147	4	23	0	14	0	0	0
Future Vol, veh/h	0	18	19	4	147	4	23	0	14	0	0	0
Conflicting Peds, #/hr	0	0	3	3	0	0	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	-1	-	-	1	-	-	0	-	-	3	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	15	7	0	3	0	0	0	0	0	0	0
Mvmt Flow	0	19	20	4	156	4	24	0	15	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	160	0	0	42	0	0	199	200	33
Stage 1	-	-	-	-	-	-	32	32	-
Stage 2	-	-	-	-	-	-	167	168	-
Critical Hdwy	4.3	-	-	4.3	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	3	-	-	3	-	-	3	4	3.1
Pot Cap-1 Maneuver	1059	-	-	1161	-	-	914	699	1113
Stage 1	-	-	-	-	-	-	1159	872	-
Stage 2	-	-	-	-	-	-	1001	763	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1059	-	-	1158	-	-	907	0	1109
Mov Cap-2 Maneuver	-	-	-	-	-	-	907	0	-
Stage 1	-	-	-	-	-	-	1156	0	-
Stage 2	-	-	-	-	-	-	996	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	974	1059	-	-	1158	-	-
HCM Lane V/C Ratio	0.04	-	-	-	0.004	-	-
HCM Control Delay (s)	8.9	0	-	-	8.1	0	-
HCM Lane LOS	A	A	-	-	A	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	33	158	0	0	0
Future Volume (vph)	0	33	158	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		1%	-2%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	0	1750	1881	0	1900	0
Flt Permitted						
Satd. Flow (perm)	0	1750	1881	0	1900	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		154	195		156	
Travel Time (s)		4.2	5.3		4.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	8%	2%	0%	0%	0%
Adj. Flow (vph)	0	38	184	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	38	184	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 11.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		⋔	
Traffic Vol, veh/h	0	33	158	0	0	0
Future Vol, veh/h	0	33	158	0	0	0
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	-2	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	8	2	0	0	0
Mvmt Flow	0	38	184	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	222	184
Stage 1	-	-	-	-	184	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3	3.1
Pot Cap-1 Maneuver	0	-	-	0	886	915
Stage 1	0	-	-	0	982	-
Stage 2	0	-	-	0	1152	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	886	915
Mov Cap-2 Maneuver	-	-	-	-	886	-
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	1152	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	21	0	0	7	1	156	65	7	0	0	0
Future Volume (vph)	8	21	0	0	7	1	156	65	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-1%			5%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.985			0.996				
Flt Protected		0.987						0.967				
Satd. Flow (prot)	0	1696	0	0	1881	0	0	1748	0	0	0	0
Flt Permitted		0.987						0.967				
Satd. Flow (perm)	0	1696	0	0	1881	0	0	1748	0	0	0	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		195			358			337			198	
Travel Time (s)		5.3			9.8			9.2			5.4	
Confl. Peds. (#/hr)			3	3			3		2	2		3
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	13%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%
Adj. Flow (vph)	9	24	0	0	8	1	179	75	8	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	9	0	0	262	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.03	1.03	1.03	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	21	0	0	7	1	156	65	7	0	0	0
Future Vol, veh/h	8	21	0	0	7	1	156	65	7	0	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	13	0	0	0	0	3	0	0	0	0	0
Mvmt Flow	9	24	0	0	8	1	179	75	8	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	7.5	9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	68%	28%	0%
Vol Thru, %	29%	72%	88%
Vol Right, %	3%	0%	12%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	228	29	8
LT Vol	156	8	0
Through Vol	65	21	7
RT Vol	7	0	1
Lane Flow Rate	262	33	9
Geometry Grp	1	1	1
Degree of Util (X)	0.302	0.042	0.011
Departure Headway (Hd)	4.144	4.562	4.46
Convergence, Y/N	Yes	Yes	Yes
Cap	867	790	807
Service Time	2.173	2.562	2.461
HCM Lane V/C Ratio	0.302	0.042	0.011
HCM Control Delay	9	7.8	7.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.3	0.1	0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	117	1163	9	60	1400
Future Volume (vph)	5	117	1163	9	60	1400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	8	8
Grade (%)	-3%		-2%			6%
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865	0.999			
Flt Protected	0.950					0.998
Satd. Flow (prot)	0	1635	3246	0	0	3000
Flt Permitted	0.950					0.998
Satd. Flow (perm)	0	1635	3246	0	0	3000
Link Speed (mph)	25		25			25
Link Distance (ft)	243		529			619
Travel Time (s)	6.6		14.4			16.9
Confl. Peds. (#/hr)	2	1		2	2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	2%	1%	0%	0%	1%
Adj. Flow (vph)	5	121	1199	9	62	1443
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	121	1208	0	0	1505
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.98	1.13	1.13	1.25	1.25
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

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

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	117	1163	9	60	1400
Future Vol, veh/h	5	117	1163	9	60	1400
Conflicting Peds, #/hr	2	1	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-3	-	-2	-	-	6
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	1	0	0	1
Mvmt Flow	5	121	1199	9	62	1443

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2054	607	0	0	1210	0
Stage 1	1206	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Critical Hdwy	7.1	6.9	-	-	3.9	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	2.8	2.9	-	-	2.4	-
Pot Cap-1 Maneuver	45	490	-	-	589	-
Stage 1	347	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	21	489	-	-	588	-
Mov Cap-2 Maneuver	21	-	-	-	-	-
Stage 1	346	-	-	-	-	-
Stage 2	241	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.8	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	489	588	-
HCM Lane V/C Ratio	-	-	0.247	0.105	-
HCM Control Delay (s)	-	-	14.8	11.8	2.9
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	1	0.4	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	19	35	13	116	5	22	0	12	0	0	1
Future Volume (vph)	7	19	35	13	116	5	22	0	12	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.922			0.995			0.953			0.850	
Flt Protected		0.994			0.995			0.968				
Satd. Flow (prot)	0	1718	0	0	1855	0	0	1697	0	0	0	0
Flt Permitted		0.994			0.995			0.968				
Satd. Flow (perm)	0	1718	0	0	1855	0	0	1697	0	0	0	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		243			154			203			127	
Travel Time (s)		6.6			4.2			5.5			3.5	
Confl. Peds. (#/hr)	4		12	12		4	2		12	12		2
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	6%	0%	9%	0%	0%	5%	0%	0%	0%	0%	0%
Adj. Flow (vph)	9	24	45	17	149	6	28	0	15	0	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	78	0	0	172	0	0	43	0	0	1	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	1.01	1.01	1.00	1.00	1.00	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

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

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	19	35	13	116	5	22	0	12	0	0	1
Future Vol, veh/h	7	19	35	13	116	5	22	0	12	0	0	1
Conflicting Peds, #/hr	4	0	12	12	0	4	2	0	12	12	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	-1	-	-	1	-	-	0	-	-	3	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	6	0	9	0	0	5	0	0	0	0	0
Mvmt Flow	9	24	45	17	149	6	28	0	15	0	0	1

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	159	0	0	81	0	0	265	270	71
Stage 1	-	-	-	-	-	-	77	77	-
Stage 2	-	-	-	-	-	-	188	193	-
Critical Hdwy	4.3	-	-	4.3	-	-	6.45	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.45	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.45	5.5	-
Follow-up Hdwy	3	-	-	3	-	-	3	4	3.1
Pot Cap-1 Maneuver	1060	-	-	1127	-	-	832	640	1059
Stage 1	-	-	-	-	-	-	1103	835	-
Stage 2	-	-	-	-	-	-	975	745	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1060	-	-	1114	-	-	800	0	1035
Mov Cap-2 Maneuver	-	-	-	-	-	-	800	0	-
Stage 1	-	-	-	-	-	-	1081	0	-
Stage 2	-	-	-	-	-	-	956	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1	0.8	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	870	1060	-	-	1114	-	-
HCM Lane V/C Ratio	0.05	0.008	-	-	0.015	-	-
HCM Control Delay (s)	9.4	8.4	0	-	8.3	0	-
HCM Lane LOS	A	A	A	-	A	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	29	123	3	5	12
Future Volume (vph)	0	29	123	3	5	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		1%	-2%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.906	
Flt Protected					0.985	
Satd. Flow (prot)	0	1818	1877	0	1696	0
Flt Permitted					0.985	
Satd. Flow (perm)	0	1818	1877	0	1696	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		154	195		156	
Travel Time (s)		4.2	5.3		4.3	
Confl. Peds. (#/hr)	7			7		2
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	4%	2%	0%	0%	0%
Adj. Flow (vph)	0	38	162	4	7	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	38	166	0	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		⋔	
Traffic Vol, veh/h	0	29	123	3	5	12
Future Vol, veh/h	0	29	123	3	5	12
Conflicting Peds, #/hr	7	0	0	7	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	-2	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	0	38	162	4	7	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	209	173
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3	3.1
Pot Cap-1 Maneuver	0	-	-	-	902	928
Stage 1	0	-	-	-	996	-
Stage 2	0	-	-	-	1152	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	889	920
Mov Cap-2 Maneuver	-	-	-	-	889	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	1144	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	911
HCM Lane V/C Ratio	-	-	-	0.025
HCM Control Delay (s)	-	-	-	9.1
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	35	0	1	12	1	96	63	3	0	0	0
Future Volume (vph)	10	35	0	1	12	1	96	63	3	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-1%			5%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.993			0.998				
Flt Protected		0.989			0.997			0.971				
Satd. Flow (prot)	0	1860	0	0	1890	0	0	1785	0	0	0	0
Flt Permitted		0.989			0.997			0.971				
Satd. Flow (perm)	0	1860	0	0	1890	0	0	1785	0	0	0	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		195			358			337			198	
Travel Time (s)		5.3			9.8			9.2			5.4	
Confl. Peds. (#/hr)	10		6	6		10	4		16	16		4
Confl. Bikes (#/hr)			1			1			2			
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	14	49	0	1	17	1	133	88	4	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	0	0	19	0	0	225	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.03	1.03	1.03	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 28.7%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	35	0	1	12	1	96	63	3	0	0	0
Future Vol, veh/h	10	35	0	1	12	1	96	63	3	0	0	0
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	0	0	0	0	0	0	1	0	0	0	0	0
Mvmt Flow	14	49	0	1	17	1	133	88	4	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.9	7.6	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	59%	22%	7%
Vol Thru, %	39%	78%	86%
Vol Right, %	2%	0%	7%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	162	45	14
LT Vol	96	10	1
Through Vol	63	35	12
RT Vol	3	0	1
Lane Flow Rate	225	62	19
Geometry Grp	1	1	1
Degree of Util (X)	0.26	0.078	0.024
Departure Headway (Hd)	4.166	4.479	4.456
Convergence, Y/N	Yes	Yes	Yes
Cap	855	804	808
Service Time	2.223	2.48	2.458
HCM Lane V/C Ratio	0.263	0.077	0.024
HCM Control Delay	8.7	7.9	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1	0.3	0.1

2023 Projected (Build) Conditions

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	186	1069	11	33	1273
Future Volume (vph)	0	186	1069	11	33	1273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	8	8
Grade (%)	-3%		-2%			6%
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865	0.999			
Flt Protected						0.999
Satd. Flow (prot)	0	1652	3176	0	0	2884
Flt Permitted						0.999
Satd. Flow (perm)	0	1652	3176	0	0	2884
Link Speed (mph)	25		25			25
Link Distance (ft)	243		529			619
Travel Time (s)	6.6		14.4			16.9
Confl. Peds. (#/hr)				3	3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	1%	3%	25%	10%	5%
Adj. Flow (vph)	0	194	1114	11	34	1326
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	194	1125	0	0	1360
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.98	1.13	1.13	1.25	1.25
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 62.2%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	186	1069	11	33	1273
Future Vol, veh/h	0	186	1069	11	33	1273
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-3	-	-2	-	-	6
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	1	3	25	10	5
Mvmt Flow	0	194	1114	11	34	1326

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	566	0	0	1128	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	3.9	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	2.9	-	-	2.4	-
Pot Cap-1 Maneuver	0	522	-	-	629	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	521	-	-	627	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.9	0	1.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	521	627	-
HCM Lane V/C Ratio	-	-	0.372	0.055	-
HCM Control Delay (s)	-	-	15.9	11.1	1.1
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	1.7	0.2	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	18	19	13	158	1	23	0	14	0	0	0
Future Volume (vph)	10	18	19	13	158	1	23	0	14	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.946			0.999			0.948				
Flt Protected		0.989			0.996			0.970				
Satd. Flow (prot)	0	1647	0	0	1831	0	0	1747	0	0	0	0
Flt Permitted		0.989			0.996			0.970				
Satd. Flow (perm)	0	1647	0	0	1831	0	0	1747	0	0	0	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		243			154			203			127	
Travel Time (s)		6.6			4.2			5.5			3.5	
Confl. Peds. (#/hr)			3	3			1		1	1		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	15%	7%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	19	20	14	168	1	24	0	15	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	0	0	183	0	0	39	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	1.01	1.01	1.00	1.00	1.00	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	18	19	13	158	1	23	0	14	0	0	0
Future Vol, veh/h	10	18	19	13	158	1	23	0	14	0	0	0
Conflicting Peds, #/hr	0	0	3	3	0	0	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	-1	-	-	1	-	-	0	-	-	3	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	15	7	0	3	0	0	0	0	0	0	0
Mvmt Flow	11	19	20	14	168	1	24	0	15	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	169	0	0	42	0	0	252	251	33
Stage 1	-	-	-	-	-	-	54	54	-
Stage 2	-	-	-	-	-	-	198	197	-
Critical Hdwy	4.3	-	-	4.3	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	3	-	-	3	-	-	3	4	3.1
Pot Cap-1 Maneuver	1051	-	-	1161	-	-	850	656	1113
Stage 1	-	-	-	-	-	-	1132	854	-
Stage 2	-	-	-	-	-	-	967	742	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1051	-	-	1158	-	-	826	0	1109
Mov Cap-2 Maneuver	-	-	-	-	-	-	826	0	-
Stage 1	-	-	-	-	-	-	1116	0	-
Stage 2	-	-	-	-	-	-	953	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.8	0.6	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	914	1051	-	-	1158	-	-
HCM Lane V/C Ratio	0.043	0.01	-	-	0.012	-	-
HCM Control Delay (s)	9.1	8.5	0	-	8.1	0	-
HCM Lane LOS	A	A	A	-	A	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	33	155	0	1	20
Future Volume (vph)	0	33	155	0	1	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		1%	-2%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.871	
Flt Protected					0.998	
Satd. Flow (prot)	0	1750	1881	0	1652	0
Flt Permitted					0.998	
Satd. Flow (perm)	0	1750	1881	0	1652	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		154	195		156	
Travel Time (s)		4.2	5.3		4.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	8%	2%	0%	0%	0%
Adj. Flow (vph)	0	38	180	0	1	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	38	180	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		⋔	
Traffic Vol, veh/h	0	33	155	0	1	20
Future Vol, veh/h	0	33	155	0	1	20
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	-2	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	8	2	0	0	0
Mvmt Flow	0	38	180	0	1	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	218	180
Stage 1	-	-	-	-	180	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3	3.1
Pot Cap-1 Maneuver	0	-	-	0	891	919
Stage 1	0	-	-	0	986	-
Stage 2	0	-	-	0	1152	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	891	919
Mov Cap-2 Maneuver	-	-	-	-	891	-
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	1152	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	918
HCM Lane V/C Ratio	-	-	0.027
HCM Control Delay (s)	-	-	9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	22	0	0	7	1	153	65	7	0	0	0
Future Volume (vph)	8	22	0	0	7	1	153	65	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-1%			5%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.985			0.996				
Flt Protected		0.987						0.967				
Satd. Flow (prot)	0	1695	0	0	1881	0	0	1749	0	0	0	0
Flt Permitted		0.987						0.967				
Satd. Flow (perm)	0	1695	0	0	1881	0	0	1749	0	0	0	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		195			358			337			198	
Travel Time (s)		5.3			9.8			9.2			5.4	
Confl. Peds. (#/hr)			3	3			3		2	2		3
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	13%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%
Adj. Flow (vph)	9	25	0	0	8	1	176	75	8	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	0	9	0	0	259	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.03	1.03	1.03	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 34.3%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	22	0	0	7	1	153	65	7	0	0	0
Future Vol, veh/h	8	22	0	0	7	1	153	65	7	0	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	13	0	0	0	0	3	0	0	0	0	0
Mvmt Flow	9	25	0	0	8	1	176	75	8	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	7.5	8.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	68%	27%	0%
Vol Thru, %	29%	73%	88%
Vol Right, %	3%	0%	12%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	225	30	8
LT Vol	153	8	0
Through Vol	65	22	7
RT Vol	7	0	1
Lane Flow Rate	259	34	9
Geometry Grp	1	1	1
Degree of Util (X)	0.298	0.044	0.011
Departure Headway (Hd)	4.144	4.552	4.453
Convergence, Y/N	Yes	Yes	Yes
Cap	866	791	808
Service Time	2.176	2.552	2.454
HCM Lane V/C Ratio	0.299	0.043	0.011
HCM Control Delay	8.9	7.8	7.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.3	0.1	0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	114	1169	18	65	1407
Future Volume (vph)	5	114	1169	18	65	1407
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	8	8
Grade (%)	-3%		-2%			6%
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865	0.998			
Flt Protected	0.950					0.998
Satd. Flow (prot)	0	1635	3243	0	0	3000
Flt Permitted	0.950					0.998
Satd. Flow (perm)	0	1635	3243	0	0	3000
Link Speed (mph)	25		25			25
Link Distance (ft)	243		529			619
Travel Time (s)	6.6		14.4			16.9
Confl. Peds. (#/hr)	2	1		2	2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	2%	1%	0%	0%	1%
Adj. Flow (vph)	5	118	1205	19	67	1451
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	118	1224	0	0	1518
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.98	1.13	1.13	1.25	1.25
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

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

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	114	1169	18	65	1407
Future Vol, veh/h	5	114	1169	18	65	1407
Conflicting Peds, #/hr	2	1	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-3	-	-2	-	-	6
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	1	0	0	1
Mvmt Flow	5	118	1205	19	67	1451

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2079	615	0	0	1226	0
Stage 1	1217	-	-	-	-	-
Stage 2	862	-	-	-	-	-
Critical Hdwy	7.1	6.9	-	-	3.9	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	2.8	2.9	-	-	2.4	-
Pot Cap-1 Maneuver	43	484	-	-	582	-
Stage 1	343	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	17	483	-	-	581	-
Mov Cap-2 Maneuver	17	-	-	-	-	-
Stage 1	342	-	-	-	-	-
Stage 2	206	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.8	0	3.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	483	581	-
HCM Lane V/C Ratio	-	-	0.243	0.115	-
HCM Control Delay (s)	-	-	14.8	12	3.3
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.4	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	19	35	21	113	1	22	0	12	0	0	0
Future Volume (vph)	21	19	35	21	113	1	22	0	12	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.937			0.999			0.953				
Flt Protected		0.986			0.992			0.968				
Satd. Flow (prot)	0	1738	0	0	1848	0	0	1697	0	0	0	0
Flt Permitted		0.986			0.992			0.968				
Satd. Flow (perm)	0	1738	0	0	1848	0	0	1697	0	0	0	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		243			154			203			127	
Travel Time (s)		6.6			4.2			5.5			3.5	
Confl. Peds. (#/hr)	4		12	12		4	2		12	12		2
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	6%	0%	9%	0%	0%	5%	0%	0%	0%	0%	0%
Adj. Flow (vph)	27	24	45	27	145	1	28	0	15	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	0	0	173	0	0	43	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	1.01	1.01	1.00	1.00	1.00	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 26.8%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	19	35	21	113	1	22	0	12	0	0	0
Future Vol, veh/h	21	19	35	21	113	1	22	0	12	0	0	0
Conflicting Peds, #/hr	4	0	12	12	0	4	2	0	12	12	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	-1	-	-	1	-	-	0	-	-	3	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	6	0	9	0	0	5	0	0	0	0	0
Mvmt Flow	27	24	45	27	145	1	28	0	15	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	150	0	0	81	0	0	315	317	71
Stage 1	-	-	-	-	-	-	113	113	-
Stage 2	-	-	-	-	-	-	202	204	-
Critical Hdwy	4.3	-	-	4.3	-	-	6.45	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.45	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.45	5.5	-
Follow-up Hdwy	3	-	-	3	-	-	3	4	3.1
Pot Cap-1 Maneuver	1067	-	-	1127	-	-	776	602	1059
Stage 1	-	-	-	-	-	-	1060	806	-
Stage 2	-	-	-	-	-	-	960	737	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1067	-	-	1114	-	-	726	0	1035
Mov Cap-2 Maneuver	-	-	-	-	-	-	726	0	-
Stage 1	-	-	-	-	-	-	1021	0	-
Stage 2	-	-	-	-	-	-	933	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.4	1.3	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	812	1067	-	-	1114	-	-
HCM Lane V/C Ratio	0.054	0.025	-	-	0.024	-	-
HCM Control Delay (s)	9.7	8.5	0	-	8.3	0	-
HCM Lane LOS	A	A	A	-	A	A	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	29	120	0	1	16
Future Volume (vph)	0	29	120	0	1	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		1%	-2%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.871	
Flt Protected					0.998	
Satd. Flow (prot)	0	1818	1881	0	1652	0
Flt Permitted					0.998	
Satd. Flow (perm)	0	1818	1881	0	1652	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		154	195		156	
Travel Time (s)		4.2	5.3		4.3	
Confl. Peds. (#/hr)	7			7		2
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	4%	2%	0%	0%	0%
Adj. Flow (vph)	0	38	158	0	1	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	38	158	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		⋔	
Traffic Vol, veh/h	0	29	120	0	1	16
Future Vol, veh/h	0	29	120	0	1	16
Conflicting Peds, #/hr	7	0	0	7	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	-2	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	4	2	0	0	0
Mvmt Flow	0	38	158	0	1	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	196	160
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3	3.1
Pot Cap-1 Maneuver	0	-	-	0	918	944
Stage 1	0	-	-	0	1010	-
Stage 2	0	-	-	0	1152	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	918	942
Mov Cap-2 Maneuver	-	-	-	-	918	-
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	1152	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	941
HCM Lane V/C Ratio	-	-	0.024
HCM Control Delay (s)	-	-	8.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	32	0	1	12	1	92	63	3	0	0	0
Future Volume (vph)	9	32	0	1	12	1	92	63	3	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-1%			5%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.993			0.998				
Flt Protected		0.989			0.997			0.972				
Satd. Flow (prot)	0	1860	0	0	1890	0	0	1787	0	0	0	0
Flt Permitted		0.989			0.997			0.972				
Satd. Flow (perm)	0	1860	0	0	1890	0	0	1787	0	0	0	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		195			358			337			198	
Travel Time (s)		5.3			9.8			9.2			5.4	
Confl. Peds. (#/hr)	10		6	6		10	4		16	16		4
Confl. Bikes (#/hr)			1			1			2			
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	13	44	0	1	17	1	128	88	4	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	19	0	0	220	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.03	1.03	1.03	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 28.1%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	32	0	1	12	1	92	63	3	0	0	0
Future Vol, veh/h	9	32	0	1	12	1	92	63	3	0	0	0
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	0	0	0	0	0	0	1	0	0	0	0	0
Mvmt Flow	13	44	0	1	17	1	128	88	4	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	7.5	8.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	58%	22%	7%
Vol Thru, %	40%	78%	86%
Vol Right, %	2%	0%	7%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	158	41	14
LT Vol	92	9	1
Through Vol	63	32	12
RT Vol	3	0	1
Lane Flow Rate	219	57	19
Geometry Grp	1	1	1
Degree of Util (X)	0.253	0.071	0.024
Departure Headway (Hd)	4.154	4.465	4.435
Convergence, Y/N	Yes	Yes	Yes
Cap	858	807	812
Service Time	2.207	2.466	2.437
HCM Lane V/C Ratio	0.255	0.071	0.023
HCM Control Delay	8.6	7.8	7.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1	0.2	0.1

APPENDIX E:
Auxiliary Turn Lane Warrant Analyses

Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Jenkintown Township	**Analysis Date:**	3/11/2021
County:	Montgomery County	**Conducted By:**	PG
PennDOT Engineering District:	6	**Checked By:**	
		Agency/Company Name:	Traffic Planning and Design, Inc.

Intersection & Approach Description: Homestead Road and Cottman Street/Enter Only Site Driveway

Analysis Period:	2023 Projected	**Number of Approach Lanes:**	1
Design Hour:	AM Peak Hour	**Undivided or Divided Highway:**	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	25		**Type of Analysis**
Type of Terrain:	Level	**Left or Right-Turn Lane Analysis?:**	Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	10	0.0%	10
	Through	-	18	15.0%	20
	Right	Yes	19	7.0%	20
Opposing	Left	Yes	13	0.0%	13
	Through	-	158	3.0%	161
	Right	Yes	1	0.0%	1

Advancing Volume:	50
Opposing Volume:	175
Left Turn Volume:	10
% Left Turns in Advancing Volume:	20.00%

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	13	0.0%	N/A
	Through	-	158	3.0%	N/A
	Right	-	1	0.0%	N/A

Advancing Volume:	N/A
Right Turn Volume:	N/A

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure: **Figure 1**

Warrant Met?: **No**

Right Turn Lane Warrant Findings

Applicable Warrant Figure: **N/A**

Warrant Met?: **N/A**

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	10
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	

Average # of Vehicles/Cycle: N/A

PennDOT Publication 46, Exhibit 11-6

Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

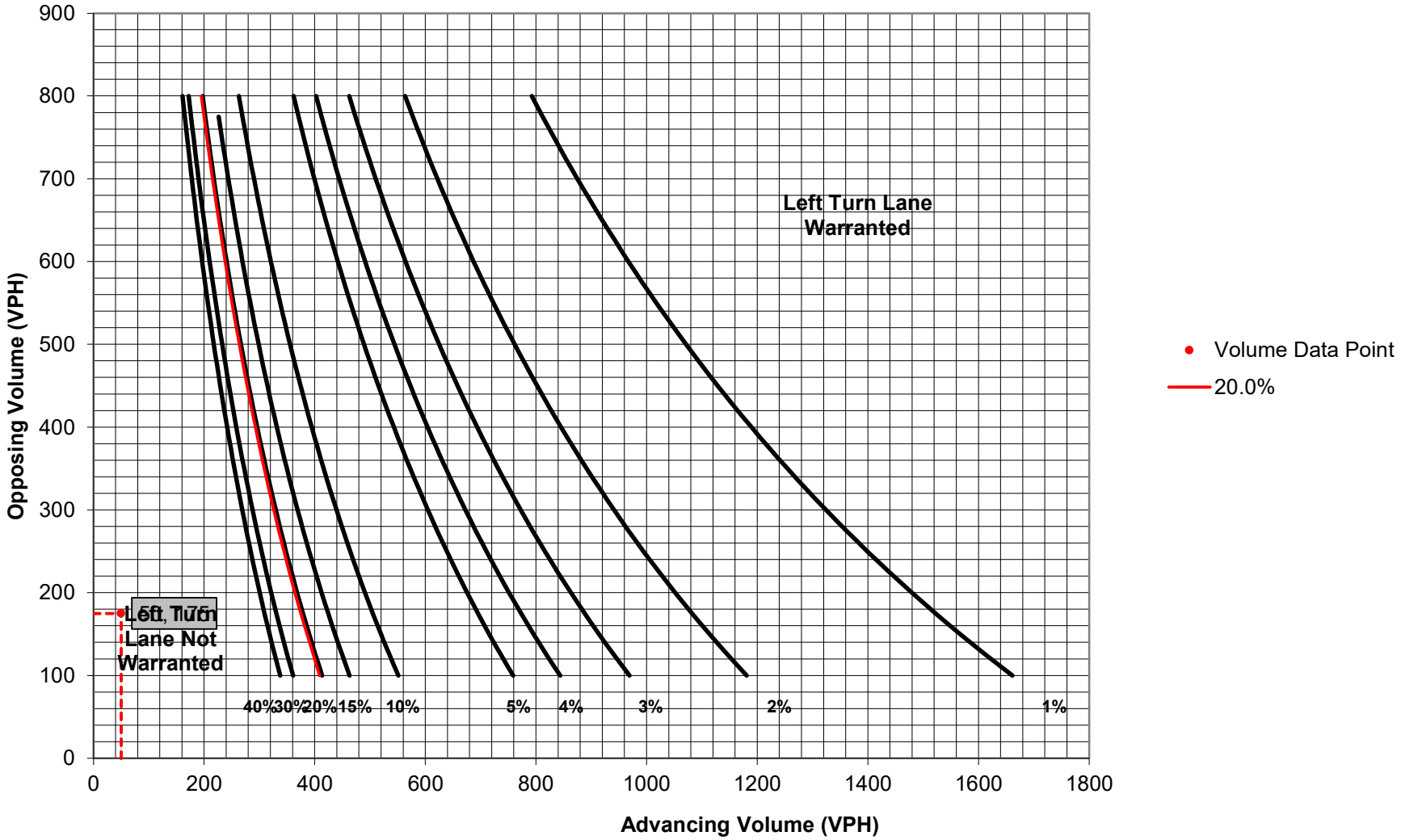
Left Turn Lane Storage Length, Condition A:	**N/A**	**Feet**
Condition B:	**N/A**	**Feet**
Condition C:	**N/A**	**Feet**
Required Left Turn Lane Storage Length:	**N/A**	**Feet**

Additional Findings:

N/A

Additional Comments / Justifications:

Figure 1. Warrant for left turn lanes on two-lane roadways
(speeds to 35 mph, unsignalized and signalized intersections)
(L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Jenkintown Township	**Analysis Date:**	3/11/2021
County:	Montgomery County	**Conducted By:**	PG
PennDOT Engineering District:	6	**Checked By:**	
		Agency/Company Name:	Traffic Planning and Design, Inc.

Intersection & Approach Description: Homestead Road and Cottman Street/Enter Only Site Driveway

Analysis Period:	2023 Projected	**Number of Approach Lanes:**	1
Design Hour:	PM Peak Hour	**Undivided or Divided Highway:**	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	25		**Type of Analysis**
Type of Terrain:	Level	**Left or Right-Turn Lane Analysis?:**	Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	21	0.0%	21
	Through	-	19	6.0%	20
	Right	Yes	35	0.0%	35
Opposing	Left	Yes	21	9.0%	22
	Through	-	113	0.0%	113
	Right	Yes	1	0.0%	1

Advancing Volume:	76
Opposing Volume:	136
Left Turn Volume:	21
% Left Turns in Advancing Volume:	27.63%

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	21	9.0%	N/A
	Through	-	113	0.0%	N/A
	Right	-	1	0.0%	N/A

Advancing Volume:	N/A
Right Turn Volume:	N/A

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure: **Figure 1**

Warrant Met?: **No**

Right Turn Lane Warrant Findings

Applicable Warrant Figure: **N/A**

Warrant Met?: **N/A**

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	21
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	

Average # of Vehicles/Cycle: N/A

PennDOT Publication 46, Exhibit 11-6

Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

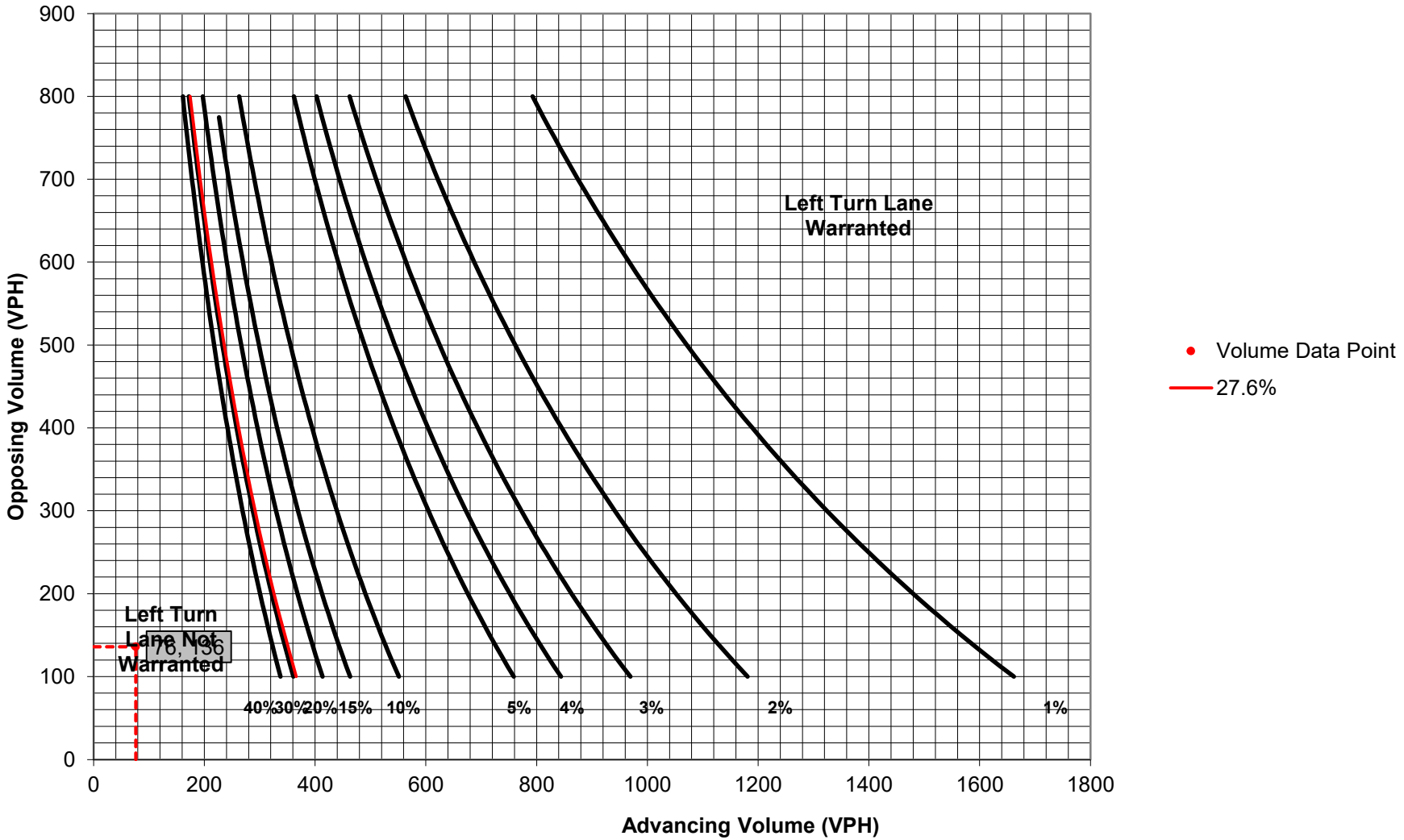
Left Turn Lane Storage Length, Condition A:	**N/A**	**Feet**
Condition B:	**N/A**	**Feet**
Condition C:	**N/A**	**Feet**
Required Left Turn Lane Storage Length:	**N/A**	**Feet**

Additional Findings:

N/A

Additional Comments / Justifications:

Figure 1. Warrant for left turn lanes on two-lane roadways
(speeds to 35 mph, unsignalized and signalized intersections)
(L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Jenkintown Township	Analysis Date:	3/11/2021
County:	Montgomery County	Conducted By:	PG
PennDOT Engineering District:	6	Checked By:	
		Agency/Company Name:	Traffic Planning and Design, Inc.

Intersection & Approach Description: Homestead Road and Cottman Street/Enter Only Site Driveway

Analysis Period:	2023 Projected	Number of Approach Lanes:	1
Design Hour:	AM Peak Hour	Undivided or Divided Highway:	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	25		Type of Analysis
Type of Terrain:	Level	Left or Right-Turn Lane Analysis?:	Right Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	10	0.0%	N/A
	Through	-	18	15.0%	N/A
	Right	Yes	19	7.0%	N/A
Opposing	Left	Yes	13	0.0%	N/A
	Through	-	158	3.0%	N/A
	Right	Yes	1	0.0%	N/A

Advancing Volume:	N/A
Opposing Volume:	N/A
Left Turn Volume:	N/A
% Left Turns in Advancing Volume:	N/A

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	13	0.0%	13
	Through	-	158	3.0%	161
	Right	-	1	0.0%	1

Advancing Volume:	175
Right Turn Volume:	1

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure: **N/A**

Warrant Met?: **N/A**

Right Turn Lane Warrant Findings

Applicable Warrant Figure: **Figure 9**

Warrant Met?: **No**

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	1
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	

Average # of Vehicles/Cycle: N/A

PennDOT Publication 46, Exhibit 11-6

Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

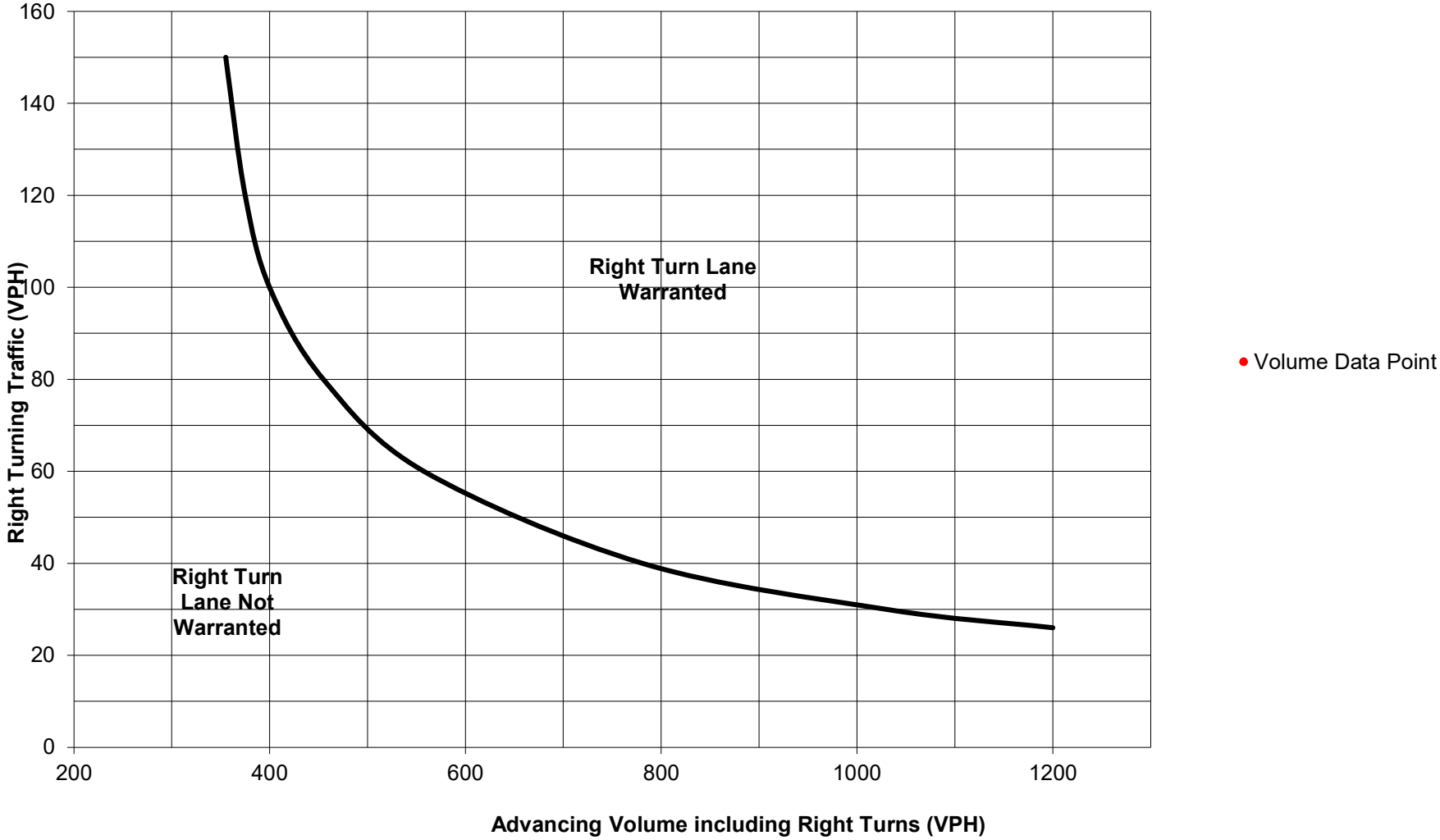
Right Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	N/A	Feet
Condition C:	N/A	Feet
Required Right Turn Lane Storage Length:	N/A	Feet

Additional Findings:

N/A

Additional Comments / Justifications:

Figure 9. Warrant for right turn lanes on two-lane roadways
(40 mph or lower speeds, unsignalized and signalized intersections)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Jenkintown Township	**Analysis Date:**	3/11/2021
County:	Montgomery County	**Conducted By:**	PG
PennDOT Engineering District:	6	**Checked By:**	
		Agency/Company Name:	Traffic Planning and Design, Inc.

Intersection & Approach Description: Homestead Road and Cottman Street/Enter Only Site Driveway

Analysis Period:	2023 Projected	**Number of Approach Lanes:**	1
Design Hour:	PM Peak Hour	**Undivided or Divided Highway:**	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	25		**Type of Analysis**
Type of Terrain:	Level	**Left or Right-Turn Lane Analysis?:**	Right Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	21	0.0%	N/A
	Through	-	19	6.0%	N/A
	Right	Yes	35	0.0%	N/A
Opposing	Left	Yes	21	9.0%	N/A
	Through	-	113	0.0%	N/A
	Right	Yes	1	0.0%	N/A

Advancing Volume:	N/A
Opposing Volume:	N/A
Left Turn Volume:	N/A
% Left Turns in Advancing Volume:	N/A

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	21	9.0%	22
	Through	-	113	0.0%	113
	Right	-	1	0.0%	1

Advancing Volume:	136
Right Turn Volume:	1

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure: N/A

Warrant Met?: N/A

Right Turn Lane Warrant Findings

Applicable Warrant Figure: Figure 9

Warrant Met?: No

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	1
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	

Average # of Vehicles/Cycle: N/A

PennDOT Publication 46, Exhibit 11-6

Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Right Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	N/A	Feet
Condition C:	N/A	Feet
Required Right Turn Lane Storage Length:	N/A	Feet

Additional Findings:

N/A

Additional Comments / Justifications:

Figure 9. Warrant for right turn lanes on two-lane roadways
(40 mph or lower speeds, unsignalized and signalized intersections)

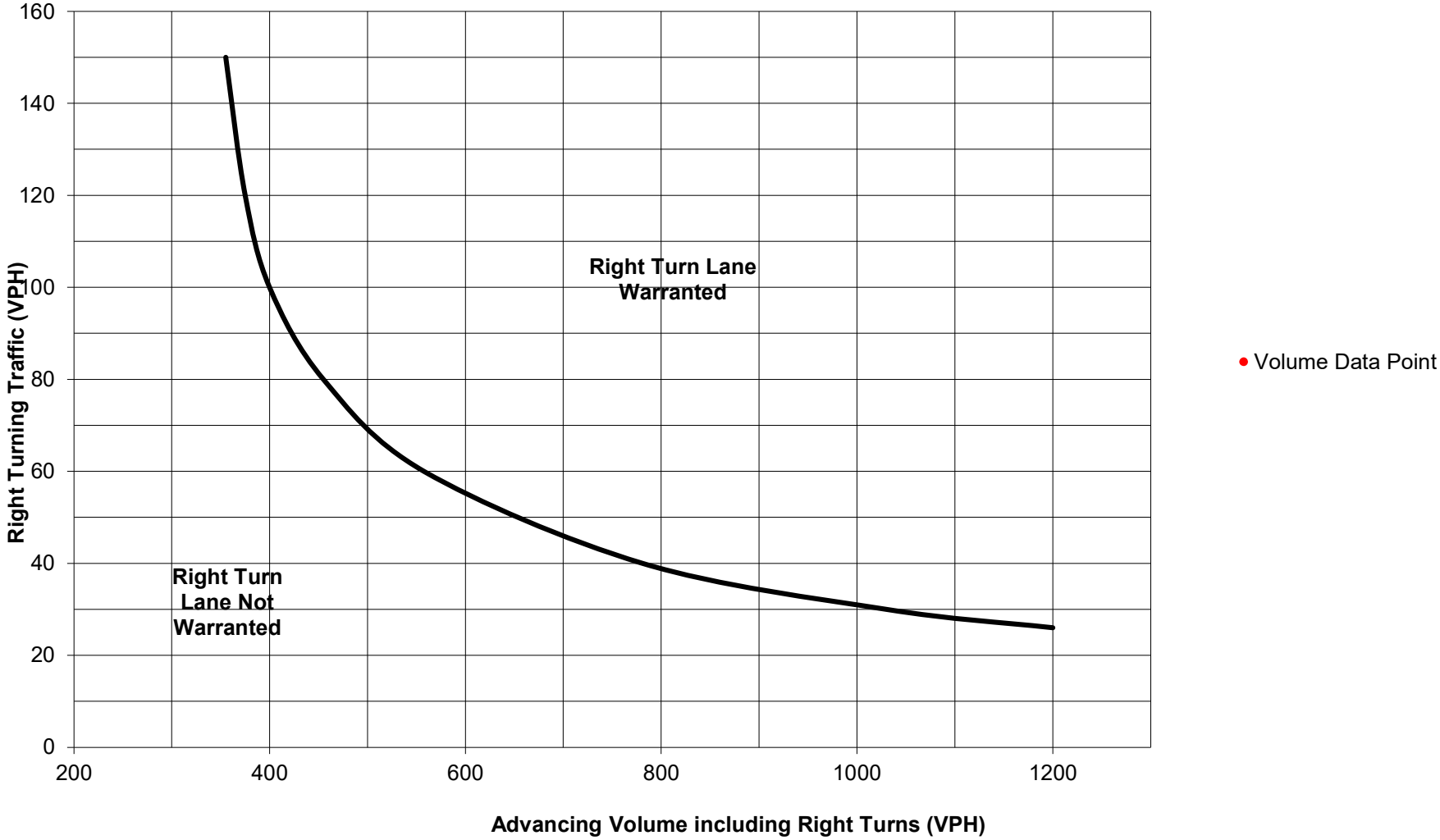


TABLE 10
95TH PERCENTILE QUEUE ANALYSIS

Intersection	Available Storage	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
		Existing	2023 Opening Year		Existing	2023 Opening Year	
			Base	Projected		Base	Projected
Old York Road (SR 0611) & Homestead Road							
WBR	[205′]	38	38	43	25	25	<25
SBL	340′	<25	<25	<25	<25	<25	<25
Homestead Road & Cottman Street/Enter-Only Driveway							
EBL	[205′]	<25	<25	<25	<25	<25	<25
WBL	[110′]	<25	<25	<25	<25	<25	<25
NBLTR	320′	<25	<25	<25	<25	<25	<25
Homestead Road & Exit-Only Driveway							
SBLR	50+	<25	<25	<25	<25	<25	<25
Homestead Road & Vernon Road							
EBLT	[110′]	<25	<25	<25	<25	<25	<25
WBTR	[135′]	<25	<25	<25	<25	<25	<25
NBLTR	325′	33	33	33	25	25	25

[ ] = Distance to adjacent study area intersection

Queue analysis worksheets are included with the capacity analysis worksheets provided in **Appendix D**.

AUXILIARY TURN LANE ANALYSIS

TPD evaluated auxiliary turn lane warrants at the study area site access intersections. The warrant analysis methodology contained within Chapter 11 of PennDOT's *Publication 46*, Section 11.17 and Strike-Off Letter 470-08-07 was utilized for this evaluation. **Table 11** summarizes the results of the auxiliary turn lane analysis at the site access intersections. The calculations for the auxiliary turn lane warrants are included in **Appendix E**.

TABLE 11
AUXILIARY TURN LANE ANALYSIS SUMMARY

Intersection	Auxiliary Lane	Warrant Satisfied?	Required Lane Length	Proposed Lane Length
Homestead Road & Church Street/Enter Only Driveway	EB Left-Turn Lane	No	--	--
	WB Right-Turn Lane	No	--	--

RECOMMENDATIONS AND CONCLUSIONS

The recommendations and conclusions for this Transportation Impact Study are identified in the Executive Summary.