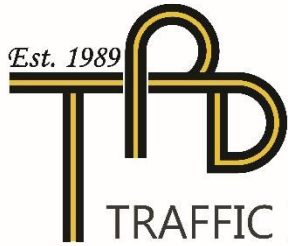


June 26, 2023
TPD# RJFA.00006



TRAFFIC PLANNING AND DESIGN, INC.



Transportation Impact Study

2509 Mill Road Townhomes

Upper Allen Township, Cumberland County, PA

For Submission To:

Upper Allen Township

www.TrafficPD.com

2509 MILL ROAD TOWNHOMES TRANSPORTATION IMPACT STUDY

FOR SUBMISSION TO:

Upper Allen Township, Cumberland County, PA

Prepared For:

Mihail Malinov

2509 Mill Road

Mechanicsburg, PA 17055

June 26, 2023

TPD # RJFA.00006



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6/23/23

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EXECUTIVE SUMMARY

The purpose of this study is to examine the potential traffic impact associated with the proposed 2509 Mill Road Townhomes on the roadway network in Upper Allen Township, Cumberland County, PA. Based on this evaluation, the following conclusions were reached:

1. The study area intersections included in this TIS are as follows:
 - » West Lisburn Road (SR 2004) & Mill Road;
 - » Mill Road & Proposed Site Driveway;
 - » Mill Road & Wingert Drive;
 - » Mill Road & Sholly Drive.
2. The project site is located on the eastern side of Mill Road, between West Lisburn Road (SR 2004) and Wingert Drive. The proposed site will consist of 14 single-family attached dwelling units.
3. Access to the site is proposed via one (1) full-movement driveway to Mill Road. The current driveway serving the property will be removed in conjunction with construction of the proposed development.
4. Available sight distances at the proposed driveway exceed applicable PennDOT safe stopping distance and desirable stopping distance criteria.
5. Upon full build-out, the proposed development is expected to generate 2 new vehicle-trips during the weekday A.M. peak hour and 4 new vehicle-trips during the weekday P.M. peak hour.
6. Under the 2026 and 2036 projected conditions, all approaches and turning movements at the site driveway intersections with the external roadway network will operate at LOS A or better during weekday A.M. and P.M. peak hours.
7. All overall intersection levels of service (ILOS) will operate at an acceptable ILOS C or better during the 2026 and 2036 projected condition scenarios. All levels of service at the study area intersection comply with the requirements outlined in PennDOT's TIS Guidelines and Upper Allen Township SALDO standards.
8. Traffic Planning and Design Inc. (TPD) recommends the following roadway improvements as outlined at the study area intersections:

Mill Road & Proposed Site Driveway

- » Design the site access as a full-movement with one ingress and one egress lane in accordance with Township design standards.
- » Install a "Stop" sign, R1-1, 30"x30" on the egress access approach;
- » Provide and perpetually maintain required sight distances.

As part of the Township's land development process, the applicant will coordinate and fund the implementation of the recommended roadway improvements. The improvements will be designed and constructed in compliance with ADA requirements to the extent feasible where applicable, unless otherwise directed or approved by the Township.

9. 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 (DELAY IN SECONDS)

Intersection	Peak Hour	Existing	Opening Year 2026			Design Year 2036			Meets LOS Requirements?
			Base	Projected	Projected ¹	Base	Projected	Projected ¹	
West Lisburn Road (SR 2004) & Mill Road	AM	B (11.4)	B (11.7)	B (11.8)	--	B (12.4)	B (12.4)	--	Yes
	PM	C (15.8)	C (16.5)	C (16.7)	--	C (19.0)	C (19.2)	--	Yes
Mill Road & Proposed Site Driveway	AM	A (0.1)	A (0.1)	A (0.2)	--	A (0.1)	A (0.2)	--	Yes
	PM	A (0.0)	A (0.0)	A (0.1)	--	A (0.0)	A (0.1)	--	Yes
Mill Road & Wingert Drive	AM	A (0.1)	A (0.1)	A (0.1)	--	A (0.1)	A (0.1)	--	Yes
	PM	A (0.1)	A (0.1)	A (0.1)	--	A (0.1)	A (0.1)	--	Yes
Mill Road & Sholly Drive	AM	A (1.1)	A (1.1)	A (1.1)	--	A (1.2)	A (1.2)	--	Yes
	PM	A (0.3)	A (0.3)	A (0.3)	--	A (0.3)	A (0.3)	--	Yes

Base = No-Build scenario

Projected = Build scenario

Unsignalized ILOS calculated in accordance with Figure 5 of Policies and Procedures for Transportation Impact Studies.

1 = Projected conditions with implementation of recommended improvements

INTRODUCTION

Traffic Planning and Design, Inc. (TPD) has completed a Transportation Impact Study (TIS) for the proposed 2509 Mill Road Townhomes in Upper Allen Township, Cumberland County, Pennsylvania. The project site is located on the eastern side of Mill Road, between West Lisburn Road (SR 2004) and Wingert Drive, as shown in **Figure 1**. The land use context of the site and surrounding area is defined as Suburban Neighborhood in PennDOT's Publication 10X (DM-1X), Appendix B. As shown in **Figure 2**, the proposed site will consist of fourteen (14) single-family attached dwelling units.

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 September 2022.

Site Access Locations

Access to the site is proposed via one (1) full-movement driveway to Mill Road. The current driveway serving the property will be removed in conjunction with construction of the proposed development.

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**. Study area photographs are provided 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
West Lisburn Road	State (SR 2004)	Minor Arterial	East/West	3,571	35 mph
Mill Road	Township	Local Road	North/South	--	25 mph
Wingert Drive	Township	Local Road	East/West	--	25 mph
Sholly Drive	Township	Local Road	East/West	--	25 mph

¹Obtained from PennDOT TIRe website

TABLE 2
EXISTING INTERSECTION CONTROLS, LANE WIDTHS, SHOULDER WIDTHS, AND APPROACH GRADES

Intersection	Control	Lane Configuration	Lane Width	Shoulder Width	Approach Grade
West Lisburn Road (SR 2004) & Mill Road	Stop	EB L/T/R	11'	0'	-1%
		WB L/T/R	10'	4'	2%
		NB L/T/R	11'	0'	3%
		SB L/T	11'	--	-2%
	Yield	SB R	11'	2'	
Mill Road & Proposed Site Driveway	Stop	WB L/R	10'	0'	6%
	Free	NB T/R	11'	0'	3%
		SB L/T	11'	0'	-3%
Mill Road & Wingert Drive	Stop	EB L/T/R	12'	0'	1%
		WB L/T/R	13'	0'	-3%
	Free	NB L/T/R	11'	0'	6%
		SB L/T/R	12'	0'	-4%
Mill Road & Sholly Drive	Stop	EB L/R	16'	0'	-1%
	Free	NB L/T	11'	0'	-1%
		SB T/R	11'	0'	1%

Land Use Context

In Publication 10X (Design Manual Part IX, Appendix B), 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 **Suburban Neighborhood** designation, as described below:

Suburban Neighborhood, "Predominantly low-density residential communities with houses typically arranged along a curvilinear system of streets with limited connectivity to regional road networks. Neighborhoods can include community facilities (schools, churches, recreation) and some small businesses or offices."

The project site and adjacent area is zoned R-2 (Medium Density Residential); the majority of existing adjacent uses are residential in nature.

Roadway Type

In PennDOT Publication 10X (DM-1X), Appendix B, 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 Publication 10X, the study area roadways best fit the following categories, as described below:

Community Arterial, traffic volumes of 5,000 to 25,000 vehicles per day, intersection spacing of 300 to 1,320 feet, a desired operating speed of 25-55 mph, and a description as follows: "often classified as Minor Arterial in traditional classification but may include road segments classified as Principal Arterial."

» West Lisburn Road (SR 2004).

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.

- » Mill Road;
- » Wingert Drive;
- » Sholly Drive.

Bicycle and Pedestrian Facilities

Based on observations during field visits at the study area intersections, paved shoulders currently accommodate pedestrian and bicycle traffic in the vicinity of the proposed development. Sidewalks will be provided throughout the internal roadways on-site and along the site frontage of Mill Road. The proposed development will not adversely impact any existing bicycle or pedestrian facility.

Mass Transit Facilities

Mass transit is not available in the vicinity of the proposed development.

EXISTING TRAFFIC CONDITIONS

Manual Turning Movement Counts

Manual traffic counts were conducted on 15-minute intervals during the weekday morning (6:00 to 9:00 A.M.) and weekday evening (3:00 to 6:00 P.M.) peak periods. Data pertaining to heavy vehicles, pedestrians and transit vehicles were observed during the manual counts. 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
West Lisburn Road (SR 2004) & Mill Road	Thursday, May 4, 2023	Weekday A.M.	7:15 to 8:15 A.M.
		Weekday P.M.	4:45 to 5:45 P.M.
Mill Road & Proposed Site Driveway		Weekday A.M.	7:15 to 8:15 A.M.
		Weekday P.M.	4:45 to 5:45 P.M.
Mill Road & Wingert Drive		Weekday A.M.	7:15 to 8:15 A.M.
		Weekday P.M.	4:45 to 5:45 P.M.
Mill Road & Sholly Drive		Weekday A.M.	7:15 to 8:15 A.M.
		Weekday P.M.	4:45 to 5:45 P.M.

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

Existing condition traffic volumes for the weekday A.M. and weekday P.M. peak hours are illustrated in **Figure 3**. Traffic count data sheets are provided in **Appendix B**.

Average Daily Traffic

The existing Average Daily Traffic (ADT) volumes are based data obtained from PennDOT's Traffic Information Repository (TIRe) website. The traffic volume map contained on the PennDOT TIRe website was reviewed in June 2023 to determine the Average Daily Traffic (ADT) for a typical weekday along the State-maintained roadways in the vicinity of the proposed site.

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 2022 to July 2023 obtained from the PennDOT Bureau of Planning and Research (BPR). The PennDOT BPR suggests using a background growth trend factor of 0.59% per year in Cumberland County for urban non-interstate roadways. As such, the background growth factor was applied annually to the existing volumes to determine the 2026 and 2036 base condition traffic volumes.

Nearby Proposed Developments

Base (no-build) traffic conditions were calculated to include traffic volumes from proposed developments, which, though not operating under existing conditions, may be operating by the opening year (2026) and design year (2036) of the proposed development. The following nearby planned developments were specifically included in this study:

151 – 237 Gettysburg Pike Development is a proposed development located in the northeast and southeast quadrant of South Market Street (SR 0114) & Gettysburg Pike. Trip distributions for this development were developed based on data provided by the township which was completed by *Alpha Consulting Engineers Inc.* The distribution of this development is illustrated in **Figure 4**.

The additional traffic volumes due to background growth and background developments were added to the existing traffic data to produce 2026 and 2036 base (no-build) condition traffic volumes. Base condition volumes for the weekday A.M. and weekday P.M. peak hours are illustrated in **Figure 5** for the 2026 opening year conditions and **Figure 6** for the 2036 design year conditions. Background developments are provided in **Appendix D**.

SCHEDULED ROADWAY IMPROVEMENTS

Programmed 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

Access to the site is proposed via one (1) full-movement driveway to Mill Road. The current driveway serving the property will be removed in conjunction with construction of the proposed development.

Sight Distance Analysis

In general, recommended safe sight distances depend upon the posted speed limit and roadway grades. Desirable sight distances as noted in PennDOT's Chapter 441 were evaluated at each access location. In addition, measured sight distances were compared to PennDOT's safe stopping sight distance standard, which is calculated by the following equation:

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

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

TABLE 4
SIGHT DISTANCE ANALYSIS
SITE DRIVEWAY TO W. WINDING HILL ROAD (SR 2010)

	Direction	Speed	Grade ¹	Sight Distances (feet)		
				DES	SSSD	EXIST
Exiting Movements	To the left	25 mph	3%	250	143	300+
	To the right	25 mph	-3%	195	151	300+
Entering Left Turns	Approaching same direction	25 mph	-3%	--	151	300+
	Approaching opposite direction	25 mph	3%	190	143	300+

DES = PennDOT Desirable Sight Distance
SSSD = PennDOT Acceptable Sight Distance

¹ = Roadway Grade Approaching Driveway
EXIST = Existing (measured) Sight Distance

As shown in **Tables 4** above, the measured sight distances at the site driveways exceed applicable DES and SSSD criteria.

TRIP GENERATION

The trip generation rates for the proposed development were obtained from the manual *Trip Generation*, 11th Edition, an Institute of Transportation Engineers (ITE) Informational Report. The statistics in *Trip Generation* are empirical data based on more than 4,800 trip generation studies. 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 residential development, Land Use Code 215 (Single-Family Attached Housing) from *Trip Generation* was 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 %
Single-Family Attached Housing	215	Average Weekday	$T = 7.62(X) - 50.48$	50%	50%
		Weekday A.M. Peak Hour	$T = 0.52(X) - 5.70$	25%	75%
		Weekday P.M. Peak Hour	$T = 0.60(X) - 3.93$	59%	41%

*T = number of site-generated vehicular trips
X = independent variable (dwelling units)*

The calculated trip generation for the proposed development is shown in **Table 6**.

TABLE 6
TRIP GENERATION SUMMARY

Time Period	West Winding Hill Subdivision		
	Total	Enter	Exit
Average Weekday	56	28	28
A.M. Peak Hour	2	0	2
P.M. Peak Hour	4	3	1

Based on the trip generation analysis summarized in **Table 6**, the proposed development will generate approximately 2 new trips during the weekday A.M. peak hour, and 4 new trips during the weekday P.M. peak hour at full build-out.

TRIP DISTRIBUTION

The distribution of trips generated by the proposed development was based on the local road network, the existing traffic patterns, and the proposed use of the site. The new trips for the proposed development were distributed to the local roadway network based on the percentages shown in **Table 7**. The distribution of site-generated trips are shown in **Figure 7**.

TABLE 7
TRIP DISTRIBUTION PERCENTAGES

Assignment (To/From)	via	Distribution Percentage
To/From East	West Lisburn Road (SR 2004)	35%
To/From West	West Lisburn Road (SR 2004)	50%
To/From North	Mill Road	4%
To/From South	Mill Road	11%

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

PROJECTED (BUILD) CONDITION TRAFFIC VOLUMES

The site-generated trips for the proposed development were added to the 2026 and 2036 base (no-build) condition traffic volumes to develop 2026 and 2036 projected (build) condition traffic volumes.

Projected condition traffic volumes for the opening year of 2026 for the weekday A.M. and P.M. peak hours are shown in **Figure 9**. Projected condition traffic volumes for the design year of 2036 for the weekday A.M. and P.M. peak hours are shown in **Figure 10**. 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 INTERSECTIONS¹

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

¹Obtained from Exhibits 19-8 and 20-2 of the Transportation Research Board's Highway Capacity Manual 6th Edition

CAPACITY ANALYSIS METHODOLOGY

Capacity analyses were conducted for the weekday A.M. and P.M. peak hours at the study area intersections. These analyses were conducted according to the methodologies contained in the *Highway Capacity Manual* (HCM) 6th Edition using *Synchro 11* software, a Trafficware product.

The following conditions were analyzed, as applicable:

- » Existing conditions;
- » 2026 Base conditions (Build-out year without development);
- » 2026 Projected conditions (Build-out year with development);

- » 2036 Base conditions (Design year without development);
- » 2036 Projected conditions (Design year with development).

The following items should be noted with respect to the capacity analyses:

- » The Pennsylvania default values for the suburban land use context contained in Chapter 10 of PennDOT's Publication 46 were utilized for the base critical headway and base follow-up headways at unsignalized intersections.

In addition, capacity analyses were conducted at the proposed site driveway intersections under the 2026 and 2036 projected conditions. The capacity analysis worksheets are included in **Appendix E**.

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 September 2022 contain the following criteria regarding levels of service:

- » 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.
- » 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.
- » 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.
- » 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 **Tables 9 and 10** for the weekday A.M. and weekday P.M. peak hours.

TABLE 9
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY

Intersection	Movement	Weekday A.M. Peak Hour						
		Existing Condition	Opening Year 2026			Design Year 2036		
			Base	Projected	Projected ¹	Base	Projected	Projected ¹
West Lisburn Road (SR 2004) & Mill Road	EB L/T/R	B	B	B	--	B	B	--
	WB L/T/R	B	B	B	--	B	B	--
	NB L/T/R	B	B	B	--	B	B	--
	SB L/T	B	B	B	--	B	B	--
	SB R	A	A	A	--	A	A	--
	ILOS	B (11.4)	B (11.7)	B (11.8)	--	B (12.4)	B (12.4)	--
Mill Road & Proposed Site Driveway	WB L/R	A	A	A	--	A	A	--
	SB L/T	A	A	A	--	A	A	--
	ILOS	A (0.1)	A (0.1)	A (0.2)	--	A (0.1)	A (0.2)	--
Mill Road & Wingert Drive	EB L/T/R	A	A	A	--	A	A	--
	WB L/T/R	A	A	A	--	A	A	--
	NB L/T/R	A	A	A	--	A	A	--
	SB L/T/R	A	A	A	--	A	A	--
	ILOS	A (0.1)	A (0.1)	A (0.1)	--	A (0.1)	A (0.1)	--
Mill Road & Sholly Drive	EB L/R	A	A	A	--	A	A	--
	NB L/T	A	A	A	--	A	A	--
	ILOS	A (1.1)	A (1.1)	A (1.1)	--	A (1.2)	A (1.2)	--

Base = No-Build scenario;

Projected = Build scenario

ILOS = Overall Intersection Level of Service; Unsignalized ILOS calculated in accordance with Figure 5 of Policies and Procedures for Transportation Impact Studies.

¹ = Projected conditions with implementation of recommended improvements

TABLE 10
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY

Intersection	Movement	Weekday P.M. Peak Hour						
		Existing Condition	Opening Year 2026			Design Year 2036		
			Base	Projected	Projected ¹	Base	Projected	Projected ¹
West Lisburn Road (SR 2004) & Mill Road	EB L/T/R	C	C	C	--	C	C	--
	WB L/T/R	C	C	C	--	C	C	--
	NB L/T/R	B	B	B	--	B	B	--
	SB L/T	B	B	B	--	B	B	--
	SB R	A	A	A	--	B	B	--
	ILOS	C (15.8)	C (16.5)	C (16.7)	--	C (19.0)	C (19.2)	--
Mill Road & Private Driveway/Proposed Site Driveway	WB L/R	A	A	A	--	A	A	--
	SB L/T	A	A	A	--	A	A	--
	ILOS	A (0.0)	A (0.0)	A (0.1)	--	A (0.0)	A (0.1)	--
Mill Road & Wingert Drive	EB L/T/R	A	A	A	--	A	A	--
	WB L/T/R	A	A	A	--	A	A	--
	NB L/T/R	A	A	A	--	A	A	--
	SB L/T/R	A	A	A	--	A	A	--
	ILOS	A (0.1)	A (0.1)	A (0.1)	--	A (0.1)	A (0.1)	--
Mill Road & Sholly Drive	EB L/R	A	A	A	--	A	A	--
	NB L/T	A	A	A	--	A	A	--
	ILOS	A (0.3)	A (0.3)	A (0.3)	--	A (0.3)	A (0.3)	--

Base = No-Build scenario;

Projected = Build scenario

ILOS = Overall Intersection Level of Service; Unsignalized ILOS calculated in accordance with Figure 5 of Policies and Procedures for Transportation Impact Studies.

¹ = Projected conditions with implementation of recommended improvements

As shown in **Tables 9 and 10** under 2026 and 2036 projected conditions with the development of the proposed site, the study area intersections will operate at the same overall intersection level of service (ILOS) as under 2026 and 2036 base conditions, during the weekday A.M. and P.M. peak hours.

All approaches and turning movements at the site driveway intersections will operate at **LOS A or better** under 2026 and 2036 Projected Conditions during the weekday A.M. and P.M. peak hours.

All levels of service at the study area intersection comply with the requirement outlined in PennDOT's TIS Guidelines and Upper Allen Township standards.

95TH PERCENTILE QUEUE ANALYSIS

Queue analyses were conducted at the study area intersections using *Synchro 11* software and reporting the HCM 6th Edition 95th percentile queue lengths. The queue analysis results are summarized in **Table 11** for the analyzed peak hours.

TABLE 11
95TH PERCENTILE QUEUE ANALYSIS

Intersection	Lane Group	2036 Base Conditions			2036 Projected Conditions		
		Existing Storage Length ¹	95th Percentile Queue Length (ft)		Proposed Storage Length	95th Percentile Queue Length (ft)	
			A.M.	P.M.		A.M.	P.M.
West Lisburn Road (SR 2004) & Mill Road	EB L/T/R	400	73	153	Same	73	155
	WB L/T/R	500+	58	150	Same	58	153
	NB L/T/R	100	18	30	Same	18	30
	SB L/T	250	0	0	Same	0	0
	SB R	175	8	8	Same	8	8
Mill Road & Proposed Site Driveway	WB L/R	200	0	0	Same	0	0
	SB L/T	175	0	0	Same	0	0
Mill Road & Wingert Drive	EB L/T/R	75	0	0	Same	0	0
	WB L/T/R	350	0	0	Same	0	0
	NB L/T/R	275	0	0	Same	0	0
	SB L/T/R	125	0	0	Same	0	0
Mill Road & Sholly Drive	EB L/R	150	3	3	Same	3	3
	NB L/T	500+	0	0	Same	0	0

1 = Existing Storage Length determined by the nearest public intersection.

As shown in **Table 11**, adequate queue storage will be provided for the turn lanes in 2036 with construction and full build-out of the proposed development. Queue analysis worksheets are included with the capacity analysis worksheets provided in **Appendix E**.

AUXILIARY TURN LANE ANALYSIS

Methodology

TPD evaluated auxiliary turn lane warrants at the site access intersections. The warrant analysis methodology contained within Chapter 11 of PennDOT's *Publication 46*, Section 11.17 was utilized for this evaluation.

Findings

Table 12 summarizes the results of the auxiliary turn lane analysis at the site access intersections.

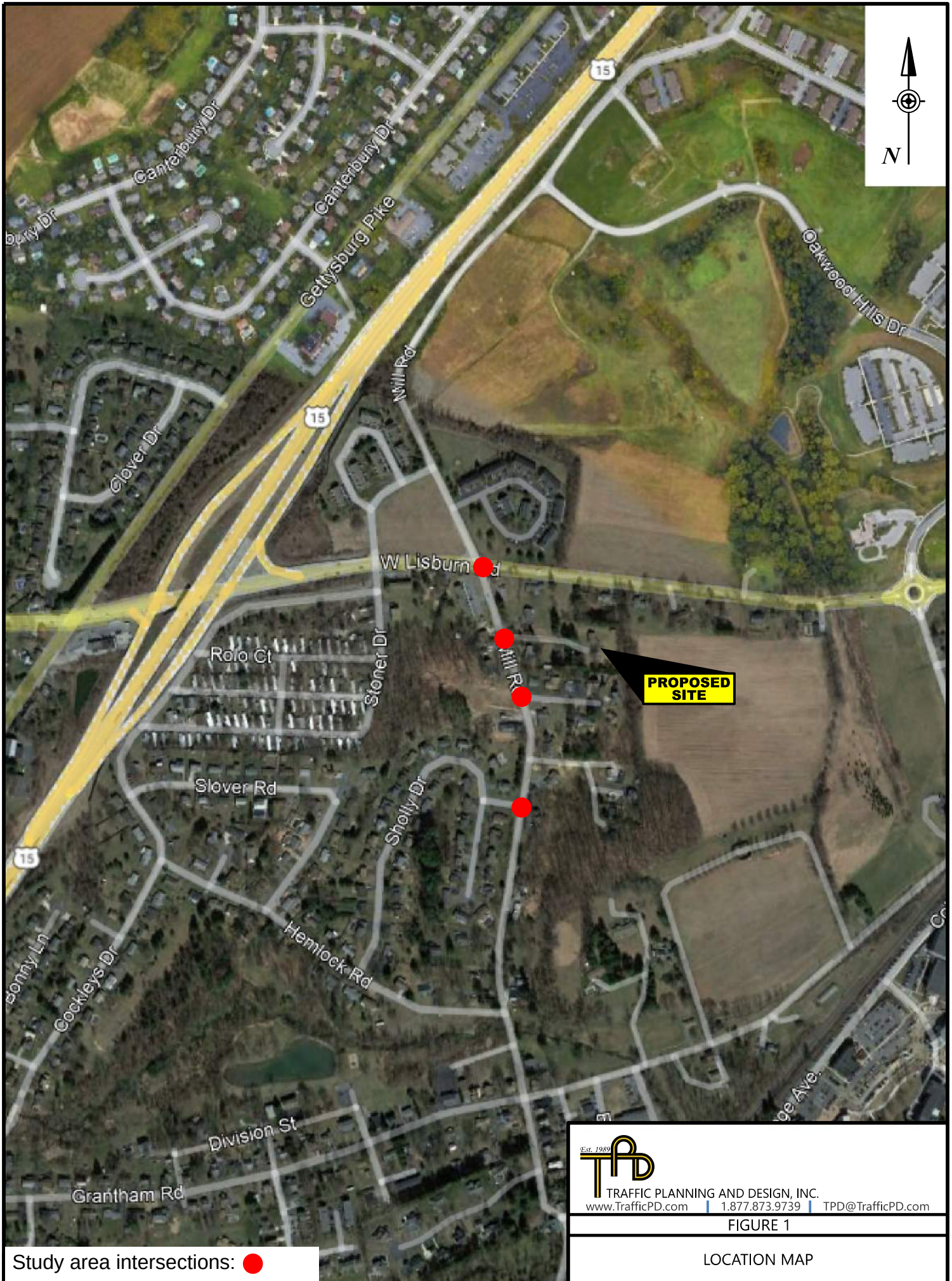
TABLE 12
AUXILIARY TURN LANE ANALYSIS SUMMARY

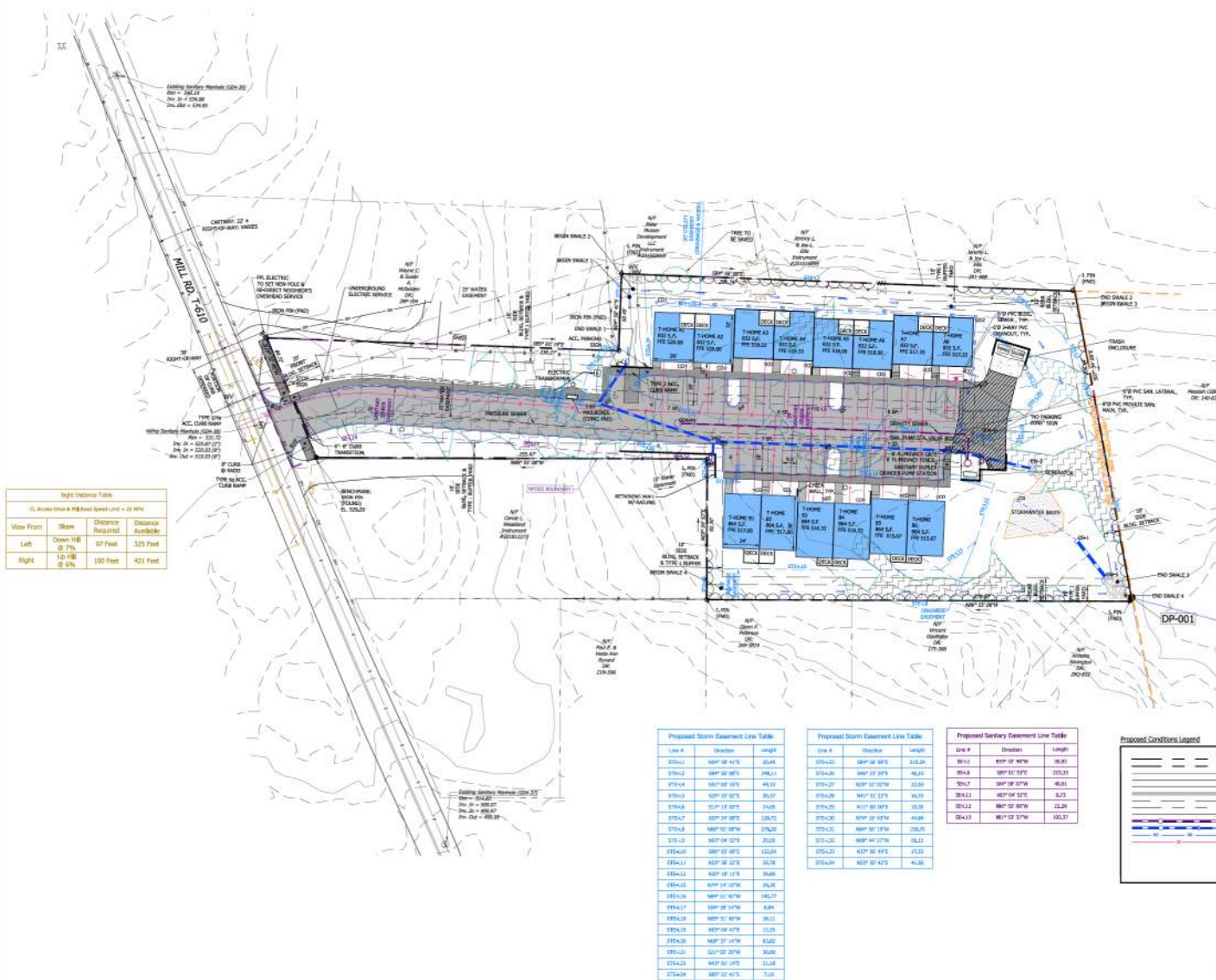
Intersection	Auxiliary Lane	Warrant Satisfied?	Required Lane Length	Proposed Lane Length
Mill Road & Proposed Site Driveway	SB Left-Turn Lane	No	--	--
	NB Right-Turn Lane	No	--	--

The calculations for the auxiliary turn lane warrants are included in **Appendix F**.

RECOMMENDATIONS AND CONCLUSIONS

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



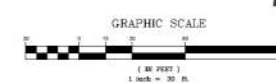


Sight Distance Table				
CL Access Road & Mill Road Speed Limit = 25 MPH				
View From	Width	Distance Required	Distance Available	
Left	Down Hill @ 7%	87 Feet	325 Feet	
Right	Up Hill @ 8%	100 Feet	421 Feet	

Proposed Storm Easement Line Table		
Line #	Direction	Length
ST01-2	NEP 12° 14' N	10.49
ST01-3	NEP 12° 14' N	28.53
ST01-4	NEP 12° 14' N	14.51
ST01-5	NEP 12° 14' N	14.51
ST01-6	NEP 12° 14' N	14.51
ST01-7	NEP 12° 14' N	14.51
ST01-8	NEP 12° 14' N	14.51
ST01-9	NEP 12° 14' N	14.51
ST01-10	NEP 12° 14' N	14.51
ST01-11	NEP 12° 14' N	14.51
ST01-12	NEP 12° 14' N	14.51
ST01-13	NEP 12° 14' N	14.51
ST01-14	NEP 12° 14' N	14.51
ST01-15	NEP 12° 14' N	14.51
ST01-16	NEP 12° 14' N	14.51
ST01-17	NEP 12° 14' N	14.51
ST01-18	NEP 12° 14' N	14.51
ST01-19	NEP 12° 14' N	14.51
ST01-20	NEP 12° 14' N	14.51
ST01-21	NEP 12° 14' N	14.51
ST01-22	NEP 12° 14' N	14.51
ST01-23	NEP 12° 14' N	14.51
ST01-24	NEP 12° 14' N	14.51

Proposed Storm Easement Line Table		
Line #	Direction	Length
ST02-1	NEP 12° 14' N	14.51
ST02-2	NEP 12° 14' N	14.51
ST02-3	NEP 12° 14' N	14.51
ST02-4	NEP 12° 14' N	14.51
ST02-5	NEP 12° 14' N	14.51
ST02-6	NEP 12° 14' N	14.51
ST02-7	NEP 12° 14' N	14.51
ST02-8	NEP 12° 14' N	14.51
ST02-9	NEP 12° 14' N	14.51
ST02-10	NEP 12° 14' N	14.51
ST02-11	NEP 12° 14' N	14.51
ST02-12	NEP 12° 14' N	14.51
ST02-13	NEP 12° 14' N	14.51
ST02-14	NEP 12° 14' N	14.51
ST02-15	NEP 12° 14' N	14.51
ST02-16	NEP 12° 14' N	14.51
ST02-17	NEP 12° 14' N	14.51
ST02-18	NEP 12° 14' N	14.51
ST02-19	NEP 12° 14' N	14.51
ST02-20	NEP 12° 14' N	14.51
ST02-21	NEP 12° 14' N	14.51
ST02-22	NEP 12° 14' N	14.51
ST02-23	NEP 12° 14' N	14.51
ST02-24	NEP 12° 14' N	14.51

Proposed Storm Easement Line Table		
Line #	Direction	Length
ST03-1	NEP 12° 14' N	14.51
ST03-2	NEP 12° 14' N	14.51
ST03-3	NEP 12° 14' N	14.51
ST03-4	NEP 12° 14' N	14.51
ST03-5	NEP 12° 14' N	14.51
ST03-6	NEP 12° 14' N	14.51
ST03-7	NEP 12° 14' N	14.51
ST03-8	NEP 12° 14' N	14.51
ST03-9	NEP 12° 14' N	14.51
ST03-10	NEP 12° 14' N	14.51
ST03-11	NEP 12° 14' N	14.51
ST03-12	NEP 12° 14' N	14.51
ST03-13	NEP 12° 14' N	14.51
ST03-14	NEP 12° 14' N	14.51
ST03-15	NEP 12° 14' N	14.51
ST03-16	NEP 12° 14' N	14.51
ST03-17	NEP 12° 14' N	14.51
ST03-18	NEP 12° 14' N	14.51
ST03-19	NEP 12° 14' N	14.51
ST03-20	NEP 12° 14' N	14.51
ST03-21	NEP 12° 14' N	14.51
ST03-22	NEP 12° 14' N	14.51
ST03-23	NEP 12° 14' N	14.51
ST03-24	NEP 12° 14' N	14.51



NO.

REVISION

DATE

1

PRELIMINARY

10/27/2022

2

FINAL

10/27/2022

3

FINAL

10/27/2022

4

FINAL

10/27/2022

5

FINAL

10/27/2022

R. J. FISHER & ASSOCIATES, INC.

SITE PLANNING & CIVIL ENGINEERING & LAND SURVEYS

1546 BRIDGE STREET, NEW CUMBERLAND, PA 17070

PHONE: (717) 774-7554 • FAX: (717) 774-7190

RJFISHERENGINEERING.COM

LAND DEVELOPMENT PLAN - SITE LAYOUT

FOR

2509 MILL ROAD TOWNHOMES

LOCATED IN UPPER ALLEN TOWNSHIP, CUMBERLAND COUNTY, PA

DRAWING NO.

221013-01

PROJECT

221013

DATE

04/25/2022

SHEET

4 OF 21

KEY:
SCHEMATIC DRAWING:NOT TO SCALE

EST. 1989

TPD

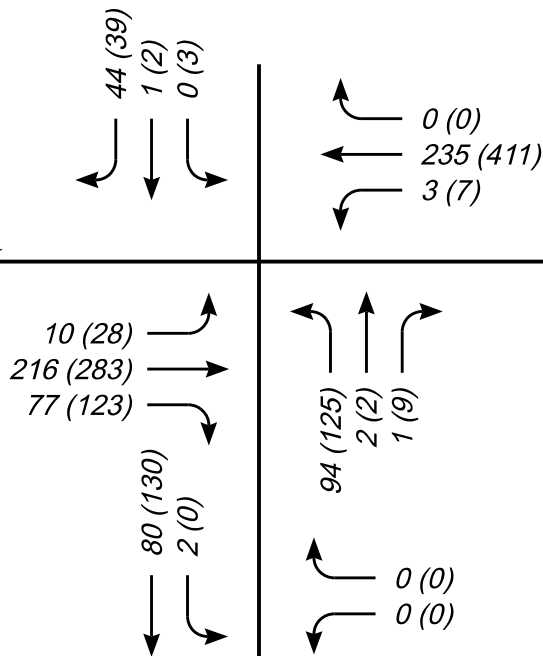
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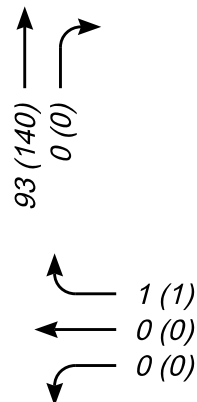
FIGURE 2

SITE PLAN

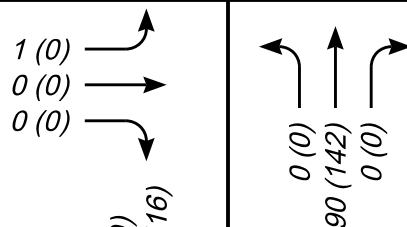
West Lisburn Road
(SR 0114)



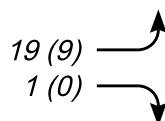
Existing Site
Driveway



Wingert
Drive



Sholly
Drive



Mill
Road



KEY:
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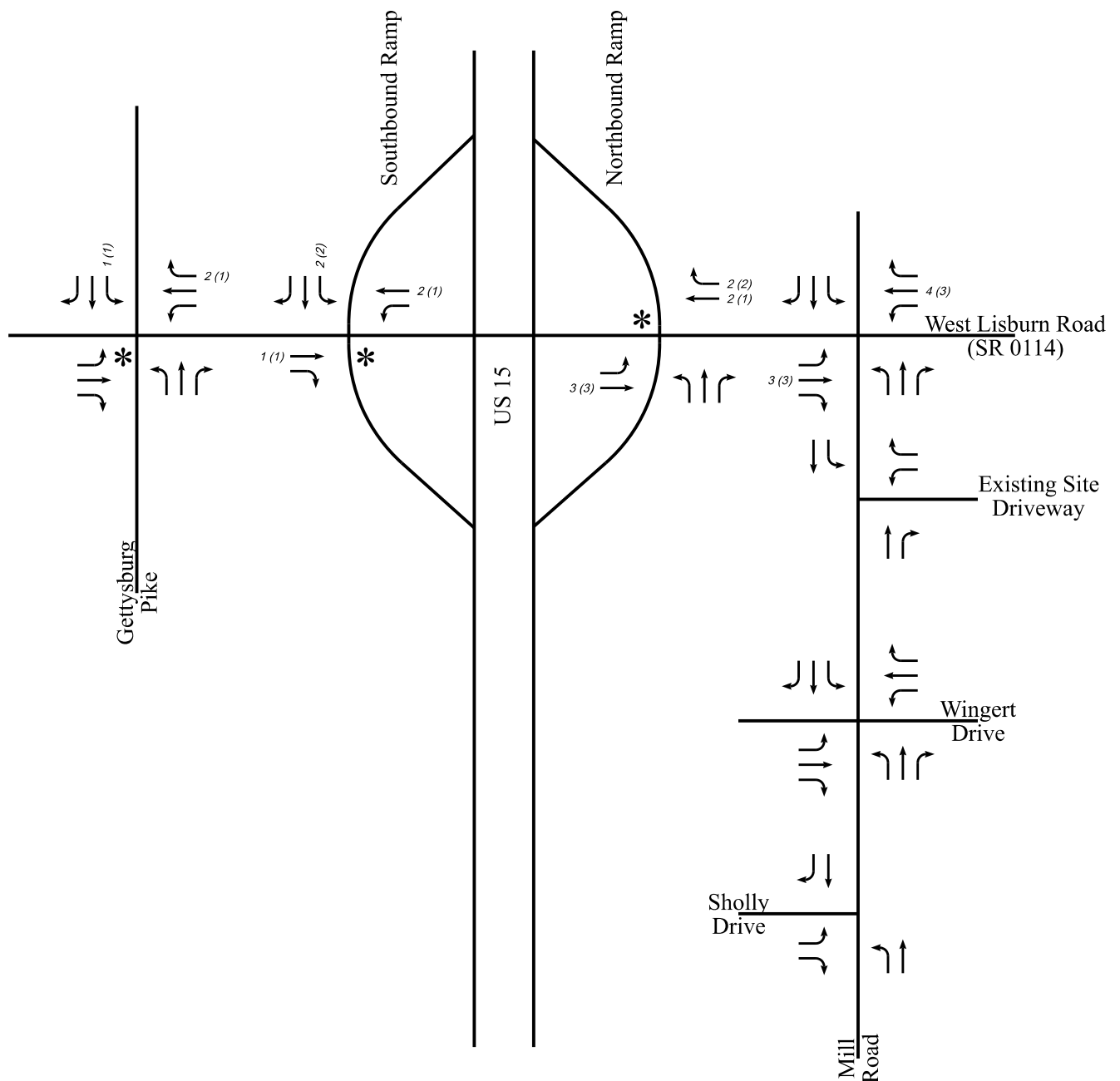


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FIGURE 3

2023 EXISTING CONDITIONS
WEEKDAY A.M. (P.M.) PEAK HOUR
TRAFFIC VOLUMES

151 - 237 Gettysburg Pike Development



TPD incorporated 5% of the new trips coming to/from the south along Gettysburg Pike to come to/from east on Lisburn Road.

TPD also incorporated 5% of the new trips coming to/from the south along US-15 to come to/from east on Lisburn Road.

KEY:

SCHEMATIC DRAWING: NOT TO SCALE

*** INTERSECTION FOR ILLUSTRATION PURPOSES ONLY**

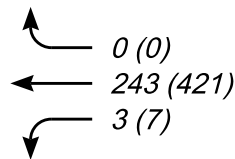
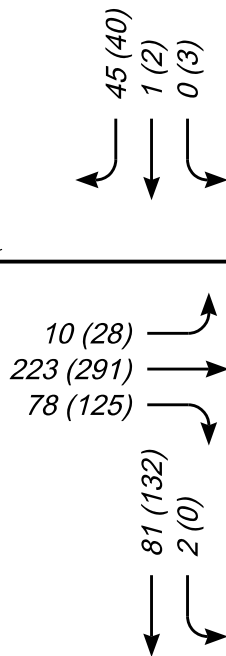


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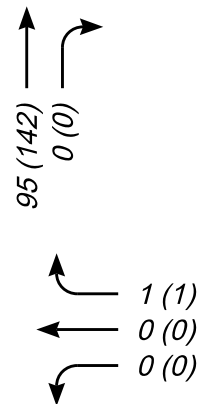
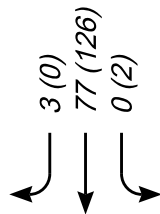
FIGURE 4

151 - 237 GETTYSBURG PIKE DEV
WEEKDAY A.M. (P.M.) PEAK HOUR
TRAFFIC VOLUMES

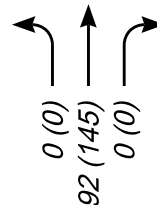
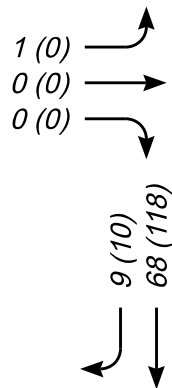
West Lisburn Road
(SR 0114)



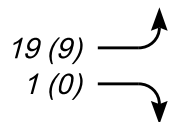
Existing Site
Driveway



Wingert
Drive



Sholly
Drive



Mill
Road

KEY:
SCHEMATIC DRAWING:NOT TO SCALE

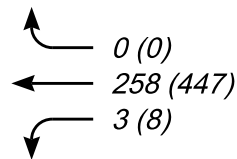
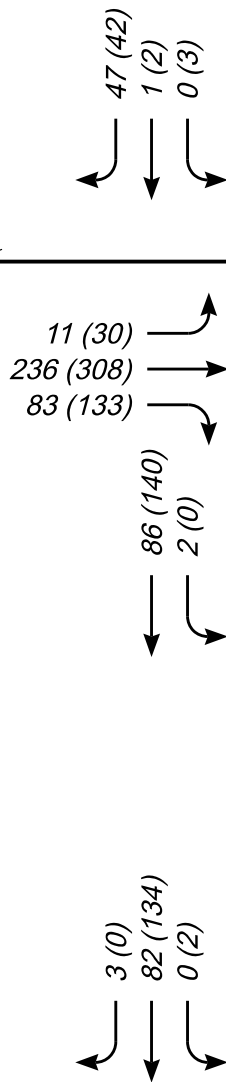


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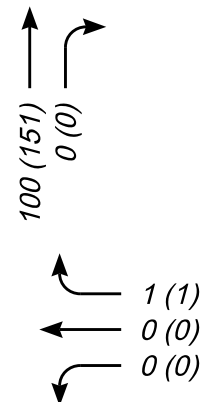
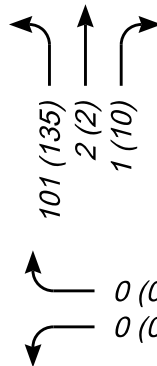
FIGURE 5

2026 BASE (NO-BUILD) CONDITIONS
WEEKDAY A.M. (P.M.) PEAK HOUR
TRAFFIC VOLUMES

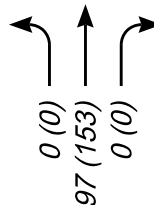
West Lisburn Road
(SR 0114)



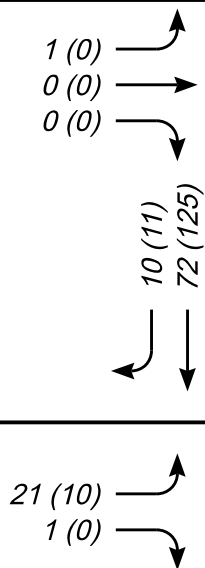
Existing Site
Driveway



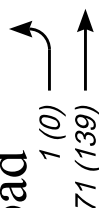
Wingert
Drive



Sholly
Drive



Mill
Road



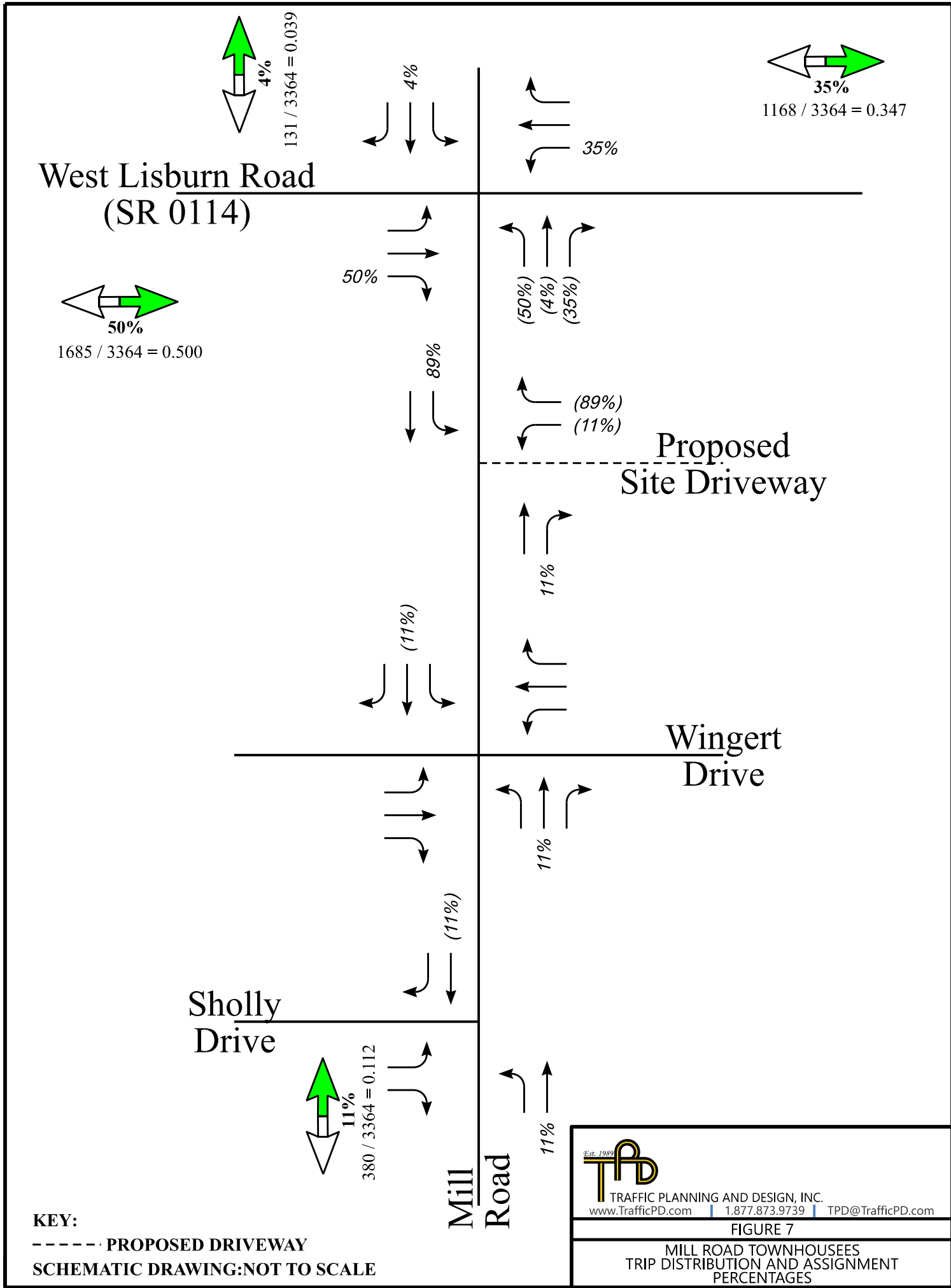
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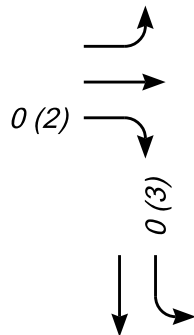
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FIGURE 6

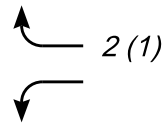
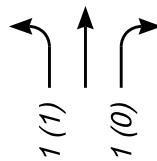
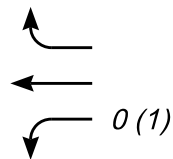
2036 BASE (NO-BUILD) CONDITIONS
WEEKDAY A.M. (P.M.) PEAK HOUR
TRAFFIC VOLUMES



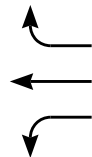
West Lisburn Road
(SR 0114)



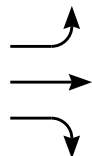
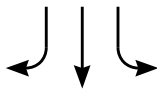
Enter: 0 (3)
Exit: 2 (1)



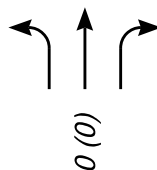
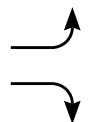
Proposed
Site Driveway



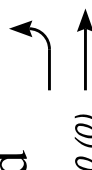
Pheasant Drive
Site Driveway



Sholly
Drive



Wingert
Drive



Mill
Road

KEY:

----- PROPOSED DRIVEWAY

SCHEMATIC DRAWING: NOT TO SCALE

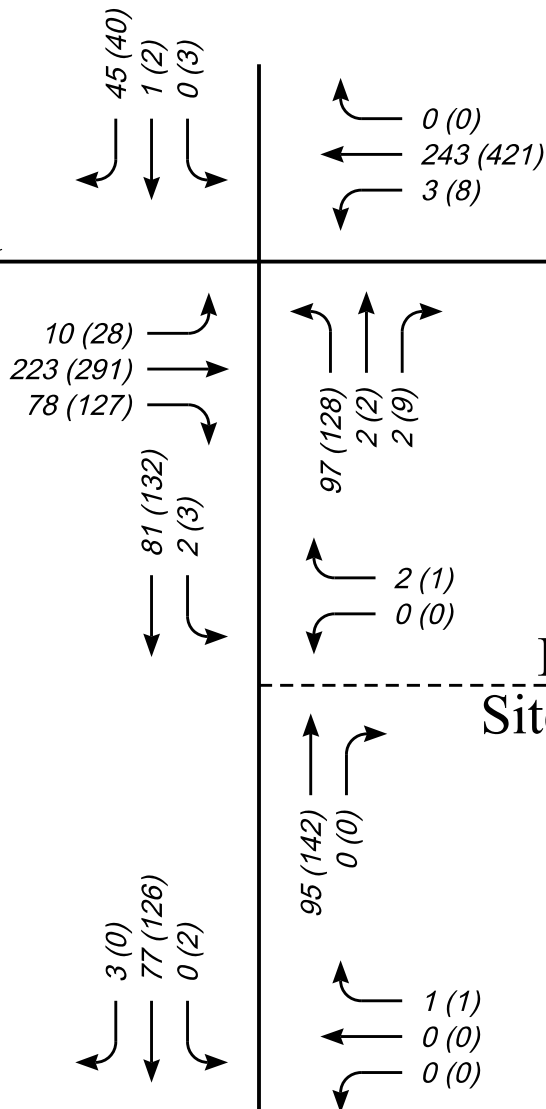


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FIGURE 8

MILL ROAD TOWNHOUSES
TRIP DISTRIBUTION AND ASSIGNMENT
WEEKDAY A.M. (P.M.) PEAK HOURS

West Lisburn Road
(SR 0114)



Proposed
Site Driveway

Wingert
Drive

Sholly
Drive

Mill
Road

KEY:

----- PROPOSED DRIVEWAY

SCHEMATIC DRAWING: NOT TO SCALE

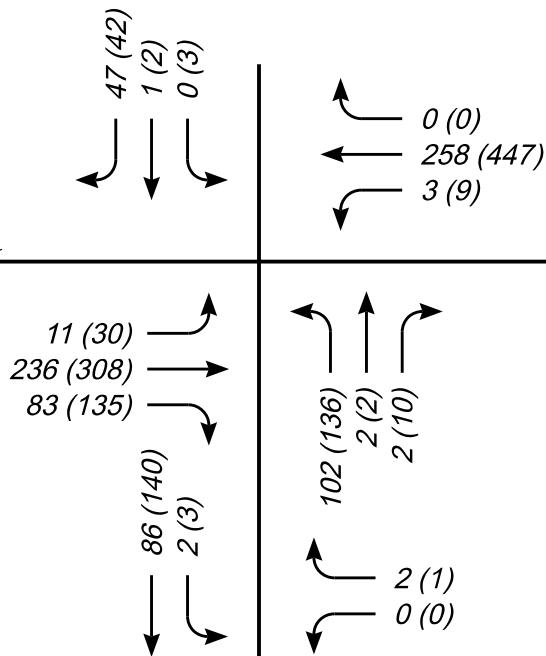


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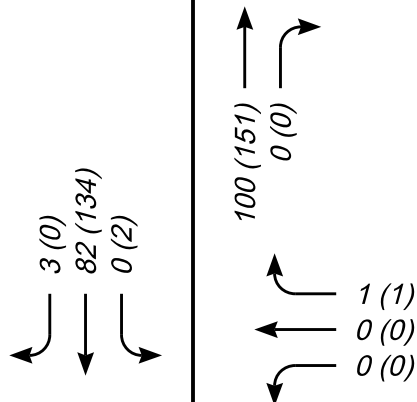
FIGURE 9

2026 PROJECTED (BUILD) CONDITIONS
WEEKDAY A.M. (P.M.) PEAK HOUR
TRAFFIC VOLUMES

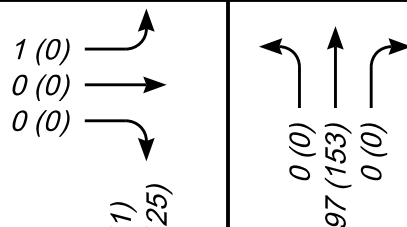
West Lisburn Road
(SR 0114)



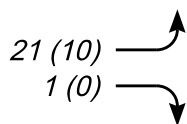
Proposed
Site Driveway



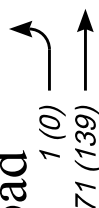
Wingert
Drive



Sholly
Drive



Mill
Road



KEY:

----- PROPOSED DRIVEWAY

SCHEMATIC DRAWING: NOT TO SCALE



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FIGURE 10

2036 PROJECTED (BUILD) CONDITIONS
WEEKDAY A.M. (P.M.) PEAK HOUR
TRAFFIC VOLUMES

APPENDIX A

STUDY AREA PHOTOGRAPHS & M-950S FORM



Direction / Road:	<u>NB Mill Road</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>NB Mill Road</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 Feet</u>



Direction / Road:	SB Mill Road
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	SB Mill Road
Approach / Departure:	Approach
Distance:	200 Feet



Direction / Road:	EB W Lisburn Road SR 2004
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	EB W Lisburn Road SR 2004
Approach / Departure:	Approach
Distance:	200 Feet



Direction / Road:	WB W Lisburn Road SR 2004
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	WB W Lisburn Road SR 2004
Approach / Departure:	Approach
Distance:	200 Feet



Direction / Road: Center Driveway - Looking Out
Approach / Departure: _____
Distance: _____



Direction / Road: Center Driveway – Looking In
Approach / Departure: _____
Distance: _____



Direction / Road: Center Driveway – Looking Right
Approach / Departure: _____
Distance: _____



Direction / Road: Center Driveway – Looking Left
Approach / Departure: _____
Distance: _____



Direction / Road:	NB Mill Road
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	NB Mill Road
Approach / Departure:	Approach
Distance:	200 Feet



Direction / Road: SB Mill Road
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: SB Mill Road
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road:	EB Private Drive
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	EB Private Drive
Approach / Departure:	Approach
Distance:	200 Feet



Direction / Road:	WB Wingert Drive
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	WB Wingert Drive
Approach / Departure:	Approach
Distance:	200 Feet



Direction / Road:	NB Mill Road
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	NB Mill Road
Approach / Departure:	Approach
Distance:	200 Feet



Direction / Road:	SB Mill Road
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	SB Mill Road
Approach / Departure:	Approach
Distance:	200 Feet



Direction / Road:	EB Sholly Drive
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	EB Sholly Drive
Approach / Departure:	Approach
Distance:	200 Feet

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

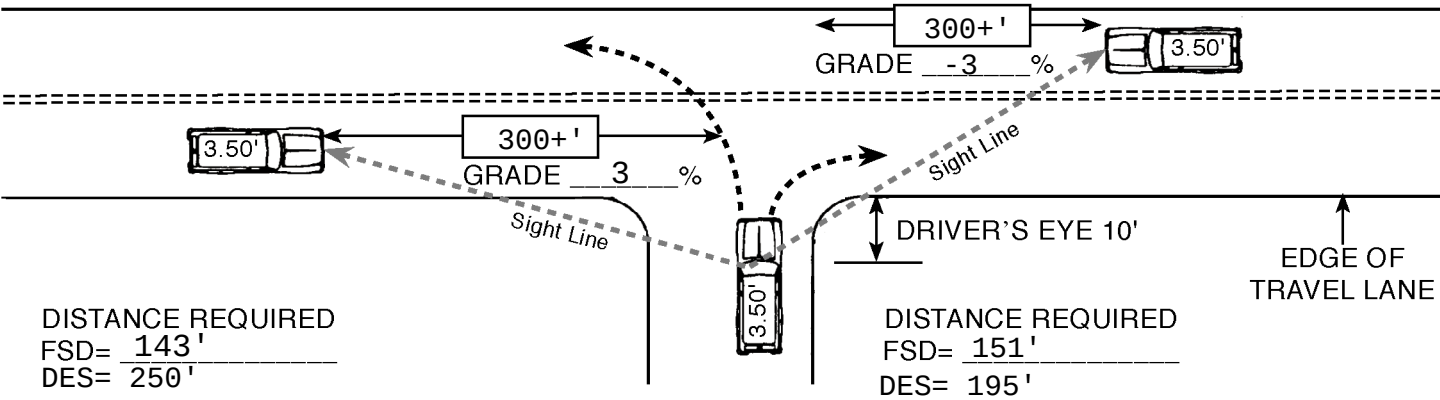
APPLICANT Mill Road Residential Development APPLICATION NO. RJFA.00006

S.R. _____ SEG. _____ OFFSET _____ LEGAL SPEED LIMIT 25 mph

MEASURED BY TPD DATE 05/09/2023

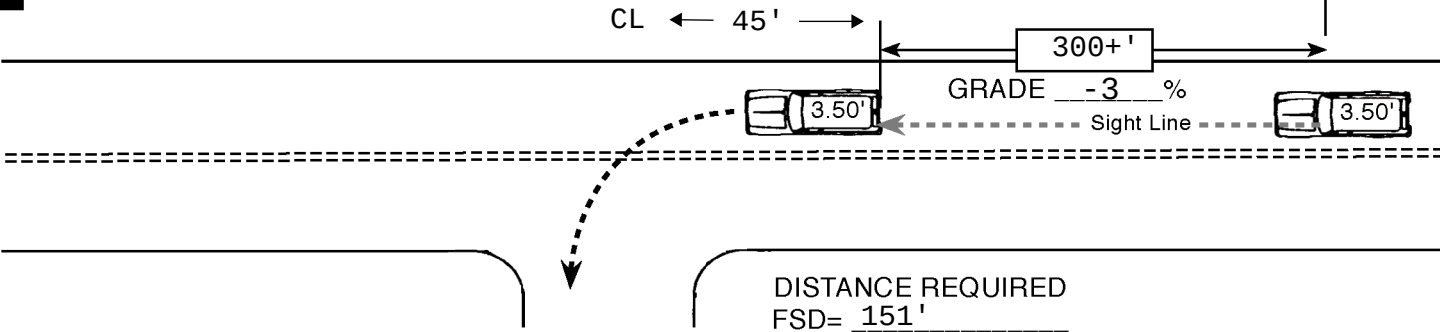
FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed _____

A Mill Road & Proposed Access



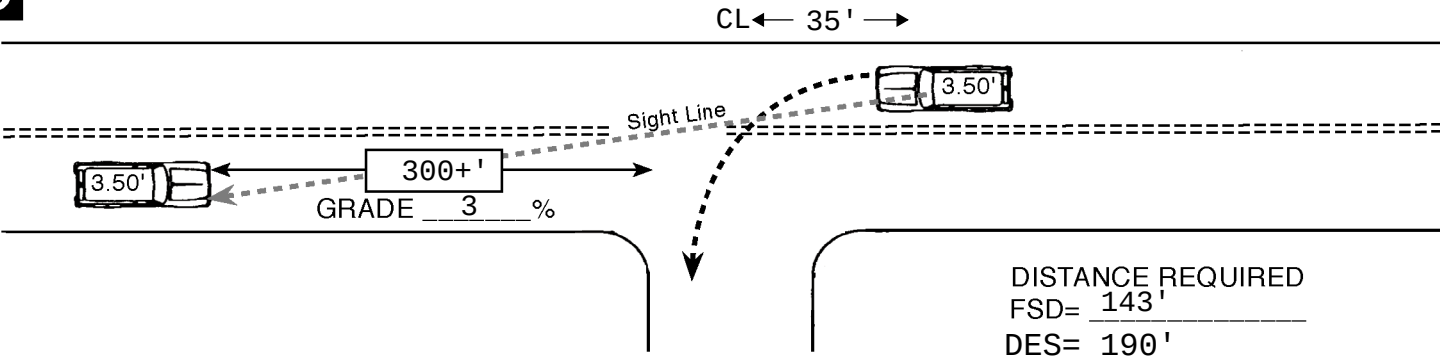
THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER AT A DRIVEWAY LOCATION CAN CONTINUOUSLY SEE ANOTHER VEHICLE APPROACHING ON THE ROADWAY.

B



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER ON THE ROADWAY CAN CONTINUOUSLY SEE THE REAR OF A VEHICLE WHICH IS LOCATED IN THE DRIVER'S TRAVEL LANE AND WHICH IS POSITIONED TO MAKE A LEFT TURN INTO A DRIVEWAY.

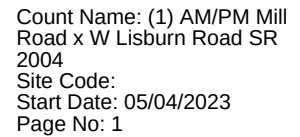
C



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER OF A VEHICLE INTENDING TO MAKE A LEFT TURN INTO A DRIVEWAY CAN CONTINUOUSLY SEE A VEHICLE APPROACHING FROM THE OPPOSITE DIRECTION.

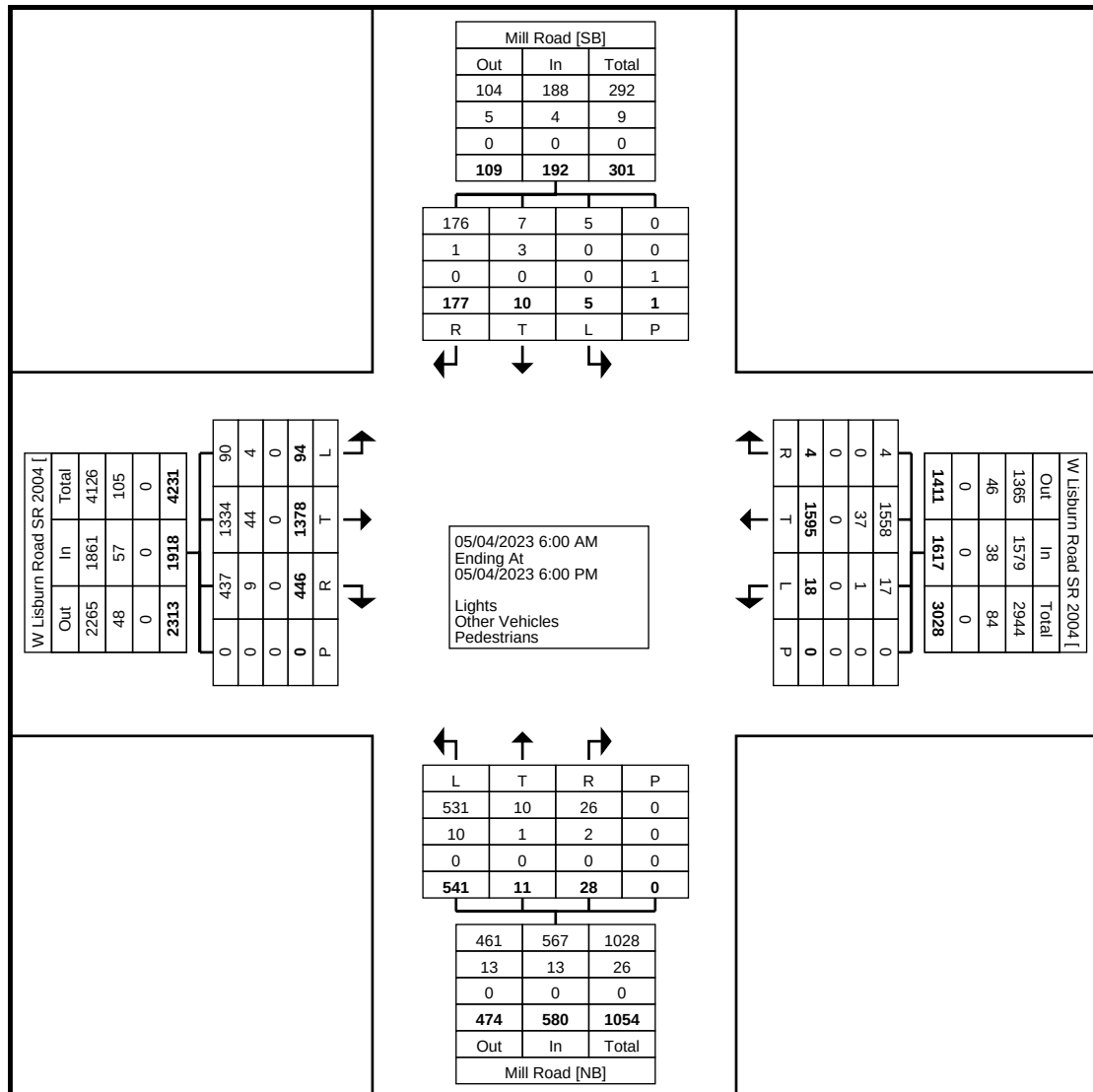
APPENDIX B

TRAFFIC COUNT DATA PRINTOUTS



Counter: MIO:
Set up by: KY:

Count Name: (1) AM/PM Mill
Road x W Lisburn Road SR
2004
Site Code:
Start Date: 05/04/2023
Page No: 2



Turning Movement Data Plot



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

Count Name: (1) AM/PM Mill
Road x W Lisburn Road SR
2004
Site Code:
Start Date: 05/04/2023
Page No: 3

Counter: MIO:
Set up by: KY:

Turning Movement Peak Hour Data (7:15 AM)

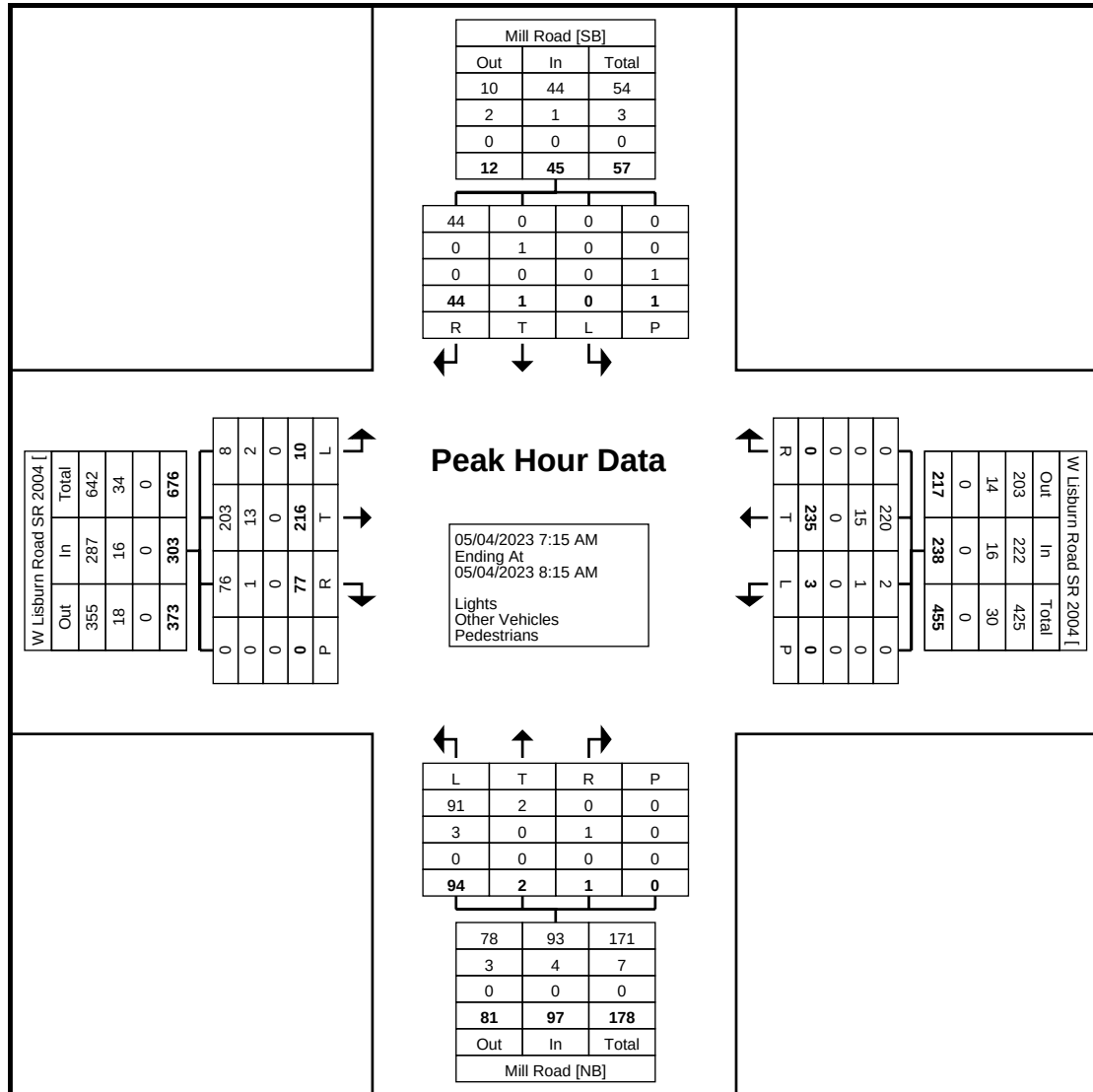
Start Time	W Lisburn Road SR 2004 Eastbound					W Lisburn Road SR 2004 Westbound					Mill Road Northbound					Mill Road Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:15 AM	1	45	12	0	58	2	55	0	0	57	36	1	0	0	37	0	0	8	0	8	160
7:30 AM	3	50	25	0	78	0	72	0	0	72	22	0	0	0	22	0	0	16	0	16	188
7:45 AM	4	62	25	0	91	1	65	0	0	66	20	1	0	0	21	0	0	12	1	12	190
8:00 AM	2	59	15	0	76	0	43	0	0	43	16	0	1	0	17	0	1	8	0	9	145
Total	10	216	77	0	303	3	235	0	0	238	94	2	1	0	97	0	1	44	1	45	683
Approach %	3.3	71.3	25.4	-	-	1.3	98.7	0.0	-	-	96.9	2.1	1.0	-	-	0.0	2.2	97.8	-	-	-
Total %	1.5	31.6	11.3	-	44.4	0.4	34.4	0.0	-	34.8	13.8	0.3	0.1	-	14.2	0.0	0.1	6.4	-	6.6	-
PHF	0.625	0.871	0.770	-	0.832	0.375	0.816	0.000	-	0.826	0.653	0.500	0.250	-	0.655	0.000	0.250	0.688	-	0.703	0.899
Lights	8	203	76	-	287	2	220	0	-	222	91	2	0	-	93	0	0	44	-	44	646
% Lights	80.0	94.0	98.7	-	94.7	66.7	93.6	-	-	93.3	96.8	100.0	0.0	-	95.9	-	0.0	100.0	-	97.8	94.6
Other Vehicles	2	13	1	-	16	1	15	0	-	16	3	0	1	-	4	0	1	0	-	1	37
% Other Vehicles	20.0	6.0	1.3	-	5.3	33.3	6.4	-	-	6.7	3.2	0.0	100.0	-	4.1	-	100.0	0.0	-	2.2	5.4
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



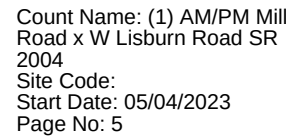
Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 kyoung@trafficpd.com

Count Name: (1) AM/PM Mill
Road x W Lisburn Road SR
2004
Site Code:
Start Date: 05/04/2023
Page No: 4

Counter: MIO:
Set up by: KY:



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

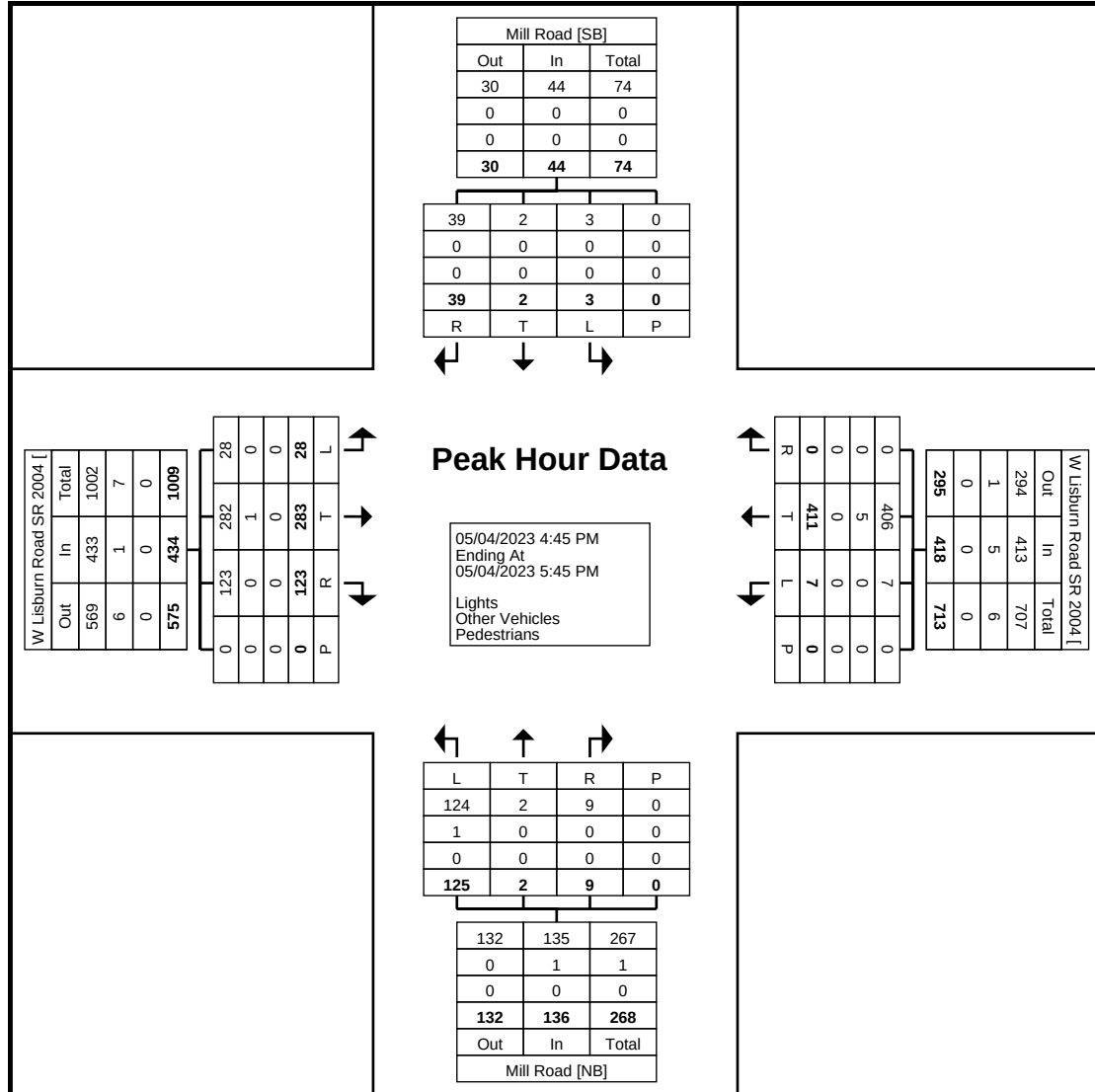
[illegible]



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Count Name: (1) AM/PM Mill
Road x W Lisburn Road SR
2004
Site Code:
Start Date: 05/04/2023
Page No: 6

Counter: MIO:
Set up by: KY:



Turning Movement Peak Hour Data Plot (4:45 PM)



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

Count Name: (2) AM/PM Mill
Road x Proposed Access
Site Code:
Start Date: 05/04/2023
Page No: 1

Counter: MIO:
Set up by: KY:

Turning Movement Data

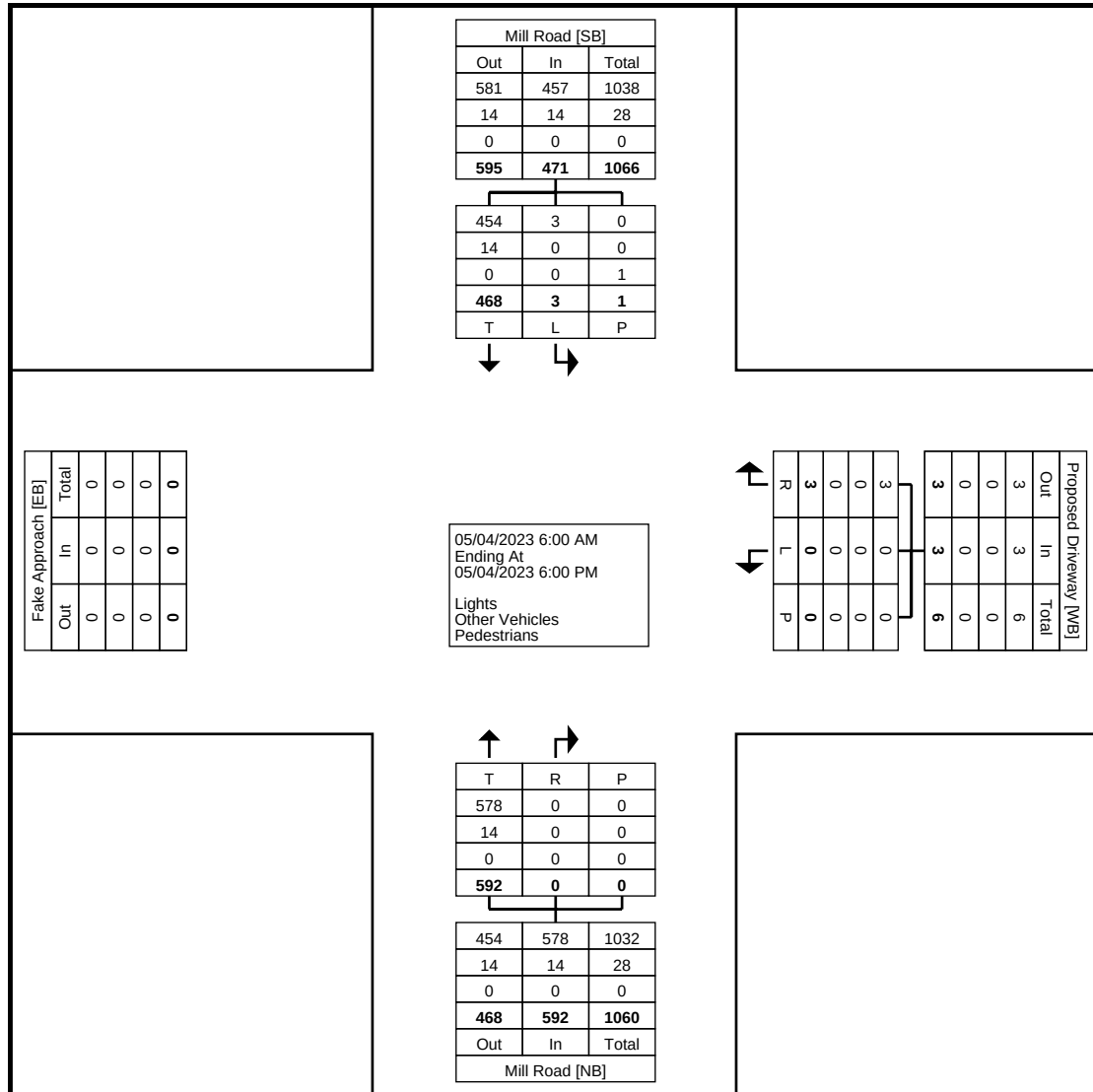
Start Time	Proposed Driveway Westbound				Mill Road Northbound				Mill Road Southbound				Int. Total
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	
6:00 AM	0	0	0	0	7	0	0	7	0	1	0	1	8
6:15 AM	0	0	0	0	8	0	0	8	0	6	0	6	14
6:30 AM	0	0	0	0	10	0	0	10	0	0	0	0	10
6:45 AM	0	0	0	0	18	0	0	18	0	9	0	9	27
Hourly Total	0	0	0	0	43	0	0	43	0	16	0	16	59
7:00 AM	0	2	0	2	21	0	0	21	0	6	0	6	29
7:15 AM	0	0	0	0	31	0	0	31	0	13	0	13	44
7:30 AM	0	0	0	0	22	0	0	22	1	25	0	26	48
7:45 AM	0	0	0	0	23	0	0	23	1	24	0	25	48
Hourly Total	0	2	0	2	97	0	0	97	2	68	0	70	169
8:00 AM	0	0	0	0	17	0	0	17	0	18	0	18	35
8:15 AM	0	0	0	0	18	0	0	18	0	13	0	13	31
8:30 AM	0	0	0	0	18	0	0	18	0	19	0	19	37
8:45 AM	0	0	0	0	24	0	0	24	0	15	0	15	39
Hourly Total	0	0	0	0	77	0	0	77	0	65	0	65	142
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	0	0	0	23	0	0	23	0	24	0	24	47
3:15 PM	0	0	0	0	26	0	0	26	0	27	1	27	53
3:30 PM	0	0	0	0	32	0	0	32	0	27	0	27	59
3:45 PM	0	0	0	0	33	0	0	33	0	17	0	17	50
Hourly Total	0	0	0	0	114	0	0	114	0	95	1	95	209
4:00 PM	0	1	0	1	25	0	0	25	0	33	0	33	59
4:15 PM	0	0	0	0	34	0	0	34	0	30	0	30	64
4:30 PM	0	0	0	0	36	0	0	36	1	20	0	21	57
4:45 PM	0	0	0	0	26	0	0	26	0	19	0	19	45
Hourly Total	0	1	0	1	121	0	0	121	1	102	0	103	225
5:00 PM	0	0	0	0	35	0	0	35	0	42	0	42	77
5:15 PM	0	0	0	0	46	0	0	46	0	35	0	35	81
5:30 PM	0	0	0	0	33	0	0	33	0	34	0	34	67
5:45 PM	0	0	0	0	26	0	0	26	0	11	0	11	37
Hourly Total	0	0	0	0	140	0	0	140	0	122	0	122	262
Grand Total	0	3	0	3	592	0	0	592	3	468	1	471	1066
Approach %	0.0	100.0	-	-	100.0	0.0	-	-	0.6	99.4	-	-	-
Total %	0.0	0.3	-	0.3	55.5	0.0	-	55.5	0.3	43.9	-	44.2	-
Lights	0	3	-	3	578	0	-	578	3	454	-	457	1038
% Lights	-	100.0	-	100.0	97.6	-	-	97.6	100.0	97.0	-	97.0	97.4
Other Vehicles	0	0	-	0	14	0	-	14	0	14	-	14	28
% Other Vehicles	-	0.0	-	0.0	2.4	-	-	2.4	0.0	3.0	-	3.0	2.6
Pedestrians	-	-	0	-	-	-	0	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-



Traffic Planning and Design, Inc
2500 East High Street
Suite 650
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610.326.3100 kyoung@trafficpd.com

Count Name: (2) AM/PM Mill
Road x Proposed Access
Site Code:
Start Date: 05/04/2023
Page No: 2

Counter: MIO:
Set up by: KY:



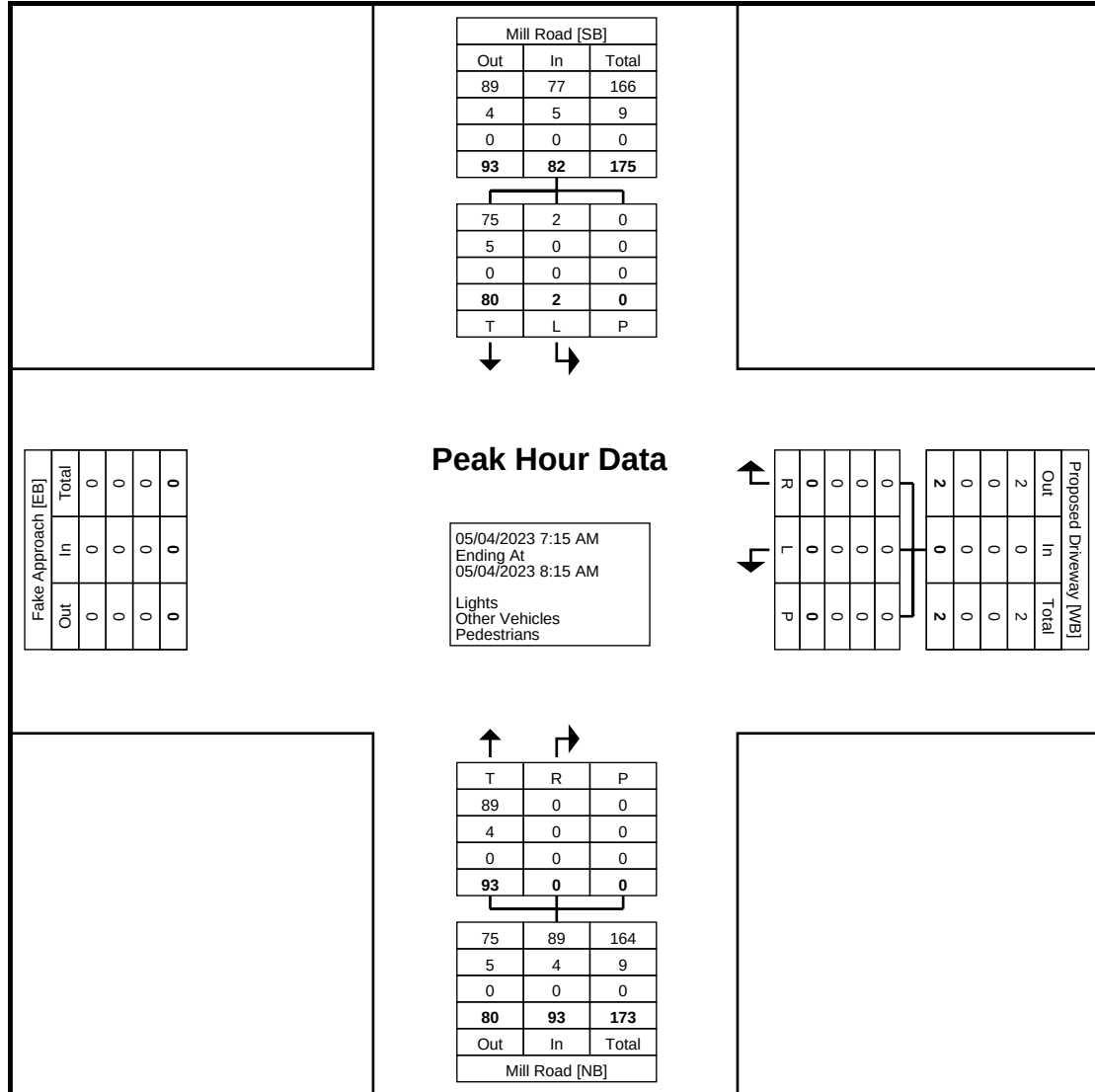
Turning Movement Data Plot



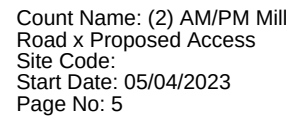
Traffic Planning and Design, Inc
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610.326.3100 kyoung@trafficpd.com

Count Name: (2) AM/PM Mill
Road x Proposed Access
Site Code:
Start Date: 05/04/2023
Page No: 4

Counter: MIO:
Set up by: KY:



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

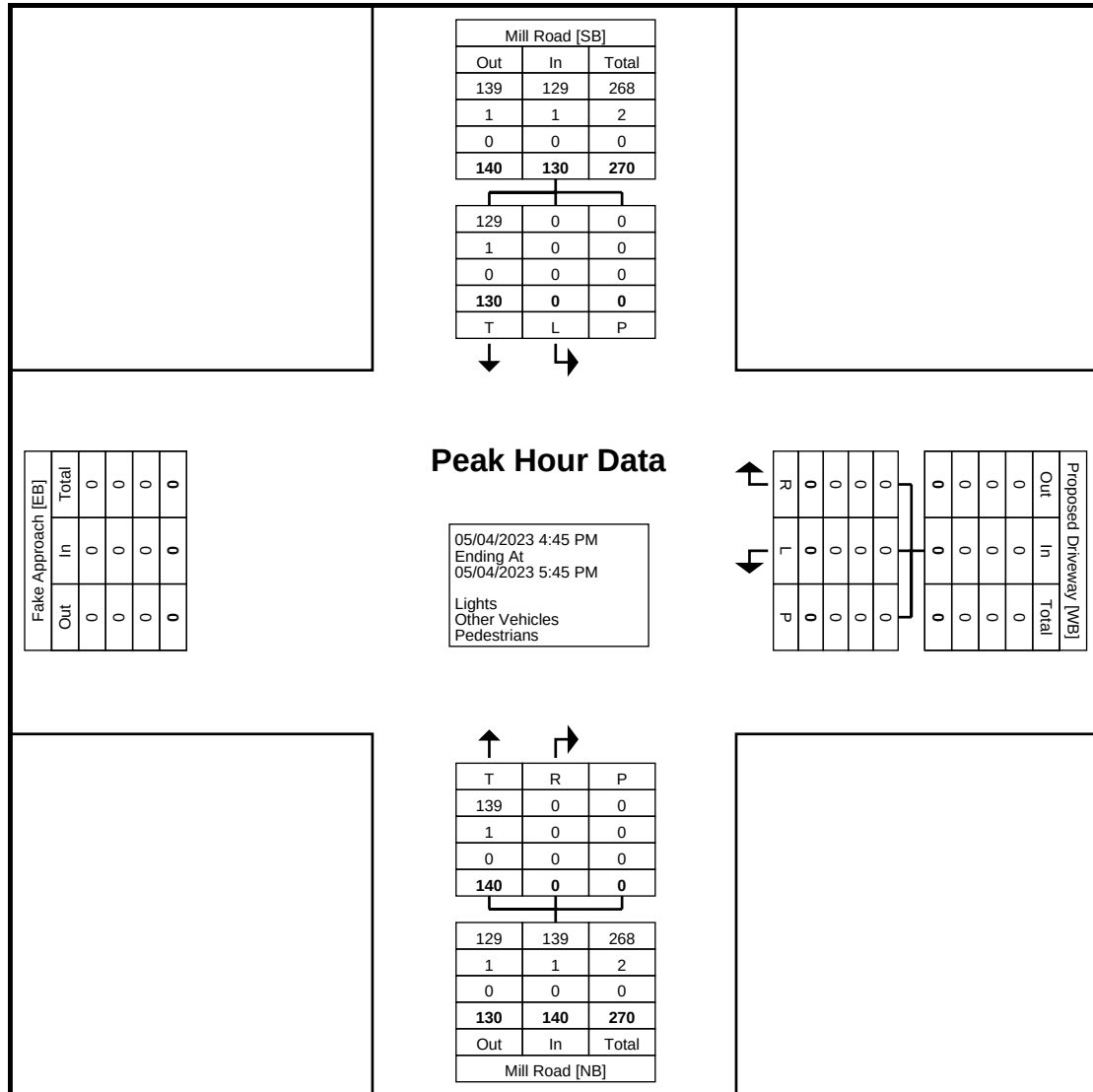




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Count Name: (2) AM/PM Mill
Road x Proposed Access
Site Code:
Start Date: 05/04/2023
Page No: 6

Counter: MIO:
Set up by: KY:



Turning Movement Peak Hour Data Plot (4:45 PM)



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2500 East High Street
Suite 650
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610.326.3100 kyoung@trafficpd.com

Count Name: (3) AM/PM Mill
Road x Wingert Drive
Site Code:
Start Date: 05/04/2023
Page No: 1

Counter: MIO:
Set up by: KY:

Turning Movement Data

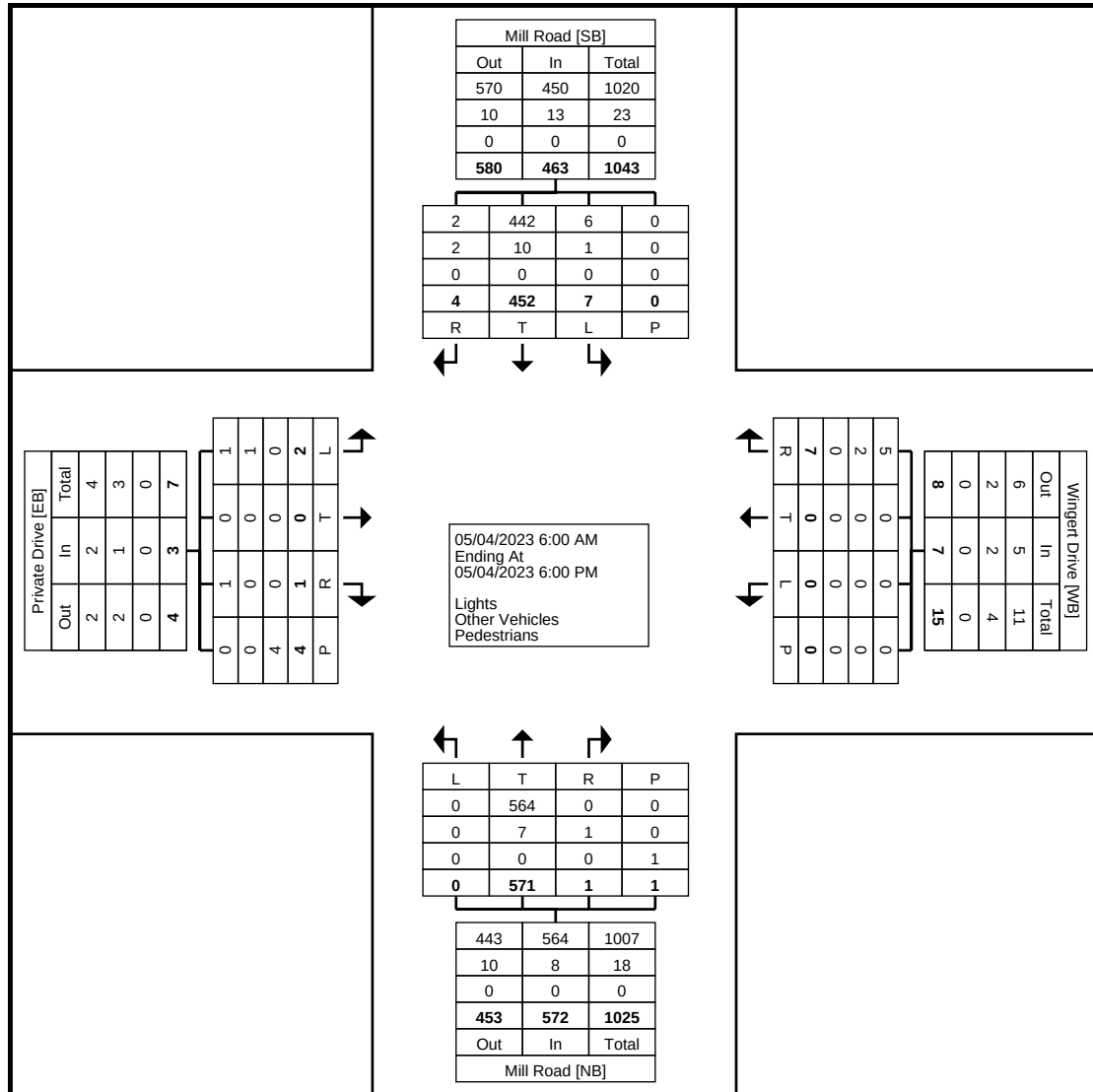
Start Time	Private Drive Eastbound					Wingert Drive Westbound					Mill Road Northbound					Mill Road Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	1	0	0	1	8
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	5	0	0	5	12
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	1	0	0	1	12
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	9	0	0	9	21
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	37	0	0	37	0	16	0	0	16	53
7:00 AM	0	0	0	0	0	0	0	1	0	1	0	22	0	0	22	0	4	0	0	4	27
7:15 AM	1	0	0	0	1	0	0	1	0	1	0	29	0	1	29	0	11	2	0	13	44
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	22	0	0	22	0	24	0	0	24	46
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	22	0	0	22	0	23	1	0	24	46
Hourly Total	1	0	0	0	1	0	0	2	0	2	0	95	0	1	95	0	62	3	0	65	163
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	17	0	0	17	0	18	0	0	18	35
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	17	0	0	17	0	15	0	0	15	32
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	21	0	0	21	1	15	1	0	17	38
8:45 AM	1	0	0	0	1	0	0	1	0	1	0	21	0	0	21	0	16	0	0	16	39
Hourly Total	1	0	0	0	1	0	0	1	0	1	0	76	0	0	76	1	64	1	0	66	144
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	22	0	0	22	0	20	0	0	20	42
3:15 PM	0	0	0	0	0	0	0	1	0	1	0	23	0	0	23	0	27	0	0	27	51
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	27	0	0	27	1	29	0	0	30	57
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	32	0	0	32	0	17	0	0	17	49
Hourly Total	0	0	0	0	0	0	0	1	0	1	0	104	0	0	104	1	93	0	0	94	199
4:00 PM	0	0	1	0	1	0	0	1	0	1	0	28	1	0	29	2	27	0	0	29	60
4:15 PM	0	0	0	1	0	0	0	0	0	0	0	33	0	0	33	1	28	0	0	29	62
4:30 PM	0	0	0	0	0	0	0	1	0	1	0	32	0	0	32	0	25	0	0	25	58
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	28	0	0	28	0	16	0	0	16	44
Hourly Total	0	0	1	1	1	0	0	2	0	2	0	121	1	0	122	3	96	0	0	99	224
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	36	0	0	36	1	41	0	0	42	78
5:15 PM	0	0	0	0	0	0	0	1	0	1	0	40	0	0	40	0	36	0	0	36	77
5:30 PM	0	0	0	3	0	0	0	0	0	0	0	38	0	0	38	1	31	0	0	32	70
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	24	0	0	24	0	13	0	0	13	37
Hourly Total	0	0	0	3	0	0	0	1	0	1	0	138	0	0	138	2	121	0	0	123	262
Grand Total	2	0	1	4	3	0	0	7	0	7	0	571	1	1	572	7	452	4	0	463	1045
Approach %	66.7	0.0	33.3	-	-	0.0	0.0	100.0	-	-	0.0	99.8	0.2	-	-	1.5	97.6	0.9	-	-	-
Total %	0.2	0.0	0.1	-	0.3	0.0	0.0	0.7	-	0.7	0.0	54.6	0.1	-	54.7	0.7	43.3	0.4	-	44.3	-
Lights	1	0	1	-	2	0	0	5	-	5	0	564	0	-	564	6	442	2	-	450	1021
% Lights	50.0	-	100.0	-	66.7	-	-	71.4	-	71.4	-	98.8	0.0	-	98.6	85.7	97.8	50.0	-	97.2	97.7
Other Vehicles	1	0	0	-	1	0	0	2	-	2	0	7	1	-	8	1	10	2	-	13	24
% Other Vehicles	50.0	-	0.0	-	33.3	-	-	28.6	-	28.6	-	1.2	100.0	-	1.4	14.3	2.2	50.0	-	2.8	2.3
Pedestrians	-	-	-	4	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-



Traffic Planning and Design, Inc
2500 East High Street
Suite 650
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Count Name: (3) AM/PM Mill
Road x Wingert Drive
Site Code:
Start Date: 05/04/2023
Page No: 2

Counter: MIO:
Set up by: KY:



Turning Movement Data Plot



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Count Name: (3) AM/PM Mill
Road x Wingert Drive
Site Code:
Start Date: 05/04/2023
Page No: 3

Counter: MIO:
Set up by: KY:

Turning Movement Peak Hour Data (7:15 AM)

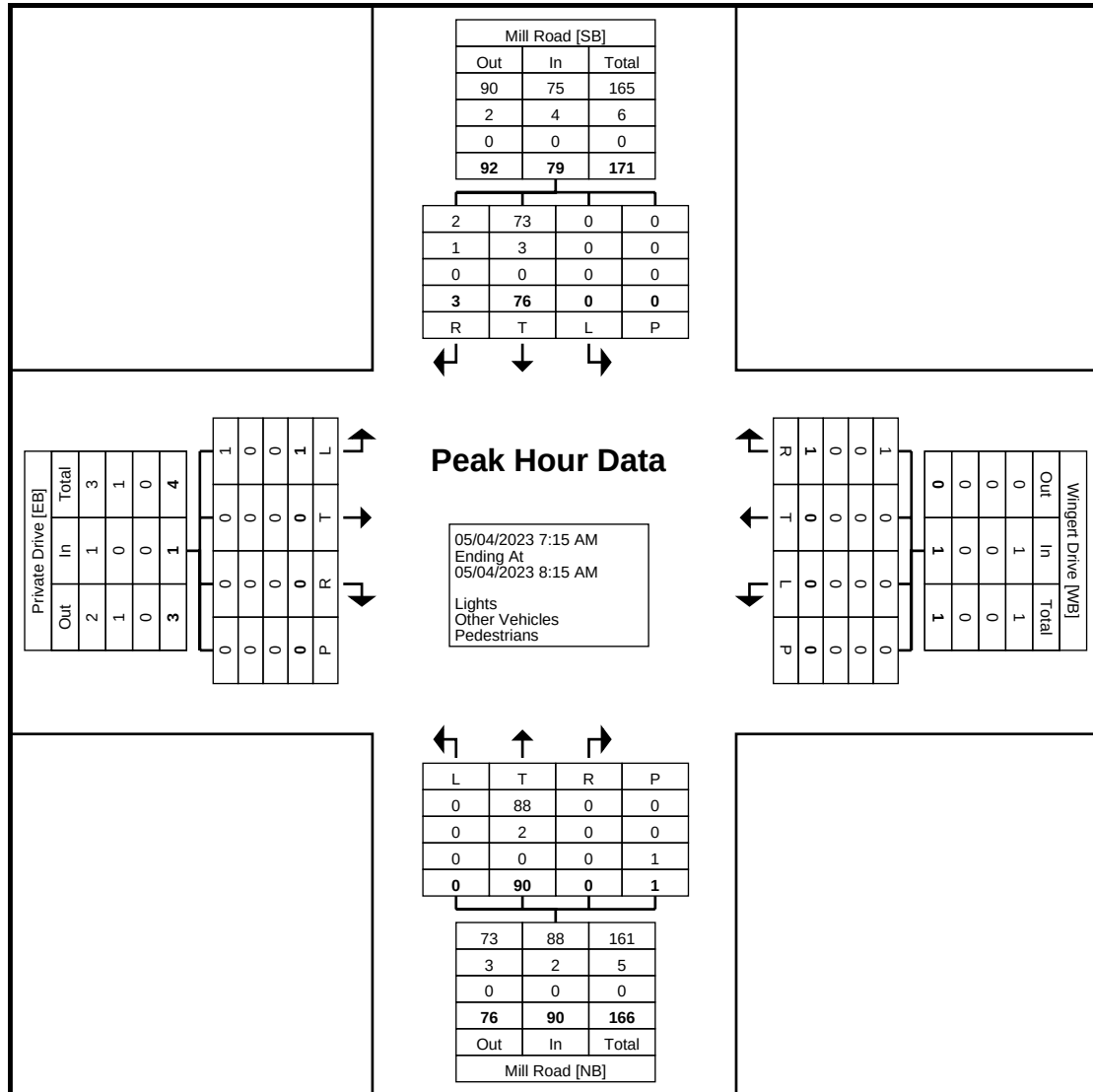
Start Time	Private Drive Eastbound					Wingert Drive Westbound					Mill Road Northbound					Mill Road Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:15 AM	1	0	0	0	1	0	0	1	0	1	0	29	0	1	29	0	11	2	0	13	44
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	22	0	0	22	0	24	0	0	24	46
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	22	0	0	22	0	23	1	0	24	46
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	17	0	0	17	0	18	0	0	18	35
Total	1	0	0	0	1	0	0	1	0	1	0	90	0	1	90	0	76	3	0	79	171
Approach %	100.0	0.0	0.0	-	-	0.0	0.0	100.0	-	-	0.0	100.0	0.0	-	-	0.0	96.2	3.8	-	-	-
Total %	0.6	0.0	0.0	-	0.6	0.0	0.0	0.6	-	0.6	0.0	52.6	0.0	-	52.6	0.0	44.4	1.8	-	46.2	-
PHF	0.250	0.000	0.000	-	0.250	0.000	0.000	0.250	-	0.250	0.000	0.776	0.000	-	0.776	0.000	0.792	0.375	-	0.823	0.929
Lights	1	0	0	-	1	0	0	1	-	1	0	88	0	-	88	0	73	2	-	75	165
% Lights	100.0	-	-	-	100.0	-	-	100.0	-	100.0	-	97.8	-	-	97.8	-	96.1	66.7	-	94.9	96.5
Other Vehicles	0	0	0	-	0	0	0	0	-	0	0	2	0	-	2	0	3	1	-	4	6
% Other Vehicles	0.0	-	-	-	0.0	-	-	0.0	-	0.0	-	2.2	-	-	2.2	-	3.9	33.3	-	5.1	3.5
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-



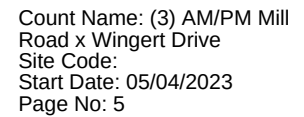
Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 kyoung@trafficpd.com

Count Name: (3) AM/PM Mill
Road x Wingert Drive
Site Code:
Start Date: 05/04/2023
Page No: 4

Counter: MIO:
Set up by: KY:

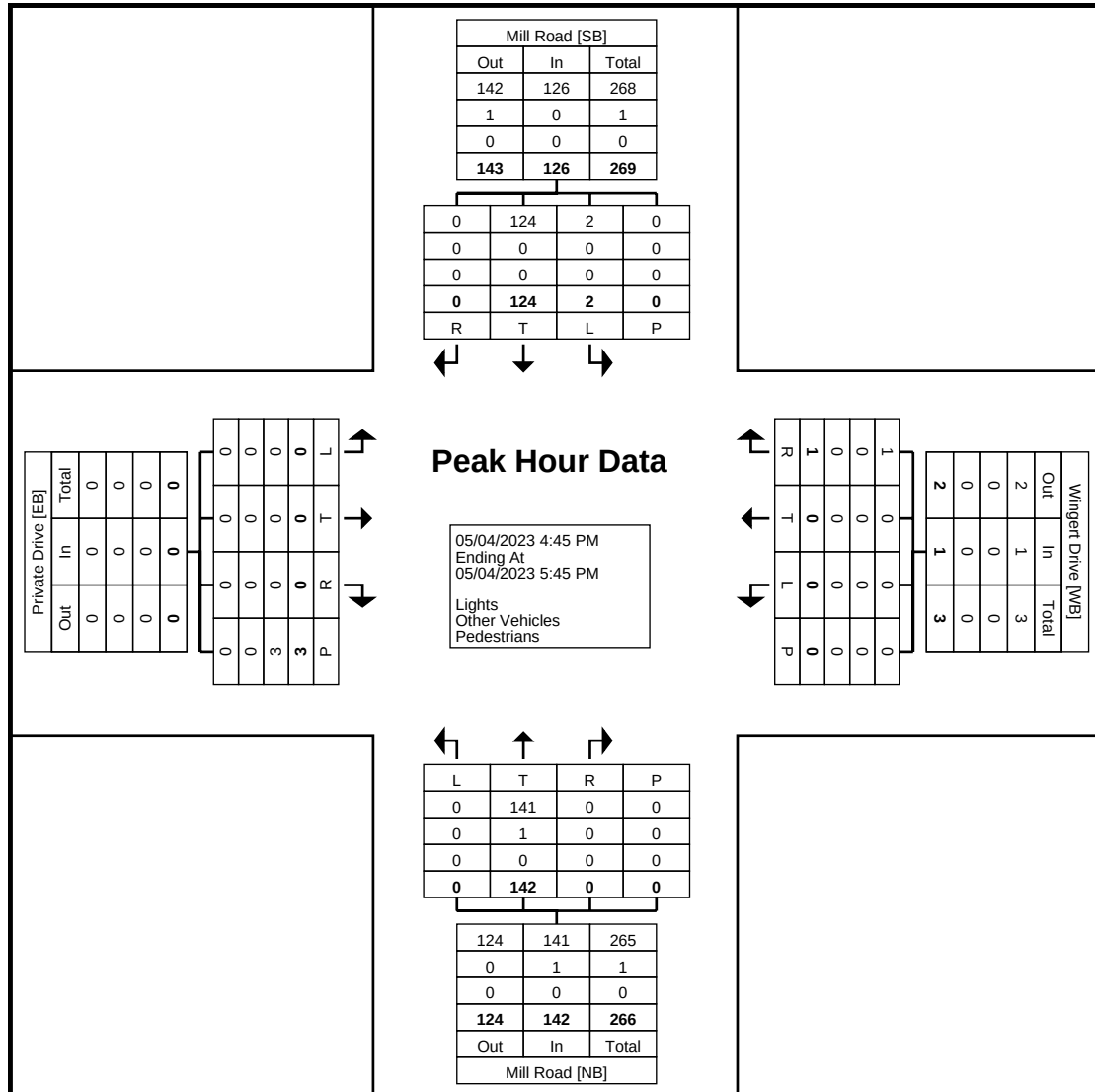


Turning Movement Peak Hour Data Plot (7:15 AM)



Counter: MIO:
Set up by: KY:

Count Name: (3) AM/PM Mill
Road x Wingert Drive
Site Code:
Start Date: 05/04/2023
Page No: 6



Turning Movement Peak Hour Data Plot (4:45 PM)



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

Count Name: (4) AM/PM Mill
Road x Sholly Drive
Site Code:
Start Date: 05/04/2023
Page No: 1

Counter: MIO:
Set up by: KY:

Turning Movement Data

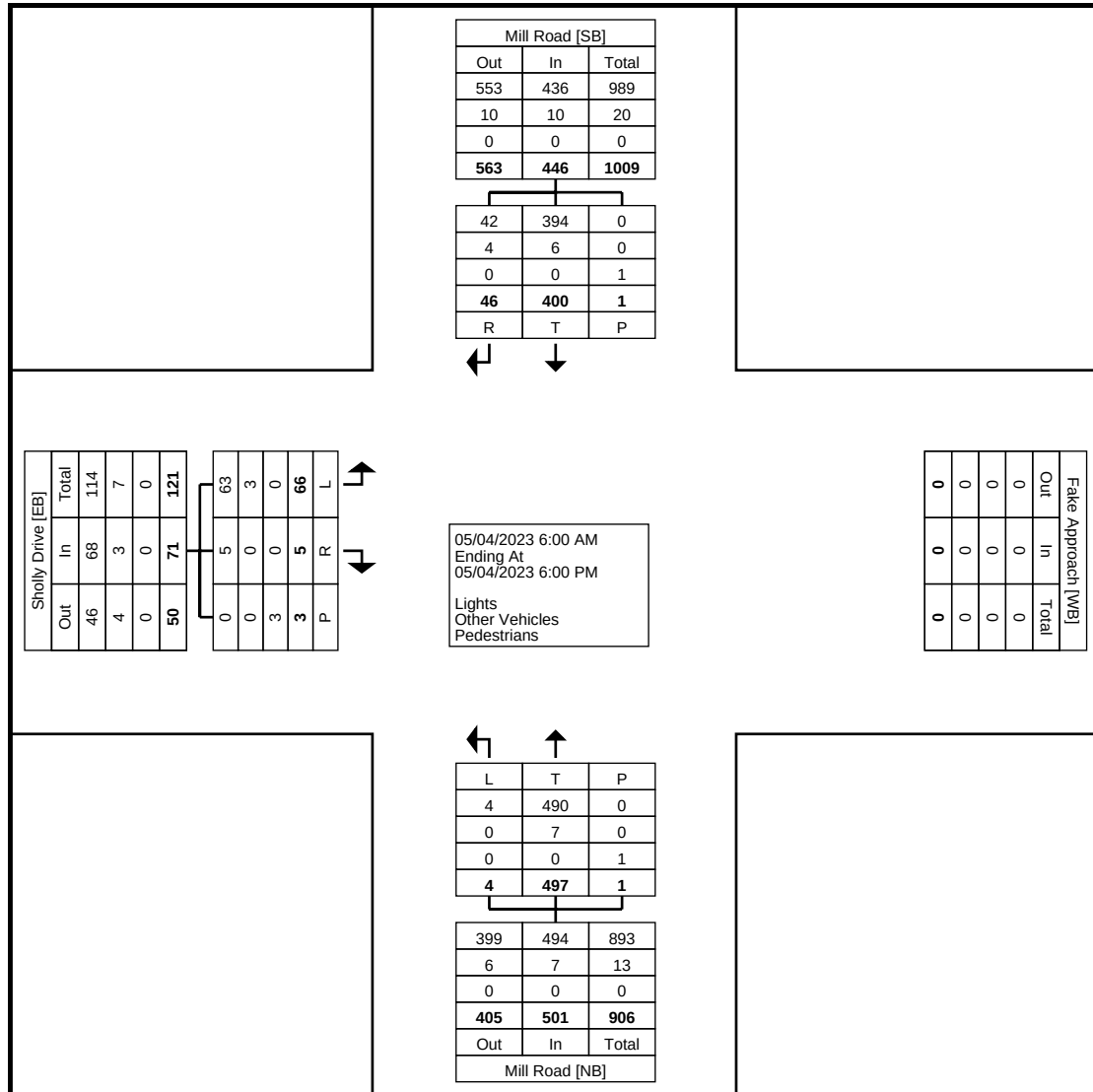
Start Time	Sholly Drive Eastbound				Mill Road Northbound				Mill Road Southbound				Int. Total
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	
6:00 AM	0	0	0	0	0	8	0	8	1	0	0	1	9
6:15 AM	1	0	0	1	0	7	0	7	5	1	0	6	14
6:30 AM	2	0	0	2	0	7	0	7	1	0	0	1	10
6:45 AM	5	0	0	5	0	12	0	12	7	1	0	8	25
Hourly Total	8	0	0	8	0	34	0	34	14	2	0	16	58
7:00 AM	3	0	0	3	0	17	0	17	6	0	0	6	26
7:15 AM	5	0	1	5	0	22	0	22	11	0	0	11	38
7:30 AM	7	0	0	7	0	18	0	18	24	2	0	26	51
7:45 AM	5	1	0	6	0	13	0	13	21	3	0	24	43
Hourly Total	20	1	1	21	0	70	0	70	62	5	0	67	158
8:00 AM	2	0	0	2	1	13	0	14	11	4	0	15	31
8:15 AM	4	0	0	4	0	16	0	16	15	0	0	15	35
8:30 AM	2	0	0	2	0	16	0	16	12	3	0	15	33
8:45 AM	6	3	0	9	2	15	0	17	12	2	0	14	40
Hourly Total	14	3	0	17	3	60	0	63	50	9	0	59	139
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	0	2	0	0	19	0	19	20	3	0	23	42
3:15 PM	0	0	0	0	0	21	0	21	25	3	0	28	49
3:30 PM	1	0	0	1	0	31	1	31	24	2	0	26	58
3:45 PM	3	0	0	3	0	26	0	26	13	2	0	15	44
Hourly Total	4	0	2	4	0	97	1	97	82	10	0	92	193
4:00 PM	3	0	0	3	1	22	0	23	26	6	0	32	58
4:15 PM	3	1	0	4	0	34	0	34	26	1	0	27	65
4:30 PM	3	0	0	3	0	28	0	28	17	2	0	19	50
4:45 PM	1	0	0	1	0	28	0	28	16	2	0	18	47
Hourly Total	10	1	0	11	1	112	0	113	85	11	0	96	220
5:00 PM	3	0	0	3	0	26	0	26	37	3	0	40	69
5:15 PM	2	0	0	2	0	47	0	47	32	2	1	34	83
5:30 PM	3	0	0	3	0	28	0	28	31	3	0	34	65
5:45 PM	2	0	0	2	0	23	0	23	7	1	0	8	33
Hourly Total	10	0	0	10	0	124	0	124	107	9	1	116	250
Grand Total	66	5	3	71	4	497	1	501	400	46	1	446	1018
Approach %	93.0	7.0	-	-	0.8	99.2	-	-	89.7	10.3	-	-	-
Total %	6.5	0.5	-	7.0	0.4	48.8	-	49.2	39.3	4.5	-	43.8	-
Lights	63	5	-	68	4	490	-	494	394	42	-	436	998
% Lights	95.5	100.0	-	95.8	100.0	98.6	-	98.6	98.5	91.3	-	97.8	98.0
Other Vehicles	3	0	-	3	0	7	-	7	6	4	-	10	20
% Other Vehicles	4.5	0.0	-	4.2	0.0	1.4	-	1.4	1.5	8.7	-	2.2	2.0
Pedestrians	-	-	3	-	-	-	1	-	-	-	1	-	-
% Pedestrians	-	-	100.0	-	-	-	100.0	-	-	-	100.0	-	-



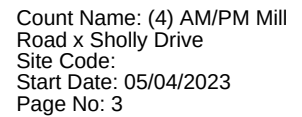
Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 kyoung@trafficpd.com

Count Name: (4) AM/PM Mill
Road x Sholly Drive
Site Code:
Start Date: 05/04/2023
Page No: 2

Counter: MIO:
Set up by: KY:



Turning Movement Data Plot

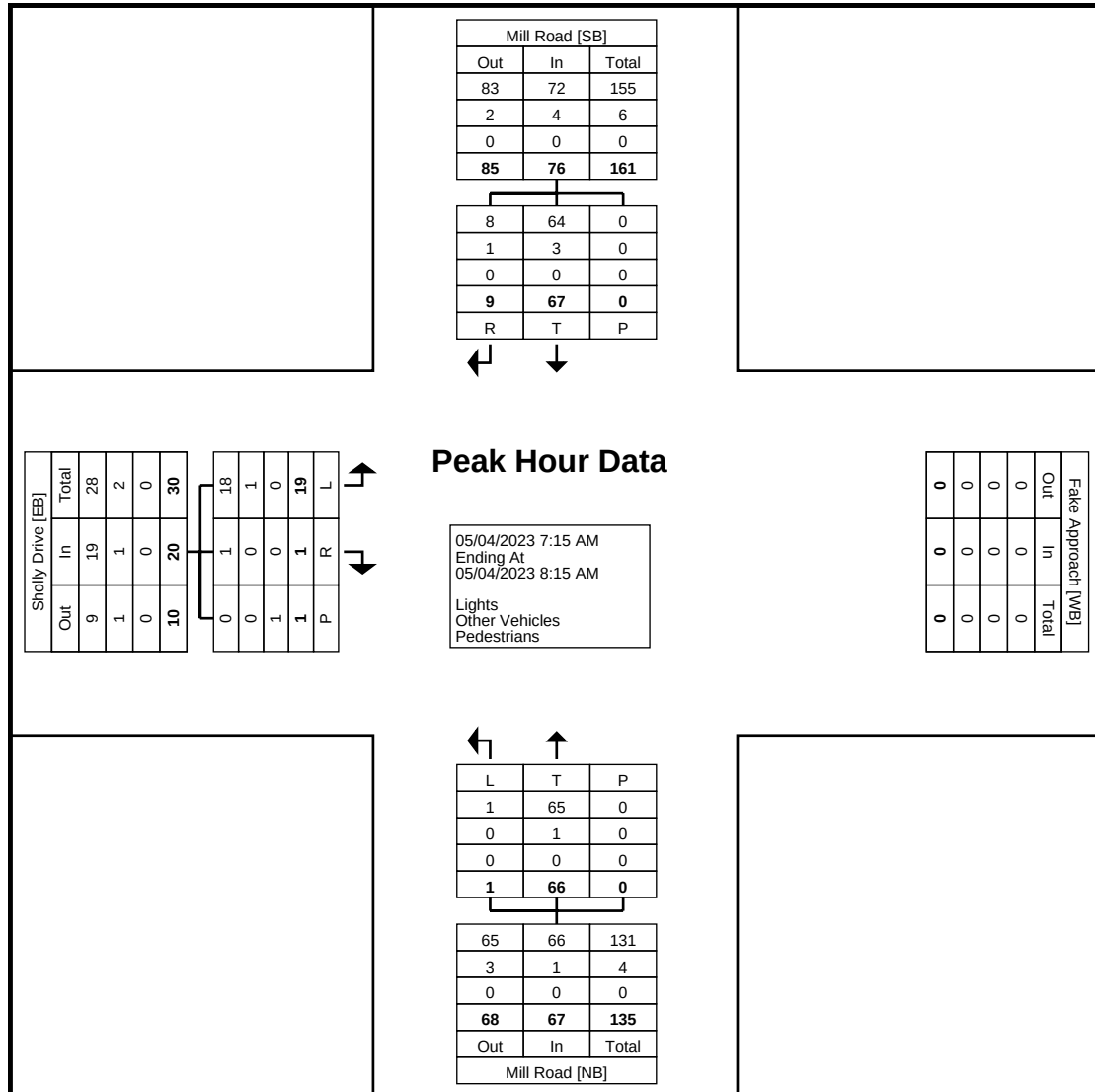
[illegible]



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

Count Name: (4) AM/PM Mill
Road x Sholly Drive
Site Code:
Start Date: 05/04/2023
Page No: 4

Counter: MIO:
Set up by: KY:



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



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

Count Name: (4) AM/PM Mill
 Road x Sholly Drive
 Site Code:
 Start Date: 05/04/2023
 Page No: 5

Counter: MIO:
 Set up by: KY:

Turning Movement Peak Hour Data (4:45 PM)

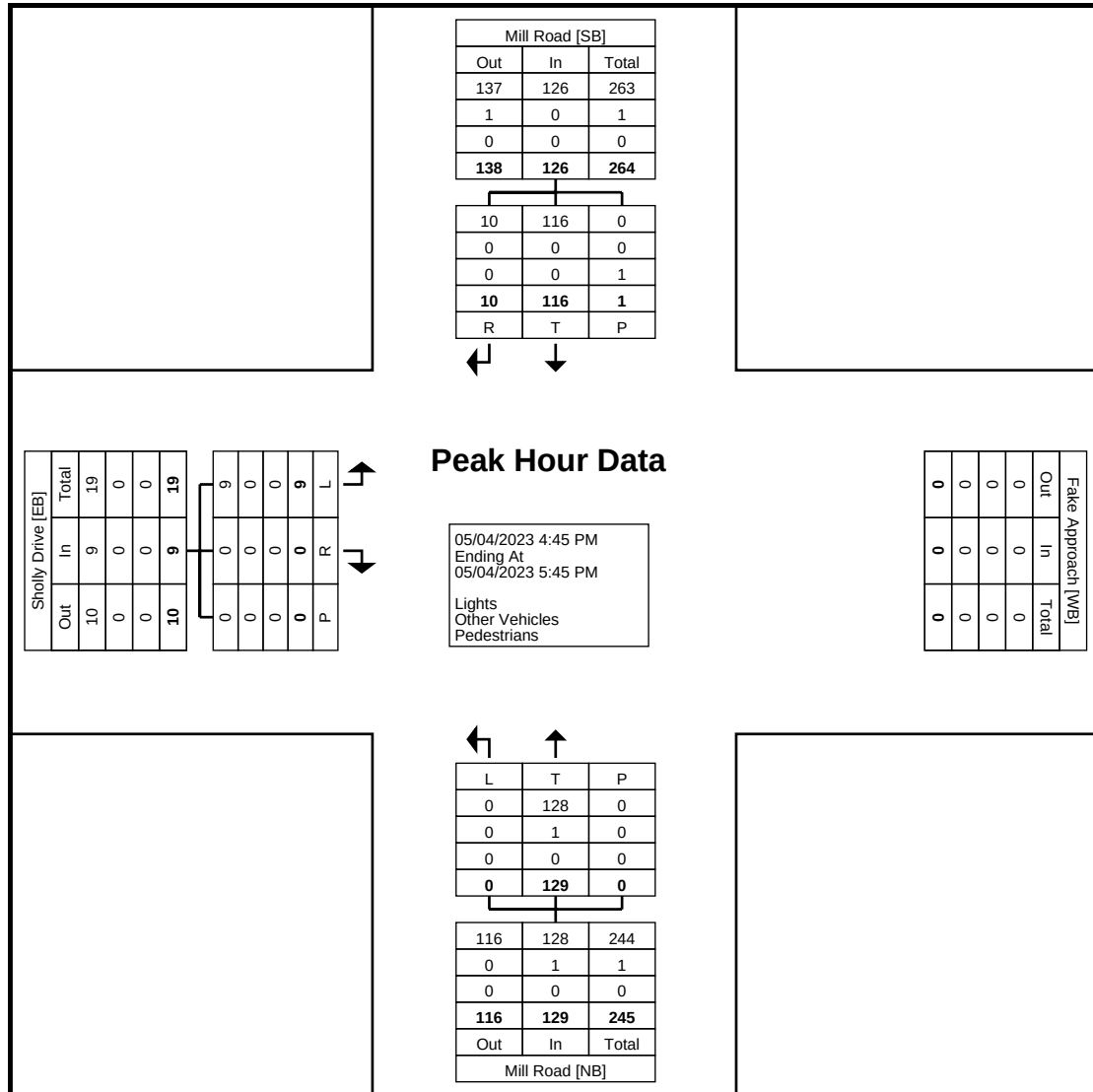
Start Time	Sholly Drive Eastbound				Mill Road Northbound				Mill Road Southbound				Int. Total
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	
4:45 PM	1	0	0	1	0	28	0	28	16	2	0	18	47
5:00 PM	3	0	0	3	0	26	0	26	37	3	0	40	69
5:15 PM	2	0	0	2	0	47	0	47	32	2	1	34	83
5:30 PM	3	0	0	3	0	28	0	28	31	3	0	34	65
Total	9	0	0	9	0	129	0	129	116	10	1	126	264
Approach %	100.0	0.0	-	-	0.0	100.0	-	-	92.1	7.9	-	-	-
Total %	3.4	0.0	-	3.4	0.0	48.9	-	48.9	43.9	3.8	-	47.7	-
PHF	0.750	0.000	-	0.750	0.000	0.686	-	0.686	0.784	0.833	-	0.788	0.795
Lights	9	0	-	9	0	128	-	128	116	10	-	126	263
% Lights	100.0	-	-	100.0	-	99.2	-	99.2	100.0	100.0	-	100.0	99.6
Other Vehicles	0	0	-	0	0	1	-	1	0	0	-	0	1
% Other Vehicles	0.0	-	-	0.0	-	0.8	-	0.8	0.0	0.0	-	0.0	0.4
Pedestrians	-	-	0	-	-	-	0	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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

Count Name: (4) AM/PM Mill
Road x Sholly Drive
Site Code:
Start Date: 05/04/2023
Page No: 6

Counter: MIO:
Set up by: KY:



Turning Movement Peak Hour Data Plot (4:45 PM)

APPENDIX C

VOLUME DEVELOPMENT WORKSHEETS

TPD# RJFA.00006
6/22/2023
Traffic Volumes Worksheet
Intersection:
Synchro Node:

W Lisburn Road (SR 2004) and Mill Road											
1	Adjacent intersections:	West	0	East	0	North	0	South	0		

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2023 Traffic Counts	10	216	77	3	235	0	94	2	1	0	1	44	683
Balancing													0
2023 Existing Volumes (Balanced)	10	216	77	3	235	0	94	2	1	0	1	44	683
2026 Base growth (0.59% compounded for 3 yrs)	0	4	1	0	4	0	2	0	0	0	0	1	12
2036 Base growth (0.59% compounded for 13 yrs)	1	17	6	0	19	0	7	0	0	0	0	3	53
													0
151-237 Gettysburg Pike		3			4								7
													0
													0
													0
Total Nearby Developments	0	3	0	0	4	0	0	0	0	0	0	0	7
2026 Base (No-Build) Volumes	10	223	78	3	243	0	96	2	1	0	1	45	702
2036 Base (No-Build) Volumes	11	236	83	3	258	0	101	2	1	0	1	47	743
Trip Distribution - New Trips							1		1				2
Total Trip Distribution	0	0	0	0	0	0	1	0	1	0	0	0	2
2026 Projected (Build) Volumes	10	223	78	3	243	0	97	2	2	0	1	45	704
2036 Projected (Build) Volumes	11	236	83	3	258	0	102	2	2	0	1	47	745

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2023 Traffic Counts	28	283	123	7	411	0	125	2	9	3	2	39	1032
Balancing													0
2023 Existing Volumes (Balanced)	28	283	123	7	411	0	125	2	9	3	2	39	1032
2026 Base growth (0.59% compounded for 3 yrs)	0	5	2	0	7	0	2	0	0	0	0	1	17
2036 Base growth (0.59% compounded for 13 yrs)	2	22	10	1	33	0	10	0	1	0	0	3	82
0													0
151-237 Gettysburg Pike		3			3								6
0													0
0													0
0													0
0													0
Total Nearby Developments	0	3	0	0	3	0	0	0	0	0	0	0	6
2026 Base (No-Build) Volumes	28	291	125	7	421	0	127	2	9	3	2	40	1055
2036 Base (No-Build) Volumes	30	308	133	8	447	0	135	2	10	3	2	42	1120
0													
Trip Distribution - New Trips			2	1			1						4
Total Trip Distribution	0	0	2	1	0	0	1	0	0	0	0	0	4
2026 Projected (Build) Volumes	28	291	127	8	421	0	128	2	9	3	2	40	1059
2036 Projected (Build) Volumes	30	308	135	9	447	0	136	2	10	3	2	42	1124

TPD# RJFA.00006
6/22/2023
Traffic Volumes Worksheet
Intersection:
Synchro Node:

Mill Road and Existing/Proposed Site Driveway									
2	Adjacent Intersections:	West	0	East	0	North	0	South	0

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2023 Traffic Counts	0	0	0	0	0	0	0	93	0	2	80	0	175
Balancing													0
2023 Existing Volumes (Balanced)	0	0	0	0	0	0	0	93	0	2	80	0	175
2026 Base growth (0.59% compounded for 3 yrs)	0	0	0	0	0	0	0	2	0	0	1	0	3
2036 Base growth (0.59% compounded for 13 yrs)	0	0	0	0	0	0	0	7	0	0	6	0	13
151-237 Gettysburg Pike													0
													0
													0
													0
Total Nearby Developments	0	0	0	0	0	0	0	0	0	0	0	0	0
2026 Base (No-Build) Volumes	0	0	0	0	0	0	0	95	0	2	81	0	178
2036 Base (No-Build) Volumes	0	0	0	0	0	0	0	100	0	2	86	0	188
Trip Distribution - New Trips						2							2
Total Trip Distribution	0	0	0	0	0	2	0	0	0	0	0	0	2
2026 Projected (Build) Volumes	0	0	0	0	0	2	0	95	0	2	81	0	180
2036 Projected (Build) Volumes	0	0	0	0	0	2	0	100	0	2	86	0	190

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2023 Traffic Counts	0	0	0	0	0	0	0	140	0	0	130	0	270
Balancing													0
2023 Existing Volumes (Balanced)	0	0	0	0	0	0	0	140	0	0	130	0	270
2026 Base growth (0.59% compounded for 3 yrs)	0	0	0	0	0	0	0	2	0	0	2	0	4
2036 Base growth (0.59% compounded for 13 yrs)	0	0	0	0	0	0	0	11	0	0	10	0	21
151-237 Gettysburg Pike	0												0
	0												0
	0												0
	0												0
	0												0
Total Nearby Developments	0	0	0	0	0	0	0	0	0	0	0	0	0
2026 Base (No-Build) Volumes	0	0	0	0	0	0	0	142	0	0	132	0	274
2036 Base (No-Build) Volumes	0	0	0	0	0	0	0	151	0	0	140	0	291
Trip Distribution - New Trips						1				3			4
Total Trip Distribution	0	0	0	0	0	1	0	0	0	3	0	0	4
2026 Projected (Build) Volumes	0	0	0	0	0	1	0	142	0	3	132	0	278
2036 Projected (Build) Volumes	0	0	0	0	0	1	0	151	0	3	140	0	295

TPD# RJFA.00006
6/22/2023
Traffic Volumes Worksheet
Intersection:
Synchro Node:

Mill Road and Private Drive/Wingert Drive									
3	Adjacent intersections:	West	0	East	0	North	0	South	0

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2023 Traffic Counts	1	0	0	0	0	1	0	90	0	0	76	3	171
Balancing													0
2023 Existing Volumes (Balanced)	1	0	0	0	0	1	0	90	0	0	76	3	171
2026 Base growth (0.59% compounded for 3 yrs)	0	0	0	0	0	0	0	2	0	0	1	0	3
2036 Base growth (0.59% compounded for 13 yrs)	0	0	0	0	0	0	0	7	0	0	6	0	13
151-237 Gettysburg Pike													0
													0
													0
													0
Total Nearby Developments	0	0	0	0	0	0	0	0	0	0	0	0	0
2026 Base (No-Build) Volumes	1	0	0	0	0	1	0	92	0	0	77	3	174
2036 Base (No-Build) Volumes	1	0	0	0	0	1	0	97	0	0	82	3	184
Trip Distribution - New Trips													0
Total Trip Distribution	0	0	0	0	0	0	0	0	0	0	0	0	0
2026 Projected (Build) Volumes	1	0	0	0	0	1	0	92	0	0	77	3	174
2036 Projected (Build) Volumes	1	0	0	0	0	1	0	97	0	0	82	3	184

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2023 Traffic Counts	0	0	0	0	0	1	0	142	0	2	124	0	269
Balancing													0
2023 Existing Volumes (Balanced)	0	0	0	0	0	1	0	142	0	2	124	0	269
2026 Base growth (0.59% compounded for 3 yrs)	0	0	0	0	0	0	0	3	0	0	2	0	5
2036 Base growth (0.59% compounded for 13 yrs)	0	0	0	0	0	0	0	11	0	0	10	0	21
151-237 Gettysburg Pike	0												0
	0												0
	0												0
	0												0
Total Nearby Developments	0	0	0	0	0	0	0	0	0	0	0	0	0
2026 Base (No-Build) Volumes	0	0	0	0	0	1	0	145	0	2	126	0	274
2036 Base (No-Build) Volumes	0	0	0	0	0	1	0	153	0	2	134	0	290
Trip Distribution - New Trips													0
Total Trip Distribution	0	0	0	0	0	0	0	0	0	0	0	0	0
2026 Projected (Build) Volumes	0	0	0	0	0	1	0	145	0	2	126	0	274
2036 Projected (Build) Volumes	0	0	0	0	0	1	0	153	0	2	134	0	290

TPD# RJFA.00006
6/22/2023
Traffic Volumes Worksheet
Intersection:
Synchro Node:

Mill Road and Sholly Drive									
4	Adjacent intersections:	West	0	East	0	North	0	South	0

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2023 Traffic Counts	19	0	1	0	0	0	1	66	0	0	67	9	163
Balancing													0
2023 Existing Volumes (Balanced)	19	0	1	0	0	0	1	66	0	0	67	9	163
2026 Base growth (0.59% compounded for 3 yrs)	0	0	0	0	0	0	0	1	0	0	1	0	2
2036 Base growth (0.59% compounded for 13 yrs)	2	0	0	0	0	0	0	5	0	0	5	1	13
151-237 Gettysburg Pike													0
													0
													0
													0
Total Nearby Developments	0	0	0	0	0	0	0	0	0	0	0	0	0
2026 Base (No-Build) Volumes	19	0	1	0	0	0	1	67	0	0	68	9	165
2036 Base (No-Build) Volumes	21	0	1	0	0	0	1	71	0	0	72	10	176
Trip Distribution - New Trips													0
Total Trip Distribution	0	0	0	0	0	0	0	0	0	0	0	0	0
2026 Projected (Build) Volumes	19	0	1	0	0	0	1	67	0	0	68	9	165
2036 Projected (Build) Volumes	21	0	1	0	0	0	1	71	0	0	72	10	176

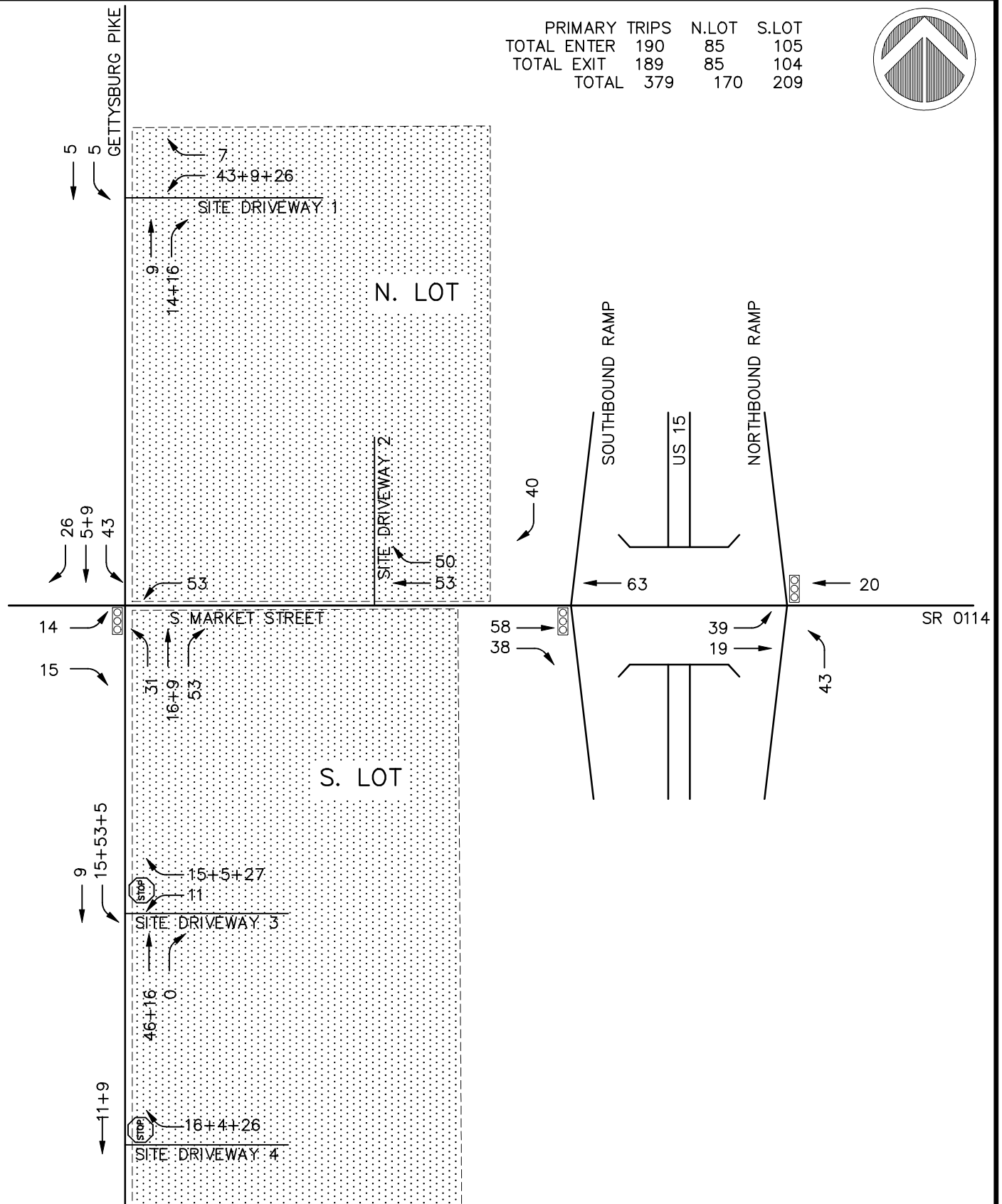
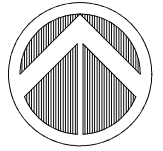
Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2023 Traffic Counts	9	0	0	0	0	0	0	129	0	0	116	10	264
Balancing													0
2023 Existing Volumes (Balanced)	9	0	0	0	0	0	0	129	0	0	116	10	264
2026 Base growth (0.59% compounded for 3 yrs)	0	0	0	0	0	0	0	2	0	0	2	0	4
2036 Base growth (0.59% compounded for 13 yrs)	1	0	0	0	0	0	0	10	0	0	9	1	21
151-237 Gettysburg Pike	0												0
	0												0
	0												0
	0												0
Total Nearby Developments	0	0	0	0	0	0	0	0	0	0	0	0	0
2026 Base (No-Build) Volumes	9	0	0	0	0	0	0	131	0	0	118	10	268
2036 Base (No-Build) Volumes	10	0	0	0	0	0	0	139	0	0	125	11	285
Trip Distribution - New Trips													0
Total Trip Distribution	0	0	0	0	0	0	0	0	0	0	0	0	0
2026 Projected (Build) Volumes	9	0	0	0	0	0	0	131	0	0	118	10	268
2036 Projected (Build) Volumes	10	0	0	0	0	0	0	139	0	0	125	11	285

APPENDIX D

NEARBY DEVELOPMENT

PRIMARY TRIPS	N.LOT	S.LOT
TOTAL ENTER	190	85
TOTAL EXIT	189	85
TOTAL	379	170
		209



- = Channelized Island
- = Signal-Controlled Approach
- = Stop-Controlled Approach

SD : Site Driveway
 ILOS : Intersection Level of Service
 Schematic Drawing : Not To Scale

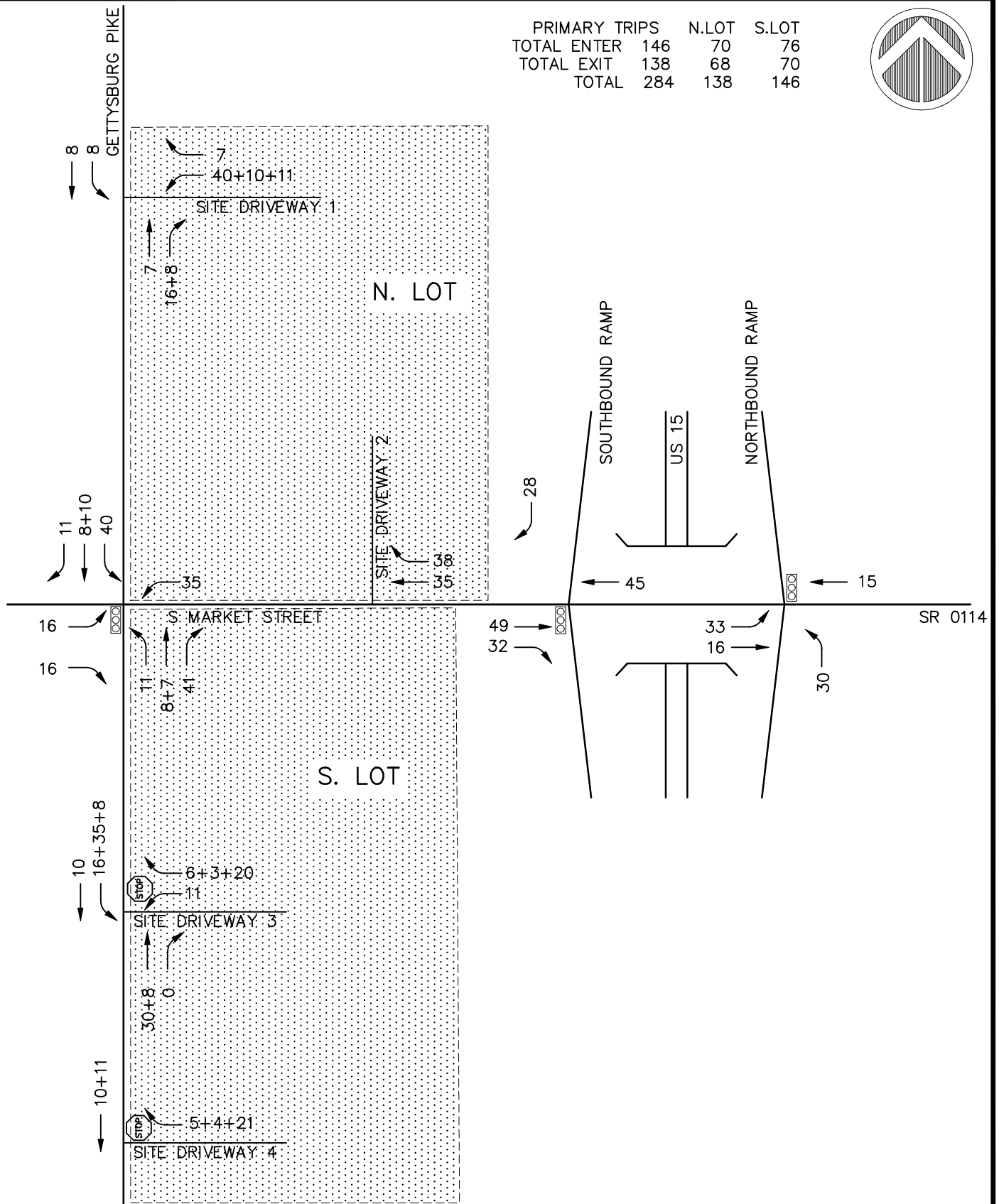
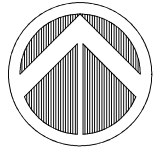
151 - 237 GETTYSBURG PIKE

ALPHA
 ALPHA CONSULTING ENGINEERS, INC.

FIGURE 4 SHEET 4 OF 18

2022 AND 2027 BUILD
 DISTRIBUTION/ASSIGN. AM PRIMARY TRIPS

PRIMARY TRIPS	N.LOT	S.LOT
TOTAL ENTER	146	70
TOTAL EXIT	138	70
TOTAL	284	146



- = Channelized Island
- = Signal-Controlled Approach
- = Stop-Controlled Approach

SD : Site Driveway
 ILOS : Intersection Level of Service
 Schematic Drawing : Not To Scale

151 - 237 GETTYSBURG PIKE

ALPHA
 ALPHA CONSULTING ENGINEERS, INC.

FIGURE 4 SHEET 5 OF 18

2022 AND 2027 BUILD
 DISTRIBUTION/ASSIGN. PM PRIMARY TRIPS

APPENDIX E

CAPACITY ANALYSES

RJFA.00006

Suburban T-Intersection (2 lanes)

Mill Road & Existing/Projected Site Driveway

Critical Headway

			tc base	tc hv	phv	t cg	G	t 3lt	Base Crit
major left	AM	SB L	4.3	1	0%	0	-3	0	4.3
	PM	SB L	4.3	1	0%	0	-3	0	4.3
minor right	AM	WB R	6.2	1	0%	0.1	6	0	6.8
	PM	WB R	6.2	1	0%	0.1	6	0	6.8
minor left	AM	WB L	7.1	1	0%	0.2	6	0.7	7.6
	PM	WB L	7.1	1	0%	0.2	6	0.7	7.6

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	SB L	3	0.9	0%	3.0
	PM	SB L	3	0.9	0%	3.0
minor right	AM	WB R	3.1	0.9	0%	3.1
	PM	WB R	3.1	0.9	0%	3.1
minor left	AM	WB L	3	0.9	0%	3.0
	PM	WB L	3	0.9	0%	3.0

RJFA.00006

Suburban 4-Leg Intersection (2 lanes)

Mill Road & Wingert Drive

Critical Headway

		Movement	tc base	tc hv	phv	t cg	G	t 3lt	Base Crit
major left	AM	NB L	4.3	1	0%	0	6	0	4.3
	PM	NB L	4.3	1	0%	0	6	0	4.3
	AM	SB L	4.3	1	0%	0	-4	0	4.3
	PM	SB L	4.3	1	0%	0	-4	0	4.3
minor right	AM	EB R	6.2	1	0%	0.1	1	0	6.3
	PM	EB R	6.2	1	0%	0.1	1	0	6.3
	AM	WB R	6.2	1	0%	0.1	-3	0	5.9
	PM	WB R	6.2	1	0%	0.1	-3	0	5.9
minor left	AM	EB L	7.1	1	0%	0.2	1	0	7.3
	PM	EB L	7.1	1	0%	0.2	1	0	7.3
	AM	WB L	7.1	1	0%	0.2	-3	0	6.5
	PM	WB L	7.1	1	0%	0.2	-3	0	6.5

Follow-up headway

		Movement	t fbase	t fhv	phv	Follow-up
major left	AM	NB L	3	0.9	0%	3.0
	PM	NB L	3	0.9	0%	3.0
	AM	SB L	3	0.9	0%	3.0
	PM	SB L	3	0.9	0%	3.0
minor right	AM	EB R	3.1	0.9	0%	3.1
	PM	EB R	3.1	0.9	0%	3.1
	AM	WB R	3.1	0.9	0%	3.1
	PM	WB R	3.1	0.9	0%	3.1
minor left	AM	EB L	3	0.9	0%	3.0
	PM	EB L	3	0.9	0%	3.0
	AM	WB L	3	0.9	0%	3.0
	PM	WB L	3	0.9	0%	3.0

RJFA.00006

Suburban T-Intersection (2 lanes)

Mill Road & Sholly Drive

Critical Headway

			tc base	tc hv	phv	t cg	G	t 3lt	Base Crit
major left	AM	NB L	4.3	1	0%	0	-1	0	4.3
	PM	NB L	4.3	1	0%	0	-1	0	4.3
minor right	AM	EB R	6.2	1	0%	0.1	-1	0	6.1
	PM	EB R	6.2	1	0%	0.1	-1	0	6.1
minor left	AM	EB L	7.1	1	5%	0.2	-1	0.7	6.3
	PM	EB L	7.1	1	0%	0.2	-1	0.7	6.2

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	NB L	3	0.9	0%	3.0
	PM	NB L	3	0.9	0%	3.0
minor right	AM	EB R	3.1	0.9	0%	3.1
	PM	EB R	3.1	0.9	0%	3.1
minor left	AM	EB L	3	0.9	5%	3.0
	PM	EB L	3	0.9	0%	3.0

2023 EXISTING CONDITIONS

2023 Existing Conditions
Timing Plan: A.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	216	77	3	235	0	94	2	1	0	1	44
Future Volume (vph)	10	216	77	3	235	0	94	2	1	0	1	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	11	11	11
Grade (%)		-1%			2%			3%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		175
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		461			540			368			479	
Travel Time (s)		9.0			10.5			10.0			13.1	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	20%	6%	1%	33%	6%	0%	3%	0%	100%	0%	100%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	337	0	0	264	0	0	107	0	0	1	49
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2023 Existing Conditions
Timing Plan: A.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

Intersection												
Intersection Delay, s/veh	11.4											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	216	77	3	235	0	94	2	1	0	1	44
Future Vol, veh/h	10	216	77	3	235	0	94	2	1	0	1	44
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	20	6	1	33	6	0	3	0	100	0	100	0
Mvmt Flow	11	240	86	3	261	0	104	2	1	0	1	49
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			2			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			2			1			1		
HCM Control Delay	12			11.8			10.1			8.7		
HCM LOS	B			B			B			A		
Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2							
Vol Left, %	97%	3%	1%	0%	0%							
Vol Thru, %	2%	71%	99%	100%	0%							
Vol Right, %	1%	25%	0%	0%	100%							
Sign Control	Stop	Stop	Stop	Stop	Stop							
Traffic Vol by Lane	97	303	238	1	44							
LT Vol	94	10	3	0	0							
Through Vol	2	216	235	1	0							
RT Vol	1	77	0	0	44							
Lane Flow Rate	108	337	264	1	49							
Geometry Grp	5	2	2	7	7							
Degree of Util (X)	0.173	0.456	0.39	0.002	0.075							
Departure Headway (Hd)	5.795	4.876	5.305	7.978	5.538							
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes							
Cap	612	734	672	451	651							
Service Time	3.895	2.945	3.381	5.678	3.238							
HCM Lane V/C Ratio	0.176	0.459	0.393	0.002	0.075							
HCM Control Delay	10.1	12	11.8	10.7	8.7							
HCM Lane LOS	B	B	B	B	A							
HCM 95th-tile Q	0.6	2.4	1.9	0	0.2							

2023 Existing Conditions
Timing Plan: A.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	93	0	2	80
Future Volume (vph)	0	0	93	0	2	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	6%		3%			-3%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	387		260			368
Travel Time (s)	10.6		7.1			10.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	4%	0%	0%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	102	0	0	90
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2023 Existing Conditions
Timing Plan: A.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	93	0	2	80
Future Vol, veh/h	0	0	93	0	2	80
Conflicting Peds, #/hr	0	0	0	0	0	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, %	6	-	3	-	-	-3
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	4	0	0	6
Mvmt Flow	0	0	102	0	2	88

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	194	102	0	0	102
Stage 1	102	-	-	-	-
Stage 2	92	-	-	-	-
Critical Hdwy	7.6	6.8	-	-	4.3
Critical Hdwy Stg 1	6.6	-	-	-	-
Critical Hdwy Stg 2	6.6	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3
Pot Cap-1 Maneuver	863	1000	-	-	1108
Stage 1	1038	-	-	-	-
Stage 2	1053	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	861	1000	-	-	1108
Mov Cap-2 Maneuver	861	-	-	-	-
Stage 1	1038	-	-	-	-
Stage 2	1051	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1108
HCM Lane V/C Ratio	-	-	-	0.002
HCM Control Delay (s)	-	-	0	8.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

2023 Existing Conditions
Timing Plan: A.M. Peak Hour

3: Mill Road & Wingert Drive

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	0	0	0	1	0	90	0	0	76	3
Future Volume (vph)	1	0	0	0	0	1	0	90	0	0	76	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	13	13	11	11	11	12	12	12
Grade (%)		1%			-3%			6%			-4%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		394			355			163			260	
Travel Time (s)		10.7			9.7			4.4			7.1	
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	4%	33%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	1	0	0	97	0	0	85	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2023 Existing Conditions
Timing Plan: A.M. Peak Hour

3: Mill Road & Wingert Drive

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	0	0	1	0	90	0	0	76	3
Future Vol, veh/h	1	0	0	0	0	1	0	90	0	0	76	3
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-3	-	-	6	-	-	-4	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	4	33
Mvmt Flow	1	0	0	0	0	1	0	97	0	0	82	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	182	181	85	182	182	97	85	0	0	97	0	0
Stage 1	84	84	-	97	97	-	-	-	-	-	-	-
Stage 2	98	97	-	85	85	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.3	6.5	5.9	5.9	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	894	709	1038	931	738	1033	1123	-	-	1112	-	-
Stage 1	1073	825	-	1077	832	-	-	-	-	-	-	-
Stage 2	1053	814	-	1092	840	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	893	709	1037	930	738	1033	1123	-	-	1112	-	-
Mov Cap-2 Maneuver	893	709	-	930	738	-	-	-	-	-	-	-
Stage 1	1073	825	-	1077	832	-	-	-	-	-	-	-
Stage 2	1052	814	-	1091	840	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	8.5	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1123	-	-	893 1033	1112	-	-
HCM Lane V/C Ratio	-	-	-	0.001 0.001	-	-	-
HCM Control Delay (s)	0	-	-	9 8.5	0	-	-
HCM Lane LOS	A	-	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

2023 Existing Conditions
Timing Plan: A.M. Peak Hour

4: Mill Road & Sholly Drive

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	19	1	1	66	67	9
Future Volume (vph)	19	1	1	66	67	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	11	11	11	11
Grade (%)	-1%			-1%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	239			378	349	
Travel Time (s)	6.5			10.3	9.5	
Confl. Peds. (#/hr)			1			1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	0%	0%	2%	5%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	0	0	84	95	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2023 Existing Conditions
Timing Plan: A.M. Peak Hour

4: Mill Road & Sholly Drive

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	1	1	66	67	9
Future Vol, veh/h	19	1	1	66	67	9
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	-1	1	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	5	0	0	2	5	11
Mvmt Flow	24	1	1	83	84	11

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	176	91	96
Stage 1	91	-	-
Stage 2	85	-	-
Critical Hdwy	6.3	6.1	4.3
Critical Hdwy Stg 1	5.25	-	-
Critical Hdwy Stg 2	5.25	-	-
Follow-up Hdwy	3	3.1	3
Pot Cap-1 Maneuver	948	1035	1113
Stage 1	1091	-	-
Stage 2	1098	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	945	1034	1112
Mov Cap-2 Maneuver	945	-	-
Stage 1	1089	-	-
Stage 2	1097	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1112	-	949	-	-
HCM Lane V/C Ratio	0.001	-	0.026	-	-
HCM Control Delay (s)	8.2	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

2023 Existing Conditions
Timing Plan: P.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	283	123	7	411	0	125	2	9	3	2	39
Future Volume (vph)	28	283	123	7	411	0	125	2	9	3	2	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	11	11	11
Grade (%)		-1%			2%			3%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		175
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		461			540			368			479	
Travel Time (s)		9.0			10.5			10.0			13.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	462	0	0	444	0	0	145	0	0	5	41
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2023 Existing Conditions
Timing Plan: P.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

Intersection	
Intersection Delay, s/veh	15.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	283	123	7	411	0	125	2	9	3	2	39
Future Vol, veh/h	28	283	123	7	411	0	125	2	9	3	2	39
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	1	0	0	1	0	1	0	0	0	0	0
Mvmt Flow	30	301	131	7	437	0	133	2	10	3	2	41
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	16.6	16.9	11.9	9.7
HCM LOS	C	C	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	92%	6%	2%	60%	0%
Vol Thru, %	1%	65%	98%	40%	0%
Vol Right, %	7%	28%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	136	434	418	5	39
LT Vol	125	28	7	3	0
Through Vol	2	283	411	2	0
RT Vol	9	123	0	0	39
Lane Flow Rate	145	462	445	5	41
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.261	0.641	0.638	0.011	0.073
Departure Headway (Hd)	6.498	5	5.165	7.38	6.355
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	551	720	698	483	561
Service Time	4.554	3.038	3.203	5.148	4.123
HCM Lane V/C Ratio	0.263	0.642	0.638	0.01	0.073
HCM Control Delay	11.9	16.6	16.9	10.2	9.6
HCM Lane LOS	B	C	C	B	A
HCM 95th-tile Q	1	4.7	4.6	0	0.2

2023 Existing Conditions
Timing Plan: P.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	140	0	0	130
Future Volume (vph)	0	0	140	0	0	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	6%		3%			-3%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	387		260			368
Travel Time (s)	10.6		7.1			10.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	169	0	0	157
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2023 Existing Conditions
Timing Plan: P.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	140	0	0	130
Future Vol, veh/h	0	0	140	0	0	130
Conflicting Peds, #/hr	0	0	0	0	0	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, %	6	-	3	-	-	-3
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	0	0	169	0	0	157

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	326	169	0	0	169
Stage 1	169	-	-	-	-
Stage 2	157	-	-	-	-
Critical Hdwy	7.6	6.8	-	-	4.3
Critical Hdwy Stg 1	6.6	-	-	-	-
Critical Hdwy Stg 2	6.6	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3
Pot Cap-1 Maneuver	689	907	-	-	1051
Stage 1	944	-	-	-	-
Stage 2	960	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	689	907	-	-	1051
Mov Cap-2 Maneuver	689	-	-	-	-
Stage 1	944	-	-	-	-
Stage 2	960	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1051
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

2023 Existing Conditions
Timing Plan: P.M. Peak Hour

3: Mill Road & Wingert Drive

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	1	0	142	0	2	124	0
Future Volume (vph)	0	0	0	0	0	1	0	142	0	2	124	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	13	13	11	11	11	12	12	12
Grade (%)		1%			-3%			6%			-4%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		394			355			163			260	
Travel Time (s)		10.7			9.7			4.4			7.1	
Confl. Peds. (#/hr)							3					3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1	0	0	165	0	0	146	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2023 Existing Conditions
Timing Plan: P.M. Peak Hour

3: Mill Road & Wingert Drive

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	1	0	142	0	2	124	0
Future Vol, veh/h	0	0	0	0	0	1	0	142	0	2	124	0
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-3	-	-	6	-	-	-4	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	0	0	0	0	0	1	0	165	0	2	144	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	317	316	147	313	316	165	147	0	0	165	0	0
Stage 1	151	151	-	165	165	-	-	-	-	-	-	-
Stage 2	166	165	-	148	151	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.3	6.5	5.9	5.9	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	718	593	956	775	636	951	1070	-	-	1055	-	-
Stage 1	981	770	-	998	787	-	-	-	-	-	-	-
Stage 2	961	759	-	1017	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	714	590	953	773	633	951	1067	-	-	1055	-	-
Mov Cap-2 Maneuver	714	590	-	773	633	-	-	-	-	-	-	-
Stage 1	978	766	-	998	787	-	-	-	-	-	-	-
Stage 2	960	759	-	1015	792	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.8	0	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1067	-	-	- 951	1055	-	-
HCM Lane V/C Ratio	-	-	-	- 0.001	0.002	-	-
HCM Control Delay (s)	0	-	-	0 8.8	8.4	0	-
HCM Lane LOS	A	-	-	A A	A A	A	-
HCM 95th %tile Q(veh)	0	-	-	- 0	0	-	-

2023 Existing Conditions
Timing Plan: P.M. Peak Hour

4: Mill Road & Sholly Drive

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	0	0	129	116	10
Future Volume (vph)	9	0	0	129	116	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	11	11	11	11
Grade (%)	-1%			-1%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	239			378	349	
Travel Time (s)	6.5			10.3	9.5	
Confl. Peds. (#/hr)	1					
Confl. Bikes (#/hr)						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	0	161	158	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2023 Existing Conditions
Timing Plan: P.M. Peak Hour

4: Mill Road & Sholly Drive

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	0	0	129	116	10
Future Vol, veh/h	9	0	0	129	116	10
Conflicting Peds, #/hr	1	0	0	0	0	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, %	-1	-	-	-1	1	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	11	0	0	161	145	13

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	314	152	158	0	-	0
Stage 1	152	-	-	-	-	-
Stage 2	162	-	-	-	-	-
Critical Hdwy	6.2	6.1	4.3	-	-	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	3	3.1	3	-	-	-
Pot Cap-1 Maneuver	794	958	1060	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	1015	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	794	958	1060	-	-	-
Mov Cap-2 Maneuver	794	-	-	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	1015	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1060	-	794	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2026 BASE CONDITIONS

2026 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	223	78	3	243	0	96	2	1	0	1	45
Future Volume (vph)	10	223	78	3	243	0	96	2	1	0	1	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	11	11	11
Grade (%)		-1%			2%			3%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		175
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		461			540			368			479	
Travel Time (s)		9.0			10.5			10.0			13.1	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	20%	6%	1%	33%	6%	0%	3%	0%	100%	0%	100%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	346	0	0	273	0	0	110	0	0	1	50
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2026 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

Intersection

Intersection Delay, s/veh 11.7

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	223	78	3	243	0	96	2	1	0	1	45
Future Vol, veh/h	10	223	78	3	243	0	96	2	1	0	1	45
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	20	6	1	33	6	0	3	0	100	0	100	0
Mvmt Flow	11	248	87	3	270	0	107	2	1	0	1	50
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	12.3	12.1	10.3	8.8
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	97%	3%	1%	0%	0%
Vol Thru, %	2%	72%	99%	100%	0%
Vol Right, %	1%	25%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	99	311	246	1	45
LT Vol	96	10	3	0	0
Through Vol	2	223	243	1	0
RT Vol	1	78	0	0	45
Lane Flow Rate	110	346	273	1	50
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.182	0.471	0.405	0.002	0.078
Departure Headway (Hd)	5.949	4.903	5.33	8.041	5.599
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	606	726	667	448	644
Service Time	3.952	2.986	3.421	5.744	3.303
HCM Lane V/C Ratio	0.182	0.477	0.409	0.002	0.078
HCM Control Delay	10.3	12.3	12.1	10.8	8.8
HCM Lane LOS	B	B	B	B	A
HCM 95th-tile Q	0.7	2.5	2	0	0.3

2026 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	95	0	2	81
Future Volume (vph)	0	0	95	0	2	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	6%		3%			-3%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	387		260			368
Travel Time (s)	10.6		7.1			10.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	4%	0%	0%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	104	0	0	91
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2026 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	95	0	2	81
Future Vol, veh/h	0	0	95	0	2	81
Conflicting Peds, #/hr	0	0	0	0	0	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, %	6	-	3	-	-	-3
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	4	0	0	6
Mvmt Flow	0	0	104	0	2	89

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	197	104	0
Stage 1	104	-	-
Stage 2	93	-	-
Critical Hdwy	7.6	6.8	-
Critical Hdwy Stg 1	6.6	-	-
Critical Hdwy Stg 2	6.6	-	-
Follow-up Hdwy	3	3.1	-
Pot Cap-1 Maneuver	858	998	-
Stage 1	1035	-	-
Stage 2	1052	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	856	998	-
Mov Cap-2 Maneuver	856	-	-
Stage 1	1035	-	-
Stage 2	1050	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1106	-
HCM Lane V/C Ratio	-	-	0.002	-
HCM Control Delay (s)	-	-	8.3	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-

2026 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

3: Mill Road & Wingert Drive

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	0	0	0	0	1	0	92	0	0	77	3
Future Volume (vph)	1	0	0	0	0	1	0	92	0	0	77	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	13	13	11	11	11	12	12	12
Grade (%)		1%			-3%			6%			-4%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		394			355			163			260	
Travel Time (s)		10.7			9.7			4.4			7.1	
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	4%	33%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	1	0	0	99	0	0	86	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2026 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

3: Mill Road & Wingert Drive

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	0	0	1	0	92	0	0	77	3
Future Vol, veh/h	1	0	0	0	0	1	0	92	0	0	77	3
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-3	-	-	6	-	-	-4	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	4	33
Mvmt Flow	1	0	0	0	0	1	0	99	0	0	83	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	185	184	86	185	185	99	86	0	0	99	0	0
Stage 1	85	85	-	99	99	-	-	-	-	-	-	-
Stage 2	100	99	-	86	86	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.3	6.5	5.9	5.9	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	890	707	1036	927	735	1030	1122	-	-	1111	-	-
Stage 1	1071	824	-	1075	831	-	-	-	-	-	-	-
Stage 2	1050	813	-	1090	839	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	889	707	1035	926	735	1030	1122	-	-	1111	-	-
Mov Cap-2 Maneuver	889	707	-	926	735	-	-	-	-	-	-	-
Stage 1	1071	824	-	1075	831	-	-	-	-	-	-	-
Stage 2	1049	813	-	1089	839	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	8.5	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1122	-	-	889 1030	1111	-	-
HCM Lane V/C Ratio	-	-	-	0.001 0.001	-	-	-
HCM Control Delay (s)	0	-	-	9.1 8.5	0	-	-
HCM Lane LOS	A	-	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

2026 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

4: Mill Road & Sholly Drive

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	19	1	1	67	68	9
Future Volume (vph)	19	1	1	67	68	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	11	11	11	11
Grade (%)	-1%			-1%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	239			378	349	
Travel Time (s)	6.5			10.3	9.5	
Confl. Peds. (#/hr)			1			1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	0%	0%	2%	5%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	0	0	85	96	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2026 Base (No Build) Conditions
Timing Plan: A.M. Peak Hour

4: Mill Road & Sholly Drive

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	1	1	67	68	9
Future Vol, veh/h	19	1	1	67	68	9
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	-1	1	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	5	0	0	2	5	11
Mvmt Flow	24	1	1	84	85	11
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	178	92	97	0	-	0
Stage 1	92	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	6.3	6.1	4.3	-	-	-
Critical Hdwy Stg 1	5.25	-	-	-	-	-
Critical Hdwy Stg 2	5.25	-	-	-	-	-
Follow-up Hdwy	3	3.1	3	-	-	-
Pot Cap-1 Maneuver	946	1034	1112	-	-	-
Stage 1	1090	-	-	-	-	-
Stage 2	1097	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	943	1033	1111	-	-	-
Mov Cap-2 Maneuver	943	-	-	-	-	-
Stage 1	1088	-	-	-	-	-
Stage 2	1096	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.9	0.1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1111	-	947	-	-	
HCM Lane V/C Ratio	0.001	-	0.026	-	-	
HCM Control Delay (s)	8.2	0	8.9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

2026 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	291	125	7	421	0	127	2	9	3	2	40
Future Volume (vph)	28	291	125	7	421	0	127	2	9	3	2	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	11	11	11
Grade (%)		-1%			2%			3%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		175
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		461			540			368			479	
Travel Time (s)		9.0			10.5			10.0			13.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	473	0	0	455	0	0	147	0	0	5	43
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2026 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

Intersection												
Intersection Delay, s/veh	16.5											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	291	125	7	421	0	127	2	9	3	2	40
Future Vol, veh/h	28	291	125	7	421	0	127	2	9	3	2	40
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	1	0	0	1	0	1	0	0	0	0	0
Mvmt Flow	30	310	133	7	448	0	135	2	10	3	2	43
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			2			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			2			1			1		
HCM Control Delay	17.4			17.8			12			9.8		
HCM LOS	C			C			B			A		
Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2							
Vol Left, %	92%	6%	2%	60%	0%							
Vol Thru, %	1%	66%	98%	40%	0%							
Vol Right, %	7%	28%	0%	0%	100%							
Sign Control	Stop	Stop	Stop	Stop	Stop							
Traffic Vol by Lane	138	444	428	5	40							
LT Vol	127	28	7	3	0							
Through Vol	2	291	421	2	0							
RT Vol	9	125	0	0	40							
Lane Flow Rate	147	472	455	5	43							
Geometry Grp	5	2	2	7	7							
Degree of Util (X)	0.268	0.661	0.658	0.011	0.076							
Departure Headway (Hd)	6.561	5.036	5.201	7.452	6.427							
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes							
Cap	546	718	692	478	554							
Service Time	4.625	3.081	3.246	5.229	4.203							
HCM Lane V/C Ratio	0.269	0.657	0.658	0.01	0.078							
HCM Control Delay	12	17.4	17.8	10.3	9.7							
HCM Lane LOS	B	C	C	B	A							
HCM 95th-tile Q	1.1	5	4.9	0	0.2							

2026 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	142	0	0	132
Future Volume (vph)	0	0	142	0	0	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	6%		3%			-3%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	387		260			368
Travel Time (s)	10.6		7.1			10.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	171	0	0	159
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2026 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	142	0	0	132
Future Vol, veh/h	0	0	142	0	0	132
Conflicting Peds, #/hr	0	0	0	0	0	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, %	6	-	3	-	-	-3
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	0	0	171	0	0	159

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	330	171	0	0	171
Stage 1	171	-	-	-	-
Stage 2	159	-	-	-	-
Critical Hdwy	7.6	6.8	-	-	4.3
Critical Hdwy Stg 1	6.6	-	-	-	-
Critical Hdwy Stg 2	6.6	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3
Pot Cap-1 Maneuver	684	904	-	-	1050
Stage 1	941	-	-	-	-
Stage 2	957	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	684	904	-	-	1050
Mov Cap-2 Maneuver	684	-	-	-	-
Stage 1	941	-	-	-	-
Stage 2	957	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1050
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

2026 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

3: Mill Road & Wingert Drive

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	1	0	145	0	2	126	0
Future Volume (vph)	0	0	0	0	0	1	0	145	0	2	126	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	13	13	11	11	11	12	12	12
Grade (%)		1%			-3%			6%			-4%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		394			355			163			260	
Travel Time (s)		10.7			9.7			4.4			7.1	
Confl. Peds. (#/hr)							3					3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1	0	0	169	0	0	149	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2026 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

3: Mill Road & Wingert Drive

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	1	0	145	0	2	126	0
Future Vol, veh/h	0	0	0	0	0	1	0	145	0	2	126	0
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-3	-	-	6	-	-	-4	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	0	0	0	0	0	1	0	169	0	2	147	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	324	323	150	320	323	169	150	0	0	169	0	0
Stage 1	154	154	-	169	169	-	-	-	-	-	-	-
Stage 2	170	169	-	151	154	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.3	6.5	5.9	5.9	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	710	587	952	767	631	946	1067	-	-	1051	-	-
Stage 1	977	767	-	994	784	-	-	-	-	-	-	-
Stage 2	956	755	-	1014	794	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	706	584	949	765	628	946	1064	-	-	1051	-	-
Mov Cap-2 Maneuver	706	584	-	765	628	-	-	-	-	-	-	-
Stage 1	974	763	-	994	784	-	-	-	-	-	-	-
Stage 2	955	755	-	1012	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.8	0	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1064	-	-	-	946	1051	-
HCM Lane V/C Ratio	-	-	-	-	0.001	0.002	-
HCM Control Delay (s)	0	-	-	0	8.8	8.4	0
HCM Lane LOS	A	-	-	A	A	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-

2026 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

4: Mill Road & Sholly Drive

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	0	0	131	118	10
Future Volume (vph)	9	0	0	131	118	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	11	11	11	11
Grade (%)	-1%			-1%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	239			378	349	
Travel Time (s)	6.5			10.3	9.5	
Confl. Peds. (#/hr)	1					
Confl. Bikes (#/hr)						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	0	164	161	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2026 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

4: Mill Road & Sholly Drive

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	0	0	131	118	10
Future Vol, veh/h	9	0	0	131	118	10
Conflicting Peds, #/hr	1	0	0	0	0	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, %	-1	-	-	-1	1	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	11	0	0	164	148	13

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	320	155	161	0	-	0
Stage 1	155	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.2	6.1	4.3	-	-	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	3	3.1	3	-	-	-
Pot Cap-1 Maneuver	788	954	1058	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	788	954	1058	-	-	-
Mov Cap-2 Maneuver	788	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1012	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1058	-	788	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

2026 PROJECTED CONDITIONS

2026 Projected (Build) Conditions

Timing Plan: A.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	223	78	3	243	0	97	2	2	0	1	45
Future Volume (vph)	10	223	78	3	243	0	97	2	2	0	1	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	11	11	11
Grade (%)		-1%			2%			3%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		175
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		461			540			368			479	
Travel Time (s)		9.0			10.5			10.0			13.1	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	20%	6%	1%	33%	6%	0%	3%	0%	100%	0%	100%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	346	0	0	273	0	0	112	0	0	1	50
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2026 Projected (Build) Conditions
Timing Plan: A.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	223	78	3	243	0	97	2	2	0	1	45
Future Vol, veh/h	10	223	78	3	243	0	97	2	2	0	1	45
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	20	6	1	33	6	0	3	0	100	0	100	0
Mvmt Flow	11	248	87	3	270	0	108	2	2	0	1	50
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	12.4	12.1	10.3	8.8
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	96%	3%	1%	0%	0%
Vol Thru, %	2%	72%	99%	100%	0%
Vol Right, %	2%	25%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	311	246	1	45
LT Vol	97	10	3	0	0
Through Vol	2	223	243	1	0
RT Vol	2	78	0	0	45
Lane Flow Rate	112	346	273	1	50
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.185	0.471	0.405	0.002	0.078
Departure Headway (Hd)	5.941	4.909	5.336	8.044	5.603
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	607	726	667	447	643
Service Time	3.944	2.992	3.427	5.748	3.307
HCM Lane V/C Ratio	0.185	0.477	0.409	0.002	0.078
HCM Control Delay	10.3	12.4	12.1	10.8	8.8
HCM Lane LOS	B	B	B	B	A
HCM 95th-tile Q	0.7	2.5	2	0	0.3

2026 Projected (Build) Conditions

Timing Plan: A.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	2	95	0	2	81
Future Volume (vph)	0	2	95	0	2	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	6%		3%			-3%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	387		260			368
Travel Time (s)	10.6		7.1			10.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	4%	2%	2%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	0	104	0	0	91
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2026 Projected (Build) Conditions
Timing Plan: A.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	95	0	2	81
Future Vol, veh/h	0	2	95	0	2	81
Conflicting Peds, #/hr	0	0	0	0	0	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, %	6	-	3	-	-	-3
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	4	2	2	6
Mvmt Flow	0	2	104	0	2	89

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	197	104	0
Stage 1	104	-	-
Stage 2	93	-	-
Critical Hdwy	7.62	6.82	-
Critical Hdwy Stg 1	6.62	-	-
Critical Hdwy Stg 2	6.62	-	-
Follow-up Hdwy	3	3.1	-
Pot Cap-1 Maneuver	858	997	-
Stage 1	1035	-	-
Stage 2	1051	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	856	997	-
Mov Cap-2 Maneuver	856	-	-
Stage 1	1035	-	-
Stage 2	1049	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	997	1106
HCM Lane V/C Ratio	-	-	0.002	0.002
HCM Control Delay (s)	-	-	8.6	8.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

2026 Projected (Build) Conditions

Timing Plan: A.M. Peak Hour

3: Mill Road & Wingert Drive

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	0	0	0	1	0	92	0	0	77	3
Future Volume (vph)	1	0	0	0	0	1	0	92	0	0	77	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	13	13	11	11	11	12	12	12
Grade (%)		1%			-3%			6%			-4%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		394			355			163			260	
Travel Time (s)		10.7			9.7			4.4			7.1	
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	4%	33%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	1	0	0	99	0	0	86	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2026 Projected (Build) Conditions
Timing Plan: A.M. Peak Hour

3: Mill Road & Wingert Drive

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	0	0	1	0	92	0	0	77	3
Future Vol, veh/h	1	0	0	0	0	1	0	92	0	0	77	3
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-3	-	-	6	-	-	-4	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	4	33
Mvmt Flow	1	0	0	0	0	1	0	99	0	0	83	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	185	184	86	185	185	99	86	0	0	99	0	0
Stage 1	85	85	-	99	99	-	-	-	-	-	-	-
Stage 2	100	99	-	86	86	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.3	6.5	5.9	5.9	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	890	707	1036	927	735	1030	1122	-	-	1111	-	-
Stage 1	1071	824	-	1075	831	-	-	-	-	-	-	-
Stage 2	1050	813	-	1090	839	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	889	707	1035	926	735	1030	1122	-	-	1111	-	-
Mov Cap-2 Maneuver	889	707	-	926	735	-	-	-	-	-	-	-
Stage 1	1071	824	-	1075	831	-	-	-	-	-	-	-
Stage 2	1049	813	-	1089	839	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.1			8.5			0			0		
HCM LOS	A			A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1122	-	-	889 1030	1111	-	-
HCM Lane V/C Ratio	-	-	-	0.001 0.001	-	-	-
HCM Control Delay (s)	0	-	-	9.1 8.5	0	-	-
HCM Lane LOS	A	-	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

2026 Projected (Build) Conditions

Timing Plan: A.M. Peak Hour

4: Mill Road & Sholly Drive

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	19	1	1	67	68	9
Future Volume (vph)	19	1	1	67	68	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	11	11	11	11
Grade (%)	-1%			-1%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	239			378	349	
Travel Time (s)	6.5			10.3	9.5	
Confl. Peds. (#/hr)			1			1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	0%	0%	2%	5%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	0	0	85	96	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2026 Projected (Build) Conditions
Timing Plan: A.M. Peak Hour

4: Mill Road & Sholly Drive

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	1	1	67	68	9
Future Vol, veh/h	19	1	1	67	68	9
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	-1	1	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	5	0	0	2	5	11
Mvmt Flow	24	1	1	84	85	11
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	178	92	97	0	-	0
Stage 1	92	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	6.3	6.1	4.3	-	-	-
Critical Hdwy Stg 1	5.25	-	-	-	-	-
Critical Hdwy Stg 2	5.25	-	-	-	-	-
Follow-up Hdwy	3	3.1	3	-	-	-
Pot Cap-1 Maneuver	946	1034	1112	-	-	-
Stage 1	1090	-	-	-	-	-
Stage 2	1097	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	943	1033	1111	-	-	-
Mov Cap-2 Maneuver	943	-	-	-	-	-
Stage 1	1088	-	-	-	-	-
Stage 2	1096	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.9	0.1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1111	-	947	-	-	
HCM Lane V/C Ratio	0.001	-	0.026	-	-	
HCM Control Delay (s)	8.2	0	8.9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

2026 Projected (Build) Conditions

Timing Plan: P.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	291	127	8	421	0	128	2	9	3	2	40
Future Volume (vph)	28	291	127	8	421	0	128	2	9	3	2	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	11	11	11
Grade (%)		-1%			2%			3%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		175
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		461			540			368			479	
Travel Time (s)		9.0			10.5			10.0			13.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	475	0	0	457	0	0	148	0	0	5	43
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2026 Projected (Build) Conditions
Timing Plan: P.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

Intersection	
Intersection Delay, s/veh	16.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	↕
Traffic Vol, veh/h	28	291	127	8	421	0	128	2	9	3	2	40
Future Vol, veh/h	28	291	127	8	421	0	128	2	9	3	2	40
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	1	0	0	1	0	1	0	0	0	0	0
Mvmt Flow	30	310	135	9	448	0	136	2	10	3	2	43
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	17.6	17.9	12.1	9.9
HCM LOS	C	C	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	92%	6%	2%	60%	0%
Vol Thru, %	1%	65%	98%	40%	0%
Vol Right, %	6%	28%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	139	446	429	5	40
LT Vol	128	28	8	3	0
Through Vol	2	291	421	2	0
RT Vol	9	127	0	0	40
Lane Flow Rate	148	474	456	5	43
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.27	0.665	0.66	0.011	0.076
Departure Headway (Hd)	6.573	5.042	5.21	7.468	6.442
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	544	716	694	477	553
Service Time	4.635	3.085	3.255	5.243	4.217
HCM Lane V/C Ratio	0.272	0.662	0.657	0.01	0.078
HCM Control Delay	12.1	17.6	17.9	10.3	9.8
HCM Lane LOS	B	C	C	B	A
HCM 95th-tile Q	1.1	5.1	5	0	0.2

2026 Projected (Build) Conditions

Timing Plan: P.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	1	142	0	3	132
Future Volume (vph)	0	1	142	0	3	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	6%		3%			-3%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	387		260			368
Travel Time (s)	10.6		7.1			10.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	1%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	171	0	0	163
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2026 Projected (Build) Conditions
Timing Plan: P.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	142	0	3	132
Future Vol, veh/h	0	1	142	0	3	132
Conflicting Peds, #/hr	0	0	0	0	0	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, %	6	-	3	-	-	-3
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	1	2	2	1
Mvmt Flow	0	1	171	0	4	159

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	338	171	0	0	171
Stage 1	171	-	-	-	-
Stage 2	167	-	-	-	-
Critical Hdwy	7.62	6.82	-	-	4.3
Critical Hdwy Stg 1	6.62	-	-	-	-
Critical Hdwy Stg 2	6.62	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3
Pot Cap-1 Maneuver	673	903	-	-	1050
Stage 1	940	-	-	-	-
Stage 2	946	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	670	903	-	-	1050
Mov Cap-2 Maneuver	670	-	-	-	-
Stage 1	940	-	-	-	-
Stage 2	942	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	903	1050
HCM Lane V/C Ratio	-	-	0.001	0.003
HCM Control Delay (s)	-	-	9	8.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

2026 Projected (Build) Conditions

Timing Plan: P.M. Peak Hour

3: Mill Road & Wingert Drive

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	1	0	145	0	2	126	0
Future Volume (vph)	0	0	0	0	0	1	0	145	0	2	126	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	13	13	11	11	11	12	12	12
Grade (%)		1%			-3%			6%			-4%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		394			355			163			260	
Travel Time (s)		10.7			9.7			4.4			7.1	
Confl. Peds. (#/hr)							3					3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1	0	0	169	0	0	149	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2026 Projected (Build) Conditions
Timing Plan: P.M. Peak Hour

3: Mill Road & Wingert Drive

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	1	0	145	0	2	126	0
Future Vol, veh/h	0	0	0	0	0	1	0	145	0	2	126	0
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-3	-	-	6	-	-	-4	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	0	0	0	0	0	1	0	169	0	2	147	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	324	323	150	320	323	169	150	0	0	169	0	0
Stage 1	154	154	-	169	169	-	-	-	-	-	-	-
Stage 2	170	169	-	151	154	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.3	6.5	5.9	5.9	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	710	587	952	767	631	946	1067	-	-	1051	-	-
Stage 1	977	767	-	994	784	-	-	-	-	-	-	-
Stage 2	956	755	-	1014	794	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	706	584	949	765	628	946	1064	-	-	1051	-	-
Mov Cap-2 Maneuver	706	584	-	765	628	-	-	-	-	-	-	-
Stage 1	974	763	-	994	784	-	-	-	-	-	-	-
Stage 2	955	755	-	1012	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.8	0	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1064	-	-	-	946	1051	-
HCM Lane V/C Ratio	-	-	-	-	0.001	0.002	-
HCM Control Delay (s)	0	-	-	0	8.8	8.4	0
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-

2026 Projected (Build) Conditions

Timing Plan: P.M. Peak Hour

4: Mill Road & Sholly Drive

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	0	0	131	118	10
Future Volume (vph)	9	0	0	131	118	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	11	11	11	11
Grade (%)	-1%			-1%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	239			378	349	
Travel Time (s)	6.5			10.3	9.5	
Confl. Peds. (#/hr)	1					
Confl. Bikes (#/hr)						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	0	164	161	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2026 Projected (Build) Conditions
Timing Plan: P.M. Peak Hour

4: Mill Road & Sholly Drive

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	0	0	131	118	10
Future Vol, veh/h	9	0	0	131	118	10
Conflicting Peds, #/hr	1	0	0	0	0	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, %	-1	-	-	-1	1	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	11	0	0	164	148	13
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	320	155	161	0	-	0
Stage 1	155	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.2	6.1	4.3	-	-	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	3	3.1	3	-	-	-
Pot Cap-1 Maneuver	788	954	1058	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	788	954	1058	-	-	-
Mov Cap-2 Maneuver	788	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.6	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1058	-	788	-	-	
HCM Lane V/C Ratio	-	-	0.014	-	-	
HCM Control Delay (s)	0	-	9.6	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

2036 BASE CONDITIONS

2036 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	236	83	3	258	0	101	2	1	0	1	47
Future Volume (vph)	11	236	83	3	258	0	101	2	1	0	1	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	11	11	11
Grade (%)		-1%			2%			3%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		175
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		461			540			368			479	
Travel Time (s)		9.0			10.5			10.0			13.1	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	20%	6%	1%	33%	6%	0%	3%	0%	100%	0%	100%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	366	0	0	290	0	0	115	0	0	1	52
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2036 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	236	83	3	258	0	101	2	1	0	1	47
Future Vol, veh/h	11	236	83	3	258	0	101	2	1	0	1	47
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	20	6	1	33	6	0	3	0	100	0	100	0
Mvmt Flow	12	262	92	3	287	0	112	2	1	0	1	52
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	13.1	12.8	10.6	9
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	97%	3%	1%	0%	0%
Vol Thru, %	2%	72%	99%	100%	0%
Vol Right, %	1%	25%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	104	330	261	1	47
LT Vol	101	11	3	0	0
Through Vol	2	236	258	1	0
RT Vol	1	83	0	0	47
Lane Flow Rate	116	367	290	1	52
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.195	0.505	0.443	0.003	0.083
Departure Headway (Hd)	6.066	5.063	5.494	8.171	5.727
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	593	715	658	439	627
Service Time	4.085	3.063	3.494	5.893	3.448
HCM Lane V/C Ratio	0.196	0.513	0.441	0.002	0.083
HCM Control Delay	10.6	13.1	12.8	10.9	9
HCM Lane LOS	B	B	B	B	A
HCM 95th-tile Q	0.7	2.9	2.3	0	0.3

2036 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	100	0	2	86
Future Volume (vph)	0	0	100	0	2	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	6%		3%			-3%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	387		260			368
Travel Time (s)	10.6		7.1			10.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	4%	0%	0%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	110	0	0	97
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2036 Base (No Build) Conditions
Timing Plan: A.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	100	0	2	86
Future Vol, veh/h	0	0	100	0	2	86
Conflicting Peds, #/hr	0	0	0	0	0	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, %	6	-	3	-	-	-3
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	4	0	0	6
Mvmt Flow	0	0	110	0	2	95

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	209	110	0	0	110
Stage 1	110	-	-	-	-
Stage 2	99	-	-	-	-
Critical Hdwy	7.6	6.8	-	-	4.3
Critical Hdwy Stg 1	6.6	-	-	-	-
Critical Hdwy Stg 2	6.6	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3
Pot Cap-1 Maneuver	841	989	-	-	1101
Stage 1	1026	-	-	-	-
Stage 2	1043	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	839	989	-	-	1101
Mov Cap-2 Maneuver	839	-	-	-	-
Stage 1	1026	-	-	-	-
Stage 2	1041	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1101
HCM Lane V/C Ratio	-	-	-	0.002
HCM Control Delay (s)	-	-	0	8.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

2036 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

3: Mill Road & Wingert Drive

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	0	0	0	1	0	97	0	0	82	3
Future Volume (vph)	1	0	0	0	0	1	0	97	0	0	82	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	13	13	11	11	11	12	12	12
Grade (%)		1%			-3%			6%			-4%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		394			355			163			260	
Travel Time (s)		10.7			9.7			4.4			7.1	
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	4%	33%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	1	0	0	104	0	0	91	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2036 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

3: Mill Road & Wingert Drive

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	0	0	1	0	97	0	0	82	3
Future Vol, veh/h	1	0	0	0	0	1	0	97	0	0	82	3
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-3	-	-	6	-	-	-4	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	4	33
Mvmt Flow	1	0	0	0	0	1	0	104	0	0	88	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	195	194	91	195	195	104	91	0	0	104	0	0
Stage 1	90	90	-	104	104	-	-	-	-	-	-	-
Stage 2	105	104	-	91	91	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.3	6.5	5.9	5.9	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	876	697	1030	914	727	1024	1118	-	-	1106	-	-
Stage 1	1064	820	-	1069	827	-	-	-	-	-	-	-
Stage 2	1043	808	-	1084	836	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	875	697	1029	913	727	1024	1118	-	-	1106	-	-
Mov Cap-2 Maneuver	875	697	-	913	727	-	-	-	-	-	-	-
Stage 1	1064	820	-	1069	827	-	-	-	-	-	-	-
Stage 2	1042	808	-	1083	836	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	8.5	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1118	-	-	875 1024	1106	-	-
HCM Lane V/C Ratio	-	-	-	0.001 0.001	-	-	-
HCM Control Delay (s)	0	-	-	9.1 8.5	0	-	-
HCM Lane LOS	A	-	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

2036 Base (No Build) Conditions

Timing Plan: A.M. Peak Hour

4: Mill Road & Sholly Drive

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	1	1	71	72	10
Future Volume (vph)	21	1	1	71	72	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	11	11	11	11
Grade (%)	-1%			-1%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	239			378	349	
Travel Time (s)	6.5			10.3	9.5	
Confl. Peds. (#/hr)			1			1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	0%	0%	2%	5%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	0	0	90	103	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2036 Base (No Build) Conditions
Timing Plan: A.M. Peak Hour

4: Mill Road & Sholly Drive

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	1	1	71	72	10
Future Vol, veh/h	21	1	1	71	72	10
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	-1	1	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	5	0	0	2	5	11
Mvmt Flow	26	1	1	89	90	13

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	189	98	104	0	-	0
Stage 1	98	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.3	6.1	4.3	-	-	-
Critical Hdwy Stg 1	5.25	-	-	-	-	-
Critical Hdwy Stg 2	5.25	-	-	-	-	-
Follow-up Hdwy	3	3.1	3	-	-	-
Pot Cap-1 Maneuver	932	1026	1106	-	-	-
Stage 1	1083	-	-	-	-	-
Stage 2	1091	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	929	1025	1105	-	-	-
Mov Cap-2 Maneuver	929	-	-	-	-	-
Stage 1	1081	-	-	-	-	-
Stage 2	1090	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1105	-	933	-	-
HCM Lane V/C Ratio	0.001	-	0.029	-	-
HCM Control Delay (s)	8.3	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

2036 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	308	133	8	447	0	135	2	10	3	2	42
Future Volume (vph)	30	308	133	8	447	0	135	2	10	3	2	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	11	11	11
Grade (%)		-1%			2%			3%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		175
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		461			540			368			479	
Travel Time (s)		9.0			10.5			10.0			13.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	501	0	0	485	0	0	157	0	0	5	45
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2036 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

Intersection	
Intersection Delay, s/veh	19
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	308	133	8	447	0	135	2	10	3	2	42
Future Vol, veh/h	30	308	133	8	447	0	135	2	10	3	2	42
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	1	0	0	1	0	1	0	0	0	0	0
Mvmt Flow	32	328	141	9	476	0	144	2	11	3	2	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	20.3	20.7	12.6	10.1
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	92%	6%	2%	60%	0%
Vol Thru, %	1%	65%	98%	40%	0%
Vol Right, %	7%	28%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	147	471	455	5	42
LT Vol	135	30	8	3	0
Through Vol	2	308	447	2	0
RT Vol	10	133	0	0	42
Lane Flow Rate	156	501	484	5	45
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.293	0.717	0.715	0.011	0.083
Departure Headway (Hd)	6.742	5.155	5.32	7.675	6.648
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	530	696	678	464	535
Service Time	4.816	3.211	3.375	5.466	4.438
HCM Lane V/C Ratio	0.294	0.72	0.714	0.011	0.084
HCM Control Delay	12.6	20.3	20.7	10.6	10
HCM Lane LOS	B	C	C	B	A
HCM 95th-tile Q	1.2	6.1	6	0	0.3

2036 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	151	0	0	140
Future Volume (vph)	0	0	151	0	0	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	6%		3%			-3%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	387		260			368
Travel Time (s)	10.6		7.1			10.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	182	0	0	169
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2036 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	151	0	0	140
Future Vol, veh/h	0	0	151	0	0	140
Conflicting Peds, #/hr	0	0	0	0	0	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, %	6	-	3	-	-	-3
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	0	0	182	0	0	169

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	351	182	0	0	182
Stage 1	182	-	-	-	-
Stage 2	169	-	-	-	-
Critical Hdwy	7.6	6.8	-	-	4.3
Critical Hdwy Stg 1	6.6	-	-	-	-
Critical Hdwy Stg 2	6.6	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3
Pot Cap-1 Maneuver	660	890	-	-	1041
Stage 1	926	-	-	-	-
Stage 2	944	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	660	890	-	-	1041
Mov Cap-2 Maneuver	660	-	-	-	-
Stage 1	926	-	-	-	-
Stage 2	944	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1041
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

2036 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

3: Mill Road & Wingert Drive

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	1	0	153	0	2	134	0
Future Volume (vph)	0	0	0	0	0	1	0	153	0	2	134	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	13	13	11	11	11	12	12	12
Grade (%)		1%			-3%			6%			-4%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		394			355			163			260	
Travel Time (s)		10.7			9.7			4.4			7.1	
Confl. Peds. (#/hr)							3					3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1	0	0	178	0	0	158	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2036 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

3: Mill Road & Wingert Drive

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	1	0	153	0	2	134	0
Future Vol, veh/h	0	0	0	0	0	1	0	153	0	2	134	0
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-3	-	-	6	-	-	-4	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	0	0	0	0	0	1	0	178	0	2	156	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	342	341	159	338	341	178	159	0	0	178	0	0
Stage 1	163	163	-	178	178	-	-	-	-	-	-	-
Stage 2	179	178	-	160	163	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.3	6.5	5.9	5.9	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	689	573	941	748	618	936	1060	-	-	1044	-	-
Stage 1	965	760	-	984	779	-	-	-	-	-	-	-
Stage 2	944	748	-	1004	788	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	685	570	938	747	615	936	1057	-	-	1044	-	-
Mov Cap-2 Maneuver	685	570	-	747	615	-	-	-	-	-	-	-
Stage 1	962	756	-	984	779	-	-	-	-	-	-	-
Stage 2	943	748	-	1002	784	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.9	0	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1057	-	-	-	936	1044	-
HCM Lane V/C Ratio	-	-	-	-	0.001	0.002	-
HCM Control Delay (s)	0	-	-	0	8.9	8.5	0
HCM Lane LOS	A	-	-	A	A	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-

2036 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

4: Mill Road & Sholly Drive

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	0	0	139	125	11
Future Volume (vph)	10	0	0	139	125	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	11	11	11	11
Grade (%)	-1%			-1%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	239			378	349	
Travel Time (s)	6.5			10.3	9.5	
Confl. Peds. (#/hr)	1					
Confl. Bikes (#/hr)						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	0	174	170	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2036 Base (No-Build) Conditions

Timing Plan: P.M. Peak Hour

4: Mill Road & Sholly Drive

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	0	0	139	125	11
Future Vol, veh/h	10	0	0	139	125	11
Conflicting Peds, #/hr	1	0	0	0	0	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, %	-1	-	-	-1	1	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	13	0	0	174	156	14

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	338	163	170
Stage 1	163	-	-
Stage 2	175	-	-
Critical Hdwy	6.3	6.1	4.3
Critical Hdwy Stg 1	5.2	-	-
Critical Hdwy Stg 2	5.2	-	-
Follow-up Hdwy	3	3.1	3
Pot Cap-1 Maneuver	762	944	1050
Stage 1	1014	-	-
Stage 2	1002	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	762	944	1050
Mov Cap-2 Maneuver	762	-	-
Stage 1	1014	-	-
Stage 2	1002	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1050	-	762	-	-
HCM Lane V/C Ratio	-	-	0.016	-	-
HCM Control Delay (s)	0	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

2036 PROJECTED CONDITIONS

2036 Projected (Build) Conditions

Timing Plan: A.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	236	83	3	258	0	102	2	2	0	1	47
Future Volume (vph)	11	236	83	3	258	0	102	2	2	0	1	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	11	11	11
Grade (%)		-1%			2%			3%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		175
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		461			540			368			479	
Travel Time (s)		9.0			10.5			10.0			13.1	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	20%	6%	1%	33%	6%	0%	3%	0%	100%	0%	100%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	366	0	0	290	0	0	117	0	0	1	52
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2036 Projected (Build) Conditions
Timing Plan: A.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	236	83	3	258	0	102	2	2	0	1	47
Future Vol, veh/h	11	236	83	3	258	0	102	2	2	0	1	47
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	20	6	1	33	6	0	3	0	100	0	100	0
Mvmt Flow	12	262	92	3	287	0	113	2	2	0	1	52
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	13.1	12.8	10.6	9
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	96%	3%	1%	0%	0%
Vol Thru, %	2%	72%	99%	100%	0%
Vol Right, %	2%	25%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	330	261	1	47
LT Vol	102	11	3	0	0
Through Vol	2	236	258	1	0
RT Vol	2	83	0	0	47
Lane Flow Rate	118	367	290	1	52
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.198	0.505	0.443	0.003	0.083
Departure Headway (Hd)	6.06	5.069	5.501	8.177	5.733
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	594	715	658	439	627
Service Time	4.078	3.069	3.501	5.897	3.452
HCM Lane V/C Ratio	0.199	0.513	0.441	0.002	0.083
HCM Control Delay	10.6	13.1	12.8	10.9	9
HCM Lane LOS	B	B	B	B	A
HCM 95th-tile Q	0.7	2.9	2.3	0	0.3

2036 Projected (Build) Conditions

Timing Plan: A.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	2	100	0	2	86
Future Volume (vph)	0	2	100	0	2	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	6%		3%			-3%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	387		260			368
Travel Time (s)	10.6		7.1			10.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	4%	2%	2%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	0	110	0	0	97
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2036 Projected (Build) Conditions
Timing Plan: A.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	100	0	2	86
Future Vol, veh/h	0	2	100	0	2	86
Conflicting Peds, #/hr	0	0	0	0	0	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, %	6	-	3	-	-	-3
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	4	2	2	6
Mvmt Flow	0	2	110	0	2	95

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	209	110	0
Stage 1	110	-	-
Stage 2	99	-	-
Critical Hdwy	7.62	6.82	-
Critical Hdwy Stg 1	6.62	-	-
Critical Hdwy Stg 2	6.62	-	-
Follow-up Hdwy	3	3.1	-
Pot Cap-1 Maneuver	840	988	-
Stage 1	1026	-	-
Stage 2	1042	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	838	988	-
Mov Cap-2 Maneuver	838	-	-
Stage 1	1026	-	-
Stage 2	1040	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	988	1101
HCM Lane V/C Ratio	-	-	0.002	0.002
HCM Control Delay (s)	-	-	8.7	8.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

2036 Projected (Build) Conditions

Timing Plan: A.M. Peak Hour

3: Mill Road & Wingert Drive

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	0	0	0	1	0	97	0	0	82	3
Future Volume (vph)	1	0	0	0	0	1	0	97	0	0	82	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	13	13	11	11	11	12	12	12
Grade (%)		1%			-3%			6%			-4%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		394			355			163			260	
Travel Time (s)		10.7			9.7			4.4			7.1	
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	4%	33%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	1	0	0	104	0	0	91	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2036 Projected (Build) Conditions

Timing Plan: A.M. Peak Hour

3: Mill Road & Wingert Drive

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	0	0	1	0	97	0	0	82	3
Future Vol, veh/h	1	0	0	0	0	1	0	97	0	0	82	3
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-3	-	-	6	-	-	-4	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	4	33
Mvmt Flow	1	0	0	0	0	1	0	104	0	0	88	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	195	194	91	195	195	104	91	0	0	104	0	0
Stage 1	90	90	-	104	104	-	-	-	-	-	-	-
Stage 2	105	104	-	91	91	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.3	6.5	5.9	5.9	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	876	697	1030	914	727	1024	1118	-	-	1106	-	-
Stage 1	1064	820	-	1069	827	-	-	-	-	-	-	-
Stage 2	1043	808	-	1084	836	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	875	697	1029	913	727	1024	1118	-	-	1106	-	-
Mov Cap-2 Maneuver	875	697	-	913	727	-	-	-	-	-	-	-
Stage 1	1064	820	-	1069	827	-	-	-	-	-	-	-
Stage 2	1042	808	-	1083	836	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.1		8.5		0		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1118	-	-	875 1024	1106	-	-
HCM Lane V/C Ratio	-	-	-	0.001 0.001	-	-	-
HCM Control Delay (s)	0	-	-	9.1 8.5	0	-	-
HCM Lane LOS	A	-	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

2036 Projected (Build) Conditions

Timing Plan: A.M. Peak Hour

4: Mill Road & Sholly Drive

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	1	1	71	72	10
Future Volume (vph)	21	1	1	71	72	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	11	11	11	11
Grade (%)	-1%			-1%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	239			378	349	
Travel Time (s)	6.5			10.3	9.5	
Confl. Peds. (#/hr)			1			1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	0%	0%	2%	5%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	0	0	90	103	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2036 Projected (Build) Conditions
Timing Plan: A.M. Peak Hour

4: Mill Road & Sholly Drive

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	1	1	71	72	10
Future Vol, veh/h	21	1	1	71	72	10
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	-1	1	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	5	0	0	2	5	11
Mvmt Flow	26	1	1	89	90	13

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	189	98	104	0	-	0
Stage 1	98	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.3	6.1	4.3	-	-	-
Critical Hdwy Stg 1	5.25	-	-	-	-	-
Critical Hdwy Stg 2	5.25	-	-	-	-	-
Follow-up Hdwy	3	3.1	3	-	-	-
Pot Cap-1 Maneuver	932	1026	1106	-	-	-
Stage 1	1083	-	-	-	-	-
Stage 2	1091	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	929	1025	1105	-	-	-
Mov Cap-2 Maneuver	929	-	-	-	-	-
Stage 1	1081	-	-	-	-	-
Stage 2	1090	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1105	-	933	-	-
HCM Lane V/C Ratio	0.001	-	0.029	-	-
HCM Control Delay (s)	8.3	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

2036 Projected (Build) Conditions

Timing Plan: P.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	308	135	9	447	0	136	2	10	3	2	42
Future Volume (vph)	30	308	135	9	447	0	136	2	10	3	2	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	11	11	11
Grade (%)		-1%			2%			3%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		175
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		461			540			368			479	
Travel Time (s)		9.0			10.5			10.0			13.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	504	0	0	486	0	0	158	0	0	5	45
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2036 Projected (Build) Conditions
Timing Plan: P.M. Peak Hour

1: Mill Road & Lisburn Road (SR 2004)

Intersection	
Intersection Delay, s/veh	19.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	308	135	9	447	0	136	2	10	3	2	42
Future Vol, veh/h	30	308	135	9	447	0	136	2	10	3	2	42
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	1	0	0	1	0	1	0	0	0	0	0
Mvmt Flow	32	328	144	10	476	0	145	2	11	3	2	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	20.5	20.9	12.7	10.2
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	92%	6%	2%	60%	0%
Vol Thru, %	1%	65%	98%	40%	0%
Vol Right, %	7%	29%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	148	473	456	5	42
LT Vol	136	30	9	3	0
Through Vol	2	308	447	2	0
RT Vol	10	135	0	0	42
Lane Flow Rate	157	503	485	5	45
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.295	0.722	0.718	0.011	0.083
Departure Headway (Hd)	6.75	5.162	5.33	7.689	6.661
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	529	699	674	463	533
Service Time	4.829	3.216	3.385	5.483	4.455
HCM Lane V/C Ratio	0.297	0.72	0.72	0.011	0.084
HCM Control Delay	12.7	20.5	20.9	10.6	10.1
HCM Lane LOS	B	C	C	B	B
HCM 95th-tile Q	1.2	6.2	6.1	0	0.3

2036 Projected (Build) Conditions

Timing Plan: P.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	1	151	0	3	140
Future Volume (vph)	0	1	151	0	3	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	6%		3%			-3%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	387		260			368
Travel Time (s)	10.6		7.1			10.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	1%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	182	0	0	173
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2036 Projected (Build) Conditions
Timing Plan: P.M. Peak Hour

2: Mill Road & Existing/Proposed Site DW

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	151	0	3	140
Future Vol, veh/h	0	1	151	0	3	140
Conflicting Peds, #/hr	0	0	0	0	0	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, %	6	-	3	-	-	-3
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	1	2	2	1
Mvmt Flow	0	1	182	0	4	169

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	359	182	0	0	182
Stage 1	182	-	-	-	-
Stage 2	177	-	-	-	-
Critical Hdwy	7.62	6.82	-	-	4.3
Critical Hdwy Stg 1	6.62	-	-	-	-
Critical Hdwy Stg 2	6.62	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3
Pot Cap-1 Maneuver	649	889	-	-	1041
Stage 1	925	-	-	-	-
Stage 2	932	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	646	889	-	-	1041
Mov Cap-2 Maneuver	646	-	-	-	-
Stage 1	925	-	-	-	-
Stage 2	928	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	1041
HCM Lane V/C Ratio	-	-	0.001	0.003
HCM Control Delay (s)	-	-	9.1	8.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

2036 Projected (Build) Conditions

Timing Plan: P.M. Peak Hour

3: Mill Road & Wingert Drive

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	1	0	153	0	2	134	0
Future Volume (vph)	0	0	0	0	0	1	0	153	0	2	134	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	13	13	11	11	11	12	12	12
Grade (%)		1%			-3%			6%			-4%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		394			355			163			260	
Travel Time (s)		10.7			9.7			4.4			7.1	
Confl. Peds. (#/hr)							3					3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1	0	0	178	0	0	158	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2036 Projected (Build) Conditions
Timing Plan: P.M. Peak Hour

3: Mill Road & Wingert Drive

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	1	0	153	0	2	134	0
Future Vol, veh/h	0	0	0	0	0	1	0	153	0	2	134	0
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-3	-	-	6	-	-	-4	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	0	0	0	0	0	1	0	178	0	2	156	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	342	341	159	338	341	178	159	0	0	178	0	0
Stage 1	163	163	-	178	178	-	-	-	-	-	-	-
Stage 2	179	178	-	160	163	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.7	6.3	6.5	5.9	5.9	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.7	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	689	573	941	748	618	936	1060	-	-	1044	-	-
Stage 1	965	760	-	984	779	-	-	-	-	-	-	-
Stage 2	944	748	-	1004	788	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	685	570	938	747	615	936	1057	-	-	1044	-	-
Mov Cap-2 Maneuver	685	570	-	747	615	-	-	-	-	-	-	-
Stage 1	962	756	-	984	779	-	-	-	-	-	-	-
Stage 2	943	748	-	1002	784	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.9	0	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1057	-	-	-	936	1044	-
HCM Lane V/C Ratio	-	-	-	-	0.001	0.002	-
HCM Control Delay (s)	0	-	-	0	8.9	8.5	0
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-

2036 Projected (Build) Conditions

Timing Plan: P.M. Peak Hour

4: Mill Road & Sholly Drive

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	0	0	139	125	11
Future Volume (vph)	10	0	0	139	125	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	11	11	11	11
Grade (%)	-1%			-1%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	239			378	349	
Travel Time (s)	6.5			10.3	9.5	
Confl. Peds. (#/hr)		1				
Confl. Bikes (#/hr)						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	0	174	170	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2036 Projected (Build) Conditions
Timing Plan: P.M. Peak Hour

4: Mill Road & Sholly Drive

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	0	0	139	125	11
Future Vol, veh/h	10	0	0	139	125	11
Conflicting Peds, #/hr	0	1	0	0	0	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, %	-1	-	-	-1	1	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	13	0	0	174	156	14

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	337	164	170	0	-	0
Stage 1	163	-	-	-	-	-
Stage 2	174	-	-	-	-	-
Critical Hdwy	6.3	6.1	4.3	-	-	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	3	3.1	3	-	-	-
Pot Cap-1 Maneuver	763	943	1050	-	-	-
Stage 1	1014	-	-	-	-	-
Stage 2	1003	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	763	942	1050	-	-	-
Mov Cap-2 Maneuver	763	-	-	-	-	-
Stage 1	1014	-	-	-	-	-
Stage 2	1003	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1050	-	763	-	-
HCM Lane V/C Ratio	-	-	0.016	-	-
HCM Control Delay (s)	0	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

APPENDIX F

AUXILIARY TURN LANE WARRANT ANALYSES

Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: Upper Allen Township County: Cumberland County PennDOT Engineering District: 8	Analysis Date: 6/23/2023 Conducted By: DZ Checked By: JW Agency/Company Name: Traffic Planning and Design, Inc.
Intersection & Approach Description: Mill Road & Proposed Site Driveway - Southbound Left	
Analysis Period: 2036 Projected (Build) Design Hour: AM Peak Hour Intersection Control: Unsignalized Posted Speed Limit (MPH): 25 Type of Terrain: Rolling	Number of Approach Lanes: 1 Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?: Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	2	2.0%	3
	Through	-	86	6.0%	94
	Right	Yes	0	0.0%	0
Opposing	Left	Yes	0	0.0%	0
	Through	-	100	4.0%	106
	Right	Yes	0	0.0%	0
Advancing Volume: 97 Opposing Volume: 106 Left Turn Volume: 3 % Left Turns in Advancing Volume: 3.09%					
Right Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0	0.0%	N/A
	Through	-	100	4.0%	N/A
	Right	-	0	0.0%	N/A
Advancing Volume: N/A Right Turn Volume: N/A					

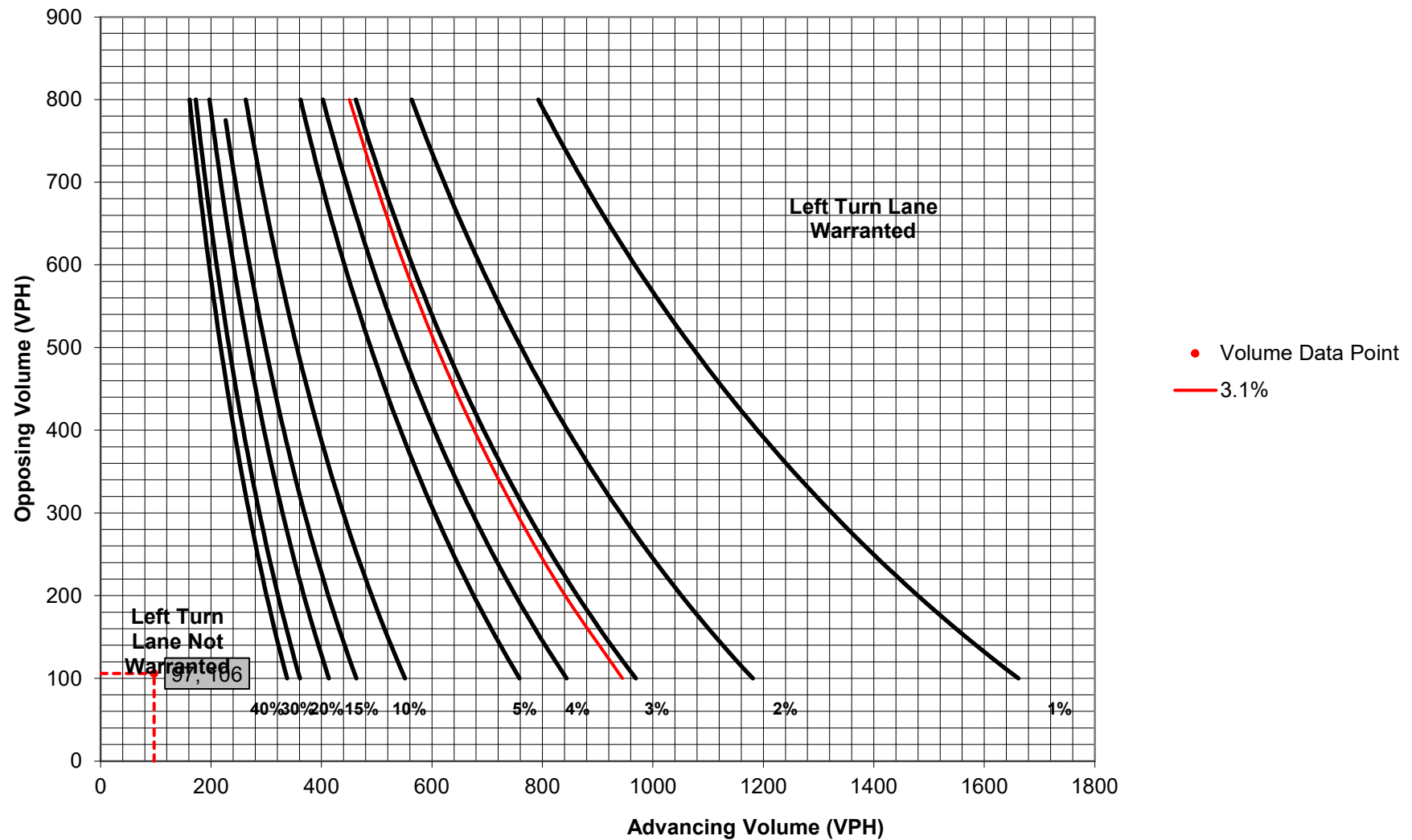
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: Figure 1 Warrant Met?: No	Applicable Warrant Figure: N/A Warrant Met?: N/A

TURN LANE LENGTH CALCULATIONS

Intersection Control: Unsignalized Design Hour Volume of Turning Lane: 3 Cycles Per Hour (Assumed): 60 Cycles Per Hour (If Known): 	Average # of Vehicles/Cycle: N/A																																								
Penndot Publication 46, Exhibit 11-6																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="3">Type of Traffic Control</th> <th colspan="6">Speed (MPH)</th> </tr> <tr> <th colspan="2">25-35</th> <th colspan="2">40-45</th> <th colspan="2">50-60</th> </tr> <tr> <th colspan="6">Turn Demand Volume</th> </tr> <tr> <th></th> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> </tr> </thead> <tbody> <tr> <td>Signalized</td> <td>A</td> <td>A</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> </tr> <tr> <td>Unsignalized</td> <td>A</td> <td>A</td> <td>C</td> <td>B</td> <td>B or C</td> <td>B</td> </tr> </tbody> </table>		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
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: 																																									

(L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: Upper Allen Township County: Cumberland County PennDOT Engineering District: 8	Analysis Date: 6/23/2023 Conducted By: DZ Checked By: JW Agency/Company Name: Traffic Planning and Design, Inc.
Intersection & Approach Description: Mill Road & Proposed Site Driveway - Northbound Right	
Analysis Period: 2036 Projected (Build) Design Hour: AM Peak Hour Intersection Control: Unsignalized Posted Speed Limit (MPH): 25 Type of Terrain: Rolling	Number of Approach Lanes: 1 Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?: Right Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	2	2.0%	N/A
	Through	-	86	6.0%	N/A
	Right	Yes	0	0.0%	N/A
Opposing	Left	Yes	0	0.0%	N/A
	Through	-	100	4.0%	N/A
	Right	Yes	0	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	0	0.0%	0
	Through	-	100	4.0%	106
	Right	-	0	0.0%	0
Advancing Volume: 106 Right Turn Volume: 0					

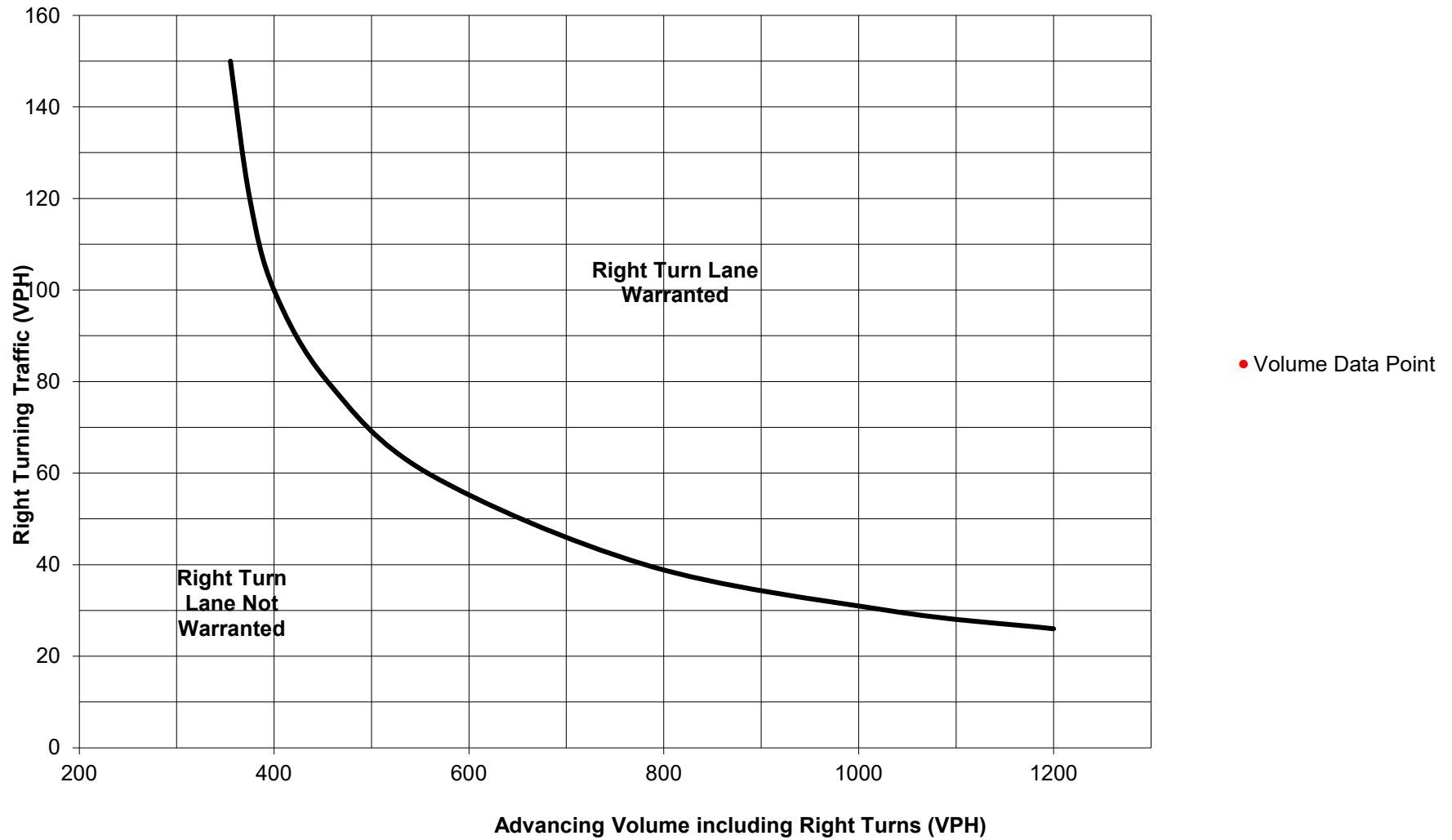
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: N/A Warrant Met?: N/A	Applicable Warrant Figure: Figure 9 Warrant Met?: No

TURN LANE LENGTH CALCULATIONS

Intersection Control: Unsignalized Design Hour Volume of Turning Lane: 0 Cycles Per Hour (Assumed): 60 Cycles Per Hour (If Known): 	Average # of Vehicles/Cycle: N/A																																							
PennDOT Publication 46, Exhibit 11-6																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th rowspan="4">Type of Traffic Control</th> <th colspan="6">Speed (MPH)</th> </tr> <tr> <th colspan="2">25-35</th> <th colspan="2">40-45</th> <th colspan="2">50-60</th> </tr> <tr> <th colspan="6">Turn Demand Volume</th> </tr> <tr> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> </tr> <tr> <td>Signalized</td> <td>A</td> <td>A</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> </tr> <tr> <td>Unsignalized</td> <td>A</td> <td>A</td> <td>C</td> <td>B</td> <td>B or C</td> <td>B</td> </tr> </table>		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
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: Upper Allen Township County: York County PennDOT Engineering District: 8	Analysis Date: 6/23/2023 Conducted By: DZ Checked By: JW Agency/Company Name: Traffic Planning and Design, Inc.
Intersection & Approach Description: Mill Road & Proposed Site Driveway - Southbound Left	
Analysis Period: 2036 Projected (Build) Design Hour: PM Peak Hour Intersection Control: Unsignalized Posted Speed Limit (MPH): 25 Type of Terrain: Rolling	Number of Approach Lanes: 1 Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?: Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	3	2.0%	4
	Through	-	140	1.0%	143
	Right	Yes	0	0.0%	0
Opposing	Left	Yes	0	0.0%	0
	Through	-	151	1.0%	154
	Right	Yes	0	2.0%	0
Advancing Volume: 147 Opposing Volume: 154 Left Turn Volume: 4 % Left Turns in Advancing Volume: 2.72%					
Right Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0	0.0%	N/A
	Through	-	151	1.0%	N/A
	Right	-	0	2.0%	N/A
Advancing Volume: N/A Right Turn Volume: N/A					

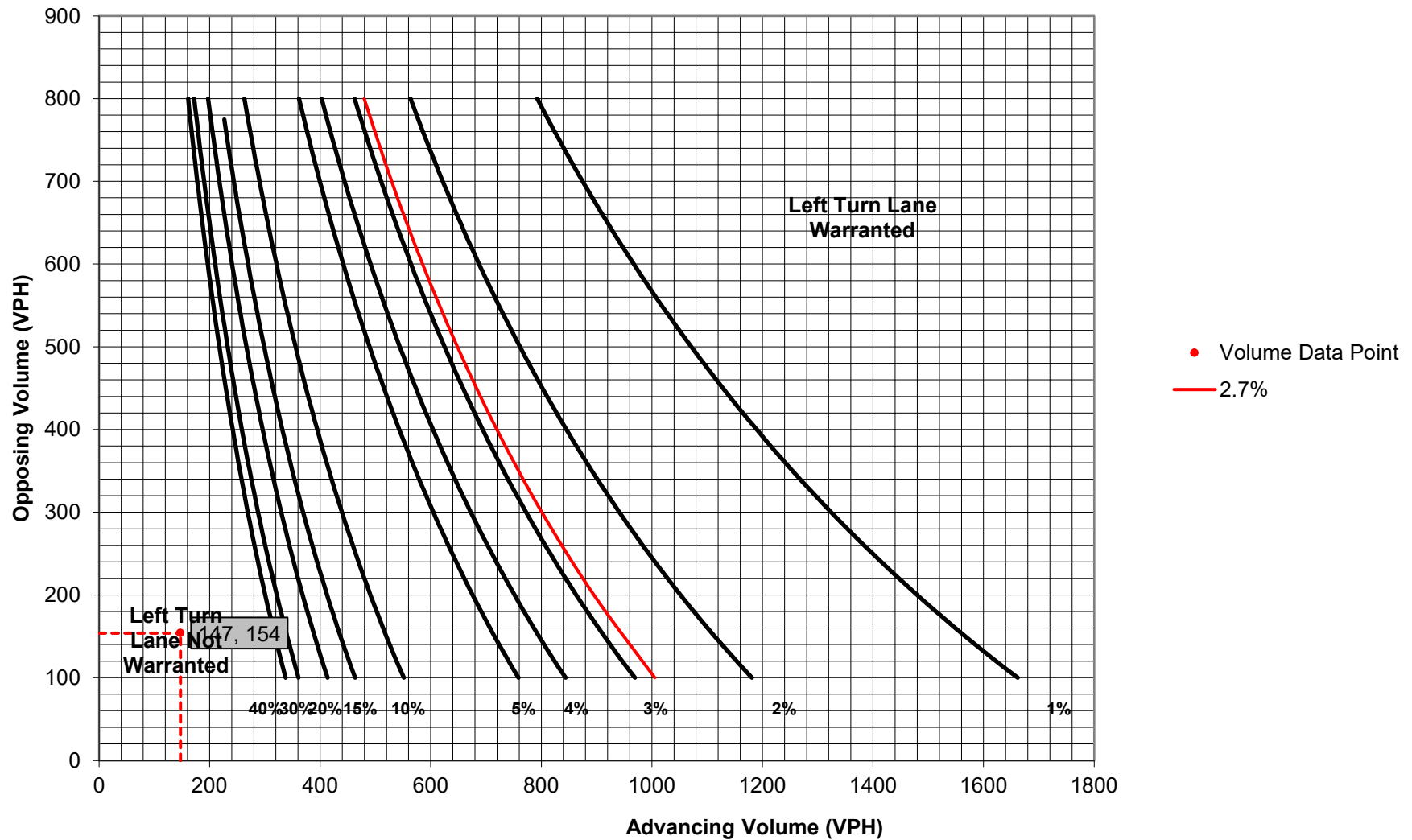
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: Figure 1 Warrant Met?: No	Applicable Warrant Figure: N/A Warrant Met?: N/A

TURN LANE LENGTH CALCULATIONS

Intersection Control: Unsignalized Design Hour Volume of Turning Lane: 4 Cycles Per Hour (Assumed): 60 Cycles Per Hour (If Known): 	Average # of Vehicles/Cycle: N/A																																							
Penndot Publication 46, Exhibit 11-6																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th rowspan="4">Type of Traffic Control</th> <th colspan="6">Speed (MPH)</th> </tr> <tr> <th colspan="2">25-35</th> <th colspan="2">40-45</th> <th colspan="2">50-60</th> </tr> <tr> <th colspan="6">Turn Demand Volume</th> </tr> <tr> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> </tr> <tr> <td>Signalized</td> <td>A</td> <td>A</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> </tr> <tr> <td>Unsignalized</td> <td>A</td> <td>A</td> <td>C</td> <td>B</td> <td>B or C</td> <td>B</td> </tr> </table>		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
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: Upper Allen Township County: York County PennDOT Engineering District: 8	Analysis Date: 6/23/2023 Conducted By: DZ Checked By: JW Agency/Company Name: Traffic Planning and Design, Inc.
Intersection & Approach Description: Mill Road & Proposed Site Driveway - Northbound Right	
Analysis Period: 2036 Projected (Build) Design Hour: PM Peak Hour Intersection Control: Unsignalized Posted Speed Limit (MPH): 25 Type of Terrain: Rolling	Number of Approach Lanes: 1 Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?: Right Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	3	2.0%	N/A
	Through	-	140	1.0%	N/A
	Right	Yes	0	0.0%	N/A
Opposing	Left	Yes	0	0.0%	N/A
	Through	-	151	1.0%	N/A
	Right	Yes	0	2.0%	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	0	0.0%	0
	Through	-	151	1.0%	154
	Right	-	0	2.0%	0
Advancing Volume: 154 Right Turn Volume: 0					

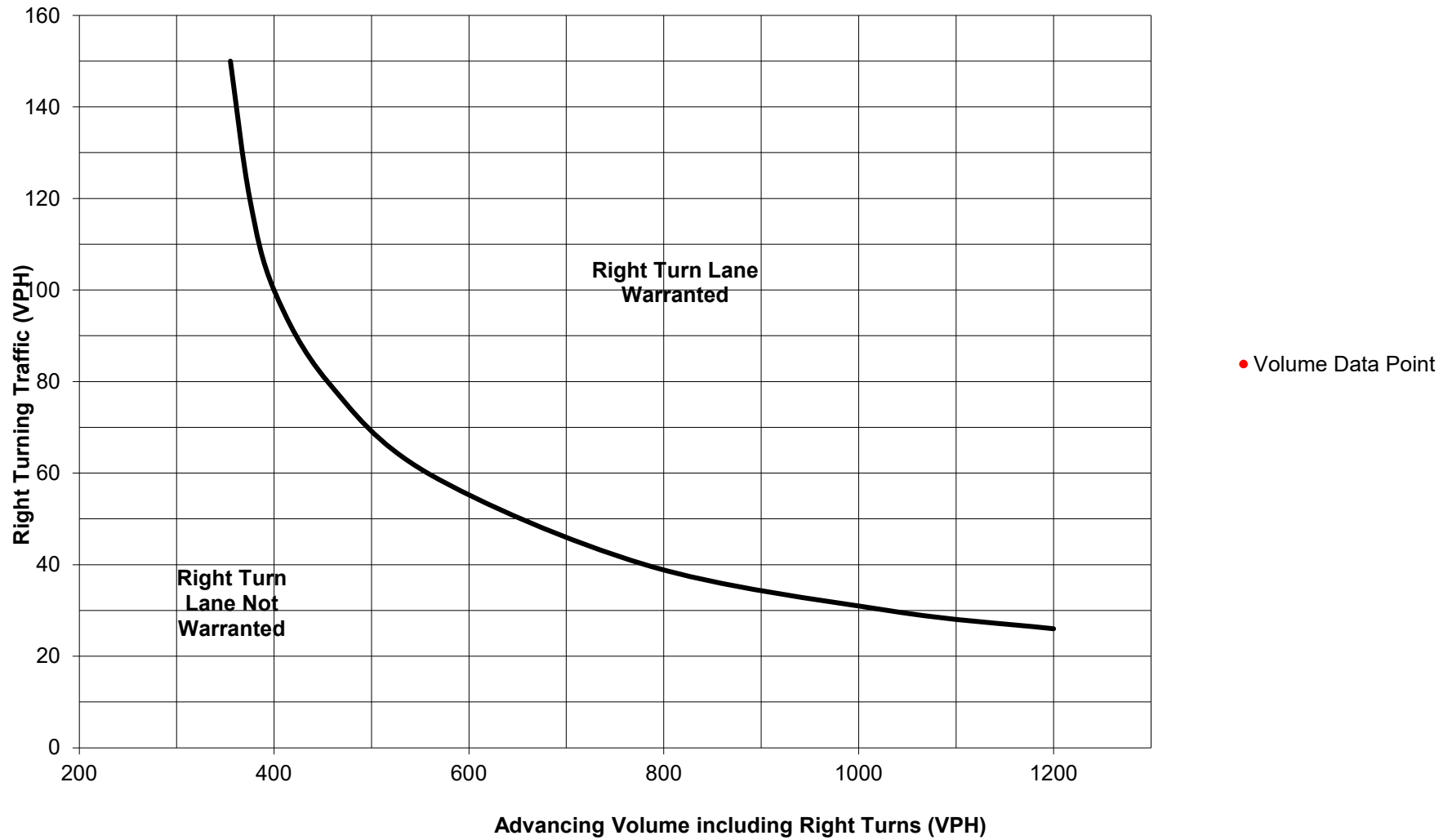
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: N/A Warrant Met?: N/A	Applicable Warrant Figure: Figure 9 Warrant Met?: No

TURN LANE LENGTH CALCULATIONS

Intersection Control: Unsignalized Design Hour Volume of Turning Lane: 0 Cycles Per Hour (Assumed): 60 Cycles Per Hour (If Known): 	Average # of Vehicles/Cycle: N/A																																							
PennDOT Publication 46, Exhibit 11-6																																								
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th rowspan="4">Type of Traffic Control</th> <th colspan="6">Speed (MPH)</th> </tr> <tr> <th colspan="2">25-35</th> <th colspan="2" rowspan="2">40-45</th> <th colspan="2" rowspan="2">50-60</th> </tr> <tr> <th colspan="6">Turn Demand Volume</th> </tr> <tr> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> </tr> <tr> <td>Signalized</td> <td>A</td> <td>A</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> </tr> <tr> <td>Unsignalized</td> <td>A</td> <td>A</td> <td>C</td> <td>B</td> <td>B or C</td> <td>B</td> </tr> </table>		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
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)**



APPENDIX G

PROJECT CORRESPONDENCE



TRAFFIC PLANNING AND DESIGN, INC.

WWW.TRAFFICPD.COM

June 26, 2023

Ms. Jennifer Boyer
Upper Allen Township
100 Gettysburg Pike
Mechanicsburg, PA 17055

Re: 2509 Mill Road Townhomes
Response to Township TIS Scoping Application Review 1
Scoping Application #S0820220094;
Upper Allen Township, Cumberland County, PA
TPD# RJFA.00006

Dear Boyer:

On behalf of the Applicant, Traffic Planning and Design, Inc. (TPD) is responding to the Township traffic engineer's (TRG) scoping comments on the above-referenced project.

Response to Upper Allen Township's February 7, 2023 Review Letter:

For the discussion below, Upper Allen Township comments from TRG's 02/07/2023 TIS Scoping review email are shown in *italics*, with the corresponding TPD responses in **bold type**.

1. *Trip generation for the proposed 14 unit townhouse development should be in accordance with ITE Trip Generation Manual, 11th Edition.*

The TIS has been prepared using the ITE *Trip Generation Manual*, 11th Edition.

2. *The traffic study should include the following study intersections:*
 - a. *Mill Road / Pheasant Drive (Proposed Access)*
 - b. *Mill Road / West Lisburn Road*
 - c. *Mill Road / Wingert Drive*
 - d. *Mill Road / Sholly Drive*

The TIS includes the above-referenced intersections.

3. *Traffic counts should be conducted from 6am – 9am and from 3pm – 6pm. Traffic counts should be conducted when the construction on Mill Road is complete.*

The traffic counts were conducted in early May 2023 after completion of construction on Mill Road.

4. *The scenarios studied should include Existing, Base (without Development), and Projected (with development). Base and Projected should 10 years beyond the construction of the proposed development.*

The TIS analyzes the scenarios noted above.

5. *A 0.59% per year growth rate should be used to factor existing traffic volumes to the Base and Projected year analysis.*

The TIS includes the background growth rate noted above.

6. *The study should evaluate sight distance and the adequacy of study intersections to accommodate the anticipated traffic volumes and the impact on pedestrians.*

The TIS includes sight distances analysis at the site driveway intersection. LOS and queue analyses have been prepared at the study area intersection in accordance with Township ordinances. Given the very small size of the development, development traffic is not anticipated to have an impact on pedestrians/pedestrian facilities.

7. *The study should include a safety analysis of Mill Road addressing the safe stopping sight distance for school buses and student pick-up/drop-off.*

Based on a review of §220-3.7 of the Township SALDO, the requested evaluation does not appear to be required for Traffic Impact Studies. Sight distance analysis is provided in the TIS at the site driveway, and applicable sight distance requirements are met for the posted speed limit.

8. *The intersection of Mill Road / West Lisburn Road should be studied and recommendations made for improvements as necessary.*

This off-site intersection is included in the TIS. Based on the results of the TIS, improvements are not required at this intersection in conjunction with the development based on the LOS/queuing standards in the Township SALDO.

9. *The study should include capacity analysis and turn lane analysis.*

The TIS includes capacity analysis at the study area and turn lane analysis at the proposed site driveway.

10. *Traffic volumes from the 151-237 Gettysburg Pike Development should be included as background traffic in the study. Traffic volume figures for this development are attached.*

The requested development has been included in the TIS under base and projected conditions.

If you have any questions or require additional information to process this application, please call anytime.

Sincerely,

TRAFFIC PLANNING AND DESIGN, INC.



Craig Mellott, P.E., PTOE

Vice President

CMellott@Trafficpd.com

Zerphey, Dylan

From: Chris Schwab <cschwab@consulttrg.com>
Sent: Tuesday, February 7, 2023 10:33 AM
To: Lenker, Drake
Cc: Mellott, Craig; ddw@rjfisherengineering.com; Jennifer Boyer
Subject: RE: 2509 Mill Road Townhomes - Scope of Work
Attachments: Traffic Volumes for 151-237 Gettysburg Pike Development.pdf

CAUTION: External email - do not click links or open attachments unless you recognize the sender and know the content is safe.

Drake,

We reviewed the proposed scope of work for the traffic impact study for the proposed townhouse development located at 2509 Mill Road and have the following comments:

1. Trip generation for the proposed 14 unit townhouse development should be in accordance with ITE Trip Generation Manual, 11th Edition.
2. The traffic study should include the following study intersections:
 - a. Mill Road / Pheasant Drive (Proposed Access)
 - b. Mill Road / West Lisburn Road
 - c. Mill Road / Wingert Drive
 - d. Mill Road / Sholly Drive
3. Traffic counts should be conducted from 6am – 9am and from 3pm – 6pm. Traffic counts should be conducted when the construction on Mill Road is complete.
4. The scenarios studied should include Existing, Base (without Development), and Projected (with development). Base and Projected should 10 years beyond the construction of the proposed development.
5. A 0.59% per year growth rate should be used to factor existing traffic volumes to the Base and Projected year analysis.
6. The study should evaluate sight distance and the adequacy of study intersections to accommodate the anticipated traffic volumes and the impact on pedestrians.
7. The study should include a safety analysis of Mill Road addressing the safe stopping sight distance for school buses and student pick-up/drop-off.
8. The intersection of Mill Road / West Lisburn Road should be studied and recommendations made for improvements as necessary.
9. The study should include capacity analysis and turn lane analysis.
10. Traffic volumes from the 151-237 Gettysburg Pike Development should be included as background traffic in the study. Traffic volume figures for this development are attached.

Let me know if you have any questions. Thank you.

Chris

Christopher E. Schwab, PE,
TRG, Senior Associate
Email: cschwab@consulttrg.com
PA Office: (717) 846-4660 MD Office: (443) 275-2344
Cell: (717) 683-6388
www.consulttrg.com

From: Lenker, Drake <dlenker@trafficpd.com>
Sent: Wednesday, February 1, 2023 10:35 AM
To: Chris Schwab <cschwab@consulttrg.com>
Cc: Mellott, Craig <cmellott@trafficpd.com>; ddw@rjfisherengineering.com
Subject: 2509 Mill Road Townhomes - Scope of Work

Good morning Chris, we just spoke on the phone discussing 2509 Mill Road Townhomes project in Upper Allen Township, Cumberland County just south of Lisburn Road. The proposed project is for the demolition of the one (1) existing single-family home and construction of 14 townhomes. Access to the site will remain utilizing the existing Pleasant Drive to Mill Road. Based on the proposed 14 single-family attached townhomes the trip generation following ITE will have a minimal traffic impact on the local roadways. Cumberland County has a growth rate factor of 0.59% that will be utilized to develop the base and projected volumes of the development. Upper Allen Township is requesting to study Mill Road (T-610) and Pheasant Drive (Proposed Access) & W Lisburn Road (SR 2004) and Mill Road during the (6:00-9:00) AM and (3:00-6:00) PM peak hours during the Existing/Base (without development)/Projected (with development) analysis years. The township requires sight distance measurements to be reviewed at the site access to Mill Road. The township is also, is looking for recommendation at Mill Road and Lisburn Road. Please identify if the township is aware of any nearby developments in the vicinity of the proposed site. Thank you for your time and I look forward to hearing from the Upper Allen Townships feedback.

Drake

Drake Lenker, *Transportation Planning Specialist*



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